FirstEnergy Corporation - Water Security 2021

W0. Introduction

W0.1

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

Headquartered in Akron, Ohio, FirstEnergy (FE) is a forward-thinking electric utility powered by a diverse team of employees committed to making customers' lives brighter, the environment better and communities stronger. Our subsidiaries are involved in the transmission, distribution, and regulated generation of electricity.

Our workforce of approximately 12,000 employees is dedicated to safety, reliability and operational excellence. Our 10 electric distribution companies form one of the nation's largest investor-owned electric systems, based on serving more than 6 million customers in Ohio, Pennsylvania, New Jersey, West Virginia, Maryland and New York*. The company's transmission subsidiaries operate approximately 24,000 miles of transmission lines connecting the Midwest and Mid-Atlantic regions. In 2020, FirstEnergy subsidiaries control 3,580 megawatts of generating capacity from two regulated coal plants and one pumped-storage hydro facility.

For the purposes of this CDP report, all financial and emissions information is based on FirstEnergy's 2020 year-end portfolio.

This report contains forward looking statements based on information available to the company. For more information, including our full forward looking statement please visit: https://www.firstenergycorp.com/content/fecorp/investor/engagement.html.

*Penelec has reached an agreement to sell our New York distribution assets to Tri-County Rural Electric Cooperative, pending approval from the New York State Public Service Commission. Our Waverly, N.Y., service territory—located northwest of Towanda, PA—serves about 3,800 customers in a small area just across the state line. As of 3/12/21, Jersey Central Power & Light (JCP&L) completed the sale of its interest in the Yards Creek pumped-storage hydro plant to Yards Creek Energy, LLC.

W-EU0.1a

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

Electricity generation
Transmission
Distribution

W-EU0.1b

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

	Nameplate capacity (MW)	% of total nameplate capacity	Gross electricity generation (GWh)
Coal – hard	3082	82	17287579
Lignite	0	0	0
Oil	0	0	0
Gas	0	0	0
Biomass	0	0	0
Waste (non-biomass)	0	0	0
Nuclear	0	0	0
Fossil-fuel plants fitted with carbon capture and storage	0	0	0
Geothermal	0	0	0
Hydropower	697	18	250463
Wind	0	0	0
Solar	0	0	0
Marine	0	0	0
Other renewable	0	0	0
Other non-renewable	0	0	0
Total	3779	100	17538042

W0.2

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

	Start date	End date
Reporting year	January 1 2020	December 31 2020

W0.3

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

United States of America

W0.4

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

USD

W0.5

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

Companies, entities or groups over which operational control is exercised

W0.6

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

Yes

W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
Corporate, energy delivery associated facilities, and FirstEnergy Solutions facilities (which was renamed Energy Harbor in February 2020).	Water is essential to FirstEnergy's ability to generate electricity, namely steam electric power generation; therefore, only the generation and synchronous condenser fleet is included in this disclosure. FirstEnergy Solutions (/a/k/a Energy Harbor) was included in previous CDP disclosures; however, FirstEnergy no longer maintains operational or financial control of those facilities, so they are excluded going forward.

W1. Current state

W1.1

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

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Important	Direct water is essential to FirstEnergy's ability to generate electricity. All of our plants use water for steam production, material delivery, and plant cooling purposes. This is evidenced by our total withdrawal averaging almost 105 mega liters of water per day. Indirect: Municipal Water supply is important to support many of our WASH operations for our employees.
Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Neutral	Of the 3 generation and synchronous condenser facilities operated by FirstEnergy in 2020, 2 of them (Harrison Power Station and Fort Martin Power Station) recycle their non-contact cooling water; however, FirstEnergy facilities are not located in areas that require use of recycled, brackish and/or produced water due to supply constraints.

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%	Total water withdrawals are measured and/or monitored at all FirstEnergy generation and synchronous condenser facilities, as required by NPDES permit and state water withdrawal permit/license requirements.
Water withdrawals – volumes by source	100%	Water withdrawals by source are measured and/or monitored at all FirstEnergy generation and synchronous condenser facilities.
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%	Total water withdrawal quality is measured and/or monitored at all FirstEnergy generation and synchronous condenser facilities, as required by NPDES permit requirements.
Water discharges – total volumes	100%	Total water discharges are measured and monitored at all FirstEnergy generation and synchronous condenser facilities.
Water discharges – volumes by destination	100%	Water discharge volume by destination is measured and monitored at all FirstEnergy generation and synchronous condenser facilities.
Water discharges – volumes by treatment method	Not relevant	Water discharge volumes by treatment method are measured and monitored at all FirstEnergy generation and synchronous condenser facilities.
Water discharge quality – by standard effluent parameters	100%	Water discharge quality data are measured and monitored at all FirstEnergy generation and synchronous condenser facilities.
Water discharge quality – temperature	100%	Water discharge quality data, including temperature, are measured and monitored at all FirstEnergy generation and synchronous condenser facilities.
Water consumption – total volume	100%	Water consumption at all FirstEnergy generation and synchronous condenser facilities is calculated using engineering estimates.
Water recycled/reused	100%	Water recycling for non-contact cooling water is measured/estimated at all FirstEnergy generation and synchronous condenser facilities with recycling capabilities.
The provision of fully-functioning, safely managed WASH services to all workers	100%	Facilities providing fully functioning WASH services for all workers are measured.

W-EU1.2a

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

	% of sites/facilities/operations measured and monitored	Please explain
Fulfilment of downstream environmental flows	100%	Yards Creek Generating Station provides downstream flows of at least 0.875 cubic feet per second to Yards Creek in fulfilment of its FERC permit.
Sediment loading	Not relevant	Not relevant Yards Creek Generating Station operates in accordance with its FERC permit, which does not provide flow for sediment loading.
Other, please specify	Not relevant	Yards Creek Generating Station provides ecosystem services for endangered bats, timber rattlesnakes, various turtles, and Fowler's toads. Yards Creek Generating Station has partnered with Environmental Consultation Services Inc. to ensure that the reptiles and humans are protected from each other.

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	66405	About the same	Changes in 2020 vs. 2019 reflect changes in fleet operation, dispatch, and ownership. FirstEnergy has also included a synchronous condenser facility that we own and operate which uses a material amount of water.
Total discharges	50460	About the same	Changes in 2020 vs. 2019 reflect changes in fleet operation, dispatch, and ownership. FirstEnergy has also included a synchronous condenser facility that we own and operate which uses a material amount of water.
Total consumption	15945	About the same	Changes in 2020 vs. 2019 reflect changes in fleet operation, dispatch, and ownership. FirstEnergy has also included a synchronous condenser facility that we own and operate which uses a material amount of water.

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	No	<Not Applicable>	<Not Applicable>	WRI Aqueduct	WRI Aqueduct was used on multiple scales. Whether reviewing overall water risk or water stress, none of the areas our generation or synchronous condensers are located in constitute a high risk or above.

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	66405	Lower	Changes in 2020 vs. 2019 reflect changes in fleet operation, dispatch, and, ownership. A large volume of water used through our synchronous condenser facility has been added to this year's water data.
Brackish surface water/Seawater	Not relevant	<Not Applicable>	<Not Applicable>	Brackish surface water/seawater is not withdrawn as part of our operations.
Groundwater – renewable	Not relevant	<Not Applicable>	<Not Applicable>	Groundwater - renewable as a source of withdrawal is not accounted for as part of our operations.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	Groundwater - non-renewable as a source of withdrawal is not accounted for as part of our operations.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	Produced water as a source of withdrawal is not accounted for as part of our operations.
Third party sources	Not relevant	<Not Applicable>	<Not Applicable>	While third party sources as a source of withdrawal do occur for operation of our facilities, they are not a material part of our operations.

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	50460	About the same	Changes in 2020 vs. 2019 reflect changes in fleet operation, dispatch, and, ownership. A large volume of water used through our synchronous condenser facility has been added to this year's water data.
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	Discharge to brackish surface water/seawater is not part of our operations.
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	Discharge to groundwater is not part of our operations.
Third-party destinations	Not relevant	<Not Applicable>	<Not Applicable>	While FirstEnergy may utilize third party sources for employee sanitation purposes, the discharge to third party destinations is not material to our operations.

W-EU1.3

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

No, and we have no plans to do so in the next two years

W1.4

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

Yes, our suppliers

Yes, our customers or other value chain partners

W1.4a

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

Row 1

% of suppliers by number

76-100

% of total procurement spend

76-100

Rationale for this coverage

FirstEnergy has all suppliers comply with our Supplier Code of Conduct. The Supplier Code of Conduct specifies that suppliers will "safeguard the environment" and "minimize the use of materials of concern". That includes one of our most precious resources: water. We do this because we believe in standing behind our commitment to environmental stewardship and ensuring that the businesses we work with comply with our values and expectations with regards to water and other environmental topics. In addition, Supply Chain's 2020 mission includes further improvement and prioritization of environmental, social, and governance (ESG) topics in our supply chain strategy. We communicate with suppliers about ESG topics and concerns, including those related to water, and we work with them to align on water stewardship and other ESG expectations and achieve mutually beneficial solutions. We also partner with suppliers who embrace sustainable business practices.

Impact of the engagement and measures of success

One impact is that FirstEnergy does not knowingly engage in business relationships with suppliers that cannot adhere to our Supplier Code of Conduct. One measure of success in this area is how many (or lack thereof) environmental enforcement actions occur within FirstEnergy. Another key impact of our supply chain approach is that our suppliers strive to meet or exceed industry standards for ESG issues, including those related to water.

Comment

W1.4b

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

Type of engagement
Onboarding & compliance

Details of engagement
Inclusion of water stewardship and risk management in supplier selection mechanism
Requirement to adhere to our code of conduct regarding water stewardship and management

% of suppliers by number
76-100

% of total procurement spend
76-100

Rationale for the coverage of your engagement
FirstEnergy has all suppliers comply with our Supplier Code of Conduct. The Supplier Code of Conduct specifies that suppliers will "safeguard the environment" and "minimize the use of materials of concern". That includes one of our most precious resources: water. We do this because we believe in standing behind our commitment to environmental stewardship and ensuring that the businesses we work with comply with our values and expectations with regards to water and other environmental topics. In addition, Supply Chain's 2020 mission includes further improvement and prioritization of environmental, social, and governance (ESG) topics within our Supply Chain strategy. We communicate with suppliers about ESG topics and concerns, including those related to water, and we work with them to align on water stewardship and other ESG expectations and achieve mutually beneficial solutions. We also partner with suppliers who embrace sustainable business practices.

Impact of the engagement and measures of success
The impact is that FirstEnergy does not knowingly engage in business relationships with suppliers that cannot adhere to our Code of Conduct. One measure of success is how many (or lack thereof) environmental enforcement actions occur within FirstEnergy. Overall, this approach to supplier relationships will help build a more sustainable supply chain in alignment with our Supply Chain Mission.

Comment

W1.4c

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

FirstEnergy is committed to making our customers' lives brighter and communities stronger. As part of this commitment, FirstEnergy strives to be a responsible member by engaging our value chain in meeting and exceeding environmental laws, where appropriate. Our environmental policy specifies that we use our natural resources wisely, and we expect the same from our suppliers. FirstEnergy also created a goal in 2020 to reduce water consumption at our two coal generation plants by 20% by 2030, based on 2019 levels.

W2. Business impacts

W2.1

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

W2.1a

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

Country/Area & River basin

United States of America	Mississippi River

Type of impact driver & Primary impact driver

Regulatory	Regulation of discharge quality/volumes

Primary impact
Impact on company assets

Description of impact
On August 31, 2020, USEPA finalized a rule revising the regulations for the Steam Electric Power Generating category. The rule sets strict limits on the discharge of pollutants in flue gas desulfurization waste water and also limits the discharge of coal ash transport water. The new requirements directly affect FirstEnergy generation facilities and compliance costs will be in the millions of dollars.

Primary response
Comply with local regulatory requirements

Total financial impact
135000000

Description of response
FirstEnergy has engaged with various stakeholders regarding the regulations and pending permits. FirstEnergy actively works with stakeholders to promote mutually beneficial outcomes where possible. The environment of the Steam Electric regulations, the outcome of appeals, and the manner in which final rules are ultimately implemented, FirstEnergy will comply with the requirements.

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

W2.2a

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

Row 1

Total number of fines
1

Total value of fines
250

% of total facilities/operations associated

Number of fines compared to previous reporting year
Lower

Comment

W2.2b

(W2.2b) Provide details for all significant fines, enforcement orders and/or other penalties for water-related regulatory violations in the reporting year, and your plans for resolving them.

Type of penalty
Enforcement order

Financial impact
0

Country/Area & River basin

United States of America	Mississippi River

Type of incident
Incorrect administration of permits, standards, or regulations

Description of penalty, incident, regulatory violation, significance, and resolution
During a project, on 4 occasions in 2020, erosion and sediment (E&S) controls were inadequate and cited by the local regulator. Improvements to the controls were subsequently performed.

Type of penalty

Enforcement order

Financial impact
0

Country/Area & River basin

United States of America	Mississippi River

Type of incident
Incorrect administration of permits, standards, or regulations

Description of penalty, incident, regulatory violation, significance, and resolution
During a project, a construction stormwater permit was not obtained, resulting in a Notice of Violation (NOV). The NOV was resolved by obtaining the construction stormwater permit from the local authority. During a project, erosion and sediment (E&S) controls were inadequate and cited by the local regulator. Improvements to the controls were subsequently performed.

Type of penalty
Enforcement order

Financial impact
0

Country/Area & River basin

United States of America	Mississippi River

Type of incident
Incorrect administration of permits, standards, or regulations

Description of penalty, incident, regulatory violation, significance, and resolution
During a project, erosion and sediment (E&S) controls were inadequate and cited by the local regulator. Improvements to the controls were subsequently performed.

Type of penalty
Enforcement order

Financial impact
0

Country/Area & River basin

United States of America	St. Lawrence

Type of incident
Spillage, leakage or discharge of potential water pollutant

Description of penalty, incident, regulatory violation, significance, and resolution
A release of mineral oil from a transformer into a storm sewer in Ohio. A third party was hired for immediate remediation.

Type of penalty
Enforcement order

Financial impact
0

Country/Area & River basin

United States of America	Mississippi River

Type of incident
Incorrect administration of permits, standards, or regulations

Description of penalty, incident, regulatory violation, significance, and resolution
In 2008, a consent order was resolved with the Pennsylvania Department of Environmental Protection for the Springdale Closed Ash Site. In 2019, the boron levels exceeded the consent order parameters for three months, resulting in stipulated penalties.

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?

FirstEnergy generation facilities are regulated under various federal, state, and local water quality regulations, the majority of which are the result of the Clean Water Act and its amendments.

FirstEnergy monitors, identifies, and classifies potential pollutant by compliance with those water quality regulations.

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	In April 2015, EPA finalized regulations for CCRs. Along with the CCR regulations, the EPA has published potential water pollutant and operational impacts from CCRs.	Compliance with effluent quality standards Community/stakeholder engagement Emergency preparedness	While certain provisions of the April 2015 CCR rule are under reconsideration, FirstEnergy intends to comply with the CCR rule, as appropriate.
Thermal pollution	In 2020, FirstEnergy owned and operated 2 thermal electric power plants (Harrison Power Station and Fort Martin Power Station). Non-contact cooling water is used at these plants and is inherent to the thermal electric production process.	Compliance with effluent quality standards Community/stakeholder engagement	The potential environmental impacts have been reviewed and studied in the NPDES permit supporting documentation. The results of the supporting documentation and studies are permit limits, which the facilities comply with.

W3.3

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

Yes, water-related risks are assessed

W3.3a

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

Direct operations

Coverage
Full

Risk assessment procedure
Water risks are assessed as part of an enterprise risk management framework

Frequency of assessment
More than once a year

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

Type of tools and methods used
Tools on the market
Enterprise Risk Management
Databases
Other

Tools and methods used
WRI Aqueduct
COSO Enterprise Risk Management Framework
Regional government databases
Internal company methods
External consultants
Other, please specify (PENTOXSD, Cormix, as appropriate)

Comment
FirstEnergy has a formal, comprehensive Enterprise-Wide Risk Management (EWRM) program in place to evaluate water risks on an as needed basis. Plant water quality is frequently assessed under National Pollutant Discharge Elimination System (NPDES) permit conditions and development. FirstEnergy actively analyzes and mitigates risks through stakeholder participation and various tools available and resources available.

Supply chain

Coverage
Partial

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

Frequency of assessment
Not defined

How far into the future are risks considered?
Unknown

Type of tools and methods used
Other

Tools and methods used
Internal company methods

Comment
FirstEnergy utilizes a strategic sourcing model. As part of that model, we may assess suppliers' environmental commitments and risks, including those related to water. FirstEnergy's supply chain group also collaborates with suppliers on ESG initiatives, which could include water, to achieve mutually beneficial solutions.

Other stages of the value chain

Coverage
Partial

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

Frequency of assessment
Annually

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

Type of tools and methods used
Databases
Other

Tools and methods used
Regional government databases
Internal company methods

Comment
FirstEnergy has developed an extensive internal emergency response organization. As such, an incident command structure is employed and drills are conducted at least annually. We participate in working groups, training opportunities, and conferences at all levels of the public and private sectors to ensure readiness, build relationships, and stay abreast of technological advances.

W3.3b

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

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, sometimes included	FirstEnergy is active in the water basins in which it resides. FirstEnergy manages the Merrill Creek Reservoir, which is a critical piece of infrastructure for mitigating droughts in the Delaware River Basin. Also, FirstEnergy's steam electric plants utilize closed cycle cooling, thereby allowing for sufficient water availability for the basin's other stakeholders. FirstEnergy also participates with EPRI through the Ohio River Basin Ecological Interest Group.
Water quality at a basin/catchment level	Relevant, sometimes included	Ensuring sufficient and satisfactory water is important to our generating plants and our stakeholders. FirstEnergy's NPDES permits ensure that water quality is in accordance with strict regulations.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, sometimes included	FirstEnergy works to minimize the environmental impact of our generating plants and other facilities. Our sustainability efforts reflect our commitment to creating lasting value in the communities where we live and work.
Implications of water on your key commodities/raw materials	Relevant, sometimes included	These issues are relevant and included as situations arise.
Water-related regulatory frameworks	Relevant, always included	The Company works and complies in the framework of the Clean Water Act and actively evaluates the evolving regulatory framework through our various tools and corporation with regulators, industry groups, and other stakeholders.
Status of ecosystems and habitats	Relevant, always included	All relevant water quality standards, Endangered Species Act, and wetland impacts are evaluated as situations arise to minimize ecosystem and habitat issues.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	The Company has WASH services at all facilities where company employees are stationed.
Other contextual issues, please specify	Not relevant, explanation provided	FirstEnergy believes the categories above cover a wide range of water related risk assessments.

