Duke Energy Corporation - Water Security 2022

W0. Introduction

W0.1

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

Duke Energy Corporation, together with its subsidiaries, operates as an energy company in the United States. It operates through three segments: Electric Utilities and Infrastructure, Gas Utilities and Infrastructure, and Duke Energy Commercial Renewables (a brand that unifies products and services offered by several Duke Energy subsidiaries including Duke Energy Renewables (which was established in 2007), REC Solar Commercial Corporation, and Duke Energy One).

Electric Utilities and Infrastructure conducts operations primarily through the regulated public utilities of Duke Energy Carolinas, Duke Energy Progress, Duke Energy Florida, Duke Energy Indiana, Duke Energy Kentucky, and Duke Energy Ohio that collectively own 50,000 megawatts of energy capacity. Electric Utilities and Infrastructure provides retail electric service through the generation, transmission, distribution, and sale of electricity to approximately 8.2 million customers within the Southeast and Midwest regions of the U.S. The service territory is approximately 91,000 square miles across six states with a total estimated population of 26 million people. The operations include electricity sold wholesale to municipalities, electric cooperative utilities, and other load-serving entities. Electric Utilities and Infrastructure is also a joint owner in certain electric transmission projects.

Gas Utilities and Infrastructure conducts natural gas operations primarily through the regulated public utilities of Piedmont Natural Gas and Duke Energy Ohio. Gas Utilities and Infrastructure has approximately 1.7 million customers, including 1.1 million customers located in North Carolina, South Carolina, and Tennessee, and an additional 550,000 customers located within southwestern Ohio and northern Kentucky.

Duke Energy Commercial Renewables is a leader in sustainable energy, primarily comprised of utility-scale wind and solar generation assets located throughout the United States. The team primarily acquires, develops, builds, operates, and owns wind and solar renewable generation. Duke Energy Commercial Renewables also enters into strategic transactions including minority ownership and tax equity structures in wind and solar generation. The portfolio includes nonregulated renewable energy and energy storage businesses. The team provides wind, solar, resilient backup power, and managed energy services to over 1,000 projects with a total owned and operated electric capacity of more than 5,100 megawatts of nonregulated renewable energy.

In addition to the three previously named entities, the Duke Energy Foundation provides more than 30 million dollars annually in philanthropic support to meet the needs of communities where Duke Energy customers live and work. The Foundation is funded by Duke Energy shareholders.

W-EU0.1a

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

Electricity generation
Transmission
Distribution
Other, please specify (Gas utilities)

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	15652	29	50986
Lignite	0	0	0
Oil	995	1.8	231
Gas	19788	36.7	82202
Biomass	0	0	0
Waste (non-biomass)	0	0	0
Nuclear	8907	16.5	78282
Fossil-fuel plants fitted with carbon capture and storage	0	0	0
Geothermal	0	0	0
Hydropower	3639	6.7	5737
Wind	2987	5.5	7387
Solar	1973	3.7	4327
Marine	0	0	0
Other renewable	0	0	0
Other non-renewable	44	0.1	374
Total	53985	100	229526

W0.2

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

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

W0.3

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

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 financial 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
Hydroelectric Facilities	Hydroelectric generating facilities pass water from one side of the dam to the other and do not withdraw significant volumes of water from the source waterbody for the purpose of electrical generation. Although they withdraw small amounts for consumptive use, this amount is de minimis with respect to the withdrawals at other types of powerplants and is not included in the totals presented in this questionnaire. The one exception is the Markland Hydroelectric Station which utilizes groundwater as the source of service/cooling water and is included within the reported metrics.
Natural Gas Distribution	Natural gas distribution facilities do not use water in their operation and are exposed to very little water risk.
Electrical Transmission and Distribution Facilities	Transmission and distribution facilities do not use water in their operation.
Water withdrawals and discharges from ash pond closures and remediation activities	Withdrawals and discharges associated with ash pond closures and remediation activities are time limited and are not representative of past, present, or future operations. Where practicable, ash pond closure activities are excluded from the reported metrics.
Electrical generation	The responses provided for Question W-EU0.1b are only for Duke Energy owned generation. Some facilities are co-owned with other partners such as the Catawba Nuclear Station; however Duke Energy is the operator of such facilities. For any co-owned facilities, the values provided in the Question W-EU0.1b are only for that portion owned by Duke Energy.

W0.7

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

Indicate whether you are able to provide a unique identifier for your organization.	Provide your unique identifier
Yes, a Ticker symbol	DUK

W1. Current state

W1.1

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

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Vital	Access to affordable, reliable, and adequate water supplies is vital for the production of electricity; water drives the turbines in hydroelectric plants and is used for cooling thermoelectric and steam-driven power stations. Several municipalities rely on the water in Duke Energy reservoirs as a drinking water source and many of the reservoirs are open to the public for recreation. While water withdrawals from freshwater sources are expected to decrease as coal-fired stations that utilize once-through cooling are retired, freshwater is expected to be vital for both direct and indirect use in the near future. Sufficient amounts of quality freshwater are vital for the continued operation of our nuclear and hydroelectric generating units, which are necessary to execute our business strategy of developing clean, affordable electricity and to achieve our climate goal to reduce carbon dioxide (CO_2) emissions from our generation fleet by at least 50 percent from a 2005 baseline by 2030 and to attain net-zero CO_2 emissions by 2050. As populations continue to grow in the states that we primarily operate in (Florida, Indiana, Kentucky, North Carolina, Ohio, South Carolina, and Tennessee), the need for good quality freshwater will continue. The Duke Energy reservoirs will continue to be a vital water supply for municipalities as well as a recreational resource.
Sufficient amounts of recycled, brackish and/or produced water available for use	Vital	Important	Access to affordable, reliable, and adequate water supplies is vital for the production of electricity. Several Duke Energy facilities use recycled or brackish water for cooling and other purposes (such as air emission control). Indirectly, recycled water is used for natural gas production, which provides a portion of the natural gas to customers and some of the Duke Energy generating fleet. The continued operation of our generation fleet that use recycled and/or brackish water will be important for our future operations and business strategy to provide clean and affordable electricity.

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%	Monitoring and reporting are required by federal and state regulations, permits, and reporting obligations. Monitoring frequency and method varies by individual site and permit; however, are typically measured daily by a continuous flowmeter or calculated using pump design flow and hours of operation.
Water withdrawals – volumes by source	100%	Monitoring and reporting are required by federal and state regulations, permits, and reporting obligations. Monitoring frequency and method varies by individual site and permit; however, are typically measured daily by a continuous flowmeter or calculated using pump design flow and hours of operation.
Entrained water associated with your metals & mining sector activities - total volumes [only metals and mining sector]	<Not Applicable>	<Not Applicable>
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<Not Applicable>	<Not Applicable>
Water withdrawals quality	100%	Measurement and monitoring of the quality of water withdrawn varies based on the site, operations, and source water. The quality of water withdrawn is primarily monitored to ensure the source water is within specifications for use within the station. Furthermore, the quality of water withdrawn is monitored as part of the National Pollutant Discharge Elimination System (NPDES) permit renewal application conducted at a frequency of about five years. For NPDES permitting purposes, samples are collected via a 24-hour composite sample or as directed by the permitting authority. Analysis of the samples is conducted by a certified laboratory and approved analytical method for each constituent. Quality of potable and reclaimed water withdrawn is provided by the supplier.
Water discharges – total volumes	100%	Monitoring and reporting are required by federal and state regulations and site-specific permits. Monitoring frequency and method varies by individual site and permit. Measurement of discharge volumes is typically measured daily using a flowmeter or calculated using pump design flow and hours of operation. This data is reported each month to the state environmental regulatory agency.
Water discharges – volumes by destination	100%	Monitoring and reporting are required by federal and state regulations, permits, and reporting obligations. Monitoring frequency and method varies by individual site and permit; however, are typically measured daily by a continuous flowmeter or calculated using pump design flow and hours of operation.
Water discharges – volumes by treatment method	100%	Volumes of water discharged by treatment method (e.g., outfall) are required to be conducted as part of the environmental permits. These volumes are also monitoring for operational control. Monitoring frequency and method varies by individual site and permit; however, are typically measured daily by a continuous flowmeter or calculated using pump design flow and hours of operation.
Water discharge quality – by standard effluent parameters	100%	Water discharge quality by effluent parameters is required to be monitored as part of the National Pollutant Discharge Elimination System (NPDES) permit renewal application conducted at a frequency of about five years. For NPDES permitting purposes, samples are collected using a 24-hour composite sample, grab sample, or as directed by the permitting authority. Analysis of the samples is conducted by a certified laboratory and approved analytical method for each constituent.
Water discharge quality – temperature	100%	Water discharge quality for temperature is required to be measured and monitored by federal and state permits and reporting obligations. Monitoring frequency varies by individual site and permit, but can be continuous, daily, weekly, or monthly monitoring. The typical measurement method is a temperature probe that is calibrated and referenced to a standard. Stations that no longer generate electricity but discharge water from closure activities are not included in percent of stations monitoring temperature since these do not discharge water with elevated temperature.
Water consumption – total volume	100%	Estimates of water consumption are reported in accordance with state or other regulatory entities and are typically calculated on a monthly or annual basis. The method for determining water consumption varies by individual site. Consumption differences are based on evaporative losses or differences between withdrawal and discharges.
Water recycled/reused	100%	Several Duke Energy stations utilize a recirculating closed-cycle cooling water system. Water within these systems is reused for cooling purposes many times prior to discharge. The volume of water reused in these systems are typically not directly measured. The reduction in water withdrawn and discharged reflects the reuse of this water. In addition, several stations do reuse water within different processes, but the volume is typically measured only for operational reasons. The amount of water recycled is not tracked and typically not segregated from non-recycled flows for reporting purposes.
The provision of fully-functioning, safely managed WASH services to all workers	Not relevant	This is a requirement of local health departments and building codes, which establish monitoring frequency.

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	76 - 99%	Monitoring, measurement, and reporting is required by Federal Energy Regulatory Commission (FERC) licenses. Not all hydroelectric stations have downstream flow monitoring requirements, but where there are environmental flow monitoring requirements, we monitor 100% of fulfilment of downstream environmental flows.
Sediment loading	51 - 75 %	Sediment loading is not generally required to be monitored for the Duke Energy hydroelectric operations. Sediment loading studies are typically conducted as part of the Federal Energy Regulatory Commission (FERC) license renewal application.
Other, please specify	76 - 99%	Dissolved oxygen and temperature are monitored, measured, and reported as required by the Federal Energy Regulatory Commission (FERC) License for applicable stations within each project (Catawba-Wateree, Yadkin Pee-Dee and Keowee Toxaway Projects). Nutrients are also monitored for the Catawba-Wateree License. Oil & Grease, Dissolved Oxygen, and water Temperature are also monitored at the hydroelectric stations as dictated by the facility's National Pollutant Discharge Elimination System (NPDES) permit requirements.

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	18639392	About the same	Withdrawal slightly increased about 5% largely due to enhanced data scrutiny and calculation for 2021 as compared to 2020.
Total discharges	18208180	About the same	Discharges slightly increased about 3% largely due to enhanced data scrutiny and calculation for 2021 as compared to 2020.
Total consumption	421760	Higher	Consumption increased about 31% largely due to enhanced data scrutiny and calculation for 2021 as compared to 2020. However, the total consumption value is markedly less that the total discharges.

W1.2d

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

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Identification tool	Please explain
Row 1	Yes	Less than 1%	About the same	Other, please specify (Falkenmark Water Stress Index)	Duke Energy uses the Falkenmark Water Stress index to determine risk of water availability from water stressed areas. The Falkenmark Water Stress Index designates any location as water-stressed if the water availability is less than 1700 m3 per capita-year. All Duke Energy generating facilities that rely on water are located in Florida, Indiana, Kentucky, North Carolina, and South Carolina. All of these areas are relatively rich in water resources. No Duke Energy production facility that relies on water usage is within an area that exceeds the threshold under the Falkenmark Water Stress Index. In addition, several Duke Energy facilities use brackish water and saltwater, which do not conflict with other water users in the area. Duke also owns and operates several generating facilities that do not rely on water or use very small amounts of water for generation - combustion turbines, wind, and solar generation facilities. A unique aspect of our Carolinas operations is that we manage many of the reservoirs/lakes that supply water for our hydro plants and cooling water for our fossil and nuclear plants. Many of these reservoirs also supply public water systems and industrial process water. Our successful management of the 2007 drought, and the availability of water storage in reservoirs (which is supplemental to the normal flow of water at these plant sites), reinforces the conclusion that these areas are not currently water stressed under normal conditions and have the capability of being managed through severe drought conditions. Duke Energy has stations located in areas identified as high (40 to 80%) for baseline water stress by the WRI Aqueduct tool. However, these stations are either located on reservoirs in which Duke Energy controls the water and engages stakeholders on current and future water use, utilize closed-cycle cooling or utilize brackish water.

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	13478923	About the same	Fresh surface water withdrawal was about the same in 2021 as compared to 2020.
Brackish surface water/Seawater	Relevant	5107792	Higher	Brackish surface water/Seawater withdrawal was higher in 2021 as compared to 2020. This is predominantly due to enhanced data gathering and analysis to support water sustainability reporting.
Groundwater – renewable	Relevant	35092	Higher	Groundwater – renewable withdrawal was higher in 2021 as compared to 2020. This is predominantly due to enhanced data gathering and analysis to support water sustainability reporting.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	
Third party sources	Relevant	17587	About the same	Third party source water withdrawal was about the same in 2021 as compared to 2020. This source includes municipal potable water (1,116 megaliters) and alternate water supply, such as reclaimed water (16,471 megaliters).

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	13182822	About the same	Fresh surface water discharges were about the same in 2021 compared to 2020.
Brackish surface water/seawater	Relevant	5025357	Higher	Brackish surface water/seawater discharges were higher in 2021 compared to 2020. This is predominantly due to enhanced data gathering and analysis to support water sustainability reporting.
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	
Third-party destinations	Not relevant	<Not Applicable>	<Not Applicable>	

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	9354	Lower	Less than 1%	All wastewater is treated to meet strict state and federal effluent standards. Tertiary treatment is mainly conducted at our coal-fired and nuclear stations to treat water with elevated amounts of dissolved constituents. These waste streams account for less than 1% of the total volume of water discharged. The provided percentage represents the total volume of tertiary treated water discharges during 2021 divided by the total discharge volume during 2021.
Secondary treatment	Relevant	31728	Lower	Less than 1%	All wastewater is treated to meet strict state and federal effluent standards. Secondary treatment is mainly conducted at our coal-fired stations to treat water with suspended solids and pH adjustments. These waste streams account for less than 1% of the total volume of water discharged. The provided percentage represents the total volume of secondary treated water discharges during 2021 divided by the total discharge volume during 2021.
Primary treatment only	Relevant	44279	Lower	1-10	All wastewater is treated to meet strict state and federal effluent standards. Primary treatment is mainly conducted to treat water with elevated suspended solids. These waste streams account for approximately 2% of the total volume of water discharged. The provided percentage represents the total volume of primary treated water discharges during 2021 divided by the total discharge volume during 2021.
Discharge to the natural environment without treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	
Discharge to a third party without treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Little, if any, discharges to a third party without treatment are from our operations.
Other	Relevant	18122819	Higher	91-99	The majority of water discharged from steam electric generation is condenser cooling water. These waters are treated by cooling towers, cooling ponds, cooling canals, or cooling reservoirs to meet strict federal and state thermal limits to ensure the receiving water body maintains a balanced and indigenous population for aquatic organisms. The provided percentage represents the total volume of other treated water discharges during 2021 divided by the total discharge volume during 2021.

W1.3

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

	Revenue	Total water withdrawal volume (megaliters)	Total water withdrawal efficiency	Anticipated forward trend
Row 1	25097000000	18639392	1346.44949792354	As once-through cooling water coal-fired facilities are retired, the "Total water withdrawal efficiency" should increase. Note that "Revenue" is rounded to the nearest million dollars; however this rounding does not markedly impact the auto-calculated "Total water withdrawal efficiency" value.

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
1.95	Total water consumption	MWh	Higher	Duke Energy uses total consumption divided by net owned generation for water intensity. Water intensity for 2021 was higher than in 2020. As more generation is obtained from facilities with closed-cycle cooling, consumption on a facility basis is expected to increase. These increases, however, are expected to be offset by more efficient operation (i.e. more electricity generated per volume of water used) coupled with an increase in renewable generation. Duke Energy tracks and reports water intensity within the company's Annual ESG Report. These values are used to help engage stakeholders on our water usage and determine water availability for future generations. For example, Duke Energy participates in user groups of three hydroelectric projects. These user groups track and model future water availability not only for electric generation, but also potable use by municipalities and recreational use. We are expecting water intensity to be about the same or decrease slightly in the short-term due to the continued retirement and expected lower capacity factors of the coal-fired stations and replacing their generation with more efficient operation (i.e. more electricity generated per volume of water used) of new natural gas combined-cycle stations and renewable generation. Duke Energy is investing in advanced cooling technology research through its partnership with the Electric Power Research Institute to evaluate options to reduce the water intensity. This research is focused on reducing cooling water needs through hybrid or dry cooling technology.

W1.4

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

Yes, our suppliers

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

51-75

% of total procurement spend

51-75

Rationale for this coverage

At Duke Energy, powering the lives of our customers and the vitality of our communities is our purpose. It's what motivates us and what's behind all we do at Duke Energy. At its core, this purpose is our reason for being in business and conveys what we at Duke Energy stand for in historical, ethical, emotional, and practical terms. Duke Energy's expectations for our suppliers are described in more detail in our Supplier Code of Conduct. The work of our suppliers is critical to the lives of our customers and reflects on Duke Energy and its commitments. Upholding the highest standards of ethical, social, and sustainable conduct is the foundation of our expectations for our suppliers.

The Supplier Code of Conduct ("Code") applies to all of the businesses and individuals who support Duke Energy, its subsidiaries, joint ventures, divisions, or affiliates by working together to provide services or products necessary for the safe, successful, and ethical conduct of our business. Our suppliers are requested to educate their employees, agents and subcontractors on the Code so they understand and comply with it. Suppliers are expected to provide sufficient training and supervision to ensure that any of the workers they assign to perform work for Duke Energy comply with the Code. Compliance with this Code is a requirement for becoming or remaining a supplier with Duke Energy and for individual workers to be eligible for contract assignments to Duke Energy. We encourage our suppliers to conduct ongoing self-assessments with these requirements and monitor compliance through audits or site visits as deemed necessary.

For bid events between $250,000 and $1,000,000, the Duke Energy sourcing team has the option of considering environmental stewardship. For bid events $1,000,000 or more, environmental stewardship is an evaluation criterion. Duke Energy utilizes a questionnaire to request information about the supplier's environmental policy, environmental compliance record and goals (air emissions, energy consumption, water usage.

Impact of the engagement and measures of success

The information is used as part of the competitive bidding selection process to ensure Duke Energy suppliers are supportive of our environmental stewardship. Success is measured by the increase in the number of suppliers being able to adequately meet the expectations of our corporate responsibility sourcing strategy.

Comment

W1.4b

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

Type of engagement

Incentivizing for improved water management and stewardship

Details of engagement

Water management and stewardship action is integrated into your supplier evaluation

% of suppliers by number

51-75

% of total procurement spend
51-75

Rationale for the coverage of your engagement
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For bid events between $250,000 and $1,000,000, the Duke Energy sourcing team has the option of considering environmental stewardship. For bid events $1,000,000 or more, environmental stewardship is an evaluation criterion. Duke Energy utilizes a questionnaire to request information about the supplier's environmental policy, environmental compliance record and goals (air emissions, energy consumption, water usage).

Impact of the engagement and measures of success
One example demonstrating the company's success in its supply chain efforts is by creating and maintaining relationships with supplier partners. Those partners are supportive of our corporate responsibility sourcing strategy, which focuses on safe work practices, local economic impact, supplier diversity and environmental stewardship.

Success of supplier engagement is measured by the increase in the number of bids that meet Duke Energy's Corporate Responsibility factors. In addition, Duke Energy participates in an annual sustainability survey conducted by the Electric Utility Industry Sustainable Supply Chain Alliance to benchmark suppliers against a multitude of environmental and sustainable metrics, including capabilities to measure water consumption and implement conservation programs.

Comment
With a focus on Operational Excellence, Duke Energy's Corporate Responsibility sourcing strategy meets the needs of customers by enhancing our sourcing strategy to extend beyond selecting suppliers based solely on weighted technical and commercial evaluations to include corporate responsibility (CR) factors. Duke Energy's Investment Recovery (IR) Bid Process includes the incorporation of Sustainability Components, including water sustainability practices, in the competitive bidding process.

Type of engagement
Onboarding & compliance

Details of engagement
Inclusion of water stewardship and risk management in supplier selection mechanism

% of suppliers by number
51-75

% of total procurement spend
51-75

Rationale for the coverage of your engagement
At Duke Energy, powering the lives of our customers and the vitality of our communities is our purpose. It's what motivates us and what's behind all we do at Duke Energy. At its core, this purpose is our reason for being in business and conveys what we at Duke Energy stand for in historical, ethical, emotional, and practical terms. Duke Energy's expectations for our suppliers are described in more detail in this Supplier Code of Conduct. The work of our suppliers is critical to the lives of our customers and reflects on Duke Energy and its commitments. Upholding the highest standards of ethical, social, and sustainable conduct is the foundation of our expectations for our suppliers.

The Supplier Code of Conduct ("Code") applies to all of the businesses and individuals who support Duke Energy, its subsidiaries, joint ventures, divisions, or affiliates by working together to provide services or products necessary for the safe, successful, and ethical conduct of our business. Our suppliers are requested to educate their employees, agents and subcontractors about the Code so they understand and comply with it. Suppliers are expected to provide sufficient training and supervision to ensure that any of the workers they assign to perform work for Duke Energy comply with the Code. Compliance with this Code is a requirement for becoming or remaining a supplier with Duke Energy and for individual workers to be eligible for contract assignments to Duke Energy. We encourage our suppliers to conduct ongoing self-assessments with these requirements and monitor compliance through audits or site visits as deemed necessary.

For bid events between $250,000 and $1,000,000, the Duke Energy sourcing team has the option of considering environmental stewardship. For bid events between $1,000,000 or more, environmental stewardship is an evaluation criterion. Duke Energy utilizes a questionnaire to request information about the supplier's environmental policy, environmental compliance record and goals (air emissions, energy consumption, water usage).

Impact of the engagement and measures of success
One example to demonstrate the company's success in its supply chain efforts is by creating and maintaining relationships with supplier partners. Those partners are supportive of our corporate responsibility sourcing strategy, which focuses on safe work practices, local economic impact, supplier diversity and environmental stewardship.

Success of supplier engagement is measured by the increase in the number of bids that meet Duke Energy's Corporate Responsibility factors. In addition, Duke Energy participates in an annual sustainability survey conducted by the Electric Utility Industry Sustainable Supply Chain Alliance to benchmark suppliers against a multitude of environmental and sustainable metrics, including capabilities to measure water consumption and implement conservation programs.

Comment
With a focus on Operational Excellence, Duke Energy's Corporate Responsibility sourcing strategy meets the needs of customers by enhancing our sourcing strategy to extend beyond selecting suppliers based solely on weighted technical and commercial evaluations to include corporate responsibility (CR) factors. Duke Energy's Investment Recovery (IR) Bid Process includes the incorporation of sustainability components, including water sustainability practices, in the competitive bidding process.

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?

Yes, fines, enforcement orders or other penalties but none that are considered as significant

W2.2a

(W2.2a) Provide the total number and financial value of all water-related fines.

Row 1

Total number of fines

0

Total value of fines

0

% of total facilities/operations associated

0

Number of fines compared to previous reporting year

Lower

Comment

Duke Energy has a comprehensive Corrective Action Program (CAP) that all significant incidences are subjected to. The CAP includes any incident in which a fine is administered. Our objective is to operate our facilities such that there are no permit exceptions and therefore no fines. There was one water-related Notice of Violation (NOV) issued to Duke Energy during 2021; however no penalties were assessed and the respective Agency has confirmed that all issues were resolved.

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?

Potential water pollutants associated with our facilities are assessed, identified, and monitored through the National Pollutant Discharge Elimination System (NPDES) permit program under the Clean Water Act. The Clean Water Act prohibits anyone from discharging "pollutants" through a "point source" into a "water of the United States" unless they have a NPDES permit. The NPDES permit contains limits on what one can discharge, monitoring and reporting requirements, and other provisions to ensure that the discharge does not harm water quality or human health. Effluent limitations serve as the primary mechanism in NPDES permits for controlling discharges of pollutants to receiving waters, and the permitting authority must consider the potential impact of every proposed surface water discharge on the quality of the receiving water.

As part of the NPDES permit application process, we are required to submit analytical data for the pollutants discharged or potentially discharged from the facility as well as flows and detailed process descriptions and chemicals used within the process. For our stations, the NPDES permit application typically requires the analytical results of 164 constituents to characterize the discharge in addition to pH, temperature, total suspended solids, and oil & grease. If these applications are not submitted in a timely manner, the regulatory agency can require us to cease the discharge of wastewater, thereby stopping electricity generation.

These results are compared to water quality standards developed by EPA and the state regulatory agencies designed to ensure the protection of both human health and aquatic species. Typically, these standards are based on the toxicity of the constituents. Appropriate effluent limitations, monitoring and reporting requirements and prohibitions are established within the NPDES permit. In general, analytical data for the full suite of 164 constituents are collected at a minimum of every five years, at which time limitations and permit conditions are reassessed. Any constituent identified as a concern is typically monitored at least monthly and monthly reports are provided to the regulatory agency. The Clean Water Act also has a requirement for states to evaluate water quality standards every three years to ensure the standard reflects the latest scientific information and offer continued protection to human health and aquatic species.

Typically permit parameters address water quality characteristics such as pH, temperature, dissolved oxygen, total suspended solids and toxicity. These characteristics are considered across our value chain whereas any supplier must adhere to the same permitting requirements. Additionally, drinking water municipalities must provide safe drinking water based on established criteria. At some sites, Duke Energy plants withdraw water from the same resource used by public water supplies. In these water bodies, more stringent limits and monitoring requirements are imposed to ensure safe drinking water can be supplied to the residents.

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
Coal combustion residuals	Coal combustion residuals (CCR) are the waste/products left after coal is combusted. It includes fly ash (fine powdery particles that are contained in the flue gas but are captured by pollution control devices before the flue gas exits the stack) as well as coarser materials that fall to the bottom of the furnace (i.e. bottom ash) and are removed. Wastewater associated with the handling of CCR material typically reflects the presence of associated constituents. This category includes wastewater generated by air pollution control devices, such as flue gas desulfurization (FGD) scrubbers. Depending on where the coal was mined, coal combustion residuals may contain heavy metals, such as arsenic, lead, mercury, cadmium, chromium and selenium, as well as total dissolved and suspended solids. If ingested, these constituents can impact human health and the aquatic ecosystem.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Community/stakeholder engagement Emergency preparedness	The Clean Water Act provides enforcement, controls, and requirements for effluent quality standards to ensure human health and water ecosystems are not adversely impacted by the discharge of coal combustion residuals (CCR). Permit limits are established based on water quality or technology. The water quality limits are imposed to ensure human health and aquatic organisms are protected. For technology-based limits, EPA establishes minimum limits based on best available technology. The permit writer is required to impose the more stringent limit. Additionally, the federal CCR rule established national regulations to provide a comprehensive set of requirements for the safe disposal of coal ash from coal-fired power plants. These regulations address the risks from coal ash disposal - leaking of contaminants into ground water, contaminants introduced in the air as dust, and catastrophic failure of coal ash surface impoundments. The rule sets standards for the structural integrity of impoundments, requires an evaluation on the impacts to groundwater, and establishes corrective action based on site conditions.
Contaminated cooling water	Two types of cooling systems are typically used for electricity generation: 1) once-through cooling (OTC) and 2) closed-cycle cooling (CCC). OTC water typically only introduces small levels of contaminants, if any, other than an increase in temperature, which is described below. For CCC, biocides, such as chlorine and bromine compounds, are used to prevent scaling, corrosion, and biofilm in the cooling system. These biocides may increase toxicity in water in some instances that could result in adverse impacts to aquatic species. Additionally, when contaminants are present in the water supply, evaporation of water during the cooling process may increase their concentrations in the water when it is discharged.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Community/stakeholder engagement Emergency preparedness	The Clean Water Act and NPDES permit program provides enforcement, controls, and requirements for effluent quality standards to ensure human health and water ecosystems are not adversely impacted by the contaminants present in discharged water. Limits in permits are established based on water quality or technology. The permit writer is required to impose the more stringent limit. The water quality limits are imposed to ensure human health and aquatic organisms are protected. When setting the limits much conservatism is incorporated to ensure water quality standards in the source water will be met. EPA establishes minimum effluent limits based on best available technology economically achievable, which are in addition to water quality effluent limits. For example, the effluent guidelines for the steam electric source prohibits the discharge in detectable quantities of 126 priority pollutants from cooling tower blowdown and restricts the discharge of free available and total residual chlorine from cooling water.
Thermal pollution	Thermal pollution is the impact to water quality from any process that changes ambient water temperature. Temperature may influence metabolic, growth, and reproductive rates of organisms and change the chemical composition of the water, including dissolved oxygen supply.	Compliance with effluent quality standards Community/stakeholder engagement Other, please specify (Receiving water field studies)	The USEPA and the state regulatory agencies have developed effluent quality standards for temperature, which are imposed by the NPDES operating permit. Variances to the temperature standards can be obtained by demonstrating that the receiving surface maintains a balanced and indigenous population of aquatic species. This demonstration involves extensive field studies to evaluate the effects of temperature on the receiving water ecosystem with a comparison to a subject water body.
Radiation	Radiation is a general term that can be used to describe the transfer of energy through space away from a source. Ionizing radiation is generated through nuclear reactions, naturally occurring, or artificial, and can be harmful to human health. There are three basic types of radiation. These include alpha, beta, and gamma radiation. Each radiation source is unique in the type of radiation it emits, and its risk to humans. Water containing extremely low amounts of radioactive materials is commonly released from nuclear powerplants as authorized by the Nuclear Regulatory Commission or state.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Community/stakeholder engagement Emergency preparedness Other, please specify (US Nuclear Regulatory Commission standards)	Effluent releases from nuclear plants are minimal and permitted under regulations promulgated by the United States Nuclear Regulatory Commission (NRC); however, they must be controlled, monitored, and reported to regulatory authorities. In addition, discharges are also subject to the Clean Water Act and National Pollutant Discharge Elimination System (NPDES) permitting requirements.

W3.3

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

Yes, water-related risks are assessed

W3.3a

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

Value chain stage

Direct operations

Coverage

Full

Risk assessment procedure

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

Frequency of assessment

More than once a year

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Enterprise risk management
Other

Tools and methods used
Internal company methods
External consultants
Other, please specify (Benchmarking)

Contextual issues considered
Water availability at a basin/catchment level
Water quality at a basin/catchment level
Stakeholder conflicts concerning water resources at a basin/catchment level
Status of ecosystems and habitats

Stakeholders considered
Investors
Other, please specify (Depending on the water basin or facility, additional stakeholders such as regulators, water utilities at a local level, local communities, and the public are considered)

Comment
The Enterprise Risk Management (ERM) function is a formal process to identify risks from all the operating units. The risk management function provides coverage to the regulated electric businesses, the natural gas businesses, and the commercial businesses through aligned and dedicated risk management teams. Risk registers at department levels are the primary vehicle for risk identification, assessment, and communication. The risk management functions support embedded business unit resources who identify, characterize, track and monitor risks in business unit risk registers. Risk registers are owned and maintained by the business units. ERM, led by the Chief Risk Officer, actively and independently provides risk management oversight, including challenging appropriateness of risk tolerance and risk acceptance within the business units.

Enterprise Risk Management (ERM) reports to the Finance & Risk Management Committee (FRMC) of the Board regularly, providing ongoing risk management education and covering key areas of risk for the company (operational, project, financial, insurance), emerging risks and risk assessment results. In addition, business units regularly provide deeper perspectives and risks with the FRMC or operational committees such as the Operations and Nuclear Oversight Committee (ONOC). Annually, an enterprise risk assessment is presented to the FRMC as well as our full Board.

Value chain stage
Supply chain

Coverage
Full

Risk assessment procedure
Water risks are assessed in an environmental risk assessment

Frequency of assessment
More than once a year

How far into the future are risks considered?
3 to 6 years

Type of tools and methods used
Enterprise risk management
Other

Tools and methods used
Internal company methods
External consultants
Other, please specify (Supplier sustainability questionnaire)

Contextual issues considered
Other, please specify (Supplier responses may include all of the contextual issues depending on the project, waterbody, and other factors)

Stakeholders considered
Other, please specify (Supplier responses may include several of the stakeholders listed depending on the project, waterbody, and other factors)

Comment
Duke Energy has a responsibility to deliver energy to our customers that is reliable, affordable, and increasingly clean. Duke Energy strives for sustained success through innovation, environmentally friendly practices, and safe workplaces. As a key focus in our business strategy and decision-making approach for creating long-term value for our customers and shareholders, we require suppliers to compete a sustainability questionnaire. The sustainability questionnaire asks questions related to a supplier's environmental policy and management system, environmental compliance record and measurement and goals related to air emissions, energy consumption and water usage. Questions related specifically to water usage are:
-- Is water use measured and trended?
-- Are there water use quantitative improvement targets in place?
-- Is water use publicly reported?
-- Is water use data 3rd party verified?
-- Does the company operate in a region that is currently or projected to be a water-scarce region? If yes, does the company's withdrawal volume represent a burden on the source?
-- Does the company's production/service/generation process rely on water availability?

W3.3b

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

Duke Energy seeks to achieve excellence in risk management through a mature, risk intelligent culture that actively sheds unrewarded risks while capturing value from opportunities aligned with the enterprise's strategic and operational objectives. Expectations are defined through the Enterprise Risk Management Framework and detailed through a set of policies, standards, and guides maintained by Enterprise Risk Management (ERM). The expectations of the policy extend to all activities and personnel within the Company.

Duke Energy performs a comprehensive Enterprise Risk Assessment (ERA) on an annual basis to identify potential major risks to corporate profitability and value. The ERA focuses on potential risks and opportunities that have the potential to significantly impact the company's value and pursuit of its objectives, including water-related risks. Enterprise risks considered substantive generally have a potential financial impact of 2% of net income or more and/or other impacts, such as to Duke Energy's reputation or brand value; or a potential operational impact to corporate short-term incentive performance measures, regulatory outcomes, or litigation. The Enterprise Risk Management (ERM) function is a formal process to identify risks from all the operating units and is housed in the Finance Department, separate from the business units. The risk management function provides coverage to regulated electric businesses, natural gas businesses, and commercial businesses through aligned and dedicated risk management teams.

ERM maintains and develops policies and standards and supports risk assessment in and across business units. The risk management functions support embedded business unit resources who identify, characterize, track, and monitor risks in business unit risk registers. Risk registers at department levels are the primary vehicle for risk identification, assessment and communication. The risk management functions support embedded business unit resources who identify, characterize, track and monitor risks in business unit risk registers. Risk registers are owned and maintained by the business units. ERM, led by the Chief Risk Officer, actively and independently provides risk management oversight, including challenging appropriateness of risk tolerance and risk acceptance within the business units.

The Duke Energy EHS Policy and Management System requires all business units to protect and responsibly manage natural resources. We have numerous programs, processes, procedures and initiatives to manage and protect water resources. As an example, the Drought Management Advisory Group tracks, monitors and reports on current drought conditions in the applicable river basins to report out to the generating assets. Duke Energy also works with stakeholders to provide long-term planning for water resources. A unique aspect of our Carolinas operations, where operations are at most risk relative to water availability, is that we manage many of the reservoirs that supply water for our hydroelectric plants and cooling water for our fossil and nuclear plants. As demonstrated during several drought periods, we can reduce our use of hydroelectric generation to preserve water in the reservoirs for all users. Water availability at the local level is addressed in Basin-Wide Water Assessments that evaluate present and future water needs. For the Catawba-Wateree River Basin and the Keowee-Toxaway Hydroelectric Project, Duke Energy performs a monthly evaluation of remaining water storage in the reservoirs, inflow into the reservoirs, and the U.S. Drought Monitor, a government web site indicated the occurrence and severity of droughts. Water availability evaluations are done for the Yadkin-Pee Dee River Basin in partnership with the North Carolina Department of Environmental Quality.

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?

Duke Energy performs a comprehensive Enterprise Risk Assessment (ERA) on an annual basis to identify substantive financial/strategic risks, which are potential major risks to corporate profitability and value, including water-related risks. The ERA focuses on potential risks and opportunities that have the potential to significantly impact the company's value and pursuit of its objectives, including risks related to the climate change issue. Enterprise risks considered substantive generally have a potential financial impact of 2% of net income or more and/or other impacts, such as to Duke Energy's reputation or brand value; or a potential operational impact to corporate short-term incentive performance measures, regulatory outcomes, or litigation. The Enterprise Risk Management (ERM) function manages this process and is housed in the Finance Department. The risk management function provides coverage to regulated electric businesses, natural gas businesses, and commercial businesses through three aligned and dedicated risk management teams.

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	6	Less than 1%	For our response to the CDP Water Security Questionnaire 2022, Duke Energy reviewed the output from the Aqueduct 3.0 tool. No Duke Energy facility that relies on substantial quantities of water for the generation of electricity was classified as high or medium - high risk for "Total, Overall Risks" for the electric power subgroup. Three facilities were classified as "high" risk for "Physical Risk Quantity" for the electric power subgroup; of these facilities only impacts to two of them would have a substantive financial or strategic impact on our business. These facilities are located on reservoirs managed to ensure all water users have adequate water supplies and procedures, such as Low Inflow Protocols, are used to allocate the available water in drought conditions. Six facilities were classified as "high" risk for "Riverine Flooding;" of these facilities only impacts to four of them would have a substantive financial or strategic impact on our business.

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	Santee River

Number of facilities exposed to water risk
2

% company-wide facilities this represents
Less than 1%

Production value for the metals & mining activities associated with these facilities
<Not Applicable>

% company's annual electricity generation that could be affected by these facilities
1-25

% company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

% company's total global revenue that could be affected
Less than 1%

Comment
These stations withdraw cooling water from reservoirs that are managed by Duke Energy. Duke Energy works with government, community, and private-sector partners to effectively manage water resources by 1) managing water supplies, 2) managing water demand and 3) managing water supplies during periodic drought conditions. Duke Energy's successful management of the 2007 drought in the Carolinas and the availability of water storage in reservoirs (which is supplemental to the normal flow of water at these plant sites), reinforces the conclusion that these areas are not currently water stressed under normal conditions and have the capability of being managed through severe drought conditions.

These facilities operate as part of a regulated public utility. Duke Energy manages the power plants and transmission and distribution networks within the service area of the public utility to serve the electrical needs of all customers within the service area. As such, revenue (i.e. electricity sales) is based on electricity demand and not generation. Even though these stations are important for Duke Energy to serve the electrical demand of its customers, total revenue would not be affected because the electrical demand will be served by other stations within the service area or electricity would be purchased from outside the service area and sold to the customers. The estimated impact is a high-level estimate based on electricity sales only that would be reasonably foreseen (very limited as the company manages the facility's reservoir) and does not consider any other impacts that could result including litigation, regulatory enforcement, or effects on reputation.

Country/Area & River basin

United States of America	Other, please specify (Gulf of Mexico - Crystal River)

Number of facilities exposed to water risk
2

% company-wide facilities this represents
Less than 1%

Production value for the metals & mining activities associated with these facilities
<Not Applicable>

% company's annual electricity generation that could be affected by these facilities
1-25

% company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

% company's total global revenue that could be affected
Less than 1%

Comment
These facilities are located on the western coast of Florida and, therefore, exposed to hurricane / flooding risks. In 2017, these facilities were in the path of Hurricane Irma,

which was the strongest storm on record to exist in the open Atlantic region. These facilities received little damage from Hurricane Irma.

These facilities operate as part of a regulated public utility. Duke Energy manages the power plants and transmission and distribution networks within the service area of the public utility to serve the electrical needs of all customers within the service area. As such, revenue (i.e. electricity sales) is based on electricity demand and not generation. Even though these stations are important for Duke Energy to serve the electrical demand of its customers, total revenue would not be affected because the electrical demand will be served by other stations within the service area or electricity would be purchased from outside the service area and sold to the customers. Disruption of electrical sales due to storm damage would likely be caused by damages to the transmission and distribution system as opposed to the generating station. The estimated impact is a high-level estimate based on electricity sales only and does not consider any other impacts that could result including litigation, regulatory enforcement, or effects on reputation.

Country/Area & River basin

United States of America	Other, please specify (Gulf of Mexico - Tampa Bay)

Number of facilities exposed to water risk
2

% company-wide facilities this represents
Less than 1%

Production value for the metals & mining activities associated with these facilities
<Not Applicable>

% company's annual electricity generation that could be affected by these facilities
1-25

% company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

% company's total global revenue that could be affected
Less than 1%

Comment
These facilities are located on the western coast of Florida and, therefore, exposed to hurricane / flooding risks. In 2017, these facilities were in the path of Hurricane Irma, which was the strongest storm on record to exist in the open Atlantic region. These facilities received little damage from Hurricane Irma.

These facilities operate as part of a regulated public utility. Duke Energy manages the power plants and transmission and distribution networks within the service area of the public utility to serve the electrical needs of all customers within the service area. As such, revenue (i.e. electricity sales) is based on electricity demand and not generation. Even though these stations are important for Duke Energy to serve the electrical demand of its customers, total revenue would not be affected because the electrical demand will be served by other stations within the service area or electricity would be purchased from outside the service area and sold to the customers. Disruption of electrical sales due to storm damage would be impacted by damages to the transmission and distribution system as opposed to the generating station. The estimated impact is a high-level estimate based on electricity sales only and does not consider any other impacts that could result including litigation, regulatory enforcement, or effects on reputation.

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	Other, please specify (Multiple in North Carolina, South Carolina, Indiana, Kentucky and Florida: Mississippi, Santee River, Cape Fear, Tampa Bay and Coastal Areas)

Type of risk & Primary risk driver

Acute physical	Other, please specify (Severe weather events)

Primary potential impact
Impact on company assets

Company-specific description
Electric power generation and natural gas distribution are generally seasonal businesses. In most parts of the U.S., the demand for power peaks during the warmer summer months, with market prices also typically peaking at that time. In other areas, demand for power peaks during the winter. Demand for natural gas peaks during the winter months. Further, extreme weather conditions such as hurricanes, droughts, heat waves, winter storms and severe weather associated with climate change could cause these seasonal fluctuations to be more pronounced. As a result, the overall operating results of the Duke Energy may fluctuate substantially on a seasonal and quarterly basis and thus make period-to-period comparison less relevant.

Furthermore, destruction caused by severe weather events, such as hurricanes, flooding, tornadoes, severe thunderstorms, snow and ice storms, can result in lost operating revenues due to outages, property damage, including downed transmission and distribution lines, and additional and unexpected expenses to mitigate storm damage. The cost of storm restoration efforts may not be fully recoverable through the regulatory process.

Timeframe
Current up to one year

Magnitude of potential impact
Medium-high

Likelihood
More likely than not

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure - minimum (currency)
<Not Applicable>

Potential financial impact figure - maximum (currency)
<Not Applicable>

Explanation of financial impact
Duke Energy recognizes that scientists associate severe weather events with increasing levels of greenhouse gas (GHG) in the atmosphere and forecast the possibility these weather events could have a material impact on future results of operations should they occur more frequently and with greater severity. However, the uncertain nature of potential changes in extreme weather events (such as increased frequency, duration and severity), the long period of time over which any potential changes might take place and the inability to predict potential changes with any degree of accuracy, makes it impossible to estimate any potential future financial risk to Duke Energy.

Primary response to risk
Increase capital expenditure

Description of response
Duke Energy routinely takes steps to reduce the potential impact of severe weather events on their electric transmission and distribution systems and natural gas facilities. The steps include modernizing the electric grid through smart meters, storm hardening, self-healing and targeted undergrounding as well as applying lessons learned from previous storms to future restoration efforts. Duke Energy's electric generating facilities and natural gas facilities are designed to withstand extreme weather events without significant damage. Duke Energy maintains inventories of coal, oil and liquified natural gas to mitigate the effects of any potential short term disruption in fuel supply so the plants can continue to provide customers with an uninterrupted supply of electricity and/or natural gas.

Duke has also instituted a comprehensive ash management program that ensures that waste facilities operate properly even in extreme weather. Our dedicated team of meteorologists closely monitors forecasts for severe weather so the company can prepare accordingly and respond quickly to restore power, continue to operate facilities, and safely manage ash basins. Prior to severe weather, the company takes several steps to prepare for potential ash basin response, including pre-staging equipment and trained professionals, actively reducing water levels if needed and placing construction materials on-site to respond quickly if repairs are necessary.

Cost of response

Explanation of cost of response
The cost or response of steps we anticipate during the next five years is included Duke Energy's overall capital plan.

Country/Area & River basin

United States of America	Other, please specify (Other, please specify (Multiple in North Carolina, South Carolina, Indiana, and Kentucky: Mississippi, Santee River, and Cape Fear))

Type of risk & Primary risk driver

Acute physical	Drought

Primary potential impact
Reduction or disruption in production capacity

Company-specific description
Because of the importance of water to generating electricity, prolonged drought poses a risk to our operations. Sustained severe drought conditions could impact generation by hydroelectric plants, as well as fossil and nuclear plant operations, as these facilities use water for cooling purposes and for the operation of environmental compliance equipment.

Timeframe
More than 6 years

Magnitude of potential impact
Medium

Likelihood
About as likely as not

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure - minimum (currency)
<Not Applicable>

Potential financial impact figure - maximum (currency)
<Not Applicable>

Explanation of financial impact
Duke Energy recognizes that scientists associate severe weather events with increasing levels of greenhouse gas (GHG) in the atmosphere and forecast the possibility these weather events could have a material impact on future results of operations should they occur more frequently and with greater severity. However, the uncertain nature of potential changes in extreme weather events (such as increased frequency, duration and severity), the long period of time over which any potential changes might take place and the inability to predict potential changes with any degree of accuracy, makes it impossible to estimate any potential future financial risk to Duke Energy.

Primary response to risk
Develop drought emergency plans

Description of response
Several of Duke Energy's fossil and nuclear power plants in the Carolinas are located on hydroelectric reservoirs that the company operates. Water availability is an important consideration in those watersheds, both to Duke Energy and to others. In these areas, we collaborate with local water utilities, environmental groups and recreation enthusiasts on watershed and drought planning. Our hydroelectric projects also have drought response plans (known as "low inflow protocols" (LIPs)) embedded in their Federal Energy Regulatory Commission (FERC) operating permits; the LIPs work to conserve water in the reservoirs and protect all water intakes in the watershed, including those for Duke Energy's facilities, until it rains again. Duke Energy's hydroelectric projects also have procedures in place for managing operating conditions during "high inflow" (high rainfall) events. Except for emergency situations, Duke Energy endeavours to maintain lake levels within the ranges set forth in its FERC licenses under normal operating conditions. Lake levels are closely monitored, and operational adjustments are made based on various factors, including weather forecasts. Other Duke Energy facilities are protected from drought because they have closed-cycle cooling and/ or operate on large sources of water or on cooling reservoirs; one (Brunswick Nuclear Station) withdraws water from an estuarine environment and so is not susceptible to drought-related risks. We have also implemented equipment and operational changes at nuclear and coal plants to reduce potential drought-related risks.

Cost of response

Explanation of cost of response
The cost of the response is not able to be determined. The cost is included in the overall cost of managing the hydroelectric operations and reservoirs.

Country/Area & River basin

United States of America	Other, please specify (Multiple in North Carolina, South Carolina, Indiana, Kentucky and Florida: Mississippi, Santee River, Roanoke, Cape Fear, Tampa Bay and Coastal Areas)

Type of risk & Primary risk driver

Regulatory	Regulatory uncertainty

Primary potential impact
Upfront costs to adopt/deploy new practices and processes

Company-specific description
Duke Energy is subject to federal, state and local regulations regarding air and water quality, hazardous and solid waste disposal, coal ash and other environmental matters. These regulations can be revised by a regulatory agency and result in new obligations of Duke Energy.

Currently the United States Environmental Protection Agency (EPA) is undertaking another Steam Electric Effluent Limitations Guidelines rulemaking which if effective in 2023 will be the third such rule in eight years. The EPA efforts result in uncertainty with installation of additional wastewater treatment measures in addition to those already installed at our facilities that are fully compliant with the 2015 and 2020 rules.

Timeframe
4-6 years

Magnitude of potential impact
Medium

Likelihood
About as likely as not

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure - minimum (currency)
<Not Applicable>

Potential financial impact figure - maximum (currency)
<Not Applicable>

Explanation of financial impact
Duke Energy is committed to comply with enacted environmental statutes and regulations even as some of these regulations are in various stages of clarification, revision or legal challenge. Duke Energy cannot predict the outcome of these matters. The cost of the response is not able to be determined. The cost is included in the overall cost of managing overall regulatory compliance and stakeholder engagement.

Primary response to risk
Engage with regulators/policymakers

Description of response
Duke Energy engages in the public process required for proposing and finalizing regulations. Also, Duke Energy routinely engages with regulators to educate them on our operations.

Cost of response

Explanation of cost of response
The cost of the response is not able to be determined. The cost is included in the overall cost of managing overall regulatory compliance and stakeholder engagement.

Country/Area & River basin

United States of America	Other, please specify (Multiple in North Carolina, South Carolina, Indiana, Kentucky: Mississippi, Santee River, Cape Fear, Tampa Bay and Coastal Areas)

Type of risk & Primary risk driver

Reputation & markets	Negative media coverage

Primary potential impact
Brand damage

Company-specific description
As a result of electricity produced for decades at coal-fired power plants, Duke Energy manages large amounts of coal combustion residuals (CCR) that are primarily stored in dry storage within landfills or combined with water in other surface impoundments, all in compliance with applicable regulatory requirements. A CCR-related or operational incident could have a material adverse impact on the reputation and results of operations, financial position, and cash flows of Duke Energy.

Timeframe
Current up to one year

Magnitude of potential impact
Medium-high

Likelihood
Unlikely

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure - minimum (currency)
<Not Applicable>

Potential financial impact figure - maximum (currency)
<Not Applicable>

Explanation of financial impact
The financial impact from a CCR event cannot be predicted. Duke Energy has taken steps to greatly reduce these risks.

Primary response to risk
Improve pollution abatement and control measures

Description of response
Duke Energy is committed to closing all ash basins across our system, and we've made tremendous progress to accomplish this important work. To meet that goal and comply with state and federal regulations, we holistically planned upgrades including dry ash handling systems, new wastewater treatment systems and new lined landfills. A multiyear effort to engineer, design and construct systems to safely manage ash, plant process waters and stormwater has resulted with all new ash produced at our facilities today being recycled or placed in lined landfills. Systemwide, more than 46 million tons of ash have been excavated to a lined landfill, properly closed in place or beneficially reused such as through recycling into concrete. As announced in January 2020, Duke Energy, state regulators and community groups agreed to a plan to permanently close the company's remaining nine coal ash basins in North Carolina.

During 2021, approximately 500,000 tons of ash was reprocessed for use in the concrete market and over 1,300,000 tons of gypsum was recycled for the wallboard industry. At our Indiana facilities, closure work is complete or nearing completion at eight ash basins, in progress at five basins, with nine remaining. In Kentucky we have excavated the single ash basin. In South Carolina about half of the ash has been excavated. In North Carolina, all closure plans have been approved to support the sites in the 2020 settlement agreement.

Cost of response

Explanation of cost of response
The liability for coal ash asset retirement obligations at Duke Energy Indiana was approximately $749 million on December 31, 2021.

The estimated total cost to permanently close all ash basins in North Carolina and South Carolina is approximately $8 billion to $9 billion of which approximately $3.1 billion has been spent through 2021.

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	Other, please specify (Other, please specify (Multiple - (Mississippi, Santee River, Roanoke, Cape Fear, Tampa Bay and Coastal Areas)))

Stage of value chain
Supply chain

Type of risk & Primary risk driver

Acute physical	Other, please specify (Severe weather events)

Primary potential impact
Constraint to growth

Company-specific description
Duke Energy purchases almost all its natural gas supply from interstate sources that must be transported to the applicable service territories. Interstate pipeline companies transport the natural gas to the Duke Energy systems under firm service agreements that are designed to meet the requirements of their core markets. A significant disruption to interstate pipelines capacity or reduction in natural gas supply due to events including, but not limited to, operational failures or disruptions, hurricanes, tornadoes, floods, freeze off of natural gas wells, terrorist or cyberattacks or other acts of war or legislative or regulatory actions or requirements, including remediation related to integrity inspections, could reduce the normal interstate supply of natural gas and thereby reduce earnings. Moreover, if additional natural gas infrastructure, including, but not limited to, exploration and drilling rigs and platforms, processing and gathering systems, offshore pipelines, interstate pipelines and storage, cannot be built at a pace that meets demand, then growth opportunities could be limited.

Timeframe
4-6 years

Magnitude of potential impact
Medium

Likelihood
About as likely as not

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure - minimum (currency)
<Not Applicable>

Potential financial impact figure - maximum (currency)
<Not Applicable>

Explanation of financial impact
Duke Energy recognizes that scientists associate severe weather events with increasing levels of greenhouse gas (GHG) in the atmosphere and forecast the possibility these weather events could have a material impact on future results of operations should they occur more frequently and with greater severity. However, the uncertain nature of potential changes in extreme weather events (such as increased frequency, duration, and severity), the long period of time over which any potential changes might take place and the inability to predict potential changes with any degree of accuracy, make estimating with any certainty any potential future financial risk to Duke Energy's operations difficult.

Primary response to risk

Upstream	Other, please specify

Description of response
Duke Energy has transitioned its generation fleet to take advantage of the benefits of shale gas both in cost and lower carbon emissions. Duke Energy is also moving towards its net-zero carbon emissions from electricity generation by 2050 goal, which will rely on several zero-carbon emitting generating sources, such as nuclear, wind, solar and hydro, as well as modernizing the electrical grid to enable higher levels of renewable energy and investing in the development of storage technology. Maintaining a balanced generation portfolio helps to minimize the impacts of a changing energy infrastructure.

Cost of response

Explanation of cost of response
Cost of response is part of Duke Energy's overall capital plan.

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
Duke Energy is strengthening the grid against floods. The company is installing reinforced flood barriers, relocating equipment at 13 substations in flood-prone areas of eastern North and South Carolina, and developing tools monitor flood levels at our substations.

Substations are a critical part of the grid – they take the electricity carried by high-voltage lines from a power plant and convert it to a lower voltage compatible with smaller power lines in communities. Some substations were built many decades ago on what is now flood prone land. Flooding can create safety and equipment problems when water contacts energized equipment. Duke Energy analyzed previous storms and developed custom flood protection measures for 13 historically affected sites. They are constructing barriers around equipment or the entire site, raising equipment or relocating it to less flood-prone areas. Seven substations will have reinforced walls made of a non-conductive fiberglass material or PVC, with aluminum access gates. The gates are installed when the company forecasts potential flooding. When flooding is not anticipated, the gates are open so crews can quickly access the substation for maintenance.

Duke Energy is also deploying a Flood Alert System Transponder (FAST), an innovation from a Duke Energy employee. The system not only alerts when flood waters are rising, but also calculates the rate of rise. Calculating the rate provides better information to make better decisions regarding when to power down and reroute power.

Estimated timeframe for realization
Current - up to 1 year

Magnitude of potential financial impact
Low

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact

Type of opportunity
Markets

Primary water-related opportunity
Strengthened social license to operate

Company-specific description & strategy to realize opportunity

In September 2014, Duke Energy announced its establishment of the Water Resource fund to provide grants for projects benefiting waterways in the Carolinas and waterways downstream from their Carolinas operations that flow into Virginia, Tennessee, and Georgia. Duke Energy partnered with the North Carolina Community Foundation to administer the grant program. The fund support projects and programs to improve in water quality, quantity, and conservation in the region; enhance fish and wildlife management habitats; expand public use and access to waterways; increase individuals' awareness of their roles in protecting water resources; and improve waterways downstream from Duke Energy operations that cross into neighbouring states. Annually, grant applications are submitted, reviewed, and awarded to local non-profits for the completion of projects.

Estimated timeframe for realization
Current - up to 1 year

Magnitude of potential financial impact
Low

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact
In September 2014, Duke Energy announced its establishment of this fund to provide grants for projects benefiting waterways in the Carolinas and waterways downstream from their Carolinas operations that flow into Virginia, Tennessee, and Georgia. Since then, $8,879,780 has been awarded to non-profit organizations and government entities for projects improving water quality and quantity, enhancing fish and wildlife habitats, expanding public use and access to waterways and for increasing citizens' awareness about their roles in protecting these resources. Through the fund, Duke Energy supported 125 projects benefiting 12 river basins across the Carolinas, Tennessee, and Virginia. These projects have improved water quality, quantity and conservation, enhanced habitats, expanded public use and access and educated community members about their role in protecting water resources.

In 2019, eleven organizations spanning 58 counties in North Carolina and South Carolina received more than $800,000 in new grants from Duke Energy's Water Resources Fund to support environmental and wildlife programs. The Water Resources Fund completed its ninth and final round of grants in April 2019.

A Habitat Enhancement Fund is supported by Duke Energy and property owners/developers that apply for lake use permits at various lakes on the Keowee-Toxaway or Catawba-Wateree projects. For 2022, available funds are nearly $3 million. Since 2007, over $2.9 million has been distributed to support botanical, fish, and avian habitat improvements

Type of opportunity
Efficiency

Primary water-related opportunity
Improved water efficiency in operations

Company-specific description & strategy to realize opportunity

To achieve net-zero carbon emissions by 2050, renewable generation will be important to Duke Energy's strategy and will be a growing part of the diversified portfolio. This in turn will reduce our water related risks by reducing the volume of water withdrawn, consumed, and discharged. Duke Energy has more than 10 gigawatts of renewable energy contracted, owned or operated. By 2025, we plan to have (own, operate, or contract) 16 GW of renewable energy and by 2030 we plan to have 24 GW of renewal capacity. In 2050, the largest source of energy in our regulated utilities will come from renewable energy resources, representing about 40 percent of our capacity.

In 2021, we connected nearly 350 megawatts of solar power in our North Carolina regulated utilities. In Florida, we're investing nearly $1 billion in solar projects – bringing 700 megawatts of solar online through 2022. We received approval for our $1 billion Clean Energy Connection shared solar program in Florida, which will add another 750 megawatts of solar by the end of 2024.

To complement our renewables growth, we're expanding our energy storage portfolio. By 2025, we plan to invest more than $600 million in battery energy storage. We are also testing long duration energy storage with multiple battery chemistries at the Duke Energy Emerging Technology and Innovation Center.

Duke Energy has partnered with TerraPower and the Natrium Reactor team to provide consulting and other advisory services. The Natrium technology is designed to provide zero-carbon electricity with integrated thermal storge and is targeting to be operational by 2028.

Estimated timeframe for realization
More than 6 years

Magnitude of potential financial impact
High

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact

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)

Country/Area & River basin

United States of America	Santee River

Latitude

Longitude

Located in area with water stress
No

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

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
3650829

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
3650829

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
29

Total water discharges at this facility (megaliters/year)
3629059

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
3629059

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)
21770

Comparison of total consumption with previous reporting year
About the same

Please explain
The provided values for withdrawal, discharge, and consumption are largely based on design pump capacity and pump operating hours. Therefore, the provided discharge plus consumption may not equal withdrawal.

The 2021 values as compared to 2020 are about the same.

Facility reference number
Facility 2

Facility name (optional)

Country/Area & River basin

United States of America	Santee River

Latitude

Longitude

Located in area with water stress
No

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

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
1220386

Comparison of total withdrawals with previous reporting year
Higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
1220386

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)
1207423

Comparison of total discharges with previous reporting year
Higher

Discharges to fresh surface water
1207423

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)
12965

Comparison of total consumption with previous reporting year
Higher

Please explain
The provided values for withdrawal, discharge, and consumption are largely based on design pump capacity and pump operating hours. Therefore, the provided discharge plus consumption may not equal withdrawal.

The 2021 values as compared to 2020 are higher due primarily to higher unit capacity factors in 2021 as customer electrical demand returned somewhat to normal after the COVID pandemic.

Facility reference number
Facility 3

Facility name (optional)

Country/Area & River basin

United States of America	Other, please specify (Gulf of Mexico - Tampa Bay)

Latitude

Longitude

Located in area with water stress
No

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

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
2566804

Comparison of total withdrawals with previous reporting year
Higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
0

Withdrawals from brackish surface water/seawater
2566388

Withdrawals from groundwater - renewable
0

Withdrawals from groundwater - non-renewable
220

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
197

Total water discharges at this facility (megaliters/year)
2566664

Comparison of total discharges with previous reporting year
Higher

Discharges to fresh surface water
0

Discharges to brackish surface water/seawater
2566664

Discharges to groundwater
0

Discharges to third party destinations
0

Total water consumption at this facility (megaliters/year)
140

Comparison of total consumption with previous reporting year
Lower

Please explain
The provided values for withdrawal, discharge, and consumption are largely based on design pump capacity and pump operating hours. Therefore, the provided discharge plus consumption may not equal withdrawal.

The 2021 higher withdrawal/discharge values and lower consumption as compared to 2020 are predominantly due to improvements made to the water sustainability data methodology.

Facility reference number
Facility 4

Facility name (optional)

Country/Area & River basin

United States of America	Other, please specify (Gulf of Mexico - Tampa Bay)

Latitude

Longitude

Located in area with water stress
No

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

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
479984

Comparison of total withdrawals with previous reporting year
Lower

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
0

Withdrawals from brackish surface water/seawater
479778

Withdrawals from groundwater - renewable
0

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
206

Total water discharges at this facility (megaliters/year)
479778

Comparison of total discharges with previous reporting year
Lower

Discharges to fresh surface water
0

Discharges to brackish surface water/seawater
479778

Discharges to groundwater
0

Discharges to third party destinations
206

Total water consumption at this facility (megaliters/year)
0

Comparison of total consumption with previous reporting year
About the same

Please explain
The provided values for withdrawal, discharge, and consumption are largely based on design pump capacity and pump operating hours. Therefore, the provided discharge plus consumption may not equal withdrawal.

The 2021 lower withdrawal and discharge values as compared to 2020 are predominantly due to plant cooling demand and plant electrical generation which is largely weather dependent.

Facility reference number
Facility 5

Facility name (optional)

Country/Area & River basin

United States of America	Other, please specify (Gulf of Mexico - Crystal River)

Latitude

Longitude

Located in area with water stress
No

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

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
36578

Comparison of total withdrawals with previous reporting year
Lower

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
0

Withdrawals from brackish surface water/seawater
36578

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)
31585

Comparison of total discharges with previous reporting year
Lower

Discharges to fresh surface water
0

Discharges to brackish surface water/seawater
31585

Discharges to groundwater
0

Discharges to third party destinations
0

Total water consumption at this facility (megaliters/year)
4993

Comparison of total consumption with previous reporting year
Lower

Please explain
The provided values for withdrawal, discharge, and consumption are largely based on design pump capacity and pump operating hours. Therefore, the provided discharge plus consumption may not equal withdrawal.

The 2021 lower withdrawal/discharge values and lower consumption as compared to 2020 are predominantly due to plant cooling demand and plant electrical generation which is largely weather dependent.

Facility reference number
Facility 6

Facility name (optional)

Country/Area & River basin

United States of America	Other, please specify (Gulf of Mexico - Crystal River)

Latitude

Longitude

Located in area with water stress
No

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

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
183547

Comparison of total withdrawals with previous reporting year
Higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
0

Withdrawals from brackish surface water/seawater
180685

Withdrawals from groundwater - renewable
2310

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
551

Total water discharges at this facility (megaliters/year)
114535

Comparison of total discharges with previous reporting year
Higher

Discharges to fresh surface water
0

Discharges to brackish surface water/seawater
114252

Discharges to groundwater
284

Discharges to third party destinations
0

Total water consumption at this facility (megaliters/year)
69012

Comparison of total consumption with previous reporting year
Higher

Please explain
The provided values for withdrawal, discharge, and consumption are largely based on design pump capacity and pump operating hours. Therefore, the provided discharge plus consumption may not equal withdrawal.

The 2021 higher withdrawal/discharge values and higher consumption as compared to 2020 are predominantly due to improvements made to the water sustainability data methodology.

W5.1a

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

Water withdrawals – total volumes

% verified
76-100

Verification standard used
Water withdrawals are typically reported in annual water withdrawal reports to the relevant state environmental regulatory agency. In addition, this information is submitted to the U.S. Energy Information Administration (EIA) typically on an annual basis.

Please explain
<Not Applicable>

Water withdrawals – volume by source

% verified
76-100

Verification standard used
Water withdrawals are typically reported in annual water withdrawal reports to the relevant state environmental regulatory agency. In addition, this information is submitted to the United States Energy Information Administration (EIA) typically on an annual basis.

Please explain
<Not Applicable>

Water withdrawals – quality by standard water quality parameters

% verified
1-25

Verification standard used
Water withdrawal quality is typically assessed during routine NPDES permit renewal applications. The reported data is reviewed for compliance purposes. The percent of facilities that assess water withdrawal quality is dependent on the number of NPDES permit renewal applications submitted during each year and therefore may vary.

Please explain
<Not Applicable>

Water discharges – total volumes

% verified
76-100

Verification standard used
Typically, facilities are required to submit water discharge volumes to the relevant state environmental regulatory agency, which are reviewed for compliance purposes. Additionally, permits typically require a level of accuracy estimate on instrumentation.

Please explain
<Not Applicable>

Water discharges – volume by destination

% verified
76-100

Verification standard used
Typically, facilities are required to submit water discharge volumes to the relevant state environmental regulatory agency, which are reviewed for compliance purposes. Additionally, permits typically require a level of accuracy estimate on instrumentation.

Please explain
<Not Applicable>

Water discharges – volume by final treatment level

% verified
76-100

Verification standard used
Typically, stations are required to submit water discharge by treatment method (identified as outfalls) to the relevant state environmental regulatory agency, which then are reviewed for compliance purposes. Additionally, permits typically require a level of accuracy estimate on instrumentation.

Please explain
<Not Applicable>

Water discharges – quality by standard water quality parameters

% verified
76-100

Verification standard used
Water discharge quality by standard effluent parameters is typically required to be submitted to the relevant state environmental regulatory agency for review and compliance purposes. Additionally, laboratories conducting the analysis are typically required to be certified by the state and are routinely audited by the state.

Please explain
<Not Applicable>

Water consumption – total volume

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain

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 water-related performance standards for direct operations Company water targets and goals	The Duke Energy Environment Health and Safety (EHS) Policy requires all our business units to protect and responsibly manage natural resources. The policy clearly articulates our values for the health and safety of our employees, contractors, customers and communities and our commitment to protecting the environment and responsibly managing natural resources. The policy provides direction to ensure that corporate values are consistently applied across Duke Energy This is the basis for our water resource management and pollution control actions.

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
Board-level committee	Duke Energy has adopted a management approach to sustainability, including sustainability for water, that engages all levels of the company from the Board of Directors to our employees. We also strive to embed sustainable business practices, including water related issues throughout the company. The Board of Directors formally assigned the responsibility for oversight of environmental, social, and governance strategy and trends during 2021 to the Corporate Governance Committee, in addition to their responsibility for the oversight of sustainability matters. In addition to the Corporate Governance Committee's oversight of sustainability issues, the Operations and Nuclear Oversight Committee of the Board of Directors has responsibility for the oversight of operational risks, which include operational issues relating to the environment and water.

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 Reviewing and guiding risk management policies Reviewing and guiding corporate responsibility strategy Setting performance objectives	Duke Energy understands the critical role water plays in the production of electricity. Water-related risks are address as part of the myriad of risks the Company faces, including operational, financial, strategic, and reputational risks. The Board of Directors is actively involved in the oversight of these risks in several ways. This oversight is conducted primarily through the Finance and Risk Management Committee of the Board, but also through the other committees of the Board, as appropriate, such as the Operations and Nuclear Oversight Committee. The Board of Directors annually reviews the Company's enterprise risk assessment with management, including the Chief Risk Officer. The enterprise risk program includes the identification of a broad range of risks that affect the Company, the probabilities and severity of such risks and incorporates a review of the Company's approach to managing and prioritizing those risks based on input from the officers responsible for the management of those risks. Each committee of the Board is responsible for the oversight of certain areas of risk that pertain to that committee's area of focus. Throughout the year, each committee chair regularly reports to the full Board regarding the committee's considerations and actions relating to the risks within its area of focus. The Operations and Nuclear Oversight Committee is primarily responsible for oversight of operational risks of water-related issues. In addition, progress on water goals is included as part of the annual review of Duke Energy's ESG Report, the oversight of which is the responsibility of the Corporate Governance Committee of the Board of Directors.

W6.2d

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

	Board member(s) have competence on water-related issues	Criteria used to assess competence of board member(s) on water-related issues	Primary reason for no board-level competence on water-related issues	Explain why your organization does not have at least one board member with competence on water-related issues and any plans to address board-level competence in the future
Row 1	Yes	Review of individual board member's biography that provides relevant experience with power generation or industrial facility aspects that relate to water sustainability concerns. The entire board has oversight of key ESG risks.	<Not Applicable>	<Not Applicable>

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
Assessing water-related risks and opportunities

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

Please explain
• Provides strategic direction for the overall management of EHS issues companywide
• Provides visible leadership striving for a strong compliance-plus and incident-free culture
• Periodically reviews EHS programs and performance for appropriateness and fit with the company's needs
• Holds senior leaders accountable for their implementation of the Environmental Policy, H&S Policy and the underlying EHS management system as well as for resulting performance.

Name of the position(s) and/or committee(s)
Other C-Suite Officer, please specify (Executive Leadership Team)

Responsibility
Assessing water-related risks and opportunities
Managing water-related risks and opportunities

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

Please explain
• Provides visible leadership and strategic direction for the EHS management system and programs in their area of responsibility, helping to build and maintain a strong EHS culture and drive EHS performance improvement
• Allocates adequate resources to enable implementation of EHS programs consistent with corporate and business unit (BU) policies and standards
• Holds leaders accountable for their implementation of the EHS programs and resulting EHS performance

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Name of the position(s) and/or committee(s)
Other, please specify (Senior Vice President - Environmental, Health & Safety)

Responsibility
Assessing water-related risks and opportunities
Managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues
As important matters arise

Please explain
• Provides functional oversight and leadership to the companywide EHS management system and its underlying programs
• Develops and proposes EHS policies and standards; assists Business Units with EHS procedures/programs
• Develops and implements programs and initiatives to drive continual improvement in EHS performance and risk management
• Maintains an understanding of the material federal and state EHS laws and regulations that apply to the company's operations
• Facilitates the development and endorsement of corporate EHS metrics to track performance, compiles metrics data and publishes routine internal performance reports
• Reviews internal performance trends (such as audit results and incidents), benchmarks EHS programs and performance against peers.

W6.4

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

	Provide incentives for management of water-related issues	Comment
Row 1	Yes	

W6.4a

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

	Role(s) entitled to incentive	Performance indicator	Please explain
Monetary reward	Corporate executive team	Improvements in efficiency - direct operations Other, please specify (Environmental Measures)	The annual short-term incentive provided to Duke Energy's C-suite employees incorporate performance measures based on adjusted basic earnings per share (EPS), operations and maintenance (O&M) expense, operational excellence, and customer satisfaction, which are either indirectly or directly related to water issues. For example, the EPS and O&M measures reflect water management performance, as poor water management could result in higher expenses. The operational excellence measure includes measures based on reliability and environmental goals. These measures are impacted by water management since reliability associated with our other generation assets could be impacted by water management. The environmental measure incorporates a measure of Reportable Environmental Events (REE), which are environmental events that require the notification to, or enforcement action by, a regulatory agency, such that any water management issue that rose to the level of an REE would impact this incentive measure for Duke Energy's C-suite employees. Duke Energy's customer satisfaction results reflect the views of the communities in which we operate, and our water management and other environmental performance could be reflected in our customer satisfaction results.
Non-monetary reward	Please select	Please select	

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?

Duke Energy's Senior Vice President for External Affairs and Communications and the group that reports to this position serves as the coordination point among Duke Energy business units for federal environmental issues such as water policy and commitments, to ensure a common approach to multiple activities. This group, in coordination with the Corporate Strategy Group and in consultation with the Senior Management Committee, sets the corporate positions on water policy issues and develops the corporate strategy for how we will engage on these issues consistent with the Company's positions. This group is responsible for ensuring that all direct and indirect activities/engagements to influence policy are consistent with the Company's overall water policy and commitments. Oversight of Duke Energy's lobbying activities and strategy with respect to those activities is governed by our Political Activity Policy and is overseen by the Corporate Governance Committee of the Board of Directors.

W6.6

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

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

W7. Business strategy

W7.1

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

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	11-15	The availability of adequate water is essential to achieving the business objectives of providing clean affordable electricity and is necessary for our fleet to achieve the generation reliability goals. Furthermore, the availability of water resources is integrated into the long-term business objective of transforming the generating assets to cleaner energy, since adequate water is necessary for the operation of our zero emitting hydroelectric and nuclear generating assets. Duke Energy evaluates the long-term availability of water within the Duke Energy reservoirs to plan and respond to future changes that can affect electrical generation as well as other water users. The long-term availability of water is used to help determine what type of generation (new or replacement) is available and feasible based on future water availability. This evaluation further helps direct Duke Energy investments in research on advanced cooling technology with the Electric Power Research Institute (EPRI), stakeholder engagement on long-range water supply study for the river basin and incorporating future water needs projections, including stress tests for drought conditions. Long-term business plans are evaluated as part of the Integrated Resource Planning (IRP) process, which provides forecasted generation, facility retirement and generation investments over the subsequent 15 years. These plans are submitted to the state public utility commissions for review and acceptance.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	11-15	The availability of adequate water is necessary for achieving the long-term objectives. The continued operation of the nuclear and hydroelectric fleet is essential to generate cleaner energy. Furthermore, the pumped storage hydroelectric stations are a perfect complement to renewable generation by serving as "battery storage" to use when renewable generation is not available. Within the Integrated Resource Plan (IRP) that are filed regularly in the states in which we operate, Duke Energy discloses generation retirements as well as replacement generation. The feasibility of the type of replacement generation is evaluated based on the availability of adequate cooling water among other factors. The IRP also forecasts the long-term operating capacity of the hydroelectric stations as well as the nuclear stations. The availability of water is one factor considered for the continued operation of these assets. Additionally, Duke Energy's customer satisfaction results reflect the views of the communities in which we operate, and our water management and other environmental performance is reflected in our customer satisfaction results. Duke Energy works with local stakeholders and water users to ensure public policy addresses and protects the continued use of our reservoirs for both electrical generation and public and industrial usages.
Financial planning	Yes, water-related issues are integrated	5-10	Both water quality and water availability are used in the financial planning. Duke Energy evaluates regulatory changes and source water impacts associated with water quality, which may necessitate additional capital expense for new wastewater treatment. These evaluations are used for capital planning as well as asset retirement analysis in the long-range integrated resource planning process. These evaluations are also used to justify funding additional research on wastewater treatment technology. The availability of water is used in the financial planning process to fund research on advanced cooling technology for the next generation of electric generating assets. Also, water availability is used to fund studies and evaluations to ensure long-term availability of water in the Duke Energy reservoir not only for electric generation, but also for other water users, such as municipalities.

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)

-57.9

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

-99

Water-related OPEX (+/- % change)

5

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

5

Please explain

All Duke Energy facilities are fully compliant with the currently effective standards of the 2015 and 2020 Steam Electric Effluent Limitations Guidelines Rules; thus CAPEX and OPEX water-related expenditures are anticipated to be near zero on an annual basis.
CAPEX change represents the change from 2020 to 2021. CAPEX anticipated forward trend represents the change from 2021 to 2022.
OPEX change is estimated and represents those new water treatment systems installed for compliance with environmental regulations. It is estimated that these newly installed components initially increased OPEX by 25-30%. However, as all of these systems have operated for some time, OPEX is anticipated to be about +5%, dependent on actual coal-fired unit capacity factors, impacts to vendors from supply chain issues, and inflation.
Note that changes to the provided CAPEX and OPEX values are dependent upon any new regulations or other mandates that require installation of new pollution control equipment.

W7.3

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

	Use of scenario analysis	Comment
Row 1	Yes	For our 2020 Climate Report, an enterprise-level analysis of a scenario under which the company could achieve its 2050 net-zero carbon emissions from electricity generation goal was conducted. The results are that we are on track to achieve the 2030 goal of at least a 50% reduction in CO2 emissions from electricity generation. The path to net zero by 2050 will require additional coal retirements, growth in renewables and energy storage, some utilization of natural gas, ongoing operation of our nuclear fleet, and advancements in load-management programs and rate design (demand-side management and energy efficiency). The 2050 goal is dependent on the availability of advanced low and zero carbon technologies to meet energy demand. We reviewed our net-zero scenario analysis using two reports developed by the Electric Power Research Institute (EPRI) and determined that our scenario is consistent with scenarios limiting global average temperature increase to less than 1.5-degrees Celsius.

W7.3a

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

	Type of scenario analysis used	Parameters, assumptions, analytical choices	Description of possible water-related outcomes	Influence on business strategy
Row 1	Water-related Climate-related	IEA 2DS	Duke Energy considers the impacts of climate related water resource impacts on: -- Increasing water scarcity on generating fleet output, as drought can adversely impact output from hydroelectric, nuclear, and fossil units. -- Increased frequency of severe storms (including hurricanes) and heavy rainfall events. -- Impacts of rising water levels on infrastructure, including generating facilities -- The company's water consumption and trends. Although those analyses are not directly part of the two-degree scenario modeling, the company reports on water use metrics in the Climate Report and in our annual ESG Report.	These responses were not a direct response to the Company's net-zero scenario analysis, but rather previous long-range planning. -- Formed Drought Mitigation Team to monitor and forecast drought effects on hydropower system storage. -- Implemented equipment and operational changes at nuclear and fossil generating plants to reduce drought risks. -- Monitor and implement water saving features at our facilities to reduce water consumption. -- Upgrade utility poles, power lines, substations, and power plant facilities to make them better able to withstand extreme weather. --Transition the generation fleet away from coal and older natural gas plants that use once-through cooling to renewables and natural gas combined-cycle plants that use closed-cycle cooling to reduce water scarcity risk.

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
Although an internal price on water has not been developed, Duke Energy understands the critical nature water plays in the production of electricity. As such, Duke Energy has implemented equipment and operational changes to reduce drought risks, instituted protocols to plan and mitigate risks associated with drought and conducts periodic risk based evaluations of our generation fleet due to increasing extreme weather impacts.

Additionally, it is important to note that our once-through cooled water stations return almost 98% of the water withdrawn back to the source.

We currently anticipate initiating the development of an internal price on water during 2022 and completing this effort during 2023, including implementation.

W7.5

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

	Products and/or services classified as low water impact	Definition used to classify low water impact	Primary reason for not classifying any of your current products and/or services as low water impact	Please explain
Row 1	Yes	Each of our electrical generation facilities is subjected to a water stress analysis utilizing the Aqueduct Water Risk Atlas tool. As our facilities are predominantly low risk for water risk, our current product (generated electricity) is also low risk for water impacts.	<Not Applicable>	

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 Activity level specific targets and/or goals Basin specific targets and/or goals	Targets are monitored at the corporate level Goals are monitored at the corporate level	Sustainability goals, including water sustainability goals, are identified, developed, and proposed by employees, management and/or senior executives. The goals are tracked and monitored through the Sustainability Department and publicly reported in Duke Energy's Corporate Annual ESG Report.

W8.1a

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

Target reference number
Target 1

Category of target
Water withdrawals

Level
Company-wide

Primary motivation
Water stewardship

Description of target
In 2018, Duke Energy adopted a water withdrawal goal, to reduce water withdrawals by our generation fleet by 1 trillion gallons by 2030 from the 2016 level of 5.34 trillion gallons.

Quantitative metric
% reduction in total water withdrawals

Baseline year
2016

Start year
2019

Target year
2030

% of target achieved
42

Please explain
This goal was announced in 2019. Water withdrawals were reduced by approximately 420 billion gallons between 2016 and 2021 (approximately 42% target completion). As our generation fleet transitions to renewable and lower emission generation to meet corporate CO2 goals, this goal is expected to be fully attained on or before the 2030 target year.

Target reference number
Target 2

Category of target
Water pollution reduction

Level
Company-wide

Primary motivation
Reduced environmental impact

Description of target
In 2019, Duke Energy adopted a new water quality goal, to reduce releases of TRI (Toxic Release Inventory) chemicals to water by 50% by 2030 from the 2016 level of 212,000 pounds equates to a reduction of 106,000 pounds of TRI chemicals released to the water.

Quantitative metric
% reduction in concentration of pollutants

Baseline year
2016

Start year
2019

Target year
2030

% of target achieved
50

Please explain
In 2020 the releases of TRI (Toxic Release Inventory) chemicals to water were 159,000 pounds, a reduction of 53,000 pounds, equating to 50% of goal accomplishment. As ash basins are dewatered and closed, we expect the TRI chemicals to water to reduce significantly keeping us on track to meet the 2030 goal.

Target reference number
Target 3

Category of target
Other, please specify (Reduce impact on climate change)

Level
Company-wide

Primary motivation
Reduced environmental impact

Description of target
In 2019, Duke Energy refreshed its climate strategy and announced the acceleration of its carbon-reduction goals from electric generation. Duke Energy's new goals are to reduce carbon dioxide emissions (Scope 1 emissions) at least 50 percent by 2030 from 2005 levels (equates to a reduction from 153 million short tons to 75.5 million short tons) and attain to be net-zero by 2050.

Quantitative metric
Other, please specify (Reduction in CO2 emissions, which supports water withdrawal reductions and water quality targets.)

Baseline year
2005

Start year
2016

Target year
2030

% of target achieved
88

Please explain
During 2021, our generation fleet emitted about 85 million short tons of CO2, a reduction of over 44 percent from the 2005 level (~88% of the 2030 target achieved). 2021 values were slightly higher than 2020 due to increased generation as the economy recovered from the COVID pandemic impacts.

W8.1b

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

Goal
Other, please specify (Reduce impacts on climate change, which supports water withdrawal reductions and water quality targets.)

Level
Company-wide

Motivation
Climate change adaptation and mitigation strategies

Description of goal
Duke Energy is one of the largest U.S. energy providers with a balanced generation portfolio including nuclear, natural gas, coal, wind, hydro and solar. As such, Duke Energy is a large emitter of carbon dioxide. Awareness of the climate change issue is growing, and there is increasing interest from a variety of stakeholders, including the investment community, to act to reduce carbon emissions. Customers and other stakeholders continue to expect flawless reliability at a globally competitive price, and increasingly clean generation resources. Meeting these demands will require creative transformation of both generation resources and the grid to incorporate intermittent renewables, distributed generation, low or zero carbon baseload, storage and energy efficiency capabilities.

Baseline year
2005

Start year
2017

End year
2030

Progress
Carbon emissions:
--Target: Reduce CO2 emissions from our generation fleet 50% from the 2005 level by 2030 (Note: a greater than 40% reduction has been achieved through 2020) and attain net-zero emissions by 2050.

Renewables generation:
--Target: Own, operate or contract 24,000 MW of wind and solar by 2030. (This goal includes 100 percent of the capacity of majority-owned assets that Duke Energy operates.) This previous goal (16,000 MW by 2025) was revised during 2021; however, we remain on track to attain the prior goal. As of year-end 2021, Duke Energy owned, operated or had under contract 10,500 MW of wind and solar generation.

Energy efficiency – consumption:
--Target: Achieve a cumulative reduction in customer energy consumption of 24,000 GWh (equivalent to the annual usage of 2 million homes) by year-end 2025. At the end of 2021, energy consumption was reduced over 21,300 GWh.

Energy efficiency – peak demand:
--Target: Maintain a cumulative reduction in summer peak demand of 7,000 MW (equivalent to 11.5 600-MW power plants) and create significant incremental winter peak-demand reductions by year-end 2025. At the end of 2021, peak demand was reduced by nearly 6,900 MW.

Goal
Other, please specify (Reduce impacts on climate change, which supports water withdrawal reductions and water quality targets.)

Level
Company-wide

Motivation
Climate change adaptation and mitigation strategies

Description of goal
Duke Energy announced a new goal in October 2020 to achieve net-zero methane emissions from its natural gas distribution business by 2030. To complement the positive results we will achieve within our natural gas business, we plan to work with the industry to address upstream methane emissions. We have joined ONE Future, a coalition of natural gas companies working together nationwide to lower methane emissions intensity to less than one percent across the entire natural gas supply chain by 2025.

Baseline year
2020

Start year
2020

End year
2030

Progress
Our approach to reduce methane is to first identify and measure where methane may be emitted within our own natural gas operations and eliminate leaks on our system. Meanwhile, we are working upstream and downstream with suppliers and customers to reduce methane and carbon emissions. We are currently working with several partners including Microsoft and Accenture to develop technology to measure actual baseline methane emissions from natural gas distribution systems. This technology was featured at Accenture's COP26 pavilion in Glasgow, Scotland.

We have eliminated cast iron and bare steel pipe from our system which has resulted in eliminating more than 95% of the methane emissions previously attributed to cast iron and bare steel pipe infrastructure.

W9. Verification

W9.1

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

W9.1a

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

Disclosure module	Data verified	Verification standard	Please explain
W0 Introduction	Total Nameplate Capacity	Other, please specify (United States Department of Energy, Energy Information Administration)	The total nameplate capacity is provided to the US Department of Energy, Energy Information Administration
W2 Business impacts	Total number and financial value of water related fines	Other, please specify (Board of Directors)	Duke Energy's incentive plans contain goals for reportable environmental incidences. Prior to distribution of incentives, the goal is verified.
W8 Targets	Sustainability goals	Other, please specify (Duke Energy ESG Report)	Targets are reviewed and verified and reported in the annual Duke Energy ESG Report
W4 Risks and opportunities	Substantive Risks	Other, please specify (United States Securities and Exchange Commission Audit 10-K)	The risks with material business impacts are included in the Company's Form 10-K filed with the United States Securities and Exchange Commission (SEC).

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	Chief Sustainability Officer Vice President, National Engagement and Strategy President, Duke Energy Foundation	Chief Sustainability Officer (CSO)

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

SW. Supply chain module

SW0.1

(SW0.1) What is your organization's annual revenue for the reporting period?

	Annual revenue
Row 1	

SW1.1

(SW1.1) Could any of your facilities reported in W5.1 have an impact on a requesting CDP supply chain member?
No, CDP supply chain members do not buy goods or services from facilities listed in W5.1

SW1.2

(SW1.2) Are you able to provide geolocation data for your facilities?

	Are you able to provide geolocation data for your facilities?	Comment
Row 1	Yes, for some facilities	

SW1.2a

(SW1.2a) Please provide all available geolocation data for your facilities.

Identifier	Latitude	Longitude	Comment
Campbell Hill Windpower	43.01455	-105.999	
Happy Jack Windpower Project	41.139722	-104.997778	
North Allegheny Windpower Project	40.4381	-78.5436	
Notrees Windpower	31.995	-102.828333	
Ocotillo Windpower	32.1217	-101.3853	
Silver Sage Windpower	41.12968	-105.024	
Top of the World Windpower Project	42.9258	-105.7872	
Los Vientos Windpower (five sites)	26.33072	-97.5857	
Kit Carson Windpower	39.3383	-102.3533	
Ironwood Wind	37.81828	-99.7754	
Shirley Wind	44.3481	-87.9278	
Mesquite Creek Wind	32.7	-101.741111	
Frontier Windpower	36.838884	-97.181015	
Sweetwater Wind IV LLC	32.3606	-100.3389	
Sweetwater Wind V LLC	32.3472	-100.3703	
Conetoe II Solar, LLC	35.822	-77.481	
Seville 1 & 2	33.1125	-116.0139	
Rio Bravo Solar 1& 2	35.416111	-119.6825	
Wildwood Solar 1&2	35.63	-119.573889	
Caprock Solar	34.982778	-103.378333	
Kelford	36.154227	-77.218502	
Dogwood Solar, LLC	36.125	-77.409167	
Halifax Airport	36.441944	-77.711389	
Pasquotank	36.264722	-76.306111	
Pumpjack Solar I	35.305556	-119.6225	
Shawboro PV1	36.433333	-76.087222	
Longboat Solar, LLC	34.541	-117.061	
RE Bagdad Solar I LLC	34.585833	-113.177222	
Creswell Alligood Solar, LLC	35.898889	-76.379444	
Victory Solar LLC	39.795	-104.433	
Washington White Post Solar LLC	35.5052	-76.8484	
Whitakers Farm (Fisher Rd)	36.115542	-77.725147	
Laurel Hill Wind	41.5323	-77.0296	
Cimarron II	37.355	-99.991	
Highlander	34.171944	-116.1525	
TX Solar	29.304177	-98.400339	.
Shoreham	40.957053	-72.865877	
G G Allen	35.1897	-81.0122	
James E. Rogers Energy Complex	35.22	-81.7594	
Marshall (NC)	35.5975	-80.9658	
Belews Creek	36.2811	-80.0603	
Buck	35.7133	-80.3767	
Dan River	36.4862	-79.7208	
Lincoln Combustion	35.4317	-81.0347	
Mill Creek (SC)	35.1597	-81.4306	
Rockingham County CT Station	36.3297	-79.8297	
Bridgewater	35.7428	-81.8372	
Cowans Ford	35.4346	-80.9588	
Lookout Shoals	35.7575	-81.0894	
Mountain Island	35.3339	-80.9867	
Oxford Dam	35.8214	-81.1922	
Rhodhiss	35.774234	-81.437773	
Bear Creek Dam	35.242677	-83.072007	
Cedar Cliff	35.2531	-83.0983	
Nantahala	35.2715	-83.6762	
Tennessee Creek	35.2139	-83.0028	
Thorpe	35.233988	-83.125398	
Tuckasegee	35.247011	-83.128111	
Cedar Creek	34.5414	-80.8756	
Dearborn	34.5583	-80.8914	

Identifier	Latitude	Longitude	Comment
Fishing Creek	34.6	-80.8928	
Great Falls (SC)	34.5592	-80.8917	
Jocassee	34.9594	-82.9147	
Rocky Creek	34.54	-80.8778	
Wateree Hydro	34.3355	-80.7021	
Wylie	35.0218	-81.0078	
99 Islands	35.0314	-81.4936	
Queens Creek	35.27127	-83.676016	
Keowee	34.7981	-82.8872	
Bad Creek	35.0075	-82.9975	
W S Lee Combined Cycle / Combustion Turbine / Steam (natural gas)	34.6022	-82.435	
Oconee	34.7939	-82.8986	
Catawba	35.0514	-81.0694	
McGuire	35.4331	-80.9486	
DE Solar 10240 Old Dowd Rd	35.2458	-80.9967	
DE Solar 657 Brigham Rd	36.1053	-79.9692	
DE Solar 1725 Drywall Dr	35.3261	-80.9967	
Mocksville Solar	35.833889	-80.574444	
Monroe Solar Facility	34.929945	-80.625615	
Crystal River (North)	28.9656	-82.6977	
P L Bartow Combined Cycle / Combustion Turbine	27.859535	-82.601759	
Hines Energy Complex	27.788215	-81.869983	
Tiger Bay	27.746369	-81.849446	
Citrus County Combined Cycle Plant	28.967376	-82.677924	
Avon Park	27.579444	-81.492778	
Bayboro	27.758056	-82.635278	
G E Turner	28.869577	-81.273957	
Higgins	28.003262	-82.661507	
DeBary	28.903863	-81.332329	
University of Florida	29.640278	-82.348611	
Intercession City	28.262778	-81.548611	
Suwannee River	30.376389	-83.180556	
Anclote	28.184444	-82.788611	
Osceola Solar Facility	28.058078	-81.241681	
Perry Solar Facility	30.119304	-83.560054	
Suwannee Solar Facility	30.376254	-83.174114	
Osprey Energy Center Power Plant	28.0525	-81.8083	
Hamilton Solar	30.444324	-83.186935	
Cayuga	39.9242	-87.4244	
R Gallagher	38.2636	-85.8381	
Gibson	38.372222	-87.765833	
Noblesville	40.0969	-85.9714	
Connersville	39.6561	-85.1758	
Henry County	39.9528	-85.5039	
Madison	39.4522	-84.4647	
Wheatland Generating Facility	38.6716	-87.2931	
Markland	38.7795	-84.964	
Edwardsport	38.8067	-87.2472	
Crane Solar Facility	38.8164	-86.8842	
Vermillion Combustion Turbine	39.922328	-87.446358	
East Bend	38.9036	-84.8514	
Woodsdale	39.4492	-84.4611	
Crittenden Solar Facility	38.751822	-84.613255	
Walton 1 Solar Facility	38.85018	-84.592263	
Walton 2 Solar Facility	38.85018	-84.592263	As of
W H Weatherspoon	34.587538	-78.97552	
Asheville Combustion Turbine / Combined-Cycle	35.4731	-82.5417	
Roxboro	36.4833	-79.0731	
Mayo	36.5278	-78.8917	
L V Sutton Energy Complex	34.283056	-77.985278	
Sherwood H Smith Jr Energy Complex	34.8392	-79.7406	
H.F. Lee Combined Cycle Plant	35.373611	-78.089444	
Darlington County Combustion Turbine	34.4185	-80.1657	
Wayne County Combustion Turbine	35.375789	-78.098052	
Blewett Combustion Turbine	34.9833	-79.8775	
Blewett Falls Hydroelectric	34.9833	-79.8775	
Marshall Dam	35.702527	-82.710571	
Tillery Hydroelectric	35.206741	-80.06483	
Walters Hydroelectric	35.6946	-83.0503	
H B Robinson Nuclear	34.4017	-80.1589	

Identifier	Latitude	Longitude	Comment
Brunswick Nuclear	33.9597	-78.0114	
Harris Nuclear	35.6334	-78.9556	
Warsaw Farm	35.005556	-78.125833	
DD Fayetteville Solar NC LLC	34.834444	-78.843611	
Elm City Solar Facility	35.781111	-77.846944	
Camp Lejeune Solar	34.725699	-77.350273	

SW2.1

(SW2.1) Please propose any mutually beneficial water-related projects you could collaborate on with specific CDP supply chain members.

SW2.2

(SW2.2) Have any water projects been implemented due to CDP supply chain member engagement?

No

SW3.1

(SW3.1) Provide any available water intensity values for your organization's products or services.

Product name

Net-owned electrical generation in MWh (megawatt hours)

Water intensity value

1.95

Numerator: Water aspect

Water consumed

Denominator

Total water consumption in liters

Comment

Duke Energy uses total consumption divided by net owned generation for water intensity. Water intensity for 2021 was higher than in 2020 due primarily to enhanced water sustainability data and analysis methodology.
As more generation is obtained from facilities with closed-cycle cooling or those with no water consumption (such as solar and wind), consumption on a facility basis is expected to increase. These increases, however, are expected to be offset by more efficient operation (i.e. more electricity generated per volume of water used) coupled with an increase in renewable generation.

Duke Energy tracks and reports water intensity within the Annual ESG Report. These values are used to help engage stakeholders on our water usage and determine water availability for future generation. Duke Energy participates in user groups of three hydroelectric projects that track and model future water availability not only for electric generation, but also public potable use and recreational use.

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms