

**Module: Introduction****Page: W0. Introduction****W0.1****Introduction**

**Please give a general description and introduction to your organization.**

NRG Energy, Inc. is an integrated competitive power company, which produces, sells and delivers energy and energy products and services in major competitive power markets in the U.S. while positioning itself as a leader in the way residential, industrial and commercial consumers think about and use energy products and services. NRG has one of the nation's largest and most diverse competitive generation portfolios balanced with the nation's largest competitive retail energy business. NRG owns and operates approximately 50,000 MW of generation; engages in the trading of wholesale energy, capacity and related products; transacts in and trades fuel and transportation services; and directly sells energy, services, and innovative, sustainable products and services to retail customers under the names "NRG", "Reliant" and other retail brand names owned by NRG.

NRG's core businesses include wholesale conventional generation and B2B solutions, retail electricity including personal power solutions, contracted generation owned by NRG Yield, Inc. and all other renewable utility scale and distributed generation that is not otherwise owned by NRG Yield, Inc.

**WHOLESALE POWER GENERATION**

NRG's generation facilities are primarily located in the United States and comprise generation facilities across the merit order. The sale of capacity and power from baseload and intermediate generation facilities accounts for a majority of the company's generation revenues. In addition, NRG's generation portfolio provides the company with opportunities to capture additional revenues by selling power during periods of peak demand, offering capacity or similar products, and providing ancillary services to support system reliability. NRG also provides energy services including operations, maintenance, technical, development and asset management services to its own facilities and to external customers.

**NRG RETAIL**

NRG's retail business provides home energy and related services as well as personal power to consumers through various brands and channels across the U.S. In 2015, the retail business delivered approximately 43 TWhs and had approximately 2.77 million Recurring customers, plus approximately 624,000 discrete customers of products and services. The results of the Company's retail business make it the largest competitive retail energy provider in the U.S. and Texas, and one of the top six competitive retail energy providers in the East. NRG's retailers are recognized for exemplary customer service, innovative smart energy and technology product offerings and environmentally friendly solutions.

**NRG RENEWABLES**

NRG's renewables business consists primarily of NRG's wind and solar generation facilities that are not owned by NRG Yield, Inc. as well as NRG's business-to-

business distributed solar business. The business-to-business distributed solar business targets strategic partnerships with local, regional, national and multinational companies and institutions to provide on-site and off-site renewable generation. As of December 31, 2015, approximately 1,884 MW of utility, C&I, and community renewable projects were in operation inclusive of those held both solely by NRG and in partnership with NRG Yield, Inc. In addition, the distributed solar business' backlog of contracted and awarded projects in the C&I market spans 16 discrete customer programs across 12 states, and includes clients such as Kaiser Permanente, Unilever, and Cisco.

#### NRG YIELD

NRG Yield, Inc. is a publicly traded dividend growth-oriented company formed to serve as the primary vehicle through which NRG, supported by NRG Renew and NRG Business, owns, operates and acquires diversified contracted renewable and conventional generation and thermal infrastructure assets. NRG Yield, Inc.'s contracted generation portfolio collectively represents 4,438 MW as of December 31, 2015. NRG Yield, Inc. also owns thermal infrastructure assets with an aggregate steam and chilled water capacity of 1,315 net MWt and electric generation capacity of 124 MW.

Certain matters discussed in this survey are forward-looking statements, within the meaning of the Private Securities Litigation Reform Act of 1995, that are subject to risks and uncertainties. Please see comments below in 'Further information' about forward-looking statements.

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#### 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 |
|-----------------------------------|
| Thu 01 Jan 2015 - Thu 31 Dec 2015 |

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#### 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 in which an equity share is held

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**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

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**W0.4a****Exclusions**

Please report the exclusions in the following table

| Exclusion | Please explain why you have made the exclusion |
|-----------|--|
|           |  |

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**Further Information**

Certain matters discussed in this survey are forward-looking statements, within the meaning of the Private Securities Litigation Reform Act of 1995, that are subject to risks and uncertainties. The factors that could cause actual results to differ materially from the forward-looking statements include those factors discussed herein, including those factors with respect to business strategy, potential risks and opportunities and financial statements or estimations associated with management decisions and/or analysis or other factors discussed in filings with the SEC by NRG Energy, Inc. and those of its subsidiaries that are registrants under the federal securities laws (hereinafter collectively referred to as "NRG"). Readers are cautioned not to place undue reliance on these forward-looking statements, which apply only as of the date of this survey and to refer to filings made by NRG with the U.S. Securities and Exchange Commission for further information. NRG does not undertake any obligation to publicly release any revision to its forward-looking statements to reflect events or circumstances after the date of this survey.

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**Attachments**

[https://www.cdp.net/sites/2016/62/13562/Water 2016/Shared Documents/Attachments/Water2016/W0.Introduction/NRG 2015 Sustainability Report\\_vFINAL.pdf](https://www.cdp.net/sites/2016/62/13562/Water%202016/Shared%20Documents/Attachments/Water2016/W0.Introduction/NRG%202015%20Sustainability%20Report_vFINAL.pdf)

**Module: Current State**

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   | Direct use importance rating | Indirect use importance rating | Please explain   |
|--|------------------------------|--------------------------------|--|
| Sufficient amounts of good quality freshwater available for use                  | Vital for operations         | Important                      | NRG's operation of power generation facilities depends on sufficient amounts of good quality freshwater to be available; therefore direct use is listed as vital for operations. In 2015, 49% of the water used in operations was freshwater for direct use. The primary direct use of freshwater is for the cooling of condensers in the generation of power, with a small amount used to create steam and WASH (water, sanitation, and hygiene) for workers. Indirect use of sufficient amounts of good quality freshwater is important for NRG's fuel supply because it is necessary for natural gas production and the manufacturing of chemicals used in the generation of power, therefore indirect use is listed as important.  |
| Sufficient amounts of recycled, brackish and/or produced water available for use | Vital for operations         | Important                      | NRG's operation of power generation facilities depends on sufficient amounts of recycled, brackish and ocean water to be available, therefore direct use is listed as vital for operations. In 2015, 51% of the water used in operations was recycled, brackish or ocean water for direct use. The primary direct use of brackish, recycled and ocean water is for the cooling of condensers in the generation of power. NRG does not use produced water for its operations. NRG suppliers do not indicate that they depend on recycled, brackish or produced water for operations. It is likely that some chemical manufacturing facilities use brackish or recycled water for cooling water in their manufacturing processes; therefore indirect use is listed as important. |

W1.2

For your total operations, please detail which of the following water aspects are regularly measured and monitored and provide an explanation as to why or why not

| Water aspect                            | % of sites/facilities/operations | Please explain  |
|---|----------------------------------|---|
| Water withdrawals- total volumes        | 76-100                           | NRG regularly measures and monitors water withdrawal total volumes in millions of gallons and converts to cubic meters at 100% of its operations. Withdrawals from surface water, ground water and rainwater are determined by Company-owned metering devices, recorded pump flows, water balance engineering estimates, rainfall data applied to surface areas with run-off coefficients, or a combination of all or some of these measurement techniques and reported using equity share accounting. These measurement techniques may also be on file with water withdrawal and discharge permits issued by the applicable regulatory jurisdiction. Withdrawals from municipal water utilities are determined from utility invoices at Company Facilities under operational control. NRG has a Water Champion at each location that tracks withdrawal by source and reports data in NRG's environmental management information system. This data is used to benchmark, manage water withdrawals, and evaluate water total withdrawal. |
| Water withdrawals- volume by sources    | 76-100                           | NRG regularly measures and monitors water withdrawal volumes by source, in cubic meters, at 100% of its operations. Withdrawals from ocean, fresh and non-fresh surface water, fresh and non-fresh ground water and rainwater are determined by Company-owned metering devices, recorded pump flows, water balance engineering estimates, rainfall data applied to surface areas with run-off coefficients, or a combination of all or some of these measurement techniques and reported using equity share accounting. NRG has a Water Champion at each generating facility that tracks withdrawal by source and reports data in NRG's environmental management information system volumes by water source. This data is used to benchmark, manage water withdrawals, and evaluate water withdrawal sources.   |
| Water discharges- total volumes         | 76-100                           | NRG regularly measures and monitors total volume of water discharges in millions of gallons and converts to cubic meters at 100% of its operations. Total water discharge is the total of all water discharge using the equity ownership approach reported by each Company Facility in its monthly Discharge Monitoring Report (DMR) to maintain compliance with the National Pollutant Discharge Elimination System permits and discharges to publicly owned treatment works determined by volumes indicated on water/sewer invoices and includes sanitation/septic wastewater discharge. For Company Facilities, under operational control, sanitation/septic discharges are reported based on invoices. NRG has a Water Champion at each location that is trained on water accounting and follows the GRI water reporting protocols. This data is used to benchmark and manage water withdrawals.  |
| Water discharges- volume by destination | 76-100                           | NRG regularly measures and monitors water discharge volumes by destination in millions of gallons and converts to cubic meters at 100% of its operations. Total water discharge by destination is the total of all water discharge to the receiving water body type and basin using the equity ownership approach reported by each Company Facility in its monthly Discharge Monitoring Report (DMR) to maintain compliance with the National Pollutant Discharge Elimination System permits and discharges to publicly owned treatment works determined by volumes indicated on water/sewer invoices and includes sanitation/septic wastewater discharge. For Company Facilities, under operational control, sanitation/septic discharges are reported based on invoices. NRG has a Water Champion at each   |

| Water aspect  | % of sites/facilities/operations | Please explain   |
|---|----------------------------------|--|
|   |                                  | location that tracks discharge by destination and reports data in NRG's environmental management information system. This data is used to benchmark, manage water discharges, and evaluate water discharge by destination.   |
| Water discharges- volume by treatment method                          | 76-100                           | NRG regularly measures and monitors water discharges by treatment method at 100% of its permitted operations. NRG has an environmental compliance specialist at each location that is trained on water compliance. This data is reported to state agencies as required by each site's wastewater permit.   |
| Water discharge quality data- quality by standard effluent parameters | 76-100                           | NRG regularly measures and monitors water discharge quality data, quality by standard effluent parameters, at 100% of its permitted operations. NRG has an environmental compliance specialist at each location that is trained on water compliance. This data is reported to state agencies as required by each site's wastewater permit. Permit non-compliance incidents are reported and tracked in NRG's environmental management information system. All NRG generating stations have environmental compliance goals. |
| Water consumption- total volume                                       | 76-100                           | NRG regularly measures and monitors total volume of water consumption in millions of gallons and converts to cubic meters for reporting, at 100% of its operations. Total water consumption is calculated as the difference between total withdrawal and total discharge. NRG has a Water Champion at each location that is trained on water accounting and follows the GRI water reporting protocols. This data is used to benchmark and manage water consumption.  |
| Facilities providing fully-functioning WASH services for all workers  | 76-100                           | NRG regularly measures and monitors facilities providing fully-functioning WASH services for all workers. NRG operations are primarily in the United States and OSHA requires WASH services for all workers. 100% of NRG facilities have WASH services.  |

**W1.2a**

**Water withdrawals: for the reporting year, please provide total water withdrawal data by source, across your operations**

| Source                               | Quantity (megaliters/year) | How does total water withdrawals for this source compare to the last reporting year? | Comment  |
|--------------------------------------|----------------------------|--|--|
| Fresh surface water                  | 5022594                    | About the same   | NRG fresh surface water withdrawals decreased by 3% in 2015. The decrease in fresh surface water withdrawal is due to the reduction in generation and water conservation efforts. 97% of the fresh surface water withdrawn is returned to the water body.  |
| Brackish surface water/seawater      | 5460212                    | Much lower   | NRG brackish surface water/seawater withdrawals decreased by 30% in 2015. The decrease in brackish surface water/seawater withdrawal is due to decreased operations in the winter and summer, as well as maintenance outages for unit upgrades. 99.5% of the brackish surface water/seawater withdrawn is returned to the water body.  |
| Rainwater                            | 54548                      | Much higher  | NRG rainwater collection increase in 2015. Rainwater used at generating facilities is based on the amount of rainfall received and collected in stormwater basins for use or treated and discharged. NRG generating stations in the south and northeast experienced increases in rainfall, the west experienced decreases in rainfall. |
| Groundwater - renewable              | 546                        | Higher   | NRG treated more renewable groundwater in 2015. The renewable groundwater is not used for the production of power. This water is removed from the facilities to prevent flooding, due to subsidence.   |
| Groundwater - non-renewable          | 15823                      | Lower  | NRG used less non-renewable groundwater in 2015. The reduction in non-renewable groundwater use is due to reduced operations and water conservation efforts.   |
| Produced/process water               | 0                          | Not applicable   | NRG does not use produced/processed water.   |
| Municipal supply                     | 10177                      | Lower  | NRG used less municipal water in 2015. A number of NRG's stations, through conservation efforts, reduced the use of municipal water by 3%.   |
| Wastewater from another organization | 1108                       | Lower  | NRG used less wastewater from another organization in 2015. NRG owns and operates two plants in California that operate on wastewater from other organizations in areas that are stressed for water.   |
| Total                                | 10565008                   | Much lower   | NRG total water withdrawals decreased by 19% in 2015. The decrease in total water withdrawal is due to the conversion of multiple coal generating units to natural gas and outages to enhance environmental pollution controls. 98% of the water withdrawn is returned to the water body.  |

**W1.2b**

**Water discharges: for the reporting year, please provide total water discharge data by destination, across your operations**

| Destination                                     | Quantity (megaliters/year) | How does total water discharged to this destination compare to the last reporting year? | Comment   |
|---|----------------------------|---|---|
| Fresh surface water                             | 4960256                    | Lower   | NRG fresh surface water withdrawals decreased by 4% in 2015. The decrease in fresh surface water withdrawal is due to the reduction in generation and water conservation efforts. 98% of the fresh surface water withdrawn is returned to the water body.   |
| Brackish surface water/seawater                 | 5394988                    | Much lower  | NRG brackish surface water/seawater withdrawals decreased by 30% in 2015. The decrease in fresh surface water withdrawal is due to the reduction in generation and water conservation efforts. 99% of the fresh surface water withdrawn is returned to the water body.  |
| Groundwater                                     | 313                        | Much lower  | NRG discharged 38% less water into the ground in 2015. Water that is discharged into the ground is generally from WASH treatment systems. Facilities have implemented low flow devices and water management for potable water systems that have reduced discharges.   |
| Municipal/industrial wastewater treatment plant | 2303                       | Higher  | NRG discharged 15% more water to municipal treatment in 2015. Water that is discharged to municipal treatment is generally WASH water. Facilities have implemented low flow devices and water management for potable water systems. Several facilities had increased operations which discharge waste water to municipal treatment. |
| Wastewater for another organization             | 0                          | Not applicable  | NRG does not discharge wastewater directly to another organization. NRG freshwater (which is a quality that is equal to or better than the receiving water quality) discharge is back to the water body. This discharge is important to maintain freshwater flows to ecosystems.  |
| Total   | 10357860                   | Much lower  | NRG total water discharges decreased by 19% in 2015. The decrease in fresh surface water withdrawal is due to the reduction in generation and water conservation efforts. 98% of the fresh surface water withdrawn is returned to the water body.   |

**W1.2c**

**Water consumption: for the reporting year, please provide total water consumption data, across your operations**

| Consumption (megaliters/year) | How does this consumption figure compare to the last reporting year? | Comment   |
|-------------------------------|--|---|
| 207148                        | Much lower   | NRG total water consumption decreased by 12% in 2015. The decrease in total water consumption is due to several factors. NRG has improved water management programs that have reduced potable water use. NRG has improved its water data. Facility water champions evaluate data and calculation methods to ensure data accuracy. |

### W1.3

**Do you request your suppliers to report on their water use, risks and/or management?**

Yes

### W1.3a

**Please provide the proportion of suppliers you request to report on their water use, risks and/or management and the proportion of your procurement spend this represents**

| Proportion of suppliers % | Total procurement spend % | Rationale for this coverage   |
|---------------------------|---------------------------|---|
| 1-25                      | 1-25                      | In 2015, our supply chain focused on developing a supply chain sustainability action plan to provide a platform that supports our sustainability and corporate responsibility program and reporting requirements. NRG's supply chain spending is 70% services and 30% materials. NRG rolled out AdaptOne, a new supply chain management software program, in 2013 to its Tier 1 suppliers and began collecting supplier water information. NRG requests Tier 1 suppliers to complete a variety of risk assessment questions |

| Proportion of suppliers % | Total procurement spend % | Rationale for this coverage  |
|---------------------------|---------------------------|--|
|                           |                           | including questions about water risk related to quality and quantity, regulatory changes, changes in price and stakeholder conflicts in AdaptOne. While 17% of suppliers are Tier 1 at present, they represent 20-25% of NRG's supply chain spend and are selected based on factors such as: criticality to operational continuity, market conditions, and the length of relationship with NRG. Tier 1 suppliers make up a large percentage of spend and are considered to be representative of NRG's supply chain related water risk. Water risk information gathered through AdaptOne and Quarterly Business Reviews is included for review by the contract administrator during contract awards/renewals. NRG suppliers are requested to disclose water information. The reward to suppliers is access to NRG businesses to increase sales and business with NRG. |

**W1.3b**

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

|                |                |
|----------------|----------------|
| Primary reason | Please explain |
|----------------|----------------|

**W1.4**

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

Yes

**W1.4a**

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

| Country                  | River basin | Impact indicator  | Impact     | Description of impact  | Length of impact | Overall financial impact        | Response strategy  | Description of response strategy  |
|--------------------------|-------------|---|------------|--|------------------|---------------------------------|--|---|
| United States of America | Other:      | Phys-Declining water quality<br>Phys-Ecosystem vulnerability<br>Phys-Pollution of water source<br>Reg-Regulation of discharge quality/volumes leading to higher compliance costs<br>Reg-Regulatory uncertainty<br>Reg-Unclear and/or unstable regulations on water allocation and wastewater discharge<br>Rep-Community opposition<br>Rep-Litigation<br>Rep-Negative media coverage | Litigation | NRG acquired the Chalk Point facility as part of the GenOn merger. The facility has a lawsuit alleging CWA violations that was filed early 2013. | 2013 to Present  | Potential fine of \$100,000.00. | Engagement with community<br>Engagement with public policy makers<br>Engagement with other stakeholders in the river basin<br>Infrastructure maintenance<br>Increased investment in new technology<br>Promote best practice and awareness<br>Establish site-specific targets | Before merging with NRG, GenOn submitted a request to reopen the NPDES permit to MDE in August 2010, and has been working with MDE to resolve this issue since the scrubber wastewater treatment system was brought on line in late 2009. NRG has continued to explore all options to increase the effectiveness of the system, including: • Lowering and equalizing the chlorides in the Sequential Batch Reactor (SBRs) • Enhanced use of Klaraid in the SBRs and the effluent tank • Improved clarifier performance • Improved temperature stabilization • Capturing ammonia rich plant demineralizer regeneration wastewater and routing it to the WWTP for nitrogen removal • Have utilized the services of a consultant with specific expertise in the operation of SBRs to improve operational results • In 2014 we completed the pilot study that showed lower, |

| Country                  | River basin   | Impact indicator   | Impact     | Description of impact  | Length of impact | Overall financial impact        | Response strategy  | Description of response strategy   |
|--------------------------|---------------|--|------------|--|------------------|---------------------------------|--|--|
|                          |               |  |            |  |                  |                                 |  | controlled solids retention times in the SBRs would help the station maintain nutrient levels in the 4 mg/l range. To be able to run at such a low SRT, filters that could capture, quantify, and return solids to the SBRs would be necessary. NRG ran a membrane study to ensure that technology would be compatible with the scrubber wastewater. In addition, in 2015 NRG installed new instrumentation to the SBRs that could improve operations.                       |
| United States of America | Potomac River | Phys-Declining water quality<br>Phys-Ecosystem vulnerability<br>Phys-Pollution of water source<br>Reg-Regulation of discharge quality/volumes leading to higher compliance costs<br>Reg-Regulatory uncertainty<br>Reg-Unclear and/or unstable regulations on water allocation and wastewater | Litigation | NRG acquired the Dickerson facility as part of the GenOn merger. The facility has a lawsuit alleging CWA violations that was filed early 2013. | 2013 to Present  | Potential fine of \$100,000.00. | Engagement with community<br>Engagement with public policy makers<br>Engagement with other stakeholders in the river basin<br>Infrastructure maintenance<br>Increased investment in new technology<br>Promote best | Before merging with NRG, GenOn submitted a request to reopen the NPDES permit to MDE in August 2010, and has been working with MDE to resolve this issue since the scrubber wastewater treatment system was brought on line in late 2009. NRG has continued to explore options to increase the effectiveness of the system, including: • Lowering and equalizing the chlorides in the Sequential Batch Reactor (SBRs) • Enhanced use of Klaraid in the SBRs and the effluent |

| Country                  | River basin  | Impact indicator   | Impact       | Description of impact   | Length of impact | Overall financial impact                | Response strategy   | Description of response strategy  |
|--------------------------|--------------|--|--------------|---|------------------|---|---|---|
|                          |              | discharge<br>Rep-Community<br>opposition<br>Rep-Litigation<br>Rep-Negative<br>media coverage |              |   |                  |   | practice and awareness<br>Establish site-specific targets | tank • Improved clarifier performance • Improved temperature stabilization • Capturing ammonia rich plant demineralizer regeneration wastewater and routing it to the WWTP for nitrogen removal • Have utilized the services of a consultant with specific expertise in the operation of SBRs to improve operational results • In 2014 we completed the pilot study that showed lower, controlled solids retention times in the SBRs would help the station maintain nutrient levels in the 4 mg/l range. To be able to run at such a low SRT, filters that could capture, quantify, and return solids to the SBRs would be necessary. NRG ran a membrane study to ensure that technology would be compatible with the scrubber wastewater. In addition, in 2015 NRG installed new instrumentation to the SBRs that could improve operations. |
| United States of America | St. Lawrence | Reg-Regulatory uncertainty<br>Reg-Statutory  | Brand damage | NRG acquired the Waukegan facility in April 2014 as part of the | 2014 to Present  | A reported \$567 million in upgrades to | Engagement with community                                 | Emissions controls scheduled for the two burners at the Waukegan  |

| Country | River basin | Impact indicator   | Impact | Description of impact  | Length of impact | Overall financial impact   | Response strategy   | Description of response strategy   |
|---------|-------------|--|--------|--|------------------|--|---|--|
|         |             | water withdrawal limits/changes to water allocation<br>Reg-Unclear and/or unstable regulations on water allocation and wastewater discharge<br>Rep-Community opposition<br>Rep-Negative media coverage |        | purchase of Midwest Generation. NRG kept operating the Waukegan facility as a coal-fired power plant, and improved emissions controls at the generating station. However, some Lake County residents and NGOs have been pushing for a long-term transition plan to retire the coal-fired power plant, located on the city's lakefront. |                  | NRG's Illinois power plants, an overall plan that would keep the Waukegan plant in operation as a coal fired facility. | Engagement with public policy makers<br>Engagement with other stakeholders in the river basin<br>Infrastructure investment<br>Infrastructure maintenance<br>Strengthen links with local community | plant to make them "fully compliant" with state standards were completed at the end of 2014 and May 2015, respectively. NRG has plans to put \$3 million worth of solar panels on area schools rooftops. |

**W1.4b**

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 year and any plans you have to investigate this in the future

|                |              |
|----------------|--------------|
| Primary reason | Future plans |
|----------------|--------------|

**Further Information**

The detrimental impacts are described on page 203 of the 2015 10-K

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**Attachments**

[https://www.cdp.net/sites/2016/62/13562/Water 2016/Shared Documents/Attachments/Water2016/W1.Context/EPA Climate Regs To Be 'Big Fight' In State Legislatures This Year \\_ Progress Illinois.pdf](https://www.cdp.net/sites/2016/62/13562/Water%202016/Shared%20Documents/Attachments/Water2016/W1.Context/EPA%20Climate%20Regs%20To%20Be%20'Big%20Fight'%20In%20State%20Legislatures%20This%20Year%20_%20Progress%20Illinois.pdf)  
[https://www.cdp.net/sites/2016/62/13562/Water 2016/Shared Documents/Attachments/Water2016/W1.Context/Coal plant owners to buy solar panels for Waukegan schools - Lake County News.pdf](https://www.cdp.net/sites/2016/62/13562/Water%202016/Shared%20Documents/Attachments/Water2016/W1.Context/Coal%20plant%20owners%20to%20buy%20solar%20panels%20for%20Waukegan%20schools%20-%20Lake%20County%20News.pdf)  
[https://www.cdp.net/sites/2016/62/13562/Water 2016/Shared Documents/Attachments/Water2016/W1.Context/Despite protests, Waukegan power plant to burn coal indefinitely - Lake County News-Sun.pdf](https://www.cdp.net/sites/2016/62/13562/Water%202016/Shared%20Documents/Attachments/Water2016/W1.Context/Despite%20protests%2C%20Waukegan%20power%20plant%20to%20burn%20coal%20indefinitely%20-%20Lake%20County%20News-Sun.pdf)  
[https://www.cdp.net/sites/2016/62/13562/Water 2016/Shared Documents/Attachments/Water2016/W1.Context/NRGEnergyInc10K.pdf](https://www.cdp.net/sites/2016/62/13562/Water%202016/Shared%20Documents/Attachments/Water2016/W1.Context/NRGEnergyInc10K.pdf)  
[https://www.cdp.net/sites/2016/62/13562/Water 2016/Shared Documents/Attachments/Water2016/W1.Context/Activists Call for Closure of Waukegan Coal-Fired Power Plant \\_ Chicago Tonight \\_ WTTW.pdf](https://www.cdp.net/sites/2016/62/13562/Water%202016/Shared%20Documents/Attachments/Water2016/W1.Context/Activists%20Call%20for%20Closure%20of%20Waukegan%20Coal-Fired%20Power%20Plant%20_%20Chicago%20Tonight%20_%20WTTW.pdf)

**Module: Risk Assessment****Page: W2. Procedures and Requirements**

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**W2.1**

**Does your organization undertake a water-related risk assessment?**

Water risks are assessed

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**W2.2**

**Please select the options that best describe your procedures with regard to assessing water risks**

| <b>Risk assessment procedure</b> | <b>Coverage</b>       | <b>Scale</b>            | <b>Please explain</b>  |
|----------------------------------|-----------------------|-------------------------|--|
| Comprehensive company-wide risk  | Direct operations and | All facilities and some | NRG evaluates water risk at all NRG generating facilities and Tier 1 Suppliers. A comprehensive company-wide risk assessment approach is taken because water risk is linked with other risks, such |

| Risk assessment procedure | Coverage     | Scale     | Please explain  |
|---------------------------|--------------|-----------|---|
| assessment                | supply chain | suppliers | as air emissions. Each NRG generating facility is unique and NRG's water risk approach identifies and addresses risks for each NRG location covering the following topics: •Availability •Quality •Regulatory •Stakeholder concerns •Supply chain impacts •Financial •Operational •Environmental NRG evaluates all Tier 1 suppliers for water risk using AdaptOne. AdaptOne is a supplier management program. NRG has 40,000 suppliers. Tier 1 suppliers make up 20% to 25% of total operations spend. Tier 1 suppliers are identified as business partners that are critical to the success of NRG's business. |

### W2.3

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

| Frequency                      | Geographic scale | How far into the future are risks considered? | Comment   |
|--------------------------------|------------------|---|---|
| Six-monthly or more frequently | Region           | >6 years                                      | NRG evaluates water risk at the regional level. Water planning varies by state, but is evaluated at the NRG regional level, due to the interconnection and shared water resources. Water planning looks at availability, quality based on historical rainfall and projected growth. These risks are projected for 20 years into the future. |
| Six-monthly or more frequently | Facility         | 3 to 6 years                                  | NRG evaluates facility water risks weekly and projects risks for 5 years in the future. The projected water risk is based on future operating capacity, water availability, water quality, and regulatory risk.   |
| Six-monthly or more frequently | River basin      | >6 years                                      | NRG evaluates river basin risks weekly. Water planning looks at availability, quality based on historical rainfall, projected growth and stakeholder needs. These risks are projected for 20 years into the future.   |
| Six-monthly or more frequently | Business unit    | 3 to 6 years                                  | NRG evaluates business unit water risks weekly and projects risks for 5 years in the future. The projected water risk is based on future operating capacity, water availability, water quality, and regulatory risk.  |
| Annually                       | Country          | >6 years                                      | NRG evaluates country water risks annually and projected for 20 years in the future. Country risk is  |

| Frequency | Geographic scale | How far into the future are risks considered? | Comment                                 |
|-----------|------------------|---|---|
|           |                  |   | an aggregation of all risks identified. |

#### W2.4

**Have you evaluated how water risks could affect the success (viability, constraints) of your organization's growth strategy?**

Yes, evaluated over the next 1 year

#### W2.4a

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

NRG evaluated water quality, water quantity, regulatory changes and stakeholder conflicts for their effects on the success of NRG's growth strategy. The risks are evaluated and the business strategy is implemented to address the risks identified. An example of a regulatory risk is the EPA 316(b) regulation on water intake structure. The process for water risk assessment includes financial, environmental and reputational risk review and results are used to make operational decisions, including CAPEX. The risks that are identified may also be viewed as potential business opportunities, as with NRG Renew, our renewable energy business. Solar energy requires little or no water to generate electricity and eliminates the risk of water withdrawal for system cooling. In 2015 renewable energy made up 8% of NRG's total generating capacity. Renew's operational capacity grew from 1,180 MW in 2013 to 2,808 MW in 2014, and 4,555 MW in 2015; a capacity growth of almost 275% in 3 years.

#### W2.4b

**What is the main reason for not having evaluated how water risks 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 |
|-------------|---------------|----------------------------|---------|
|-------------|---------------|----------------------------|---------|

**W2.5**

**Please state the methods used to assess water risks**

| Method  | Please explain how these methods are used in your risk assessment   |
|---|---|
| CEO Water Mandate's 'Understanding Key Water Stewardship Terms'<br>GEMI Local Water Tool<br>Global Water Tool for Power Utilities<br>Internal company knowledge<br>Life Cycle Assessment<br>Maplecroft Global Water Security Risk Index<br>Regional government databases<br>WBCSD Global Water Tool<br>WRI water stress definition<br>WRI Aqueduct<br>WWF-DEG Water Risk Filter<br>Other: Local/Regional Water Membership | <p>Tools for Water Risk Assessment NRG uses the listed methods to assess water risk. The operational scope of water risk is evaluated at all NRG generating facilities. NRG recognizes the WRI definition of water stress and uses the CEO Water Mandate for guidance, "The ability, or lack thereof, to meet human and ecological water demand". GEMI Local Water Tool, Global Water Tool for Power Utilities, internal company knowledge, WBCSD Global Water Tool, WRI Aqueduct, WWF-DEG Water Risk Filter, and local and regional water planning scenarios from membership affiliations are used to model risk for regions and water basins. These tools are used for the fleet and in the creation of our operational strategy. They are used to inform development of new projects and long term strategies. Maplecroft Global Security water tool is used to understand global water issues. Regional government databases and subscriptions to regulatory updates are used to plan and evaluate the impacts of regulatory changes, such as EPA 316(b). The data is used to evaluate future operations and the cost of compliance with regulations. This provides a platform to work with regulatory agencies to address concerns with regulations. These tools look at near term water related risk. NRG uses an internal EMIS to collect water data. Water data is collected to align with the WBCSD Global Water Tool and Global Water Tool for Power Utilities. These methods were selected because they allow for granular data analysis to better evaluate risk. These tools are effective in mapping risk for water stress, water quality and biodiversity concerns. The tools indicate a location that may have water risk. The location is reviewed for the risk that is identified by the tool.</p> |

**W2.6**

**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 | NRG is a member of local water stakeholder groups that plan for current and future water availability. In Texas, NRG supported a Water Master for the lower Brazos River. The Water Master will monitor water use and work with stakeholders to ensure critical water needs are met. NRG is a member of local water stakeholder groups that plan for current and future water availability. NRG was a founding member of the Lower Brazos River Coalition to protect water availability and ensure environmental flows to estuaries. The WRI definition of water stress, GEMI Local Water Tool, Global Water Tool for Power Utilities, internal company knowledge (to access current water concerns at generating stations that are related to quality and quantity), and regional government databases (USGS and River data are used to assess current conditions) are used for water availability and quality parameters at the local level.  |
| Current water regulatory frameworks and tariffs at a local level          | Relevant, included | NRG, through its governmental affairs team, in 2013 supported Texas HB 4, passed in 2013, to fund water projects by the Water Development Board. NRG is a voting member on the Region H Water Planning Group, which contributes to Texas' State Water Plan. Development of the water plan is a primary function of the Texas Water Development Board (TWDB). This is part of a consensus-based planning effort to include local concerns in the statewide planning effort and continues to be the model which guides the development of the State Water Plan. NRG's participation in Region H gives us a voice in planning local water use and project development. Region H planning is important to present and future water regulatory frameworks and tariffs at the local level. NRG uses regional government databases, internal company knowledge and membership in stakeholder coalitions to understand and plan for water regulatory frameworks and tariffs at a local level. Examples of membership for water regulatory frameworks. • Association of Electric Companies of Texas • Lower Brazos River Coalition • Galveston Bay Foundation • California Foundation on the Environment and the Economy   |
| Current stakeholder conflicts concerning water resources at a local level | Relevant, included | NRG tracks, monitors and works to resolve stakeholder conflicts. NRG tracks water requests on the Brazos River and protests all new water requests. The water in the Brazos River is 100% accounted for and additional withdrawals will further stress this basin. Region H develops the water plan for the Houston area and NRG participates by reviewing and providing comments. NRG uses regional government databases, internal company knowledge and membership in stakeholder coalitions to understand and plan for stakeholder conflicts concerning water resources at a local level. An example of current stakeholder conflicts at the local level is membership in the Lone Star Groundwater Conservation District. The Houston/Galveston area is located in an area that is reducing groundwater withdrawals due to subsidence. The members met on May 12, 2015 for a public hearing on permit applications. Three requests to increase withdrawals were approved and three permit withdrawal reductions were made. NRG's use of internal knowledge of water needs and regulatory frameworks is used with membership in stakeholder coalitions (Lower Brazos River Coalition), industry groups (Association of Electric Companies of Texas), WRI Aqueduct (water stress modelling), WWF DEG Water Risk Filter (water stress modelling) |

| Issues  | Choose option      | Please explain  |
|---|--------------------|---|
| Current implications of water on your key commodities/raw materials | Relevant, included | and Regional government database (USGS water data) to resolve stakeholder conflicts.<br>NRG's key commodities/raw materials are coal and natural gas. Water use in hydraulic fracturing for natural gas extraction is an issue to the industry. NRG uses Maplecroft Global Water Security Risk Index, internal company knowledge and membership in stakeholder coalitions to understand and evaluate implications of water on key commodities/raw materials.  |
| Current status of ecosystems and habitats at a local level          | Relevant, included | NRG conducts annual environmental audits at its generating facilities through a third party consulting firm. Beginning in 2014, these audits include a review of each site's Biodiversity Plan. Facilities review and update Biodiversity Plans and existing environmental impact assessments annually. NRG is on the board of the Galveston Bay Foundation and works to restore and protect habitats. This membership keeps NRG abreast of local habitat and ecosystem concerns. NRG uses regional government databases, internal company knowledge for annual environmental impact assessments and membership in stakeholder coalitions for example, the Galveston Bay Foundation; to understand and the current status of ecosystems and habitats at a local level. An example of data used for biodiversity can be found in the Galveston Bay Report Card that was issued in 2015. The Galveston Bay received a grade of C for overall health. Galveston Bay's most significant problems are tied to pollution, declines in habitat acreage, and to the impacts of climate change, like sea level rise. Identification of the issues may offer an opportunity to reduce impact on water quality, wetlands, sea grasses, and wildlife. |
| Current river basin management plans                                | Relevant, included | NRG is a member of local water stakeholder groups that plan for current and future water availability. NRG reviews and contributes to current and future river basin management plans. The WRI definition of water stress, GEMI Local Water Tool, internal company knowledge, and regional government databases are used to monitor and comply with current river basin management plans. The W. A. Parish plant located in Thompson Texas maintains the Smither's Lake Accounting Plan that has instrumentation and processes in place to continually monitor water withdrawal and discharge from the Brazos River. This data is reported annually to the Texas Water Development Board.   |
| Current access to fully-functioning WASH services for all employees | Relevant, included | NRG provides access to fully-functioning WASH services for all employees. A safe water supply is a requirement at all NRG locations. Every NRG location reports the annual water use and this information is included in the NRG annual water inventory that is reported publicly in the NRG Sustainability Report and the data assured by KPMG. Internal Company knowledge of facility water systems by the employees at each location is used to collect information about WASH at NRG facilities.  |
| Estimates of future changes in water availability at a local level  | Relevant, included | NRG participates in Region H meetings which plan the region's water needs for the future by evaluating local growth in water demand. NRG works with the Gulf Coast Subsidence District to ensure proper management of groundwater and adequate supply for the future. The WRI definition of water stress, WWF-DEG Water Risk Filter, WRI Aqueduct, internal company knowledge and regional government databases are used for to estimate future changes in water availability at a local level.   |
| Estimates of future potential regulatory changes at a local level   | Relevant, included | NRG works with the regulators and stakeholder groups at local and state level to understand water quality, water quantity, and proposed water regulations. NRG is a member of the Texas Industry Project  |

| Issues   | Choose option             | Please explain  |
|--|---------------------------|---|
|  |                           | <p>(TIP) led by BakerBotts, which monitors state and federal regulations that impact industry and works with regulators to address regulatory concerns. NRG uses regional government databases, internal company knowledge and membership in stakeholder coalitions to understand and estimate future potential regulatory changes at a local level. NRG Environmental employees receive regular email communication from BakerBotts on Federal and State regulations, as well as local workshops. Below is an example of an upcoming seminar. TCEQ Water Quality/Stormwater Seminar. This TCEQ seminar, to be held in Austin on October 12-13, 2016, will provide updates on permitting rules and upcoming regulations. NRG uses regional government databases, internal company knowledge and membership in stakeholder coalitions to understand and estimate future potential regulatory changes at a local level. The regulatory changes are tracked and communicated to asset managers to prepare for the implementation of regulations.</p>   |
| <p>Estimates of future potential stakeholder conflicts at a local level</p>  | <p>Relevant, included</p> | <p>“Other: Local/Regional Water Membership”: NRG participates in Region H Planning meetings. NRG representatives monitor water availability within the water sheds using Regional databases, such as USGS data and state climatology. All future stakeholders are identified by the Region H Water Planning Board. The Texas Water Development Board must approve and issue water supply to stakeholders. NRG uses the Region H identification of stakeholders as an opportunity to build relationships, understand concerns and challenges of all stakeholders in the water basin. These relationships are important to continued successful operation of NRG generating stations.</p>   |
| <p>Estimates of future implications of water on your key commodities/raw materials</p>   | <p>Relevant, included</p> | <p>In 2013, NRG implemented AdaptOne to collect sustainability data from its suppliers. NRG is in the beginning stages of data collection and analysis. NRG holds quarterly business reviews with Tier 1 suppliers to discuss performance which includes business risks. NRG uses Maplecroft Global Water Security Risk Index, internal company knowledge and membership in stakeholder coalitions to understand and evaluate future implications of water on key commodities/raw materials.</p>  |
| <p>Estimates of future potential changes in the status of ecosystems and habitats at a local level</p>                             | <p>Relevant, included</p> | <p>NRG conducts National Environmental Protection Act (NEPA) studies on the property to determine the future potential impacts on the project. Environmental impact assessments, including detailed biological, air quality, water resources, wetlands and other studies are conducted for projects, as required by federal, state or local regulations. NRG uses regional government databases, internal company knowledge and membership in stakeholder coalitions to understand and estimate the future potential changes in the status of ecosystems and habitats at a local level. NRG developed the NEPA plan for the oasis solar project using the government database - Final Threatened and Endangered Species Survey United States Air Force Plant 42 Installation Report (USAF 2009). NRG also has an internal process for conducting annual environmental audits at its operational sites through a third party consulting firm. Beginning in 2014, these audits include a review of each site’s Biodiversity Plan. Facilities review and update Biodiversity Plans and existing environmental impact assessments annually.</p> |
| <p>Scenario analysis of availability of sufficient quantity and quality of water relevant for your operations at a local level</p> | <p>Relevant, included</p> | <p>“Other: Local/Regional Water Membership”: The Texas Water Development Board - Region H, which includes scenario analysis. The 2016 Region H Water Plan includes analysis of future water availability; the plan states: despite adequate overall water supplies for Region H through the year 2070, the Region H Water Planning Group has identified communities that will experience water shortages during the</p>   |

| Issues  | Choose option             | Please explain   |
|---|---------------------------|--|
|   |                           | <p>planning period unless they take action to increase their supplies. Some of these communities will be able to meet their demands simply by extending or increasing existing water supply contracts. The projected shortages identified in the year 2020 totalled 224,047 acre-feet per year, increasing to as much as 1,017,549 acre-feet per year in the year 2070. These needs are exclusive of the needs identified with the Rule-Based Groundwater Disparity identified during the evaluation of existing water supplies. The WRI definition of water stress, GEMI Local Water Tool, internal company knowledge, and regional government databases are used for scenario analysis of availability of sufficient quantity and quality of water relevant for operations at the local level.</p>   |
| <p>Scenario analysis of regulatory and/or tariff changes at a local level</p>                 | <p>Relevant, included</p> | <p>Regional Government: NRG supported the Texas Commission on Environmental Quality, the Texas environmental agency creating a River Master for the Brazos River. This increases costs, but helps to manage water for all stakeholders. NRG uses, "Other: Local/Regional Water Membership"; the estimated cost of the 2016 Region H Water Plan is approximately \$10.9 billion over the 50 period. This cost includes the development of new water sources, estimates for distribution and treatment facilities, and the capital improvements required to achieve agricultural conservation targets. In addition, these costs also include Water User Group -level pro supplies originating from major projects accessible to meet Water User Group demands. NRG uses internal company knowledge, such as, local water contracts include language for excess water use in water contract extensions. NRG uses regional government databases, internal company knowledge and membership in stakeholder coalitions to conduct scenario analysis for water regulatory frameworks and tariffs at a local level.</p>  |
| <p>Scenario analysis of stakeholder conflicts concerning water resources at a local level</p> | <p>Relevant, included</p> | <p>"Other: Local/Regional Water Membership": NRG participates in Region H Planning meetings. NRG representatives monitor water availability within the water sheds using Regional databases, such as USGS data and state climatology. All future stakeholders are identified by the Region H Water Planning Board. The Texas Water Development Board must approve and issue water supply to stakeholders. NRG uses the Region H identification of stakeholders as an opportunity to build relationships, understand concerns and challenges of all stakeholders in the water basin. These relationships are important to continued successful operation of NRG generating stations. NRG includes scenario analysis in drought contingency plans for all generating facilities. NRG participates in water planning for Texas Water Development Board - Region H, which includes scenario analysis. The 2016 Region H Water Plan includes analysis of future water availability; the plan states: despite adequate overall water supplies for Region H through the year 2070, the Region H Water Planning Group has identified communities that will experience water shortages during the planning period unless they take action to increase their supplies. Some of these communities will be able to meet their demands simply by extending or increasing existing water supply contracts. The projected shortages identified in the year 2020 totalled 224,047 acre-feet per year, increasing to as much as 1,017,549 acre-feet per year in the year 2070. These needs are exclusive of the needs identified with the Rule-Based Groundwater Disparity identified during the evaluation of existing water supplies. The WRI definition of water stress, GEMI Local Water Tool, internal company</p> |

| Issues   | Choose option      | Please explain   |
|--|--------------------|--|
|  |                    | knowledge, and regional government databases are used for scenario analysis of availability of sufficient quantity and quality of water relevant for operations at the local level.  |
| Scenario analysis of implications of water on your key commodities/raw materials                 | Relevant, included | NRG has conducted a scenario analysis of implications of water on key commodities/raw materials. NRG utilizes a diverse supplier network. NRG's major commodity is fuel for generating stations. NRG has evaluated water use and the risk associated with natural gas fracking, Maplecroft-Verisk, global Risk Filter. NRG uses Maplecroft Global Water Security Risk Index, internal company knowledge and membership in stakeholder coalitions to conduct scenario analysis of implications of water on key commodities/raw materials. NRG uses internal company knowledge to develop scenario analysis for fuel shipments for example, when weather conditions would prevent barge deliveries and fuel would need to be transported by trucks. NRG also uses data from our supplier system AdaptOne to identify water risks in the supply chain.  |
| Scenario analysis of potential changes in the status of ecosystems and habitats at a local level | Relevant, included | NRG works with local water planning groups on scenario analysis of potential changes in the status of ecosystems and habitats at the local level. The Brazos River scenario projects future demand in the watershed will exceed supply by 2060. The freshwater inflow is critical to estuaries and bays to dilute the seawater, creating a habitat for marine life and plants. The inflow brings nutrients and sediments to stabilize wetlands. The lack of flow from this watershed will change the ecosystem. The Houston Area Research Council (HARC), Water research emphasizes water quality and quantity, watershed management, biodiversity and ecological function, and ecosystem informatics. HARC compiles and analyses numerous databases describing environmental quality, biological and water resources, and aquatic and terrestrial habitats. Integration, analysis, and dissemination of information regarding important water issues is considered key to advancing more sustainable management of coastal watersheds, water supplies, and water quality. NRG uses regional government databases (Houston Area Research Council and Texas Region H), internal company knowledge (Facility and Regional subject matter experts) and membership in stakeholder coalitions (Association of Electric Companies of Texas) to conduct scenario analysis of potential changes in the status of ecosystems and habitats at a local level. |
| Other  |                    |  |

**W2.7**

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

| Stakeholder       | Choose option      | Please explain  |
|-------------------|--------------------|---|
| Customers         | Relevant, included | NRG considers customers in water risk assessments. Green Mountain Energy, an NRG Retail brand helps consumers conserve water by offering them an easy way to live a greener lifestyle. Green Mountain Energy has a water saver electricity plan in Texas: Choose 100% wind energy and receive FREE water saving products – whether to conserve water indoors, or out. Water saving devices include smart sprinkler system controls, faucet aerators, low flow shower heads. Green Mountain customer engagement is through several mechanisms, face to face at kiosks and service centers, electronically through emails and websites, or information included in billing that can be electronic or paper (this is the customer’s choice). Please see Green Mountain Energy, Benefits of Clean Energy: <a href="http://www.greenmountainenergy.com/why-green/benefits-of-clean-electricity/">http://www.greenmountainenergy.com/why-green/benefits-of-clean-electricity/</a>   |
| Employees         | Relevant, included | NRG considers employees in water risk assessments. Employees may identify and resolve water related issues. The method of engagement is that all NRG generating facilities have a water champion that tracks, reports and identifies improvements to water management at their facility. For example, in 2015 the Minneapolis Energy Center installed computer based boiler cycle monitoring with online feed-back indication to the main control room. This allows the operator to maintain a higher level of boiler cycles. Benefits of high cycled boilers are: less heat loss through excess blow down which saves fuel, uses less water, and fewer chemicals to treat the water. Another benefit is that it minimizes the water that gets discharged from the plant.   |
| Investors         | Relevant, included | NRG considers investors in water risk assessments. Investors are concerned about water issues that may negatively impact power generation and impact earnings. All new construction of natural gas powered generation has dry cooling. Investing in new efficient, low water use technologies for power generation may assist in modernizing our portfolio of power generation technologies. For example, the PH Robinson peakers (located in Texas) that have dry cooling technology will be complete in 2016 and the Carlsbad peakers (located in California) which also have dry cooling technology are expected to be complete in 2017. NRG engages with investors in quarterly earnings calls, annual investor meetings, CDP Climate and Water responses, and annual Sustainability Reporting.   |
| Local communities | Relevant, included | NRG considers local communities in water risk assessments. There are areas in which NRG generating facilities and the local community rely on the same water source. The South Texas Nuclear plant withdraws water from the Colorado River, however, the plant does not pull water directly from the river; nor does it discharge directly into the river. Water is pulled via pumps into a 7,000-acre reservoir, where it is held for the plant’s use. The reservoir that serves the South Texas Project can hold slightly more than 200,000 acre-feet of water. STP is allowed to withdraw 55 percent of the river’s flow above 300 cubic feet per second to fill its reservoir. This means the plant can only withdraw water during periods of high availability and gets nothing when the river runs low. This strategy ensures that water in the Colorado River is available for the communities and not in competition with power generation. NRG engages with the community at the South Texas Project nuclear plant, employees serve on school boards, city councils, chambers, navigation districts and charitable organizations. This investment by employees, supported by the company, has resulted in strong community support for STP which, in turn, has championed more than 60 different charitable agencies, schools, organizations and fundraising activities. |
| NGOs              | Relevant, included | NRG considers NGOs in water risk assessments. NGOs participate in long term planning for water resources and stakeholder engagement for water discharge permits. NRG works with NGOs to ensure water concerns are addressed. For example the Galveston Bay Foundation works with water basin stakeholders to ensure that there is adequate fresh  |

| Stakeholder  | Choose option      | Please explain   |
|--|--------------------|--|
|  |                    | <p>water inflows for the estuaries along the Texas Gulf Coast. The Galveston Bay Foundation broadly identifies the top five issues facing Galveston Bay as follows: * Loss or degradation of coastal habitats (wetlands, sea grass meadows, oyster reefs, etc. and due to issues such as subsidence and erosion, development, invasive species, changing salinities, etc.) * Need for more lands under conservation (Internal Company Knowledge, NRG supplies cord grass and volunteers for restoration projects) * Insufficient freshwater inflows (Other: Local/Regional Water Membership) * Poor water and sediment quality (bacteria, legacy pollutants such as dioxins and PCBs) (Internal Company Knowledge) * Lack of awareness of the importance of Galveston Bay (Other: Local/Regional Water Membership NRG is on the Galveston Bay Foundation Board, attends meetings, supports research (such as HARC Galveston Bay Report Card), to better understand the issues and supports the efforts to address the issues and improve Galveston Bay.</p>  |
| Other water users at a local level                 | Relevant, included | <p>NRG considers other water users in water risk assessments. For example, the Dickerson Power Plant has a white water training course on the Potomac River for use by professional canoe and kayak paddlers. The coal-fired Dickerson Generating Station draws water from the Potomac to cool its generators, then discharges the heated water back toward the main river. The water released into the river from once-through cooling is warm and naturally creates a productive environmental that is agreeable to athletes. It remains an active training center for whitewater slalom racing, swift water rescue training, and other whitewater activities. The kayakers and canoes that use the whitewater course depend on the operation of the plant to maintain the course.</p>   |
| Regulators   | Relevant, included | <p>NRG considers regulators at a local level in water risk assessments. Regulators set reporting standards and implement regulations. This process identifies regulatory risks such as EPA 316(b), water quality standards and water supply issues. NRG uses Internal Company knowledge of water supply needs, Regional Government databases such as the Texas Commission on Environmental Quality website, and Local Regional Water Membership such as the Texas Industry project to assess regulatory risk.</p>  |
| River basin management authorities                 | Relevant, included | <p>NRG considers river basin management authorities in risk assessments. NRG supported the addition of a River Master for the lower Brazos River in Texas. The River Masters job is to ensure that flows are met for contract water holders and to work with all stakeholders. NRG's Director of Water Resources serves on the board for the Brazos River Master.</p>  |
| Statutory special interest groups at a local level | Relevant, included | <p>NRG considers statutory special interest groups in water risk assessments. NRG serves on the board for the Lower Brazos River Coalition (LBRC) that was formed to provide a collective voice for downstream interests as competition for water increases. The LBRC represents a wide range of stakeholders in the Lower Brazos River Basin who are concerned about fair management of river water. The LBRC is a Task Force of The Economic Development Alliance for Brazoria County. These efforts use Internal Company Knowledge and Other: Local/Regional Water Membership. The LBRC is a partnership of concerned individuals, organizations, municipalities, ranchers and farmers, environmentalists and conservationists, businesses and industries, seeking fair and effective Brazos River water supply management. The LBRC exists to ensure that Texas properly develops and manages the river's limited resources for the benefit of all - including downstream local communities, agricultural needs, business and industry, energy concerns, sportsmen, wildlife habitat and critical environmental flows.</p> |
| Suppliers  | Relevant, included | <p>NRG rolled out AdaptOne in 2013 to its Tier 1 suppliers to collect supplier information. NRG requests Tier 1 suppliers to complete risk assessment questions including questions about water risk related to quality and quantity, regulatory changes, changes in price and stakeholder conflicts. 17% of suppliers are Tier 1 at present, they represent 20-25% of</p>   |

| Stakeholder                                | Choose option      | Please explain   |
|--|--------------------|--|
|  |                    | NRG's supply chain spend and are selected based on factors such as: criticality to operational continuity, market conditions, and the length of relationship with NRG. Tier 1 suppliers make up a large percentage of spend and are considered to be representative of NRG's supply chain related water concerns. The water risk information gathered through AdaptOne and Quarterly Business Reviews may be used by the contract administrator during contract awards/renewals. NRG may request suppliers to disclose water information. The reward to suppliers is access to NRG businesses to increase sales and business with NRG.   |
| Water utilities/suppliers at a local level | Relevant, included | NRG considers water utilities/suppliers at a local level in water risk assessments. NRG operations in many locations depend on the same water source for operations. A number of NRG locations depend on the local water utility for supply of water needed for operations and treatment of water that is discharged. Facilities engage water utilities to understand water risk to operations. Drinking water provided by Gulf Coast Water Authority (GCWA) comes from the Brazos River. The plant produces 50 million gallons per day, to continually produce a high quality drinking water to a population of over 185,000. W. A. Parish withdraws water from the same segment of the Brazos River to generate power. NRG works with the Gulf Coast Water Authority to ensure the community and business needs are met. |
| Other                                      |                    |  |

## W2.8

Please choose the option that best explains why your organisation does not undertake a water-related risk assessment

|                |                |
|----------------|----------------|
| Primary reason | Please explain |
|----------------|----------------|

## Further Information

**Module: Implications**

**Page: W3. Water Risks**

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**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

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**W3.2**

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

NRG's definition of substantive risk from water is the possibility that an event will occur and significantly affect the achievement of NRG's business goals. Risk identification and assessment process applies to both direct operations and supply chain.

NRG uses the measures, metrics and indicators for water risk assessment leveraging the management and professional judgment from the following perspectives:

•Financial impact:

- 1)Corporate earnings
- 2)Capital expenditure on technologies to reduce water consumption and withdrawal

•Plant operation

- 1)Operation disruption due to water shortage
- 2)Increase in costs of water usage
- 3)Supply chain risk

•Environmental impact

1)Water availability - Higher demand for fossil fuel generation units in California in light of low hydro power may result in more water consumption and withdrawal, further reducing water reserve in California.

3)Water quality of river basins

4)Regulations that impact supply and/or management of water

Water risk is monitored by the risk owners (individual plant operators) and reported to management upon material changes with a threshold of 20% in water consumption and withdrawal levels.

If it is determined that a water supply risk exists that could impact projected generation levels within any plant within the subsequent two year time frame, risk mitigation efforts are identified and economically evaluated for implementation. Water risk regarding the impact for barge delivery is evaluated on a daily basis, with contingency plans developed as needed. NRG SVP, Plant Operations reviews modelling scenarios generated for water risk determination.

Plant level NRG Water usage analysis is reviewed annually.

NRG water usage analysis is reviewed by the management of NRG Operations, Engineering and Commercial Operations.

W3.2a

Please provide the number of facilities\* per river basin exposed to water risks that could generate a substantive change in your business, operations, revenue or expenditure and the proportion this represents of total operations company-wide

| Country                  | River basin                    | Number of facilities exposed to water risk | Proportion of total operations (%) | Comment  |
|--------------------------|--------------------------------|--|------------------------------------|--|
| United States of America | Brazos River                   | 2  | 1-5                                | NRG has 2 facilities on the Brazos River that are exposed to water risk. The Brazos River has many stakeholders that depend on water. Drought conditions have the potential to make water unavailable for stakeholders.  |
| United States of America | Colorado River (Pacific Ocean) | 1  | Less than 1%                       | NRG has 1 facility on the Colorado River (Caribbean Sea) that is exposed to water risk. The Colorado River has many stakeholders that depend on water. Drought conditions have the potential to make water unavailable for stakeholders.   |
| United States of America | Mississippi River              | 5  | 1-5                                | NRG has 5 facilities on the Mississippi River that are exposed to water risk. The Mississippi River in Illinois has experienced temperature issues due to low flows during the summer, there are 3 facilities. NRG has 1 facility on the lower Mississippi that is exposed to risk of water level. NRG has a facility on the upper Mississippi that is at risk of the water freezing and could limit fuel supplied by barge.   |
| United States of America | Potomac River                  | 1  | Less than 1%                       | NRG has 1 facility on the Potomac River that is exposed to water risk. The Potomac River is impaired by nutrients from agriculture runoff.   |
| United States of America | Other:                         | 3  | 1-5                                | NRG has 3 generating stations located in United States of America, 'Other basins.' One facility is exposed to water risk from the basin being impaired by nutrients from agriculture runoff. The second facility uses ground water; this facility is in a subsidence district and is subject to changing regulations on ground water withdrawal. The third facility is on the Sabine River, where the site is below the 100 year flood plain. The facility was flooded in March 2016.  |
| Turkey                   | Other:                         | 1  | Less than 1%                       | NRG owns 80% of a generating station in 'Turkey, Other basins.' Municipal water use accounts for about 16% of total water use in Turkey, compared to 76% used by agriculture and 12% by industry. Total water withdrawals for all uses accounted for only 17% of total available water resources in an average year (average 1977-2001). Municipal water use thus accounted for only about 3% of available water resources. However, water availability is highly seasonal and is not equally distributed throughout the country. Local and regional water shortages occur despite ample average water availability. For example, in 2007 a severe drought hit the entire Mediterranean coast as well as Central Anatolia and threatened the water supply of Istanbul. |

**W3.2b**

Please provide the proportion of financial value that could be affected at river basin level associated with the facilities listed in W3.2a

| Country                  | River basin                    | Financial reporting metric | Proportion of chosen metric that could be affected within the river basin | Comment  |
|--------------------------|--------------------------------|----------------------------|---|--|
| United States of America | Brazos River                   | % generation capacity      | 11-20   | NRG has 2 facilities on the Brazos River that are exposed to water risk. The facilities that are on the Brazos River Basin for water supply has a capacity of 5,351 MWs. NRG's total capacity is 51,229 MW.                              |
| United States of America | Colorado River (Pacific Ocean) | % generation capacity      | 1-5   | NRG has 1 facility on the Colorado River (Pacific Ocean) that is exposed to water risk. NRG owns a capacity of 517 MWs at this facility on the Colorado River (Pacific Ocean) Basin for water supply. NRG's total capacity is 51,229 MW. |
| United States of America | Mississippi River              | % generation capacity      | 6-10  | NRG has 5 facilities on the Mississippi River that are exposed to water risk. The facilities that are on the Mississippi River Basin for water supply has a capacity of 4,677 MWs. NRG's total capacity is 51,229 MW.                    |
| United States of America | Potomac River                  | % generation capacity      | 1-5   | NRG has 1 facility on the Potomac River that is exposed to water risk. The facility that is located on the Potomac River Basin for water supply have a capacity of 831 MWs. NRG's total capacity is 51,229 MW.                           |
| United States of America | Other:                         | % generation capacity      | 6-10  | NRG has 3 other facilities that are exposed to water risk. The facilities have a capacity of 4,645 MWs. NRG's total capacity is 51,229 MW.   |
| Turkey                   | Other:                         | % generation capacity      | Less than 1%  | NRG has 1 facility in Turkey that is exposed to water risk. NRG owns a capacity of 115 MWs at this facility. NRG's total capacity is 51,229 MW.  |

**W3.2c**

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 | Brazos River | Physical-Climate change<br>Physical-Drought<br>Physical-Increased water scarcity<br>Physical-Increased water stress<br>Physical-Projected water scarcity<br>Physical-Projected water stress<br>Physical-Rationing of municipal water supply<br>Physical-Seasonal supply variability/Inter annual variability<br>Regulatory-Regulation of discharge quality/volumes leading to | Plant/production disruption leading to reduced output | NRG has 2 facilities located on the Brazos River. The Brazos River is important to NRG operations. The Brazos River has many stakeholders that depend on water. The water in the Brazos River is 100% accounted for through water rights. Drought conditions have the potential to make water unavailable for stakeholders. This impact is current | 1-3 years | Unlikely   | High                                    | Engagement with community<br>Engagement with customers<br>Engagement with public policy makers<br>Engagement with other stakeholders in the river basin<br>Engagement with suppliers<br>Establish site-specific targets<br>Increased investment in new technology<br>New products, markets<br>Promote best practice and awareness<br>Strengthen | NRG has a Director of Water Resource that serves one the Watermaster Advisory Committee and was elected as Chairman. The cost for firm water and the watermaster are \$3.2 million annually for 145,000 acre feet of water. The cost of the strategy is derived from 1 FTE + the cost of the water + the cost of the Watermaster. | NRG has secured "firm" water supplies through contracts with the Brazos River Authority (BRA) for 150,000 ac.ft/yr through state-issued permits; issued in 1926. The BRA control more than 750,000 ac.ft of water stored in 11 large reservoirs across the Brazos River Basin. "Firm" water is the amount of water that has been modelled by the Texas Commission on Environmental Quality as being available |

| 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>higher compliance costs</p> <p>Regulatory-Regulatory uncertainty</p> <p>Reputational-Community opposition</p> <p>Reputational-Negative media coverage</p> |                  | and is modeled to 2060. |           |            |   | <p>links with local community</p> <p>Tighter supplier performance standards</p> <p>Water management incentives</p> |                            | <p>on a year-to-year basis through the 9 year "drought of record" in the Brazos River Basin. NRG was one of several parties that successfully petitioned for implementation of a watermaster program in the Brazos River Basin, a Texas Commission on Environmental Quality program that regulates diverters in accordance with state water law during periods of water shortage. These NRG facilities are located in the</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  |
|--------------------------|--------------------------------|--|---|---|-----------|------------|---|---|--|--|
|                          |                                |  |   |   |           |            |   |   |  | Gulf Coast Region and the cost of the strategy is approximately \$3.2 million of \$11,194 million total NRG Business operating revenues. The cost of the strategy is derived from 1 FTE + the cost of the water + the cost of the Watermaster. |
| United States of America | Colorado River (Pacific Ocean) | Physical-Declining water quality<br>Physical-Drought<br>Physical-Increased water scarcity<br>Physical-Increased water stress<br>Physical-Projected water scarcity<br>Physical- | Plant/production disruption leading to reduced output | NRG has 1 facility on the Colorado River (Pacific Ocean) that are exposed to water risk. Since 2000, the Colorado River Basin has been experiencing a historic, extended drought that | 4-6 years | Unlikely   | Medium-high                             | Engagement with community<br>Engagement with customers<br>Engagement with public policy makers<br>Engagement with other stakeholders in the river basin | NRG has a Director of Water Resource that coordinates with the South Texas Project Water Manager. The South Texas Project has a take or pay contract, which NRG is | NRG owns 44% of the South Texas Project that is managed by South Texas Project Nuclear Operating Company (STPNOC). STPNOC has a take or pay contract with the Lower  |

| 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   |
|---------|-------------|---|------------------|---|-----------|------------|---|--|--|---|
|         |             | Projected water stress<br>Physical-<br>Seasonal supply variability/Inter annual variability<br>Regulatory-<br>Regulatory uncertainty<br>Regulatory-<br>Unclear and/or unstable regulations on water allocation and wastewater discharge<br>Reputational-<br>Community opposition<br>Reputational-<br>Litigation<br>Reputational-<br>Negative media coverage |                  | has impacted regional water supply and other resources, such as hydropower, recreation, and ecologic services. During this time, the Basin has experienced its lowest 16-year period of inflow in over 100 years of record keeping, and reservoir storage in the Colorado River system has declined from nearly full to about half of capacity. |           |            |   | Engagement with suppliers<br>Establish site-specific targets<br>Promote best practice and awareness<br>Supplier diversification<br>Water management incentives | responsible for 44%. The cost of the strategy is derived from .5 FTE + the cost of the water, which is \$0.5 million annually. | Colorado River Authority. The South Texas Nuclear plant withdraws water from the Colorado River. Water is pumped into a 7,000-acre reservoir, where it's held for the plant's use. The reservoir that serves the South Texas Project can hold slightly more than 200,000 acre-feet of water, which is enough water supply for 9 years. STP is allowed to withdraw 55 percent of the river's flow above 300 cubic feet per second to fill its reservoir. |

| 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 means the plant can only withdraw water during periods of high availability and gets nothing when the river runs low. This strategy ensures that water in the Colorado River is available for the communities and not in competition with power generation. NRG's share of STPNOC's water is \$0.5 million per year, this includes the cost of water and personnel to manage the contracts. |
| United States of | Mississippi River | Physical-Increased water stress | Transport disruption | NRG has 5 facilities located on | 1-3 years | Probable   | Medium-high                             | Engagement with community | NRG water response strategy for | NRG acquired these facilities on April 1,  |

| 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  |
|------------------|---------------|--|------------------|--|----------------------|-----------------|---|--|---|--|
| America          |               | Physical-Projected water stress<br>Physical-Seasonal supply variability/Inter annual variability<br>Regulatory-Regulatory uncertainty<br>Regulatory-Unclear and/or unstable regulations on water allocation and wastewater discharge<br>Reputational-Community opposition<br>Reputational-Litigation<br>Reputational-Negative media coverage |                  | the Mississippi River in Illinois. The Mississippi River has experienced temperature issues due to low flows during the summer. The drought of 2012 created operational challenges for these electric generating stations. |                      |                 |   | Engagement with public policy makers<br>Engagement with other stakeholders in the river basin<br>Establish site-specific targets | the Mississippi is to manage discharge flows with an FTE. The current cost is a 0.1 FTE tracking water temperatures in the summer and modelling discharge temperatures . The average cost for the .1 FTE would be \$10,000.00 | 2014. The summer of 2014 was very cool and there were no water temperature issues. NRG is working on a long term strategy to ensure that water temperature does not impact operations. The research is being conducted and the exact solution or cost has not been determined. The current cost to manage this risk is perceived to be very low. |
| United States of | Potomac River | Physical-Pollution of water source   | Litigation       | NRG has 1 facility on the Potomac  | Current-up to 1 year | Highly probable | Medium                                  | Engagement with community  | NRG is managing water risks in  | The facility undertook water   |

| 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   |
|---------|-------------|---|------------------|--|-----------|------------|---|--|---|---|
| America |             | Regulatory-Regulation of discharge quality/volumes leading to higher compliance costs<br>Regulatory-Regulatory uncertainty<br>Regulatory-Unclear and/or unstable regulations on water allocation and wastewater discharge<br>Reputational-Community opposition<br>Reputational-Litigation<br>Reputational-Negative media coverage |                  | River Basin. The Potomac River is impaired by nutrients from agriculture runoff. |           |            |   | Engagement with public policy makers<br>Engagement with other stakeholders in the river basin<br>Establish site-specific targets | the Potomac River Basin by controlling the total water withdrawals and discharges with reductions of 350,000-445,000 GPD MIN OR 127,750,000 to 162,425,000 GAL/YR+. The cost of the strategy to upgrade controls was \$70 thousand of \$11,194 million total NRG Business operating revenues. | conservation to reduce the amount of nutrients in our wastewater. Nutrients, nitrogen and phosphorus are harmful to receiving bodies of water as they cause algae blooms that reduce available oxygen for other organisms. Nutrient Total Maximum Daily Limits (TMDL's) set by Maryland Department of Environment (MDE) and the Environmental Protection Agency (EPA) for Chesapeake Bay and major tributaries like |

| 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>the Potomac River – the Plant’s receiving body. Before merging with NRG, GenOn submitted a request to reopen the NPDES permit to Maryland Department of Environment (MDE) in August 2010, and had been working with MDE to resolve this issue since that time. Since the scrubber wastewater treatment system was brought on line in late 2009, we have continued to explore all options to increase the</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>effectiveness of the system, including:</p> <ul style="list-style-type: none"> <li>•Lowering and equalizing the chlorides in the Sequential Batch Reactor (SBRs).</li> <li>•Enhanced use of Klaraid in the SBRs and the effluent tank</li> <li>•Improved clarifier performance</li> <li>•Improved temperature stabilization</li> <li>•Capturing ammonia rich plant</li> <li>demineralizer regeneration wastewater and routing it to the WWTP for nitrogen removal</li> <li>•Hiring a consultant with specific expertise in the operation</li> </ul> |

| 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 SBRs to improve operational results</p> <ul style="list-style-type: none"> <li>In 2014 we completed the pilot study that showed lower, controlled solids retention times in the SBRs would help the station maintain nutrient levels in the 4 mg/l range. To be able to run at such a low SRT, filters that could capture, quantify and return solids to the SBRs would be necessary. NRG ran a membrane study to ensure that technology would be</li> </ul> |

| 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   |
|--------------------------|-------------|--|---|---|----------------------|-----------------|---|--|--|---|
|                          |             |  |   |   |                      |                 |   |  |  | compatible with the scrubber wastewater. In addition, we are in the process of installing new instrumentation to the SBRs that could improve operations.  |
| United States of America | Other:      | Physical- Pollution of water source<br>Regulatory- Regulation of discharge quality/volumes leading to higher compliance costs<br>Regulatory- Regulatory uncertainty<br>Regulatory- Unclear and/or unstable regulations on water allocation and | Plant/production disruption leading to reduced output | NRG has 3 other facilities. The biggest facility among the three is Chalk Point, where the water risk is impaired by nutrients from agriculture runoff. | Current-up to 1 year | Highly probable | Medium                                  | Engagement with community<br>Engagement with public policy makers<br>Engagement with other stakeholders in the river basin<br>Establish site-specific targets<br>Infrastructure investment<br>Infrastructure maintenance<br>Promote best | NRG is managing water risks by controlling the total water withdrawals and discharges with reductions of 350,000-445,000 GPD MIN OR 127,750,000 to 162,425,000 GAL/YR+. The cost of the strategy | The Chalk Point facility undertook water conservation to reduce the amount of nutrients in our wastewater. Nutrients, nitrogen and phosphorus are harmful to receiving bodies of water as they cause algae blooms that reduce available |

| 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  |
|---------|-------------|--|------------------|-----------------------|-----------|------------|---|--|---|--|
|         |             | wastewater discharge<br>Reputational-Community opposition<br>Reputational-Litigation<br>Reputational-Negative media coverage |                  |                       |           |            |   | practice and awareness<br>Tighter supplier performance standards | to study plant water flows and upgrade controls was \$230 thousand of \$11,194 million total NRG Business operating revenues. | oxygen for other organisms. Nutrient Total Maximum Daily Limits (TMDL's) set by Maryland Department of Environment (MDE) and the Environmental Protection Agency (EPA) for Chesapeake Bay and major tributaries like the Potomac River – the Plant's receiving body. Before merging with NRG, GenOn submitted a request to reopen the NPDES permit to Maryland Department of Environment (MDE) in August 2010, |

| 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>and has been working with MDE to resolve this issue since that time. Since the scrubber wastewater treatment system was brought on line in late 2009, we have continued to explore options to increase the effectiveness of the system, including:</p> <ul style="list-style-type: none"> <li>•Lowering and equalizing the chlorides in the Sequential Batch Reactor (SBRs).</li> <li>•Enhanced use of Klaraid in the SBRs and the effluent tank</li> <li>•Improved clarifier performance</li> </ul> |

| 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  |
|---------|-------------|-------------|------------------|-----------------------|-----------|------------|---|-------------------|----------------------------|--|
|         |             |             |                  |                       |           |            |   |                   |                            | <ul style="list-style-type: none"> <li>•Improved temperature stabilization</li> <li>•Capturing ammonia rich plant demineralizer regeneration wastewater and routing it to the WWTP for nitrogen removal</li> <li>•Hiring a consultant with specific expertise in the operation of SBRs to improve operational results</li> <li>•In 2014 we completed the pilot study that showed lower, controlled solids retention times in the SBRs would help the station maintain nutrient levels</li> </ul> |

| 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   |
|---------|-------------|---------------------|-----------------------------|------------------------|-----------|------------|---|-------------------|----------------------------|---|
|         |             |                     |                             |                        |           |            |   |                   |                            | in the 4 mg/l range. To be able to run at such a low SRT, filters that could capture, quantify and return solids to the SBRs would be necessary. NRG ran a membrane study to ensure that technology would be compatible with the scrubber wastewater. In addition, we are in the process of installing new instrumentation to the SBRs that could improve operations. |
| Turkey  | Other:      | Physical-Inadequate | Plant/production disruption | NRG owns 80 percent of | 4-6 years | Unlikely   | Low-medium                              | Engagement with   | NRG owns 80% of the        | NRG owns 80% of Doga  |

| 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   |
|---------|-------------|--|---------------------------|---------------------------------------|-----------|------------|---|--|--|---|
|         |             | infrastructure<br>Physical-<br>Increased water scarcity<br>Physical-<br>Increased water stress<br>Physical-<br>Projected water scarcity<br>Physical-<br>Rationing of municipal water supply<br>Reputational-<br>Community opposition | leading to reduced output | the Doga facility in Istanbul Turkey. |           |            |   | community Engagement with customers<br>Engagement with public policy makers<br>Engagement with other stakeholders in the river basin<br>Infrastructure investment<br>Infrastructure maintenance<br>Strengthen links with local community | Doga Generating facility. The facility uses municipal water supply for make-up. The facility has minimal water cost for power generation. NRG's cost of water is \$200,000.00. | Generating Station. Water is purchased from the local municipal water supply. The water strategy is that the facility is a new efficient combined cycle that uses minimal water for electric power generation. Water is only used for steam and uses radiators for dry (waterless) cooling. |

W3.2d

Please list the inherent water 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 | Mississippi River | Physical-Drought<br>Physical-Flooding<br>Physical-Seasonal supply variability/Inter annual variability | Transport disruption | NRG has inherent water risks that have the potential to impact fuel supply. The Mississippi River is used to move coal by barge. NRG has 2 locations that receive coal delivery from barges. Severe flooding or drought can limit or stop barge traffic. The reduced access to the river could impact fuel supply. | Current-up to 1 year | Probable   | Low-medium                              | Develop flood emergency plans<br>Engagement with other stakeholders in the river basin<br>Engagement with suppliers<br>Establish site-specific targets<br>Infrastructure maintenance<br>Greater due diligence<br>Supplier diversification | NRG ComOps Managers and a Meteorologist manage risk of fuel delivery. The cost is apportioned to time associated with logistics of barged coal and the meteorologist is \$50,000.00 per year of 11,194 million total NRG Business revenues. Fuel delivery risk is minimized by maintaining a 25 day supply; this gives time to react to issues as they arise. NRG Coal Inventory on December 31, 2014 was valued at \$414 million and would represent the average daily | NRG has inherent water risks that have the potential to impact fuel supply. NRG's fuel supplied by barge transportation requires constant monitoring of weather and river conditions. NRG has a staff meteorologist to forecast weather; this information is used to create strategies to ensure fuel deliveries. The cost is apportioned to time associated with logistics of barged coal and the meteorologist. To minimize risk NRG must understand the process of moving |

| 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 inventory for NRG's generating fleet. | materials by barge and the risks associated with each river segment. NRG has developed a decision tree of solutions to recognize problems and get ahead of this issue to minimize risk and to maintain electric generation. For example, if fuel is unable to be loaded at the preferred port, it is likely that the fuel can be loaded at another location. If fuel cannot be delivered by barge it can be trucked in. Trucking fuel is more expensive than barge delivery, but the increased demand for |

| 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>electricity would make fuel trucking economically feasible. As part of the risk minimization strategy it is important that NRG understand the demand for barge transportation for other commodities, such as, grain and chemicals. These commodities fluctuate in delivery volumes and can increase delivery time. NRG also minimizes fuel delivery risk by maintaining a 25 day fuel supply; this gives lead time to react to issues as they arise. NRG</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  |
|---------|-------------|-------------|------------------|-----------------------|-----------|------------|---|-------------------|----------------------------|--|
|         |             |             |                  |                       |           |            |   |                   |                            | Coal/Lignite Inventory on December 31, 2014 was valued at \$414 million and would represent the average daily coal inventory for NRG's generating fleet. |

W3.2e

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 |
|----------------|----------------|

W3.2f

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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W3.2g

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**

**Page: W4. Water Opportunities**

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W4.1

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

Yes

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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 | Climate change adaptation<br>Competitive advantage<br>Ensuring supply chain resilience<br>Increased brand value<br>Improved community relations<br>Increased shareholder value<br>Improved water efficiency<br>Innovation<br>Regulatory changes<br>R&D<br>Sales of new products/services<br>Social licence to operate<br>Staff retention | NRG created NRG Renew, a subsidiary of NRG Energy. Inc., one of the largest renewable energy companies in the United States with more than 150 renewable energy projects totalling approximately 4,500 gross megawatts of solar and wind capacity in operation throughout North America, U.S. territories and the Caribbean. Renewable energy emits no CO2 and uses little or no water. NRG gives customers the latest tools to better manage their energy use and is a pioneer in developing smarter energy choices. NRG Renew continues to show improved generation growth. In 2012 there were 1,375 thousand net megawatt hours generated versus 6,992 thousand net megawatt hours in 2015. This is a growth of 500% in net megawatt hours generation. | Current-up to 1 year | NRG recognizes that traditional power generation uses large amounts of water. Water supply is not available in all locations. NRG is developing and implementing a portfolio of technological capabilities to create a sustainable energy future. In 2015, Renew had projects in the United States, Haiti, and Guam. New business solutions provide a path to growth allowing NRG to double the 2015 projected EBITDA of \$3.3 billion to \$6.6 billion by 2022. NRG renewable power generation capacity grew almost 275% from 2012 (1270MW) to 2015 (4555 MW). |
| Guam                     | Increased brand value<br>Improved community relations<br>Improved water efficiency<br>Sales of new products/services   | NRG Renew, a subsidiary of NRG Energy. Inc., is one of the largest renewable energy companies in the United States with more than 150 renewable energy projects totalling approximately 4,500 gross megawatts of solar and wind capacity in operation throughout North America, U.S. territories and the Caribbean. Whether as one of the largest solar power developers in the country or by giving customers the latest tools to better manage their energy use, NRG is a pioneer in developing smarter energy choices.   | Current-up to 1 year | NRG acquired a 25.65 MW solar project on the Island of Guam from Quantum Guam Power Holdings LLC, a wholly-owned affiliate of Quantum Utility Generation LLC. To help alleviate the Pacific island from the volatility of unpredictable fuel prices and availability, we will construct, own and operate the solar project, which will sell all of its power output to the Guam Power Authority (GPA). We will relieve the island of its dependency on imported residual fuel oil and diesel for its power. Estimates for the project predict that the          |

| Country or region        | Opportunity  | Strategy to realize opportunity   | Estimated timeframe  | Please explain  |
|--------------------------|--|---|----------------------|---|
|                          |  |   |                      | solar solution will offset the consumption of almost 2 million barrels of residual fuel oil and diesel – minimizing Guam's carbon footprint.  |
| Virgin Islands           | Increased brand value<br>Improved community relations<br>Improved water efficiency<br>Sales of new products/services       | NRG Renew, a subsidiary of NRG Energy. Inc., is one of the largest renewable energy companies in the United States with more than 150 renewable energy projects totalling approximately 4,500 gross megawatts of solar and wind capacity in operation throughout North America, U.S. territories and the Caribbean. Whether as one of the largest solar power developers in the country or by giving customers the latest tools to better manage their energy use, NRG is a pioneer in developing smarter energy choices. | Current-up to 1 year | NRG Energy. Inc., through its wholly-owned subsidiary, NRG Renew, is partnering with the Toshiba International Corporation to construct the 4-megawatt (MW) Spanish Town Estate Solar 1 LLC (“Spanish Town”) facility on the island of St. Croix. The system will generate clean, reliable solar power for delivery to customers of US Virgin Island Water and Power Authority (WAPA). The project will also help the US Virgin Islands and St. Croix achieve its renewable energy goals for 2015. The photovoltaic technology installed on the 17-acre site is quiet, requires no fuel and needs minimal water. The 19,500 photovoltaic modules connected to nine inverters will generate enough emission-free power for more than 1,600 homes. Over its 25-year Power Purchase Agreement (PPA) period, Spanish Town will create approximately 96 direct and indirect jobs during construction and will inject approximately \$1.5 million into the local economy. |
| United States of America | Competitive advantage<br>Cost savings<br>Improved water efficiency<br>Regulatory changes<br>Sales of new products/services | NRG is evaluating, developing and partnering with others to create cost effective ways to desalinate water. NRG is researching desalination opportunities as an area to grow new technologies.  | 1-3 years            | NRG recognizes that there is a need for freshwater and desalination uses a lot of energy and can be costly. NRG is developing and testing desalination solutions.   |

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**

**Module: Accounting**

**Page: W5. Facility Level Water Accounting (I)**

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W5.1

**Water withdrawals: for the reporting year, 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 year? | Please explain   |
|---------------------------|--------------------------|-------------------|------------------------|--|---|--|
| Facility 1                | United States of America | Mississippi River | Big Cajun II           | 378497   | Much lower  | Water withdrawal decreased 19% while electricity production decreased by 32%. Decrease in generation and water withdrawal is related to an outage to convert Unit 2 from coal to gas. Unit 3 was in an outage to add mercury controls for compliance.                          |
| Facility 2                | United States of America | Other:            | Chalk Point            | 641087   | Much lower  | Water withdrawal decreased 21% while electricity production decreased by 30%. The reduction in electric generation resulted in a decrease in water withdrawal. The decreases are due to market driven decrease in generation from coal, due to favourable natural gas pricing. |
| Facility 3                | United States of America | Mississippi River | Cheswick               | 189575   | Much lower  | Water withdrawal decreased 22% while electricity production decreased by 34%. The reduction in electric generation resulted in a decrease in water withdrawal. The decreases are due to market driven decrease in generation from coal, due to favourable natural gas pricing. |
| Facility 4                | United States of America | Other:            | Cottonwood             | 7132   | Much higher   | Water withdrawal increased 28% while electricity production increased by 37%. The increase in withdrawal is related to the increased generation. This facility is fuelled by natural gas and there is a market switch to natural gas due to favourable pricing.                |
| Facility 5                | United States of America | Potomac River     | Dickerson              | 248136   | Much lower  | Water withdrawal decreased 22% while electricity production decreased by 32%. The reduction in electric generation resulted in a decrease in water withdrawal. The decreases are due to market driven decrease in generation from coal, due to favourable natural gas pricing. |
| Facility 6                | Turkey                   | Other:            | Doga, Istanbul, Turkey | 134  | This is our first year of measurement   | NRG acquired this facility as part of an acquisition in April 2014. NRG has an 80% ownership share. As such, this is the first year for which complete water data is available.  |

| 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 year? | Please explain   |
|---------------------------|--------------------------|--------------------------------|---------------------|--|---|--|
| Facility 7                | United States of America | Mississippi River              | Joliet 9 and 29     | 1743645  | About the same  | Joliet 9 and 28 are reported as a single location in 2015. This facility is operated as a single location. Water withdrawal increased 2% while electricity production increased by 9%. The increase in water withdrawal is related to the increase in generation. This facility had better forced and maintenance outage performance in 2015.                          |
| Facility 8                | United States of America | Brazos River                   | Limestone           | 18142  | Much lower  | Water withdrawal decreased 29% while electricity production decreased by 23%. The reduction in electric generation resulted in a decrease in water withdrawal. The decreases are due to market driven decrease in generation from coal, due to favourable natural gas pricing.   |
| Facility 9                | United States of America | Mississippi River              | Powerton            | 21474  | Much lower  | Water withdrawal decreased 27% while electricity production decreased by 34%. The reduction in electric generation resulted in a decrease in water withdrawal. The decreases are due to market driven decrease in generation from coal, due to favourable natural gas pricing.   |
| Facility 10               | United States of America | Colorado River (Pacific Ocean) | South Texas Project | 55098  | Much higher   | Water withdrawal increased 45% while electricity production increased by 4%. NRG has a 44% ownership share in the South Texas Project. There was an abundance of rainfall in 2015; the South Texas Project can only withdraw water from the river when there are sufficient flows. South Texas Project withdrawal from the river in 2015 was to fill the cooling lake. |
| Facility 11               | United States of America | Other:                         | TH Wharton          | 1737   | Much higher   | Water withdrawal increased 35% while electricity production increased by 177%. The increase in withdrawal is related to the increased generation. This facility is fuelled by natural gas and there is a market switch to natural gas due to favourable pricing.   |

| 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 year? | Please explain  |
|---------------------------|--------------------------|-------------------|---------------|--|---|---|
| Facility 12               | United States of America | Brazos River      | WA Parish     | 92032  | Higher  | Water withdrawal increased 14% while electricity production decreased by 2%. The WA Parish facility has natural gas and coal fuelled generation. The natural gas units generation increased by 90% and the coal fuelled generation decreased by 4%. The increase in water withdrawal is primarily due to an abundance of water in the Brazos River and was pumped to fill the cooling lake. |
| Facility 13               | United States of America | Mississippi River | Will County   | 436388   | Much lower  | Water withdrawal decreased 40% while electricity production decreased by 31%. The reduction in electric generation resulted in a decrease in water withdrawal. The decreases are due to the deactivation of Unit 3 and market driven decrease in generation from coal, due to favourable natural gas pricing.   |

#### Further Information

#### Page: W5. Facility Level Water Accounting (II)

#### W5.1a

Water withdrawals: for the reporting year, please provide withdrawal data, in megaliters per year, for the water sources used for all facilities reported in W5.1

| Facility reference number | Fresh surface water | Brackish surface water/seawater | Rainwater | Groundwater (renewable) | Groundwater (non-renewable) | Produced/process water | Municipal water | Wastewater from another organization | Comment   |
|---------------------------|---------------------|---------------------------------|-----------|-------------------------|-----------------------------|------------------------|-----------------|--------------------------------------|---|
| Facility 1                | 377132              | 0                               | 0         | 0                       | 1365                        | 0                      | 0               | 0                                    | Big Cajun II uses fresh surface water for once through cooling and make-up to a cooling tower. Fresh groundwater is used for steam generation and potable water. Unit 2 was converted to natural gas fuel in 2015. NRG operates Unit 3 and has a 50% ownership share. |
| Facility 2                | 0                   | 639440                          | 0         | 0                       | 1647                        | 0                      | 0               | 0                                    | Chalk Point uses brackish water for once through cooling with coal and natural gas as fuel sources. Ground water is used for steam generation and potable water.  |
| Facility 3                | 187001              | 0                               | 0         | 0                       | 2536                        | 0                      | 38              | 0                                    | Cheswick uses fresh surface water for once through cooling and steam generation. Ground water is used for potable water. The facility uses coal as fuel source.   |
| Facility 4                | 7127                | 0                               | 0         | 0                       |                             | 0                      | 5               | 0                                    | Cottonwood uses fresh surface water as makeup to a cooling tower and steam generation. Ground water is used for   |

| Facility reference number | Fresh surface water | Brackish surface water/seawater | Rainwater | Groundwater (renewable) | Groundwater (non-renewable) | Produced/process water | Municipal water | Wastewater from another organization | Comment   |
|---------------------------|---------------------|---------------------------------|-----------|-------------------------|-----------------------------|------------------------|-----------------|--------------------------------------|---|
|                           |                     |                                 |           |                         |                             |                        |                 |                                      | potable water. The facility uses coal as fuel source.   |
| Facility 5                | 248125              | 0                               | 1         | 0                       | 10                          | 0                      | 0               | 0                                    | Dickerson uses fresh surface water for once through cooling and steam generation. Ground water is used for potable water. The plant uses coal and natural gas as fuel sources.                            |
| Facility 6                | 0                   | 0                               | 0         | 0                       |                             | 0                      | 134             | 0                                    | Doga withdraws water from Municipal Supply for co-generation closed cycle. Plant effluents water is recycled by Waste Water Treatment Plant. The facility is cogeneration that uses natural gas for fuel. |
| Facility 7                | 1743278             | 0                               | 0         | 0                       | 367                         | 0                      | 0               | 0                                    | Joliet 9 and 29 uses fresh surface water for once through cooling with coal as a fuel source. Ground water is used for steam generation. These units are being converted to natural gas in 2016.          |
| Facility 8                | 18141               | 0                               | 0         | 0                       | 1                           | 0                      | 0               | 0                                    | Limestone uses fresh surface water as   |

| Facility reference number | Fresh surface water | Brackish surface water/seawater | Rainwater | Groundwater (renewable) | Groundwater (non-renewable) | Produced/process water | Municipal water | Wastewater from another organization | Comment   |
|---------------------------|---------------------|---------------------------------|-----------|-------------------------|-----------------------------|------------------------|-----------------|--------------------------------------|---|
|                           |                     |                                 |           |                         |                             |                        |                 |                                      | make-up to cooling towers. Ground water is used for potable water and steam generation. The plant uses coal as a fuel source.   |
| Facility 9                | 20938               | 0                               | 0         | 0                       | 536                         | 0                      | 0               | 0                                    | Powerton uses fresh surface water to supply a cooling lake. Ground water is used for steam generation and potable water. The plant uses coal as a fuel source.  |
| Facility 10               | 0                   | 36013                           | 18489     | 0                       | 596                         | 0                      | 0               | 0                                    | South Texas Project uses brackish water from the Colorado River as make-up to the cooling lake for once through cooling. Rainwater that falls on the facility is diverted to the cooling pond and used as make-up. The groundwater is used for steam generation and potable water. NRG owns 44 percent of the South Texas Project nuclear power facility. |
| Facility 11               | 0                   | 0                               | 161       | 0                       | 1576                        | 0                      | 0               | 0                                    | TH Wharton use groundwater as make-   |

| Facility reference number | Fresh surface water | Brackish surface water/seawater | Rainwater | Groundwater (renewable) | Groundwater (non-renewable) | Produced/process water | Municipal water | Wastewater from another organization | Comment  |
|---------------------------|---------------------|---------------------------------|-----------|-------------------------|-----------------------------|------------------------|-----------------|--------------------------------------|--|
|                           |                     |                                 |           |                         |                             |                        |                 |                                      | up to cooling towers, steam generation and potable water. The facility uses natural gas for fuel and is a combined cycle technology.   |
| Facility 12               | 54088               | 0                               | 34923     | 0                       | 3021                        | 0                      | 0               | 0                                    | WA Parish uses fresh surface water to supply a cooling lake, the lake captures rainfall and runoff. Ground water is used for steam generation and potable water. The plant uses coal and natural gas as a fuel source. |
| Facility 13               | 436293              | 0                               | 0         | 0                       | 95                          | 0                      | 0               | 0                                    | Will County uses fresh surface water for once through cooling and coal as a fuel source. Ground water is used for steam generation. Unit 3 was retired in 2015, Unit 4 is set to retire in 2018.                       |

**W5.2**

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

| 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 year? | Please explain  |
|---------------------------|---|--|---|
| Facility 1                | 367564  | Much lower   | Big Cajun II water discharges were 18% less than the last reporting year. The reduction in discharge is in relation to the reduction in electricity generation and water withdrawal. The facility discharges fresh water that meets or is better than the permit discharge limits.  |
| Facility 2                | 635424  | Much lower   | Chalk Point discharges brackish and freshwater. The facility discharges were 21% less than the last reporting year. The reduction in discharge is in relation to the reduction in electricity generation and water withdrawal.  |
| Facility 3                | 184107  | Much lower   | Cheswick water discharges were 18% less than the last reporting year. The reduction in discharge is in relation to the reduction in electricity generation and water withdrawal. The facility discharges fresh water that meets or is better than the permit discharge limits.      |
| Facility 4                | 1034  | Much higher  | Cottonwood water discharges were 24% more than the last reporting year. The increase in discharge is in relation to the increase in electricity generation and water withdrawal. The facility discharges fresh water that meets or is better than the permit discharge limits.      |
| Facility 5                | 247857  | Much lower   | Dickerson discharges freshwater. The facility discharges were 22% less than the last reporting year. The reduction in discharge is in relation to the reduction in electricity generation and water withdrawal.   |
| Facility 6                | 18  | This is our first year of measurement  | NRG acquired this facility as part of an acquisition in April 2014. NRG has an 80% ownership share. As such, this is the first year for which complete water data is available.   |
| Facility 7                | 1738416   | About the same   | Joliet 9 and 29 discharges freshwater that meets or is better than the discharge permit limits. The facility discharges were 1% less than the last reporting year.  |
| Facility 8                | 0   | About the same   | Limestone does not usually discharge water. Process water is reused in plant systems. This facility was zero discharge in 2015.   |
| Facility 9                | 0   | About the same   | Powerton does not usually discharge water. Process water is reused in the cooling lake. This facility was zero discharge in 2015.   |
| Facility 10               | 1471  | Much lower   | South Texas Project water discharges were 36% less than the last reporting year. The reduction in discharge is in relation to the amount of rainfall that was treated and discharged. The facility discharges fresh water that meets or is better than the permit discharge limits. |
| Facility 11               | 1049  | Higher   | TH Wharton water discharges were 20% more than the last reporting year. The increase in discharge is in relation to the increase in electricity generation and water withdrawal. The facility discharges fresh water that meets or is better than the permit discharge limits.      |
| Facility 12               | 72637   | Much higher  | WA Parish discharges increase 145% from the last reporting year. Process water is reused in   |

| 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 year? | Please explain  |
|---------------------------|---|--|---|
|                           |   |  | the cooling lake. Discharge consists of excess freshwater that meets or is better than the discharge permit limits.   |
| Facility 13               | 436293  | Much lower   | Will County water discharges were 40% less than the last reporting year. The reduction in discharge is in relation to the reduction in electricity generation and water withdrawal. Unit 3 was retired in 2015. The facility discharges fresh water that meets or is better than the permit discharge limits. |

**W5.2a**

**Water discharge: for the reporting year, please provide water discharge data, in megaliters per year, by destination for all facilities reported in W5.2**

| Facility reference number | Fresh surface water | Municipal/industrial wastewater treatment plant | Seawater | Groundwater | Wastewater for another organization | Comment   |
|---------------------------|---------------------|---|----------|-------------|-------------------------------------|---|
| Facility 1                | 367564              | 0   | 0        | 0           | 0                                   | Big Cajun II discharges freshwater by returning water that is the same quality or better to the withdrawal source. The primary discharge source is once through cooling.  |
| Facility 2                | 1222                | 0   | 634202   | 0           | 0                                   | Chalk Point discharges brackish water by returning water to the withdrawal source. The primary discharge source is once through cooling. A small amount of freshwater is discharged to non-fresh surface water.   |
| Facility 3                | 184087              | 20  | 0        | 0           | 0                                   | Cheswick discharges freshwater by returning water that is the same quality or better to the withdrawal source. The primary discharge source is once through cooling. Water that is used for employee sanitation and hygiene is discharged to the municipal treatment plant. |

| Facility reference number | Fresh surface water | Municipal/industrial wastewater treatment plant | Seawater | Groundwater | Wastewater for another organization | Comment   |
|---------------------------|---------------------|---|----------|-------------|-------------------------------------|---|
| Facility 4                | 1030                | 4   | 0        | 0           | 0                                   | Cottonwood discharges freshwater by returning water that is the same quality or better to the withdrawal source. The primary discharge source is cooling tower blowdown. Water that is used for employee sanitation and hygiene is discharged to the municipal treatment plant. |
| Facility 5                | 247857              | 0   | 0        | 0           | 0                                   | Dickerson discharges freshwater by returning water to the withdrawal source. The primary discharge source is once through cooling.  |
| Facility 6                | 0                   | 18  | 0        | 0           | 0                                   | Doga facility discharges pre-treated wastewater to municipal water treatment.   |
| Facility 7                | 1738416             | 0   | 0        | 0           | 0                                   | Joliet 9 and 29 discharge freshwater by returning water that is the same quality or better to the withdrawal source. The primary discharge source is once through cooling.  |
| Facility 8                | 0                   | 0   | 0        | 0           | 0                                   | Limestone does not usually discharge water. Process water is reused or recycled in plant systems. This facility was zero discharge in 2015.   |
| Facility 9                | 0                   | 0   | 0        | 0           | 0                                   | Powerton does not usually discharge water. Process water is reused or recycled in facility systems and the cooling lake. This facility was zero discharge in 2015.  |
| Facility 10               | 0                   | 0   | 1471     | 0           | 0                                   | South Texas Project discharges water as needed for plant operations. The facility discharged a small amount of brackish water in 2015. Water is returned to the withdrawal source at a quality that is the same or better than the receiving water.                             |
| Facility 11               | 1049                | 0   | 0        | 0           | 0                                   | TH Wharton discharges freshwater that originated from groundwater. Water is discharge at a quality that is the same or better than the receiving water.   |
| Facility 12               | 72637               | 0   | 0        | 0           | 0                                   | WA Parish discharges water as needed for plant operations. The facility discharged freshwater in 2015. Water is returned to the withdrawal source at a quality that is the same or better than the receiving water.   |
| Facility 13               | 436293              | 0   | 0        | 0           | 0                                   | Will County discharged freshwater by returning water that is the same quality or better to the withdrawal source. The primary discharge source is once through cooling.   |

W5.3

Water consumption: for the reporting year, please provide water consumption data for all facilities reported in W3.2a

| Facility reference number | Consumption (megaliters/year) | How does this compare to the last reporting year? | Please explain   |
|---------------------------|-------------------------------|---|--|
| Facility 1                | 10933                         | Much lower  | Big Cajun 2 water consumption decreased 30%. Water withdrawal decreased by 19% while electricity production decreased by 32%. Decrease in generation and water withdrawal is related to an outage to convert Unit 2 from coal to gas. Unit 3 was in an outage to add mercury controls for compliance contributed to reduced consumption. The facility conducted a water study and is reusing water that was previously discharged. The reuse of water in other systems has increased consumption.                |
| Facility 2                | 5663                          | Lower   | Chalk Point water consumption decreased 4%. Water withdrawal decreased by 21% while electricity production decreased by 30%. The reduction in electric generation resulted in a decrease in water withdrawal, but an increase in consumption. The decrease is due to market driven decrease in generation from coal, due to favourable natural gas pricing. The facility conducted a water study and is reusing water that was previously discharged. The reuse of water in systems has increased consumption.   |
| Facility 3                | 5468                          | Lower   | Cheswick water consumption Increased by 3%. Water withdrawal decreased by 22% while electricity production decreased by 34%. The reduction in electric generation resulted in a decrease in water withdrawal, but an increase in consumption. The decreases are due to market driven decrease in generation from coal, due to favourable natural gas pricing. The facility conducted a water study and is reusing water that was previously discharged. The reuse of water in systems has increased consumption. |
| Facility 4                | 6093                          | Much higher                                       | Cottonwood water consumption increased 42%. While electricity production increased by 37%. The increase in withdrawal is related to the increased generation. This facility is fuelled by natural gas and there is a market switch to natural gas due to favourable pricing. The facility conducted a water study and is reusing water that was previously discharged. The reuse of water in other systems has increased consumption.  |
| Facility 5                | 279                           | Lower   | Dickerson consumption increased 12%. Water withdrawal decreased 22% while electricity production decreased by 32%. The reduction in electric generation resulted in a decrease in water withdrawal. The decreases are due to market driven decrease in generation from coal, due to favourable natural gas pricing. The facility conducted a water study and is reusing water that was previously discharged. The reuse of water in other systems has increased consumption.                                     |
| Facility 6                | 116                           | This is our first                                 | NRG acquired the Doga facility as part of an acquisition in April 2014. NRG has an 80% ownership   |

| Facility reference number | Consumption (megaliters/year) | How does this compare to the last reporting year? | Please explain  |
|---------------------------|-------------------------------|---|---|
|                           |                               | year of measurement                               | share. As such, this is the first year for which complete water data is available.  |
| Facility 7                | 5229                          | Lower   | Joliet 9 and 28 are reported as a single location in 2015. This facility is operated as a single location. Joliet consumption decreased by 6%. Water withdrawal increased 2% while electricity production increased by 9%. The increase in water withdrawal is related to the increase in generation. This facility had better forced and maintenance outage performance in 2015.   |
| Facility 8                | 18142                         | Much lower  | Limestone water consumption decreased by 29%. Water withdrawal decreased 29% while electricity production decreased by 23%. The reduction in electric generation resulted in a decrease in water withdrawal. The decreases are due to market driven decrease in generation from coal, due to favourable natural gas pricing.  |
| Facility 9                | 21474                         | Much lower  | Powerton water consumption decreased by 23%. Water withdrawal decreased 27% while electricity production decreased by 34%. The reduction in electric generation resulted in a decrease in water withdrawal. The decreases are due to market driven decrease in generation from coal, due to favourable natural gas pricing.   |
| Facility 10               | 53627                         | Much higher                                       | South Texas Project water consumption increased by 90%. Water withdrawal increased 45% while electricity production increased by 4%. NRG has a 44% ownership share in the South Texas Project. There was an abundance of rainfall in 2015, the South Texas Project can only withdraw water from the river when there is sufficient flows. South Texas Project pump water from the river in 2015 to fill the cooling lake, which stores water for cooling.                           |
| Facility 11               | 688                           | Much higher                                       | TH Wharton water consumption increased by 170%. Water withdrawal increased 35% while electricity production increased by 177%. The increase in withdrawal is related to the increased generation. This facility is fuelled by natural gas and there is a market switch to natural gas due to favourable pricing.  |
| Facility 12               | 19395                         | Much lower  | WA Parish water consumption decreased by 60%. Water withdrawal increased 14% while electricity production decreased by 2%. The WA Parish facility has natural gas and coal fuelled generation. The natural gas units generation increased by 90% and the coal fuelled generation decreased by 4%. Freshwater is pumped from the Brazos River to a cooling lake. The amount of water pumped to the lake varies from year to year and can increase or decrease depending on rainfall. |
| Facility 13               | 95                            | Much lower  | Will County water consumption decreased by 3%. Water withdrawal decreased 40% while electricity production decreased by 31%. The reduction in electric generation resulted in a decrease in water withdrawal. The decreases are due to the deactivation of Unit 3 and market driven decrease in generation from coal, due to favourable natural gas pricing.  |

**W5.4**

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

| Water aspect  | % verification | What standard and methodology was used?   |
|---|----------------|---|
| Water withdrawals- total volumes                                      | 76-100         | Total water withdrawals include total withdrawals from surface water (lakes, rivers or oceans), ground water and municipal water utilities. Municipal water utility is determined from invoices. Surface water and ground water is determined by company owned metering devices, pump operating characteristics with pump operating logs, water balance engineering estimates, rainfall data applied to surface areas with run-off coefficients or a combination all or some of these measurement techniques. |
| Water withdrawals- volume by sources                                  | 76-100         | Total water withdrawals include total withdrawals from surface water (lakes, rivers or oceans), ground water and municipal water utilities. Municipal water utility is determined from invoices. Surface water and ground water is determined by company owned metering devices, pump operating characteristics with pump operating logs, water balance engineering estimates, rainfall data applied to surface areas with run-off coefficients or a combination all or some of these measurement techniques. |
| Water discharges- total volumes                                       | 76-100         | Total water discharge is the total of all water discharge reported by each facility in its monthly Discharge Monitoring Report (DMR) to maintain compliance with the National Pollution Discharge Elimination System permits and discharges to publicly owned treatment works determined by volumes indicated on water/sewer invoices and includes sanitation/septic wastewater discharge.  |
| Water discharges- volume by destination                               | 76-100         | Total water discharge is the total of all water discharge reported by each facility in its monthly Discharge Monitoring Report (DMR) to maintain compliance with the National Pollution Discharge Elimination System permits and discharges to publicly owned treatment works determined by volumes indicated on water/sewer invoices and includes sanitation/septic wastewater discharge.  |
| Water discharges- volume by treatment method                          | 76-100         | All discharges are regulated by state environmental agencies and are regulated by NPDES permits. Permits require water testing to meet EPA and/or Standard Methods. Water testing laboratories are required to be NELAC accredited.   |
| Water discharge quality data- quality by standard effluent parameters | 76-100         | All discharges are regulated by state environmental agencies and are regulated by NPDES permits. Permits require water testing to meet EPA and/or Standard Methods. Water testing laboratories are required to be NELAC accredited.   |
| Water consumption- total volume                                       | 76-100         | The difference between total quantity of water withdrawn and total quantity of water discharged in cubic meters for the year ending December 31, 2015 at the Company's facilities located in the United States under operational control.   |

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**Further Information**

**Module: Response**

**Page: W6. Governance and Strategy**

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**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  |
|---|--|--|
| Board of individuals/Sub-set of the Board or other committee appointed by the Board | Scheduled - twice per year             | NRG water resources, compliance, regulatory issues are discussed with the board. |

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**W6.2**

**Is water management integrated into your business strategy?**

Yes

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**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                    | NRG is committed to the long-term stewardship of water resources. In Texas NRG supported House Bill 4, which lays the foundation for meeting Texas' future water needs. The legislation supports stakeholders working together to ensure water stability. The outcome of this support resulted in the passage of the bill by voters in November 2013, creating a \$2 million state water fund. 20% of the associated projects are dedicated to water conservation and reuse. This policy aligns with NRG water stewardship to ensure adequate fresh water supply for all stakeholders. In California, all facilities have processes to conserve water, with a focus on fresh water. The generating stations have Drought Contingency plans to identify stakeholders and additional outreach.   |
| Investment in staff/training   | NRG employees are engaged in water stewardship and their knowledge of water use at the facilities through training on water management. Employees have identified and implemented projects in 2013, 2014, and 2015 that will save over 836 million gallons of water annually.  |
| Water resource considerations are factored into location planning for new operations | The NRG Engineering and Construction group that develops and plans new projects created a Sustainability Manual in 2014. The objective of the manual is to design and build sustainable projects that strike an appropriate balance among project economics, environmental impact and community benefits. Options that are considered for construction: 1) Technologies that reduce water consumption 2) Technologies that minimize effluent discharges 3) Incorporate dry or closed-cycle cooling systems 4) Reduce intake impacts 5) Reduce discharge impacts 6) Recycle on-site process water 7) Use reclaim or alternative water sources 8) Low-impact designs for landscaping and stormwater. NRG Engineering and Construction project development identified 674,074 million gallons per year of water reductions in location planning for new operations. |
| Tighter operational performance standards  | Per NRG's Environmental Policy & Procedures Manual and its "Environment Over Production" policy, environmental compliance is always a priority at NRG. Operators are empowered to make decisions to maintain compliance, including shutting down a unit if necessary.  |
| Water resource considerations are factored into new market exploration               | 2015 market development focused on renewable energy growth. NRG market growth in providing renewable energy solutions to business. NRG is working with Unilever, Kaiser Permanente, and Whole Foods to reduce their emissions from electricity purchases. Installing renewable energy as a source of power reduces carbon emissions and water required for power generation.   |
| Introduction of water management KPIs  | NRG established water management KPIs for its Gulf Coast Region in 2012. NRG began the process of expanding these KPIs across the fleet in November 2013. NRG expanded the program in 2014 to create a Water Champion at every NRG generating station. The Water Champion reports and tracks water data for the station and assists in identifying water reduction/conservation projects. NRG continued to mature our water sustainability program in 2015. NRG has 4 operations sustainability champions that lead their regional efforts to implement, track and document water conservation efforts.  |

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  |
|---|---|
| Increased capital expenditure           | Regulations such as 316(b), Steam Effluent Guidelines and Coal Combustion Residual regulations will potentially increase cost. In August 2014, the EPA finalized the regulation regarding once through cooling from existing facilities to address impingement and entrainment concerns. As an outcome, NRG anticipates that more stringent requirements will be incorporated into some of its water discharge permits over the next several years and this will increase CAPEX. NRG is evaluating the regulation, working with state regulators and estimating the total cost of compliance. |
| Closure of operations                   | The proposed regulations mentioned above have the potential to add costs, change operations or potentially even result in closing down generating units. The design, timing and stringency of these regulations will affect the framework for the retrofit or retirement of existing fossil plants and deployment of new, cleaner technologies in the next decade.  |

**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

**W6.3a**

Please select the content that best describes your water policy (tick all that apply)

| Content  | Please explain why this content is included  |
|--|--|
| Company-wide<br>Performance standards for direct operations<br>Incorporated within group environmental, sustainability or EHS policy | NRG is committed to operating its facilities to ensure its operations provide benefit to communities and minimize its impacts. Water availability and quality are material sustainability issues for NRG. Listed below is the response to the questions about NRG's water policy. <ul style="list-style-type: none"> <li>• Publicly available - NRG's water policy is not publicly available.</li> <li>• Company-wide – NRG's water policy is for operations. NRG's power generating operations account for 99% of water withdrawn.</li> <li>• Select facilities only – NRG's water policy is for all NRG Operations.</li> <li>• Performance standards for direct operations – NRG's water policy sets performance standards for all direct operations.</li> <li>• Performance standards for supplier, procurement and contracting best practice – NRG's water policy does not set performance standards for suppliers, but does include water considerations in procurement and contracting best practices for development projects.</li> <li>• Commitment to customer education – NRG's water policy does not include a commitment to customer education.</li> <li>• Incorporated within group environmental, sustainability or EHS policy – NRG's water policy is incorporated with the environmental policy.</li> <li>• Acknowledges the human right to water, sanitation and hygiene – NRG's water policy does not acknowledge the human right to water, sanitation and hygiene. NRG's operations are in the United States and it is a federal requirement to provide safe drinking water and access to sanitary facilities for all employees.</li> </ul> |

**W6.4**

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

| Water CAPEX<br>(+/- % change) | Water OPEX<br>(+/- % change) | Motivation for these changes  |
|-------------------------------|------------------------------|---|
| 104.6                         | 0.25                         | The water OPEX remained nearly constant. The water CAPEX was increased by 104.6% due to the completion of several large stormwater and wastewater projects in 2015 to address environmental regulations. Water CAPEX changes year to year based on compliance with new or modified regulations. |

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**Further Information**

**Page: W7. Compliance**

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**W7.1**

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

No

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**W7.1a**

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

| Facility name | Incident | Incident description | Frequency of occurrence in reporting year | Financial impact | Currency | Incident resolution |
|---------------|----------|----------------------|---|------------------|----------|---------------------|
|---------------|----------|----------------------|---|------------------|----------|---------------------|

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**W7.1b**

What proportion of your total facilities/operations are associated with the incidents listed in W7.1a

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**W7.1c**

Please indicate the total financial impacts of all incidents reported in W7.1a as a proportion of total operating expenditure (OPEX) for the reporting year. Please also provide a comparison of this proportion compared to the previous reporting year

|                     |                         |
|---------------------|-------------------------|
| Impact as % of OPEX | Comparison 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, targets and goals

**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 |
|--------------------|------------|--|----------------------------------|----------------|-------------|--|
| Improvement in     | Cost       | NRG has an initiative to automate water monitoring to make | % increase in                    | 2013           | 2020        | 13%                                    |

| Category of target         | Motivation      | Description of target  | Quantitative unit of measurement      | Base-line year | Target year | Proportion of target achieved, % value |
|----------------------------|-----------------|--|---------------------------------------|----------------|-------------|--|
| monitoring of water use    | savings         | our water data transparent and accessible. The goal is to have a single software program for facilities fully implemented by 2020.   | employee productivity                 |                |             |  |
| Water pollution prevention | Risk mitigation | Water pollution prevention is an annual target; each facility has a goal of zero permit exceedances. NRG has 78 facilities with NPDES permits; the fleet goal for NPDES permit exceedances is 100% compliance. | Other: % Regulatory Permit Compliance | 2014           | 2015        | 99.9%                                  |

**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  |
|---|-------------------|--|---|
| Watershed remediation and habitat restoration, ecosystem preservation | Water stewardship | NRG voluntarily supports wetland restoration, shoreline erosion protection, water stewardship and habitat protection. To promote this, in 2015 NRG set a goal to grow 350,000 stems of cord grass at our EcoCenter, located in Baytown Texas. This goal was set based on anticipated need from the Deepwater Horizon funding, which did not occur in 2015. NRG's goal for amount of cord grass grown is set annually and is based on donation requests from our wetland conservation partners. NRG has operations in the Texas Gulf Coast and the restoration maintains a positive impact on the ecosystems. NRG's donations are critical to the restoration directives of the following third party conservation organizations: US Fish and Wildlife Service, Texas General Land Office Texas Parks & Wildlife Department, National Marine Fisheries Service, The | In 2014, NRG donated 132,350 plugs of smooth cordgrass which restored approximately 11.3 hectares. In 2015, NRG donated 104,043 which restored 22 acres of intertidal wetlands. No success criteria or independent verification is performed for these voluntary restoration efforts since the restorations are non-migratory and the habitats are dynamic. A standard measurement of 3 feet between plants is used to determine hectares restored. NRG's donations are critical to the restoration directives of the following third party conservation organizations: US Fish and Wildlife Service Texas General Land Office Texas Parks & Wildlife Department National Marine Fisheries Service The Galveston Bay Foundation Natural Resource Conservation Service Audubon Texas Ducks Unlimited The Student Conservation Association Galveston Bay Estuary Program. |

| Goal  | Motivation             | Description of goal   | Progress   |
|---|------------------------|---|--|
|   |                        | Galveston Bay Foundation, Natural Resource Conservation Service, Audubon Texas, Ducks Unlimited, The Student Conservation Association, Galveston Bay Estuary Program.                                     |  |
| Strengthen links with local community                   | Brand value protection | Board service and support of regional and local water interest groups.  | NRG serves on the Board of 4 and is a member of 11 water interest groups.  |
| Educate customers to help them minimize product impacts | Shared value           | Implement an electricity plan through our Green Mountain Energy brand that promotes saving water. This goal was set to provide electric customers a choice to reduce carbon emissions and conserve water. | For Texas customers, choosing renewable energy is an easy and important thing they can do to help protect the environment – and save water! Green Mountain is the only electricity provider in Texas working to help consumers conserve water by giving them an easy way to live a greener lifestyle. Choose 100% wind energy and get FREE water saving products – whether to conserve water indoors, or out |

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: Linkages/Tradeoff**

**Page: W9. Managing trade-offs between water and other environmental issues**

W9.1

Has your organization identified any linkages or trade-offs between water and other environmental issues in its value chain?

Yes

**W9.1a**

**Please describe the linkages or trade-offs and the related management policy or action**

| Environmental issues   | Linkage or trade-off | Policy or action  |
|--|----------------------|---|
| <p>Once through cooling is a very energy efficient and cost effective method to cool the steam cycle for power generation. Dry-cooling systems use air instead of water to cool the steam exiting a turbine. Dry cooled systems use no water and can decrease total water consumption by an average of 90%. The trade-off to water savings is higher costs and lower efficiencies. Low efficiency requires more fuel to produce the same amount of electricity, which will increase air emissions.</p> | Linkage              | <p>The NRG Engineering and Construction Sustainability Manual (Policy) was created to establish the objective to design and build sustainable projects that strike an appropriate balance among project economics, environmental impact and community benefits. The policy is signed by all Engineering and Construction Vice Presidents. The manual provides guidance and list of options to consider for water consumption and discharge. The project checklist includes the review of water reducing technologies, reduction of intake and discharge impacts, recycling and reuse of water, and low-impact designs for landscaping and stormwater.</p> |
| <p>Electricity is necessary to operate water pumps and other components in the treatment of wastewater and drinking water. The traditional production of electricity requires water for cooling. Water for human needs can be in competition with water for generating power. Water for human needs requires power for pumping and treatment.</p>  | Trade-off            | <p>NRG has a business unit named "Renew". Renew has more than 150 renewable energy projects around the world, putting technology to work to ensure a sustainable, clean energy future. NRG recognizes that traditional power generation uses large amounts of water. Renewable power lessens the dependence on water from traditional power production and maintains the reliability of the water system.</p>   |

**Further Information**

**Module: Sign Off**

**Page: Sign Off**

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**W10.1**

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

| Name               | Job title         | Corresponding job category |
|--------------------|-------------------|----------------------------|
| Mauricio Gutierrez | President and CEO | Board/Executive board      |

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**W10.2**

Please select if your organization would like CDP to transfer your publicly disclosed response strategy from questions W1.4a, W3.2c and W3.2d to the CEO Water Mandate Water Action Hub.

Yes

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**Further Information**

[CDP 2016 Water 2016 Information Request](#)