W3.3c

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

	Relevance & inclusion	Please explain
Customers	Relevant, sometimes included	It is important that FirstEnergy provides safe, reliable, and affordable energy to customers. As we identify water related risks and opportunities, we assess any possible impacts for our customers.
Employees	Relevant, sometimes included	Employees' knowledge and understanding of water risks is a vital component of our efforts to manage and mitigate water risks. FirstEnergy regularly trains the responsible employees to understand the compliance needs of our operational activities as well as our efforts to reduce any environmental impacts.
Investors	Relevant, sometimes included	As an investor-owned utility, we consider our investors in our water-related practices and policies. It is our commitment to remain transparent about water- and environmental-related topics and continue to communicate identified risks and mitigation activities with our investors. Toward that end, we dedicate significant time and resources to participating in CDP disclosures and other disclosure opportunities with well-respected rating/ranking agencies and ESG organizations.
Local communities	Relevant, sometimes included	The communities where we operate are comprised of our customers and employees. When planning new projects, we take into consideration the possible water impacts to the community. In addition, we have designated staff serving as local community area managers who routinely engage with the local governments, community representatives and customers in their area to learn of and respond to specific inquiries, including environmental- or water-related inquiries.
NGOs	Relevant, sometimes included	FirstEnergy actively works with NGOs, such as EPRI and EEI, on a variety of water risks.
Other water users at a basin/catchment level	Relevant, sometimes included	These stakeholders are relevant and included as situations arise.
Regulators	Relevant, sometimes included	FirstEnergy works with regulators as situations arise, particularly when water risks intersect with our various permits.
River basin management authorities	Relevant, sometimes included	FirstEnergy is a participant of ORSANCO, Delaware River Basin Commission (DRBC), and EPRI. While EPRI is not a river basin authority, it frequently does research which authorities may use. FirstEnergy manages the Merrill Creek Reservoir, the largest man made lake in New Jersey, under the authority of the DRBC, which helps to maintain adequate water supply in the Delaware River.
Statutory special interest groups at a local level	Relevant, sometimes included	These stakeholders are relevant and included as situations arise.
Suppliers	Relevant, sometimes included	FirstEnergy expects all our suppliers to abide by the Supplier Code of Conduct and expect our suppliers to adopt our Environmental Policy and minimize the use of resources. In addition, we ask our supplier to complete EUISSCA's assessment to disclose environmental information, including water-related information.
Water utilities at a local level	Relevant, sometimes included	FirstEnergy regularly purchases water for our WASH services and includes local utilities when situations arise.
Other stakeholder, please specify	Not relevant, explanation provided	FirstEnergy believes the categories above cover a wide range of water related stakeholders.

W3.3d

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

A formal, comprehensive Enterprise-Wide Risk Management (EWRM) program in in place to ensure FirstEnergy thoroughly assesses and addresses risks and opportunities that could impact its electric system, including those posed by changes in the climate. These risks are assessed on short (0-1 year), medium (1-3 years), and long term (3-5 years and beyond) basis, with emphasis on long-term planning for potential climate-related issues. The EWRM's framework identifies individual risks at the enterprise, business unit, or project level groups them into four main categories (strategic, operational, compliance, and financial, all of which have potential ties to climate.

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?

Other than the ever-present potential for regulatory change, or the unlikely disruption of water sources, FirstEnergy has not identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on its business.

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	3	100	FirstEnergy has 2 electric generating facilities and 1 synchronous condenser that represent the entirety of FirstEnergy fossil generating capacity. Harrison Power Station Fort Martin Power Station Eastlake Synchronous Condenser

W4.1c

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

Country/Area & River basin

United States of America	Mississippi River

Number of facilities exposed to water risk
2

% company-wide facilities this represents
51-75

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
100%

% 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
Unknown

Comment
FirstEnergy has 2 fossil fuel electric generating facilities within the Mississippi River Basin: Harrison and Fort Martin. This represents all of FE's fossil fuel generating capacity.

Country/Area & River basin

United States of America	St. Lawrence

Number of facilities exposed to water risk
1

% company-wide facilities this represents
26-50

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
Not applicable

% 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
Unknown

Comment
FirstEnergy has 1 synchronous condenser facility within the St. Lawrence River basin, Eastlake Synchronous Condenser. Synchronous condensers along with static VAR compensators regulate reactive power to help ensure grid stability but do not generate electricity, this represents none of FE's generating capacity.

W4.2

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

Country/Area & River basin

United States of America	Mississippi River

Type of risk & Primary risk driver

Physical	Flooding

Primary potential impact
Reduction or disruption in production capacity

Company-specific description
Flooding could impact FE's operations and/or cause costs to be incurred.

Timeframe
Current up to one year

Magnitude of potential impact
Low

Likelihood
Unknown

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
Unknown, but potentially high (millions of dollars).

Primary response to risk
Develop flood emergency plans

Description of response
FirstEnergy's fossil fuel generating facilities are 100 percent closed cycle cooling, which reduces water withdrawals by 80 percent to 90 percent. A current pilot project further reduces Harrison's impact by returning leachate back to the plant processes, saving approximately 105 million gallons annually. In 2020, FirstEnergy adopted a water goal to reduce water consumption at our two coal plants by 20 percent by 2030 from 2019 levels, thereby reducing existential impacts to the operations.

Cost of response

Explanation of cost of response
Unknown, but FirstEnergy has installed closed cycle cooling on 67 percent of our plants.

Country/Area & River basin

United States of America	Mississippi River

Type of risk & Primary risk driver

Physical	Seasonal supply variability/inter annual variability

Primary potential impact
Reduction or disruption in production capacity

Company-specific description
Stream level variability could impact FE's operations and /or cause costs to be incurred.

Timeframe
Current up to one year

Magnitude of potential impact
Low

Likelihood
Unknown

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
Unknown, but potentially high (millions of dollars).

Primary response to risk
Adopt water efficiency, water reuse, recycling and conservation practices

Description of response
FE's fossil fuel generating facilities are 100 percent closed cycle cooling which reduce water withdrawals by 80 percent to 90 percent. A current pilot project further reduces Harrison's impact by returning leachate back to the plant processes, saving approximately 105 million gallons annually. In 2020, FirstEnergy adopted a water goal to reduce water consumption at our two coal plants by 20 percent by 2030 from 2019 levels, thereby reducing existential impacts to the operations.

Cost of response

Explanation of cost of response
Unknown, but FirstEnergy has installed closed cycle cooling on 67 percent of our plants.

Country/Area & River basin

United States of America	Mississippi River

Type of risk & Primary risk driver

Regulatory	Mandatory water efficiency, conservation, recycling or process standards

Primary potential impact
Reduction or disruption in production capacity

Company-specific description
Regulatory changes could impact FE's operations and/or cause costs to be incurred.

Timeframe
Current up to one year

Magnitude of potential impact
Low

Likelihood
Unknown

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
Unknown, but potentially high (millions of dollars).

