

Welcome to your CDP Water Security Questionnaire 2019

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 12,500 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 6 million customers in Ohio, Pennsylvania, New Jersey, West Virginia, Maryland and New York. The company's transmission subsidiaries operate approximately 25,000 miles of transmission lines connecting the Midwest and Mid-Atlantic regions.

On March 31, 2018, the Board of Directors of FirstEnergy Solutions (FES) FirstEnergy's competitive generation segment made a voluntary filing under Chapter 11 of the United States Bankruptcy Code for FES, its subsidiaries and FirstEnergy Nuclear Operating Company (FENOC), to facilitate an orderly financial restructuring. The filing did not involve FirstEnergy or our Distribution, Transmission, Regulated Generation or Allegheny Energy Supply (AE Supply) subsidiaries. On September 25, 2018, the bankruptcy court approved a definitive agreement, subject to various conditions, that addressed FirstEnergy's obligations with respect to FES and FENOC. Upon emergence, FES will be a separate company unaffiliated with FE and we will no longer report their data.

For the purposes of this CDP report, all financial and emissions information is based on FirstEnergy's 2018 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>

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 power source.

	Nameplate capacity (MW)	% of total nameplate capacity	Gross generation (MWh)
Coal – hard	9,270	60.46	37,492,861
Lignite	0	0	0
Oil	59	0.38	216.1
Gas	545	3.55	45,184.9
Biomass	0	0	0
Waste (non-biomass)	0	0	0
Nuclear	4,048	26.4	34,570,420
Geothermal	0	0	0
Hydroelectric	1,410	9.2	313,729
Wind	0	0	0
Solar	0	0	0
Other renewable	0	0	0
Other non-renewable	0	0	0
Total	15,332	100	72,422,411

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, 2018	December 31, 2018

W0.3

(W0.3) Select the countries/regions 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, and energy delivery associated facilities.	Water is essential to FirstEnergy's ability to generate electricity, therefore only the generation fleet is included in this disclosure.

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 3,600 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 9 generation facilities operated by FirstEnergy in 2018, 6 of them (Perry Nuclear Power Plant, Davis-Besse Nuclear Power Station, Beaver Valley Nuclear Power Station, Harrison Power Station, Fort Martin Power Station, Pleasants Power Station, Bruce Mansfield Power Plant, W.H. Sammis Power Plant) 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.
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W1.2

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

	% of sites/facilities/operations	Please explain
Water withdrawals – total volumes	100%	Total water withdrawals are measured and/or monitored at all FirstEnergy generation facilities, as required by NPDES permit and state water withdrawal permit/license requirements.
Water withdrawals – volumes from water stressed areas	Not relevant	FirstEnergy does not have facilities located in high risk water stressed areas.
Water withdrawals – volumes by source	100%	Water withdrawals by source are measured and/or monitored at all FirstEnergy generation facilities.
Water withdrawals quality	100%	Total water withdrawal quality is measured and/or monitored at all FirstEnergy generation facilities, as required by NPDES permit requirements.
Water discharges – total volumes	100%	Total water discharges are measured and monitored at all FirstEnergy generation facilities.
Water discharges – volumes by destination	100%	Water discharge volume by destination are measured and monitored at all FirstEnergy generation facilities.
Water discharges – volumes by treatment method	100%	Water discharge volumes by treatment method are measured and monitored at all FirstEnergy generation facilities.
Water discharge quality – by standard effluent parameters	100%	Water discharge quality data are measured and monitored at all FirstEnergy generation facilities.
Water discharge quality – temperature	100%	Water discharge quality data, including temperature, are measured and monitored at all FirstEnergy generation facilities

Water consumption – total volume	100%	Water consumption at all FirstEnergy generation facilities is calculated using engineering estimates.
Water recycled/reused	100%	Water recycling for non-contact cooling water is measured/estimated at all FirstEnergy generation 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 hydroelectric 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	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
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Total withdrawals	1,301,646	Lower	Changes in 2018 vs. 2017 reflect changes in fleet operation, dispatch, and ownership.
Total discharges	1,152,347	Lower	Changes in 2018 vs. 2017 reflect changes in fleet operation, dispatch, and ownership.
Total consumption	149,299	Lower	Changes in 2018 vs. 2017 reflect changes in fleet operation, dispatch, and ownership.

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	1,301,646	Lower	Changes in 2018 vs. 2017 reflect changes in fleet operation, dispatch, and ownership.
Brackish surface water/Seawater	Not relevant			Brackish surface water/seawater is not withdrawn as part of our operations.
Groundwater – renewable	Not relevant			Groundwater - renewable as a source of withdrawal is not accounted for as part of our operations.
Groundwater – non-renewable	Not relevant			Groundwater - non-renewable as a source of withdrawal is not accounted for as part of our operations.
Produced/Entrained water	Not relevant			Produced water as a source of withdrawal is not accounted for as part of our operations.
Third party sources	Not relevant			Third party sources as a source of withdrawal is not accounted for as 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	1,152,347	Lower	Changes in 2018 vs. 2017 reflect changes in fleet operation, dispatch, and, ownership.
Brackish surface water/seawater	Not relevant			Discharge to brackish surface water/seawater is not part of our operations.
Groundwater	Not relevant			Discharge to groundwater is not part of our operations.
Third-party destinations	Not relevant			Discharge to third party destinations is not part of our operations.

W1.2j

(W1.2j) What proportion of your total water use do you recycle or reuse?

	% recycled and reused	Comparison with previous reporting year	Please explain
Row 1	76-99%	About the same	Seven of the nine steam electric FirstEnergy generation facilities, (Perry, Davis-Besse, Beaver Valley, Mansfield, Pleasants, Fort Martin, and Harrison) use closed cycle cooling that can reduce the flows 80 to 90 percent for a facility

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?

No, we do not engage on water with our value chain

W1.4d

(W1.4d) Why do you not engage with any stages of your value chain on water-related issues and what are your plans?

	Primary reason	Please explain
Row 1	Important but not an immediate business priority	FirstEnergy is a forward-thinking electric utility committed to making customers' lives brighter and the environment better. As such, FirstEnergy regularly engages with our customers and other stakeholders regarding water and ecosystems within our territory. In just the second quarter 2018, FirstEnergy provided \$8,000 in grants to the American Littoral Society for coastal enhancements and Hawk Mountain Sanctuary Association for environmental education. FirstEnergy also offers a Speakers Bureau, free of charge, to civic organizations, chambers of commerce, and consumer groups to discuss issues, such as energy and the environment. Such community and stakeholder initiatives and engagement are guided by FirstEnergy's mission statement and Corporate Responsibility Initiatives.

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 total financial impact.

Country/Region

United States of America

River basin

Mississippi River

Type of impact driver

Regulatory

Primary impact driver

Regulation of discharge quality/volumes

Primary impact

Impact on company assets

Description of impact

On September 30, 2015, 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 prohibits 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. Parts of the new ELGs are under reconsideration. The reconsideration provides a period of time that there is uncertainty to the company's strategy for complying with the rule. EPA's regulatory calendar states a proposed rule revision in June 2019 and a final rule in August 2020.

Primary response

Comply with local regulatory requirements

Total financial impact

Description of response

Depending on the outcome of appeals and how any 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?

No

W3. Procedures

W-EU3.1

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

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
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Coal combustion residuals	In April 2015, EPA finalized regulations for CCRs. EPA has published with the CCR regulations, 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 2018, FirstEnergy owned and operated 8 thermal electric power plants (Perry Nuclear Power Plant, Davis-Besse Nuclear Power Station, Beaver Valley Nuclear Power Station, Harrison Power Station, Fort Martin Power Station, Pleasants Power Station, Bruce Mansfield Power Plant, W.H. Sammis Power Plant). Non-contact cooling water is used at these plants and is inherent to the thermal electric production process. As such, all the thermal electric power plants have obtained 316(a) variances for heated effluent discharges.	Compliance with effluent quality standards Community/stakeholder engagement	The potential environmental impacts have been reviewed and studied in the NPDES permit supporting documentation and 316(a) studies. The results of the supporting documentation and studies are permit limits which the facilities complies with. FirstEnergy voluntarily conducts ecological research on the Ohio River through a partnership with the Ohio River Ecological Research Program (ORERP).

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

Six-monthly or more frequently

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
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. Also, several of FirstEnergy's Ohio River facilities are assessed annually through our participation with the Electric Power Research Institute (EPRI), Ohio River Ecological Research Program (ORERP), and/or the Ohio River Valley Water Sanitation Commission (ORSANCO).

Supply chain

Coverage

None

Comment

Other stages of the value chain

Coverage

Partial

Risk assessment procedure

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

Frequency of assessment

Annually

How far into the future are risks considered?

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	These issues are relevant and included as situations arise.
Water quality at a basin/catchment level	Relevant, sometimes included	These issues are relevant and included as situations arise.
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.
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 works to ensure that all employees have access to WASH services
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	These stakeholders are often mentioned in our Sustainability Report and other documentation.
Employees	Relevant, sometimes included	These stakeholders are often mentioned in our Sustainability Report and other documentation.
Investors	Relevant, sometimes included	Investors are informed of water issues in the Company's annual report, sustainability report, and other documentation.
Local communities	Relevant, sometimes included	These stakeholders are often mentioned in our Sustainability Report and other documentation.
NGOs	Relevant, sometimes included	These stakeholders are relevant and included as situations arise.
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.
River basin management authorities	Relevant, sometimes included	FirstEnergy is a participant of ORSANCO and EPRI. While EPRI is not a river basin authority, it frequently does research which authorities may use.
Statutory special interest groups at a local level	Relevant, sometimes included	These stakeholders are relevant and included as situations arise.

Suppliers	Relevant, sometimes included	These stakeholders are relevant and included as situations arise.
Water utilities at a local level	Relevant, sometimes included	These stakeholders are relevant and included as 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 is 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?

No

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.

W4.2b

(W4.2b) Why does your organization not consider itself exposed to water risks in its direct operations with the potential to have a substantive financial or strategic impact?

	Primary reason	Please explain
Row 1		

W4.2c

(W4.2c) Why does your organization not consider itself exposed to water risks in its value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact?

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	FirstEnergy has not yet evaluated the impact of water risks from our supply chain

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

Cost savings improved water efficiency regulatory changes social license to operating - use of cooling towers - current - FirstEnergy's generation fleet operates closed loop systems which recirculate cooling water; and 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)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

Unknown

Type of opportunity

Resilience

Primary water-related opportunity

Increased resilience to impacts of climate change

Company-specific description & strategy to realize opportunity

Since launching EtF in 2014, FirstEnergy 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 37 percent reduction in equipment related outages on the transmission system serving The Illuminating Company, Ohio Edison, and Toledo Edison utilities.

Estimated timeframe for realization

Current - up to 1 year

Magnitude of potential financial impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1,200,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

Investments from 2014 to 2018 totaled nearly \$5.6 billion. We plan to invest from 2019 to 2021 \$1.2 billion per year on transmission projects.

Type of opportunity

Other

Primary water-related opportunity

Other, please specify

Pollinators

Company-specific description & strategy to realize opportunity

FirstEnergy has participated in the Electric Power Research Institute's (EPRI) Pollinator Week. By participating, FirstEnergy expanded our customers knowledge of the value of pollinators. FirstEnergy also maintains approximately 14,000 miles of transmission line corridors.

FirstEnergy uses an Integrated vegetation management system that provides for low growing, pollinator friendly plants that help sustain healthy populations of bees, butterflies and other pollinators.

Finally, FirstEnergy has partners with EPRI, the State University of New York, and The Ohio State University-Mansfield to Study pollinators and rejuvenate declining populations along our transmission corridors.

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)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

unknown

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	FirstEnergy has a publicly available environmental policy that states our intent to minimize impacts and use natural resources wisely.

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)	FirstEnergy's President and Chief Executive Officer is responsible for the management of climate-related issues for the company, and our Board of Directors provides oversight. Senior company executives provide regular updates with the Board and relevant Board committees on topics related to climate issues, including business strategy, legislative and regulatory policies and climate initiatives.

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
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Row 1	Scheduled - all meetings	Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding strategy Reviewing and guiding corporate responsibility strategy	FirstEnergy's Board of Directors has a Corporate Governance, Sustainability, and Corporate Responsibility Committee that oversees water related issues.
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W6.3

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

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

Chief Executive Officer (CEO)

Responsibility

Managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

As important matters arise

Please explain

FirstEnergy has a Director of Environment and Director of Strategy, Long Term Planning, and Corporate Responsibility; these roles are responsible to report important climate and water related issues, which will be vetted and the CEO will be updated of important matters.

W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4

(W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?

Yes

W-FB6.4a/W-CH6.4a/W-EU6.4a/W-OG6.4a/W-MM6.4a

(W-FB6.4a/W-CH6.4a/W-EU6.4a/W-OG6.4a/W-MM6.4a) 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)?

	Who is entitled to benefit from these incentives?	Indicator for incentivized performance	Please explain
Monetary reward	Board/Executive board	Effluent quality improvements	FirstEnergy has environmental metrics (with associated incentive compensation)

	Corporate executive team Other, please specify All employees		for employees, an executive management committee, and a Board of Director's committee.
Recognition (non-monetary)	Other, please specify All employees	Reduction of water withdrawals Reduction in consumptive volumes Reduction of product water intensity Effluent quality improvements Water-related community project	FirstEnergy regularly celebrates the efforts of employees to produce and deliver electricity in an environmentally sound manner.
Other non-monetary reward			

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?

FirstEnergy has a decision-making and oversight processes in place for political contributions and expenditures to ensure such contributions or expenditures are legally permissible and in the best interests of FirstEnergy.

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)

 2018 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	Water compliance and costs are factored into the business strategy of the organization. FirstEnergy has spent more than \$10 billion on environmental performance since 1970. We have used a combination of innovated and conventional technologies, environmental management systems, and Company personnel to align these goals.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	5-10	Water compliance and costs are factored into the business strategy of the organization. FirstEnergy has spent more than \$10 billion on environmental performance since 1970. We have used a combination of innovated and conventional technologies, environmental management systems, and Company personnel to align these goals.
Financial planning	Yes, water-related issues are integrated	5-10	Water compliance and costs are factored into the business strategy of the organization. FirstEnergy has spent more than \$10 billion on environmental performance since 1970. We have used a combination of innovated and conventional technologies, environmental management systems, and Company personnel to align these goals.

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 has not been calculated by FE

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	FirstEnergy is currently upgrading our electric grid with an investment of nearly \$5.6 billion from 2014-2018 and \$2.9 billion per year from 2019-2021 to make our system more robust, secure, and resistant to extreme weather events.

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

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	FirstEnergy has environmental metrics (on all levels of the organization) that incorporate water requirements.

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 has environment metrics (with associated incentive compensation) for employees, an executive management committee, and a Board of Director's committee.

Quantitative metric

% proportion of wastewater that is safely treated

Baseline year

2015

Start year

2015

Target year

2018

% achieved

99.5

Please explain

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

Target reference number

Target 2

Category of target

Water withdrawals

Level

Site/facility

Primary motivation

Cost savings

Description of target

FirstEnergy will be shutting down four units from our Sammis plant in mid-2020 which will result in decreased water withdrawal for that facility

Quantitative metric

% reduction in total water withdrawals

Baseline year

2015

Start year

2015

Target year

2021

% achieved

0

Please explain

The units will be shut down in mid-2020

W9. Linkages and trade-offs

W9.1

(W9.1) Has your organization identified any linkages or tradeoffs between water and other environmental issues in its direct operations and/or other parts of its value chain?

Yes

W9.1a

(W9.1a) Describe the linkages or tradeoffs and the related management policy or action.

Linkage or tradeoff

Linkage

Type of linkage/tradeoff

Other, please specify

Water Treatment Technologies

Description of linkage/tradeoff

Water treatment technologies and their continual evolution will vary based on the regulatory landscape. FirstEnergy engages with policy makers, trade organizations, and research organizations to inform the process and develop appropriate regulations synced with proven, cost-effective technologies.

Policy or action

FirstEnergy is evaluating the impact of the 316(b), CCR, and ELG rules on the fleet and working with policy makers, trade organizations, and research organizations to provide for the most appropriate outcome.

Linkage or tradeoff

Linkage

Type of linkage/tradeoff

Other, please specify

Water-energy nexus

Description of linkage/tradeoff

FirstEnergy realizes that energy and water overlap in significant ways. FirstEnergy's thermal steam production power generation facilities require the use of significant amounts of water, averaging a withdrawal of 3,600 mega liters per day in 2018.

Policy or action

FirstEnergy is actively engaged with EPRI to study the linkages between water use and electricity generation. EPRI's work will help inform FirstEnergy and the general public about the needs of water among utilities and progress the understanding of the energy-water nexus.

W10. Verification

W10.1

(W10.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1d)?

No, we do not currently verify any other water information reported in our CDP disclosure

W11. Sign off

W-FI

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

W11.1

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

	Job title	Corresponding job category
Row 1	Senior Vice President and Chief Strategy Officer	Other C-Suite Officer

W11.2

(W11.2) 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)].

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms