

Welcome to your CDP Water Security Questionnaire 2021

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 with annual revenues of more than \$5.79 billion and the parent company of 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, all of which is owned by AMO, was approximately 10,500 MWs as of 12/31/20. In 2020, AMO's energy supply was approximately 67% from coal, 19% from nuclear, 5% from hydro, 1% from methane gas and solar, 1% from purchased wind, 1% from natural gas and 7% from purchased power.

AMO operates a rate-regulated electric generation, transmission and distribution business and 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 May 2021, we released the 2021 Ameren Sustainability Report (available at [Ameren.com/Sustainability](https://www.ameren.com/Sustainability)), which offers a comprehensive view of our actions on key environmental, social and governance (ESG) matters. Ameren also participates in a voluntary industry initiative through the Edison Electric Institute (EEI) and American Gas Association (AGA) to provide electric and gas industry investors with uniform and consistent ESG-related metrics. EEI AGA ESG/sustainability template, along with other reports, are available under the ESG section of [AmerenInvestors.com](https://www.AmerenInvestors.com). In May 2021 Ameren published an update to our Task Force on Climate-related Financial Disclosures (TCFD) aligned Climate Risk Report, which provides a comprehensive look at our climate risk strategy, describes our risk management system, highlights our metrics and targets for reaching our 2050 net-zero goal, and provides an overview of Ameren's governance structure on climate-related issues. This report also highlights the results of Ameren's scenario-based climate assessment, which used emissions pathway scenarios based in part on third-party information, including the United Nations IPCC.

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 goal to decrease water usage by approximately 15 billion gallons per year, and targets to reduce withdrawal for thermal generation by 95% by 2050 (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 2050.

Ameren's strategy for addressing climate risk is largely embedded in AMO's 2020 Integrated Resource Plan (IRP) which outlines plans to significantly increase AMO's renewable energy portfolio, and planned retirement of all coal-fired generation by 2042. The IRP also includes expanding renewable sources by adding 3,100 MW of renewable generation by the end of 2030 and a total of 5,400 MWs of wind generation by 2040. These amounts include a 400 MW wind generation facility acquired in 2020 and a 300 MW wind generation facility in January 2021 and which is expected to be completed later in 2021. Ameren has a goal of achieving net-zero carbon emissions by 2050 and is targeting a 50% CO₂ emissions reduction by 2030, 85% by 2040, as compared to 2005 levels. More information is available at AmerenMissouri.com/IRP.

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. We refer you to our Annual Report on Form 10-K for the year ended December 31, 2020, and our other reports filed with the Securities and Exchange Commission, which 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. Except to the extent required by the federal securities laws, we undertake 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	45.9	28,388.42
Lignite	0	0	0
Oil	292	2.4	2.01
Gas	3,418	28.4	261.72
Biomass	0	0	0
Waste (non-biomass)	14	0.1	75.06
Nuclear	1,236	10.3	8,105.73
Fossil-fuel plants fitted with carbon capture and storage	0	0	0
Geothermal	0	0	0
Hydropower	388	3.2	1,902.78
Wind	699	5.8	269.58
Solar	8	0.1	9.33
Marine	0	0	0
Other renewable	0	0	0
Other non-renewable	450	3.7	248.11
Total	12,019	100	39,262.74

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, 2020	December 31, 2020

W0.3

(W0.3) Select the countries/areas for which you will be supplying data.

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
<p>Non- generation facilities including call centers, office buildings and administration sites, unmanned facilities (i.e. substations), and other sites unrelated to direct energy generation.</p>	<p>Ameren and its subsidiaries own over 800 separate 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.</p> <ul style="list-style-type: none"> • Approximately 99% of Ameren's water usage occurs at Ameren Missouri's 16 energy centers. • About four million mega liters 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 67 million mega liters of surface water is used annually for direct energy generation at Ameren's three hydroelectric generation sites. The scope of this disclosure will therefore 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. <p>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</p>

	<p>consistent with corporate sustainability initiatives. Updated information on our CCR plans is available at Ameren.com/CCRFacts.</p>
Natural Gas distribution	<p>Ameren distributes both electricity and natural gas to customers in our service area. The operations associated with procuring and distributing natural gas to our customers uses little to no direct water resources. These operations include the use of potable water as a resource for personnel use at related sites, for hydrostatic testing, and for excavation operations to construct gas lines.</p> <p>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 (<0.1%) than that of our electrical generation centers. Therefore, Ameren's natural gas distribution activities are excluded from the scope of this disclosure.</p>
Solar, wind, methane gas, and oil generation facilities	<p>Ameren and its subsidiaries owns solar and wind energy generation sites. Ameren also plans to add 3,100 MW of renewable generation by the end of 2030 and a total of 5,400 MWs of wind generation by 2040. These amounts include a 400 MW wind generation facility acquired in 2020 and a 300 MW wind generation facility acquired in January 2021 and which is expected to be completed later in 2021. Solar and wind generation do not use water for generation. Therefore, these sites will be excluded from the scope of this disclosure.</p> <p>In addition to coal, nuclear, and hydro, Ameren Missouri generates electricity with methane gas and oil. These sites are also excluded from our boundary as they use negligible amounts (<0.01%) of water for operations compared to our nuclear, coal, and hydroelectric energy centers.</p>

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	Vital	Important	Direct Use: "Vital" was chosen because large volumes of freshwater from rivers in the Midwest

<p>quality freshwater available for use</p>			<p>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. 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 expect to decrease our reliance on large volumes of water, with the scheduled retirement of our Meramec Energy Center. All coal-fired energy centers will be retired by 2042.</p> <p>Indirect Use/Value Chain: The largest key input within our supply chain is coal, the primary fuel source for our four 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 that water stress is likely to increase through 2030 in the PRB. In addition, barges are sometimes used in our supply chain to transport coal. 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.</p> <p>Future Outlook: We expect to reduce our reliance on water use as we plan to retire all coal fired generation by 2042, and invest in 5,400MW of renewable generation by 2040, which will reduce water use in alignment with our water reduction targets.</p>
<p>Sufficient amounts of recycled, brackish and/or produced water available for use</p>	<p>Important</p>	<p>Neutral</p>	<p>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</p>

		<p>disrupted.</p> <p>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.</p> <p>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.</p> <p>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.</p>
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W1.2

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

	% of sites/facilities/operations	Please explain
Water withdrawals – total volumes	100%	All 16 energy centers covered by the scope of this disclosure calculate water withdrawals daily and include this data in monthly permitting reports. Withdrawal flows/volumes at our coal-fired and hydro energy centers are calculated

		<p>daily or monthly and rolled up into monthly permitting reports or annual reports such as the CDP Water Security, based on design pump flow rate and daily run times for each energy center. Calculated withdrawal and discharge flows are used to evaluate compliance with National Pollutant Discharge Elimination System (NPDES) permit limitations. Withdrawal volumes are measured with meters at our Combustion Turbine Generator (CTG) locations, and at specific withdrawal and discharge outfalls at our nuclear energy center.</p>
Water withdrawals – volumes by source	100%	<p>Water withdrawals are calculated daily at all 16 of our coal-fired, nuclear, and hydroelectric energy centers, and included in monthly permitting reports. All of our CTGs source water from third parties, which are metered and recorded monthly. Ameren's coal-fired, nuclear, and hydroelectric energy centers withdraw water from freshwater surface and groundwater sources, both of which are estimated or metered, and recorded separately. For our coal and hydro energy centers, surface and groundwater withdrawal flows/volumes are calculated based on design pump flow rate and run times for each energy center. At our nuclear energy center, groundwater is estimated based on design pump flow rate and run time, and surface withdrawals are metered at specific intake points. The principal sources of surface freshwater are within the upper Mississippi and Missouri River basins. Our metered and calculate withdrawal and discharge flows are used to evaluate compliance with NPDES permit limitations.</p>
Water withdrawals quality	100%	<p>Water withdrawals quality is monitored daily at all 16 our Ameren coal-fired, CTGs, nuclear, and hydroelectric energy centers, and included in monthly permitting reports. Our CTGs source water from municipalities providing potable water (the withdrawal of all eight of these facilities makes up < 0.001% of total withdrawal. Intake water at our coal-fired energy centers (~ 6% of total withdrawal) is routinely monitored for temperature and total suspended solids.</p>

		<p>NPDES (wastewater) permits also require periodic chemical analysis of a broad range of parameters in intake water. Our hydroelectric (and pumped storage energy centers, 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.</p>
Water discharges – total volumes	100%	<p>All 16 Ameren energy centers covered by the scope of this disclosure calculate water discharge in one-minute intervals, daily or sometimes weekly and include this data in monthly reports for Discharge Monitoring Reports (DMRs). Large volumes of water are discharged from seven energy centers: four coal-fired, one nuclear, and two hydroelectric dams. Discharge flows/volumes are calculated based on design pump flow rate and run times for each energy center. Very little water is discharged from the pumped storage facility at Taum Sauk as this is considered a closed loop facility and uses recycled water. Many of the combustion turbine sites use water but their use and discharge is negligible (<0.001%) compared to our other generation centers. For our two hydroelectric dams, withdrawal equals discharge as there is no consumption.</p>
Water discharges – volumes by destination	100%	<p>All 16 Ameren energy centers covered by the scope of this disclosure calculate water discharge daily and are included in monthly reports for Discharge Monitoring Reports (DMRs). Seven of the largest energy centers (four coal, one nuclear, and two hydroelectric) discharge to surface water and calculations are based on design pump flow rate and run times. The nuclear and coal-fired energy centers have wastewater treatment systems. Some CTGs discharge to third parties, includes storm water, and volumes are measured for DMRs. Total CTG discharge is less than 0.001% of Ameren's total discharge.</p> <ul style="list-style-type: none"> • Three coal-fired energy centers discharge to

		<p>the Mississippi River and one discharges to the Missouri River.</p> <ul style="list-style-type: none"> • One hydroelectric facility discharges to the Osage River, and the other is a run-of-the-river dam that spans the Mississippi River. • There is no water discharged from the closed-loop Taum Sauk pumped storage location, which uses recycled water.
Water discharges – volumes by treatment method	100%	<p>Discharge volumes are calculated daily using design pump flow rate and run times, and included in monthly permitting reports. For this calculation, AMO's two hydroelectric facilities and pumped storage facility have been excluded as recommended by the CDP guidance</p> <ul style="list-style-type: none"> • (Included) Our nuclear and coal-fired energy centers discharge to the Mississippi River and the one discharges to Missouri River. All have wastewater treatment systems of varying levels and volumes are recorded separately. • (Excluded) One hydroelectric dam discharges to the Osage River, and the other is a run-of-the-river dam which spans the Mississippi River. For hydroelectric dams, flow rates estimate water discharge • (Excluded) There is no water discharged from the our pumped storage facility as it is considered a closed loop system using recycled water • (Excluded) The combustion turbine sites are a closed loop, discharge to third party sources and have negligible discharge compared to other energy centers (< 0.001%)
Water discharge quality – by standard effluent parameters	76-99	<p>For this calculation, Ameren's two 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, 99.9% of our water discharge is monitored for effluent parameters. 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</p>

		<p>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. This excludes one CTG site, where a holding tank is used on site to collect and discharge negligible volumes of employee WASH water.</p> <p>Releases at both hydroelectric facilities are monitored daily and managed to ensure downstream flows meet regulatory criteria.</p>
Water discharge quality – temperature	76-99	<p>For this calculation, Ameren's two 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). 99.9% of our water discharge is monitored daily for temperature, representing 12/13 or 92% of Ameren's facilities. 99.9% of discharged water is monitored for temperature at our four coal-fired, one nuclear, and four of the CTG energy centers. These sites monitor thermal cooling water discharge outfalls for thermal parameters as required by NPDES (wastewater) permits.</p> <p>Our 8 CTGs discharge negligible amounts to surface water (<0.001% of total discharge). Three CTG energy centers discharge to holding tanks that are hauled off site on an annual basis, giving the water time to return to "air temperature" before discharge. One CTG facility also has a holding tank doesn't monitor for temperature as the water is only used for employee WASH purposes at negligible amounts</p>
Water consumption – total volume	100%	<p>A small percentage of water is consumed 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</p>

		combustion turbine energy centers, consumption is calculated by subtracting 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 CDP.
Water recycled/reused	100%	Recycled water is used at three facilities included in this scope. Volumes are monitored and calculated annually at all facilities where water is recycled according to flow balances developed and provided to regulators as part of NPDES (wastewater) permit applications. For this calculation, Ameren's two hydroelectric facilities have been excluded as recommended by the CDP guidance making the new total number of facilities included in the calculation fourteen (three recycle out of fourteen included). 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.
The provision of fully-functioning, safely managed WASH services to all workers	100%	Clean and safe potable water is available at all Ameren facilities for personnel use. The potable water is either provided by commercial or public water systems and the quality is monitored daily at our facilities that produce their own potable water.

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 regularly maintained in accordance with federal regulations. <ul style="list-style-type: none"> • The Keokuk Energy Center is a run-of-the-river facility on the Mississippi River where water flows

		<p>through at the same rate as the river's natural flow rate.</p> <ul style="list-style-type: none"> • The Bagnell Dam (Osage Energy Center) withholds water in the Lake of the Ozarks reservoir that is used for recreation. The Osage Energy Center has downstream flow obligations. Water releases from the lake are monitored and managed to ensure that downstream flows meet regulatory criteria, as contained in our Federal Energy Regulatory Commission license.
Sediment loading	100%	<p>Ameren owns and operates two river-based hydroelectric facilities where sediment loading is monitored at Keokuk. 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 get 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.</p> <ul style="list-style-type: none"> • 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 that 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, and how do these volumes compare to the previous reporting year?

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	71,178,516	About the same	<p>The total withdrawal volume is about the same as previous years ("about the same" is defined as less than 10% higher or lower). While we saw mostly decreases in water withdrawal at our coal fired and nuclear energy centers (due to operation schedules, pending retirements, and refueling outages), Keokuk Energy Center (hydroelectric) generated 25% more than 2019, increasing withdrawal volume from the previous year, and balancing overall water withdrawal to be only 1% higher than the previous year. Water withdrawals are calculated daily for all generation sites within the reporting boundary. The figure reported in column two includes all water withdrawn annually for use in our energy generation operations included in scope.</p> <ul style="list-style-type: none"> • Two of our hydroelectric operations (Keokuk – run of river facility on the Mississippi and the Bagnell Dam on the Osage River) represent the main share of our water withdrawals (about 94%). Withdrawal is calculated based on the flow through the turbine house and spillway. No water is considered to be withheld or consumed. • Our four coal-fired energy centers and one nuclear energy center make up 6% of withdrawals. These withdraw directly from the Mississippi and Missouri Rivers with the majority of water returned to the rivers. • The volumes of water withdrawn for the combustion turbines (CTGs) and makeup water for our pumped storage facility are relatively insignificant compared to our other energy centers (< 0.001% of total), making year over year withdrawal changes negligible. • Future Outlook: We expect water withdrawals to decrease in future. We are investing in a total of 5,400 MW of renewable generation (that

			<p>doesn't use water) by the end of 2040, and we plan to retire all coal-fired generation by 2042, both of which will contribute to future water withdrawal reductions. We have a target to reduce water withdrawal for thermal generation by 95% by 2050. More information can be found in our 2020 Ameren IRP found at Ameren.com/IRP</p>
Total discharges	71,155,231	About the same	<p>The total discharge volume is about the same as previous years ("about the same" is defined as lower than +/- 10%). We saw decreases in water discharge at our coal-fired and one hydro energy centers (due to operation schedules), and increases at our nuclear energy center (due to refueling and maintenance; discharge is higher when less is evaporated). Keokuk Energy Center (hydroelectric dam) generated 25% more than 2019, increasing discharge volume from the previous year, and balancing overall water discharge to be only 1% higher than the previous year. Water discharges are calculated daily for all generation sites included in the reporting boundary and are calculated based on withdrawal and consumption values at our coal-fired energy centers and based on pump curve values and run time at our hydroelectric facilities.</p> <ul style="list-style-type: none"> • Our hydroelectric Keokuk (run of river facility on the Mississippi) and the Bagnell Dam energy centers (on the Osage River) represent the main share of our water discharges (about 94%). Discharge is calculated based on the flow through the turbines and spillway. No water is considered to be withheld or consumed. • Our four coal-fired and one nuclear energy center make up about 6% of discharge which is directly to the Mississippi and Missouri Rivers. Discharge is calculated using withdrawal and consumption volumes, and with measured effluent volumes at our nuclear center. • Water discharge at our CTGs and makeup water for our pumped storage facility are relatively insignificant (< 0.001% of total), making absolute year over year discharge changes negligible.

			<ul style="list-style-type: none"> • Future Outlook: We expect water discharge to decrease in future. We are investing in a total of 5,400 MW of renewable generation (which doesn't use water) by 2040, and plan to retire all coal-fired generation by 2042, both of which will contribute to decreasing future water discharge. We have a target to reduce water withdrawal for thermal generation by 95% by 2050.
Total consumption	23,597	About the same	<p>Total consumption makes up less than 1% of water withdrawal. The amount of water consumption is much lower than the previous year ("much lower" is defined as greater than +/- 20%). This is primarily due to decreased generation at Callaway Energy Center (nuclear) due to a refueling as well as a maintenance outage in 2020. When the plant is offline, there is less water evaporated in the cooling towers. Consumption at Callaway makes up the majority of consumption on an annual basis (~65%). In addition, the decreased generation at two of our four coal-fired energy centers due to operational needs, generation scheduling, and planned upcoming retirement resulted in lower overall consumption among our coal-fired energy centers. There is no consumption at our hydroelectric generation energy centers. 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.</p> <ul style="list-style-type: none"> • The largest consumer of water is our nuclear Callaway Energy Center for use in the cooling towers. - Water is consumed through evaporation at our nuclear and coal-fired energy centers. • Future Outlook: We expect water consumption to decrease in future. We plan to expand renewable sources by adding 3,100 MW of renewable generation by the end of 2030 and a total of 5,400 MWs of renewable generation by 2040. These amounts include a 400 MW wind generation facility acquired in 2020 and a 300 MW wind generation facility in January 2021 and which is expected to be completed later in 2021. We also plan to retire all coal-fired generation by

			2042. Consumption is largely calculated using thermal generation MWh totals. Therefore, the retirement of our coal-fired energy centers, and addition of renewable generation will decrease future water consumption. More information can be found at Ameren.com/IRP
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W1.2d

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

	Withdrawals are from areas with water stress	Identification tool	Please explain
Row 1	No	WRI Aqueduct	<p>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 2018 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 performed an updated assessment in 2020 using similar methodology and tools.</p> <p>The WRI Water Risk Atlas was used for the assessment because it provides a publicly available global database and an interactive tool that maps indicators of a range of water-related risks. We applied the tool 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.</p> <p>Definition of stressed areas: WRI defines baseline water stress to be "defined as the ratio of total water withdrawals</p>

			<p>to available renewable surface and groundwater supplies. Water withdrawals include domestic, industrial, irrigation, and livestock consumptive and no consumptive uses. Available renewable water supplies include the impact of upstream consumptive water users and large dams on downstream water availability". Higher ratio values indicate more competition among users. Low water stress is measured with a ratio of less than 10%, while high is 40% or higher.</p> <p>Based on the WRI tool, along with the other climate change tools and datasets included in the study, 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</p>
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W1.2h

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	71,172,528	About the same	The volume of water withdrawn is about the same than the previous year ("about the same" is less than +/- 10%). Our coal fired and nuclear energy centers withdrew less surface water, but Keokuk Energy Center (hydroelectric dam) generated 25% more than 2019, increasing withdrawal volume, and balancing overall water withdrawal to be only 1% higher than the previous year. "Relevant" was chosen because we rely

				<p>heavily on freshwater resources for generation operations.</p> <ul style="list-style-type: none"> • Our two largest hydroelectric Energy Centers account for 97% of total surface withdrawal. Withdrawal is calculated based on design pump curves and flow through the spillway. • Future Outlook: Surface water withdrawal is expected to decrease as we plan to close all four of our coal fired generation centers by 2042. We have a target to reduce surface withdrawal from thermal generation by 95% by 2050 according to a 2005 baseline.
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.
Groundwater – renewable	Relevant	5,910	Higher	<p>"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.</p> <ul style="list-style-type: none"> • The total amount of groundwater withdrawn is very small, representing less than 0.001% of total withdrawal. Volume for 2020 is "higher" (defined as 10%-20% higher) compared to the previous year. This is primarily due to increased

				<p>withdrawal at our Labadie and Rush Island coal-fired energy centers.</p> <ul style="list-style-type: none"> • Groundwater is used at two coal, one nuclear, and one CTG energy center. Volumes are calculated daily based on pump capacity and run time. <p>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 plan to be retired by 2042.</p>
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.
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.
Third party sources	Relevant	78	Lower	"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 water and for use in our CTG operations. Third-party water volumes are purchased, and therefore metered and reported monthly. Volumes were lower than the previous year

				<p>with "Lower" being defined as 10%-20% lower than the previous year. This is primarily due to on-site holding tanks having been filled up the year before.</p> <p>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.</p>
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W1.2i

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	71,155,194	About the same	Water is discharged to surface water at our coal, nuclear, and hydro energy centers except for our Taum Sauk pumped storage facility which has no discharge, reuses water, and is considered a closed-loop system. The total discharge volume was "about the same" (<+/- 10% change) than last year. Our coal fired and nuclear energy centers discharged less surface water, but Keokuk Energy Center (hydroelectric dam) generated 25% more than 2019, increasing discharge, balancing overall water withdrawal to be only 1% higher than 2019."Relevant" was chosen because of the large volumes of water that are discharged to

				<p>surface water (Missouri and Mississippi Rivers) annually. Discharge is calculated using known consumption factors, run time, and design pump flows. The CTGs discharge relatively insignificant (< 0.0001%) volumes compared to the hydro and coal-fired energy centers.</p> <p>Future Outlook: Discharge to surface water is expected to decrease as we plan to retire all coal-fired generation by 2042.</p>
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	37	This is our first year of measurement	<p>Six of our 8 CTG energy centers discharge to third-party sources. This is our first year of measurement and inclusion in the CDP. CTG discharge volumes make up a negligible amount and all discharge to local municipal water systems. Water is used as turbine wash and for other general employee usage.</p> <p>Future Outlook: discharge to third parties is expected to remain about the same (and negligible compared to our total water discharge) in the future as our CTG generation operations are not expected to change.</p>

W1.2j

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

	Relevance of treatment level to discharge	Volume (megaliters/year)	Comparison of treated volume with previous reporting year	% of your sites/facilities/operations this volume applies to	Please explain
Tertiary treatment	Relevant	2,010	This is our first year of measurement	1-10	<p>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. Prior to 2020, Sioux did not have a tertiary waste water treatment system.</p> <p>This water is treated before being returned to the environment with an on-site tertiary-level water treatment system. This consists of a primary treatment of sedimentation, secondary of oil and grease separation and pH control, and a tertiary</p>

					<p>clarification stage.</p> <p>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. 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 as all of our coal-fired generation is scheduled to retire by 2042.</p>
Secondary treatment	Relevant	8,316	About the same	11-20	Some of the cooling water coming into our coal-fired Rush Island and Labadie Energy Centers, some

				<p>is used around the plants, including for floor washes or other cleaning purposes. In addition, all of the water coming through our Callaway nuclear energy center is treated at a secondary level.</p> <p>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.</p> <p>Three of our 16 facilities included in the reporting boundary, which represents 18.75% of facilities, have secondary</p>
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					<p>treatment facilities as the highest level of treatment.</p> <p>Future outlook: The volumes of water treated at secondary treatment levels is expected to stay the same in the short term, but will decrease with all of our coal-fired generation is scheduled to retire by 2042.</p>
Primary treatment only	Relevant	219,836	Much lower	1-10	<p>Our coal-fired Meramec Energy Center, which has a wet-ash handling system, is scheduled to retire in 2022. . All cooling water coming into the Meramec Energy Center is routed through a primary treatment (sedimentation) pond before being returned to the environment.</p>

					<p>Our other coal-fired energy centers have been transitioned to dry-ash handling.</p> <p>Much lower is defined as more than 20% lower than the previous year. This is due to the fact that Meramec is scheduled for retirement, and has been decreasing operations and water use for the past several years.</p> <p>Future outlook: The volume of water treated at our Meramec energy center is expected to decrease to zero in 2022 as this facility is scheduled to retire in that year.</p>
Discharge to the natural environmen	Relevant	70,923,933	About the same	31-40	Our three hydroelectric energy centers do not have water

<p>t without treatment</p>					<p>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.</p> <p>Our three 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</p>
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					<p>cleaning purposes). This water is used in non-contact cooling, so there is no opportunity for contamination during the cooling process. Water is tested for thermal limitations, in accordance with our discharge permits.</p> <p>Future Outlook: The volume of untreated water discharged to the environment is expected to decrease slightly in future. The vast majority of the total water discharged (~95%) is used for hydroelectric generation. The remaining ~5% is used at our coal and nuclear energy centers. We</p>
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					expect water use to decrease in the future, as we plan to retire all coal-fired generation by 2042.
Discharge to a third party without treatment	Relevant	37	This is our first year of measurement	31-40	Six of our 8 CTG (combustion turbine) energy centers discharge to third-party sources. This is our first year of measurement and inclusion in the CDP. CTG discharge volumes make up a negligible amount compared to total water discharge from our energy centers and all CTGs discharge to local municipal water systems. Water is used as turbine wash and for other general employee usage. Future Outlook:

					discharge to third parties is expected to remain negligible in future as our CTG generation operations are not expected to change.
Other	Not relevant				We have no other levels of treatment to report.

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)	Numerator: water aspect	Denominator	Comparison with previous reporting year	Please explain
0.65	Freshwater consumption	MWh	Lower	The intensity shown is the water intensity in cubic meters (m3) of freshwater consumed per MWh of net generation, including all generation facilities included in the reporting boundary. This intensity factor is much lower compared to the previous year. "much lower" is defined to be greater than 20% lower compared to the previous year. Our Callaway nuclear Energy Center is our largest consumer of freshwater. Consumption intensity was primarily lower due to the fact that Callaway underwent a refueling and maintenance outages in 2020, which amounted to more days offline than in 2019.

				<p>We use water intensity internally 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 that is posted on our website.</p> <p>Future outlook: Our future consumption intensity is expected to decrease in future. We are investing in water efficiency measures, and expect to use less water in the long-term for similar loads, decreasing our water intensity factor in future. In addition we plan to retire all coal-fired energy centers by 2042, reducing absolute consumption.</p> <p>Water intensity reduction strategy: we are transitioning to retiring our coal-fired generation technologies that use water and consume water through evaporation in relation to generation amounts. We plan to retire all of our coal-fired generation by 2042 and are increasing our investment in non-water intensive generation technologies such as wind and solar. AMO's Integrated Resource Plan (IRP), issued in September 2020, outlined plans to significantly increase AMO's non-water-consuming renewable energy portfolio, including the planned retirement of the Meramec Energy Center in 2022 and all coal-fired generation by 2042. The IRP also includes expanding renewable sources by adding 3,100 MW of renewable generation by the end of 2030 and a total of 5,400 MWs of wind generation by 2040. These amounts include a 400 MW wind generation facility acquired in 2020 and a 300 MW wind generation facility in January 2021, which is expected to be completed later in 2021. The retirement of coal-fired generation and addition of renewable generation is</p>
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				<p>expected to contribute to reduced freshwater consumption intensity in future.</p> <p>Ameren Missouri's IRP is available at Ameren.com/IRP.</p>
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W1.4

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

Yes, our suppliers

Yes, our customers or other value chain partners

W1.4a

(W1.4a) What proportion of suppliers do you request to report on their water use, risks and/or management information and what proportion of your procurement spend does this represent?

Row 1

% of suppliers by number

Less than 1%

% of total procurement spend

51-75

Rationale for this coverage

Ameren is a member of the Electric Utility Industry Sustainable Supply Chain Alliance (EUISSCA) a collaboration between utilities and suppliers to advance sustainable best practices in supply chain. EUISSCA created an assessment for suppliers to disclose sustainability information, including water-specific aspects, and to indicate actions they are willing to take to improve.

In 2020, Ameren asked 100 suppliers to complete the assessment (representing 57% of annual spend). Suppliers are selected based on (1) top annual spend due to top suppliers having a large impact within our supply chain and (2) those having a unique position in our supply chain or pose a risk to core business.

While voluntary, suppliers are incentivized to participate because the assessment offers industry specific benchmarking information and the quantified value (e.g. financial, environmental etc) of taking certain actions, which provides suppliers a value-creating, cost-free, best-practice road map

Impact of the engagement and measures of success

The assessment asks suppliers about their sustainability practices including energy, waste, and water, among other topics. Questions are specific to supplier industry however, water-related topics are included in each version such as total water withdrawals and discharge, and water minimization practices. Suppliers can also

indicate planned actions they will take to enhance sustainability or water-related practices. In 2020, 30% of Ameren suppliers asked to fill out the assessment responded. 8 suppliers indicated they will get a water inspection to identify reduction opportunities and 7 indicated they would give meaningful weight to building water efficiency when sourcing a new lease space.

Participation in the survey is used internally to help Ameren partner with suppliers and promote best practices. It helps us stay aware of the kinds of water-related practices being considered and used by our vendors so we can stay abreast of potential future opportunities for engagement. Success is measured by the number of suppliers who respond, and the number of suppliers that indicate they are pursuing more sustainable practices. The more suppliers that respond and indicate water-related best practice is seen as more successful.

Comment

In an effort to address common questions and challenges regarding how to address sustainability, the EUISSCA was formed in 2008 and was registered as a 501(c)(6) non-profit corporation.

Ameren looks forward to engaging with more suppliers and increasing participation in the sustainability assessment, collaboration on sustainability topics, and transparency in the future.

W1.4b

(W1.4b) Provide details of any other water-related supplier engagement activity.

Type of engagement

Innovation & collaboration

Details of engagement

Encourage/incentivize innovation to reduce water impacts in products and services

% of suppliers by number

Less than 1%

% of total procurement spend

1-25

Rationale for the coverage of your engagement

Ameren attends EUISSCA's annual conference which brings member utilities and supplier affiliate members (some of which are also current Ameren suppliers) together to hear from leading experts on the sustainability and water-related challenges and best practice trends. Utilities and suppliers have the opportunity to discuss topics and services together in ways that promotes innovation and collaboration across the utility industry and prioritizes engagement with suppliers on sustainability topics. For example, one utility shared its zero waste and circular supply chain efforts and supplier

partnerships, which conserves water in upstream raw material processing, potentially helping to build their resilience to water-related impacts. Current and potential suppliers are incentivized to join the conference, as they have an opportunity to set up one-on-one meetings with key Ameren leaders and decision makers to present their goods/services related to addressing sustainable best practices. The 2020 conference was held virtually due to COVID, which still offered a large platform for collaboration; over 200 members and supplier affiliates were in attendance.

Impact of the engagement and measures of success

Such a setting allows for valuable alignment of water and sustainability related goals. Therefore, success is measured by the number of affiliate supplier members that join EUISSCA, with higher numbers indicating higher success (as this increases the opportunity and potential for engagement). The resulting impact of more suppliers becoming members of EUISSCA is that more suppliers are able to be engaged with Ameren and other utilities on sustainability and water-related topics. This way, Ameren has the potential to be exposed to more innovations and opportunities for collaboration across the industry and suppliers on water-related topics. Some of these topics include water reduction in coal handling and circular economy/ zero waste efforts which reduce water use in upstream manufacture of raw materials.

In addition, member suppliers are able to be a part of EUISSCA's monthly supplier highlights. Each month, a supplier is chosen to give a presentation to all of EUISSCA members on a conference call. This has proven lucrative for the suppliers and productive for utilities (including Ameren) as they glean increased information and awareness to top goods and services that are focused on addressing water and other sustainability related challenges. This supports Ameren's efforts to enhance water resilience to stay abreast of innovative water-related products and services being offered and developed by suppliers that we can consider for incorporation into our operations.

Comment

Ameren is a member of the Electric Utility Industry Sustainable Supply Chain Alliance (EUISSCA) which leads the industry in enhancing and promoting supply chain sustainable practices across utilities and suppliers.

W1.4c

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

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 and offers avenues of collaboration.

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. For example, we are partnering 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. In addition, we hold an annual "Community Voices" event, where community stakeholders are invited to share their feedback on our activities and initiatives in the communities. We do this because these sessions help us to understand their needs and have been successful in helping us to build stronger relationships among our community stakeholders, and be aware of more impactful ways we can be supporting our communities and their concerns. We also use these sessions to clarify any information we have posted publicly, such as our energy efficiency or community support programs, but can also include other information we disclose publicly in order to stay transparent. In 2020 we updated our CCR website to publicly share information with our stakeholders about water saved, monitoring, and construction updates of ash basin closures, and for the first time highlighted water metrics in our Sustainability Report; a primary document of communication with our stakeholders on water-related topics. We plan to continue our "Community Voices" programs, as we have been able to link up participants with the right resources as a result of having these direct conversations, and hope these open lines of communication will continue to provide space to discuss issues as they arise among our communities and stakeholders.

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?

No

W3. Procedures

W-EU3.1

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

Ameren evaluates water-related issues regularly as part of the overall business strategy and long-term financial planning. Water-related considerations are driven by the Clean Water Act and include thermal discharges, organism entrainment and impingement, effluent constituent limitations, and coal combustion residual (CCR) rule 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. During the NPDES permitting process, the state permitting agency and Ameren work together to determine the applicable industrial processes present. Through this interaction, 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 Ameren water quality personnel regularly monitor water quality and prepare reports to regulatory agencies. Potential regulatory changes are monitored and business risks and opportunities are identified, which are then regularly reported to multiple teams including senior executives, throughout Ameren. Subject matter experts also participate in research programs of the Electric Power Research Institute, Edison Electric Institute, and other industry groups, to stay abreast of emerging issues and to enhance understanding of pollution and constituents of concern. Effluent quality is monitored routinely.

An example of how we interact with current water standards and perform additional research programs is detailed in the following: As per Special Condition requirements of the current NPDES operating permits at certain energy centers, is performing multiple studies that will culminate in a comprehensive report to be submitted to the Missouri Department of Natural Resources with the next permit renewal application for each facility (this excludes the Meramec Energy Center which will cease operations by year-end 2022). The studies has already been submitted for Callaway and Labadie Energy Centers. The expected deadlines for the energy centers are as follows: Sioux Energy Center – March 2022, Rush Island Energy Center late 2024.

In addition, we performed ecological and human health risks assessments associated with operations and CCR management at our four coal generating facilities. These studies, conducted by Haley and Aldrich, considered discharges to both receiving stream surface waters and adjacent ground water resources. All four studies concluded that there were no risks to human health or the environment. The reports are available on Ameren's web site at: <https://www.ameren.com/company/environment-and-sustainability/managing-coal-combustion/water-quality>

In response to the United States Environmental Protection Agency's CCR Rule, Ameren installed groundwater monitoring wells around each of the impoundments and landfills at our coal-fired energy centers. Annual groundwater monitoring reports are available at: <https://www.ameren.com/company/environment-and-sustainability/managing-coal-combustion/ccr-compliance-reports>

All of the above processes and considerations are applied to our direct operations and success is measured by our permit compliance rate. We strive to have zero environmental permitting violations that are applicable for our business activities. Standards vary State by State for operations due to differences in technologies and local conditions and impacts.

W-EU3.1a

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

Potential water pollutant	Description of water pollutant and potential impacts	Management procedures	Please explain
Hydrocarbons	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.	<p>Compliance with effluent quality standards</p> <p>Measures to prevent spillage, leaching, and leakages</p> <p>Emergency preparedness</p>	<p>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 issue NPDES Permits. Routine analysis of effluent is used to verify compliance to the standards.</p> <p>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.</p> <p>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</p>

			the speed of response to potential spill emergencies, and our compliance with permit standards. We strive for 100% compliance.
Coal combustion residuals	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, 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	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Community/stakeholder engagement Emergency preparedness	Ameren has four coal-fired energy centers that manage CCR in various impoundments and landfills that are regulated by the National Pollutant Discharge Elimination System (NPDES). These facilities are subject to numerous federal and state regulatory programs covering solid waste management and wastewater treatment and discharge. In order to maintain low risk of leaching or leakages, ongoing off-site sampling adjacent to our energy centers confirms that surface waters that serve as a public water supply resource comply with drinking water standards. We regularly monitor for groundwater impacts at the energy centers to comply with permitting requirements and to minimized risk regarding public health or the environment. In addition, in 2018, we conducted ecological and human health risks assessments associated with our operations and CCR management at all four coal-fired energy centers. These studies considered discharges to both receiving stream surface waters and adjacent ground water resources. We also identified the location and

	<p>human health and the environment.</p>	<p>depth of all private wells located within a mile of our facilities. All four studies concluded that the surface impoundments do not present a risk to human health or the environment.</p> <p>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 scheduled to operate past 2022 to dry ash handling. The four units which have not been transitioned are located at the Meramec Energy Center, and are scheduled to retire in 2022. The dry handling 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 in future. Success in CCR management is measured by compliance with strict regulations and the total gallons saved annually, which is currently 15 million gallons per year.</p> <p>Ameren engaged with communities and stakeholders on CCR issues by holding four public meetings in 2019. Media outlets were notified, attendees asked questions, left written comments, and sent comments As required by the CCR Rule, we updated our public-facing Ameren.com website to provide timely</p>
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			<p>information to the public in 2020.</p> <p>Technical reports concerning CCR, 2020 annual groundwater monitoring reports, and extensive answers to the community's comments and questions, are available on Ameren's website.</p>
Radiation	<p>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.</p>	<p>Compliance with effluent quality standards</p> <p>Measures to prevent spillage, leaching, and leakages</p> <p>Community/stakeholder engagement</p> <p>Emergency preparedness</p>	<p>Our nuclear generating facility, the 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 including wet pool</p>

		<p>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</p> <p>In order to engage the community and stakeholders, we invite media and lawmakers, regulators, and other stakeholders at least once a year for an on-site tour of our nuclear operations, averaging about 60 tours a year (~4-6 tours a month). In 2020, tours were suspended for the safety of co-workers and the public in light of the COVID-19 pandemic. Once it is safe to do so, Ameren Missouri anticipates resuming this direct community outreach. We also publish an annual calendar that contains important safety information. The calendar is mailed to more than 10,000 homes and businesses across 4 counties in mid-Missouri.</p> <p>With regard to security and emergency preparedness, Ameren Missouri has spent more than \$24 million on security enhancements since 2001. Nuclear plant security is routinely tested in drills and</p>
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			<p>exercises every year. The NRC conducts “force on force” exercises at each plant once every three years. The most recent exercise was conducted in Feb. 2020. Although details are confidential, no regulatory findings, violations or unresolved items were reported.</p>
Contaminated cooling water	<p>Large volumes of water are used at thermal cycle power plants as cooling water. At nuclear power plants, cooling water could become contaminated with radio nucleotides that can damage cell DNA. As nuclear power plants use large volumes of water, of primary concern is allowing no amount of radiation to pollute the water that is used. The risk of such radiation contamination 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 it is never in contact with the nuclear part of the plant but only</p>	<p>Compliance with effluent quality standards Emergency preparedness</p>	<p>Our coal and nuclear generating facilities are located along two of the largest rivers in the United States and use those rivers as sources of cooling water. Water is withdrawn for use as cooling water and discharged back to the source using non-contact cycles, meaning there is low risk of carrying contaminants when discharged to the environment.</p> <p>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 entering waterways or the surrounding</p>

	cools the condenser in the turbine hall.		environment. Success is measured by striving to achieve a 100% compliance rate with applicable laws and regulations.
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.	Compliance with effluent quality standards	Thermal impacts from our five coal and nuclear generating facilities 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.
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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.

Direct operations

Coverage

Full

Risk assessment procedure

Water risks are assessed as part of an 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
- Databases

Tools and methods used

WRI Aqueduct

Comment

Discussion around risk as it relates to water issues related to direct operations happen regularly within Ameren. For instance 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. For those risks identified that have the potential to cause substantive financial impact (>\$1 million), 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 on as-needed basis)

We also conduct timely additional assessments on an as-needed basis for any issues

among our stakeholders.

In 2018 we conducted a Water Resilience Assessment which used the WRI Aqueduct and similar tools to 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. 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).

Supply chain

Coverage

Partial

Risk assessment procedure

Water risks are assessed as a standalone issue

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
Databases

Tools and methods used

WRI Aqueduct

Comment

The ERM program assists management 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, which includes risks in both direct operations as well as supply chain. Risks and opportunities are assessed using a consistent risk framework and methodology. Risk level studies are performed within the business on a consistent schedule and are based on a combination of both quantitative and qualitative metrics and consider the impacts and the probability associated with the likelihood of those impacts. These processes are in place to identify and assess risks, including those related to water, in both direct operations and our supply chain.

An example of one way an identified risk was studied is our 2018 Water Resilience Assessment which used the WRI Aqueduct and similar tools to assess current and future availability of water resources in key areas of Ameren's supply chain operations, 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 challenging to assess these risks in depth across the full supply chain.

Other stages of the value chain

Coverage

None

Comment

Water risks are not assessed in other stages of our value chain

W3.3b

(W3.3b) Which of the following contextual issues are considered in your organization’s water-related risk assessments?

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, sometimes included	Ameren's energy centers are located within the lower Missouri and middle Mississippi river watersheds and rely on large volumes of surface water resources for cooling water. Although our facilities are geographically situated in an area of ample water supply, we strive to minimize the impact of our operations on water quality and use in order to meet strict environmental regulatory compliance and practice environmental stewardship. "Relevant, sometimes included" was selected because we monitor water levels in surrounding rivers. This is important because this data can alert us to any stressed water level conditions that may affect generation. Historically, water availability in our operating region has not been a cause for concern. Ameren conducted a voluntary Water Resilience Assessment to determine the current and future availability of water resources under a variety of potential climate change scenarios that may influence water resources and water availability. Water stress is projected to be near normal for most regions within Ameren's service area, but is likely to increase in the Powder River Basin, where much of our coal is sourced. We are continually assessing the risks, complying with environmental considerations for permitting, and evaluating the impacts our operations have on the surrounding watersheds. We are using publicly available databases and tools (i.e. WRI Aqueduct, USACE Climate Hydrology Assessment Tool, among others) to assess water resource availability risks.

<p>Water quality at a basin/catchment level</p>	<p>Relevant, sometimes included</p>	<p>Ameren's energy centers are located within the lower Missouri and middle Mississippi river watersheds. Water quality in these large river systems is adequate for our uses. "Relevant, sometimes included" was selected because we rely on these water basin resources for large volumes of cooling water for our generation operations. Nonetheless, Ameren conducts routine monitoring of temperatures and total suspended solids at our facility intakes in order to continually monitor for potential future changes in quality. In connection with NPDES (wastewater discharge) permit renewals, we monitor intake and effluent water for a broad range of chemical constituents. In addition 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. Water used from these sources are used in non-contact processes. Historically, this has remained unchanged, and we anticipate no major changes in future.</p>
<p>Stakeholder conflicts concerning water resources at a basin/catchment level</p>	<p>Relevant, always included</p>	<p>"Relevant, always included" was selected because we actively communicate with key stakeholders and participate in stakeholder meetings on water-related issues to stay informed, and about ongoing topics. We participate on the Missouri River Recovery Implementation Committee which is an ongoing collaborative forum for a diverse group of basin stakeholders, which is tasked with developing recommendations for the U.S. Army Corps of Engineers (USACE) and U.S. Fish and Wildlife Service (USFWS) on their work toward endangered species recovery in the Missouri River. In addition, we are aware of the impact of current environmental laws and new, more stringent, or changing requirements, including those related to the Affordable Clean Energy Rule, regulations regarding air emissions and effluent discharges, evaluation of cooling water intake structures, the management of coal combustion residuals, and energy efficiency requirements. We engage with our stakeholders on these topics, as failing to do so could limit or terminate the operation of certain of Ameren Missouri's energy centers, increase our operating costs or investment requirements, result in an impairment of our assets, cause us to sell our assets, reduce our customers' demand for electricity or natural gas, or otherwise have a negative financial effect.</p>

<p>Implications of water on your key commodities/raw materials</p>	<p>Relevant, always included</p>	<p>"Relevant, always included" was selected because the primary fuel source (raw material) at Ameren Missouri's coal-fired energy centers comes from the Powder River Basin (PRB). These coal mines are located in northeastern Wyoming which could experience increased water stress in the future. This was concluded after conducting a Water Resiliency Assessment which used (among others) the WRI Aqueduct tool to examine projected water stress in regions of our direct operations and the PRB. However, this is not expected to impact our coal supply. We are equipped to source alternatives should long-term impacts affect energy fuel procurement. In addition, the Meramec coal-fired generation center is scheduled to retire in 2022, reducing the number of generation facilities utilizing coal as a fuel source</p> <p>The current IRP, issued in September 2020, outlines plans to significantly increase the company's renewable energy portfolio, including the addition of 3,100 megawatts (MW) of new clean, renewable generation by 2030 and a total of 5,400 MW by 2040. These amounts include a 400 MW wind generation facility acquired in 2020 and a 300 MW wind generation facility in January 2021 and which is expected to be complete[d] later in 2021. Ameren is also targeting reductions in CO2 emissions of 50 percent by 2030 and 85 percent by 2040 (based on 2005 levels), with a goal of achieving net-zero CO2 emission by 2050. The increase of renewable energy generation capacity will support a reduction in reliance on water resources with regard to key commodities and raw materials.</p>
<p>Water-related regulatory frameworks</p>	<p>Relevant, always included</p>	<p>Ameren's energy centers are located within the lower Missouri and middle Mississippi river watersheds. Our coal and nuclear powered energy centers rely on large volumes of water for cooling. Flows on the Missouri, and to a lesser extent the Mississippi, are managed by various agencies, including most significantly the US Army Corps of Engineers. Therefore, all of our energy centers are subject to compliance under various state and federal regulations including the Clean Water Act and compliance with water discharge permits such as NPDES. "Relevant, always included" was selected because compliance with applicable water regulatory frameworks is a critical way to manage regulatory risk. We also participate in various stakeholder and regulatory review groups that monitor activities and provide feedback on potential changes that might affect</p>

		water availability or water quality so as to continue operations.
Status of ecosystems and habitats	Relevant, always included	<p>"Relevant, always included" was selected because ecosystems and habitats are currently considered at generating facilities when making plant modifications/changes and during regulatory permit actions. In addition, land and water habitats are considered when constructing or modifying transmission lines and natural gas distribution systems for the same reasons. These considerations are important in order to remain compliant with environmental regulations and to minimize regulatory risk. For example, the Illinois Rivers transmission project included endangered bat and frog species studies and protection actions as well as habitat restoration activities included planting of pollinator-friendly vegetation.</p> <p>River basin management - Ameren participates in the Missouri River Recovery Implementation Committee Advisory Group. Membership includes 29 stakeholders: federal agencies, states, tribes, and non-governmental stakeholders. The purpose of the Advisory Group is to study the Missouri River and its tributaries to determine actions required to recover federally listed species under the Endangered Species Act while balancing such actions with the risks and benefits to other designated purposes of the US Army Corps of Engineer's river management system.</p>
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	<p>Potable water is available for personnel to use for sanitation and hygiene at each facility. It is important to provide this for the health and safety of our coworkers.</p> <p>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 in compliance with applicable Ameren and regulatory drinking water supply and treatment systems requirements. Suppliers of potable water are regulated and accountable for supplying adequate water quality. We include the provision of co-workers with adequate access to water, sanitation, and hygiene facilities in the workplace in our Water Policy as an indicated means of implementing our overall view on water stewardship.</p> <p>Given the facilities in our region, this is not anticipated to be an area of concern in the future.</p>

Other contextual issues, please specify	Not relevant, explanation provided	No other contextual issues are considered at this time.
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W3.3c

(W3.3c) Which of the following stakeholders are considered in your organization’s water-related risk assessments?

	Relevance & inclusion	Please explain
Customers	Relevant, always included	<p>Ameren provides safe, reliable, affordable, and cleaner energy that is foundational to the well-being and security of millions of people, as well as the economy of our region and country. In order to do this, customers' needs are always considered in our water-related risk assessments as they also live and work in our areas of operation. For instance, we did not have any water-related regulation violations in 2020. This demonstrates our compliance with strict environmental and regulatory standards and our history of operating responsibly in the regions where our customers live. In addition, we work hard to be transparent with our customers by participating in a variety of water-related sustainability disclosures. This includes annual response to the CDP Water Security Questionnaire, our annual Sustainability report, the EEI/AGA ESG/Sustainability template, our Climate Risk Report, and our Water Resiliency Assessment, which all detail aspects of our water-risk assessments and water-related information. In particular, the Water Resiliency Assessment examined water resources across a broad region of the United States, including the Midwest, under a variety of climate change assumptions. These regions include the communities in which our customers live and work. The report evaluated four different publicly available climate change tools and datasets, including the World Resources Institute’s Aqueduct and Water Risk Atlas. The tool incorporated other water users at the basin/catchment level as well. In the tool, baseline water stress was measured as the ratio of total water withdrawals to available renewable surface and groundwater supplies. Water withdrawals include domestic, industrial, irrigation, and livestock consumptive and non-consumptive uses, which includes our customers living in the regions of our operations.</p> <p>We hold an annual stakeholder meeting associated with our Integrated Resource Plan (IRP) process, as well as regular public engagement sessions to address relevant and important topics to our stakeholders. Stakeholders, including NGOs,</p>

		special interest groups, customers and local community members, are invited to attend and participate. In addition, we often meet with the public during new facility planning and construction, as well as for projects at existing facilities. We ensure we engage with groups and permitting requirements that have special interest in historic or natural resources.
Employees	Relevant, always included	<p>Our Water Resiliency Assessment focused on the potential climate change impacts on water availability, as water is needed for our largest generating facilities. The water resilience assessment examined water resources across a broad region of the United States including the Midwest and Great Plains under a variety of climate change assumptions. These regions include the communities in which our co-workers live and work. In addition, 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 recently published a company-wide Water Policy that states we strive to uphold environmental standards and reduce our reliance water in order to protect it for future generations. In addition, we include the provision of co-workers with adequate access to water, sanitation, and hygiene facilities in the workplace in our Water Policy as an indicated means of implementing our overall view on water stewardship. We also published a biodiversity policy that aims to reduce, minimize, or avoid impacts on biodiversity as we develop infrastructure or conduct operations throughout our organization. We consider biodiversity and mitigation measures or enhancements to the ecosystems of the lands and waterways we manage. We hope these policies will help incorporate and promote the inclusion of water-related items among our Ameren coworkers within their respective segments of the business.</p> <p>Furthermore, across Ameren, we have outlined new construction guidelines to promote constant improvement of water management by reducing volumes used in excavation and hydrostatic testing, and to better manage runoff from our sites and ensuring no contaminated runoff.</p>
Investors	Relevant, always included	Ameren is an investor-owned utility, and we consider our investors in our water resilience efforts as they are a key stakeholder in our business operations and supply chain, and environmental issue are increasingly gaining attention by large investment institutions. We consider our investors by assessing risks associated with our operations, while also striving to provide a fair return to our investors. In addition, we dedicate significant time and resources to report and remain transparent

		<p>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. Information related to our water performance, metrics, and goals are publicly available to our investors through on our Sustainability Website (Water Resiliency Assessment, Climate Risk Report, Sustainability Report, site assessments and compliance with regard to water-related issues) as well as our Ameren Investor website (EEI/AGA ESG/Sustainability Template metrics) and include consumptive and non-consumptive water withdrawal metrics. In addition, we recently published water reduction targets which help make transparent to our investors and other stakeholders our plan for reducing our use of water us in operations.</p>
<p>Local communities</p>	<p>Relevant, always included</p>	<p>Local communities are considered in our water-related risk assessments as these communities represent the customers and employees that are so critical to our continued safe and sustainable operations. With regard to water-related risk, our Water Resilience Assessment informed and helped us better understand the degree of water scarcity risk in our business and areas of operations. Our Water Resiliency Assessment examined water resources including regions with communities in which our customers live and work. The report evaluated four different publicly available climate change tools and datasets, including the World Resources Institute’s Aqueduct and Water Risk Atlas. The tool measured baseline water stress as the ratio of total water withdrawals to available renewable surface and groundwater supplies. Water withdrawals include domestic, industrial, irrigation, and livestock consumptive and non-consumptive uses, which includes the local communities living in the regions that were assessed. Both Ameren and our local communities are dependent on sustainable sources of freshwater, and it is important to understand how we play a role alongside our local communities.</p> <p>We hold an annual stakeholder meeting in connection with Ameren Missouri’s Integrated Resource Plan (IRP) process, as well as regular public engagement sessions to address relevant and important topics to our stakeholders. Stakeholders, including NGOs, special interest groups, customers and local community members, are invited to attend and participate. In addition, we often meet with the public during new facility planning and construction, as well as for projects at existing facilities. We ensure we engage with groups and permitting</p>

		requirements that have special interest in historic or natural resources.
NGOs	Relevant, always included	We work hard to remain aware of external public opinions related to our operations and business. We engage with NGOs on water-related issues as they can provide valuable perspective on limiting impacts to the environment, landowners and communities. We hold an annual stakeholder meeting associated with our Integrated Resource Plan (IRP) process, as well as regular public engagement sessions to discuss relevant and important topics with our stakeholders. Stakeholders, including NGOs, customers and local community members, are invited to attend and participate by discussing their concerns and providing input. In addition, we often meet with the public during new facility planning and construction, as well as for projects at existing facilities. NGO's have been involved in our CCR operations and conversation to dry-ash handling.
Other water users at a basin/catchment level	Relevant, sometimes included	Ameren conducted a Water Resiliency Assessment that evaluated four different publicly available climate change tools and datasets including the World Resources Institute's Aqueduct and Water Risk Atlas. The WRI Aqueduct tool was used to identify areas of water stress within the three watersheds where Ameren direct operations are located, as well as in portions of the supply chain. The tool incorporated other water users at the basin/catchment level. In the tool, baseline water stress is measured with the ratio of total water withdrawals to available renewable surface and groundwater supplies. Water withdrawals include domestic, industrial, irrigation, and livestock consumptive and no consumptive uses. Available renewable water supplies include the impact of upstream consumptive water users and large dams on downstream water availability. Higher values indicate more competition among users. In addition, Ameren meets and collaborates with local water users/providers including American Water Company and the Metropolitan Sewer District of St. Louis to stay connected with relevant entities on water issues, as we understand water is a shared regional resource.
Regulators	Relevant, always included	Water is a critical resource in our energy generation activities. Therefore, we include those issues important to regulators in our risk assessments in order to stay updated on best-practice with regard to water-related regulations and standards, and so we can retain the applicable licenses and permits required to operate and use this critical resource responsibly, Ameren regularly meets with state and federal regulatory agencies including the Missouri Department of Natural Resources (MDNR), Missouri Department of Conservation (MDC), US

		<p>Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (FWS), regional watershed groups (Missouri River), along with local and regional non-governmental organizations (NGOs) to stay updated on regulations and best practices. We did not have any water-related regulation violations in 2020, which is how we measure success, and exemplifies our work to comply with strict environmental and regulatory standards for our operations. We do this because we value water stewardship, and prioritize responsible use of water resources in the regions where our customers live.</p>
<p>River basin management authorities</p>	<p>Relevant, always included</p>	<p>Water is a critical resource in our energy generation activities and it is important to use this resource responsibly. Therefore, we include and engage with managers of river basins and related regional environmental entities in our risk assessments in order to stay updated on best-practice with regard to water-related regulations and standards, and so we can retain the applicable licenses and permits required to operate and use this critical resource responsibly. We interact often with the Missouri River Recovery Implementation Committee Advisory Group as well as the U.S. Army Corps of Engineers. We have achieved success of having no water-related regulation violations in 2020, which is how we measure success. We strive to keep a 100% compliance rate with strict environmental and regulatory standards for our operations because we value environmental stewardship, and strive for responsible use of water resources in order to operate responsibly in the regions where our customers live.</p> <p>For example, Ameren participates in the Missouri River Recovery Implementation Committee Advisory Group, led by the U.S. Army Corps of Engineers. This group is an ongoing collaborative forum for a diverse group of basin stakeholders, which is tasked with developing recommendations for the U.S. Army Corps of Engineers (USACE) and U.S. Fish and Wildlife Service (USFWS) on their work toward endangered species recovery in the Missouri River.</p> <p>We also interact with the U.S. Army Corps of Engineers on basin management issues at the Lake of the Ozarks. The water levels in the reservoir are heavily regulated, and signification communication and collaboration is required in order to manage water levels given that the volume of water allowed to pass through Osage Energy Center is correlated to what comes through the Truman Dam upstream, which is controlled by the Army Corps of Engineers.</p>

<p>Statutory special interest groups at a local level</p>	<p>Relevant, always included</p>	<p>We work hard to remain aware of external public opinions related to our operations and business. We engage with special interest groups on water-related issues as they can provide valuable perspective on limiting impacts to the environment, landowners and communities. We hold an annual stakeholder meeting in connection with our Integrated Resource Plan (IRP) process, as well as regular public engagement sessions to address relevant and important topics to our stakeholders. Stakeholders, including NGOs, special interest groups, customers and local community members, are invited to attend and participate. In addition, we often meet with the public during new facility planning and construction, as well as for projects at existing facilities. We ensure we engage with groups and permitting requirements that have special interest in historic or natural resources.</p>
<p>Suppliers</p>	<p>Relevant, always included</p>	<p>Ameren includes suppliers in our water-related risk assessments because water is a critical resource for energy generation and it is also a regionally shared resource with which our suppliers might also affect and interact. It is therefore important to stay abreast of water-related topics with regard to our suppliers in order to remain aware of how water is used by our suppliers, understand best-practice, and retain necessary the licenses and permits required for us to continue to operate and use this precious resource responsibly. Ameren is a member of the Electric Utility Industry Sustainable Supply Chain Alliance (EUISSCA) which leads the industry in enhancing and promoting supply chain sustainable practices across utilities and suppliers. EUISSCA created an assessment for suppliers to disclose information regarding sustainability, including water-specific aspects, and to indicate actions they are willing to take to improve.</p> <p>In 2020, Ameren asked 100 suppliers to complete the assessment (representing 57% of annual spend). The assessment asks suppliers about their sustainability practices including those related to water i.e. total water withdrawals and discharge, or if a supplier implements water minimization practices. Suppliers can also indicate planned actions they will take to enhance sustainability or water-related practices. In 2020, 30% of Ameren suppliers asked to fill out the assessment responded. 8 suppliers indicated they will get a water inspection to identify reduction opportunities and 7 indicated they would give meaningful weight to building water efficiency when sourcing a new lease space.</p>

		Participation in the survey is used internally to identify suppliers' strengths and opportunities and to promote best practices. Success is measured by the number of suppliers who respond and the number of suppliers that indicate they are pursuing more sustainable practices. Ameren looks forward to engaging with more Suppliers and increasing participation in the sustainability assessment, collaboration on sustainability topics, and transparency in the future.
Water utilities at a local level	Relevant, always included	Many of our natural gas combustion turbine energy centers, and other office facilities, rely on municipal water sources for our employees and operations. Therefore, as we buy municipal and local water, we interact with local water utilities and their needs are considered when it comes to water-related issues. 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. For example, we are currently partnering 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.
Other stakeholder, please specify	Not considered	We do not include other stakeholders in our assessment.

W3.3d

(W3.3d) 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.

Ameren has a robust enterprise risk management (ERM) and governance programs to identify, evaluate and manage risks, into which water-related risk assessments are integrated. Our ERM program is a comprehensive, consistently applied management framework that captures climate-related policy and legal, physical, reputational, technology, market and financial risks. Ameren embeds risk management into its business processes and key decision-making at all levels of the company.

Ameren evaluates water-related issues regularly as part of the overall business strategy and long-term financial planning. Water-related considerations are often driven by the Clean Water Act requirements and include thermal discharge considerations, aquatic organism entrainment and impingement, and effluent limitations. A dedicated Water Quality Group continually monitors regulatory changes and identifies business risks and opportunities, which are then regularly reported to multiple teams throughout Ameren. Ameren published a voluntary climate risk report and water resiliency assessment report which assessed climate change scenarios in order to determine long-term water availability and resiliency in our service territory and high-risk portions of our supply chain. Compliance and climate-related water assessments help inform Ameren corporate-wide business strategy and the Ameren Missouri Integrated Resource

Plan (IRP) which is issued every 3 years (updated annually) and has a 20 year planning horizon. During the annual planning cycle, costs and regulatory compliance are evaluated, and budget meetings are regularly held to allocate the resources necessary to meet or exceed water-related regulatory compliance and to inform long-term business operations viability.

In addition to regular inclusion of water-related risk in ERM procedures, we also conducted a Water Resiliency Assessment that assessed the current and future availability of water resources and potential water stress in our regions of operation and key portions of our supply chain. The assessment used various tools to look at these regions under a variety of potential climate change assumptions. The report focuses on natural factors and how changes in global temperature and precipitation may influence water resources and water availability. For example, the WRI Aqueduct tool was used to identify areas of water stress in the regions included in the study.

Our Board of Directors oversees environmental policy matters and strategies, including those related to planning for the potential implications of climate-related issues. In addition to the Board's direct oversight, the Audit and Risk Committee oversees Ameren's ERM program, which includes strategic and operational risks, as well as the processes, guidelines and policies for identifying, assessing, monitoring, and mitigating such risks, which, as noted above, include climate-related risks. Furthermore, the Nuclear, Operations and Environmental Sustainability Committee oversees and reviews the Company's operations, including safety, performance, sustainability and compliance issues and compliance issues, and risks, policies, and performance related to environmental sustainability matters, including those related to climate change and water resource management.

A variety of management teams throughout our organization plan and execute our risk strategy, as well as coordinate with internal and external subject matter experts to inform the Board and company leadership of specific issues. These teams include, but are not limited to: environmental, innovation, legislative and regulatory affairs, corporate analysis, engineering, legal and electric generation, transmission, distribution and natural gas operations. In 2018, Ameren created the Corporate Social Responsibility (CSR) department to lead efforts on ESG, climate and water-related issues and shareholder advocacy efforts. Additionally in 2018, Ameren created a CSR Executive Steering Committee to provide executive oversight of Ameren's enterprise-wide social responsibility efforts, including providing input to our CSR strategy. In 2019, Ameren further emphasized the importance of managing ESG and climate-related issues by establishing a Vice President-Sustainability & Electrification.

Company representatives also engage various outside entities on water related matters such as state and federal regulatory/resource organizations including the Missouri Department of Natural Resources (MDNR), Missouri Department of Conservation (MDC), US Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (FWS), regional watershed groups (Missouri River), along with local and regional non-governmental organizations (NGOs). Decisions are made internally according to financial and regulatory factors, as well as in response to our engagement with the local community and our own goals to operate in an environmentally optimal way.

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?

Oversight, accountability and risk management are important elements of an effective strategy for identifying and assessing climate-related risks. We have established robust risk management and governance systems to identify, evaluate and manage short (from 0 to 5 years), medium (from 5 to 10 years), and long-term (from 10 to 30 years and beyond) climate-related risks, including risks related to regulatory changes, changes in customer behavior, reputation, and weather.. The Audit and Risk Committee (ARC) of Ameren's Board of Directors oversees our enterprise risk management (ERM) program. Ameren's ARC meets at least five times per year. The ARC relies on management through the Executive Leadership Team (ELT) to manage and report risks across the corporation. The ELT formed the Risk Management Steering Committee (RMSC) to oversee risk management and the ERM process. The RMSC is chaired by the CFO and comprised of eight senior executives, including the four segment presidents, and meets monthly throughout the year. The goals of the ERM program are to enhance the ERM structure, further enable cross segment risk portfolio management, create solid ties to emergent risks, and incorporate detailed analysis of topical areas including environmental. The ERM program assists management 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. Risk level assessments are performed within the business on a consistent schedule and on a combination of both quantitative and qualitative metrics and consider the impacts and the probability associated with the likelihood of those impacts. The quantitative metrics include financial impacts such as capital expenditures, O&M costs, and Earnings per Share. Qualitative impacts include: Brand Reputation, Legal and Regulatory, People, Safety, Vulnerability and Velocity. Once risks are assessed, action plans to mitigate risks are discussed, approved and monitored. Subject matter experts evaluate potential regulatory, physical, financial and reputational risks/opportunities that could have a financial impact greater than \$1M or other qualitative impacts on the company or an asset (e.g., potential substantive financial impact).

Definition of Substantive financial impact: Ameren defines "substantive financial impacts" to include potential policy, physical or financial risks/opportunities that could have a financial

impact of greater than \$1 million. Once a potential risk/opportunity is identified that could have a financial impact greater than \$1M or other qualitative impacts for the company or an asset, a subject matter expert studies it, assessing regulatory, physical, financial and reputational risks and opportunities.

All function and segment risks are aggregated based on the corporate Risk Heat Map categories. Each category is assessed and determined to be a high, medium, or low risk. The overall risk assessment of each risk category is discussed with the Ameren Executive Leadership Team (ELT), and reviewed and approved by the RMSC at least annually and risk categories within the Heat Map that are considered high or medium risks are discussed with the full Board of Directors or a Board committee each year. This process helps senior management identify risks/opportunities, mitigation strategies and potential financial implications. Recommendations are communicated to the appropriate functions, business segments and the Ameren Executive Leadership Team, as necessary.

In addition to the ERM program, Ameren provides management reports regularly on environmental compliance matters to the Nuclear, Operations and Environmental Sustainability Committee of Ameren’s Board of Directors. This way, the full Board of Directors oversees environmental matters as they relate to policy and strategy, including those related to planning for the potential implications of water-related risks.

Potential impacts exist in both direct operations as well as the rest of our value chain. Certain climate assumptions indicate present and continuing patterns of increased variability and severity of weather-related events. For example, should severe weather or flooding occur, potential damage to ongoing operations and assets could cost up to several million dollars i.e. having substantive effect. In order to mitigate these effects and make energy infrastructures more resilient to the physical risks of extreme weather events, Ameren is making asset enhancements, known as “system hardening”. Examples of these include burying lines most susceptible to weather-related damage, and building berms around sub-stations to mitigate flooding risks.

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	Less than 1%	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

		<p>the potential to have substantive financial or strategic impacts and include our four coal-fired, one nuclear, and two hydroelectric energy centers. When compared to all 800 facilities considered part of Ameren operations, these seven facilities represent approximately 1% of Ameren's total facilities. These seven energy centers accounted for 99% of total net generation in 2020, 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. 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 5%) of total net generation in 2020. 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.</p>
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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

Less than 1%

% 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 dams, 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 73% of 2020 net generation, making up the largest bulk of generation. In comparison, the hydroelectrically dams made up a small portion of net generation capacity in 2020 (approximately 5%).

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

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 about 71 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 need to be closed prior to the end of their useful lives due to a lack of available water, we may experience issues related to stranded costs that may require regulatory approval for cost recovery. However, 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 are investing in expanding renewable sources by adding 3,100 MW of renewable generation by the end of 2030 and a total of 5,400 MWs of wind generation by 2040. These amounts include a 400 MW wind generation facility acquired in 2020 and a 300 MW wind generation facility in January 2021 and which is expected to be completed later in 2021. In addition we have plans to retire the Meramec Energy Center in 2022 and all coal-fired generation by 2042, which is expected to reduce reliance on water-intensive generation.

Timeframe

More than 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. We expect to coordinate these updates with the Ameren Missouri Integrated Resource Plan (IRP) triennial filing. 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

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, stranded cost issues could potentially arise for shareholders and require regulatory approval for cost recovery.

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, and which will 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

0

Explanation of cost of response

Unknown until a regulatory response is warranted. Therefore it is very difficult to provide a single number for cost of response.

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 Ameren's 2020 IRP for details:
<https://www.ameren.com/missouri/company/environment-and-sustainability/integrated-resource-plan>.

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 two Ameren 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 (as referenced above). The Integrated Resource Plan is available at:
<https://www.ameren.com/missouri/company/environment-and-sustainability/integrated-resource-plan>

Primary response to risk

Improve pollution abatement and control measures

Description of response

Upon completion of the current Section 316(b) studies, we will 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

Physical
Flooding

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. Costs could range from several hundred thousand dollars in mitigation costs to costing 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

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.

Cost of response

0

Explanation of cost 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. Costs could range from several hundred thousand dollars in mitigation costs to several million dollars. The range of response could require slight temporary adjustment in operations or infrastructure maintenance 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 Building a Cleaner Energy Future that outlined our long-term risks and expectations.

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

Physical
Increased 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 Water Resiliency Assessment report. This voluntary report shows 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 future as we plan to retire all coal-fired generation by 2042. Ameren Missouri's 2020 IRP also includes expanding renewable sources by adding 3,100 MW of renewable generation by the end of 2030 and a total of 5,400 MWs of wind generation by 2040. These amounts include a 400 MW wind generation facility acquired in 2020 and a 300 MW wind generation facility in January 2021 which is expected to be completed later in 2021. 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 is 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 future as we plan to retire all coal-fired energy centers by 2042, and expand renewable generation, thereby reducing the amount coal coming from the PRB.

Primary response to risk

Direct operations
Increase investment in new technology

Description of response

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. In September 2020, Ameren established a goal of achieving net-zero carbon emissions by 2050. Ameren is also targeting a 50% CO2 emissions reduction by 2030 and an 85% reduction by 2040 based on 2005 levels. AMO's IRP also includes expanding renewable sources by adding 3,100 MW of renewable generation by the end of 2030 and a total of 5,400 MWs of wind generation by 2040. These amounts include a 400 MW wind generation facility acquired in 2020 and a 300 MW wind generation facility in January 2021 and which is expected to be completed later in 2021. 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

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.

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 at the result of increasingly severe weather that is projected to increasingly occur as an impact of climate change. Prolonged outages could lead to substansive 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.

Estimated timeframe for realization

Current - up to 1 year

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)

3,700,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

Over the next five years (2021-2025) Ameren plans to invest over \$3.7 billion in transmission infrastructure improvements. This number was calculated from expected build-transfer agreements.

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 12 coal combustion units and as of 2020 have transitioned all units scheduled to operate past 2022 to dry ash handling (this includes our Sioux, Rush Island, and Labadie Energy Centers). The four units that have not been transitioned are located at the Meramec Energy Center, and are scheduled to retire in 2022. The dry handling 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 regulatory 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 targets. These targets make transparent our target for reducing water use by 95% for thermal generation through 2050 according to a 2005 baseline, based on our coal-fired energy center retirement schedule.

Estimated timeframe for realization

Current - up to 1 year

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)

75,000,000

Potential financial impact figure – maximum (currency)

100,000,000

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 estimates it will need to make capital expenditures of \$75 million to \$100 million from 2021 through 2025 to implement its CCR management compliance plan, which includes installation of groundwater monitoring equipment and water treatment facilities.

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)

1,886,772

Comparison of total withdrawals with previous reporting year

About the same

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

1,881,187

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

5,585

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)

1,882,342

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

1,882,342

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)

4,430

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 2020 as compared to 2019 and therefore withdrew, discharged, and consumed about the same volumes of water.

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)

767,861

Comparison of total withdrawals with previous reporting year

About the same

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

767,861

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)

766,574

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

766,574

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)

1,287

Comparison of total consumption with previous reporting year

Lower

Please explain

"About the same" is used to denote year to year changes being within 0%-10% compared to the previous year.

"Lower" is used to denote a decrease of 10%-20% compared to the previous year.

Consumption was lower in 2020 due to decreased generation on account of operational needs and generation scheduling. 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)

1,319,265

Comparison of total withdrawals with previous reporting year

About the same

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

1,319,218

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

47

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)

1,317,217

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

1,317,217

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)

2,047

Comparison of total consumption with previous reporting year

Much lower

Please explain

"About the same" is used to denote a change within +/- 10% compared to the previous year.

"Much higher" is used to denote year to year changes greater than 20% compared to the previous year. Consumption was much higher due to the fact Rush Island generated 35% more than the previous year due to regional flooding in 2019 as well as generation scheduling and operation needs.

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)

219,836

Comparison of total withdrawals with previous reporting year

Much lower

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

219,836

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)

219,813

Comparison of total discharges with previous reporting year

Much lower

Discharges to fresh surface water

219,813

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)

23

Comparison of total consumption with previous reporting year

Much lower

Please explain

"Much lower" is used to denote year to year changes greater than 20% compared to the previous year.

Meramec Energy Center generated 85% less than it did in 2020. This is because the facility is scheduled to be retired in 2022, and is decreasing operations.

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)

24,343

Comparison of total withdrawals with previous reporting year

Lower

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

24,065

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

278

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)

8,887

Comparison of total discharges with previous reporting year

Much lower

Discharges to fresh surface water

8,887

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)

15,456

Comparison of total consumption with previous reporting year

Much lower

Please explain

"Lower" is used to denote a decrease of 10%-20% compared to the previous year.

"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 lower due to refuelling and maintenance outages in 2020. Discharge was much higher than the previous year because when the energy center is offline, some water is still withdrawn and flows through the system, but less water is evaporated, making discharge volumes higher in comparison to the previous year. 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)

52,511,041

Comparison of total withdrawals with previous reporting year

Higher

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

52,511,041

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)

52,511,041

Comparison of total discharges with previous reporting year

Higher

Discharges to fresh surface water

52,511,041

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.

"higher" is used to denote year to year changes being 10-20% higher than the previous year. Withdrawal and discharge volumes were higher compared to the previous year due to increased generation in 2020 than 2019.

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)

14,449,319

Comparison of total withdrawals with previous reporting year

Much lower

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

14,449,319

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)

14,449,319

Comparison of total discharges with previous reporting year

Much lower

Discharges to fresh surface water

14,449,319

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 than the previous year.

Osage generated almost a third less MWh compared to the previous year, therefore using decreased volumes of water.

W5.1a

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

Water withdrawals – total volumes

% verified

76-100

What standard and methodology was 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. The ERM CVS Independent Assurance Statement is attached.

Water withdrawals – volume by source

% verified

Not verified

Water withdrawals – quality

% verified

Not verified

Water discharges – total volumes

% verified

76-100

What standard and methodology was 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. The ERM CVS Independent Assurance Statement is attached.

Water discharges – volume by destination

% verified

Not verified

Water discharges – volume by treatment method

% verified

Not verified

Water discharge quality – quality by standard effluent parameters

% verified

Not verified

Water discharge quality – temperature

% verified

Not verified

Water consumption – total volume

% verified

76-100

What standard and methodology was 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. The ERM CVS Independent Assurance Statement is attached.

Water recycled/reused

% verified

76-100

What standard and methodology was 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. The ERM CVS Independent Assurance Statement is attached.

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 Reference to international standards	Our water policy is company-wide and explains our commitment to conserving and protecting water and water quality. In our policy and website, we acknowledge we depend on large quantities of freshwater from local rivers for generation and cooling purposes, as well as our

		<p>and widely-recognized water initiatives</p> <p>Company water targets and goals</p> <p>Commitment to align with public policy initiatives, such as the SDGs</p> <p>Commitment to water stewardship and/or collective action</p> <p>Acknowledgement of the human right to water and sanitation</p> <p>Recognition of environmental linkages, for example, due to climate change</p>	<p>business impacts on water (~99% of withdrawn water is returned to the environment; 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 how and why we are using water resources across the entire company.</p> <p>In our policy and website we refer to our company-wide water reduction targets (reduce water used for thermal generation by 95% by 2050; 2005 baseline). We developed these targets to show our coworkers and stakeholders projected progress towards reducing water use for thermal generation.</p> <p>We explain how our water management is driven by state and federal clean water statutes and regulations, including the widely recognized 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.</p> <p>In our Human Rights policy, we acknowledge we provide safe and healthy working conditions for all employees and contractors, which can include access to water and sanitation. Our Water Policy states 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 was 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 coworkers and stakeholders can understand how we</p>
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			assess and incorporate water and climate related items into our thinking.
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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	Please explain
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.

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 and divestiture Overseeing major capital expenditures	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

		<p>Reviewing and guiding annual budgets</p> <p>Reviewing and guiding business plans</p> <p>Reviewing and guiding major plans of action</p> <p>Reviewing and guiding risk management policies</p> <p>Reviewing and guiding strategy</p> <p>Reviewing and guiding corporate responsibility strategy</p>	<p>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.</p> <ul style="list-style-type: none"> • 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. <p>An example of how climate-related issues are monitored at Ameren is provided through the development of its updated Climate Risk Report. In May 2021, Ameren published a climate report titled "Committed to Clean: Transformational Changes Toward Net-Zero." The report is based on recommendations from the Task Force on Climate-related Financial Disclosures. This report provides information about the Company's management of climate-related risks and opportunities, including Ameren Missouri's expansive plan to add 5,400 MW of clean energy in the coming decades. It also details how that plan is consistent with meeting the 1.5° Celsius goal, the target established by the Paris Agreement. The report was prepared by a cross-functional group of subject matter experts from across the Company, including representatives from our communications, corporate planning, corporate social responsibility, environmental, finance, legal, electric and gas operations, and strategy and innovation departments and outside advisors.</p>
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			Members of Ameren’s Executive Leadership Team oversaw and provided guidance on the report’s preparation. The report was reviewed by the Board of Directors, as well as Nuclear, Operations, and Environmental Sustainability Committee of our Board of Directors.
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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)

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

Quarterly

Please explain

Ameren evaluates water-related issues regularly as part of overall business strategy and long-term financial planning. A dedicated Water Quality Group continually monitors regulatory changes and identifies business risks/opportunities, which are then regularly reported to multiple teams throughout Ameren. This information along with reports (i.e. our Climate Risk Report and Water Resiliency Assessment) assessing climate change scenarios and long-term water availability and resiliency, help inform our overall business strategy, including AMO's Integrated Resource Plan (IRP). The Ameren CEO regularly receives and reviews information on water-related matters from internal and external subject matter experts. i.e the CEO and other levels of executive leadership review and provide input on the IRP, which included information on the transition to dry-ash handling and upgrading of wastewater treatment systems at our coal fired 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)

 2020-AEE-Annual-Report.pdf

 2020-AEE-Annual-Report.pdf

 Our annual report includes disclosure on our environmental compliance (which includes water-related compliance), and our Coal Combustion Residual strategy (which includes our transition to dry-ash handling).

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	Please explain
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		horizon (years)	
Long-term business objectives	Yes, water-related issues are integrated	16-20	We are committed to operating in a sustainable manner by carefully balancing our key responsibilities to our customers, co-workers, shareholders, and the environment. Ameren evaluates water-related issues regularly as part of the overall business strategy and long-term financial planning. Water-related considerations are driven by the Clean Water Act requirements and include thermal discharge considerations, aquatic organism entrainment and impingement, and effluent limitations. A Water Quality Group continually monitors regulatory changes and identifies business risks and opportunities, which are then regularly reported to multiple teams throughout Ameren. Ameren published a voluntary Climate Risk Report and Water Resiliency Assessment report which assessed climate change scenarios in order to determine long-term water availability and resiliency in our service territory and high-risk portions of our supply chain. Both compliance and climate-related water assessments help inform Ameren Missouri's Integrated Resource Plan (IRP) which is issued every 3 years and (updated annually) has a 20 year planning horizon (which is why 16-20 years was selected.) During the annual planning cycle, costs and regulatory compliance are evaluated, and budget meetings are held regularly to allocate the resources necessary to remain in compliance with water-related regulations and to inform long-term business operations viability. The IRP is approved by the Ameren Missouri Board of Directors.
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 goals to reduce water consumption by approximately 11 billion

			gallons annually by converting to dry handling of coal combustion residuals. The expansion of renewable energy capacity as set forth in Ameren Missouri's 2020 IRP, is expected to add 3,100 megawatts (MW) of new clean, renewable generation by 2030 and a total of 5,400 MW by 2040., reducing reliance on water-intensive generation. To enhance resilience to future extreme water-related events, Ameren is continuing to investigate system hardening measures that includes, 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 Ameren Missouri's 2020 IRP which incorporates a 20 year forecasting horizon (which is 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 for the 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, and conversion to dry-ash handling and the upgrading of wastewater treatment plants. Ameren MO is in the process of closing surface impoundments at three facilities, and is scheduled to complete the last of such closures in 2023. 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 are expected to be offset by investments into 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 through 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)

0

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

-41

Water-related OPEX (+/- % change)

57

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

76

Please explain

CAPEX expenditures include wastewater treatment system upgrades, ash pond closures, conversion to dry ash handling, groundwater improvement and monitoring system installations and 316(b) compliance measures. These expenditures remained about the same from 2019 to 2020 as similar upgrades and installations were occurring at three of our coal-fired energy centers during both years. CAPEX spending is expected to decrease annually through 2023 as these projects are completed (-41% in forthcoming reporting year, trending an average of -30%/yr through 2023). OPEX spending includes operation of wastewater treatment and groundwater monitoring systems, and ash pond closure maintenance. These have increased by 57% compared to 2019 as capex projects are finishing construction and entering operation (increasing O&M costs). OPEX is expected to increase in 2021, and continue to increase through 2024, but at lower rates, due to the operational requirements of CAPEX projects entering operation.

W7.3

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

	Use of climate-related 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 over 1,000 climate scenarios from the IPCC and others (and was updated in April 2020). We used this study to assess the resilience of AMO'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 2050, including interim goals to reduce carbon emissions below 2005 levels by 50% by 2030 and 85% by 2040. Our goals are consistent with the Paris Agreement, limiting the temperature rise to 1.5°C. In addition, these helped develop our 2021 Climate Risk report (AmerenInvestors.com). Our 2018 Water Resilience Assessment also 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.
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W7.3a

(W7.3a) Has your organization identified any water-related outcomes from your climate-related scenario analysis?

Yes

W7.3b

(W7.3b) What water-related outcomes were identified from the use of climate-related scenario analysis, and what was your organization's response?

	Climate-related scenarios and models applied	Description of possible water-related outcomes	Company response to possible water-related outcomes
Row 1	2DS RCP 2.6	A study area was defined for this report to include the Upper Mississippi and the Lower Missouri Water Resources Region, which represents Ameren's 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.	Our climate and water-related studies indicated the potential for increased variability of precipitation and flood events in our service territory, and potential increased drought in the Powder River Basin, a portion of our supply chain. Our actions include: <ul style="list-style-type: none"> • Response to physical risks: For future flooding events, we have implemented more vigilant surveillance and 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

		<p>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 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.</p>	<p>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. Significant portions of these upgrades are set to be completed in the next few years.</p> <ul style="list-style-type: none"> • Response to water conservation: While our Water Resilience Assessment indicated low water scarcity risk in our service territory we are currently implementing water-saving measures such as transitioning to dry ash handling and investment in renewable technologies, energy efficiency measures, and smart grids to facilitate continues incorporation of non-water-intensive generation. These majority of these water efficiency upgrades are expected to be complete by 2021.
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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. We have however included a carbon price in our evaluation of long-term resource planning for our Missouri regulated business through our 2020 Integrated Resource Plan (IRP) process. The price is included to represent the expectation for either regulation of carbon dioxide (CO2) emissions through a mechanism that establishes an explicit price for CO2 emissions, such as a carbon tax or cap-and-trade program, or emission credit trading markets.

W8. Targets

W8.1

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

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Company-wide targets and goals Business level specific targets and/or goals	Targets are monitored at the corporate level Goals are monitored at the corporate level	<p>Our approach to setting water-related targets and goals is based on best sector practice, water stewardship, risk mitigation, and regulatory compliance requirements. Our Water Policy reflects Ameren's commitment to protecting our natural resources, including reducing our water use and returning clean water to our environment. Our goals and targets to eliminate water in ash handling, improve water quality, and reduce water use in thermal generation reflect this commitment and are tracked annually within our business units and at a corporate level. Our target and goal development processes are developed by considering the transition to cleaner generation which includes significant increases in renewable generation and retirement of coal-fueled energy centers, and these actions will impact water usage. Estimates are calculated based on projected water reductions as a result, using historical water usage.</p> <p>Our business level specific targets and goals include progress towards elimination of the use of water for ash handling at three of our coal-fired energy centers. This is monitored through the use of project schedules and cost management procedures. Groundwater quality is monitored through the use of sampling wells and laboratory analyses over the long term.</p> <p>We have also published company-wide water reduction targets that strive to reduce water used for thermal generation as we retire our coal-fired energy centers. The development of these targets were driven through our ongoing effort to track and publicly report on water use in our generation operations. This also helps increase transparency on our water-related goals and initiatives for our customers and stakeholders. We chose to track water use from thermal generation (so water used in our coal and nuclear generation operations) because while this only accounts for about 6% of</p>

			<p>overall water usage (the other 94% is used in our hydro generation operations), coal and nuclear sources represents the bulk (about 94%) of our 2020 gross generation. These water use reduction targets were created and are monitored in alignment with our energy center retirement planning schedules which were developed and explained in our 2020 IRP reports, and the data used to monitor the progress toward the targets is collected as part of our water data monitoring efforts that support our water-related permit obligations.</p>
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W8.1a

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

Target reference number

Target 2

Category of target

Other, please specify

Eliminate use of water for ash handling

Level

Site/facility

Primary motivation

Recommended sector best practice

Description of target

Eliminate the discharge of water for ash handling (by converting to a closed-loop bottom ash and dry fly ash management system) at the Sioux Energy Center thereby reducing water use by approximately 1.7 billion gallons a year. This is a multi-year design and construction project. Water has historically been used to transport ash at our coal-fired Sioux Energy Center. Ameren made plans and has invested in the transition from wet to dry ash handling which will eliminate the need for water in ash handling, increasing the efficiency of water usage in coal-fired generation.

Quantitative metric

Other, please specify

Percent of project complete

Baseline year

2015

Start year

2016

Target year

2020

% of target achieved

100

Please explain

Target is based on sector best practice, water stewardship, risk mitigation, and regulatory compliance requirements. Metric is percent complete of engineering and construction project to install new facilities. The construction projects were finished during 2020, meaning the full reduction of discharged water (previously) used in wet ash handling can be realized moving forward, as the systems fully go into operation. Upon realization of the transition to dry ash handling, the water Sioux Energy Center withdraws from the Missouri River Basin in order to generate electricity can be used more efficiently.

Target reference number

Target 3

Category of target

Water withdrawals

Level

Company-wide

Primary motivation

Climate change adaptation and mitigation strategies

Description of target

Target: Reduce water withdrawals for thermal generation by 95% by 2050 according to a 2005 baseline.

Explanation: Our coal and nuclear fuelled energy centers withdraw water from the Mississippi River Basin to use as cooling water for thermal generation of electricity. About 99% of the water used in thermal generation is withdrawn at our four coal-fired energy centers, with our nuclear energy center making up the remaining 1%. We plan to retire all coal fired generation by 2042, and therefore target a withdraw of surface water by 95% by 2050. About 67% of our 2020 energy supply came from our coal fired energy centers. While our operations exist in a region with low risk for water stress, these operations rely on large volumes of water, which could be impacted by climate change. We are retiring our coal plants as part of our climate change strategy and will be reducing our use of water in thermal generation at the same time, which is the motivation for these targets.

Quantitative metric

% reduction of water withdrawals from surface water

Baseline year

2005

Start year

2020

Target year

2050

% of target achieved

10

Please explain

The majority of the water we use (~94%) is used in hydroelectric generation. However this only makes up about 5% 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. In order to reduce risk and reliance on such a critical resource as surface freshwater, we have targets to reduce surface water withdrawal for thermal generation by 95% by 2050 according to a 2005 baseline, resulting from the planned retirement of our remaining four coal-fired energy centers. The % of target achieved is determined by calculating the percent reduction of absolute total water withdrawal in the current year as compared to the baseline. The projected reductions are based on averaged withdrawal volumes of past years of operation.

W8.1b

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

Goal

Improve wastewater quality beyond compliance requirements

Level

Business activity

Motivation

Reduced environmental impact

Description of goal

Our goal is to accelerate our compliance efforts where possible and to minimize the impact of our operations on surface waters. Such efforts include installation of waste water treatment facilities and the use of cutting edge technologies to treating groundwater at ash ponds located at three of our coal fired energy centers, which will enhance the efficiency of the water used in coal-fired generation, reducing the amount of water needed to be withdrawn from the Mississippi River Basin where our generation operations exist. This goal is important for Ameren because non-compliance with water-related regulation poses a regulatory and financial risk. In addition, we have a

commitment to environmental stewardship which prioritizes responsible use of resources, and we strive to reduce our impact on these resources and the environment where possible.

Baseline year

2015

Start year

2015

End year

2020

Progress

Wastewater treatment system upgrades have been completed at three of our four coal-fired energy centers which improves the quality and efficiency of wastewater treatment at these facilities, while maintaining regulatory compliance, in some cases ahead of schedule. These wastewater treatment systems were installed in parallel with the transition to dry ash handling and the closing of our ash basins which has led to decreased volumes of water exposed to pollutants in ash residuals and improving the overall quality of water going through wastewater treatment. These upgrades result in increased efficiency of wastewater treatment and reduced water use in operations, and as the construction of the new wastewater systems were completed in 2020, decreased volumes of water were exposed to pollutants in ash residuals. In addition, these activities are projected to save 230 million gallons of water annually starting in 2023, as the systems fully enter into operation over time. Starting in 2012, Ameren has saved more than 120 billion gallons of water each year while still generating reliable energy. We've done this through our transition to cleaner sources of energy, and upgrading water-related processes at our existing energy centers, all of which reside in the Mississippi River Basin.

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. Sign off

W-FI

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

W10.1

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

	Job title	Corresponding job category
Row 1	Executive Vice President & Chief Financial Officer, Ameren President, Ameren Services	Chief Financial Officer (CFO)

W10.2

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

No

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I am submitting to	Public or Non-Public Submission
I am submitting my response	Investors	Public

Please confirm below

I have read and accept the applicable Terms

Independent Assurance Statement to Ameren Corporation

ERM Certification and Verification Services ('ERM CVS') was engaged by Ameren Corporation to provide limited assurance in relation to specified 2020 (year ending December 31st 2020) water data in its 2021 CDP Water Security Questionnaire as set out below.

Engagement summary	
Scope of our assurance engagement	Whether the 2020 data for specified indicators as listed below are fairly presented in accordance with the reporting criteria <ul style="list-style-type: none">Total water withdrawal [megaliters]Total water discharged [megaliters]Total water consumption [megaliters]Water recycled/reused [megaliters]
Reporting criteria	Ameren's internal reporting criteria and definitions with consideration of CDP water-related definitions.
Assurance standard	ERM CVS' assurance methodology, based on the International Standard on Assurance Engagements ISAE 3000 (Revised).
Assurance level	Limited assurance.
Respective responsibilities	Ameren is responsible for preparing the data and for its correct presentation in the Report to third parties, including disclosure of the reporting criteria and boundary. ERM CVS's responsibility is to provide conclusions on the agreed scope based on the assurance activities performed and exercising our professional judgement.

Our conclusions

Based on our activities, nothing has come to our attention to indicate that the 2020 data for the selected water data as shown below and reported in section W1.2b of Ameren's 2021 CDP Water Security Questionnaire are not fairly presented, in all material respects, with the reporting criteria.

- Total water withdrawal: 71,178,516 megaliters**
- Total water discharged: 71,155,231 megaliters**
- Total water consumption: 23,597 megaliters**
- Water recycled/reused: 8,102 megaliters**

Our assurance activities

Our objective was to assess whether the assured data are reported in accordance with the principles of completeness, comparability (across the organization) and accuracy (including calculations, use of appropriate conversion factors and consolidation). We planned and performed our work to obtain all the information and explanations that we believe were necessary to provide a basis for our assurance conclusions. We applied a 5% material error threshold.

A multi-disciplinary team of water and assurance specialists performed the following activities:

- Virtual interviews with corporate staff to understand and evaluate the data management systems and processes (including internal review processes) used for collecting and reporting the selected data;
- A review of a sample of data against underlying monitoring data and other source evidence;
- Analytical review of the data from all sites, including calculations, conversion factors used, and the accuracy of the consolidation of the water data at the corporate level; and

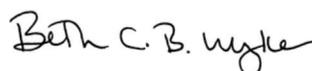
- A review of the results of Ameren's internal QA/QC procedures on water data.

The limitations of our engagement

Our engagement covers the consolidated data from Ameren's electricity generation facilities except solar, wind, biogas, and petroleum generation facilities. The reliability of the assured data 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.

Force Majeure – COVID-19

Due to travel restrictions as a result of COVID-19, our assurance work for the reporting period was conducted using a combination of desk-based reviews of information and data, and virtual interviews and meetings with the Ameren corporate and plant-level reporting team. We did not undertake any in-person visits to Ameren operations.



Beth Wyke
Partner, Head of Corporate Assurance
26 July 2021

ERM Certification and Verification Services, Inc.
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