

Module: Introduction

Page: W0. Introduction

W0.1

Introduction

Please give a general description and introduction to your organization.

Entergy Corporation is an integrated energy company engaged primarily in electric power production and retail distribution operations. Entergy owns and operates power plants with approximately 30,000 megawatts of electric generating capacity, including more than 10,000 megawatts of nuclear power, making it one of the nation's leading nuclear generators. Entergy delivers electricity to 2.8 million utility customers in Arkansas, Louisiana, Mississippi and Texas. Entergy has annual revenues of more than \$11 billion and approximately 14,000 employees.

See the attached 2013 Integrated Annual Report to Shareholders, 2013 SEC Form 10-K Report..

W0.2

Reporting Year

Please state the start and end date of the year for which you are reporting data.

Period for which data is reported
Tue 01 Jan 2013 - Tue 31 Dec 2013

W0.3**Reporting Boundary**

Please indicate the category that describes the reporting boundary for companies, entities, or groups for which water-related impacts are reported.

Companies, entities or groups over which financial control is exercised

W0.4**Exclusions**

Are there any geographies, facilities or types of water inputs/outputs within this boundary which are not included in your disclosure?

No

W0.4a**List of Exclusions**

Please report the exclusions in the following table

Exclusion	Please explain why you have made the exclusion

Further Information

Additional information can be found at www.energy.com

Attachments

[https://www.cdp.net/sites/2014/53/5653/Water 2014/Shared Documents/Attachments/Water2014/W0.Introduction/ETR_2013_AR_FINAL.pdf](https://www.cdp.net/sites/2014/53/5653/Water%202014/Shared%20Documents/Attachments/Water2014/W0.Introduction/ETR_2013_AR_FINAL.pdf)
[https://www.cdp.net/sites/2014/53/5653/Water 2014/Shared Documents/Attachments/Water2014/W0.Introduction/2013_integrated_report.pdf](https://www.cdp.net/sites/2014/53/5653/Water%202014/Shared%20Documents/Attachments/Water2014/W0.Introduction/2013_integrated_report.pdf)
[https://www.cdp.net/sites/2014/53/5653/Water 2014/Shared Documents/Attachments/Water2014/W0.Introduction/2013_Energy_Form_10K.pdf](https://www.cdp.net/sites/2014/53/5653/Water%202014/Shared%20Documents/Attachments/Water2014/W0.Introduction/2013_Energy_Form_10K.pdf)

Module: Current State

Page: W1. Context

W1.1

Please rate the importance (current and future) of water quality and water quantity to the success of your organization

Water quality and quantity	Importance rating	Please explain
Direct use: sufficient amounts of good quality freshwater available for use across your own operations	Vital for operations	Entergy produces electricity from steam electric power plants that use large amounts of freshwater. 84% of Entergy's 30,000 MWs of generating capacity use freshwater for cooling, boiler make-up water and house service water needs. The water quantity, quality, biological diversity and ambient temperatures for each water body are all factors that are all vitally important for Entergy's current and future power plant operations.
Direct use: sufficient amounts of recycled, brackish and/or produced water available for use across your own operations	Important	10% of Entergy's generating capacity uses brackish water for cooling, 3% uses salt water and 3% uses recycled water. Entergy's 538 MW Rhode Island State Energy Center used 3.9 million M3 of treated effluent from the City of Cranston's Water Pollution Control Facility for cooling water during 2013. The water quantity, quality, biological diversity and ambient temperatures for each water body are all factors that are important for Entergy's current and future power plant operations.
Indirect use: sufficient amounts of good quality freshwater available for use across your value chain	Important	Entergy was founding member of supply chain initiative with suppliers to do reduce water consumption and enhance eco-efficiency of commodities used in utility industry.
Indirect use: sufficient amounts of recycled, brackish and/or produced	Have not evaluated	

Water quality and quantity	Importance rating	Please explain
water available for use across your value chain		

W1.2

Have you evaluated how water quality and water quantity affects /could affect the success (viability, constraints) of your organization's growth strategy?

Yes, evaluated over the next 10 years

W1.2a

Please explain how your organization evaluated the effects of water quality and water quantity on the success (viability, constraints) of your organization's growth strategy?

Entergy forecasts future load growth and determines an optimal mix of resources using Integrated Resource Plans. Entergy recognizes that water quality and quantity is vital to meeting future energy demand. Entergy is managing this risk by using strategies that reduce our future water foot print, by investing in a portfolio of generating capacity with diverse water resource needs and by investing in energy production and end use efficiency to reduce water needs. Entergy has formed a Water Peer Group to focus on managing water risks. In 2013, the group finalized Entergy's Water Management Standard, established a process to track and review water stress in the areas we operate and shared examples of water reduction strategies and best practices for water optimization. Entergy's Enterprise Risk Management processes identify, capture and mitigate risks that may impede Entergy from accomplishing its objectives. The processes use a broad suite of risk analysis processes and tools to evaluate financial and business risks. The continued availability and quality of water out through our planning periods are included in this process. Entergy is working with industry groups on water issues. Examples:

- US Business Council for Sustainable Development to identify water synergies between large water users and dischargers along the Mississippi River from Baton Rouge, La., south to Gulf of Mexico.
- Entergy was founding member of supply chain initiative with suppliers to reduce water consumption and enhance eco-efficiency of commodities used in utility industry.
- Entergy is supporting an EPRI project that provides watershed level water mapping for the Lower Arkansas River Basin, which includes our White Bluff and Arkansas Nuclear One plants. The model takes into account historical water body and groundwater usages for every consumer in the basin and models availability for the next 40 years. Then it runs scenarios to guide future decision making for water users in the basin.

W1.2b

What is the main reason for not having evaluated how water quality and water quantity affects /could affect the success (viability, constraints) of your organization's growth strategy, and are there any plans in place to do so in the future?

Main reason	Current plans	Timeframe until evaluation	Comment
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W1.3

Has your organization experienced any detrimental impacts related to water in the reporting period?

No

W1.3a

Please describe the detrimental impacts experienced by your organization related to water in the reporting period

Country	River basin	Impact indicator	Impact	Description of impact	Overall financial impact	Response strategy	Description of response strategy
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W1.3b

Please choose the option below that best explains why you do not know if your organization experienced any detrimental impacts related to water in the reporting period and any plans you have to investigate this in the future

Primary reason	Future plans
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Further Information

Attachments

[https://www.cdp.net/sites/2014/53/5653/Water 2014/Shared Documents/Attachments/Water2014/W1.Context/EntergyWaterManagementStandardFINAL040114.pdf](https://www.cdp.net/sites/2014/53/5653/Water%202014/Shared%20Documents/Attachments/Water2014/W1.Context/EntergyWaterManagementStandardFINAL040114.pdf)
[https://www.cdp.net/sites/2014/53/5653/Water 2014/Shared Documents/Attachments/Water2014/W1.Context/WaterPGFINALAnnualReport2013.doc](https://www.cdp.net/sites/2014/53/5653/Water%202014/Shared%20Documents/Attachments/Water2014/W1.Context/WaterPGFINALAnnualReport2013.doc)

Module: Risk Assessment

Page: W2. Procedures and Requirements

W2.1

Please select the option that best describes your procedures with regard to assessing water risks and provide an explanation as to why this option is suitable for your organization

Water is integrated into a comprehensive, company-wide risk assessment process incorporating both direct operations and supply chain

W2.1a

You may provide additional information about your approach to assessing water risks here

Entergy's Enterprise Risk Management (ERM) process and investment approval process are comprehensive Company-wide processes used to analyze business risks. The analysis includes climate change issues and physical risks including those related to water quantity / quality and stakeholder water utilization issues.

In 2013-2014, Entergy developed and adopted a corporate Water Management Standard. Water governance is conducted through inclusion into overall Enterprise Risk Management (ERM) approach which includes board oversight. At the corporate level, Entergy has identified water availability and quality risks as a part of its overall ERM evaluation. This evaluation is reviewed quarterly and ERM risks are scored based on likelihood of occurrence and severity of impact. Business function management systems include analysis of water availability and quality risk. Senior management review is required annually for all identified areas of risks.

W2.2

Please state how frequently you undertake water risk assessments, what geographical scale and how far into the future you consider

Frequency	Geographic scale	Timeframe
Water Peer Group meets quarterly to monitor, assess and manage water risks Entergy is facing. Water risks are assessed annually and are incorporated into the company's corporate risk management processes and SEC reporting, including the 10K "Risk Factors." For a discussion of water risks, see Entergy's 2013 SEC 10K pg 275 and Entergy 2013 Integrated Report pg 2 and 48	Region	Enterprise Risks Management process evaluates risks over the expected life of Entergy's assets that can range from 30 - 50 years. Entergy's Integrated Resource Plans look out approximately 5 years. Individual facility plans for operating in water stressed areas look out 5 to 10 years, as required.

W2.3

Please state the methods used to assess water risks

Method

Other: Entergy is supporting an EPRI project that provides watershed level water mapping for a particular watershed. Entergy has chosen the Lower Arkansas River Basin, which includes our White Bluff and Arkansas Nuclear One plants. The model takes into account historical water body and groundwater usages for every consumer in the basin and models availability for the next 40 years. Then it runs scenarios to guide future decision making for water users in the basin. The idea is that it can be used as a cross-industry tool to ensure sufficient water supply in the future. It can also be used as a site selection tool to determine water availability into the future.

W2.4

Which of the following contextual issues are always factored into your organization's water risk assessments?

Issues	Choose option	Please explain
Current water availability and quality parameters at a local level	Relevant, included for some facilities/suppliers	Entergy's Lewis Creek plant is located in Montgomery County, Texas, which is a water-restricted area as defined by the county utility district. This plant represented approximately 2% of Entergy's overall generation in 2013 and is the only plant that is currently in an area that is restricting water use. A coordinated effort to reduce groundwater consumption by 30% by 2016 was put into place in 2010.
Current water regulatory frameworks and tariffs at a local level	Relevant, included	Entergy's power plants are governed by the Clean Water Act and regulated through state or federal water discharge permits to ensure maintenance of high levels of water quality and to ensure biological diversity of the water withdrawal and discharge receiving body. These factors are affected by ambient conditions such as the quantity, quality, temperature and environmental health of the water body.
Current stakeholder conflicts concerning water resources at a local level	Relevant, included for some facilities/suppliers	Entergy is engaged and working with stakeholders on resolving potential future conflicts with regards to water issues. An example of this is Entergy's continued its sponsorship of the USBCSD Water Synergy Project to determine beneficial uses for process water discharges across sectors. Member companies have developed several working groups to evaluate current or future opportunities and develop action plans to accomplish each group's goals. http://water-synergy.org/
Current implications of water on your key commodities/raw materials	Not evaluated	
Current status of ecosystems and	Relevant, included	Entergy has developed extensive databases for aquatic resources from which its facilities draw

Issues	Choose option	Please explain
habitats at a local level		cooling or service water. Extensive information has been gathered, in particular, regarding areas of the lower Hudson River, the Connecticut River, Cape Cod, Lake Ontario, and the Mississippi River near Entergy facilities. Entergy also has gathered information regarding water bodies into which it discharges, or from which it draws cooling and service water at many of its fossil-fuel facilities.
Estimates of future changes in water availability at a local level	Relevant, included	Entergy is supporting an EPRI project that provides watershed level water mapping for the Lower Arkansas River Basin, which includes our White Bluff and Arkansas Nuclear One plants. The model takes into account historical water body and groundwater usages for every consumer in the basin and models availability for the next 40 years. Then it runs scenarios to guide future decision making for water users in the basin.
Estimates of future potential regulatory changes at a local level	Relevant, included	Scenario and impact analysis is conducted for regulatory changes at the local level and this analysis is presented to environmental and regulatory leadership for information and strategy development. Entergy has a strong risk management culture and has systems in place to track regulatory changes at the national, regional, state and local level. The regulatory tracking includes potential regulatory changes to water use, withdrawal rights, discharge standards or water pricing/tariffs.
Estimates of future potential stakeholder conflicts at a local level	Relevant, included	Entergy estimates future potential stakeholder conflicts primarily centered on the impacts on a variety of species and water body uses in the Hudson River, the Cape Cod area, Lake Ontario and the Connecticut River, and regarding the EPA's Clean Water Act § 316(b) cooling water intake structure rules, which deal aquatic species in cooling water. Our Lewis Creek Plant is actively engaged in dialogue with their supplier (San Jacinto River Authority), including on potential conflicts
Estimates of future implications of water on your key commodities/raw materials	Not evaluated	
Estimates of future potential changes in the status of ecosystems and habitats at a local level	Relevant, included	Entergy is engaged with others in encouraging meaningful action to stem the loss of coastal wetlands and barrier island systems recognizing the value these estuaries have on ensuring continued ecosystem services, biological diversity and protection of coastal communities from climate change impacts. This restoration depends upon anticipating and successfully factoring in relative sea level rise over time.
Scenario analysis of availability of sufficient quantity and quality of water relevant for your operations at a local level	Relevant, included	Entergy worked with the U.S. Army Corp of Engineers to assess and find ways to effectively manage risks to the quality of water supply in and near New Orleans from a scenario where, during times of low flow in the Mississippi, a salt water wedge could extend 80+ miles upriver and could adversely impact drinking water supply to the city of New Orleans as well as cooling water quality for Entergy power plants. We worked out communication systems and contingency plans for minimizing the impacts.
Scenario analysis of regulatory	Relevant, included	Scenario and impact analysis is conducted for regulatory changes at the local level and this

Issues	Choose option	Please explain
and/or tariff changes at a local level		analysis is presented to environmental and regulatory leadership for information and strategy development. Entergy has a strong risk management culture and has systems in place to track regulatory changes at the national, regional, state and local level. The regulatory tracking includes potential regulatory changes to water use, withdrawal rights, discharge standards or water pricing/tariffs.
Scenario analysis of stakeholder conflicts concerning water resources at a local level	Relevant, included	Water issues are included in a scenario analysis Entergy conducts as part of its overall due diligence review and analysis of any expansion, acquisition, new project or investment. Depending on the project, scenario analysis may include water availability issues, quality issues, intake concerns and water-related biodiversity impacts.
Scenario analysis of implications of water on your key commodities/raw materials	Not evaluated	
Scenario analysis of potential changes in the status of ecosystems and habitats at a local level	Relevant, included	Water issues are included in a scenario analysis Entergy conducts as part of its overall due diligence review and analysis of any expansion, acquisition, new project or investment. Depending on the project, scenario analysis may include water availability issues, quality issues, intake concerns and water-related biodiversity impacts.
Other	Not evaluated	

W2.4a

Which of the following stakeholders are always factored into your organization's water risk assessments?

Stakeholder	Choose option	Please explain
Customers	Relevant, included for some facilities/suppliers	Entergy is engaged with others in encouraging meaningful action to stem the loss of coastal wetlands and barrier island systems recognizing the value these estuaries have on ensuring continued ecosystem services, biological diversity and protection of coastal communities from climate change impacts. This restoration depends upon anticipating and successfully factoring in relative sea level rise over time.
Employees	Relevant, included	Entergy employees are the foundation for managing water risks. Entergy formed the Water Peer Group in 2002 where employee subject matter experts meet to discuss water intake, scarcity and quality issues. In 2013 the group focused on water stress mapping, water foot printing and emerging regulatory issues.

Stakeholder	Choose option	Please explain
		Entergy employees also participates in various industry groups that monitor both water quantity and quality issues at the national, regional and state levels and benchmark performance.
Investors	Relevant, included	Communicating to investors that Entergy is effectively managing risk is vitally important. Entergy's Enterprise Risk Management (ERM) process and investment approval process (IAP) are comprehensive Company-wide processes used to analyze business risks. The analysis includes climate change issues and physical risks including those related to water quantity / quality and stakeholder water utilization issues.
Local communities	Relevant, included	Entergy is actively engaged with state and local planning groups working on the Baton Rouge groundwater issues, regulatory interest groups working on drought/water rights legislation in Texas, and in with water allocation interest groups for the watershed planning in White River and Arkansas River valleys in Arkansas.
NGOs	Relevant, included	Entergy is working with the state of Louisiana, NGO's and businesses on the Louisiana Freshwater Assessment Project to build a baseline assessment of freshwater resources in our service territory so that we make informed as we make important decisions regarding freshwater water in the future.
Other water users at a local level	Relevant, included	Entergy is working with local business leaders and the USBCSD to achieve tangible water conservation and quality improvements, and establish a long-term water collaboration plan in the region by harnessing collective industry capabilities and interests. Business leaders from multiple industries together to identify challenges related to water quality, quantity, and storm water; identify practical solutions; and work together to implement those solutions. http://water-synergy.org/
Regulators at a local level	Relevant, included	Entergy works with the Lone Star Water Conservation District, a local agency affiliated with Entergy's Lewis Creek Plant, to track and monitor water availability at the local level surrounding our only plant in a water-stressed area.
Statutory special interest groups at a local level	Not evaluated	
Suppliers	Relevant, included	Entergy is a founding member of EUSSCA, formed to promote environmental stewardship among utility suppliers and to provide value to customers and shareholders. Its goal is to work with industry suppliers to improve environmental performance and advance sustainable business practices. By working as a group, member companies expect to more effectively and efficiently engage suppliers to improve impacts on air emissions, water consumption, waste disposal and energy-efficiency.
Water utilities/suppliers at a local level	Relevant, included	Entergy works with the Lone Star Water Conservation District, a local agency affiliated with Entergy's Lewis Creek Plant, to track and monitor water availability at the local level surrounding our only plant in a water-stressed area.
Other	Not evaluated	

Do you require your key suppliers to report on their water use, risks and management?

No

W2.5a

Please provide the proportion of key suppliers you require to report on their water use, risks and management and the proportion of your procurement spend this represents

Proportion of key suppliers %	Total procurement spend %	Rationale for this coverage

W2.5b

Please choose the option that best explains why you do not require your key suppliers to report on their water use, risks and management

Primary reason	Please explain
Other: Survey through trade organization	Entergy is a founding member of the Electric Utility Sustainable Supply Chain Alliance (EUISSCA) that was formed to promote environmental stewardship among utility suppliers. EUISSCA conducts an annual survey of 100 suppliers to identify the level of sustainability and how they're managing risks to ensure reliable delivery of products and services. Entergy's work with EUISSCA is providing information on water risks our suppliers are exposed to and best practices for managing those risks.

Further Information

Attachments

[https://www.cdp.net/sites/2014/53/5653/Water 2014/Shared Documents/Attachments/Water2014/W2.ProceduresandRequirements/2011_Strategic_Plan_120910_clean.pdf](https://www.cdp.net/sites/2014/53/5653/Water%202014/Shared%20Documents/Attachments/Water2014/W2.ProceduresandRequirements/2011_Strategic_Plan_120910_clean.pdf)
[https://www.cdp.net/sites/2014/53/5653/Water 2014/Shared Documents/Attachments/Water2014/W2.ProceduresandRequirements/WaterPGFINALAnnualReport2013.doc](https://www.cdp.net/sites/2014/53/5653/Water%202014/Shared%20Documents/Attachments/Water2014/W2.ProceduresandRequirements/WaterPGFINALAnnualReport2013.doc)
[https://www.cdp.net/sites/2014/53/5653/Water 2014/Shared Documents/Attachments/Water2014/W2.ProceduresandRequirements/EntergyWaterManagementStandardFINAL040114.pdf](https://www.cdp.net/sites/2014/53/5653/Water%202014/Shared%20Documents/Attachments/Water2014/W2.ProceduresandRequirements/EntergyWaterManagementStandardFINAL040114.pdf)
[https://www.cdp.net/sites/2014/53/5653/Water 2014/Shared Documents/Attachments/Water2014/W2.ProceduresandRequirements/WellWaterSystemModificationsRevisedGRPDescriptionRev0.pdf](https://www.cdp.net/sites/2014/53/5653/Water%202014/Shared%20Documents/Attachments/Water2014/W2.ProceduresandRequirements/WellWaterSystemModificationsRevisedGRPDescriptionRev0.pdf)
[https://www.cdp.net/sites/2014/53/5653/Water 2014/Shared Documents/Attachments/Water2014/W2.ProceduresandRequirements/LettertoLonestar-GRPAnswerstoMarchQuestions2014.pdf](https://www.cdp.net/sites/2014/53/5653/Water%202014/Shared%20Documents/Attachments/Water2014/W2.ProceduresandRequirements/LettertoLonestar-GRPAnswerstoMarchQuestions2014.pdf)
[https://www.cdp.net/sites/2014/53/5653/Water 2014/Shared Documents/Attachments/Water2014/W2.ProceduresandRequirements/ArkRiver_WaterPrism_041514.pptx](https://www.cdp.net/sites/2014/53/5653/Water%202014/Shared%20Documents/Attachments/Water2014/W2.ProceduresandRequirements/ArkRiver_WaterPrism_041514.pptx)

Module: Implications

Page: W3. Water Risks

W3.1

Is your organization exposed to water risks, either current and/or future, that could generate a substantive change in your business, operations, revenue or expenditure?

Yes, direct operations and supply chain

W3.2

Please provide details as to how your organization defines substantive change in your business, operations, revenue or expenditure from water risk

Entergy views substantive change as 1) any water risk issue having the potential to rise to the materiality level requiring SEC disclosure, 2) any water risk issue potentially resulting in a compliance violation, permit exceedance, or breach of an agreement, and 3) any physical water risk that could interrupt operation of power plants.

W3.2a

Please complete the table below providing information as to the number of facilities in your direct operations exposed to water risks that could generate a substantive change in your business, operations, revenue or expenditure. Please also provide either the proportion of cost of goods sold, global revenue or global production capacity that could be affected across your entire organization at the river basin level

Country	River basin	Number of facilities within the river basin exposed to water risk	Reporting metric	Proportion of chosen metric that could be affected within the river basin
United States of America	Other: Lewis Creek Reservoir	1	% global production capacity	1-5
United States of America	Mississippi	6	% global production capacity	21-30
United States of America	Other: Hudson River	1	% global production capacity	6-10
United States of America	Other: Sabine River	1	% global production capacity	6-10
United States of America	Other: White River	1	% global production capacity	6-10
United States of America	Other: Lake Ontario	1	% global production capacity	1-5
United States of America	Connecticut	1	% global production capacity	1-5
United States of America	Other: Atlantic Ocean	1	% global production capacity	1-5

W3.2b

Please list the inherent water risks that could generate a substantive change in your business, operations, revenue or expenditure, the potential impact to your direct operations and the strategies to mitigate them

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
United States of America	Other: Lewis Creek Reservoir	Physical-Drought	Other: Reduced Electric Production	During periods of drought, the electric generation from the plant may need to be reduced.	1-3 years	Probable	Low	Other: Water Conservation	Low-medium	Entergy undertook a long-term strategic study of water availability for its Lewis Creek Plant. The study included analysis of the groundwater wells and water plant system at Lewis Creek, the facility developed a plan to meet the 30 percent reduction requirements using conservation methods through process design changes
United States of America	Mississippi	Physical-Flooding	Other: Reduced Electric Production	River flooding curtailing operations at the power plants	Unknown	Unlikely	Low	Other: Shift energy production	Low	Shift energy production to other reserve units until river levels subside
United States of America	Mississippi	Physical-Ecosystem vulnerability	Delays in permitting	Impingement and Entrainment	4-6 years	Probable	High	Engagement with public policy makers	High	Entergy is dealing with issues related to EPA's

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										interpretation of 316(b) guidelines, which could significantly impact cooling water processes at several facilities, and EPA's development of effluent guidelines for electricity generating units (EGUs).
United States of America	Mississippi	Regulatory-Regulatory uncertainty	Delays in permitting	Entergy's ability to operate is contingent upon the receipt of relevant regulatory permits and permissions. This ability may be compromised if the relevant regulatory agencies do not issue needed permits.	4-6 years	Probable	Unknown	Engagement with public policy makers	Low-medium	Entergy is dealing with issues related to EPA's interpretation of 316(b) guidelines, which could significantly impact cooling water processes at several facilities, and EPA's development of effluent guidelines for electricity

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										generating units (EGUs).
United States of America	Mississippi	Reputational-Community opposition	Other: Requirement for remediation	<p>Entergy's ability to operate is contingent upon the receipt of relevant regulatory permits and permissions. This ability may be compromised if the relevant regulatory agencies and stakeholders do not have confidence in the company's ability to comply with environmental requirements.</p>	1-3 years	Probable	High	Comply with local legal requirements or company own internal standards, whichever is more stringent	Low-medium	<p>The NRC requires nuclear power plants to regularly monitor and report the presence of radioactive material in the environment. Entergy joined other nuclear utilities and the Nuclear Energy Institute in 2006 to develop a voluntary groundwater monitoring and protection program. This initiative began after detection of very low levels of radioactive material, primarily tritium, in groundwater at several plants in the United States. Tritium is a radioactive form of</p>

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										<p>hydrogen that occurs naturally and is also a by-product of nuclear plant operations. In addition to tritium, other radionuclides have been found in on site ground water at nuclear plants. As part of the groundwater monitoring and protection program, Entergy has: (1) performed reviews of plant groundwater characteristics (hydrology) and historical records of past events on site that may have potentially impacted groundwater; (2) implemented fleet procedures on how to handle events</p>

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										that could impact groundwater; and (3) installed groundwater monitoring wells and began periodic sampling. The program also includes protocols for notifying local officials if contamination is found.
United States of America	Hudson	Physical-Flooding	Other: Reduced Electric Production	River flooding curtailing operations at the power plant.	Unknown	Unlikely	High	Other: Risk analysis	Low	Energy conducted a flood event re-evaluation for Indian Point Energy Center evaluating the potential impacts from various scenarios of worst case flood hazards to ensure the design basis flood protection was able to withstand flood

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										hazards from these scenarios.
United States of America	Hudson	Physical-Ecosystem vulnerability	Delays in permitting	Impingement and Entrainment	4-6 years	Probable	High	Engagement with public policy makers	High	<p>Entergy has been actively engaged with the NYDEC and other parties in trying to determine what constitutes the Best Available Control Technology for minimizing impingement and entrainment of fish and larvae. Construction costs for retrofitting with cooling towers are estimated to be at least \$1.19 billion and a proposed alternative to the cooling towers, the use of cylindrical wedgewire screens, are expected to be approximately</p>

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										\$250 million to \$300 million. Entergy has also conducted extensive biological monitoring in the Hudson River to characterize fish populations.
United States of America	Hudson	Regulatory-Regulatory uncertainty	Delays in permitting	Entergy's ability to operate is contingent upon the receipt of relevant regulatory permits and permissions. This ability may be compromised if the relevant regulatory agencies do not issue needed permits.	4-6 years	Probable	Unknown	Engagement with public policy makers	High	Entergy is dealing with issues related to EPA's interpretation of 316(b) guidelines, which could significantly impact cooling water processes at several facilities, and EPA's development of effluent guidelines for electricity generating units (EGUs).
United States of America	Hudson	Reputational-Community opposition	Other: Requirement for remediation	Entergy's ability to operate is contingent upon the	1-3 years	Probable	High	Comply with local legal requirements or company	Low-medium	The NRC requires nuclear power plants to regularly monitor

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
				receipt of relevant regulatory permits and permissions. This ability may be compromised if the relevant regulatory agencies and stakeholders do not have confidence in the company's ability to comply with environmental requirements.				own internal standards, whichever is more stringent		and report the presence of radioactive material in the environment. Entergy joined other nuclear utilities and the Nuclear Energy Institute in 2006 to develop a voluntary groundwater monitoring and protection program. This initiative began after detection of very low levels of radioactive material, primarily tritium, in groundwater at several plants in the United States. Tritium is a radioactive form of hydrogen that occurs naturally and is also a by-product of nuclear plant operations. In addition to

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										<p>tritium, other radionuclides have been found in on site ground water at nuclear plants. As part of the groundwater monitoring and protection program, Entergy has: (1) performed reviews of plant groundwater characteristics (hydrology) and historical records of past events on site that may have potentially impacted groundwater; (2) implemented fleet procedures on how to handle events that could impact groundwater; and (3) installed groundwater monitoring wells and began</p>

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										periodic sampling. The program also includes protocols for notifying local officials if contamination is found.
United States of America	Sabine	Physical-Ecosystem vulnerability	Delays in permitting	Impingement and Entrainment	4-6 years	Probable	High	Engagement with public policy makers	High	Entergy is dealing with issues related to EPA's interpretation of 316(b) guidelines, which could significantly impact cooling water processes at several facilities, and EPA's development of effluent guidelines for electricity generating units (EGUs).
United States of America	Sabine	Physical-Flooding	Other: Reduced Electric Production	River flooding curtailing operations at the power plant.	Unknown	Unlikely	Low	Other: Shift energy production	Low	Shift energy production to other reserve units until river levels subside

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
United States of America	Other: White River	Physical-Flooding	Other: Reduced Electric Production	River flooding curtailing operations at the power plant	Unknown	Unlikely	Low	Other: Shift energy production	Low	Shift energy production to other reserve units until water levels subside
United States of America	Other: Lake Ontario	Physical-Ecosystem vulnerability	Delays in permitting	Impingement and Entrainment	4-6 years	Probable	High	Engagement with public policy makers	High	Entergy is dealing with issues related to EPA's interpretation of 316(b) guidelines, which could significantly impact cooling water processes at several facilities, and EPA's development of effluent guidelines for electricity generating units (EGUs).
United States of America	Other: Lake Ontario	Regulatory-Regulatory uncertainty	Delays in permitting	Entergy's ability to operate is contingent upon the receipt of relevant regulatory permits and permissions.	4-6 years	Probable	Unknown	Engagement with public policy makers	Low-medium	Entergy is dealing with issues related to EPA's interpretation of 316(b) guidelines, which could significantly

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
				This ability may be compromised if the relevant regulatory agencies do not issue needed permits.						impact cooling water processes at several facilities, and EPA's development of effluent guidelines for electricity generating units (EGUs).
United States of America	Other: Lake Ontario	Reputational-Community opposition	Other: Requirement for remediation	Entergy's ability to operate is contingent upon the receipt of relevant regulatory permits and permissions. This ability may be compromised if the relevant regulatory agencies and stakeholders do not have confidence in the company's ability to comply with environmental requirements.	1-3 years	Probable	High	Comply with local legal requirements or company own internal standards, whichever is more stringent	Low-medium	The NRC requires nuclear power plants to regularly monitor and report the presence of radioactive material in the environment. Entergy joined other nuclear utilities and the Nuclear Energy Institute in 2006 to develop a voluntary groundwater monitoring and protection program. This initiative began after detection of very low levels

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										<p>of radioactive material, primarily tritium, in groundwater at several plants in the United States. Tritium is a radioactive form of hydrogen that occurs naturally and is also a by-product of nuclear plant operations. In addition to tritium, other radionuclides have been found in on site ground water at nuclear plants. As part of the groundwater monitoring and protection program, Entergy has: (1) performed reviews of plant groundwater characteristics (hydrology) and historical records of past</p>

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										events on site that may have potentially impacted groundwater; (2) implemented fleet procedures on how to handle events that could impact groundwater; and (3) installed groundwater monitoring wells and began periodic sampling. The program also includes protocols for notifying local officials if contamination is found.
United States of America	Other: Atlantic Ocean	Physical-Flooding	Other: Reduced Electric Production	Storm surge curtailing operations at the power plant	Unknown	Unlikely	Low	Other: Shift energy production	Low	Shift energy production to other reserve units until water levels subside
United States of America	Other: Atlantic Ocean	Physical-Ecosystem vulnerability	Delays in permitting	Impingement and Entrainment	4-6 years	Probable	High	Engagement with public policy makers	High	Entergy is dealing with issues related to EPA's

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										interpretation of 316(b) guidelines, which could significantly impact cooling water processes at several facilities, and EPA's development of effluent guidelines for electricity generating units (EGUs).
United States of America	Other: Atlantic Ocean	Regulatory-Regulatory uncertainty	Delays in permitting	Entergy's ability to operate is contingent upon the receipt of relevant regulatory permits and permissions. This ability may be compromised if the relevant regulatory agencies do not issue needed permits.	4-6 years	Probable	Unknown	Engagement with public policy makers	Low-medium	Entergy is dealing with issues related to EPA's interpretation of 316(b) guidelines, which could significantly impact cooling water processes at several facilities, and EPA's development of effluent guidelines for electricity

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										generating units (EGUs).
United States of America	Other: Atlantic Ocean	Reputational-Community opposition	Other: Requirement for remediation	<p>Entergy's ability to operate is contingent upon the receipt of relevant regulatory permits and permissions. This ability may be compromised if the relevant regulatory agencies and stakeholders do not have confidence in the company's ability to comply with environmental requirements.</p>	1-3 years	Probable	High	Comply with local legal requirements or company own internal standards, whichever is more stringent	Low-medium	<p>The NRC requires nuclear power plants to regularly monitor and report the presence of radioactive material in the environment. Entergy joined other nuclear utilities and the Nuclear Energy Institute in 2006 to develop a voluntary groundwater monitoring and protection program. This initiative began after detection of very low levels of radioactive material, primarily tritium, in groundwater at several plants in the United States. Tritium is a radioactive form of</p>

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										<p>hydrogen that occurs naturally and is also a by-product of nuclear plant operations. In addition to tritium, other radionuclides have been found in on site ground water at nuclear plants. As part of the groundwater monitoring and protection program, Entergy has: (1) performed reviews of plant groundwater characteristics (hydrology) and historical records of past events on site that may have potentially impacted groundwater; (2) implemented fleet procedures on how to handle events</p>

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										that could impact groundwater; and (3) installed groundwater monitoring wells and began periodic sampling. The program also includes protocols for notifying local officials if contamination is found.
United States of America	Connecticut	Physical-Flooding	Other: Reduced Electric Production	River flooding curtailing operations at the power plant	Unknown	Unlikely	Low	Other: Shift energy production	Low	Shift energy production to other reserve units until water levels subside
United States of America	Connecticut	Physical-Ecosystem vulnerability	Delays in permitting	Impingement and Entrainment	4-6 years	Probable	High	Engagement with public policy makers	High	Entergy is dealing with issues related to EPA's interpretation of 316(b) guidelines, which could significantly impact cooling water processes at several facilities, and

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										EPA's development of effluent guidelines for electricity generating units (EGUs).
United States of America	Connecticut	Regulatory-Regulatory uncertainty	Delays in permitting	Entergy's ability to operate is contingent upon the receipt of relevant regulatory permits and permissions. This ability may be compromised if the relevant regulatory agencies do not issue needed permits.	4-6 years	Probable	Unknown	Engagement with public policy makers	Low-medium	Entergy is dealing with issues related to EPA's interpretation of 316(b) guidelines, which could significantly impact cooling water processes at several facilities, and EPA's development of effluent guidelines for electricity generating units (EGUs).
United States of America	Connecticut	Reputational-Community opposition	Other: Requirement for remediation	Entergy's ability to operate is contingent upon the receipt of relevant regulatory	1-3 years	Probable	High	Comply with local legal requirements or company own internal standards, whichever is	Low-medium	The NRC requires nuclear power plants to regularly monitor and report the presence of radioactive

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
				permits and permissions. This ability may be compromised if the relevant regulatory agencies and stakeholders do not have confidence in the company's ability to comply with environmental requirements.				more stringent		material in the environment. Entergy joined other nuclear utilities and the Nuclear Energy Institute in 2006 to develop a voluntary groundwater monitoring and protection program. This initiative began after detection of very low levels of radioactive material, primarily tritium, in groundwater at several plants in the United States. Tritium is a radioactive form of hydrogen that occurs naturally and is also a by-product of nuclear plant operations. In addition to tritium, other radionuclides have been found

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										<p>in on site ground water at nuclear plants. As part of the groundwater monitoring and protection program, Entergy has: (1) performed reviews of plant groundwater characteristics (hydrology) and historical records of past events on site that may have potentially impacted groundwater; (2) implemented fleet procedures on how to handle events that could impact groundwater; and (3) installed groundwater monitoring wells and began periodic sampling. The program also</p>

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
										includes protocols for notifying local officials if contamination is found.

W3.2c

Please list the inherent risks that could generate a substantive change in your business operations, revenue or expenditure, the potential impact to your supply chain and the strategies to mitigate them

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
United States of America		Physical-Flooding	Other: Reduced Electric Production	Energy's fossil generation facilities are at risk for obtaining fuel supplies during severe weather events. Examples of such occurrences are flooding in the Midwest to the extent the rail shipments of	Unknown	Probable	Low-medium		Low	Alternate sources of fuel are identified and acquired to maintain generation activities at the sites. Most of Energy's gas units can also burn fuel oil and reserves are maintained to provide an alternative source of

Country	River basin	Risk driver	Potential impact	Description of impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
				coal were curtailed and during hurricane event when natural gas supplies were curtailed.						fuel. An inventory of coal is stockpiled onsite to minimize impacts from temporary supply interruptions.

W3.2d

Please choose the option that best explains why you do not consider your organization to be exposed to water risks in your direct operations that could generate a substantive change in your business, operations, revenue or expenditure

Primary reason	Please explain
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W3.2e

Please choose the option that best explains why you do not consider your organization to be exposed to water risks in your supply chain that could generate a substantive change in your business, operations, revenue or expenditure

Primary reason	Please explain
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W3.2f

Please choose the option that best explains why you do not know if your organization is exposed to water risks that could generate a substantive change in your business operations, revenue or expenditure and discuss any future plans you have to assess this

Primary reason	Future plans
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Further Information

Attachments

[https://www.cdp.net/sites/2014/53/5653/Water 2014/Shared Documents/Attachments/Water2014/W3.WaterRisks/ML13364A007.pdf](https://www.cdp.net/sites/2014/53/5653/Water%202014/Shared%20Documents/Attachments/Water2014/W3.WaterRisks/ML13364A007.pdf)
[https://www.cdp.net/sites/2014/53/5653/Water 2014/Shared Documents/Attachments/Water2014/W3.WaterRisks/ML14073A649.pdf](https://www.cdp.net/sites/2014/53/5653/Water%202014/Shared%20Documents/Attachments/Water2014/W3.WaterRisks/ML14073A649.pdf)
[https://www.cdp.net/sites/2014/53/5653/Water 2014/Shared Documents/Attachments/Water2014/W3.WaterRisks/ML13071A457.pdf](https://www.cdp.net/sites/2014/53/5653/Water%202014/Shared%20Documents/Attachments/Water2014/W3.WaterRisks/ML13071A457.pdf)

Page: W4. Water Opportunities

W4.1

Does water present strategic, operational or market opportunities that substantively benefit/have the potential to benefit your organization?

Yes

W4.1a

Please describe the opportunities water presents to your organization and your strategies to realize them

Country or region	Opportunity	Strategy to realize opportunity	Estimated timeframe	Please explain
United States of America	Cost savings	Entergy has the opportunity to invest in more efficient methods of generating electricity that also reduce water use requirements while reducing customers cost of energy.	4-6 years	Entergy, through its fleet transformation strategy and Integrated Resource Plans is making investments that are reducing Entergy's water footprint. These investments include 1) acquiring closed cooling cycle, natural gas fired Combined Cycle Gas Turbine (CCGT) generating capacity while retiring legacy gas fired steam electric generating units; and 2) investing in cost effective demand side management and energy efficiency initiatives.

W4.1b

Please choose the option that best explains why water does not present your organization with any opportunities that have the potential to provide substantive benefit

Primary reason	Please explain
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W4.1c

Please choose the option that best explains why you do not know if water presents your organization with any opportunities that have the potential to provide substantive benefit

Primary reason	Please explain
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Further Information

Investments in clean, efficient, closed cycle cooling, natural gas fired CCGT units provides more efficient heat rates, less CO2 per MWh of generation and lower water use intensity than open cycle cooling, legacy gas fired steam electric generating units. CCGT units have a 35% lower heat rate and reduce water withdrawal intensity from approximately 169 M3/MWh for open cycle gas steam electric units to 8 M3/MWh for CCGT units, a twenty fold decrease.

Module: Accounting**Page: W5. Water Accounting (I)**

W5.1

Please report the total withdrawal, discharge, consumption and recycled water volumes across your operations for the reporting period

Water use	Quantity (megaliters)
Total volume of water withdrawn	14008
Total volume of water discharged	13811
Total volume of water consumed	197
Total volume of recycled water used	3934

W5.2

For those facilities exposed to water risks that could generate a substantive change in your business, operations, revenue or expenditure, the number of which was reported in W3.2a, please detail which of the following water aspects are regularly measured and monitored and an explanation as to why or why not

Water aspect	% of facilities	Please explain
Water withdrawals- total volumes	76-100	Water withdrawal total volumes from individual power plants are sent to Corporate Environmental Strategy and Policy where they are compiled.
Water withdrawals- volume by sources	76-100	Water withdrawal at each power plant is determined by using pump rate capacity and operating hours.
Water discharges- total volumes	76-100	Water discharge total volumes from individual power plants are sent to Corporate Environmental Strategy and Policy where they are compiled.
Water discharges- volume by destination	76-100	Water discharge at each power plant is calculated using evaporation rates per MWh for plant water cooling configurations and subtracting from plant water discharge
Water discharges- volume by treatment method		
Water discharge quality data- quality by standard effluent parameters	76-100	Water discharge quality is measured and reported as a requirement of each plants water discharge permit
Water consumption- total volume	76-100	Water consumption at each power plant is calculated using evaporation rates per MWh for plant water cooling configurations. Water consumption volumes are sent to Corporate Environmental Strategy and Policy where they are compiled.
Water recycling/reuse-total volume	1-25	Entergy's Rhode Island State Energy Center measures cooling water volumes sourced from the City of Cranston WPCF.

W5.3

Water withdrawals: for the reporting period, please complete the table below with water accounting data for all facilities included in your answer to W3.2a

Facility reference number	Country	River basin	Facility name	Total water withdrawals (megaliters/year) at this facility	How does the total water withdrawals at this facility compare to the last reporting period?	Please explain the change if substantial
Facility 1	United States of America	Other: Lewis Creek Reservoir	Lewis Creek 1 & 2	1572	Lower	2013 water withdrawals were down 25% from water withdrawals in 2012 due to a reduced need to replenish cooling pond water levels.
Facility 2	United States of America	Mississippi	Baxter Wilson	198309	Lower	30% reduction in water withdrawal due to reduced electricity production.
Facility 3	United States of America	Mississippi	Big Cajun 2	426350	About the same	
Facility 4	United States of America	Mississippi	Little Gypsy	245312	Lower	22% reduction in water withdrawal due to reduced electricity production.
Facility 6	United States of America	Mississippi	Nine Mile Point	792109	About the same	
Facility 7	United States of America	Mississippi	River Bend	38553	About the same	
Facility 8	United States of America	Mississippi	Waterford 1&2	114184	About the same	
Facility 9	United States of America	Mississippi	Waterford 3	2163395	Higher	7% increase in water withdrawal due to increased electricity production.
Facility 10	United States of America	Mississippi	Willow Glen	110910	Much lower	50% reduction in water withdrawal due to reduced electricity production.
Facility 11	United States of America	Mississippi	Grand Gulf	46343	Higher	12% increase in water withdrawal due to increased electric production.

Facility reference number	Country	River basin	Facility name	Total water withdrawals (megaliters/year) at this facility	How does the total water withdrawals at this facility compare to the last reporting period?	Please explain the change if substantial
Facility 12	United States of America	Hudson	Indian Point Energy Center	4251384	About the same	
Facility 13	United States of America	Sabine	Sabine	698157	Higher	15% increase in water withdrawal due to increased electric production.
Facility 14	United States of America	Sabine	R.S. Cogen	1978	About the same	
Facility 15	United States of America	Other: White River	Independence	56392	About the same	
Facility 16	United States of America	Other: Lake Ontario	Fitzpatrick	886594	Higher	15% increase due to an increase in electric production.
Facility 17	United States of America	Other: Atlantic Ocean	Pilgrim	607802	Lower	24% reduction due to a decrease in electric production
Facility 18	United States of America	Connecticut	Vermont Yankee	892266	About the same	

Further Information

Water is a vital natural resource that is critical to Entergy's business operations. Entergy's facilities use water for cooling, boiler make-up, sanitary uses, potable supply, and many other uses. Two of Entergy's Utility operating companies own and/or operate hydroelectric facilities. Accordingly, water availability and quality are critical to Entergy's business operations. Impacts to water availability or quality could negatively impact both operations and revenues. Entergy secures water through various mechanisms (ground water wells, surface waters intakes, municipal supply, etc.) and operates under the provisions and conditions set forth by the provider and/or regulatory authorities. Entergy also obtains and operates in substantial compliance with water discharge permits issued under various provisions of

the Clean Water Act. Regulations and authorizations for both water intake and use and for waste discharge can become more stringent in times of water shortages, low flows in rivers, low lake levels, low groundwater aquifer volumes, and similar conditions. The increased use of water by industry, agriculture, and the population at large, population growth, and the potential impacts of climate change on water resources may cause water use restrictions that affect Entergy and its subsidiaries. In addition, physical risks from today's climate and future climate change include increases in sea level (from both sea level rise and subsidence), wind and storm surge damages, wetland and barrier island erosion, risks of flooding and changes in weather conditions, such as changes in precipitation, average temperatures, and potential increased impacts of extreme weather conditions or storms. Entergy subsidiaries own assets in, and serve, communities that are at risk from sea level rise, changes in weather conditions, storms, and loss of the protection offered by coastal wetlands. A significant portion of the nation's oil and gas infrastructure is located in these areas and susceptible to storm damage that could be aggravated by wetland and barrier island erosion, which could give rise to fuel supply interruptions and price spikes. These and other physical changes could result in changes in customer demand, increased costs associated with repairing and maintaining generation facilities and transmission and distribution systems resulting in increased maintenance and capital costs (and potential increased financing needs), limits on the Entergy System's ability to meet peak customer demand, increased regulatory oversight, and lower customer satisfaction. Also, to the extent that climate change adversely impacts the economic health of a region it may adversely impact customer demand and revenues. Such physical or operational risks could have a material effect on Entergy's financial condition, results of operations, and liquidity. Entergy's Lewis Creek plant is located in Montgomery County, Texas, a water restricted area as defined by the county utility district. This plant represents approximately 2% of Entergy's overall generation in 2013. A coordinated effort to reduce groundwater consumption by 30% by 2016 was put into place in 2010. Entergy works with the Lone Star Water Conservation District and the San Jacinto Water Authority to track and monitor water availability at the local level.

Page: W5. Water Accounting (II)

W5.3a

Water withdrawals: for the reporting period, please provide withdrawal data, in megaliters per year, for the water sources used for all facilities reported in W5.3

Facility reference number	Surface water	Groundwater (renewable)	Groundwater (non-renewable)	Municipal water	Recycled water	Produced/process water	Wastewater	Brackish/salt water
Facility 1	1572							
Facility 2	198309							
Facility 3	426350							
Facility 4	245312							
Facility 6	792109							
Facility 7	35553							
Facility 8	114184							
Facility 9	2163395							

Facility reference number	Surface water	Groundwater (renewable)	Groundwater (non-renewable)	Municipal water	Recycled water	Produced/process water	Wastewater	Brackish/salt water
Facility 10	110910							
Facility 11		46343						
Facility 12								4251384
Facility 13								698157
Facility 14								1978
Facility 15	56392							
Facility 16	886594							
Facility 17								607802
Facility 18	892266							

W5.4

Water discharge: for the reporting period, please provide the water accounting data for all facilities reported in W5.3

Facility reference number	Total water discharged (megaliters/year) at this facility	How does the total water discharged at this facility compare to the last reporting period?	Please explain the change if substantive
Facility 1	0	About the same	Withdrawal is for recharging the cooling pond and is equal to evaporation water loss
Facility 2	196254	Lower	30% reduction in water discharge due to reduced electric production
Facility 3	423857	About the same	
Facility 4	243172	Lower	22% decline in water discharge due to reduced electric production
Facility 6	787251	About the same	

Facility reference number	Total water discharged (megaliters/year) at this facility	How does the total water discharged at this facility compare to the last reporting period?	Please explain the change if substantive
Facility 7	17904	About the same	
Facility 8	113091	About the same	
Facility 9	2151520	Higher	7% increase due to increased electric production
Facility 10	110071	Much lower	50% reduction due to reduced electric production
Facility 11	19689704	Higher	12% increase due to increased electric production
Facility 12	4225494	About the same	
Facility 13	693512	Higher	15% increase due to increased electric production
Facility 14	1966	About the same	
Facility 15	44707	About the same	
Facility 16	876383	Higher	15% increase due to increased electric production
Facility 17	601150	Lower	24% reduction due to decreased electric production
Facility 18	884974	About the same	

W5.4a

Water discharge: for the reporting period, please provide water discharge data, in megaliters per year, by destination for all facilities reported in W5.3

Facility reference number	Surface water	Municipal Treatment Plant	Saltwater	Injection for production/disposal	Aquifer recharge	Storage/waste lagoon
Facility 1	0					
Facility 2	196254					
Facility 3	423857					
Facility 4	243172					
Facility 6	787251					

Facility reference number	Surface water	Municipal Treatment Plant	Saltwater	Injection for production/disposal	Aquifer recharge	Storage/waste lagoon
Facility 7	17904					
Facility 8	113091					
Facility 9	2151520					
Facility 10	110071					
Facility 11	19689704					
Facility 12	4225494					
Facility 13	693512					
Facility 14	1966					
Facility 15	44707					
Facility 16	876383					
Facility 17			601150			
Facility 18	884974					

W5.5

Water consumption: for the reporting period, please provide water consumption data for all facilities reported in W5.3

Facility reference number	Consumption (megaliters/year)	How does this compare to the last reporting period?	Please explain the change if substantive
Facility 1	1572	Lower	24% reduction in water consumption due reduced need to replenish the cooling pond.
Facility 2	2056	Lower	30% reduction in water consumption due to reduced electric production
Facility 3	2558	About the same	
Facility 4	2140	Lower	22% decline in water consumption due to reduced electric

Facility reference number	Consumption (megaliters/year)	How does this compare to the last reporting period?	Please explain the change if substantive
			production
Facility 6	4858	About the same	
Facility 7	20649	About the same	
Facility 8	1094	About the same	
Facility 9	11875	Higher	7% increase due to increased electric production
Facility 10	839	Much lower	50% reduction due to reduced electric production
Facility 11	26654	Higher	12% increase due to increased electric production
Facility 12	25891	About the same	
Facility 13	4645	Higher	15% increase due to increased electric production
Facility 14	12	About the same	
Facility 15	8684	About the same	
Facility 16	10211	Higher	15% increase due to increased electric production
Facility 17	6652	Lower	24% decrease due to reduced electric production
Facility 18	7292	About the same	

W5.6

For the reporting period, please provide any available water intensity values for your organization's products or services across its operation

Country	River basin	Product name	Product unit	Water unit	Water intensity (Water unit/Product unit)	Water use type	Comment
United States of America	Mississippi	Electricity	Other: gigawatt hour (GWh)	Megaliters	114	Withdrawals	
United States of America	Hudson	Electricity	Other: gigawatt hour (GWh)	Megaliters	230	Withdrawals	

Country	River basin	Product name	Product unit	Water unit	Water intensity (Water unit/Product unit)	Water use type	Comment
United States of America	Sabine	Electricity	Other: gigawatt hour (GWh)	Megaliters	104	Withdrawals	
United States of America	Other: White River	Electricity	Other: gigawatt hour (GWh)	Megaliters	4	Withdrawals	
United States of America	Other: Lewis Creek Reservoir	Electricity	Other: gigawatt hour (GWh)	Megaliters	1	Withdrawals	
United States of America	Other: Lake Ontario	Electricity	Other: gigawatt hour (GWh)	Megaliters	131	Withdrawals	
United States of America	Other: Atlantic Ocean	Electricity	Other: gigawatt hour (GWh)	Megaliters	138	Withdrawals	
United States of America	Connecticut	Electricity	Other: gigawatt hour (GWh)	Megaliters	185	Withdrawals	

W5.7

For all facilities reported in W3.2a what proportion of their accounting data has been externally verified?

Water aspect	% verification	What standard was used?
Water withdrawals- total volumes	Not verified	
Water withdrawals- volume by sources	Not verified	
Water discharges- total volumes	Not verified	
Water discharges- volume by destination	Not verified	
Water discharges- volume by treatment method		
Water discharge quality data- quality by standard effluent parameters		
Water consumption- total volume	Not verified	
Water recycling/reuse-total volume	Not verified	

Further Information

Module: Response

Page: W6. Governance and Strategy

W6.1

Who has the highest level of direct responsibility for water within your organization and how frequently are they briefed?

Highest level of direct responsibility for water issues	Frequency of briefings on water issues	Comment
Senior Manager/Officer	Scheduled- quarterly	Entergy's business functions has developed a management system that describes and defines its policy/strategy, compliance requirements, risk assessment procedures, objective-setting process, programs/procedures, self-assessment mechanisms and senior management review requirements. Impacts on both water quality and quantity are evaluated as a part of this process. Senior Management reviews water issues quarterly at Environmental Leadership Team meetings.

W6.2

Is water management integrated into your business strategy?

Yes

W6.2a

Please choose the option(s) below that best explain how water has positively influenced your business strategy

Influence of water on business strategy	Please explain
Alignment of public policy positions with water stewardship goals	The Board of Directors in 2002 adopted Entergy's Environmental Vision Statement which details the company's commitment to operate its business in ways that preserve and protect our environment. Along with the company's aspirations, the statement guides business policies and decisions. The statement establishes several commitments in the areas of sustainable development, performance excellence and environmental advocacy.
Establishment of sustainability goals	Entergy developed a comprehensive environmental strategy in 2011 that addresses stakeholder concerns, potential new regulatory requirements, environmental resource limitations and financial considerations. Entergy's Environment 2020 strategy focuses on continuously reducing Entergy's environmental footprint and adapting to future resource constraints.
Introduction of water management KPIs	Water metrics are being expanded to include more breakdowns of water source/usage information to facilitate enhanced reporting, both internal and external. Specifically, we are seeking to collect additional details from the business functions regarding the water source (surface, ground, or municipal), water type (fresh, brackish, or saline), and water use (cooling, process, or sanitary).

W6.2b

Please choose the option(s) below that best explains how water has negatively influenced your business strategy

Influence of water on business strategy	Please explain
Other: Water stressed areas	Entergy's Lewis Creek plant is located in a water-restricted area. This plant represented approximately 2% of Entergy's overall generation and is the only plant that is currently in an area that is restricting water use. A coordinated effort to reduce groundwater consumption by 30% by 2016 was put into place in 2010. Entergy's Lewis Creek staff participates in integrated watershed management with the Lone Star Groundwater Conservation District by working with the Groundwater Reduction Plan.
Other: Watershed Management	Impacts of water withdrawal and discharge impact aquatic species. Entergy has developed extensive databases regarding the aquatic resources from which its facilities draw cooling or service water. Extensive information has been gathered, in particular, regarding areas of

Influence of water on business strategy	Please explain
	the lower Hudson River, the Connecticut River, Cape Cod, Lake Ontario, and the Mississippi River near Entergy facilities.
Other: Flooding & storm surge	Economic losses to Entergy's customer base within the Gulf Coast region and Entergy's generation, transmission and distribution assets have resulted from flooding and storm surge after hurricanes.

W6.2c

Please choose the option that best explains why your organization does not integrate water management into its business strategy and discuss any future plans to do so

Primary reason	Please explain

W6.3

Does your organization have a water policy that sets out clear goals and guidelines for action?

Yes, a company-wide water policy

W6.4

How does your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) during the most recent reporting period compare to the previous reporting period?

Water-related spending: % of total CAPEX during this reporting period compared to last reporting period	Water-related spending: % of total OPEX during this reporting period compared to last reporting period	Motivation for these changes
		Entergy has not incurred water related CAPEX during the reporting period.

Further Information

Page: W7. Compliance

W7.1

Was your organization subject to any penalties and/or fines for breaches of abstraction licenses, discharge consents or other water and wastewater related regulations in the reporting period?

No

W7.1a

Please describe the penalties and/or fines for breaches of abstraction licenses, discharge consents or other water and wastewater related regulations and your plans for resolving them

Facility name	Incident description	Financial penalty or fine	Currency	Incident resolution

W7.1b

Please indicate the total of all penalties and/or fines for breaches of abstraction licenses, discharge consents or other water and wastewater related regulations as a percentage of total operating expenditure (OPEX) compared to last year

Further Information

Page: W8. Targets and Initiatives

W8.1

Do you have any company wide targets (quantitative) or goals (qualitative) related to water?

Yes, goals only

W8.1a

Please complete the following table with information on company wide quantitative targets (ongoing or reached completion during the reporting period) and an indication of progress made

Category of target	Motivation	Description of target	Quantitative unit of measurement	Base-line year	Target year	Proportion of target achieved, % value
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W8.1b

Please describe any company wide qualitative goals (ongoing or reached completion during the reporting period) and your progress in achieving these

Goal	Motivation	Description of goal	Progress
Other: Fleet Transformation	Cost savings	Replace open cycle legacy natural gas steam electric generating capacity with closed cycle cooling combined cycle gas turbines (CCGT). The water use intensity of the Legacy Gas units is 166 M3/MWh while the water use intensity of the CCGTs is 8 M3/MWh	Entergy's Fleet Portfolio Transformation Strategy has added 3,928 MW of closed cycle cooling CCGT capacity since 2005 . As a result there was an estimated 1,584,621 Megaliters reduction in water withdrawal in 2013 from what it otherwise would have been that year if generation had been provided by open cycle, legacy gas. By 2020 fleet transformation calls for an additional 1,100 MW of closed cycle cooling CCGT and the retirement of 2,234 MW of open cycle cooling legacy gas units.
Other: Nuclear Upgrades	Other: Increased production	Invest in Nuclear Unit upgrades that increase generating capacity without requiring an incremental increase in water withdrawal requirements	During 2012, Entergy completed a 178 MW capacity upgrade at Grand Gulf Nuclear Station bringing the total upgrades since 2001 to 700 MW of new capacity that needs no incremental added cooling water. As a result, there was an estimated 460,266 Megaliter reduction in water withdrawal in 2013 from what it otherwise would have been that year as compared to Entergy's system average. Water withdrawal was estimated to be 3.3% lower than it would have been without the capacity upgrades.
Other: Energy Efficiency	Sales of new products/services	The Entergy Utility companies are committed to pursuing cost effective DSM and have identified 990 MW of peak demand reduction that can be achieved through 2031 as a part of its Integrated Resources Plans.	Entergy invested in energy efficiency that delivered 225,000 MWh of annual energy savings in 2013 . As a result there was an estimated 20,700 Megaliter reduction in water withdrawal. Entergy has invested a total of \$176 million from 2002 to 2013 delivering a total of 270 MW and 752,000 MWh of annual energy savings and 69,184 Megaliter reduction in water withdrawal (assuming Entergy's average system water intensity of 92 M3/MWh).

W8.1c

Please explain why you do not have any water-related targets or goals and discuss any plans to develop these in the future

Further Information

Module: Sign Off

Page: Sign Off

W9.1

Please provide the following information for the person that has signed off (approved) your CDP water response

Name	Job title	Corresponding job category
Chuck Barlow	Vice President, Environmental Strategy & Policy	Environment/Sustainability manager

Further Information

CDP