Primary response to risk
Adopt water efficiency, water reuse, recycling and conservation practices

Description of response
FE's fossil fuel generating facilities are 100 percent closed cycle cooling, which reduces water withdrawals by 80 percent to 90 percent. A current pilot project further reduces Harrison's impact by returning leachate back to the plant processes, saving approximately 105 million gallons annually. In 2020, FirstEnergy adopted a water goal to reduce water consumption at our two coal plants by 20 percent by 2030 from 2019 levels, thereby reducing existential impacts to the operations.

Cost of response

Explanation of cost of response
Unknown, but FirstEnergy has installed closed cycle cooling on 67 percent of our plants.

Country/Area & River basin

United States of America	Mississippi River

Type of risk & Primary risk driver

Regulatory	Regulation of discharge quality/volumes

Primary potential impact
Increased compliance costs

Company-specific description
Regulatory changes could impact FE's operations and/or cause costs to be incurred.

Timeframe
Current up to one year

Magnitude of potential impact
Low

Likelihood
Unknown

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
Unknown, but potentially high (millions of dollars).

Primary response to risk

Adopt water efficiency, water reuse, recycling and conservation practices

Description of response
FE's fossil fuel generating facilities are 100 percent closed cycle cooling, which reduces water withdrawals by 80 percent to 90 percent. A current pilot project further reduces Harrison's impact by returning leachate back to the plant processes, saving approximately 105 million gallons annually. In 2020, FirstEnergy adopted a water goal to reduce water consumption at our two coal plants by 20 percent by 2030 from 2019 levels, thereby reducing existential impacts to the operations.

Cost of response

Explanation of cost of response
Unknown, but FirstEnergy has installed closed cycle cooling on 67 percent of our plants.

Country/Area & River basin

United States of America	Mississippi River

Type of risk & Primary risk driver

Regulatory	Regulatory uncertainty

Primary potential impact
Increased compliance costs

Company-specific description
Regulatory changes could impact FE's operations and/or cause costs to be incurred.

Timeframe
Current up to one year

Magnitude of potential impact
Low

Likelihood
Unknown

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
Unknown, but potentially high (millions of dollars).

Primary response to risk
Adopt water efficiency, water reuse, recycling and conservation practices

Description of response
FE's fossil fuel generating facilities are 100 percent closed cycle cooling, which reduces water withdrawals by 80 percent to 90 percent. A current pilot project further reduces Harrison's impact by returning leachate back to the plant processes, saving approximately 105 million gallons annually. In 2020, FirstEnergy adopted a water goal to reduce water consumption at our two coal plants by 20 percent by 2030 from 2019 levels, thereby reducing existential impacts to the operations.

Cost of response

Explanation of cost of response
Unknown, but FirstEnergy has installed closed cycle cooling on 67 percent of our plants.

Country/Area & River basin

United States of America	St. Lawrence

Type of risk & Primary risk driver

Physical	Flooding

Primary potential impact
Reduction or disruption in production capacity

Company-specific description
Flooding could impact FE's operations and/or cause costs to be incurred.

Timeframe
Current up to one year

Magnitude of potential impact
Low

Likelihood
Unknown

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

Primary response to risk
Develop flood emergency plans

Description of response
FE's fossil fuel generating facilities are 100 percent closed cycle cooling, which reduces water withdrawals by 80 percent to 90 percent. A current pilot project further reduces Harrison's impact by returning leachate back to the plant processes, saving approximately 105 million gallons annually. In 2020, FirstEnergy adopted a water goal to reduce water consumption at our two coal plants by 20 percent by 2030 from 2019 levels, thereby reducing existential impacts to the operations.

Cost of response

Explanation of cost of response
Unknown, but FirstEnergy has installed closed cycle cooling on 67 percent of our plants.

Country/Area & River basin

United States of America	St. Lawrence

Type of risk & Primary risk driver

Physical	Seasonal supply variability/inter annual variability

Primary potential impact
Reduction or disruption in production capacity

Company-specific description
Stream level variability could impact FE's operations and /or cause costs to be incurred.

Timeframe
Current up to one year

Magnitude of potential impact
Low

Likelihood
Unknown

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
Unknown, but potentially high (millions of dollars).

Primary response to risk
Adopt water efficiency, water reuse, recycling and conservation practices

Description of response
FE's fossil fuel generating facilities are 100 percent closed cycle cooling, which reduce water withdrawals by 80 percent to 90 percent. A current pilot project further reduces Harrison's impact by returning leachate back to the plant processes, saving approximately 105 million gallons annually. In 2020, FirstEnergy adopted a water goal to reduce water consumption at our two coal plants by 20 percent by 2030 from 2019 levels, thereby reducing existential impacts to the operations.

Cost of response

Explanation of cost of response
Unknown, but FirstEnergy has installed closed cycle cooling on 67 percent of our plants.

Country/Area & River basin

United States of America	St. Lawrence

Type of risk & Primary risk driver

Regulatory	Regulatory uncertainty

Primary potential impact
Increased compliance costs

Company-specific description
Regulatory changes could impact FE's operations and/or cause costs to be incurred.

Timeframe
Current up to one year

Magnitude of potential impact
Low

Likelihood
Unknown

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
Unknown, but potentially high (millions of dollars).

Primary response to risk
Adopt water efficiency, water reuse, recycling and conservation practices

Description of response
FE's fossil fuel generating facilities are 100 percent closed cycle cooling, which reduce water withdrawals by 80 percent to 90 percent. A current pilot project further reduces Harrison's impact by returning leachate back to the plant processes, saving approximately 105 million gallons annually. In 2020, FirstEnergy adopted a water goal to reduce water consumption at our two coal plants 20 percent by 2030 from 2019 levels, thereby reducing existential impacts to the operations.

Cost of response

Explanation of cost of response
Unknown, but FirstEnergy has installed closed cycle cooling on 67 percent of our plants.

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 (Mississippi, Chesapeake, St. Lawrence)

Stage of value chain
Use phase

Type of risk & Primary risk driver

Physical	Flooding

Primary potential impact
Disruption to sales due to value chain dissruption

Company-specific description
FirstEnergy covers 65,000 square miles of territory and therefore some electrical infrastructure could be subject to periodic flooding and supply disruptions to our value chain.

Timeframe
Current up to one year

Magnitude of potential impact
Unknown

Likelihood
Likely

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
Unknown

Primary response to risk

Downstream	Increase/review infrastructure investment

Description of response
FE is hardening our system through investments such as flood walls at our JCP&L Sussex Substation that was funded by programs like JCP&L Reliability Plus; our Innovation Center; and Emerging Technologies team. Such programs and investments mitigate the flood risk, allowing our infrastructure to reliably provide service to our customers.

Cost of response

Explanation of cost of response
FE expects to invest approximately $1.7 billion per year into our distribution systems through 2023 to enhance distribution grid reliability and resiliency. Our goal is that by 2025, customers will see a 5% reduction in the duration of service interruptions over the 2019 baseline.

Country/Area & River basin

United States of America	Other, please specify (Mississippi, Chesapeake, St. Lawrence)

Stage of value chain
Use phase

Type of risk & Primary risk driver

Physical	Inadequate infrastructure

Primary potential impact
Disruption to sales due to value chain dissruption

Company-specific description
FE owns one of the largest transmission systems in PJM with approximately 24,000-line miles connecting the Midwest and Mid-Atlantic regions. The transmission system is an essential part of our work to build a reliable, more resilient and lower carbon grid. Through our Energizing the Future (EtF) program, we are upgrading and modernizing our transmission system to ensure customers benefit from a smarter, stronger, and more secure power grid.

Timeframe
Current up to one year

Magnitude of potential impact
Unknown

Likelihood
Very likely

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

Potential financial impact figure (currency)
<Not Applicable>

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

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

Explanation of financial impact
Unknown

Primary response to risk

Downstream	Increase/review infrastructure investment

Description of response
Since launching EtF in 2014, FE has completed 600 to 700 projects per year. These projects allow grid operators more operational flexibility that enables them to more swiftly respond to changing grid conditions. These improvements have provided a measurable result for our customers, including a 47 percent reduction in equipment-related outages on the transmission system serving The Illuminating Company, Ohio Edison, and Toledo Edison utilities.

Cost of response

Explanation of cost of response
Investments from 2014 to 2018 totaled nearly $5.6 billion. We plan to invest $1.1 billion per year from 2019 to 2023 on transmission projects.

Country/Area & River basin

United States of America	Other, please specify (Mississippi, Chesapeake, St. Lawrence)

Stage of value chain
Use phase

Type of risk & Primary risk driver

Physical	Severe weather events

Primary potential impact
Disruption to sales due to value chain dissruption

Company-specific description
A large component of our EWRM addresses severe weather events, threats such as electromagnetic pulses, geomagnetic disturbances, and other significant occurrences in our service territories.

Timeframe
Current up to one year

Magnitude of potential impact
Unknown

Likelihood
Virtually certain

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
Unknown

Primary response to risk

Direct operations	Include in Business Continuity Plan

Description of response
FE has developed an extensive internal emergency response organization. As such, an incident command structure is employed and drills are conducted at least annually. We participate in working groups, training opportunities, and conferences at all levels of the public and private sectors to ensure readiness, build relationships, and stay abreast of technological advances.

Cost of response

Explanation of cost of response
FE does not have a centralized system to only account for costs related to planning for extreme weather events.

Country/Area & River basin

United States of America	Other, please specify (varies)

Stage of value chain
Supply chain

Type of risk & Primary risk driver

Regulatory	Litigation against supplier

Primary potential impact
Supply chain disruption

Company-specific description
Many of FirstEnergy's suppliers use water in their processes for various functions. The use of water may create a regulatory or stakeholder conflict that the supplier must contend with if it happens

Timeframe
Current up to one year

Magnitude of potential impact
Unknown

Likelihood
Likely

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
Unknown

Primary response to risk

Supplier engagement	Other, please specify (Procedure Adherence)

Description of response
FE's Supplier Code of Conduct requires that suppliers adhere to FirstEnergy's environmental policy. FE requires that resources be minimized, and that is something that also applies to our suppliers.

Cost of response

Explanation of cost of response
FE does not have a centralized system to only account for costs related to planning for these events.

W4.3

(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?
Yes, we have identified opportunities, and some/all are being realized

W4.3a

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

Type of opportunity
Efficiency

Primary water-related opportunity
Improved water efficiency in operations

Company-specific description & strategy to realize opportunity
FirstEnergy's generation fleet operates closed loop systems, which recirculate cooling water. We also operate once-through cooling systems, which return most of the water to the same source.

Estimated timeframe for realization
Current - up to 1 year

Magnitude of potential financial impact
Unknown

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
FirstEnergy does not have a centralized accounting system to account for savings resulted from closed cycle cooling.

Type of opportunity
Resilience

Primary water-related opportunity
Resilience to future regulatory changes

Company-specific description & strategy to realize opportunity
Evolving regulatory landscapes can also alter the operations and maintenance of power stations. FirstEnergy actively evaluates those potential risks and means to avoid those risks. The Harrison FGD system with its zero liquid discharge design allows it to control air pollution without the need to discharge wastewater to surface waters, like other FGD systems. As such, future water regulatory actions do not affect the FGD system at Harrison. Another project is the Harrison Leachate return line. The line will return leachate from the Harrison Landfill back to the scrubber at Harrison Power Station, which is a zero liquid discharge process. Such actions will absolve approximately 105 million gallons per year from future regulatory changes.

Estimated timeframe for realization
Current - up to 1 year

Magnitude of potential financial impact
Unknown

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
FirstEnergy does not have a centralized accounting system to account for cost avoidances from changes in regulatory structure.

Type of opportunity
Efficiency

Primary water-related opportunity
Cost savings

Company-specific description & strategy to realize opportunity
FirstEnergy regularly purchases water for WASH services from our local utility stakeholders. While having a safe, reliable water source for WASH is particularly important, we sometimes use such procured water for process purposes, which may or may not have such stringent quality standards. FirstEnergy's Environment Group was presented with the President's Award in 2018 for being able to reduce our consumption of utility drinking water, thereby reducing purchased water by about 25 million gallons per year at two of our facilities.

Estimated timeframe for realization
Current - up to 1 year

Magnitude of potential financial impact
Unknown

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
FirstEnergy does not have a centralized accounting system to account for varying changes in water consumption.

Type of opportunity
Efficiency

Primary water-related opportunity
Improved water efficiency in operations

Company-specific description & strategy to realize opportunity
In 2020, FirstEnergy's innovative Center for Advanced Energy Technology (CAET) obtained Leadership in Energy and Environmental Design (LEED) certification. The LEED certification means the facility incorporated environmentally conscious and resilient design features into its construction. Such design features include retention ponds, bio-cells, and rain garden vegetation, along with water conservation plumbing features to avoid landscape irrigation and reduce water usage.

Estimated timeframe for realization
Current - up to 1 year

Magnitude of potential financial impact
Unknown

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
FirstEnergy does not have a centralized accounting system to account for savings resulted from LEED certification designs

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Type of opportunity
Markets

Primary water-related opportunity
Strengthened social license to operate

Company-specific description & strategy to realize opportunity
In 2020, FirstEnergy donated $27,000 to the Western Reserve Land Conservancy's conservation project at the Chagrin River Landing in Eastlake, Ohio. The landing will include greater water recreational activities and restore areas back to their natural floodplain habitat.

Estimated timeframe for realization
Current - up to 1 year

Magnitude of potential financial impact
Unknown

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

Potential financial impact figure (currency)
27000

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

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

Explanation of financial impact
The financial impact is a direct donation to the Western Reserve Land Conservancy that allows us to better interact with our value chain, thereby promoting our ESG activities, core values, and social license to operate.

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)
Harrison Power Station

Country/Area & River basin

United States of America	Mississippi River

Latitude
39.230213

Longitude
-80.195185

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)
16720

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
16720

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)
13092

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
13092

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)
3628

Comparison of total consumption with previous reporting year
About the same

Please explain
Changes in water withdrawal/discharges/consumption reflect changes in operation of the facility.

Facility reference number
Facility 2

Facility name (optional)
Fort Martin Power Station

Country/Area & River basin

United States of America	Mississippi River

Latitude
39.423859

Longitude
-79.553991

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)
19799

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
19799

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)
8378

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
11421

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)
3628

Comparison of total consumption with previous reporting year
About the same

Please explain
Changes in water withdrawal/discharges/consumption reflect changes in operation of the facility.

Facility reference number
Facility 3

Facility name (optional)
Eastlake Synchronous Condenser

Country/Area & River basin

United States of America	St. Lawrence

Latitude
41.671333

Longitude
-81.443333

Located in area with water stress
No

Primary power generation source for your electricity generation at this facility
Not applicable

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
29886

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
29886

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)
28989

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
28989

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)
897

Comparison of total consumption with previous reporting year
About the same

Please explain
Changes in water withdrawal/discharges/consumption reflect changes in operation of the facility.

W5.1a

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

Water withdrawals – total volumes

% verified
76-100

What standard and methodology was used?
NPDES permitting and State Water Use Reporting

Water withdrawals – volume by source

% verified
76-100

What standard and methodology was used?
NPDES permitting and State Water Use Reporting

Water withdrawals – quality

% verified
76-100

What standard and methodology was used?
NPDES permitting

Water discharges – total volumes

% verified
76-100

What standard and methodology was used?
NPDES permitting and State Water Use Reporting

Water discharges – volume by destination

% verified
76-100

What standard and methodology was used?
NPDES permitting and State Water Use Reporting

Water discharges – volume by treatment method

% verified
76-100

What standard and methodology was used?
NPDES permitting

Water discharge quality – quality by standard effluent parameters

% verified
76-100

What standard and methodology was used?
NPDES permitting

Water discharge quality – temperature

% verified
76-100

What standard and methodology was used?
NPDES permitting

Water consumption – total volume

% verified
76-100

What standard and methodology was used?
NPDES permitting and State Water Use Reporting

Water recycled/reused

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

W6. Governance

W6.1

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

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

W6.1a

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

	Scope	Content	Please explain
Row 1	Company-wide	Description of business dependency on water Description of business impact on water Description of water-related performance standards for direct operations Company water targets and goals	FirstEnergy has a publicly available environmental policy that states our intent to minimize impacts and use natural resources wisely. In 2020, the company also created a goal to reduce water consumption at our two coal plants by 20 percent by 2030, based on 2019 levels.

W6.2

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

Yes

W6.2a

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

Position of individual	Please explain
Chief Executive Officer (CEO)	The CEO, a member of the Board of Directors, has direct responsibility for water-related issues, including the implementation of FirstEnergy's climate strategy.
Board-level committee	The Board of Directors oversees many ESG-related matters. In addition, the Corporate Governance and Corporate Responsibility Committee of the Board of Directors has oversight of ESG topics, including climate strategy and climate risks and opportunities. This Board Committee solely comprises independent directors and typically meets five times per year.

W6.2b

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

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Scheduled - all meetings	Overseeing acquisitions and divestiture Overseeing major capital expenditures Providing employee incentives Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding strategy Reviewing and guiding corporate responsibility strategy Setting performance objectives	While the Corporate Governance and Corporate Responsibility Committee is delegated oversight for climate-related issues, other committees provide review of ESG risks and opportunities. For example, the Audit Committee develops polices and processes for financial reporting, audit process, internal controls, and legal, regulatory, and ethical compliance, which encompasses water-related controls and compliance.

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
Managing water-related risks and opportunities

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

Please explain
The CEO has oversight of environmental-related risks and opportunities. As important topics arise, The CEO provides guidance to those with direct responsibility.

Name of the position(s) and/or committee(s)
Environment/Sustainability manager

Responsibility
Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues
More frequently than quarterly

Please explain
FirstEnergy's Director, Environmental has direct management responsibility of water-related risks and opportunities.

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	Board chair Corporate executive team Chief Executive Officer (CEO) Chief Financial Officer (CFO) Chief Operating Officer (COO) Other C-suite Officer Other, please specify (All employees)	Improvements in waste water quality - direct operations Other, please specify (Reduction in NOVs, which include water related violations)	FirstEnergy has environmental metrics (with associated incentive compensation) for employees, an executive management committee, and a Board of Director's committee.
Non-monetary reward	Board chair Board/Executive board Director on board Corporate executive team Chief Executive Officer (CEO) Other, please specify (Policy applies to all employees of FirstEnergy.)	Reduction of water withdrawals Reduction in consumption volumes Improvements in efficiency - direct operations Improvements in waste water quality - direct operations Implementation of employee awareness campaign or training program Supply chain engagement Implementation of water-related community project	FirstEnergy regularly celebrates the efforts of employees to produce and deliver electricity in an environmentally sound manner. FirstEnergy has issued several news releases and public communications spotlighting employee efforts to reduce our environmental impact. Also, the Environment Group won a President's Award in 2018 for water reduction efforts.

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?

We seek insight from various stakeholder groups to inform FirstEnergy's strategies, programs and policies on a variety of issues. Our External Affairs organization executes a comprehensive stakeholder engagement process across our service areas. Through this process, we actively discuss energy-related matters with local, state and federal policymakers, as well as consumer advocates, peer utilities, customers, investors and non-governmental organizations.

W6.6

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

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

2020 Annual Report.pdf

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	5-10	FirstEnergy has a long-term goal of reducing water consumption at our two coal plants by 20% by 2030.
Strategy for achieving long-term objectives	No, water-related issues were reviewed but not considered as strategically relevant/significant	5-10	While FirstEnergy continues to improve sustainability, including water conservation efforts, FirstEnergy facilities are not in water-stressed areas and water-related risks are minor with low probabilities.
Financial planning	No, water-related issues were reviewed but not considered as strategically relevant/significant	5-10	While FirstEnergy continues to improve sustainability, including water conservation efforts, FirstEnergy facilities are not in water-stressed areas and water-related risks are minor with low probabilities.

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)

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

Water-related OPEX (+/- % change)

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

Please explain

This information is not calculated by FirstEnergy.

W7.3

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

	Use of climate-related scenario analysis	Comment
Row 1	Yes	In 2019, FirstEnergy published a climate report that included a two-degree scenario analysis. The analysis is based on the International Energy Agency's 2DS (IEA 2DS). In selecting a scenario to study, our objective was to evaluate a 2DS with sufficient detail to provide meaningful insights for our business and geography. We also prioritized a publicly available analysis to promote greater transparency in the process. The structure of our analysis was guided by recommendations from the TCFD as well as a report published by Ceres and authored by MJ Bradley & Associates (MJB&A). We also took into consideration other third-party produced 2-degree scenarios, including "beyond 2-degree" scenarios that are consistent with an October 6, 2018, Special Report on Global Warming of 1.5°C from the Intergovernmental Panel on Climate Change.

W7.3a

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

No

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

While FirstEnergy continues to improve sustainability, including water conservation efforts, FirstEnergy facilities are not in water-stressed areas and water-related risks are minor with low probabilities.

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	Targets are monitored at the corporate level Goals are monitored at the corporate level	FirstEnergy manages environmental compliance through Board committee oversight and by including environmental excursions and Notice of Violations (NOV) in our Operations KPIs. Our environmental excursions and NOV KPI metric tracks any regulatory reportable air emission, water discharge or other unauthorized release that exceeds applicable environmental limitations, conditions and deadlines set by federal, state or local regulations. Our threshold, target and stretch goals for this metric are based on our previous year's performance, and the stretch goal is designed to encourage significant improvement in our commitment to making the environment better. The inclusion of these environmental metrics in our Operations KPIs enhances employees' awareness and attention to environmental compliance and drives continuous improvement across all areas of our business. FirstEnergy also maintains a long-term water goal for our generation fleet. The long term generation goal is designed to encourage long term environmental water stewardship and align with our carbon reduction efforts. As such, FirstEnergy has a goal to reduce water consumption at our two coal plants 20% by 2030, based on 2019 levels.

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 pollution reduction

Level

Company-wide

Primary motivation

Reduced environmental impact

Description of target

FirstEnergy manages environmental compliance through Board committee oversight and by including environmental excursions and Notice of Violations (NOV) in our Operations KPIs. Our environmental excursions and NOV KPI metric tracks any regulatory reportable air emission, water discharge or other unauthorized release that exceeds applicable environmental limitations, conditions and deadlines set by federal, state or local regulations. Our threshold, target and stretch goals for this metric are based on our previous year's performance, and the stretch goal is designed to encourage significant improvement in our commitment to making the environment better. The inclusion of these environmental metrics in our Operations KPIs enhances employees' awareness and attention to environmental compliance and drives continuous improvement across all areas of our business.

Quantitative metric

% proportion of wastewater that is safely treated

Baseline year

2015

Start year

2015

Target year

2020

% of target achieved

99.5

Please explain

FirstEnergy facilities have NPDES permits with specific limits. FirstEnergy has a target of zero exceedances of our NPDES permits.

W8.1b

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

Goal
Engaging with local community

Level
Company-wide

Motivation
Recommended sector best practice

Description of goal
FirstEnergy engages with our local stakeholders on a routine basis to discuss local projects, emergency planning, and emergency response. In recent years, we have strengthened relationships and expanded partnerships and plan to continue this as part of our strategic plan. Engagement with our local stakeholders allows us to more effectively plan projects against water related issues and plan for and respond to supply disruptions due to water related issues.

Baseline year

Start year

End year
2025

Progress
Through the implementation of employee business resource groups and volunteer time off programs, we have expanded our connections to the community in the last two years. While more resources and tools will likely be deployed in the coming years, much has been accomplished.

Goal
Improve wastewater quality beyond compliance requirements

Level
Company-wide

Motivation
Risk mitigation

Description of goal
Through projects like the Harrison leachate return line, FirstEnergy is implementing water reduction and reuse projects that mitigate risk by reducing the amount of water that must be discharged and permitted. Projects are ongoing and evolving as needs arise and will be evaluated for merit.

Baseline year

Start year

End year

Progress
The Harrison leachate return line is ongoing. Water reduction projects at Eastlake and Ashtabula occurred around 2018. Future projects will be evaluated for merit as they arise.

Goal
Promotion of water data transparency

Level
Company-wide

Motivation
Corporate social responsibility

Description of goal
FirstEnergy developed a corporate responsibility group in 2018. Since then, FirstEnergy has rapidly expanded the number of programs that water data is reported to. While FirstEnergy has submitted water information to public authorities for decades, the consolidation and ease of access to obtain the data has greatly improved in the last several years

Baseline year

Start year
2018

End year
2020

Progress
FirstEnergy now participates in water reporting activities for multiple organizations, like CDP, S&P Global, Sustainalytics, ISS, and others.

Goal
Watershed remediation and habitat restoration, ecosystem preservation

Level
Company-wide

Motivation
Corporate social responsibility

Description of goal

In 2020, FirstEnergy began a corporate initiative to plant trees across our footprint which promotes sustainable ecosystems and watershed improvements with potentially reduced flooding and erosion. In 2020, FirstEnergy planted about 1,000 trees across the footprint and set a goal of planting 10,000 trees in 2021.

Baseline year
2020

Start year
2020

End year
2021

Progress
FirstEnergy in conjunction with its employee volunteer time program and resource groups planted 1,000 trees in 2020. The goal of 10,000 trees in 2021 was surpassed by Arbor Day with approximately 12,000 trees being planted.

Goal
Improve wastewater quality beyond compliance requirements

Level
Business

Motivation
Commitment to the UN Sustainable Development Goals

Description of goal
In 2020, FirstEnergy created a goal to reduce water consumption at our two coal plants 20 percent by 2030, over 2019 levels.

Baseline year
2019

Start year
2020

End year
2030

Progress
FirstEnergy is actively tracking and reporting water consumption data in reports, such as CDP Water. It will continue to report water consumption and make thoughtful, responsible decisions to achieve the 20 percent reduction by 2030.

W9. Verification

W9.1

(W9.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1a)?
No, we do not currently verify any other water information reported in our CDP disclosure

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	Senior Vice President, Strategy	Other C-Suite Officer

W10.2

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

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms