NRG Energy Inc - Water Security 2023

W0. Introduction

W0.1

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

NRG Energy, Inc., or NRG or the Company , is a consumer services company built on dynamic retail brands. NRG brings the power of energy to customers by producing and selling energy and related products and services, nation-wide in the U.S. and Canada in a manner that delivers value to all of NRG's stakeholders. NRG sells power, natural gas, and home and power services, and develops innovative, sustainable solutions, predominately under the brand names NRG, Reliant, Direct Energy, Green Mountain Energy, Stream, and XOOM Energy. The Company has a customer base that includes approximately 5.4 million Home customers as well as commercial, industrial, and wholesale customers, supported by approximately 16 GW of generation as of December 31, 2022. On December 6, 2022, NRG and Vivint Smart Home, Inc. (“Vivint”) announced the entry into a definitive agreement under which the Company will acquire Vivint, a smart home platform company, in an all-cash transaction. The close of the acquisition is targeted for the first quarter of 2023 and is subject to customary closing conditions. NRG was incorporated as a Delaware corporation on May 29, 1992. 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.

SAFE HARBOR: In addition to historical information, the information presented in this report includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Exchange Act. These statements involve estimates, expectations, projections, goals, assumptions, known and unknown risks and uncertainties and can typically be identified by terminology such as “may,” “should,” “could,” “objective,” “projection,” “forecast,” “goal,” “guidance,” “outlook,” “expect,” “intend,” “seek,” “plan,” “think,” “anticipate,” “estimate,” “predict,” “target,” “potential” or “continue” or the negative of these terms or other comparable terminology. Such forward-looking statements include, but are not limited to, statements about the Company’s future revenues, income, indebtedness, capital structure, plans, expectations, objectives, projected financial performance and/or business results and other future events, and views of economic and market conditions. Although NRG believes that its expectations are reasonable, it can give no assurance that these expectations will prove to be correct, and actual results may vary materially. Factors that could cause actual results to differ materially from those contemplated herein include, among others, general economic conditions, hazards customary in the power industry, weather conditions and extreme weather events, competition in wholesale power and gas markets, the volatility of energy and fuel prices, failure of customers or counterparties to perform under contracts, changes in the wholesale power and gas markets, our ability to execute our market operations strategy, unanticipated outages at our generation facilities, changes in government or market regulations, the condition of capital markets generally, our ability to access capital markets, failure to identify, execute or successfully implement acquisitions or asset sales, our ability to achieve our net debt targets, our ability to achieve or maintain investment grade credit metrics, the potential impact of COVID-19 or any other pandemic on the Company’s operations, financial position, risk exposure and liquidity, data privacy, cyberterrorism and inadequate cybersecurity, adverse results in current and future litigation, our ability to implement value enhancing improvements to plant operations and companywide processes, our ability to proceed with projects under development or the inability to complete the construction of such projects on schedule or within budget, the inability to maintain or create successful partnering relationships, our ability to operate our business efficiently, our ability to retain retail customers, the ability to successfully integrate businesses of acquired companies, including Direct Energy, our ability to realize anticipated benefits of transactions (including expected cost savings and other synergies) or the risk that anticipated benefits may take longer to realize than expected, and our ability to execute our Capital Allocation Plan. NRG undertakes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law. The foregoing review of factors that could cause NRG’s actual results to differ materially from those contemplated in the forward-looking statements included in this report should be considered in connection with information regarding risks and uncertainties that may affect NRG's future results included in NRG's filings with the Securities and Exchange Commission at www.sec.gov.

W-EU0.1a

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

Electricity generation

W-EU0.1b

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

	Nameplate capacity (MW)	% of total nameplate capacity	Gross electricity generation (GWh)
Coal – hard	7920	42	30226
Lignite	0	0	0
Oil	535	3	17
Gas	8901	48	16639
Biomass	0	0	0
Waste (non-biomass)	0	0	0
Nuclear	1132	6	10118
Fossil-fuel plants fitted with carbon capture and storage	0	0	0
Geothermal	0	0	0
Hydropower	0	0	0
Wind	0	0	0
Solar	214	1	769
Marine	0	0	0
Other renewable	2	0	0
Other non-renewable	0	0	0
Total	18704	100	57769

W0.2

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

	Start date	End date
Reporting year	January 1 2022	December 31 2022

W0.3

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

Australia
Canada
United States of America

W0.4

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

USD

W0.5

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

Companies, entities or groups in which an equity share is held

W0.6

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

No

W0.7

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

Indicate whether you are able to provide a unique identifier for your organization.	Provide your unique identifier
Yes, an ISIN code	US6293775085
Yes, a Ticker symbol	NRG

W1. Current state

W1.1

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

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Important	NRG's power generation operations demand sufficient good quality freshwater; direct use is vital for operations. In 2022, 52% 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 for steam and WASH (water, sanitation, and hygiene) for workers. Indirect use 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. NRG expects the importance of sufficient amounts of good quality freshwater for direct and indirect uses to remain substantially the same in the future. The total volume of freshwater required for direct operations is expected to normalize and eventually decline. However, sufficient amounts of freshwater will remain vital to NRG's overall operations. In addition, sufficient amounts of freshwater are also expected to remain important in NRG's supply chain.
Sufficient amounts of recycled, brackish and/or produced water available for use	Vital	Important	NRG's operation of power generation stations depends on sufficient amounts of recycled, brackish and ocean water to be available, therefore direct use is listed as vital for operations. In 2022, 48% of the water used in operations was recycled, brackish or ocean water for direct use. The primary direct use of brackish 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; as such, indirect use is listed as important. NRG expects the importance of sufficient amounts of these types of water for direct and indirect uses to remain substantially the same in the future.

W1.2

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

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Water withdrawals – total volumes	100%	Monthly	Monitoring frequency and method vary by individual site and permit but are typically measured monthly via a meter or calculated using specific pump rating specifications and hours of operation.	NRG measures and monitors water withdrawal total volumes at 20 generation plants, one repair shop, and at office locations. Totals are measured, monitored, and recorded at intervals according to the terms of their permits and are recorded at least monthly in NRG systems. The 20 generating locations comprise 99.9% of NRG's total water withdrawal. NRG has a trained environmental professional assigned to each of the generating stations who tracks withdrawal by source. All generation facilities report the cubic meters in NRG's environmental management information system. Withdrawals at non-reporting locations are calculated by the number of site personnel. This data is used to benchmark, manage water withdrawals, and evaluate water total withdrawal.
Water withdrawals – volumes by source	100%	Monthly	NRG measures and monitors water withdrawal total volumes in millions of gallons that are converted to cubic meters, at 20 generation plants, one repair shop, and at office locations. Totals by source are measured, monitored, and recorded at intervals according to the terms of their permits. Monitoring frequency and method vary by individual site and permit but are typically measured monthly via a meter or calculated using specific pump rating specifications and hours of operation.	NRG measures and monitors water withdrawal total volumes in millions of gallons that are converted to cubic meters, at 20 generation plants, one repair shop, and at office locations. Totals by source are measured, monitored, and recorded at intervals according to the terms of their permits. The 20 generating locations comprise 99.9% of NRG's total water withdrawal. NRG has a trained professional assigned to each of the generating stations who tracks withdrawal by source using observed metered data and reports the cubic meters in NRG's environmental management information system. Withdrawals at non-reporting locations are calculated by the number of site personnel. This data is used to benchmark, manage water withdrawals, and evaluate water withdrawal sources.
Entrained water associated with your metals & mining and/or coal sector activities - total volumes [only metals and mining and coal sectors]	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Water withdrawals quality	76-99	Monthly	NRG measures and monitors water withdrawal quality at select facilities where it is a regulatory requirement. Quality is measured, monitored, and recorded at intervals according to the terms of plant permits, and while means of measurement vary by individual site and permit, is typically measured through sampling and testing on at least a monthly basis. When capacity is available, these tests are analyzed directly in on-site labs. Other samples are sent to external labs for analysis.	NRG measures and monitors water withdrawal quality at select facilities where it is a regulatory requirement. NRG also measures and monitors water withdrawal quality on a voluntary basis at select facilities. NRG holds 37 wastewater discharge permits. The generating locations with wastewater discharge permits comprise 99.9% of NRG's total water withdrawal. NRG has a trained environmental professional assigned to each generating station who tracks withdrawal quality by source using established on-site and off-site sample testing methodologies and reports the data in NRG's environmental management system.
Water discharges – total volumes	100%	Monthly	NRG measures and monitors water discharges total volume in millions of gallons that are converted to cubic meters, at generating operations with wastewater discharge permits. Totals are measured, monitored, and recorded at intervals according to the terms of their permits, and are recorded at least monthly in NRG systems. Water discharge volume metrics are recorded monthly on the Discharge Monitoring Reports based off of meters or calculated using methods such as pump curves.	NRG measures and monitors water discharges total volume in millions of gallons that are converted to cubic meters, at generating operations with wastewater discharge permits. Totals are measured, monitored, and recorded at intervals according to the terms of their permits, and are recorded at least monthly in NRG systems. The generating stations with wastewater discharge permits represent 99.9% of the total water discharged by volume. NRG has staff trained on water accounting and follows the GRI water reporting standards to report observed metered data at each of the generating stations that tracks discharge by volume and reports the cubic meters in NRG's environmental management information system. This data is reported to state agencies as required by each site's wastewater permit.

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Water discharges – volumes by destination	100%	Monthly	NRG measures and monitors water discharges volumes by destination in millions of gallons that are converted to cubic meters, at 20 generation plants, one repair shop, and at office locations. NRG has a water expert that is trained on water accounting and follows the GRI water reporting standard to report observed metered data, tracks discharge by destination and reports in NRG's environmental management information system.	NRG measures and monitors water discharges volumes by destination in millions of gallons that are converted to cubic meters, at 20 generation plants, one repair shop, and at office locations. The generating stations are 99.9% of the total water discharged by destination. NRG has a water expert that is trained on water accounting and follows the GRI water reporting standard to report observed metered data, tracks discharge by destination and reports in NRG's environmental management information system. This data is reported to state agencies as required by each site's wastewater permit. This data is used to benchmark and manage water discharge by destination.
Water discharges – volumes by treatment method	100%	Monthly	Totals are measured, monitored, and recorded at intervals according to the terms of plant permits and are recorded at least monthly in NRG systems. Water treatment metrics are recorded monthly and are reported on the Discharge Monitoring Reports based off of meters or calculated using methods such as pump curves.	NRG measures and monitors water discharge - volume by treatment method at generation plants with wastewater discharge permits. The generating stations with wastewater discharge permits represent 99.9% of the total water discharge - volume by treatment method. 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 system.
Water discharge quality – by standard effluent parameters	100%	Monthly	NRG measures and monitors discharge parameters primarily via effluent quality field measurement instrumentation including pH probes, sample collection and by a third-party lab. Also, plants sample for water quality parameters such as T.S.S, O&G, and heavy metals. The periodicity of sampling is dependent on their permit requirements. All permitted plants record sampling at least monthly.	NRG measures and monitors water discharge quality data, quality by standard effluent parameters, at its generating operations with wastewater discharge permits. Quality is measured, monitored, and recorded at intervals according to the terms of plant permits, and while means of measurement vary by individual site and permit, is typically measured through sampling and testing at a third-party lab on at least a monthly basis. NRG measures and monitors discharge parameters primarily via effluent quality field measurement instrumentation including pH probes, sample collection and by a third-party lab. Also, plants sample for water quality parameters such as T.S.S, O&G, and heavy metals. The periodicity of sampling is dependent on their permit requirements. All permitted plants record sampling at least monthly. At WA Parish for example, for pH, a sample is collected once per week and is tested in the on-site lab within 15 minutes. All permitted plants record sampling at least monthly.
Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)	100%	Monthly	NRG measures and monitors water discharge quality – emissions to water primarily via effluent quality field measurement instrumentation including pH probes, sample collection and by a third-party lab. Also, plants sample for priority substances such as cadmium, lead, mercury and nickel, and their compounds. The periodicity of sampling is dependent on their permit requirements and whether the facility is subject to Toxics Release Inventory (TRI) reporting.	NRG measures and monitors water discharge quality – emissions to water at its generation plants with wastewater discharge permits that specify this requirement and at generation facilities which are subject to TRI reporting. Water discharge quality is measured, monitored, and recorded at intervals according to the terms of plant permits and federal regulatory requirements such as TRI reporting. The means of measurement vary by individual site and permit, it is typically measured through sampling and testing at a third-party lab on at least a monthly basis. The periodicity of sampling is dependent on their permit requirements. All permitted plants record sampling at least monthly. At WA Parish for example, for pH, a sample is collected once per week and is tested in the on-site lab within 15 minutes. All permitted plants record sampling at least monthly.
Water discharge quality – temperature	100%	Monthly	NRG measures and monitors discharge quality temperature based on continuous measurement outfall points using measurement devices such as thermocouples, which send the data to the control room and to NRG Environmental personnel through PI and DCS (Digital Control Systems). At WA Parish, temperature is measured at both outfall 001 and outfall 003. We have a probe submersed in the flow that is sampled and recorded by a local data collection device.	Water discharge quality - temperature is measured, monitored, and recorded at intervals according to the terms of plant permits, and while means of measurement vary by individual site and permit, is typically measured at the outlet site on at least a monthly basis. NRG measures and monitors discharge quality temperature based on continuous measurement outfall points using measurement devices such as thermocouples, which send the data to the control room and to NRG Environmental personnel through PI and DCS (Digital Control Systems). At WA Parish, temperature is measured at both outfall 001 and outfall 003. We have a probe submersed in the flow that is sampled and recorded by a local data collection device. The frequency is once per minute at outfall 001 and once every two minutes at outfall 003. The final temperature for the daily average is flow weighted.
Water consumption – total volume	100%	Monthly	Discharge Monitoring Reports (DMRs) provide the amount of discharged water and are recorded monthly. We monitor withdrawal rough pump curves, meters, municipal water bills, bills of lading. We monitor discharge via measured and calculated flows recorded on our monthly DMRs. A calculation is performed annually based on instantaneous data and compared to DMR discharge to calculate annual consumption.	NRG measures and monitors total volume of water consumption at its generating operations with its wastewater discharge permits. Totals are measured, monitored, and recorded at intervals according to the terms of plant permits, and are recorded at least monthly in NRG systems. Discharge Monitoring Reports (DMRs) provide the amount of discharged water and are recorded monthly. We monitor withdrawal rough pump curves, meters, municipal water bills, bills of lading. We monitor discharge via measured and calculated flows recorded on our monthly DMRs. A calculation is performed annually based on instantaneous data and compared to DMR discharge to calculate annual consumption. At WA Parish, for flow at outfall 001, the height of flow through a flume is sampled with an ultrasonic device once permit, and the calculated flow is recorded in a local data collector. For flow at outfall 003, we sum the max flow capability of all pumps feeding the stream. We track the pump on/off for each hour.
Water recycled/reused	26-50	Other, please specify (Not accurately quantifiable per plant operations)	At some generation stations, such as the one in Limestone, intake and release water used from cooling towers and other power plant processes from and to the same water body. As a result, those plants use the same water in their cooling process multiple times, but that water is mixed with other water. Thus, amount of recycled/reused process water are not fully quantified due to commingling from other water sources.	NRG indirectly recycles/reuses water but this is currently not measured or monitored. For example, some generation stations, such as the one in Limestone, intake and release water used from cooling towers and other power plant processes from and to the same water body. As a result, those plants use the same water in their cooling process multiple times, but that water is mixed with other water. Thus, amount of recycled/reused process water are not fully quantified due to commingling from other water sources.
The provision of fully-functioning, safely managed WASH services to all workers	100%	Daily	100% of NRG facilities have WASH services. Sites are inspected by federal regulators in person when randomly selected as part of an OSHA enforcement process, and are informally monitored daily by site management, who report any outages.	NRG measures and monitors all facilities and provides fully functioning WASH services for all workers. NRG operations are primarily in the United States and OSHA requires WASH services for all workers. The plants use either municipal or onsite water supplies for WASH purposes. Municipal water is measured and monitored per municipality regulations or billing. Sites are inspected by federal regulators in person when randomly selected as part of an OSHA enforcement process, and are informally monitored daily by site management, who report any outages. 100% of NRG facilities have WASH services. Sites are inspected by federal regulators in person when randomly selected as part of an OSHA enforcement process, and are informally monitored daily by site management, who report any outages. 100% of NRG facilities have WASH services.

W1.2b

(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, how do they compare to the previous reporting year, and how are they forecasted to change?

	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Please explain
Total withdrawals	2181582	Much lower	Increase/decrease in business activity	About the same	Other, please specify (Market conditions and shifting of generation assets)	Description for "comparison with previous reporting year" and "five-year forecast" thresholds: Deviation +/- 5% = about the same; Deviation between +/- 5-10% = higher / lower; Deviation > +/- 10% = much higher / lower. NRG total water withdrawals decreased by 25.7% in 2022. The decrease in total water withdrawals is due to decreased power generation. Plants were generating less power during 2022 to satisfy a lower power demand, compared to the previous year, which saw a higher power demand due to the easing of COVID-19 pandemic lockdowns and the associated economic recovery. About 93% of the water withdrawn is returned to the water body. Future water volumes are expected to stay the same or decrease slightly over a 1-to 2-year period due to market conditions and shifting of generation asset fuel mix, while following an overall downward trend thereafter.
Total discharges	2023125	Much lower	Increase/decrease in business activity	About the same	Other, please specify (Market conditions and shifting of generation assets)	Description for "comparison with previous reporting year" and "five-year forecast" thresholds: Deviation +/- 5% = about the same; Deviation between +/- 5-10% = higher / lower; Deviation > +/- 10% = much higher / lower. NRG total water discharges decreased by 27.4% in 2022. The decrease in total water withdrawals is due to decreased power generation. Plants were generating less power during 2022 to satisfy a lower power demand, compared to the previous year, which saw a higher power demand due to the easing of COVID-19 pandemic lockdowns and the associated economic recovery. About 93% of the water withdrawn is returned to the water body. Future discharges are expected to stay the same or decrease slightly over a 1-to 2-year period due to market conditions and shifting of generation asset fuel mix, while following an overall downward trend thereafter.
Total consumption	158458	About the same	Increase/decrease in business activity	About the same	Other, please specify (Market conditions and shifting of generation assets)	Description for "comparison with previous reporting year" and "five-year forecast" thresholds: Deviation +/- 5% = about the same; Deviation between +/- 5-10% = higher / lower; Deviation > +/- 10% = much higher / lower. NRG total water consumption increased by a slight 4.5% in 2022 due to due to the prevailing market conditions and generation demands. Facility water experts evaluate data and calculation methods to ensure data accuracy. Consumption figures are calculated using this formula: water withdrawals - water discharges = water consumption. Consumption volumes are expected to remain the same over a 1-to 2-year period due to market conditions and shifting of generation asset fuel mix, while following an overall downward trend thereafter.

W1.2d

(W1.2d) Indicate whether water is withdrawn from areas with water stress, provide the proportion, how it compares with the previous reporting year, and how it is forecasted to change.

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Identification tool	Please explain
Row 1	Yes	Less than 1%	Much lower	Increase/decrease in business activity	About the same	Other, please specify (Future water withdrawal volumes are expected to stay the same or decrease over a 1-to 2-year period due to market conditions and shifting of generation asset fuel mix, while following an overall downward trend thereafter.)	WRI Aqueduct	The proportion of NRG's 2022 water withdrawals from water stressed areas decreased significantly from 2021. This is due in part to less NRG relevant U.S. territories being designated as high physical risk zones by WRI Aqueduct. In addition, marked decreases were observed in the volumes of water NRG withdraws at two of the 20 facilities included in the WRI Aqueduct analysis due to decreased power plant capacity factors. NRG utilizes various tools to assist with Water Risk Assessments. We model water risk using the WRI Aqueduct tool by entering 20 facilities coordinates to map our facilities by region and water basin, then applying facilities water withdrawal data to arrive at a volume from stressed areas. The datasets analyzed by the Aqueduct tool include Overall Water Risk, Physical Risk Quality, Physical Risk Quantity, Regulatory & Reputational Risk, Baseline Water Stress, Inter-Annual Variability, Seasonal Variability, Flood Occurrence, Drought Severity, Threatened Amphibians and Groundwater Stress. To assess the "% withdrawn from areas with water stress," facilities identified as "High (40-80%)" and "Extremely High (>80%)" under Overall Water Risk were summed. Only two facilities were found to be located in a region which has either high or extremely high baseline water stress. WRI Aqueduct data is applied internally to help determine candidates for internal audit and third-party assurance.

W1.2h

(W1.2h) Provide total water withdrawal data by source.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	1122216	Much lower	Increase/decrease in business activity	The primary direct use of freshwater is for the cooling of condensers in the generation of power, with a small amount for steam and WASH (water, sanitation, and hygiene) for workers. NRG fresh surface water withdrawals decreased by 39.4% in 2022. The decrease in freshwater withdrawal is due to decreased generation at high water use plants that utilize freshwater for their operations. Future freshwater volumes withdrawn are expected to stay the same or decrease over a 1- to 2- year period due to market conditions following an overall downward trend thereafter.
Brackish surface water/Seawater	Relevant	1046211	About the same	Increase/decrease in business activity	The primary direct use of brackish surface water/seawater is for the cooling of condensers in the generation of power. NRG brackish surface water/seawater withdrawals decreased by 2.6% in 2022. The decrease in brackish surface water/seawater is due to decreased generation at high water use plants that utilize brackish surface water/seawater for their operations. Future brackish water volumes withdrawn are expected to stay the same or decrease over a 1- to 2- year period due to market conditions and then follow an overall downward trend.
Groundwater – renewable	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	NRG does not differentiate between renewable and non-renewable groundwater in our water accounting and is considering new data collection methodologies to be implemented in the future to distinguish between the two. Currently, as a conservative measure, all groundwater for the purposes of this disclosure is reported under non-renewable groundwater. We anticipate renewable groundwater to make up a portion of our groundwater use in the future, when measurement of this resource is available.
Groundwater – non-renewable	Relevant	13155	Much higher	Increase/decrease in business activity	The primary direct use of groundwater is for the cooling of condensers in the generation of power, with a small amount for steam and WASH (water, sanitation, and hygiene) for workers. NRG recorded larger non-renewable groundwater volumes withdrawn during 2022, compared to 2021, although the relative amount of groundwater used is very small as compared to other sources of water. The increase in non-renewable groundwater volumes, which was calculated to be an 11.7% increase since 2021, was due to higher run times at plants that use groundwater. Future volumes are expected to decrease due to plant retirements.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	NRG does not use produced/processed water at any of our generating assets because it is not generated in onsite processing of raw materials. Future volumes are expected to remain constant.
Third party sources	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	NRG does not use produced/processed water at any of our generating assets because it is not generated in onsite processing of raw materials. Future volumes are expected to remain constant.

W1.2i

(W1.2i) Provide total water discharge data by destination.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water	Relevant	992405	Much lower	Increase/decrease in business activity	Discharges to fresh surface water are relevant to NRG because plants are sited based on available cooling water and the ability to discharge to appropriate locations based on permits. Plants located near rivers will discharge to that destination, and plants near lakes will discharge to that destination. NRG fresh surface water discharges decreased by 55.5% in 2022. The decrease in freshwater discharge is due to decreased generation at high water use plants. Future freshwater volumes discharged are expected to stay the same or decrease over a 1-to-2-year period due to market conditions and then follow an overall downward trend.
Brackish surface water/seawater	Relevant	1023715	Much higher	Increase/decrease in business activity	Discharges to brackish surface water/seawater are relevant to NRG because plants are sited based on available cooling water and the ability to discharge to appropriate locations, therefore plants located near brackish surface water bodies will discharge to that destination, and plants near the ocean will discharge to that destination, etc. NRG brackish surface water/seawater discharges was much higher in 2022 showing a 86.7% increase from 2021. The increase in brackish surface water/seawater discharge is due to increased generation at high water use plants that utilize this water source. Future brackish water volumes withdrawn are expected to decrease over a 1-to 2-year period due to plant retirements, following an overall downward trend.
Groundwater	Relevant	0	About the same	Other, please specify (Operational activities at the facilities discharging to groundwater sources remained the same as the previous reporting year.)	NRG typically discharges water into the ground relative to other discharge destinations, as plants are typically sited near other destinations better suited for power generation water discharge processing. Regardless, this destination is deemed relevant to NRG because we may have a very small amount of wastewater discharged to the groundwater during the reporting year. The amount of groundwater discharged during 2022 was about the same compared to 2021. Operational activities at the facilities discharging to groundwater sources remained the same, so no material changes to the quantity of groundwater discharged were recorded. Future volumes are expected to remain substantially the same.
Third-party destinations	Relevant	7004	Much higher	Increase/decrease in business activity	NRG discharges water to third party destinations when available, as it often creates a revenue stream. NRG discharged a much higher water volume to third party destinations during 2022. WA Parish Generating Station comprises all of NRG's water discharged to others, with approximately 75% going to rice farmers and 25% going to other users for industrial purposes. During 2022, WA Parish Generating Station discharged 19.4% more water to third-party sources. WA Parish discharged most of its water to freshwater sources during 2022. Future volumes are expected to stabilize and remain relatively constant.

W1.2j

(W1.2j) Within your direct operations, indicate the highest level(s) to which you treat your discharge.

	Relevance of treatment level to discharge	Volume (megaliters/year)	Comparison of treated volume with previous reporting year	Primary reason for comparison with previous reporting year	% of your sites/facilities/operations this volume applies to	Please explain
Tertiary treatment	Relevant	11	Much lower	Increase/decrease in business activity	100%	11 megaliters of water discharged by NRG facilities was treated to the tertiary level. We treat discharge to remove nitrogen and phosphorus, along with other dissolved inorganic substances through coagulation, sedimentation, activated carbon adsorption and ion exchange methods. Discharge volumes were subject to strict water quality controls before being released to receiving water bodies. Water discharge levels and the type of treatments applied are based on the requirements of our discharge permits and their corresponding regulatory limits. NRG complies with all of the regulatory requirements it is subject to. Water treatment metrics are recorded monthly on the Discharge Monitoring Reports, along with measurements at the various discharge outfalls. Change in volume: During 2022, the amount of discharged water treated to the tertiary level by NRG decreased by 99.1% This large decrease is due to decreased generation at high water use plants that are required to treat their discharged water to the tertiary level. Our definition for change: Much higher: >+10%, Higher: >+5%, About the same: <+/-5%, Lower: >-5%, Much lower: >-10%. Anticipated future trend: Discharge volumes treated to tertiary level are expected to remain the same in the upcoming years as no significant alterations are being planned for our operational processes.

	Relevance of treatment level to discharge	Volume (megaliters/year)	Comparison of treated volume with previous reporting year	Primary reason for comparison with previous reporting year	% of your sites/facilities/operations this volume applies to	Please explain
Secondary treatment	Relevant	361	Much higher	Increase/decrease in business activity	100%	361 megaliters of water discharged by NRG facilities was treated to the secondary level. Discharge containing organic compounds is generated at our power generation facilities. We monitor water discharge quality (e.g., pH, BOD, COD, SS, harmful substances, etc.) based on applicable regulations by continuous real time monitoring or third party sampling analysis at all of our facilities (mostly on a monthly basis). Discharge volumes were subject to strict water quality controls before being released to receiving water bodies. Water discharge levels and the type of treatments applied are based on the requirements of our discharge permits and their corresponding regulatory limits. During 2022, NRG held 37 wastewater discharge permits, some of which require discharged water to be treated to the secondary level. NRG complies with all of the regulatory requirements it is subject to. Change in volume: During 2022, the amount of discharged water treated to the secondary level by NRG increased by 31.7% This increase is due to increased generation at high water use plants that are required to treat their discharged water to the secondary level. Our definition for change: Much higher: >+10%, Higher: >+5%, About the same: <+/-5%, Lower: >-5%, Much lower: >-10%. Anticipated future trend: Discharge volumes treated to secondary level are expected to remain the same in the upcoming years as no significant alterations are being planned for our operational processes.
Primary treatment only	Relevant	1130090	Much higher	Increase/decrease in business activity	100%	1,130,090 megaliters of water discharged by NRG facilities was treated to the primary level. This discharged water is treated to the primary level before discharge to local treatment facilities under municipal discharge permits. Primary treatment varies depending on the characteristics of the sub-operation's discharge, and may include pH adjustment, flocculation, sedimentation and filtration. Water discharge level and type of treatments are based on the requirements of our discharge permits and their corresponding regulatory limits. During 2022, NRG held 37 wastewater discharge permits, some of which require discharged water to be treated to the primary level. NRG complies with all the regulatory requirements it is subject to. Change in volume: During 2022, the amount of discharged water treated to the secondary level by NRG increased by 114.5% This large increase is due to increased generation at high water use plants that are required to treat their discharged water to the primary level. Our definition for change: Much higher: >+10%, Higher: >+5%, About the same: <+/-5%, Lower: >-5%, Much lower: >-10%. Anticipated future trend: Discharge volumes treated to primary level are expected to remain the same in the upcoming years as no significant alterations are being planned for our operational processes.
Discharge to the natural environment without treatment	Relevant	892636	Much lower	Increase/decrease in business activity	100%	NRG discharged 892,636 megaliters of water to the natural environment without treatment. Water discharge level and type of treatments are based on the requirements of our discharge permits and their corresponding regulatory limits. Water volumes which do not need to be treated per the discharge permits we comply with are discharged to the natural environment without treatment. During 2022, NRG held 37 wastewater discharge permits, some of which allow water to be discharged to the natural environment without any treatment. NRG complies with all the regulatory requirements it is subject to even when it discharges water to the natural environment without treatment. Change in volume: During 2022, the amount of water discharged to the natural environment without treatment decreased by 63.3% This large decrease is due to decreased generation at high water use plants that are discharge water to the natural environment. Our definition for change: Much higher: >+10%, Higher: >+5%, About the same: <+/-5%, Lower: >-5%, Much lower: >-10%. Anticipated future trend: Discharge volumes are expected to remain the same in the upcoming years as no significant alterations are being planned for our operational processes.
Discharge to a third party without treatment	Relevant	27	Much higher	Increase/decrease in business activity	100%	NRG discharged 27 megaliters of water to a third party without treatment. At our facilities, water that is used for drinking water and sanitation/hygiene services is discharged to a third party without treatment. The third party (municipal sewage treatment plant) applies a conventional secondary treatment, and the treatment plant publicly states compliance with local water regulations. During 2022, NRG held 37 wastewater discharge permits, some of which allow water to be discharged to a third party without treatment. NRG discharges water that is used for drinking water and sanitation/hygiene at its generation facilities in this manner. NRG complies with all the regulatory requirements it is subject to even when it discharges water to a third party without treatment. Change in volume: During 2022, the amount of water discharged to a third party without treatment increased by 47.5% This increase is due to increased generation at high water use plants that discharge water to a third party. Our definition for change: Much higher: >+10%, Higher: >+5%, About the same: <+/-5%, Lower: >-5%, Much lower: >-10%. Anticipated future trend: Discharge volumes are expected to remain the same in the upcoming years as no significant alterations are being planned for our operational processes.
Other	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	Other discharges are not relevant in this report.

W1.2k

(W1.2k) Provide details of your organization's emissions of nitrates, phosphates, pesticides, and other priority substances to water in the reporting year.

	Emissions to water in the reporting year (metric tonnes)	Category(ies) of substances included	List the specific substances included	Please explain
Row 1	0.08	Priority substances listed under the EU Water Framework Directive	The figure includes priority substances listed under the EU Water Framework Directive, specifically Mercury, Lead, Nickel and Cadmium.	Power generation facilities considered for this calculation: Indian River, Limestone, Powerton, Vienna, WA Parish, Wakuegan, Will County, Fisk and Joliet.

W1.3

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

	Revenue	Total water withdrawal volume (megaliters)	Total water withdrawal efficiency	Anticipated forward trend
Row 1	31543000000	2181582		The total water withdrawal efficiency metric is expected to stay the same or increase slightly over a 1-to 2-year period due to shifting generation asset fuel mix and portfolio makeup and will continue to increase in the longer term in line with reduction in once through cooling systems associated with coal generation and follow an overall upward trend thereafter. Our portfolio decarbonization efforts remain ongoing and as we progress towards this goal, this value will increase.

W-EU1.3

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

Yes

W-EU1.3a

(W-EU1.3a) Provide the following intensity information associated with your electricity generation activities.

Water intensity value (m3/denominator)	Numerator: water aspect	Denominator	Comparison with previous reporting year	Please explain
0.04	Total water withdrawals	MWh	Much lower	In 2022, NRG's total water withdrawal intensity per unit of electricity generation was 0.04 megaliters (11,249 gallons) per MWh. During 2021, NRG's total water withdrawal intensity per unit of electricity generation was 0.06 megaliters (15,850 gallons) per MWh. Hence, our water intensity value is much lower than the previous reporting year figure (a 40.9% decrease from 2021). The lower water withdrawal intensity is due to lower power generation from higher water withdrawing plants. It had been anticipated that intensity may slightly decrease over the next one to two years based on shifting generation asset fuel mix and portfolio makeup and will decrease in the longer term in line with reduction in once-through cooling systems associated with coal generation. This metric is used internally to support the development of sustainability initiatives related to water, for instance the development of new water targets. In 2023 and beyond, as part of a larger corporate strategy to reduce water withdrawal intensity, NRG will continue to undergo detailed water desktop audits at three high use generation stations to reveal gaps in measurement and reporting quality as well as reasons behind high water use, with the goal of further developing strategies to reduce water withdrawal intensity at the fleet level. Water reduction in our plant operations is an important part of our overall sustainability strategy.

W1.4

(W1.4) Do any of your products contain substances classified as hazardous by a regulatory authority?

	Products contain hazardous substances	Comment
Row 1	No	

W1.5

(W1.5) Do you engage with your value chain on water-related issues?

	Engagement	Primary reason for no engagement	Please explain
Suppliers	Yes	<Not Applicable>	<Not Applicable>
Other value chain partners (e.g., customers)	Yes	<Not Applicable>	<Not Applicable>

W1.5a

(W1.5a) Do you assess your suppliers according to their impact on water security?

Row 1

Assessment of supplier impact
No, we do not currently assess the impact of our suppliers, but we plan to do so within the next two years

Considered in assessment
<Not Applicable>

Number of suppliers identified as having a substantive impact
<Not Applicable>

% of total suppliers identified as having a substantive impact
<Not Applicable>

Please explain
Currently, NRG does not assess our suppliers according to their impact on water security, but we are considering doing so in the next two years. As a CDP Water Security Supply Chain member, we are planning to assess our requested suppliers' Water Security responses via the CDP Supply Chain program. Our planned assessment will cover the following KPIs: the % of requested suppliers reporting active water targets and/or goals, the % of requested suppliers reporting water accounting, and the % of requested suppliers reporting any water-related policy.

W1.5b

(W1.5b) Do your suppliers have to meet water-related requirements as part of your organization's purchasing process?

	Suppliers have to meet specific water-related requirements	Comment
Row 1	Yes, suppliers have to meet water-related requirements, but they are not included in our supplier contracts	<Not Applicable>

W1.5c

(W1.5c) Provide details of the water-related requirements that suppliers have to meet as part of your organization's purchasing process, and the compliance measures in place.

Water-related requirement
Other, please specify (Per our Supplier Code of Conduct, our suppliers must meet or exceed all applicable environmental laws and regulations including those related to water use, treatment, and disposal. NRG takes environmental responsibilities seriously.)

% of suppliers with a substantive impact required to comply with this water-related requirement
<Not Applicable>

% of suppliers with a substantive impact in compliance with this water-related requirement
<Not Applicable>

Mechanisms for monitoring compliance with this water-related requirement
Off-site third-party audit
On-site third-party audit

Response to supplier non-compliance with this water-related requirement
Exclude

Comment
Violating the NRG Supplier Code of Conduct could result in termination as an NRG supplier, including associated contracts, and in legal action.

W1.5d

(W1.5d) Provide details of any other water-related supplier engagement activity.

Type of engagement
Information collection

Details of engagement
Collect water management information at least annually from suppliers

% of suppliers by number
76-99

% of suppliers with a substantive impact
<Not Applicable>

Rationale for your engagement
NRG has a long history with CDP. We first reported to CDP in 2009. Three years later, in 2012, we expanded our CDP disclosures to include CDP Water Security. Our supply chain initiatives include evaluating risks and opportunities in our purchased goods and services, enhancing the ways we select suppliers, developing strong manufacturing standards and internal policies, and promoting environmental disclosure practices for those with whom we do business. In 2022, we continued advancing transparency and disclosure by participating in the world-leading CDP Supply Chain engagement program. Once a year, we ask our top suppliers (who make up > 90% of our spend) to disclose information about their water- related risks and performance in the CDP Water Security Questionnaire.

Impact of the engagement and measures of success
A desired outcome of this engagement activity is that we hope to see more responsible water management and stewardship from suppliers. Success of this engagement will be measured by the quality of responses from the suppliers that we requested to submit CDP Water Security Questionnaires. We initiated the process of asking our Suppliers to submit CDP Water Security Questionnaires last year (Calendar Year 2022). An increase in the quality of responses would be deemed to indicate success, specifically the percentage that had a water-related policy, active water-related targets or goals, and/or reported their water accounting.

For the 2022 disclosure cycle, of the suppliers that submitted a Water Security Response:

59% had a water-related policy,
72% had active water-related targets or goals, and
66% reported their water accounting.

We wish to continue improving upon these metrics.

Comment

W1.5e

(W1.5e) Provide details of any water-related engagement activity with customers or other value chain partners.

Type of stakeholder
Customers

Type of engagement
Education / information sharing

Details of engagement
Run an engagement campaign to educate stakeholders about the impacts on water that (using) your products, goods, and/or services entail
Share information about your products and relevant certification schemes

Rationale for your engagement
A core part of our strategy is to help our customers achieve their sustainability goals. By helping our customers make more sustainable choices and opt for renewable electricity plans, we found that we are able to lower our Scope 3 carbon footprint. We proactively educate our residential and business customers on the numerous types of renewable electricity subscription plans that we offer. Electricity from renewable sources is less water intensive than electricity from fossil fuels.

Impact of the engagement and measures of success
One of the ways which we measure the impact of our engagement is by measuring the renewable power capacity which we have contracted annually. We realize the positive linkage between renewable electricity and both carbon emission reductions and reduced water withdrawals. In 2018, NRG Business Solutions rolled out Renewable Select, an offsite renewable energy solution that helps shift a customer's electricity consumption from fossil fuel generation to less water- and GHG-intensive processes. Renewable Select is supported by power purchase agreements with 3rd party renewable project developers. To measure success for this engagement, we consider the renewable power capacity contracted through PPAs. At the end of 2022, NRG had signed agreements for 2.4 GW of renewable power capacity through these PPAs.

W2. Business impacts

W2.1

(W2.1) Has your organization experienced any detrimental water-related impacts?
No

W2.2

(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?

	Water-related regulatory violations	Fines, enforcement orders, and/or other penalties	Comment
Row 1	No	<Not Applicable>	During 2022, NRG was not subject to any fines, enforcement orders, and other penalties for water-related regulatory violations.

W3. Procedures

W3.1

(W3.1) Does your organization identify and classify potential water pollutants associated with its activities that could have a detrimental impact on water ecosystems or human health?

	Identification and classification of potential water pollutants	How potential water pollutants are identified and classified	Please explain
Row 1	Yes, we identify and classify our potential water pollutants	Our Environment-Over-Production policy sets a clear understanding that environmental compliance takes precedence over production at NRG. Every employee is empowered and encouraged to take the necessary steps to maintain environmental compliance. NRG identifies and classifies potential water pollutants according to regulatory requirements. We obtain all required permits and report results of water discharges to regulatory agencies monthly. We have 37 wastewater discharge permits in the U.S. NRG relies on regulatory agencies such as the U.S. Environmental Protection Agency (EPA) and state environmental agencies to evaluate potential water-related impacts on ecosystems and human health caused by potential pollutants and set appropriate standards. NRG has trained Environmental, Health & Safety (EH&S) staff to be well-versed on these standards such that they ensure compliance with our permits and applicable regulatory requirements. Water- related impacts include potential adverse wildlife, plant life, and human health impacts of wastewater permit exceedances. Per our Environment-Over Production policy, NRG strives to meet or exceed applicable environmental laws. Should a wastewater permit exceedance occur, we determine the root cause and correct it.	<Not Applicable>

W3.1a

(W3.1a) Describe how your organization minimizes the adverse impacts of potential water pollutants on water ecosystems or human health associated with your activities.

Water pollutant category
Oil

Description of water pollutant and potential impacts
In the case of a spill or unpermitted discharge, hydrocarbons (such as oil) present at generation facilities could cause groundwater contamination or water body contamination. The scale and magnitude of the potential impact would depend on the size of the spill or unpermitted discharge, the location of the impact, as well as the type of hydrocarbon, ranging from minimal to substantive. We operate within the limits of wastewater discharge permits. Those limits are dictated, developed, and prepared by the states based on their rigorous analysis and monitoring.

Value chain stage
Direct operations

Actions and procedures to minimize adverse impacts
Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Beyond compliance with regulatory requirements
Industrial and chemical accidents prevention, preparedness, and response

Please explain
NRG's system maintenance and operations procedures are designed to ensure compliance with effluent quality standards at every facility. NRG has in place comprehensive spill prevention plans at every generation facility. Spill Prevention Countermeasure and Control Plans and Stormwater Pollution Prevention Plans at every facility include requirements such as secondary containment procedures for materials; emergency responder procedures; and emergency equipment ready for deployment such as booms and absorbents to prevent hydrocarbons reaching any body of water. NRG requires these measures at every facility regardless of local regulation.

Operations are assessed each month through our environmental key performance indicator (EKPI), which measures a number of leading and lagging parameters such as notices of violation (NOVs), reportable spills and compliance with laws. For 2022, 100% of our generation fleet met or exceeded their respective targets. To continuously improve environmental performance, we use an Environmental Management Information System (EMIS). This system provides us the tools and transparency to efficiently track our generation fleet's environmental performance. We use EMIS and root cause applications to report incidents, analyze root causes and ensure completion of corrective actions.

Water pollutant category
Other physical pollutants

Description of water pollutant and potential impacts
The water pollutant being discussed in this section is coal combustion residuals (CCRs). An unpermitted discharge from a coal combustion residual impoundment could cause groundwater contamination or water body contamination. The scale and magnitude of the potential impact would depend on the size of the spill or unpermitted discharge and the location of the impact, ranging from minimal to substantive. We operate within the limits of our permits. Those limits are dictated, developed, and prepared by the states based on their rigorous analysis and monitoring.

Value chain stage
Direct operations

Actions and procedures to minimize adverse impacts
Beyond compliance with regulatory requirements

Industrial and chemical accidents prevention, preparedness, and response

Please explain
NRG's system maintenance and operations procedures are designed to ensure compliance with effluent quality standards at every facility. Spill Prevention Countermeasure and Control Plans and Stormwater Pollution Prevention Plans at every generation facility include requirements such as secondary containment procedures for materials; emergency responder procedures; and emergency equipment ready for deployment. NRG requires these measures at every facility regardless of local regulation. Operations are assessed each month through our environmental key performance indicator (EKPI), which measures a number of leading and lagging parameters such as notices of violation (NOVs), reportable spills and compliance with laws. Additionally, NRG follows EPA CCR regulations which require impoundments that meet the criteria of 40 CFR 257.73 to have a third-party professional engineer conduct a hazard potential classification assessment. Success is measured by number of impoundments subject to the rule found to be of satisfactory (the highest rating available) structural integrity. 6 out of 11 impoundments subject to the rule were found to be of satisfactory structural integrity in 2022. To continuously improve environmental performance, we use an Environmental Management Information System (EMIS). This system provides us the tools and transparency to efficiently track our generation fleet's environmental performance and analyze root causes and ensure the completion of corrective actions.

Water pollutant category
Other physical pollutants

Description of water pollutant and potential impacts
The water pollutant being discussed in this section is contaminated cooling water. In case of a release, chemicals used in cooling tower blowdown could cause groundwater contamination or water body contamination. The scale and magnitude of the potential impact would depend on the size of the spill or unpermitted discharge and the location of the impact, ranging from minimal to substantive. We operate within the limits of our permits. Those limits are dictated, developed, and prepared by the states based on their rigorous analysis and monitoring.

Value chain stage
Direct operations

Actions and procedures to minimize adverse impacts
Beyond compliance with regulatory requirements
Industrial and chemical accidents prevention, preparedness, and response

Please explain
NRG's system maintenance and operations procedures are designed to ensure compliance with effluent quality standards at every facility. NRG has in place comprehensive spill prevention plans at every generation facility. Spill Prevention Countermeasure and Control Plans and Stormwater Pollution Prevention Plans at every facility include requirements such as secondary containment procedures for materials; emergency responder procedures; and emergency equipment ready for deployment such as booms and absorbents to prevent hydrocarbons reaching any body of water. NRG requires these measures at every facility regardless of local regulation. Operations are assessed each month through our environmental key performance indicator (EKPI), which measures a number of leading and lagging parameters such as notices of violation (NOVs), reportable spills and compliance with laws. Our goal for 2022 was to have all of our plants meet their plant-specific targets. We are happy to report that during 2022, 100% of our generation fleet met or exceeded their respective targets. To continuously improve environmental performance, we use an Environmental Management Information System (EMIS). This system provides us the tools and transparency to efficiently track our generation fleet's environmental performance. We use EMIS and root cause applications to report incidents, analyze root causes and ensure completion of corrective actions.

Water pollutant category
Other physical pollutants

Description of water pollutant and potential impacts
The water pollutant being discussed in this section is thermal pollution. Water is drawn into our facilities for cooling purposes, is warmed in the process of cooling the equipment, and is then discharged. The delta-T between intake and discharge temperatures is subject to regulatory monitor and permit due to potential ecological impacts of warmed water. The potential impacts of thermal pollution include damage to water ecosystems and the loss of biodiversity by death of aquatic plants, insects, fish, and amphibians as a consequence of thermal shock. The scale and magnitude of the potential impact on ecosystems and human health is relatively low as water temperature is able to be controlled using various methods, including reducing the amount of power a facility is generating (derating) in order to maintain discharge temperatures within the limits. We operate within the limits of our permits. Those limits are dictated, developed, and prepared by the states based on their rigorous analysis and monitoring.

Value chain stage
Direct operations

Actions and procedures to minimize adverse impacts
Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements

Please explain
NRG's system maintenance and operations procedures are designed to ensure compliance with thermal water discharge standards at every facility. In accordance with local permit criteria water temperature is controlled using various methods, including reducing the amount of power a facility is generating (derating) in order to maintain discharge temperatures within the limits. Operations are assessed each month through our environmental key performance indicator (EKPI), which measures a number of leading and lagging parameters such as notices of violation (NOVs), reportable spills and compliance with laws. To continuously improve environmental performance, we use an Environmental Management Information System (EMIS). This system provides us the tools and transparency to efficiently track our generation fleet's environmental performance. We use EMIS and root cause applications to report incidents, analyze root causes and ensure completion of corrective actions. Our goal for 2022 was to have all of our plants meet their plant-specific targets. We are happy to report that during 2022, 100% of our generation fleet met or exceeded their respective targets.

Water pollutant category
Other physical pollutants

Description of water pollutant and potential impacts
The water pollutant being discussed in this section is Metals, TSS, Oil, and Grease. NRG monitors for metals in discharge at several generation stations, as well as total suspended solids (TSS), and oil and grease. The scale and magnitude of the potential impact would depend on the size of the spill or unpermitted discharge and the location of the impact. Relatively small volumes of these materials onsite make impacts less substantive. We operate within the limits of waste water discharge permits. Those limits are dictated, developed, and prepared by the states based on their rigorous analysis and monitoring.

Value chain stage
Direct operations

Actions and procedures to minimize adverse impacts
Beyond compliance with regulatory requirements
Industrial and chemical accidents prevention, preparedness, and response

Please explain
NRG's system maintenance and operations procedures are designed to ensure compliance with effluent quality standards at every facility. NRG has in place

comprehensive spill prevention plans at every generation facility. Spill Prevention Countermeasure and Control Plans and Stormwater Pollution Prevention Plans at every facility include requirements such as secondary containment procedures for materials; emergency responder procedures; and emergency equipment ready for deployment such as booms and absorbents to prevent hydrocarbons reaching any body of water. NRG requires these measures at every facility regardless of local regulation.

Operations are assessed each month through our environmental key performance indicator (EKPI), which measures a number of leading and lagging parameters such as notices of violation (NOVs), reportable spills and compliance with laws. To continuously improve environmental performance, we use an Environmental Management Information System (EMIS). This system provides us the tools and transparency to efficiently track our generation fleet's environmental performance. We use EMIS and root cause applications to report incidents, analyze root causes and ensure completion of corrective actions. Our goal for 2022 was to have all of our plants meet their plant-specific targets. We are happy to report that during 2022, 100% of our generation fleet met or exceeded their respective targets.

W3.3

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

Yes, water-related risks are assessed

W3.3a

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

Value chain stage
Direct operations

Coverage
Full

Risk assessment procedure
Water risks are assessed as a standalone issue

Frequency of assessment
Annually

How far into the future are risks considered?
More than 6 years

Type of tools and methods used
Tools on the market
International methodologies and standards
Databases

Tools and methods used
WRI Aqueduct
Other, please specify (Facility-specific annual risk assessments, annual permit reviews, tracking trends and emerging regulations and trade organizations)

Contextual issues considered
Water availability at a basin/catchment level
Impact on human health
Water regulatory frameworks
Status of ecosystems and habitats
Access to fully-functioning, safely managed WASH services for all employees

Stakeholders considered
Customers
Employees
Investors
Local communities
Regulators

Comment
NRG evaluates water risk at all generating stations in our direct operations. A comprehensive company-wide risk assessment approach is taken because water risk is linked with other risks, such as air emissions. Each generating facility is unique and NRG's approach identifies and addresses water risks for each location. Risks are identified, evaluated, and responded to by managing plant operations.

Value chain stage
Supply chain

Coverage
Full

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

Frequency of assessment
More than once a year

How far into the future are risks considered?
More than 6 years

Type of tools and methods used
Enterprise risk management
International methodologies and standards
Databases

Tools and methods used
Environmental Impact Assessment
Regional government databases

Contextual issues considered
Water availability at a basin/catchment level
Water regulatory frameworks
Status of ecosystems and habitats
Access to fully-functioning, safely managed WASH services for all employees

Stakeholders considered
Customers
Employees
Investors
Local communities

Comment
NRG is a founding member of the Natural Gas Supply Collaborative (NGSC). NRG has worked with this group on establishing environmental and social indicators for natural gas producers, one of which is water. Among the indicators for water are (1) Quantitative: water use (total and freshwater intensity), water testing, spill reporting; (2) Management Strategy (qualitative): freshwater use strategy, well planning and integrity strategy, wastewater management strategy.

We are internally evaluating a supplier engagement strategy for our natural gas suppliers to engage them on water management. For reference see: https://www.mjbradley.com/sites/default/files/NGSCIndicatorsFinal.pdf.

W3.3b

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

	Rationale for approach to risk assessment	Explanation of contextual issues considered	Explanation of stakeholders considered	Decision-making process for risk response
Row 1	NRG identifies and assesses water risk for all direct operations using a company-wide risk assessment approach because water risk is linked with other risks, such as air emissions. For our Direct operations, the Aqueduct Water Risk Atlas is used annually to develop a high-level view of basin level risk that informs strategic decision-making and the setting of goals and targets. Water availability at a basin/catchment level is monitored as part of overall process for assessing water risk. NRG also conducts specific annual risk assessments, annual permit reviews, tracking trends and emerging regulations and trade organizations. Not complying with permit requirements could result in the facility being fined or facing legal action. NRG's system maintenance and operations procedures are designed to ensure compliance with thermal water discharge standards at every facility so that the ecosystems and habitats of aquatic life in the region remain unaffected. For our Supply Chain, Environmental Impact Assessments and regional government databases are used to asses water risks. Water use in hydraulic fracturing for natural gas extraction is an issue to the industry. The indicators for water assessed from these tools are (1) Quantitative: water use (total and freshwater intensity), water testing, spill reporting; (2) Management Strategy (qualitative): freshwater use strategy, well planning and integrity strategy, wastewater management strategy.	The risk identification, assessment, and response process apply to both direct operations and supply chain. NRG uses measures, metrics and indicators leveraging management and professional judgment in: 1. Financial impact: Corporate earnings and capital expenditure on technologies to reduce water consumption and withdrawal 2. Plant operation: Operation disruption due to shortage; Increase in water cost; Value chain risks 3. Environmental impact: Availability; Quality of river basins; Regulations on supply or management of water NRG measures and monitors all facilities and provides fully functioning WASH services for all workers. NRG operations are primarily in the United States and OSHA requires WASH services for all workers. Sites are inspected by federal regulators in person when randomly selected as part of an OSHA enforcement process, and are informally monitored daily by site management, who report any outages. NRG Plant Ops reviews modelling scenarios generated. Plant water usage is reviewed annually. Analysis is reviewed by the senior leaders of NRG Operations, Engineering and Commercial Operations. On a case-by-case basis if an issue is identified it is escalated to the appropriate business unit to be addressed in line with risk, context of the issue, and budget.	The water risk approach identifies and addresses risks for each covering: 1. Availability 2. Quality 3. Regulatory 4. Stakeholders 5. Value chain impacts 6. Financial 7. Operational 8. Environmental When assessing water-related risks within our direct operations – we consider our customers, who expect power to be provided to them without interruptions in service. Our investors expect us to carry out our operations with sustainability in mind. NRG is committed to reducing environmental impacts across all our operations, which includes mitigating water-related risks. Safety and Well-being are part of the core values at NRG and have always been a priority for our employees. We provide WASH services for all workers. These services are monitored daily to ensure no outages. Finally, with 2,181,582 megaliters of water discharged per year, it is important for NRG to reduce risk and consider the health of water basins NRG and our communities rely on.	Water risk is monitored by the risk owners (individual plant operators) on an ongoing basis and reported to management upon material changes with a threshold of 20% in water consumption and withdrawal levels. If determined through risk management analysis appropriate to the scenario that a water supply risk exists that could impact projected generation levels at any plant within a two-year time frame, risk mitigation efforts are identified and economically evaluated for implementation. We are evaluating how to have a more consistent impact on water in the environment and in the communities where we operate if our business composition changes. Risk response decisions are primarily made and executed by managing plant operations to maintain compliance with all regulations.

W4. Risks and opportunities

W4.1

(W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?
Yes, both in direct operations and the rest of our value chain

W4.1a

(W4.1a) How does your organization define substantive financial or strategic impact on your business?

NRG's definition of substantive water risk is the possibility that an event will occur and significantly alter the achievement of NRG's business goals. For example, material changes with a threshold of 20% in water consumption and withdrawal levels would trigger a report to the management by the risk owners. 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) Value chain risk

Environmental impact
1) Water availability
2) Water quality of river basins
3) Regulations that impact supply and/or management of water

Water risks, for the purposes of this disclosure, are considered to have substantive financial impact to NRG's business if they could impact a significant proportion of the company's gross margin from power generation in a given region. An example is the risk of water shortage in the Brazos River and its potential to interrupt operations at the WA Parish plant, which is one of the biggest in our Texas fleets. 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. 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 senior leaders of NRG Operations, Engineering and Commercial Operations.

W4.1b

(W4.1b) What is the total number of facilities exposed to water risks with the potential to have a substantive financial or strategic impact on your business, and what proportion of your company-wide facilities does this represent?

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	2	1-25	NRG considers 2 facilities to represent exposure to water risks with the potential to have a substantive financial or strategic impact on our business, comprising less than 25 percent of our company-wide facilities.

W4.1c

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

Country/Area & River basin

United States of America	Brazos River

Number of facilities exposed to water risk
2

% company-wide facilities this represents
1-25

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

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

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

% company's total global revenue that could be affected
21-30

Comment
NRG has 2 stations on the Brazos River, Limestone Generating Station and WA Parish Generating Station that are exposed to water risk. Together, Limestone and WA parish annual gross margins represent a significant amount of NRG's annual economic gross margin of $4,762 million, as reported in the company's 2022 Form 10-K. The Brazos River has many stakeholders that depend on water. Drought conditions have the potential to make water unavailable for stakeholders.

W4.2

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

Country/Area & River basin

United States of America	Brazos River

Type of risk & Primary risk driver

Chronic physical	Water scarcity

Primary potential impact
Reduction or disruption in production capacity

Company-specific description
NRG has 2 stations on the Brazos River, Limestone Generating Station and WA Parish Generating Station, that are exposed to water risk. These two generating stations have a combined capacity of 5,292 MW, representing 32% of NRG's total rated capacity for 2022. This is one of the main reasons why the Brazos River is important to NRG operations. The Limestone Generating Station relies on the Brazos River as the source of its cooling water. Increased seasonal water stress in the region could lead to decreases in water availability, which, as explained earlier, would carry a substantial financial impact. Secondly, any suspensions of our operations could impact our ability to meet our contractual agreements with customers leading to loss of business and possibly decreased customer retention.

In addition, Brazos River also 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. As mentioned earlier, the lack of water availability at these generating stations could lead to interruptions in our direct operations. This impact is current and is modelled to 2060. This risk was identified using internal company methods. NRG Comm Ops Managers and internal forecasting resources manage risk associated with water availability.

Timeframe
1-3 years

Magnitude of potential impact
High

Likelihood
Unlikely

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

Potential financial impact figure (currency)
<Not Applicable>

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

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

Explanation of financial impact
In the unlikely event of water unavailability in the Brazos River basin, it is assumed that Limestone Generating Station would be most at risk of an operational interruption due to water contracts.

Primary response to risk
Engage with regulators/policymakers

Description of response
Our response strategy to this risk has been to engage with regulators. NRG has engaged with regulators to respond to this risk. Specifically, NRG has secured "firm" water supplies through contracts with the Brazos River Authority (BRA) for 150,000 acre - feet per year through state-issued permits; issued in 1926. The BRA controls more than 750,000 acre-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 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 (TCEQ) program that regulates diverters in accordance with state water law during periods of water shortage. NRG first petitioned for the implementation of a watermaster program in the Brazos River Basin during 2013 and the Final Order from TCEQ was received in April 2014. The time scale of implementation for this response strategy was approximately one year, based on the permitting process.

Cost of response

Explanation of cost of response
These NRG stations are located in the Gulf Coast Region. The cost for firm water and the annual cost of the watermaster (which is paid for by all customers on the Brazos River) includes 1 FTE + the cost of the water + the cost of the Watermaster, which is annual.

W4.2a

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

Country/Area & River basin

United States of America	Brazos River

Stage of value chain
Supply chain

Type of risk & Primary risk driver

Chronic physical	Other, please specify (Water impacts in the natural gas supply chain)

Primary potential impact
Constraint to growth

Company-specific description
NRG has identified natural gas as a key focus area in our supply chain. A recent supply chain materiality assessment showed our riskiest spend categories are associated with fuels (supply and transport), and spending data analyzed in the assessment suggested that NRG should prioritize risk reduction in natural gas due to the shifting asset base. Natural gas, which makes up approximately 48% of our nameplate capacity, is an increasingly important fuel to keep power affordable and to add flexible fast-start capacity that allows faster scaling of renewables on the grid, and as a result it will be vital to NRG's supply chain for years to come.

Water plays an instrumental role in natural gas production, particularly at wells that use hydraulic fracturing. The hydraulic fracturing process involves injecting water with chemical additives underground at high pressure. Hydraulic fracturing can impact local water supplies. Adverse impacts to water supply in the natural gas supply chain pose a risk to NRG as these could result in disruptions in natural gas production and therefore the supply of natural gas to our natural gas power plants, resulting in lower production, loss of revenue, and loss of profit.

Timeframe
4-6 years

Magnitude of potential impact
Medium

Likelihood
Unlikely

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

Potential financial impact figure (currency)
<Not Applicable>

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

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

Explanation of financial impact
Many variables are involved in this value chain risk, and the first step toward developing an understanding of the financial impact is to increase our visibility into the magnitude of the risk through increased disclosure by suppliers and continued assessment of our value chain.

Primary response to risk

Supplier engagement	Promote adoption of waste water management procedures among suppliers

Description of response
Our primary response to this risk is to promote the adoption of wastewater management procedures among natural gas suppliers via our engagement with them. To encourage responsible natural gas production, NRG partners with 12 companies that comprise more than 13% of the market for delivered gas in the U.S. as part of the Natural Gas Supply Collaborative (NGSC). NGSC members encourage natural gas producers to build on recent progress and continue to improve transparency and voluntarily report on the collaborative's environmental performance indicators, including water, detailed in the October 2017 report "Environmental and Social Performance Indicators for Natural Gas Production." Regulators and civil society groups have been engaging natural gas producers for years, but the Collaborative is the first example of major corporate consumers articulating their sustainability priorities as a group. NRG is continuing to engage with the Collaborative to further provide incentives to production practices that minimize negative environmental and social impact. Each year, the NGSC benchmarks the 30 largest natural gas producers in the U.S. by volume on various environmental indicators including: water use (total, freshwater use intensity, freshwater intensity by region); water testing (frequency of pre- and post-drill water testing by area of operations, distance to well sites, proximity to surface impoundments, and sampling when there is active production); freshwater use strategy (lifecycle water management strategy, freshwater use reduction strategy, pre-development risk assessment); and wastewater strategy (storage practices, recycling strategies and goals, disposal methods and seismicity). NGSC members review these benchmarks with a view to incorporating both the indicators and their best-practice values into natural gas requests for proposal and in bilateral contract negotiations with natural gas suppliers. At the same time, NRG is using these benchmarks to actively develop lower environmental impact products that reflect supplier efforts to reduce carbon-, methane-, and water-intensity. This will in turn enable consumer demand both to encourage the production of such lower environmental impact products and to enhance supply chain quality.

Our timescale of implementation of this response began over six years ago and is still ongoing. During 2017, NRG became a founding member of the NGSC and initiated this response process.

Cost of response

Explanation of cost of response
The cost of the response to this risk includes staff to develop NRG's approach to responsible natural gas sourcing and membership fees for the Natural Gas Supply Collaborative (NGSC) in 2022.

W4.3

(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes, we have identified opportunities, and some/all are being realized

W4.3a

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

Type of opportunity

Efficiency

Primary water-related opportunity

Improved water efficiency in operations

Company-specific description & strategy to realize opportunity

Climate change may affect the availability of a secure and economic supply of water in some locations, which is essential for the continued operation of NRG's generation plants. As such, the ability to conserve water use is advantageous.

This opportunity, to improve water efficiency in our operations, was realized through internal and third-party water audits. NRG has identified its generation plant located at Joliet, Illinois, as having the opportunity to reduce its water use while idling. This plant is kept online at times without generating electricity, and pumps continue to run to keep the plant ready. Evaluation is ongoing to quantify the magnitude of the potential financial impact of the water being used vs. the potential solutions. It is highly likely that reducing water use while the facility is idling will lead to lower operational costs. In 2019, to realize this opportunity, we submitted a permit application for the implementation of this operational action that will reduce water usage. The application process is still ongoing, and the Illinois Environmental Protection Agency has indicated that draft permits are currently in the final review process. The timescale of implementation of this opportunity began over four years ago and is still ongoing as we are awaiting the issuance of the draft permit. An expected outcome of this opportunity is lower operational costs.

Estimated timeframe for realization

Current - up to 1 year

Magnitude of potential financial impact

Low-medium

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact

Many variables may be involved in the increased water use at the plant, including a repowering to natural gas, changes in idling durations, and changes in net capacity factor. As a result, the financial impact of potential solutions is complex to calculate and will be evaluated later in the project once these variables have been adequately analyzed.

W5. Facility-level water accounting

W5.1

(W5.1) For each facility referenced in W4.1c, provide coordinates, water accounting data, and a comparison with the previous reporting year.

Facility reference number

Facility 1

Facility name (optional)

Limestone Generating Station

Country/Area & River basin

United States of America	Brazos River

Latitude

31.4231

Longitude

-96.2526

Located in area with water stress

Yes

Primary power generation source for your electricity generation at this facility

Coal - hard

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
16607

Comparison of total withdrawals with previous reporting year
Much higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
15636

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
0

Withdrawals from groundwater - non-renewable
971

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
0

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

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
0

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
0

Total water consumption at this facility (megaliters/year)
16607

Comparison of total consumption with previous reporting year
Much higher

Please explain
The Limestone Generating Station maintains wastewater discharge permit; it did not discharge in 2022. This station has operated as a zero-discharge facility for 12 years. Freshwater is pumped from Lake Limestone to supply water to cooling towers. The amount of water consumed is directly correlated with the withdrawal increase. Increase is due to increased generation due to market conditions. Withdrawal and Discharge are directly measured. Consumption is calculated as withdrawal minus discharge.

Facility reference number
Facility 2

Facility name (optional)
WA Parish Generating Station

Country/Area & River basin

United States of America	Brazos River

Latitude
29.4754

Longitude
-95.6322

Located in area with water stress
Yes

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

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
66082

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
63113

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
0

Withdrawals from groundwater - non-renewable
2969

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
0

Total water discharges at this facility (megaliters/year)
13627

Comparison of total discharges with previous reporting year
Much lower

Discharges to fresh surface water
6623

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
7004

Total water consumption at this facility (megaliters/year)
52455

Comparison of total consumption with previous reporting year
Much higher

Please explain
Fresh surface water is withdrawn from the Brazos to Smithers Lake to cool the WA Parish facility. Groundwater is used for WASH and steam. Rain is diverted to Smithers Lake. Fuels are coal and natural gas. Consumption increased this year due to increased runtimes. Withdrawal and Discharge are directly measured, and consumption is calculated as Withdrawal - Discharge.

W5.1a

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

Water withdrawals – total volumes

% verified
76-100

Verification standard used
The review was conducted in accordance with the attestation standards established by the American Institute of Certified Public Accountants. Total water withdrawals-total volumes include total withdrawals. 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.

Please explain
<Not Applicable>

Water withdrawals – volume by source

% verified
76-100

Verification standard used
The review was conducted in accordance with the attestation standards established by the American Institute of Certified Public Accountants. The review includes total withdrawals from surface water (lakes, rivers or oceans), ground water, rainwater and municipal water utilities. Municipal water utility is determined from invoices.

Please explain
<Not Applicable>

Water withdrawals – quality by standard water quality parameters

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain
NRG measures and monitors water withdrawal quality at select facilities where it is a regulatory requirement. Quality is measured, monitored, and recorded at intervals according to the terms of plant permits. The facilities listed in W5.1 do not have a permitting requirement to monitor water withdrawal quality by standard water quality parameters, hence verification of this water quality data is not in place. Currently, NRG is not considering verifying this data within the next two years.

Water discharges – total volumes

% verified
76-100

Verification standard used
The review was conducted in accordance with the attestation standards established by the American Institute of Certified Public Accountants. 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 wastewater discharge permits and discharges to publicly owned treatment works determined by volumes indicated on water/sewer invoices.

Please explain
<Not Applicable>

Water discharges – volume by destination

% verified
76-100

Verification standard used
The review was conducted in accordance with the attestation standards established by the American Institute of Certified Public Accountants. 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 wastewater discharge permits and discharges to publicly owned treatment works determined by volumes indicated on water/sewer invoices.

Please explain
<Not Applicable>

Water discharges – volume by final treatment level

% verified
76-100

Verification standard used
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.

Please explain
<Not Applicable>

Water discharges – quality by standard water quality parameters

% verified
76-100

Verification standard used
All discharges are regulated by state environmental agencies and are regulated by wastewater discharge permits. Permits require water testing to meet EPA and/or Standard Methods. Water testing laboratories are required to be NELAC accredited.

Please explain
<Not Applicable>

Water consumption – total volume

% verified
76-100

Verification standard used
The review was conducted in accordance with the attestation standards established by the American Institute of Certified Public Accountants. The difference between total quantity of water withdrawn and total quantity of water discharged in cubic meters for the year ending December 31, 2018 at the Company's facilities under operational control.

Please explain
<Not Applicable>

W6. Governance

W6.1

(W6.1) Does your organization have a water policy?
Yes, we have a documented water policy that is publicly available

W6.1a

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

	Scope	Content	Please explain
Row 1	Company-wide	Description of business dependency on water Description of business impact on water Commitment to align with international frameworks, standards, and widely-recognized water initiatives Commitment to prevent, minimize, and control pollution Commitment to reduce or phase-out hazardous substances Commitment to reduce water withdrawal and/or consumption volumes in direct operations Commitment to reduce water withdrawal and/or consumption volumes in supply chain Commitment to safely managed Water, Sanitation and Hygiene (WASH) in the workplace Commitment to water stewardship and/or collective action Commitment to the conservation of freshwater ecosystems Commitments beyond regulatory compliance Reference to company water-related targets Acknowledgement of the human right to water and sanitation Recognition of environmental linkages, for example, due to climate change	Water availability and quality are material sustainability issues for NRG. Power generating operations account for 99.9% of water withdrawn. As such, NRG's water policy includes a description of our business dependency and business impact on water. NRG's water policy is incorporated in the 1/2014 environmental policy and sets performance standards for direct operations to meet or exceed applicable laws related to water; reduce our environmental impacts by integrating water-related considerations in business ops and strategy, operate efficiently, use cleaner, cost-effective technologies; promote biodiversity; engage in the regulatory process; and measure the effectiveness of water programs. The policy supports international standards and recognized initiatives including GRI, DJSI, and CDP. It also includes reference to responding to procurement data requests from customers and NGOs. The Environmental Group, our policy implementing entity, will assist with sustainability reporting such as the NRG Sustainability Report, the Global Reporting Initiative (GRI) table and other voluntary reporting or benchmarking determined by NRG. The Environmental Group also provides data required to complete U.S. Securities and Exchange Commission (SEC) disclosure. The water policy is aligned with the company's water targets and goals, including our water reduction goal set in 2016, where we set a target to reduce water withdrawal 40 percent by 2030 from a 2014 baseline across all of our direct operations. In 2022, we achieved 59% reduction compared to 2014 levels, equating to a reduction in volume of approximately 3,159 million cubic meters of water. NRG operates primarily in the United States, and it is a federal requirement to provide WASH for all employees.

W6.2

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

Yes

W6.2a

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

Position of individual or committee	Responsibilities for water-related issues
Board-level committee	NRG water resources, compliance, and regulatory issues are discussed with the Board. The Governance & Nominating Committee (which hears briefings from the Chief Sustainability Officer at least twice annually) handles water issues including the nature, ambition, and timescale of goals; the assessment of environmental water risks; and the overall direction of the company's water strategy as formulated by Sustainability, Environmental, and Regulatory staff. This Board committee's risk oversight focus areas include: "Strategies and efforts to manage the company's environmental, economic and social impacts, including, environmental, climate change and sustainability policies and programs," which include water. Other committees and the Board as a whole also deal with water issues as relevant, for instance a water issue related to the South Texas Project nuclear power plant would be overseen by the Nuclear Oversight Committee and a water risk issue materially impacting the company financially would be overseen by the Finance and Risk Management Committee. In October 2021, NRG informed its regulators that it intends to comply with the 2020 Effluent Limitations Guidelines ("ELG") for Steam Electric Generating Facilities. This amended rule imposed more stringent requirements for wastewater streams from flue gas desulfurization ("FGD"), fly ash, bottom ash, and flue gas mercury control. NRG stated it would comply with the 2020 ELG Rule by ceasing combustion of coal by the end of 2028 at its domestic coal units outside of Texas and by installing appropriate controls by the end of 2025 at its two plants that have coal-fired units in Texas. Our Board's decision to adopt this long-term outlook equips us to satisfy future water quality-related environmental compliance requirements. NRG's future efforts will continue to focus on water stewardship.

W6.2b

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

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Scheduled - some meetings	Monitoring implementation and performance Overseeing acquisitions, mergers, and divestitures Overseeing major capital expenditures Providing employee incentives Reviewing and guiding annual budgets Reviewing and guiding business plans Reviewing and guiding corporate responsibility strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding strategy Setting performance objectives	In 2022, the NRG board's Governance and Nominating Committee continued to oversee strategies and efforts to manage environmental, economic and social impacts, including environmental, climate change and sustainability policies and programs. This includes water-related issues. NRG's VP of Sustainability presents updates more than half yearly. In addition, other disciplines (Engineering & Construction, Asset Management, Environmental and Government Affairs) present at other cadences and may include a discussion of water where relevant to the matter presented. A typical board update from the VP of Sustainability includes progress and projections on achievement of NRG climate and water goals. As with other organizations that have chosen to make sustainability part of their strategic imperative, sustainability at NRG means driving business results, reducing risk and enhancing the company's brand value. Sustainable Business lies at the core of our five-pillar strategy because it encompasses initiatives that embed sustainability in the organization. This includes our objectives for NRG to be recognized as a leader on transparency to measure key sustainable business goals and to manage stakeholder engagement. Our Sustainable Business strategy ties financial performance with decarbonization efforts. It also advances dialogue around future corporate reporting while engaging with our broad stakeholder network. This is supported by a strong governance structure that starts with the Board of Directors and the CEO and extends to all business leaders within our organization. The governance mechanisms into which NRG integrates water-related issues contribute to the board's oversight of those issues by acknowledging that water is an integral aspect of a wide-ranging and diverse set of business imperatives – not simply an operational issue at the plant level. Along with financial objectives, company sustainability objectives including water reduction goals are integrated into long-term business planning for fossil fuel generation, including the overall types of plants that may be of strategic interest in the company's mergers, acquisitions, and divestitures plans. All major decisions are reviewed by the board to specifically assess exposure to and management of sustainability-related risks, including water risk.

W6.2d

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

	Board member(s) have competence on water-related issues	Criteria used to assess competence of board member(s) on water-related issues	Primary reason for no board-level competence on water-related issues	Explain why your organization does not have at least one board member with competence on water-related issues and any plans to address board-level competence in the future
Row 1	Yes	Our directors represent a diverse mix of skills, experiences and viewpoints that are relevant to our company and facilitate effective oversight. Currently, four of our ten board members (40%) have competency on Environmental/ Sustainability/ Corporate Responsibility issues which includes water-related issues.	<Not Applicable>	<Not Applicable>

W6.3

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

Name of the position(s) and/or committee(s)
Chief Sustainability Officer (CSO)

Water-related responsibilities of this position
Assessing future trends in water demand
Assessing water-related risks and opportunities
Managing water-related risks and opportunities

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

Please explain
The NRG Chief Sustainability Officer (CSO) has responsibility for water related issues, and reports to the Senior VP-Corporate Affairs, who reports to the CEO. CSO duties related to water include coordination with SVP, Environmental/Asst. General Counsel, Environmental Policy to ensure alignment on water reporting; leadership of water strategy including public commitments; and alignment with standards (UN SDGs). CSO leads staff that work with risk, finance, environmental, regulatory, and plant staff to manage water. In 2022, the board's Governance and Nominating Committee oversaw efforts to impact environmental, climate change and sustainability policies and programs. Outcomes of water issues are reported to CDP and in our 2022 Year-In-Review Report. The water portion of the report to the Board typically contains relevant water-related issues, e.g., progress toward achievement of water target, and an opportunity for the Board to provide substantive input.

W6.4

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

	Provide incentives for management of water-related issues	Comment
Row 1	Yes	In 2022, we announced that our compensation program will tie a portion of our Named Executive Officer's overall compensation to a new ESG metric. The objectives, categorized by Customers, Environment, and People, would positively or negatively impact a Named Executive Officer's 2022 annual incentive bonus by up to 15% based on the company's achievement of these goals. The Environment category included the creation of the Environmental Performance Index (EPI), based on existing environmental key performance indicators (EKPIs) and the development of a Carbon Intensity (CI) measure; each weighted at 50%. The EPI takes into consideration water related issues. In our 2023 Proxy Statement, we announced that "the ESG Metric's achievement was above target at 156%," a success, which was positively reflected in the bonuses paid to Named Executive Officers.

W6.4a

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

	Role(s) entitled to incentive	Performance indicator	Contribution of incentives to the achievement of your organization's water commitments	Please explain
Monetary reward	Chief Executive Officer (CEO) Chief Financial Officer (CFO) Chief Government Relations Officer (CGRO) Other C-suite Officer (Executive Vice President, NRG Home) General Counsel	Improvements in wastewater quality – direct operations Reduction of water pollution incidents	In 2022, we announced that our compensation program will tie a portion of our Named Executive Officers' (NEO) overall compensation to a new ESG metric. The objectives, categorized by Customers, Environment and People, would positively or negatively impact an NEO's 2022 annual incentive bonus by up to 15% based on the company's achievement of these goals. The Environment category included the creation of the Environmental Performance Index (EPI), based on existing environmental key performance indicators (EKPIs) and the development of a Carbon Intensity (CI) measure; each weighted at 50%. The EPI takes into consideration water related issues, such as maintaining compliance with our 37 wastewater discharge permits and operating within the water withdrawal limits stated by our permits. NRG realizes the positive linkage between long term carbon emission reductions and reduced water withdrawals. We continue to overachieve on our 2030 water goal to reduce our water withdrawals by 40% from 2014 levels. In 2022, we achieved a 59% reduction compared to 2014 levels, equating to a reduction in volume of approximately 3,159 million cubic meters of water. Our company's future efforts will continue to reward water conservation and stewardship.	
Non-monetary reward	Other, please specify (All NRG Employees)	Reduction of water withdrawals – direct operations Reduction in water consumption volumes – direct operations Improvements in wastewater quality – direct operations Reduction of water pollution incidents	Our Environment-Over-Production policy sets a clear understanding that environmental compliance takes precedence over production at NRG. Every employee is empowered and encouraged to take the necessary steps to maintain environmental compliance. NRG recognizes employees for communicating water-related issues, and for their involvement in water-related volunteerism and stewardship in their local communities.	

W6.5

(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?

Yes, direct engagement with policy makers

Yes, trade associations

W6.5a

(W6.5a) What processes do you have in place to ensure that all of your direct and indirect activities seeking to influence policy are consistent with your water policy/water commitments?

In 2022, NRG continued to engage with policy makers and indirectly engaged in policy influence through trade associations. The development of all significant policy positions is coordinated through appropriate senior management, ensuring overall consistency with NRG's water stewardship strategy. During the first quarter of each calendar year, management reviews with the Board's Governance and Nominating (G&N) Committee anticipated government and regulatory strategies for the year as well as payments made to business or trade associations that are subject to the Company's Political Contribution Policy. During the year, management periodically reports to the Board G&N Committee on the execution of Company strategy, including any significant activities not encompassed within the initial strategy discussion. At least annually, the G&N Committee reviews our political participation policy and recommends to the Board any revisions it deems necessary. All NRG's policy positions that are published or disclosed go through a consistent review process involving several internal teams. If inconsistency is discovered at any point in the process, the Legal department acts as the final arbiter to correct the inconsistency with relevant subject matter experts. This process may involve developing our internal position on the policy in question and a plan to support, stay neutral, or oppose the entity's stance. Finally, we communicate our position to the entity.

W6.6

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

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

2022-nrg-year-in-review.pdf

2022 10-K FINAL.pdf

W7. Business strategy

W7.1

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

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	11-15	Water issues are integrated into NRG's long-term business objectives spanning the next 11-15 years. Along with financial objectives, company sustainability objectives including water reduction goals are integrated into long-term business planning for fossil fuel generations. NRG's long-term business objectives include diversification into low carbon and low water use businesses, including efforts to bring renewable electricity to our customers. For example, in 2018, NRG Business Solutions rolled out Renewable Select, an offsite renewable energy solution that helps shift a customer's electricity consumption from fossil fuel generation to less water- and GHG-intensive processes. Switching to renewable sources of energy eliminates the large amounts of freshwater withdrawals required for electricity generation from fossil fuel assets. In other words, the electricity from renewable sources is generally less water-intensive than electricity from fossil fuels. We realize the positive linkage between long term carbon emission reductions and reduced water withdrawals. We continue to track progress on our 2030 water goal to reduce our water withdrawals by 40% from 2014 levels. In 2022, water withdrawal was 59% lower than 2014 levels. Our company's future efforts will continue to focus on implementing water conservation measures and procuring renewable electricity to further reduce water use from our power generation operations.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	11-15	Water issues are integrated into NRG's long-term business strategy spanning the next 11-15 years. Company water reduction goals are integrated into long-term business planning for fossil fuel generation, including the overall types of plants that may be of strategic interest in the company's mergers, acquisitions, and divestitures plans. Individual generation plant long-term planning integrates water availability, quality, regulatory and reputational water risk, and cost. Water availability is also considered in long-term strategic planning for new lines of business, for instance the ongoing integration of water audit availability for customers into the new NRG Business Solutions Energy Efficiency division as well as the long-term plan to invest to grow NRG's 3-million customer Retail business, as a low water use source of revenue generation. NRG's long-term plans include investment in other low water use businesses, including refocused participation in the renewables marketplace.
Financial planning	Yes, water-related issues are integrated	11-15	Water issues are integrated into NRG's long-term financial planning spanning the next 11-15 years Company water reduction goals are integrated into short and long-term financial planning for fossil fuel generation, especially around the negotiation of water contracts and long-term water rights protection in river basins with the potential to experience scarcity. For example, as a founding member of the Lower Brazos River Coalition, NRG works closely with fellow stakeholders to protect water availability for all, a long-term financial planning measure in addition to a water stewardship activity. Goals are integrated into financial planning around the types of plants that may be of strategic interest in the company's M&A and divestitures plans. Individual plant long-term financial planning integrates water availability, quality, regulatory and reputational water risk, and cost. Water availability is also considered in strategic planning for new lines of business, i.e. water audit availability for customers of energy efficiency and sustainability consulting services and the long-term plan to invest to grow NRG's Retail business as a low water use revenue generator. NRG's long-term plans include investment in other low water use businesses, including refocused participation in the renewables marketplace.

W7.2

(W7.2) What is the trend in your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?

Row 1

Water-related CAPEX (+/- % change)

25

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

10

Water-related OPEX (+/- % change)

-0.7

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

-5

Please explain

Water OPEX, such as water supply costs, permits renewals, and periodic on-site and off-site training for staff and equipment maintenance, remained constant due to few new operations-related projects. Capex spend, such as current and future equipment and fixture change outs and periodic installations of water pollution prevention devices where necessary, is expected to increase slightly over the 5-year plan (when compared to 2017), mostly due to projects associated with compliance with new or modified regulations including 316(b). OPEX spend is still projected to decrease by about 5% over the next 5 years, due primarily to continuing decreases in water related O&M projects and changes in operating profile.

Our water-related CAPEX and OPEX remained the same compared to the previous year as our operations did not require any material water-related expenditures.

W7.3

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

	Use of scenario analysis	Comment
Row 1	Yes	In 2020-2021, NRG conducted a transition risk-based climate scenario analysis. The analysis examines the fuel mix and associated greenhouse gas (GHG) intensity of NRG electricity sales under a U.S. Energy Information Agency (EIA) carbon fee scenario over 2026-2050. Please see 2020-TCFD.pdf (nrg.com) for detailed parameters, assumptions, and analytical choices and results.

W7.3a

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

	Type of scenario analysis used	Parameters, assumptions, analytical choices	Description of possible water-related outcomes	Influence on business strategy
Row 1	Climate-related	In 2020-2021, NRG conducted a transition risk-based climate scenario analysis, our inaugural Task Force on Climate-related Financial Disclosures (TCFD) Report. The analysis examines the fuel mix and associated GHG intensity of NRG electricity sales under a EIA carbon fee scenario over 2026-2050. This quantitative transition risk scenario analysis was started in late 2020.	Carbon is one of the biggest sources of risk in our portfolio. We already pay for carbon emissions under RGGI and AB32 and carbon taxes are a growing possibility. Physical risks include sea level rise and extreme weather events which can affect the productivity of our power generating assets as well as customer demand. Increased severity of extreme weather events could disrupt NRG's operations and supply chain and cause them to incur significant costs in preparing for, or responding to, these effects. These or other changes in weather patterns could lead to increased operating costs, capital expenses, or commodity purchase costs. Several of our generation assets are in Texas, where recent severe weather events have affected the productivity of power generating plants. Large amounts of water withdrawals are required for our fossil fuel generation assets in Texas. The increased severity of extreme weather events in this region could lead to reduced water availability in these areas. Our transition-risk based climate scenario guides our low-carbon transition. We plan to reduce our dependence on large quantities of water withdrawals by diversifying our current generation fleet and divesting or retiring uneconomic carbon intensive power generating assets, which require large water withdrawals to operate. Additionally, NRG monitors water risk actively and carefully and works with local entities on water quality and safety.	NRG's most substantive decision to date is the setting of our certified science-based targets that remain some of the industry's most aggressive. NRG remains committed to executing against our goals to reduce carbon emissions from a 2014 baseline by 50% by 2025 and net-zero by 2050. Our targets are aligned with the 1.5 degree Celsius pathway put forth by the 2015 Paris Agreement. One of the ways we plan to meet our targets is by diversifying our current generation fleet and retiring or divesting from carbon intensive power generating assets, which require large quantities of water to operate. This strategy better prepares us to continue to meet our customers' demands during climate change events which may drastically decrease the water supply available.

W7.4

(W7.4) Does your company use an internal price on water?

Row 1

Does your company use an internal price on water?

No, but we are currently exploring water valuation practices

Please explain

NRG recognizes that the true value of water is not accounted for in many markets and that the costs of treatment and delivery, as well as opportunity costs and environmental and social costs, are not well captured. Diverse water contract structures and costs as well as differences between basin ecosystems adds complexity to the consistent valuation of water in markets across the business, which we continue to evaluate.

W7.5

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

	Products and/or services classified as low water impact	Definition used to classify low water impact	Primary reason for not classifying any of your current products and/or services as low water impact	Please explain
Row 1	Yes	We are aligned with CDP's definition, i.e. products having a lower detrimental impact on water resources, water quality and ecosystems than the market norm.	<Not Applicable>	We offer our residential and business customers numerous types of renewable electricity subscription plans. Electricity from renewable sources is less water intensive than electricity from fossil fuels.

W8. Targets

W8.1

(W8.1) Do you have any water-related targets?

Yes

W8.1a

(W8.1a) Indicate whether you have targets relating to water pollution, water withdrawals, WASH, or other water-related categories.

	Target set in this category	Please explain
Water pollution	No, but we plan to within the next two years	NRG identifies and classifies potential water pollutants according to regulatory requirements. We obtain all required permits and report results of water discharges to regulatory agencies monthly. We have 37 wastewater discharge permits in the U.S. Operations are assessed each month through our environmental key performance indicator (EKPI), which measures a number of leading and lagging parameters such as notices of violation (NOVs), reportable spills and compliance with laws. For 2022, 100% of our generation fleet met or exceeded their respective targets. We continue to evaluate whether we can set more ambitious targets in this arena.
Water withdrawals	Yes	<Not Applicable>
Water, Sanitation, and Hygiene (WASH) services	No, and we do not plan to within the next two years	100% of NRG facilities already have WASH services. Sites are inspected by federal regulators in person when randomly selected as part of an OSHA enforcement process, and are informally monitored daily by site management, who report any outages. We continue to evaluate whether we can set even more ambitious targets in this arena.
Other	Please select	<Not Applicable>

W8.1b

(W8.1b) Provide details of your water-related targets and the progress made.

Target reference number
Target 1

Category of target
Water withdrawals

Target coverage
Company-wide (direct operations only)

Quantitative metric
Reduction in total water withdrawals

Year target was set
2016

Base year
2014

Base year figure
5339

Target year
2030

Target year figure
3203

Reporting year figure
2180

% of target achieved relative to base year

Target status in reporting year
Achieved

Please explain
Our values above are in million cubic meters.

In 2022, our withdrawals were 59% less than in 2014 . The primary direct use of this water is cooling of condensers during power generation. We have designed our approach to water management with the understanding that water issues are site-specific. Changes to the composition of our generation fleet and market conditions have added complexity to our expected pathway to achieving this goal, creating a changing baseline. Using less water remains a priority, and we are evaluating how to have a more consistent impact on water in the environment and in the communities where we operate if our business composition changes.

W9. Verification

W9.1

(W9.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1a)?
No, we are waiting for more mature verification standards and/or processes

W10. Plastics

W10.1

(W10.1) Have you mapped where in your value chain plastics are used and/or produced?

	Plastics mapping	Value chain stage	Please explain
Row 1	Not mapped – and we do not plan to within the next two years	<Not Applicable>	NRG brings the power of energy to customers by producing and selling energy and related products and services, nation-wide in the U.S. and Canada. NRG sells power, natural gas, and home and power services, and develops innovative, sustainable solutions, predominately under the brand names NRG, Reliant, Direct Energy, Green Mountain Energy, Stream, and XOOM Energy. Plastics are not materially used or produced as part of our business activities.

W10.2

(W10.2) Across your value chain, have you assessed the potential environmental and human health impacts of your use and/or production of plastics?

	Impact assessment	Value chain stage	Please explain
Row 1	Not assessed – and we do not plan to within the next two years	<Not Applicable>	NRG brings the power of energy to customers by producing and selling energy and related products and services, nation-wide in the U.S. and Canada. NRG sells power, natural gas, and home and power services, and develops innovative, sustainable solutions, predominately under the brand names NRG, Reliant, Direct Energy, Green Mountain Energy, Stream, and XOOM Energy. Plastics are not materially used or produced as part of our business activities.

W10.3

(W10.3) Across your value chain, are you exposed to plastics-related risks with the potential to have a substantive financial or strategic impact on your business? If so, provide details.

	Risk exposure	Value chain stage	Type of risk	Please explain
Row 1	Not assessed – and we do not plan to within the next two years	<Not Applicable>	<Not Applicable>	NRG brings the power of energy to customers by producing and selling energy and related products and services, nation-wide in the U.S. and Canada. NRG sells power, natural gas, and home and power services, and develops innovative, sustainable solutions, predominately under the brand names NRG, Reliant, Direct Energy, Green Mountain Energy, Stream, and XOOM Energy. Plastics are not materially used or produced as part of our business activities.

W10.4

(W10.4) Do you have plastics-related targets, and if so what type?

	Targets in place	Target type	Target metric	Please explain
Row 1	No – and we do not plan to within the next two years	<Not Applicable>	<Not Applicable>	NRG brings the power of energy to customers by producing and selling energy and related products and services, nation-wide in the U.S. and Canada. NRG sells power, natural gas, and home and power services, and develops innovative, sustainable solutions, predominately under the brand names NRG, Reliant, Direct Energy, Green Mountain Energy, Stream, and XOOM Energy. Plastics are not materially used or produced as part of our business activities.

W10.5

(W10.5) Indicate whether your organization engages in the following activities.

	Activity applies	Comment
Production of plastic polymers	No	NRG does not produce plastic polymers.
Production of durable plastic components	No	NRG does not materially produce plastic components.
Production / commercialization of durable plastic goods (including mixed materials)	No	NRG does not materially produce or commercialize durable plastic goods (including mixed materials).
Production / commercialization of plastic packaging	No	NRG does not produce or commercialize plastic packaging.
Production of goods packaged in plastics	No	NRG does not materially produce goods packaged in plastics.
Provision / commercialization of services or goods that use plastic packaging (e.g., retail and food services)	No	NRG does not materially provide or commercialize goods or services that use plastic packaging.

W11. Sign off

W-FI

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

Attached are the following documents that we deemed relevant to our organization's response to this year's CDP Water Security Questionnaire.
2022-nrg-year-in-review.pdf
2022 10-K FINAL.pdf

W11.1

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

	Job title	Corresponding job category
Row 1	Chief Executive Officer	Chief Executive Officer (CEO)

SW. Supply chain module

SW0.1

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

	Annual revenue
Row 1	31543000000

SW1.1

(SW1.1) Could any of your facilities reported in W5.1 have an impact on a requesting CDP supply chain member?
This is confidential

SW1.2

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

	Are you able to provide geolocation data for your facilities?	Comment
Row 1	No, this is confidential data	

SW2.1

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

SW2.2

(SW2.2) Have any water projects been implemented due to CDP supply chain member engagement?
No

SW3.1

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

Submit your response

In which language are you submitting your response?
English

Please confirm how your response should be handled by CDP

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

Please indicate your consent for CDP to share contact details with the Pacific Institute to support content for its Water Action Hub website.

No

Please confirm below

I have read and accept the applicable Terms