NRG Energy Inc - Climate Change 2022

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

NRG Energy, Inc., or NRG or the Company, is an integrated power company built on dynamic retail brands with diverse generation assets. NRG brings the power of energy to customers by producing and selling electricity and related products and services in major competitive power markets in the U.S. and Canada in a manner that delivers value to all of NRG's stakeholders. NRG is a customer-driven business focused on perfecting the integrated model by balancing retail load with generation supply within its deregulated markets. NRG sells energy, services, and innovative, sustainable products and services directly to retail customers under the brand names NRG, Direct Energy, Reliant, Green Mountain Energy, Stream, and XOOM Energy, as well as other brand names owned by NRG, supported by approximately 18,000 MW of generation as of December 31, 2021. 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. Please see statement below about forward-looking statements.

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, competition in wholesale power markets, the volatility of energy and fuel prices, failure of customers to perform under contracts, changes in the wholesale power markets, changes in government regulations, the condition of capital markets generally, our ability to access capital markets, cyberterrorism and inadequate cybersecurity, unanticipated outages at our generation facilities, adverse results in current and future litigation, failure to identify, execute or successfully implement acquisitions, repowerings or asset sales, our ability to implement value enhancing improvements to plant operations and companywide processes, our ability to implement and execute on our publicly announced transformation plan, including any cost savings and margin enhancement, our ability to achieve our net debt targets, 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 businesses efficiently, our ability to retain retail customers, our ability to realize value through our commercial operations strategy, the ability to successfully integrate businesses of acquired companies, 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.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1 2021	December 31 2021	No	<Not Applicable>

C0.3

(C0.3) Select the countries/areas in which you operate.

Australia
Canada
United States of America

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Other, please specify (NRG uses a hybrid methodology of operational and financial control to determine facilities within the organizational boundary. GHG inventory from jointly owned generating facilities are allocated based on equity share of plant ownership.)

C-EU0.7

(C-EU0.7) Which part of the electric utilities value chain does your organization operate in? Select all that apply.

Row 1

Electric utilities value chain

Electricity generation

Other divisions

C0.8

(C0.8) 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

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Chief Executive Officer (CEO)	NRG's President and CEO has overall responsibility for the company's climate change-related issues and management, including creating and approving emissions reduction goals. The CEO reviews all sustainability-related strategies, goals, targets, and metrics, which are then reviewed and approved by the Company's G&N Committee and the full Board of Directors. The CEO is directly involved with creating and approving NRG's emissions reductions goals. For example, in 2019, the CEO proposed, and the Board approved, the decision to accelerate NRG's emissions reduction goals to be in line with a 1.5 Celsius degree trajectory. The position of Chief Sustainability Officer (CSO) was formalized in 2013 as the strategic importance of sustainability was recognized, as was the need for sustainability to be integrated across the business. NRG's CSO reports to the SVP, Administration, Chief Compliance Officer & Chief of Staff, who reports to the Chief Executive Officer. The CSO also maintains a direct line of communication to the CEO through standing one-on-one meetings. The CSO leads the development and implementation of all sustainability-related strategies and programs and is responsible for the development of NRG's climate change policy positions and coordination between policy and commercial initiatives. This includes drafting and publishing NRG's climate-related transition documents, engaging with investors and analysts on integrating ESG factors into reporting practices, and advising on both business-to-business and business-to-consumer low carbon energy solutions. In 2021, the CEO and Board of Directors approved the CSO's proposal to complete our inaugural TCFD report. Please see https://www.nrg.com/assets/documents/sustainability/2020-TCFD.pdf.
Board-level committee	NRG's Board of Directors has responsibility for overall risk oversight, which includes understanding the material risks of the business and what steps management is taking or should take to manage those risks, as well as understanding and determining the appropriate risk appetite for the company. Climate-related issues are considered to the extent they are material. Since 2016, the Governance and Nominating (G&N) Committee of NRG's Board of Directors has formally overseen sustainability at the company. The rationale for formalizing Board oversight of climate related issues is that the Board is ultimately responsible for ensuring that all material risks to the company are mitigated, as well as for guiding the company's pursuit of significant business opportunities. The G&N Committee reviews NRG's strategies and efforts to manage its environmental, economic, and social impacts, including, but not limited to, NRG's environmental, climate change, and sustainability policies and programs. As of 2018, sustainability has been an agenda item at a full Board meeting at least once per annum and, in addition, is discussed separately by the G&N Committee at least once per annum. Sustainability is addressed in every quarterly earnings presentation and is part of project and transaction reviews. The skills matrix* of specific qualifications that the Governance and Nominating Committee and the Board believe should be represented on the Board includes: "Environmental/Sustainability: Understands and assesses the impact and influence of environmental / sustainability issues on the company's business strategy." Currently, five of our eleven directors (45%) have self-reported this skill as one of their top 5 skills from their respective previous experiences. Complete information about committee composition can be in found in the 2020 Proxy Statement. The CSO presents key strategic priorities to the Board during scheduled meetings throughout the fiscal year. For example, in 2019, the Board reviewed and approved NRG's accelerated greenhouse gas (GHG) emissions reduction goal to halve emissions by 2025 relative to our current 2014 baseline and to achieve net-zero by 2050 so that NRG's climate goals are 1.5 degree Celsius-aligned. See https://investors.nrg.com/news-releases/news-release-details/nrg-accelerates-emissions-reduction-goals-align-15c-trajectory.*

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	<Not Applicable>	Since 2016, our board's Governance and Nominating (G&N) Committee officially oversees corporate sustainability. The Committee reviews NRG's strategies and efforts to manage its environmental, economic, and social impacts, including, but not limited to, NRG's environmental, climate change and sustainability policies and programs. As of 2018, Sustainability became an annual agenda item at the full Board meeting and is reviewed separately by the G&N Committee, in addition to be part of general review of projects and transactions. The Board has responsibility for overall risk oversight of NRG which includes understanding the material risks of the business and what steps management is taking or should be taking to manage those risks, as well as understanding and determining the appropriate risk appetite for the company. To define NRG's risk appetite, the Board reviews and approves the annual business plan, budget and long-term plan, strategic initiatives, acquisitions and divestitures, and capital allocation plan. Climate-related issues are considered to the extent they are material. For example, the Board may incorporate climate-related issues into relevant strategic decisions, particularly those related to physical generating assets and customer preferences. Learn more about committee composition at http://investors.nrg.com/phoenix.zhtml?c=121544&p=irol-govcommcomp. The head of Sustainability presents key strategic priorities to the full Board during scheduled meetings throughout the fiscal year. For example, NRG's science-based targets are monitored and proposals to make significant changes to the goals are presented to the Board for approval.

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-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, five of our eleven board members (45%) have indicated that competency with Environmental / Sustainability issues, including climate-related issues, is one of their top five competencies.	<Not Applicable>	<Not Applicable>

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

The Chief Sustainability Officer (CSO) reports to the SVP, Corporate Affairs and Chief Compliance Officer, who then reports to the Chief Executive Officer. The position of CSO was formalized in 2013 as the strategic importance of sustainability was recognized and the need for that to be integrated across the business.

The CSO leads all implementation and is responsible for the development of NRG's climate change policy positions and coordination between policy and commercial initiatives. This includes drafting and publishing NRG's Climate Change Principles and engaging with investors on integrating ESG factors into reporting practices as well as advising on business and residential retail sustainable products and services. The CSO is responsible for executing on NRG's certified science-based targets to reduce absolute Scope 1, 2, and employee business travel Scope 3 emissions 50% by 2025 relative to a 2014 baseline and to achieve net zero emissions by 2050, as well as for monitoring megatrends in the power sector and relaying that information to business units.

Climate-related issues are monitored on an ongoing basis through conversations with NRG's risk, regulatory and government affairs, legal, retail and operations departments.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Other, please specify (All Plant Operations employees, including the Management Group)	Monetary reward	Efficiency project	Compensation of NRG's power plant personnel is, in part, based on environmental key performance indicator (EKPI) scores. Factors that affect the EKPI are performance, environmental reporting and the econrg projects that can reduce GHGs in the community or plant. The EKPI score takes into account the accuracy of continuous emissions monitoring systems (CEMS) and whether a plant has complied with regulatory requirements such as the EPA's Mandatory Greenhouse Gas Reporting Rule (40 CFR Part 98).
Executive officer	Monetary reward	Company performance against a climate-related sustainability index	Named executive officer compensation is influenced by adherence to our Power Values which are an integral part of our company culture and include safety and well-being, customer-focus, collaboration, accountability and diversity, equity and inclusion, all of which include climate-related issues.
Corporate executive team	Monetary reward	Other (please specify) (ESG Metric)	Beginning in late 2020 and progressing throughout 2021, at the request of the Board's Compensation Committee, our executive team evaluated opportunities and developed a proposal to include an ESG metric as a component of annual executive compensation, which the Board of Directors approved in late 2021. Starting in 2022, our compensation program will tie a portion of our named executive officers' (NEOs') overall compensation to the achievement of targets in these areas. The objectives, which will be categorized by Customers, Environment and People, can positively or negatively impact our NEO's 2022 annual incentive bonus by up to 15% based on the company's achievement of these goals. Customers will be represented by achievement on our Customer Focus Index; Environment will be based on certain key performance indicators and a new objective related to carbon reduction goals; and People will be a combination of talent development, diversity, equity and inclusion, and well-being.

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	1	Time horizons are subject to change.
Medium-term	1	3	Time horizons are subject to change.
Long-term	3	10	Time horizons are subject to change.

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

NRG defines substantive financial or strategic impact on the business as a significant event, that at a corporate level, NRG's businesses are adversely affected and may impact NRG's results of operations, financial condition and cash flows. NRG does not currently have a specific threshold identified which would cause us to take any particular action, but is currently evaluating best practices within our sector. The definition for substantive may affect different businesses at different levels of impact. For example, NRG operates power plants that provide an essential service to customers and any risk of disrupting that service would be substantive. For example, hazards customary to the power production industry include the potential for unusual weather conditions, which could affect fuel pricing and availability, NRG's route to market or access to customers, i.e., transmission and distribution lines, or critical plant assets. The contribution of climate change to the frequency or intensity of weather-related events could affect NRG's operations and planning process. Climate change could also affect the availability of a secure and economical supply of water in some locations, which is essential for the continued operation of NRG's generation plants. NRG monitors water risk carefully. If it is determined that a water supply risk exists that could impact projected generation levels at any plant risk mitigation efforts are identified and evaluated for implementation. Also, demand for NRG's energy-related services could be similarly impacted by consumers' preferences or market factors favoring energy efficiency, low-carbon power sources or reduced electricity usage.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered
Direct operations

Risk management process
Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment
More than once a year

Time horizon(s) covered
Short-term
Medium-term
Long-term

Description of process
Climate-related issues that may affect NRG's direct operations are integrated in multi-disciplinary, company-wide opportunity and risk identification, assessment, and management processes.
NRG systematically evaluates both opportunities and risks associated with climate change on an ongoing basis, as well as their potential impact on NRG's wholesale and retail businesses. Climate-related opportunities and risks include regulatory, commercial, financial, transition, and physical.
NRG's approach and its supporting organizations and processes to manage these risks and opportunities are outlined below:
• The EVP, NRG Home, EVP of NRG Business, and their respective heads of our retail brands and subsidiaries identify commercial opportunities and risks to all of NRG's retail businesses, including from climate change.
• The EVP & General Counsel and the heads of the Environment, Government Affairs, and Regulatory Affairs teams are responsible for assessing and managing regulatory risks and opportunities at federal, regional, and local agencies.
• NRG's SVP, Generation and SVP, Environment are responsible for identifying and managing environmental risks to operations.
• NRG's Chief Risk Officer reports to the CFO and monitors commercial risks to domestic revenues from commodity and electric power availability and pricing, carbon and emission trading, and renewable energy credits.
• Asset Management, Commercial Operations, and Plant Operations identify risks and opportunities for each of our wholesale generation assets arising from weather exposure and other physical risks and directly report these to the CEO. In addition, the Structuring and Fundamentals group uses carbon price scenario analysis both to assess risk for internal financial purposes as well as for evaluating transition risk.
• The Financial Risk Management Committee monitors risks and opportunities on an ongoing basis and meets quarterly to review risks and approve mitigation initiatives. In addition to monitoring climate risk at a high-level, the Committee specifically tracks renewable electricity credit (REC) purchases and retirements required to meet mandatory renewable portfolio standards (RPS) in the states in which NRG operates. NRG's CEO and Executive Management Team communicate opportunities, risks, and risk mitigation strategies and activities to NRG's Board of Directors at least quarterly.
• Externally, NRG reports material risks to investors and other stakeholders through quarterly earnings calls, quarterly SEC filings, CDP questionnaires, and NRG's annual Sustainability Report among other disclosures. Risks are specifically discussed in Item 1A of NRG's annual 10-K, and the 10-K and other reports include NRG's annual greenhouse gas emission inventories. NRG's Financial Reporting and Analysis function governs the drafting process for Item 1A – Risk Factors in our 10-K as well as for any updates deemed material enough to include in our 10-Q filings throughout the year. NRG's Disclosure Committee ultimately decides how to disclose risks in our filings to the U.S. Securities and Exchange Commission.

NRG's Enterprise Risk Management process enables leadership to address uncertainty, to enhance or preserve enterprise value, and to facilitate the mitigation of risk while pursuing opportunity. NRG's strategy addresses long- and short-term risks and opportunities and aims to reduce the company's own GHG risks and those of its customers. As previously discussed, NRG is increasingly focused on providing retail energy solutions to its residential and business customers and this includes various clean energy products and services. These offerings can save money for our customers, increase the reliability and resiliency of the energy they consume, and reduce their carbon footprints. We also have modernized our generation fleet in a manner that reduces CO2 emissions by repowering or retiring older, uneconomic power plants.

Since 2016, our board's Governance and Nominating (G&N) Committee officially oversees corporate sustainability. The Committee reviews NRG's strategies and efforts to manage its environmental, economic and social impacts, including, but not limited to, NRG's environmental, climate change and sustainability policies and programs. As of 2018, Sustainability became an annual agenda item at the full Board meeting and is reviewed separately by the G&N Committee, in addition to being part of general review of projects and transactions. The CSO presents risks to short-, medium-, and long-term direct operations and key strategic priorities more than once a year to the full Board during scheduled meetings throughout the fiscal year. To define NRG's risk appetite, the Board reviews and approves the annual business plan, budget and long-term plan, strategic initiatives, acquisitions and divestitures, and capital allocation plan. Climate-related issues are considered to the extent they are material. For example, the Board may incorporate climate-related issues into relevant strategic decisions, particularly those related to physical generating assets and customer preferences. Such engagement ensures that NRG is well-informed on climate science, decarbonization technologies and pathways, and policy and regulatory developments and therefore well-positioned both to mitigate climate risks and pursue climate opportunities.

Transitional risks like federal regulations related to carbon pricing may present a risk to NRG. NRG's fleet of utility-scale power plants is heavily regulated by federal regulators. Most of NRG's power plants sell their output into regional electricity markets under rules set by the Federal Energy Regulatory Commission. While some regional energy markets address sustainability needs by putting a price on carbon, such as AB 32 in California or the Regional Greenhouse Gas Initiative in the Eastern United States, many struggle to price environmental externalities into the wholesale price of electricity. NRG has a business unit called Regulatory Affairs whose responsibility it is to assess different impacts on the market specific to NRG's wholesale business. NRG is engaged with stakeholders in reviewing innovative market designs that price carbon or allow for the procurement of low-carbon power, as part of a competitive process.

Physical risks such as extreme weather events may present a risk to power generating assets located in vulnerable geographical regions like Texas. Following Hurricane Harvey, NRG built a retaining wall to protect damaged plants against floods. Ahead of the Winter Storm Uri, NRG launched residential customer communications calling for conservation across all of its brands, and initiated residential and commercial and industrial demand response programs to curtail customer load. NRG maximized available generating capacity and brought in additional resources to supplement in-state staff with technical and operating experts from the rest of its U.S. fleet.

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Current regulation is always considered in assessments by the Financial Risk Management Committee. Monitoring of current regulatory risks occurs on an ongoing basis. The frequency of reporting varies depending on the materiality and type of risk. Internally, the Financial Risk Management Committee meets quarterly to review existing risks and approve mitigation initiatives. The SVP and General Counsel, heads of Environment, Government Affairs and Regulatory Affairs Teams are responsible for assessing regulatory risks and opportunities at federal, regional, and local agencies. NRG operates in different regions in the United States as well as Canada and is subject to regulations. Policies at the national, regional, and state levels to regulate GHG emissions, as well as mitigate climate change, could adversely impact NRG's results of operations, financial condition, and cash flows. One risk to the business from current regulation is increased costs associated with operating in regions that have a cap-and-trade system for carbon dioxide. For example, NRG operates generating units in Connecticut, Delaware, Maryland, and New York that are subject to the Regional Greenhouse Gas Initiative, RGGI, which is a regional cap-and-trade system. Intangible assets include RGGI emission credits which NRG began purchasing in 2009. These emission allowances are held-for-use and are amortized to cost of operations, with RGGI credits amortized based on units of production. Similarly, California has a CO2 cap and trade program for electric generating units greater than 25 MW. The impact on NRG depends on the cost of the allowances and the ability to pass these costs through to customers. Current regulation like this is included in risk assessments because it may impact revenue in areas where NRG has power generating operations. The risk assessment process includes potential ranges of costs to participate in these power generation markets.
Emerging regulation	Relevant, always included	Emerging regulation is always considered in assessments by the Financial Risk Management Committee. Monitoring of potential regulatory risks occurs on an ongoing basis. The frequency of reporting varies depending on the materiality and type of risk. Internally, the Financial Risk Management Committee meets quarterly to review existing risks and approve mitigation initiatives. The SVP and General Counsel, Heads of Environment, Government Affairs and Regulatory Affairs team are responsible for assessing regulatory risks and opportunities at federal, regional and local agencies. GHG regulation could increase the cost of electricity generated by fossil fuels, and such increases could reduce demand for the power NRG generates and markets. Additionally, government regulations providing incentives for renewable generation could change at any time and such changes may adversely impact NRG's business, revenues, margins, results of operations and cash flows. For example, On September 29, 2017, the Department of Energy issued a proposed rulemaking titled the "Grid Resiliency Pricing Rule." The rulemaking proposed that FERC take action to reform the ISO/RTO markets to value certain reliability and resiliency attributes of electric generation resources. On October 23, 2017, NRG filed comments encouraging FERC to act expeditiously to modernize energy and capacity markets in a manner compatible with robust competitive markets. Emerging regulation is included in risk assessments because it may impact revenue in geographies with power markets (i.e. CAISO, ERCOT, ISO-NE, NYISO, PJM) where NRG has operations.
Technology	Relevant, always included	Technology is always considered in assessments by the Financial Risk Management Committee. Monitoring of technology risks occurs on an ongoing basis. The frequency of reporting varies depending on the materiality and type of risk. Internally, the Financial Risk Management Committee meets quarterly to review existing risks and approve mitigation initiatives. Changes in technology may impair the value of NRG's power plants and the attractiveness of its retail products. Research and development activities are ongoing to provide alternative and more efficient technologies to produce power, including wind, photovoltaic (solar) cells, energy storage, and improvements in traditional technologies and equipment, such as more efficient gas turbines. Advances in these or other technologies could reduce the costs of power production to a level below what NRG has currently forecasted, which could adversely affect its cash flows, results of operations or competitive position. Technology, including distributed technology or changes in retail rate structures, may also have a material impact on NRG's ability to retain retail customers. Additionally, NRG may potentially be affected by emerging technologies that may over time affect change in capacity markets and the energy industry overall with the inclusion of distributed generation and clean technology. Some emerging technologies like distributed renewable energy technologies, broad consumer adoption of electric vehicles and energy storage devices could affect the price of energy. These emerging technologies may affect the financial viability of utility counterparties and could have significant impacts on wholesale market prices, which could ultimately have a material adverse effect on NRG's financial condition, results of operations and cash flows. Cybersecurity is also a risk for the operation of NRG's businesses. A cyber-attack could cause NRG to incur significant losses of revenues or other substantial liabilities. Technology is included in risk assessments because these emerging technologies may affect the financial viability of utility counterparties and could have significant impacts on wholesale market prices, which could ultimately have a material adverse effect on NRG's financial condition, results of operations and cash flows.
Legal	Relevant, always included	Legal issues, with respect to climate change, are always considered in assessments by the Financial Risk Management Committee. Monitoring of legal risks occurs on an ongoing basis. The frequency of reporting varies depending on the materiality and type of risk. Internally, the Financial Risk Management Committee meets quarterly to review existing risks and approve mitigation initiatives. NRG is subject to legal risks, including all climate-related litigation claims, that impose extensive and increasingly stringent requirements on NRG's ongoing operations. These environmental requirements and liabilities could adversely impact NRG's results of operations, financial condition and cash flows. Further, demand for NRG's energy-related services could be similarly impacted by consumers' preferences or market factors favoring energy efficiency, low-carbon power sources or reduced electricity usage. For example, there is increased awareness of, and action to combat climate change. Diverse groups of stakeholders are increasingly engaged in efforts to limit global warming in the post-industrial era to well below 2 degrees Celsius. As a result, policymakers and regulators at regional, national, sub-national and local levels of government, both in the United States and other parts of the world, are increasingly focused on actions to combat climate change. NRG operates in the United States and Canada. In the United States, the current Administration has stated that limiting climate change is one of its top priorities. In its early days, the Administration issued an Executive Order on "Tackling the Climate Crisis at Home and Abroad." This included commitments to reset the United States' greenhouse gas emission reduction targets under the Paris Climate Agreement, integrate environmental justice considerations into all aspects of its climate and environmental policy, consider climate change and conservation in federal permitting decisions and align government procurement strategy and standards with climate goals. NRG actively monitors climate change related legal developments that could impact its business and regularly engages with a diverse set of stakeholders on these issues. Such engagement helps the Company identify and pursue potential opportunities both to decarbonize its business and better serve its customers. NRG is committed to providing transparent disclosures of its climate risks and opportunities to stakeholders.
Market	Relevant, always included	Market risks are always considered in assessments by the Financial Risk Management Committee. Monitoring of market risks occurs on an ongoing basis. The frequency of reporting varies depending on the materiality and type of risk. Internally, the Financial Risk Management Committee meets quarterly to review existing risks and approve mitigation initiatives. NRG's CRO reports to the CFO and monitors commercial risks to domestic revenues from commodity and electric power availability or pricing, carbon and emission trading, and renewable energy credits. The EVP of Retail and EVP of Business Solutions identify commercial opportunities and risks to all of NRG's retail businesses. Climate change is producing changes in weather and other environmental conditions, including temperature and precipitation levels, and thus may affect consumer demand for electricity. Additionally, demand for NRG's energy-related services could be impacted by consumers' preferences or market factors favoring energy efficiency, low-carbon power sources or reduced electricity usage. For example, in August 2017 Hurricane Harvey made landfall on the Texas coast where NRG has significant retail and generation operations. During the third quarter of 2017, NRG's Retail business was impacted by Hurricane Harvey by approximately $20 million in part due regional power outages and disruptions in transmission and distribution. Market risks are always included in risk assessments because it may impact revenue.
Reputation	Relevant, always included	Reputational issues are always considered in assessments by the Financial Risk Management Committee. Monitoring of reputational risks occurs on an ongoing basis. The frequency of reporting varies depending on the materiality and type of risk. Internally, the Financial Risk Management Committee meets quarterly to review existing risks and approve mitigation initiatives. Power generation involves hazardous activities, including acquiring, transporting and unloading fuel, operating large pieces of rotating equipment and delivering electricity to transmission and distribution systems. In addition to natural risks such as earthquake, flood, lightning, hurricane and wind, other hazards, such as fire, explosion, structural collapse and machinery failure are inherent risks in the NRG's operations. These and other hazards can cause significant personal injury or loss of life, severe damage to and destruction of property, plant and equipment, contamination of, or damage to, the environment and suspension of operations. The occurrence of any one of these events may result in NRG being named as a defendant in lawsuits asserting claims for substantial damages, including for environmental clean-up costs, personal injury and property damage and fines and/or penalties. This may adversely affect the reputation of NRG. For example, during the August 2017 Hurricane Harvey event, NRG successfully mitigated any reputational risks by providing customer relief to our retail customers including ceasing disconnects and providing payment extensions. Reputational risks are always included in risk assessments because it may impact revenue.

	Relevance & inclusion	Please explain
Acute physical	Relevant, always included	Acute physical risks are always considered in assessments by the Financial Risk Management Committee. Monitoring of acute physical risks occurs on an ongoing basis. The frequency of reporting varies depending on the materiality and type of risk. Internally, the Financial Risk Management Committee meets quarterly to review existing risks and approve mitigation initiatives. Climate change is producing changes in weather and other environmental conditions, including temperature and precipitation levels, and thus may affect consumer demand for electricity. In addition, the potential physical effects of climate change, such as increased frequency and severity of storms, floods and other climatic 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 meteorological changes could lead to increased operating costs, capital expenses or power purchase costs. NRG's commercial and residential customers may also experience the potential physical impacts of climate change and may incur significant costs in preparing for or responding to these efforts, including increasing the mix and resiliency of their energy solutions and supply. For example, during August 2017 Hurricane Harvey impacted NRG's Texas retail and Gulf Coast operations. For retail, lower gross margin related to the impact of the hurricane was driven by a reduction in load and the unfavorable impact of selling back excess supply along with $7 million of customer relief. (See NRG 2017 10-K pg. 73) Long- and short-term power prices may also fluctuate substantially due to other factors outside of NRG's control, including weather conditions, including extreme weather conditions and seasonal fluctuations, including the effects of climate change. Such factors and the associated fluctuations in power prices have affected the NRG's wholesale power operating results in the past and will continue to do so in the future. Acute physical risks are always included in risk assessments because they may impact revenue.
Chronic physical	Relevant, always included	Chronic physical risks are always considered in assessments by the Financial Risk Management Committee. Monitoring of chronic physical risks occurs on an ongoing basis. The frequency of reporting varies depending on the materiality and type of risk. Internally, the Financial Risk Management Committee meets quarterly to review existing risks and approve mitigation initiatives. Climate change is producing changes in weather and other environmental conditions, including temperature and precipitation levels. For example, climate change could affect the availability of a secure and economical supply of water in some locations, which is essential for the continued operation of NRG's generation plants. Water risk is monitored by the risk owners (individual plant operators) and reported to NRG management upon changes with a significance threshold of 20% in water consumption and withdrawal levels. If it is determined that a water supply risk exists that could impact projected generation levels at any plant within the subsequent two-year time frame, risk mitigation efforts are identified and economically evaluated for implementation. Chronic physical risks are always included in risk assessments because they may impact revenue.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation	Enhanced emissions-reporting obligations

Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

As a member of a highly regulated industry NRG is directly affected by environmental regulations on power generating assets. This includes risks driven by laws, taxation, or disclosure standards, whether focused directly on GHGs or on other issues that affect GHG emissions. NRG has operations in the United States as well as Canada. To the extent that there is variability to regulatory regimes it makes environmental, corporate sustainability, and risk jobs more complex and additional headcount will be needed to properly monitor and manage potential regulatory risks. Currently we have regional regulatory managers and have recently added more due to all of the action at the state-level.

Additionally, in 2021, (and every year prior since 2014) NRG paid its financial auditor to have its emissions inventory voluntarily assured according to accounting standards. This cost could potentially increase as emissions calculations become more complex and stakeholder demand for verification increases. Additionally, as NRG's power generating assets diversify (distributed generation, co-generation, wind, solar, etc.) there will be additional calculation protocol training needed for emissions managers and additional resources including hiring technical expertise.

GHG regulation could increase the cost of electricity generated by fossil fuels, and such increases could reduce demand for the power NRG generates and markets. If carbon pricing were enacted, it would have significant adverse effects on the economics on NRG's coal and natural gas fuelled plants which could impact the decision to own, operate or sell these assets. Additionally, government regulations providing incentives for renewable generation could change at any time and such changes may adversely impact NRG's business, revenues, margins, results of operations and cash flows.

Time horizon

Short-term

Likelihood

More likely than not

Magnitude of impact

Medium-high

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 figure
Financial impact will depend on multiple factors including the precise nature of the emerging regulation(s) and/or emissions-reporting obligations, their geographic and sectoral scope of application, their implementation timeframe, and the period over which compliance must occur, among other variables. Financial impact includes hiring costs of employees as well as consulting and auditing fees.

Cost of response to risk
0

Description of response and explanation of cost calculation
The cost of the response to the risk is estimated at $0. There is no incremental cost to respond to this climate-related risk mitigation response because maintaining adequate staff to manage regional regulatory coverage is part of the normal cost of doing business.

The EVP and General Counsel, heads of Environment, Government and Regulatory Affairs team are responsible for assessing regulatory risks at federal, regional and local agencies. NRG's President and CEO reports to the Board of Directors on any material risks. NRG's SVP Generation and SVP Environmental are responsible for identifying and mitigating environmental risks to operations.

Regarding emerging regulations, an example of managing transition risks related to climate change is evidenced by NRG's policy and regulatory engagement. In 2017, senior NRG executives presented and testified on key issues related to transition risks such as the Department of Energy (DOE) Grid Reliability and Resilience Proposal. Most of NRG's power plants sell their output into regional electricity markets under rules set by the Federal Energy Regulatory Commission (FERC). While some regional energy markets address sustainability needs by putting a price on carbon (such as AB 32 in California or the Regional Greenhouse Gas Initiative (RGGI) in the Eastern United States), many don't price environmental externalities into the wholesale price of electricity. We actively engaged in discussions with Texas regulators and legislators on ways to mitigate the risks of Winter Storm Uri-like disruptions to the energy system in the future. See https://www.nrg.com/energy-policy.html for a list of our regulatory filings. These include our comments on ERCOT market redesign, our load serving entity reliability obligation proposal to the Public Utility Commission of Texas (PUCT), a third-party analysis we commissioned to evaluate customer exposure to energy price spikes during Winter Storm Uri, comments on establishing ERCOT power outage alerts, comments on critical natural gas facilities and entities, and comments on weather emergency preparedness measures.

Regarding enhanced emissions reporting regulations, in March 2021 the SEC issued a request for comment on potential climate disclosure rules. We provided comments via industry associations to which we belong (ACORE, BRT, EPSA) and have continued to provide feedback to the SEC related to its March 2022 proposed climate disclosure rules through these industry associations.

Comment

Identifier
Risk 2

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Other, please specify (Increased severity and frequency of extreme weather events such as cyclones and floods)

Primary potential financial impact
Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
Extreme weather events can impact NRG's retail electricity providers by causing volatility in energy markets and prolonged customer outages, which lead to lost revenue and increase the likelihood of late bill payments that can impact cash flow. NRG's power generation assets may also be directly impacted by severe weather.

For example, in late August 2017, Hurricane Harvey made landfall on the Texas coast. During the third quarter of 2017, NRG's Retail business was impacted by Hurricane Harvey by approximately $20 million in part by disruptions in transmission and distribution. This figure was disclosed in NRG's 2017 10-K Annual Report page 68. At the peak, approximately 300,000 customers were without power. During the time that these customers did not have power, NRG lost revenue from the transmission disruption.

Additionally, during Hurricane Harvey NRG's Cottonwood generating station was damaged when the Sabine River Authority opened the floodgates of the Toledo Bend reservoir, which resulted in downstream flooding of the Sabine River. NRG's business continuity plan ensured that essential employees remain at their stations to manage the plant through the weather event. Plant personnel worked on the issues until the generating station was returned to service during the fourth quarter of 2017. A retaining wall was also built near the plant to protect against future flooding.

Time horizon
Short-term

Likelihood
About as likely as not

Magnitude of impact
Medium

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

Potential financial impact figure (currency)
40000000

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

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

Explanation of financial impact figure
Financial impact is meant to be illustrative. Based on the $20,000,000 cost to our operations business from damage to the facility and additional $20,000,000 in lost revenue to the retail business due to transmission disruptions, there may be additional similar costs for future impacts of extreme weather events. This figure was disclosed in NRG's 2017 10-K Annual Report page 68.

Cost of response to risk
0.01

Description of response and explanation of cost calculation
The EVP, NRG Home and EVP, NRG Business identify commercial opportunities and risks to all of NRG's retail businesses and overseeing the business continuity plan for their departments. NRG's President and CEO reports to the Board of Directors on any material risks. NRG's SVP Generation and SVP Environmental are responsible for identifying and mitigating environmental risks to operations. The Financial Risk Management Committee manages reputational risks to NRG's brand. The Enterprise Risk Management process enables management to manage uncertainty to enhance or preserve enterprise value and facilitates the functional group's management of risk.

For example, during August 2017, NRG's Cottonwood generating station was damaged when the Sabine River Authority opened the floodgates of the Toledo Bend reservoir, which resulted in downstream flooding of the Sabine River. NRG's business continuity plan ensured that essential employees remain at their stations to manage the plant through the weather event. Plant personnel worked on the issues until the generating station was returned to service during the fourth quarter of 2017. A retaining wall was also built near the plant to protect against future flooding.

The cost of the response to the risk is estimated at $0.01. There is no incremental cost to respond to this climate-related risk mitigation response because contingency planning for extreme weather is part of the normal cost of doing business

Comment

Identifier
Risk 3

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Market	Changing customer behavior

Primary potential financial impact
Decreased revenues due to reduced demand for products and services

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
In the United States, the demand for electricity has gradually decreased over the years but varies widely across states. Historically, although the economy has continued to grow, growth rates for electricity demand have slowed as new, efficient devices and production processes that require less electricity have replaced older, less-efficient appliances, heating, ventilation, cooling units, and capital equipment. NRG's largest business is the retail segment which includes residential as well and commercial and industrial customers. By using less of what we sell, this could impact our profitability. If demand for electricity decreased it would have an adverse effect on NRG's revenue for retail sales.

(The U.S. Energy Information Administration forecasts that although near-term electricity demand may fluctuate as a result of year-to-year changes in weather, trends in long-term demand tend to be driven by economic growth offset by increases in energy efficiency. The annual growth in electricity demand averages about 1% throughout the projection period (2019-2050) in the AEO2020 Reference case.)

Time horizon
Medium-term

Likelihood
About as likely as not

Magnitude of impact
Medium-low

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 figure
A decrease in demand for electricity would result in a decrease in revenue. Decreased revenues will depend on multiple factors including the magnitude of reduced demand, its incidence by geography and customer segment, and the timeframe over which it occurs, among other variables. These factors depend, in turn, on NRG's ability to anticipate potential demand reductions and respond by offering more fit-for-purpose products and services as well as competitor responses to changing markets and customer preferences.

Cost of response to risk
0.01

Description of response and explanation of cost calculation
Our shift in focus towards customer energy services is helping to reduce our reliance on revenue from energy supply. For example, NRG acquired Goal Zero, a consumer goods company that specializes in portable power products. NRG also offers a customized energy solution like Asset-Backed Demand Response (ABDR) and other distributed energy resources, which provide many benefits to customers and utilities. ABDR is designed to capture a stack of retail and wholesale economic benefits while enhancing reliability with on-site electric power generation. The NRG solution can be customized to use the business' existing energy resources, or to deploy new energy resources, like an energy storage system or solar panels.

The cost of the response to the risk is estimated at $0.01. There is no incremental cost to respond to this climate-related risk mitigation response because NRG's business strategy includes diversifying customer products which is the normal cost of doing business.

Comment

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?
Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier
Opp1

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Products and services

Primary climate-related opportunity driver
Other, please specify (Increased demand for products/services)

Primary potential financial impact
Increased revenues resulting from increased demand for products and services

Company-specific description
Weather conditions in the regions of the U.S. in which NRG does business influence NRG's financial results. Weather conditions can affect the supply and demand for electricity and fuels. Weather may also impact the availability of the NRG's generating assets. Changes in energy supply and demand may impact the price of these energy commodities in both the spot and forward markets, which may affect NRG's results in any given period. Typically, demand for and the price of electricity is higher in the summer and the winter seasons, when temperatures are more extreme. The demand for and price of natural gas is also generally higher in the winter. However, all regions of the U.S. typically do not experience extreme weather conditions at the same time, thus NRG is typically not exposed to the effects of extreme weather in all parts of its business at once.

To the extent that climate change contributes to the frequency and intensity of weather-related events NRG could pick up load in markets where sources are down or offline due to inclement weather. NRG retail operations stand to benefit from any increase in load, for example, extremely hot summers in Texas, while NRG's wholesale operations could benefit from any increase in pricing associated with extreme temperatures.

Additionally, NRG's Retail group offers a range of products and services that are designed to provide emergency power to our customers when normal distribution is not available. Increasing storms and related electrical service disruptions could increase sales.

For residential and small businesses NRG offers a variety of portable power products. The NRG brand Goal Zero offers portable solar, portable batteries, outdoor lighting and chargers. NRG Street Charge is a solar charging station installed in public places for guests to charge their devices free of charge. NRG Go Portable Power allows users to rent an NRG Go Power Pack to keep their devices charged, and then when they are done charging, return the Power Pack to a conveniently located NRG Go Station or mail the pack in to an office.

For commercial and industrial customers, NRG offers demand-side management helping businesses reduce their energy usage during times of high demand and distributed energy resources for resiliency.

Finally, NRG strives to lead the low-carbon transition by continuously innovating cleaner energy solutions and offering a broad variety of sustainable products and services to all customer segments.

Time horizon
Medium-term

Likelihood
About as likely as not

Magnitude of impact
Medium-low

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 figure
Financial impact represents increased sales in a growth product like portable solar products and residential battery storage. To estimate figures more precisely for internal strategic and business planning purposes, we regularly analyze market trends for particular sustainable products and services, the competitive landscape and the differentiation of our offerings relative to competitors, and the investments required to pursue growth in these markets. We see significant opportunity to provide sustainable products and services to our customers, but cannot release specific, forward-looking financial impact figures because these are confidential to NRG.

Increased revenues will depend on multiple factors including the magnitude of increased demand, its incidence by geography and customer segment, and the timeframe over which it occurs, among other variables. These factors depend, in turn, on NRG's ability to anticipate potential demand increases and respond by offering more fit-for-purpose products and services as well as competitor responses to changing markets and customer preferences.

Cost to realize opportunity
0

Strategy to realize opportunity and explanation of cost calculation
NRG retail operations stand to benefit from any increase in load, while NRG's wholesale operations could benefit from any increase in pricing associated with extreme temperatures.

Also, for commercial and industrial customers, NRG offers demand-side management helping businesses reduce their energy usage during times of high demand and distributed energy resources for resiliency. For example, in 2017 NRG and Cummins announced a strategic partnership to deploy a resilient, cleaner and cost-effective distributed energy platform for commercial and industrial customers. The platform architecture allows for more capacity to meet expanding market needs. In 2018 this offering entered the market. With NRG's asset-backed distributed energy solution, we combine the reliable, clean power provided by Cummins natural gas generators with the insights, analytics, tools, and expertise from NRG. This solution is designed to produce meaningful savings for participating customers, offering them a guaranteed outcome every month on energy expenditures with assets that can be engineered for specific generation needs. Customers will also receive access to our unique Active Management Platform (AMP) dashboard, which can be customized to fit energy concerns and goals. The AMP dashboard offers robust data analytics, including load projections, market summaries, and weather forecasts, that provide a holistic portrait of energy consumption, past and present, so customers can make informed energy decisions.

NRG will own, operate, and maintain the generator—and this behind-the-meter asset will produce electricity to offset power consumption from the grid and contribute revenue through demand response market programs. With NRG's load modification that adjusts the usage profile for a lower commodity cost outcome, organizations are now able to supplement power from the grid, reap the financial benefits of surplus power, and hit sustainability goals as they monitor energy consumption. These companies can expect to see a 10-15% savings on energy costs, and as a result, organizations will be empowered to plan for the future, knowing that their energy expenditures have guaranteed outcomes and backed reliability.

The cost of the response to the risk is estimated at $0. There is no incremental cost to realize this climate-related opportunity because NRG's business strategy includes diversifying retail customer products which is the normal cost of doing business.

Comment

Identifier
Opp2

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Markets

Primary climate-related opportunity driver
Access to new markets

Primary potential financial impact
Increased revenues through access to new and emerging markets

Company-specific description
Potential opportunities are legislation or policies that enhance investment in and development of new clean technologies, products and services, and customer demand for NRG's products and services and open up new energy markets for competitive power sales.

NRG supports competitive changes to retail and wholesale markets that make it easier to drive sustainable outcomes and save money for consumers. Because oversight of the electric industry is split between federal and state regulators, the best solutions involve cooperation between both sets of regulators to craft regulations that drive market-based sustainable outcomes.

For example, all of our Retail businesses including Reliant, Green Mountain Energy, Direct Energy, and NRG all offer zero-emission or low-emission retail rate plans. All of our retail offerings are regulated by the appropriate State entity. However, those plans are only available to customers in parts of the country that allow retail choice, largely Texas, Illinois, Ohio, Pennsylvania, New York among other mid-Atlantic states and states in the Northeast. Action at the State level is necessary in other parts of the country to allow customers to choose their provider. We also offer certain products and services that are available to customers in all 50 U.S. states and four Canadian provinces regardless of whether the locale includes provisions for retail electric choice.

Time horizon
Medium-term

Likelihood
About as likely as not

Magnitude of impact
Medium-low

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 figure
NRG considers such financial impact figures competitively sensitive and therefore proprietary and confidential, and is unable to disclose them. Increased revenues will depend on multiple factors including the precise nature of the new and emerging markets (size, location(s), customer segment(s)), the magnitude of increased demand, and the timeframe over which it occurs, among other variables. These factors depend, in turn, on NRG's ability to anticipate potential demand increases and respond by offering more fit-for-purpose products and services as well as competitor responses to changing markets and customer preferences.

Cost to realize opportunity
0

Strategy to realize opportunity and explanation of cost calculation
NRG engages with policy makers and industry groups to support competitive changes to retail and wholesale markets that make it easier to drive sustainable outcomes and save money for consumers. For example, in 2018 NRG's CEO published an Op-Ed about the need for more retail electricity competition. This article supports legislators, regulators, utilities, competitive retailers and consumer groups joining forces to implement competition for the benefit of consumers. Subsequently, NRG does not support bailouts or subsidies for uneconomic coal and nuclear plants. These issues are continuing to be discussed in policy and regulatory environments.

To see regulatory filings, white papers, presentations and other materials NRG has prepared and submitted that set forth our positions on a variety of critical subjects driving our business and the industry please visit: https://www.nrg.com/energy-policy.html

Potential costs to realize this opportunity includes the cost of hiring additional full-time employees to engage policy makers and lobby for opening up energy markets for competitive retail provision combined with typical market start-up costs.

Comment

Identifier
Opp3

Where in the value chain does the opportunity occur?
Downstream

Opportunity type
Products and services

Primary climate-related opportunity driver
Shift in consumer preferences

Primary potential financial impact
Increased revenues resulting from increased demand for products and services

Company-specific description
Opportunities in the U.S. are emerging for clean technologies and market expansion. NRG retail business provides home energy and related services as well as personal power to consumers through various brands and channels across the U.S. These brands include Reliant, Green Mountain Energy, Direct Energy, and NRG offer renewable energy, carbon offset, and smart energy management products that help businesses and consumers reduce their carbon footprint. NRG's consumer product brand, Goal Zero includes portable solar panels, lightweight recharger kits and rechargeable lanterns. Retail customers make purchase decisions based on a variety of factors, including price, customer service, brand, product choices, bundles or value-added features. Customers purchase products through a variety of sales channels including direct sales, call centers, websites, brokers and brick-and-mortar stores.

Time horizon
Medium-term

Likelihood
About as likely as not

Magnitude of impact
Medium-low

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 figure
Financial impact includes revenue from new and existing customers that choose NRG low-carbon products and services. Increased revenues will depend on multiple factors including the magnitude of increased demand, its incidence by geography and customer segment, and the timeframe over which it occurs, among other variables. These factors depend, in turn, on NRG's ability to anticipate potential demand increases and respond by offering more fit-for-purpose products and services as well as competitor responses to changing markets and customer preferences.

Cost to realize opportunity
0

Strategy to realize opportunity and explanation of cost calculation
Through its broad range of service offerings and value propositions, NRG's retail business is able to attract, retain, and increase the value of its customer relationships. NRG's retailers are recognized for exemplary customer service, innovative smart energy and technology product offerings and environmentally friendly solutions.

For example, in 2018 NRG contracted a 25 megawatt solar project for Sysco, to power their Texas operations and advance sustainability. Working together with Sysco, NRG is also helping meet the promise of the customer-choice market in Texas, with a truly distinctive, cost-effective solar energy plan – the kind sought by many commercial and industrial customers today. As part of the agreement, three solar garden sites are being constructed in the Houston and Dallas areas, which will support approximately 10 percent of Sysco's U.S. electricity usage. The environmental benefits of this program include reducing approximately 37,000 tons of CO2 emissions a year, which equates to taking more than 7,000 cars off the road. The solar garden sites total 25 megawatts of renewable energy generation and will support the majority of the Company's electricity load in Texas, including the Corporate Headquarters.

Potential cost to realize opportunity is estimated at $0. There is no incremental cost to realize this climate-related opportunity because NRG's business strategy already includes focusing on customer low-carbon products and services and is part of the normal cost of doing business.

Comment
Through its broad range of service offerings and value propositions, NRG's retail business is able to attract, retain, and increase the value of its customer relationships. NRG's retailers are recognized for exemplary customer service, innovative smart energy and technology product offerings and environmentally friendly solutions.

For example, in 2018 NRG contracted a 25 megawatt solar project for Sysco, to power their Texas operations and advance sustainability. Working together with Sysco, NRG is also helping meet the promise of the customer-choice market in Texas, with a truly distinctive, cost-effective solar energy plan – the kind sought by many commercial and industrial customers today. As part of the agreement, three solar garden sites are being constructed in the Houston and Dallas areas, which will support approximately 10 percent of Sysco's U.S. electricity usage. The environmental benefits of this program include reducing approximately 37,000 tons of CO2 emissions a year, which equates to taking more than 7,000 cars off the road. The solar garden sites total 25 megawatts of renewable energy generation and will support the majority of the Company's electricity load in Texas, including the Corporate Headquarters.

Potential cost to realize opportunity is estimated at $0. There is no incremental cost to realize this climate-related opportunity because NRG's business strategy already includes focusing on customer low-carbon products and services and is part of the normal cost of doing business.

C3. Business Strategy

C3.1

(C3.1) Does your organization's strategy include a transition plan that aligns with a 1.5°C world?

Row 1

Transition plan
Yes, we have a transition plan which aligns with a 1.5°C world

Publicly available transition plan
Yes

Mechanism by which feedback is collected from shareholders on your transition plan
We have a different feedback mechanism in place

Description of feedback mechanism
We meet with shareholders and debtholders upon request to discuss our transition plans.

Frequency of feedback collection
More frequently than annually

Attach any relevant documents which detail your transition plan (optional)
Our attached TCFD report details our transition plan.
2020-TCFD.pdf

Explain why your organization does not have a transition plan that aligns with a 1.5°C world and any plans to develop one in the future
<Not Applicable>

Explain why climate-related risks and opportunities have not influenced your strategy
<Not Applicable>

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	Yes, qualitative and quantitative	<Not Applicable>	<Not Applicable>

C3.2a

(C3.2a) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios: Customized publicly available transition scenario	Company-wide	1.5ºC	In 2020-2021, NRG conducted a transition risk-based climate scenario analysis. The analysis examines the fuel mix and associated GHG intensity of NRG electricity sales under a U.S. Energy Information Agency (EIA) carbon fee scenario over 2026-2050. Please see https://www.nrg.com/assets/documents/sustainability/2020-TCFD.pdf for detailed parameters, assumptions, and analytical choices and results.
Physical climate scenarios: Bespoke physical scenario	Company-wide	4.1ºC and above	NRG has not yet conducted a full physical climate scenario analysis and is currently reviewing best practices within the sector.

C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Row 1

Focal questions

What is the impact of an escalating carbon price on the fuel mix of the energy sold to customers, and what is the carbon intensity of the energy sold?

Results of the climate-related scenario analysis with respect to the focal questions

• The fuel mix and carbon intensity of electricity sold by NRG is highly sensitive to a carbon price: At the end of 2025, the last year for which the analysis relies on NRG forecast budget data and the last year prior to the introduction of the modelled carbon price, the share of coal in NRG's electricity sales is 26%, the share of natural gas is 28%, the share of nuclear is 16%, and the share of renewables is 30%.
• In 2026, after a carbon price is introduced at a level of $22.78 per metric ton of CO2e, the share of coal in electricity sold falls to near-zero.
• While natural gas initially picks up coal's share of the fuel mix after the carbon price is introduced, its share of electricity sold in 2050 (28%) reverts to a level similar to its 2025 share (26%).
• Conversely, during the 2025-2050 period, the share of renewables in electricity sold nearly doubles from 30% to 59%, enabled both by growing NRG renewable PPAs and higher availability of renewables in the market.
• The share of nuclear is relatively flat, beginning the period at 16% and ending the period at 13%.
• The carbon intensity of sold electricity falls by roughly 72%, from 0.39 metric tons of CO2e per MWh in 2025 to 0.11 metric tons of CO2e per MWh in 2050. In the first year of the carbon price alone, carbon intensity falls 41%, from 0.39 to 0.23, driven by the near complete elimination of coal from the fuel mix. Over 2026-2050, the carbon intensity halves again, from 0.23 to 0.11.

Ongoing changes to our portfolio are reducing both the fossil fuel mix and carbon intensity of NRG's electricity sold, thereby reducing climate-related risk from future potential policy and regulatory interventions such as carbon pricing. Over 2014-2020, we divested 27.5 GW and in 2021, we divested a further 4.8 GW. The share of coal in NRG's electricity sold fell from 52% in 2014, NRG's baseline year for its climate goals, to 20% in 2020 – a 62% reduction. Over that same period, the carbon intensity of NRG's electricity sold fell from 0.66 to 0.37, a decline of 44%. These declines were driven by deliberate company actions which include repowering existing coal-fired generators with more efficient and lower carbon gas-fired generators and retiring older fossil fuel generation assets as they approach their economic end of life. In 2021 alone, NRG announced the mid-2022 retirement of 1.6 GW of coal-fired generation capacity in the PJM market by running fossil fuel generation assets in line with market conditions, which may result in using them less frequently or only to meet periods of peak demand, and leveraging new energy technologies. Renewables are an increasing part of the electricity NRG sells to customers. Even in the absence of a carbon price, the share of renewables in NRG's electricity sold is expected to rise from 26% in 2020 to 30% in 2025. By the end of Q3 2021, NRG had procured 2.7 GW of renewable power through PPAs and is actively expanding such procurement.

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	Extreme weather events can impact NRG's retail electricity providers by causing volatility in energy markets and prolonged customer outages, which lead to lost revenue and increase the likelihood of late bill payments that can impact cash flow. NRG's strategy with respect to products and services is to meet the need of its customers by providing a variety of energy products and services. To mitigate the short-term risks of extreme weather events, and other risks, on our customers NRG develops various products and services that are offered throughout NRG's brands. When considering possible solutions, NRG analyzes how a business uses electricity and develops a tailored plan for staying fully operational in an optimal manner. Specifically, one product NRG provides is Distributed Energy Resources. As the climate shifts and creates stronger, more dramatic storms, businesses need to be proactive and forward-thinking with how they approach energy. Employing a distributed energy resource (DER) provides the reliability needed to ensure the power stays on during extreme weather. DERs are power generators installed on-site that either produce or store energy for a business and/or the grid. So, rather than solely consuming energy and subtracting energy from the grid, on-site generation can produce and add energy to it. This is done through four primary strategies: renewable energy, fossil fuel generators, demand response, and microgrids. Our expertise is leading customers to greater levels of cost stability and resilience, expanding their view of what sustainability can mean in the process. In this way, we're bringing real-world value to businesses and communities, by showing them how to combat extreme climate events with reassurance and forward energy planning. As part of our strategy to provide customers with sustainable products and services, NRG has secured 2.6 GW of renewable power purchase agreements (PPAs) with 45% of these in- service and the remaining expected in 2023-2025. In addition to renewable energy subscription plans, NRG also provides other sustainable products and services including certified carbon offsets and renewable electricity credits, energy storage and resilience solutions, demand-side solutions, and sustainability concierge and advisory services.
Supply chain and/or value chain	Yes	Supply chain impacts, including ones related to climate, are important because NRG's costs, results of operations, financial condition and cash flows could be adversely impacted by disruption of its upstream fuel supplies, which may be driven by both physical and climate risks and ongoing transition climate risks. NRG relies on natural gas, coal and oil to fuel a majority of its power generation facilities. Delivery of these fuels to the facilities is dependent upon the continuing financial viability of contractual counter parties as well as upon the infrastructure (including rail lines, rail cars, barge facilities, roadways, riverways and natural gas pipelines) available to serve each generation facility. As a result, NRG is subject to the risks of disruptions or curtailments in the production of power at its generation facilities if no fuel is available at any price or if a counter party fails to perform or if there is a disruption in the fuel delivery infrastructure. In order to mitigate this risk NRG continually monitors it's available fuel suppliers and may decide to pre-purchase fuel and diversify the fuel mix and supplier base. This occurred during extreme cold weather events on the Eastern or Gulf Coast of the U.S. where ice creates safety hazards for unloading barges and sustained cold closes operations. When the ice melts the river rises and currents are too swift, further hampering deliveries. water risk regarding the impact for barge delivery is evaluated on a daily basis, with contingency plans developed as needed. NRG assets located along the Eastern or Gulf coast of the U.S. that rely on barge fuel delivery may be impacted if there is a disruption. So, decisions may be made to find alternate land-based transportation in order to avoid shortages.
Investment in R&D	Yes	Deployment of climate-related technologies and innovations is important to our strategy because failure to do so may impair the value of NRG's power plants or retail products. Climate related technologies include more efficient technologies to produce power, such as wind, photovoltaic (solar) cells, energy storage, and improvements in traditional technologies and equipment, such as more efficient gas turbines. Advances in these or other technologies could reduce the costs of power production to a level below what NRG has currently forecasted, which could adversely affect its cash flows, results of operations or competitive position. NRG may also potentially be affected by emerging technologies that may over time affect change the energy industry overall with the inclusion of distributed generation and clean technology. Some emerging technologies like distributed renewable energy technologies, broad consumer adoption of electric vehicles and energy storage devices could affect the price of energy. These emerging technologies may affect the financial viability of utility counterparties and could have significant impacts on wholesale market prices, which could ultimately have a material adverse effect on NRG's financial condition, results of operations and cash flows. NRG funds and participates in programs and projects like the NRG COSIA Carbon XPRIZE. The Carbon XPRIZE, started in 2015, was a five-year global competition developed to address rising CO2 emissions by challenging innovators around the world to develop breakthrough technologies that convert the most CO2 into products with the highest net value. The two winners shared a $20 million prize to implement their start-up ventures.
Operations	Yes	NRG's businesses and operations are subject to physical, market and economic risks relating to potential effects of climate change. The potential physical effects of climate change, such as increased frequency and severity of storms, floods and other climatic 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 meteorological changes could lead to increased operating costs, capital expenses or power purchase costs. NRG's commercial and residential customers may also experience the potential physical impacts of climate change and may incur significant costs in preparing for or responding to these efforts, During August 2017, NRG's Cottonwood generating station was damaged when the Sabine River Authority opened the floodgates of the Toledo Bend reservoir, which resulted in downstream flooding of the Sabine River. The generating station was returned to service during the fourth quarter of 2017. NRG estimates the impact of the Cottonwood damage and Hurricane Harvey on Gulf Coast Generation to be approximately $20 million. To the extent that NRG were to acquire a new generating station these and other considerations would be factored into the strategic decision. Management considers these risks monthly as part of business strategy and continuity.

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues	Extreme weather events could be a risk and decrease revenue. NRG operates power generating stations which are subject to physical damage if acute weather events occur. During August 2017, NRG's Cottonwood generating station was damaged when the Sabine River Authority opened the floodgates of the Toledo Bend reservoir, which resulted in downstream flooding of the Sabine River. The generating station was returned to service during the fourth quarter of 2017. NRG estimates the impact of the Cottonwood damage and Hurricane Harvey on Gulf Coast Generation to be approximately $20 million. NRG continues to dedicate resources to business continuity plans to ensure plants are able to run when needed and with the highest degree of safety. Alternately, extreme heat in the summers drives up demand for electricity and provides an opportunity for increased revenue from retail sales of power. Additionally, an opportunity to increase revenue may be possible with favorable energy policy. Demand for NRG's energy-related services could be impacted by consumers' preferences or market factors favoring energy efficiency, low-carbon power sources or reduced electricity usage.

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's transition to a 1.5°C world?
No, and we do not plan to in the next two years

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?
Absolute target

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number
Abs 1

Year target was set
2014

Target coverage
Company-wide

Scope(s)
Scope 1
Scope 2
Scope 3

Scope 2 accounting method
Location-based

Scope 3 category(ies)
Category 6: Business travel

Base year
2014

Base year Scope 1 emissions covered by target (metric tons CO2e)
61000000

Base year Scope 2 emissions covered by target (metric tons CO2e)

Base year Scope 3 emissions covered by target (metric tons CO2e)

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)
61000000

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1
100

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2
100

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)
100

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes
100

Target year
2025

Targeted reduction from base year (%)
50

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]
30500000

Scope 1 emissions in reporting year covered by target (metric tons CO2e)
34285442

Scope 2 emissions in reporting year covered by target (metric tons CO2e)
176859

Scope 3 emissions in reporting year covered by target (metric tons CO2e)
1148

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)
34463449

% of target achieved relative to base year [auto-calculated]
87.0050852459016

Target status in reporting year
Achieved

Is this a science-based target?
Yes, and this target has been approved by the Science Based Targets initiative

Target ambition
1.5°C aligned

Please explain target coverage and identify any exclusions
NRG's climate goals are to reduce greenhouse gas emissions by 50% by 2025, from its current 2014 baseline, and to achieve net-zero emissions by 2050. Greenhouse gas emissions include directly controlled emissions, emissions from NRG's purchased energy, and emissions from employee business travel. In 2021, NRG's climate goals were certified by the Science Based Targets initiative as aligned with a 1.5 degree Celsius trajectory. From the current 2014 baseline to 2021, the Company's CO2e emissions decreased from 61 million metric tons to 34 million metric tons, representing a cumulative 44% reduction. The decrease is attributed to reductions in fleet-wide annual net generation and a market-driven shift away from coal as a primary fuel to natural gas. The increase in emissions in 2021, as compared to 2020, was primarily due to higher power demand which was a result of the easing of COVID-19 pandemic lockdowns and the associated economic recovery. The Company is continuing to target a 50% reduction by 2025 and is on track to meet that goal.

As of December 31, 2021, less than 5% of the Company's consolidated operating revenues were derived from coal-fired operating assets.

Plan for achieving target, and progress made to the end of the reporting year
<Not Applicable>

List the emissions reduction initiatives which contributed most to achieving this target
Retirements of certain coal generation assets and coal-to-gas conversions at select power plants.

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?
Net-zero target(s)
Other climate-related target(s)

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number
NZ1

Target coverage
Company-wide

Absolute/intensity emission target(s) linked to this net-zero target
Abs1

Target year for achieving net zero
2050

Is this a science-based target?
Yes, and this target has been approved by the Science Based Targets initiative

Please explain target coverage and identify any exclusions
scope 1, scope 2, and scope 3 business travel

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?
Yes

Planned milestones and/or near-term investments for neutralization at target year
Our planned milestone is a 50% reduction of our base year emissions by 2025 as discussed in section C4.1a.

Planned actions to mitigate emissions beyond your value chain (optional)

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.
Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	0	0
Implementation commenced*	0	0
Implemented*	0	0
Not to be implemented	0	0

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type
Please select

Estimated annual CO2e savings (metric tonnes CO2e)

Scope(s) or Scope 3 category(ies) where emissions savings occur
Please select

Voluntary/Mandatory
Please select

Annual monetary savings (unit currency – as specified in C0.4)

Investment required (unit currency – as specified in C0.4)

Payback period
Please select

Estimated lifetime of the initiative
Please select

Comment

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Employee engagement	"PowerUPmylife' is a web-based and mobile platform where NRG employees can take actions that reflect sustainable choices at work and at home. The program launched at the end of 2014 and continues to be a place where employees engage in topics ranging from water conservation to NRG-specific activities such as wellness programs available to employees. Employees have taken over 15,000 actions including energy efficiency, waste management, personal awareness and emissions reduction – for example, unplugging chargers and appliances when not in use, recycling, taking the stairs instead of the elevator and cooking a meat-free meal. Additionally, in 2021 NRG partnered with Earth Share to engage employees in a competition challenge for Earth Month via Earth Share's Engage app. The challenge invites employees to document environmentally friendly, emissions reducing actions taken in daily life including a variety of energy conservation activities.
Internal incentives/recognition programs	NRG offers incentives to employees to purchase products that reduce GHG emissions. For example, there is an employee monthly commuter stipend to incentivize using public transportation. Green Mountain Energy has a comprehensive employee engagement program designed to provide employees with options for understanding and taking action to reduce their environmental impact—at work and at home. Program offerings include discounts on renewable energy products, residential solar installations, carbon offsets, and outdoor recreation programs; an employee green team that organizes environmental events and updates internal environmental policies and practices; an incentive-based Green Commuter Program; an office farm food delivery program; and the ability to contribute to environmental non-profits and the Green Mountain EnergyTM Sun ClubTM through paycheck deductions. Please visit the GME website for more detail: http://www.greenmountainenergy.com/our-story/sustainability/employee-sustainability-programs/ Additionally, NRG Employees receive a discount when purchasing portable solar products from Goal Zero. Through econrg, we promote ecological stewardship among our plant employees with initiatives aimed at improving environmental awareness and education.
Dedicated budget for low-carbon product R&D	Goal Zero, an NRG owned company, offers portable solar power products. Low-carbon product development is a key part of Goal Zero's business model. Since 2007, Goal Zero has developed and provided portable equipment to help people all over the world get the power they need.
Dedicated budget for other emissions reduction activities	NRG is partnering with renewable electricity developers to bring new, additional renewable power to the grid through short- and medium-term power purchase agreements (PPAs). At the end of 2021, we had secured 2.6 GW of renewable power through PPAs in support of our customers. As of March 31, 2022, 45% of these renewable PPAs are currently in service, with the remaining expected to come online in the next couple of years.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?
Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation
Group of products or services

Taxonomy used to classify product(s) or service(s) as low-carbon
Other, please specify (NRG used EPA eGrid Systems Emissions factors to determine avoided emissions by regions.)

Type of product(s) or service(s)

Power	Other, please specify (Renewable Electricity Plans)

Description of product(s) or service(s)
NRG's retail products and services provide both residential and commercial & industrial customers with choices for cleaner electricity, systems to track and reduce use and smart energy management products. Please see pages 51-52 of our 2021 Sustainability Report for an overview of sustainable products and services available to our customers.

For example, Our Green Mountain Energy (GME) brand is the nation's longest serving company dedicated to providing 100% renewable energy to businesses and residents. Primarily leveraging wind and solar sources, GME brings cleaner, greener energy to customers in Texas and 11 other states. In 2021, GME customers avoided more than 8.7 billion pounds of carbon dioxide. Since 1997, GME electricity plans have enabled business and residential customers to avoid over 98.9 billion pounds of CO2.

Revenue generated from products is proprietary information due to the competitive markets we serve, and as such we are unable to provide specifics.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)
No

Methodology used to calculate avoided emissions
<Not Applicable>

Life cycle stage(s) covered for the low-carbon product(s) or services(s)
<Not Applicable>

Functional unit used
<Not Applicable>

Reference product/service or baseline scenario used
<Not Applicable>

Life cycle stage(s) covered for the reference product/service or baseline scenario
<Not Applicable>

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario
<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions
<Not Applicable>

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

---

Level of aggregation
Group of products or services

Taxonomy used to classify product(s) or service(s) as low-carbon
Other, please specify (As, there is not a standard methodology for calculating avoided emissions, NRG used best available data to estimate the impact of our low-carbon products.)

Type of product(s) or service(s)

Power	Other, please specify (Portable solar power systems)

Description of product(s) or service(s)
Goal Zero develops and offers portable solar power systems. The company provides batteries, power packs, and generators; solar panels; small and large solar kits; lanterns, flashlights, and more; speakers, cables, tripods, light cords and adapters, and inverters and trickle chargers; and apparel. Its products are used in power phones, head lamps, power tablets, laptops, cameras, refrigerators, TVs, and more. The company offers products online. It serves customers worldwide. The company was founded in 2009 and is based in Bluffdale, Utah. As of September 16, 2014, Goal Zero operates as a subsidiary of NRG Energy, Inc.

The exact revenues from these low-carbon product lines are proprietary and therefore not available.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)
No

Methodology used to calculate avoided emissions
<Not Applicable>

Life cycle stage(s) covered for the low-carbon product(s) or services(s)
<Not Applicable>

Functional unit used
<Not Applicable>

Reference product/service or baseline scenario used
<Not Applicable>

Life cycle stage(s) covered for the reference product/service or baseline scenario
<Not Applicable>

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions
<Not Applicable>

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

C-EU4.6

(C-EU4.6) Describe your organization's efforts to reduce methane emissions from your activities.

NRG engages with natural gas producers in its supply chain to reduce methane emissions. For example. to encourage responsible natural gas production, NRG joined with 8 companies that comprise 12% of the market for delivered gas in the U.S. as part of the Natural Gas Supply Collaborative (NGSC). After months of detailed work, the Collaborative issued a report in October 2017 entitled "Environmental and Social Performance Indicators for Natural Gas Production" calling on natural gas producers to disclose information related to methane and air emissions, water, chemicals and community health and safety. NRG is an ongoing member of the NGSC.

Our strategy is to engage with suppliers on natural gas emissions. NRG does not own operations with significant methane emissions. However, natural gas 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.

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?
No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?
Yes, an acquisition
Yes, a divestment

Name of organization(s) acquired, divested from, or merged with
Direct Energy acquired, and also plants were divested

Details of structural change(s), including completion dates
Direct Energy integration activity estimated to be completed in 2023

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	No	<Not Applicable>

C5.1c

(C5.1c) Have your organization's base year emissions been recalculated as result of the changes or errors reported in C5.1a and C5.1b?

	Base year recalculation	Base year emissions recalculation policy, including significance threshold
Row 1	Yes	Base year emissions are retroactively recalculated following divestiture of emissions-producing generation assets in accordance with GHG protocol.

C5.2

(C5.2) Provide your base year and base year emissions.

Scope 1

Base year start
January 1 2014

Base year end
December 31 2014

Base year emissions (metric tons CO2e)
61000000

Comment
Emissions from domestic generation only

Scope 2 (location-based)

Base year start
January 1 2014

Base year end
December 31 2014

Base year emissions (metric tons CO2e)
254000

Comment

Scope 2 (market-based)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 1: Purchased goods and services

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 2: Capital goods

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 4: Upstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 5: Waste generated in operations

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 6: Business travel

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 7: Employee commuting

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 8: Upstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 9: Downstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 10: Processing of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 11: Use of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 12: End of life treatment of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 15: Investments

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
US EPA Mandatory Greenhouse Gas Reporting Rule

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)
36557416

Start date
<Not Applicable>

End date
<Not Applicable>

Comment
Includes 37.5 % of a 605 MW capacity coal plant in Australia.

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based
We are reporting a Scope 2, location-based figure

Scope 2, market-based
We have no operations where we are able to access electricity supplier emission factors or residual emissions factors and are unable to report a Scope 2, market-based figure

Comment

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based
176859

Scope 2, market-based (if applicable)
<Not Applicable>

Start date
<Not Applicable>

End date
<Not Applicable>

Comment

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source

Mobile refrigerated emissions in the U.S. and Australia and scope 2 purchased electricity in Australia

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)

Emissions are not relevant

Explain why this source is excluded

The emissions from excluded sources are insignificant when compared to Scope 1 and 2 emissions from US domestic generation. The effort to calculate these emissions on an annual basis is disproportionately large compared to the small amount of immaterial information. Per independent third-party Greenhouse Gas assurance report: Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur Hexafluoride (SF6), and Nitrogen trifluoride (NF3) emissions have been omitted as they are not material sources of greenhouse gases for the Company.

Estimated percentage of total Scope 1+2 emissions this excluded source represents

Explain how you estimated the percentage of emissions this excluded source represents

Per independent third-party Greenhouse Gas assurance report: Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur Hexafluoride (SF6), and Nitrogen trifluoride (NF3) emissions have been omitted as they are not material sources of greenhouse gases for the Company.

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Relevant, calculation in progress with third-party consultant and estimated to be <0.5% of Scope 3 emissions.

Emissions from goods and services vary annually according to NRG's purchases. In 2017 NRG used a third-party to calculate the footprint based on spend data. This scope 3 was not calculated for 2018 nor 2019 because it was deemed too resource intensive and not as material as scope 1 emissions. We also do not believe that the quality of this data is reliable and thus are not including it in inventory. However, we are monitoring this issue if it becomes more relevant.

In 2017 NRG used a third-party technical firm to calculate the estimated carbon footprint for our supply chain. This third-party used spend data from NRG's full supply chain footprint, including those who provide raw materials and services. This third-party removed spend for taxes, payment refunds and similar items that do not relate directly to producing NRG's own market offerings and then eliminated the lowest 10% of expenditures to focus the analysis on the most significant vendors. The remaining spend and associated suppliers was evaluated using both public disclosures and modelled impacts—when public data were not available—to estimate the GHG emissions for each supplier and spend sector. The third-party applied its proprietary environmental economic input output (EEI-O) life cycle based model for quantifying environmental impacts. This technique utilizes extensive government census data for over 464 business sectors and the economic interactions between each sector. It also aligned its GHG calculations with the WRI/WBCSD Greenhouse Gas Protocol for Scope 3, category 1 (purchased goods and services).

Scope 1 GHG emissions are most material for electricity generators to the extent that the US EPA requires reporting under 40 CFR Part 98. Though these sources are relevant to electricity production, the Scope 3 GHG emissions are not material compared to NRG's Scope 1 GHG emissions.

We are currently in the process of evaluating scope 3 emissions from the sale of gas and electricity and will provide updated information in a subsequent reporting cycle.

Capital goods

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
NRG defines capital goods as the purchase of equipment and machines. Scope 1 GHG emissions are most material for electricity generators to the extent that the US EPA requires reporting under 40 CFR Part 98. Though these sources are relevant to electricity production, the Scope 3 GHG emissions are not material compared to NRG's Scope 1 GHG emissions.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status
Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Relevant, calculation in progress with third party consultant in preparation to seek third party assurance.
Power purchased for resale is under evaluation.

Upstream transportation and distribution

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Calculation in progress with third party consultant and estimated to be <0.05% of Scope 3 emissions. NRG defines upstream transportation and distribution as third-party logistics. Scope 1 GHG emissions are most material for electricity generators to the extent that the US EPA requires reporting under 40 CFR Part 98. Though these sources are relevant to electricity production, the Scope 3 GHG emissions are not material compared to NRG's Scope 1 GHG emissions

Waste generated in operations

Evaluation status
Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Calculation in progress with third party consultant and estimated to be <0.1% of Scope 3 emissions. NRG defines waste generated in operations as waste management and disposal companies. Scope 1 GHG emissions are most material for electricity generators to the extent that the US EPA requires reporting under 40 CFR Part 98. Though these sources are relevant to electricity production, the Scope 3 GHG emissions are not material compared to NRG's Scope 1 GHG emissions

Business travel

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
1148

Emissions calculation methodology
Fuel-based method
Distance-based method
Other, please specify (Emissions are determined using the Carbonfund.org Foundation's transportation calculator. Data are obtained through Adelman, NRG's travel agent provider.)

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Please explain
Business travel emissions include hotel stays, car rentals and air travel incurred by United States based company employees and booked through NRG's primary travel agent. Emissions are determined using the Carbonfund.org Foundation's transportation calculator. Data are obtained through Adelman, NRG's travel agent provider.

Employee commuting

Evaluation status
Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
NRG has calculated employee commuting in the past from an internal survey of employees. In prior years, NRG has estimated GHG emissions from employee commuting based on internal surveys and dollars spent on public transportation through a company subsidized program. It is not a material source of emissions compared to scope 1.

Upstream leased assets

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
NRG defines upstream leased assets as rental properties. Scope 1 GHG emissions are most material for electricity generators to the extent that the US EPA requires reporting under 40 CFR Part 98. Though these sources are relevant to electricity production, the Scope 3 GHG emissions are not material compared to NRG's Scope 1 GHG emissions.

Downstream transportation and distribution

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
NRG does not own any transmission or distribution lines.

Processing of sold products

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
NRG is an integrated power company and does have physical products to process.

Use of sold products

Evaluation status
Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
NRG is an integrated power company. Our wholesale generation business scope 1 emissions are most relevant when it comes to climate action. However, though our retail businesses we are able to sell products that directly reduce our customers' scope 1+2 as well as increase our brand/reputation/social license to operate. As our business grows this category will become more relevant, and with the addition of Direct Energy this category is estimated to be the most significant of our Scope 3 emissions.

End of life treatment of sold products

Evaluation status
Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Relevant, calculation in progress with third party consultant and estimated to be <0.01% of Scope 3 emissions. NRG is an integrated power company. Our wholesale generation business scope 1 emissions are most relevant when it comes to climate action. However, though our retail businesses we are able to sell products that directly reduce our customers' scope 1+2 as well as increase our brand/reputation/social license to operate. As our business grows this category will become more material. NRG owns Goal Zero which sells portable solar products.

Downstream leased assets

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
NRG is an integrated power company. NRG has some rental properties that we sublet but these are not relevant to our primary business of retail and wholesale electricity.

Franchises

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
NRG does not have any franchises.

Investments

Evaluation status
Relevant, not yet calculated

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Calculation in progress with third party consultant and estimated to be <0.01% of Scope 3 emissions. NRG defines investments as financial transactions. Scope 1 GHG emissions are most material for electricity generators to the extent that the US EPA requires reporting under 40 CFR Part 98. Though these sources are relevant to electricity production, the Scope 3 GHG emissions are not material compared to NRG's Scope 1 GHG emissions.

Other (upstream)

Evaluation status
Not evaluated

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain

Other (downstream)

Evaluation status
Not evaluated

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?
No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure
0.0014

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
36734275

Metric denominator
unit total revenue

Metric denominator: Unit total
26989000000

Scope 2 figure used
Location-based

% change from previous year
57.6

Direction of change
Decreased

Reason for change
Prior year intensity was .0033. Emissions and revenue increased.
Although there was an increase in fleet-wide annual net generation in 2021 as anticipated with increased customer usage following COVID-19 market conditions, the Direct Energy acquisition delivered a revenue increase without associated Scope 1 and 2 emissions, which is the primary factor leading to decreased emissions intensity in 2021. Incorporating Direct Energy nearly doubled NRG's customer base, thereby allowing NRG to offer its lower carbon energy products and services to more customers in an asset light manner.
2020 scope 1 global and scope 2 emissions were approximately 29,767,523 mmt CO2e. 2020 revenue was $9,093 million.
29,767,523/9,093,000,000 = 0.0033.
((0.0014/0.0033)-1)*100 = -57.6%
(Assets included based on equity ownership as of Dec. 31, 2021)

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?
Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	36347835	Other, please specify (Mandatory GHG Reporting Tule, 40 CFR Part C)
CH4	89048	Other, please specify (Mandatory GHG Reporting Tule, 40 CFR Part C)
N2O	120533	Other, please specify (Mandatory GHG Reporting Tule, 40 CFR Part C)

C-EU7.1b

(C-EU7.1b) Break down your total gross global Scope 1 emissions from electric utilities value chain activities by greenhouse gas type.

	Gross Scope 1 CO2 emissions (metric tons CO2)	Gross Scope 1 methane emissions (metric tons CH4)	Gross Scope 1 SF6 emissions (metric tons SF6)	Total gross Scope 1 emissions (metric tons CO2e)	Comment
Fugitives	0	0	0	0	
Combustion (Electric utilities)	36363633	89048	0	36557416	
Combustion (Gas utilities)	0	0	0	0	
Combustion (Other)	0	0	0	0	
Emissions not elsewhere classified	0	0	0	0	

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
North America *Values have been rounded*	34285442
Australia *Values have been rounded*	2271974

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.
By activity

C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO2e)
Combustion	36557416

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility activities	36557416	<Not Applicable>	
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Increased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption		<Not Applicable>		
Other emissions reduction activities		<Not Applicable>		
Divestment	1958417	Decreased	5.35	Divested Dino Assets during 2021 include Arthur Kill, Oswego, Branford, Cos Cob, Franklin, Torrington, Devon, Middletown, Montville, Long Beach and Sunrise. Based on 2020 Actuals. Per GHG protocol, these asset's emissions are removed from inventory.
Acquisitions	0	No change	0	
Mergers	0	No change	0	
Change in output	6789893	Increased	23	Calculated as the change in emissions from 2021 to 2020 as a percentage of 2019 emissions {= (36,557,416- 29,767,523)/ 29,767,523 * 100}. The primary factor leading to the increased emissions was increases in fleet wide annual net generation due to market conditions post COVID-19.
Change in methodology	0	No change	0	
Change in boundary	0	No change	0	
Change in physical operating conditions	0	No change	0	
Unidentified	0	No change	0	
Other	0	No change	0	

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 25% but less than or equal to 30%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	6370	177692901	177692901
Consumption of purchased or acquired electricity	<Not Applicable>	0	0	0
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0	<Not Applicable>	0
Total energy consumption	<Not Applicable>	6370	177692901	177692901

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	No
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Sustainable biomass

Heating value

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment

Other biomass

Heating value

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment

Other renewable fuels (e.g. renewable hydrogen)

Heating value

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment

Coal

Heating value
HHV

Total fuel MWh consumed by the organization
95885757

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment

Oil

Heating value
HHV

Total fuel MWh consumed by the organization
19023

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment

Gas

Heating value
HHV

Total fuel MWh consumed by the organization
54876505

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
3438376

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value
HHV

Total fuel MWh consumed by the organization
26911616

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment
From Nuclear

Total fuel

Heating value
HHV

Total fuel MWh consumed by the organization
177692901

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment

C-EU8.2d

(C-EU8.2d) For your electric utility activities, provide a breakdown of your total power plant capacity, generation, and related emissions during the reporting year by source.

Coal – hard

Nameplate capacity (MW)
7920

Gross electricity generation (GWh)
29194

Net electricity generation (GWh)
28967

Absolute scope 1 emissions (metric tons CO2e)
32948406

Scope 1 emissions intensity (metric tons CO2e per GWh)
1128.61

Comment

Lignite

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Oil

Nameplate capacity (MW)
455

Gross electricity generation (GWh)
20

Net electricity generation (GWh)
1

Absolute scope 1 emissions (metric tons CO2e)
5179

Scope 1 emissions intensity (metric tons CO2e per GWh)
260.69

Comment

Gas

Nameplate capacity (MW)
8149

Gross electricity generation (GWh)
15269

Net electricity generation (GWh)
14791

Absolute scope 1 emissions (metric tons CO2e)
8653922

Scope 1 emissions intensity (metric tons CO2e per GWh)
566.76

Comment

Sustainable biomass

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Other biomass

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Waste (non-biomass)

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Nuclear

Nameplate capacity (MW)
1132

Gross electricity generation (GWh)
9642

Net electricity generation (GWh)
9198

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Fossil-fuel plants fitted with CCS

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Geothermal

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Hydropower

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Wind

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Solar

Nameplate capacity (MW)
218

Gross electricity generation (GWh)
740

Net electricity generation (GWh)
740

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Marine

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Other renewable

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Other non-renewable

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Total

Nameplate capacity (MW)
17874

Gross electricity generation (GWh)
54865

Net electricity generation (GWh)
53697

Absolute scope 1 emissions (metric tons CO2e)
41607506

Scope 1 emissions intensity (metric tons CO2e per GWh)
1956.06

Comment

C8.2g

(C8.2g) Provide a breakdown of your non-fuel energy consumption by country.

Country/area
Please select

Consumption of electricity (MWh)

Consumption of heat, steam, and cooling (MWh)

Total non-fuel energy consumption (MWh) [Auto-calculated]
<Calculated field>

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

C-EU8.4

(C-EU8.4) Does your electric utility organization have a transmission and distribution business?
No

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

C-EU9.5a

(C-EU9.5a) Break down, by source, your organization's CAPEX in the reporting year and CAPEX planned over the next 5 years.

Coal – hard

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

Explain your CAPEX calculations, including any assumptions

Lignite

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

Explain your CAPEX calculations, including any assumptions

Oil

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

Explain your CAPEX calculations, including any assumptions

Gas

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

Explain your CAPEX calculations, including any assumptions

Sustainable biomass

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

Explain your CAPEX calculations, including any assumptions

Other biomass

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

Explain your CAPEX calculations, including any assumptions

Waste (non-biomass)

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

Explain your CAPEX calculations, including any assumptions

Nuclear

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

Explain your CAPEX calculations, including any assumptions

Geothermal

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

Explain your CAPEX calculations, including any assumptions

Hydropower

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

Explain your CAPEX calculations, including any assumptions

Wind

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

Explain your CAPEX calculations, including any assumptions

Solar

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

Explain your CAPEX calculations, including any assumptions

Marine

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

Explain your CAPEX calculations, including any assumptions

Fossil-fuel plants fitted with CCS

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

Explain your CAPEX calculations, including any assumptions

Other renewable (e.g. renewable hydrogen)

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

Explain your CAPEX calculations, including any assumptions

Other non-renewable (e.g. non-renewable hydrogen)

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

Explain your CAPEX calculations, including any assumptions

C-EU9.5b

(C-EU9.5b) Break down your total planned CAPEX in your current CAPEX plan for products and services (e.g. smart grids, digitalization, etc.).

Products and services	Description of product/service	CAPEX planned for product/service	Percentage of total CAPEX planned products and services	End of year CAPEX plan
Distributed generation	As an integrated provider of supply and distributed energy resources (DER), NRG's Business Solutions group focuses on distributed products and services as businesses seek greater reliability, cleaner power or other benefits that they cannot obtain from the electric grid. These solutions include system power, distributed generation, solar and wind products, carbon management and specialty custom products.	0	0	2022

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in low-carbon R&D	Comment
Row 1	Yes	

C-CO9.6a/C-EU9.6a/C-OG9.6a

(C-CO9.6a/C-EU9.6a/C-OG9.6a) Provide details of your organization's investments in low-carbon R&D for your sector activities over the last three years.

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Carbon capture and storage/utilisation	Applied research and development	≤20%		NRG supports the COSIA Carbon X-PRIZE. The $20 million NRG COSIA Carbon XPRIZE is a global competition to develop breakthrough technologies that will convert CO_2 emissions from power plants and industrial facilities into valuable products like building materials, alternative fuels and other every day items. The NRG COSIA Carbon XPRIZE inspires development of new and emerging CO_2 conversion technologies to help solve climate change. NRG partnered with Canadian Oil Sands Innovation Alliance (COSIA) and XPRIZE in 2015 to create a five-year global competition to address rising CO2 emissions by challenging innovators around the world to develop breakthrough technologies that convert as much CO2 as possible into products with the highest net value. Through partnerships like these, we are supporting the creation of climate technology and more sustainable solutions. The competition winners – CarbonCure Technologies and CarbonBuilt – were chosen by an independent panel of judges and announced in April 2021. Both companies developed technologies that use CO2 in the production of concrete, thereby reducing its carbon footprint.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
20220516_2021_nrg_greenhouse_gas_emissions_report.pdf

Page/ section reference
Page 2

Relevant standard
Attestation standards established by AICPA (AT105)

Proportion of reported emissions verified (%)
100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach
Scope 2 location-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
20220516_2021_nrg_greenhouse_gas_emissions_report.pdf

Page/ section reference
Page 2

Relevant standard
Attestation standards established by AICPA (AT105)

Proportion of reported emissions verified (%)
100

C10.1c

(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope 3 category
Scope 3: Business travel

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
20220516_2021_nrg_greenhouse_gas_emissions_report.pdf

Page/section reference
Page 2

Relevant standard
Attestation standards established by AICPA (AT105)

Proportion of reported emissions verified (%)
100

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?
No, but we are actively considering verifying within the next two years

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?
Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.
California CaT - ETS
RGGI - ETS

C11.1b

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

California CaT - ETS

% of Scope 1 emissions covered by the ETS
2.74

% of Scope 2 emissions covered by the ETS
0

Period start date
January 1 2021

Period end date
December 31 2021

Allowances allocated
0

Allowances purchased
940000

Verified Scope 1 emissions in metric tons CO2e
940000

Verified Scope 2 emissions in metric tons CO2e
0

Details of ownership
Facilities we own and operate

Comment
Includes emissions from California assets owned and operated as of Dec. 31, 2021. Total U.S. based 2021 scope 1 emissions were 34,285,442 metric tons CO2e.

RGGI - ETS

% of Scope 1 emissions covered by the ETS
1.1

% of Scope 2 emissions covered by the ETS
0

Period start date
January 1 2021

Period end date
December 31 2021

Allowances allocated
0

Allowances purchased
380000

Verified Scope 1 emissions in metric tons CO2e
380000

Verified Scope 2 emissions in metric tons CO2e
0

Details of ownership
Facilities we own and operate

Comment
Includes emissions from assets owned and operated as of Dec. 31, 2021

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

NRG's strategy is to ensure we have sufficient emissions allowances as required by regulation. In cases where we receive allocations of allowances, we rely on those. If additional allowances are required beyond any allocation we receive, we purchase those.

The strategy manifests as follows in the markets in which we operate:

California has a CO2 cap-and-trade program governed by California Assembly Bill 32 (AB32). This program applies to electric generating units greater than 25 MW. The impact of this program on NRG depends on the cost of the allowances and our ability to pass these costs through to customers. In 2021 in the California AB32 market, we were not allocated any allowances so we purchased 940,000 to comply with the rule.

In the Regional Greenhouse Gas Initiative (RGGI) markets in which NRG operates generating units – namely Connecticut, Delaware, Maryland, and New York – there is a regional cap and trade system for CO2. In 2013, each of these states finalized a rule that reduced and will continue to reduce the number of allowances through 2020. The nine RGGI states re-evaluated the program and published a model rule to further reduce the number of allowances. The revisions being currently contemplated could adversely impact NRG's results of operations, financial condition, and cash flows. In 2021 in the RGGI market, NRG purchased 380,000 allowances to comply with the rule.

Our strategy was successful as evidenced by not being allocated fines as a result of being out of compliance with state and regional mandates.

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?
No

C11.3

(C11.3) Does your organization use an internal price on carbon?
Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price
Navigate GHG regulations
Stakeholder expectations
Change internal behavior
Drive low-carbon investment
Stress test investments
Identify and seize low-carbon opportunities

GHG Scope
Scope 1
Scope 2
Scope 3

Application
NRG uses internal carbon prices for two applications.

First, NRG calculates the net present value of the incremental cash flow per metric ton of CO2e that would be reduced by pursuing various decarbonization pathways. Second, NRG uses carbon price scenario analysis both to assess risk for internal financial purposes as well as for evaluating transition risk for Task Force on Climate-related Financial Disclosures (TCFD) reporting. Using carbon pricing scenario analysis allows us to understand the impact of potential carbon pricing on our business. In the short-term, the main impact is the financial cost of paying a carbon price when running our power plants. Over the medium and long-term, the impacts include how carbon prices would influence the fuel diversity of the power we provide to customers and therefore the fuel mix of our power plant portfolio.

Actual price(s) used (Currency /metric ton)
0

Variance of price(s) used
For the first application of carbon pricing described above, NRG calculates the net present value of the incremental cash flow per metric ton of CO2e that would be reduced by pursuing various decarbonization pathways. This figure is calculated (rather than set), and therefore varies by decarbonization pathway. Such pathways include coal-to-gas switching; carbon capture, use, and storage; asset retirements; operations improvement; and the day-to-day and longer-term fuel mix used to operate our power plant portfolio. As such, this metric – alongside other criteria including safety, reliability, and profitability – informs capital expenditure, operating expenditure, and product and service development decisions. Knowing this metric allows us to rank order potential investments, and all else equal, choose decarbonization pathways that maximize CO2e reduction at lowest cost. In addition, we compare this metric with statutory carbon prices in the jurisdictions in which we operate to determine when it would be economic to make an investment to reduce our carbon footprint.

For the second application of carbon pricing described above, NRG uses the carbon prices in the relevant third-party scenario. For the International Energy Agency's Sustainable Development Scenario, the carbon price for power companies in developed economies ranges from $100 in the 2030-2040 timeframe to $140 in the 2040-2050 timeframe (2018 dollars). For the U.S. Energy Information Agency's Annual Energy Outlook 2021, there are three carbon fee cases -- $15, $25, and $35 – each of which starts in 2023 and escalates at 5% annually through 2050. In real terms, 2050 carbon prices range from $61.70 ($15 case) to $144.10 ($35 case), while in nominal terms, they range from $128.27 ($15 case) to $304.94 ($35 case).

Type of internal carbon price
Other, please specify (NRG uses internal carbon pricing in a variety of scenarios with different uses. Because we have two distinct applications of carbon pricing as described previously, we selected "other".)

Impact & implication
NRG's first application of carbon pricing informs capital expenditure, operating expenditure, and product and service development decisions, alongside other criteria including safety, reliability, and profitability. The metric we calculate allows us to rank order potential investments, and all else equal, choose decarbonization pathways that maximize CO2e reduction at lowest cost. In addition, we compare this metric with statutory carbon prices in the jurisdictions in which we operate to determine when it would be economic to make an investment to reduce our carbon footprint.

NRG's second application of carbon pricing allows us to understand the impact of potential carbon pricing on our business. In the short-term, the main impact is the financial cost of paying a carbon price when running our power plants. Over the medium and long-term, the impacts include how carbon prices would influence the fuel diversity of the power we provide to customers and therefore the fuel mix of our power plant portfolio.

More fundamentally, NRG believes that the American energy industry is going to be increasingly impacted by the long-term societal trend towards sustainable forms of energy that have low or no GHG emissions, at both the utility scale and smaller distributed energy resource level. To meet this trend, NRG has focused its growth strategy on providing sustainable products and services to its customers, including renewable electricity plans, lower carbon natural gas, certified carbon offsets, energy storage, demand response programs, and energy efficiency products and services. Our internal use of carbon pricing for scenario analysis allows us to test internal views of the extent and rapidity of the demand for such products and services and to adjust investment decisions accordingly. Our strategy is designed to mitigate climate risks over the short-, medium-, and long-term.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?
Yes, our suppliers
Yes, our customers/clients

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement
Innovation & collaboration (changing markets)

Details of engagement
Collaborate with suppliers on innovative business models to source renewable energy

% of suppliers by number
25

% total procurement spend (direct and indirect)
90

% of supplier-related Scope 3 emissions as reported in C6.5
0

Rationale for the coverage of your engagement
NRG's supply chain consists of a wide range of procurement activities, including fuel purchases, operations and maintenance, renewables, capital projects and services. In 2017, we broadened our reporting efforts by becoming the first U.S. power producer to participate in the CDP Supply Chain Program. As part of this initiative, we encouraged more than 300 suppliers representing 90% of supply chain spend to disclose information about their climate change performance. In 2017 the suppliers were elected based on those representing 90% of supply chain spend.

In 2021 we continued this engagement using the same filter of 90% of supply chain spend. We chose to use 90% of spend because that accounts for the majority of our suppliers and the most material environmental impacts.

Impact of engagement, including measures of success
Non-monetary incentives include opportunities for recognition in NRG communications and potential partnerships for collaboration to further reduce environmental impact. For example, NRG Business Solutions has renewable energy and low carbon services for commercial and industrial customers.

As part of this ongoing project corporate sustainability is working with the supply chain department to evaluate how to incorporate specific questions about environmental, social and governance indicators. Specifically for natural gas producers, NRG is working with the Natural Gas Supply Collaborative to engage natural gas producers on disclosing environmental and social indicators that would impact future purchasing decisions. The goal would be to meet customer demand for natural gas with a lower carbon footprint by awarding contracts to natural gas companies that are taking action to reduce their climate impacts.

Comment

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement & Details of engagement

Education/information sharing	Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services

% of customers by number
100

% of customer - related Scope 3 emissions as reported in C6.5
0

Please explain the rationale for selecting this group of customers and scope of engagement
A core part of our strategy is to help our customers achieve their sustainability goals. Therefore, we offer lower carbon products and services to all customers that wish to reduce their carbon footprints.

NRG's customers for these engagements include large commercial and industrial customers or residential customers and small businesses. NRG Retail provides energy and related services to residential, industrial and commercial consumers through various brands and sales channels across the U.S. The scope of the engagements varies from the publication of white papers and blogs on the NRG website, to speaking at conferences and consulting services on energy management. These are ongoing engagements across multiple businesses directed at customers. For details visit: https://www.nrg.com/insights/sustainability.html

Residential and small commercial (Mass Market) consumers make purchase decisions based on a variety of factors, including price, customer service, brand, product choices and value-added features. These consumers purchase products through a variety of sales channels, including direct sales, call centers, websites, brokers and brick-and-mortar stores. Through its broad range of service offerings and value propositions, Retail is able to attract, retain, and increase the value of its customer relationships.
Retail's brands are recognized for exemplary customer service, innovative smart energy and technology product offerings and environmentally friendly solutions.

Also included in Retail is NRG's Business Solutions group, which includes demand response, commodity sales, energy efficiency and energy management solutions. An integrated provider of supply and distributed energy resources, Business Solutions focuses on distributed products and services as businesses seek greater reliability, cleaner power or other benefits that they cannot obtain from the grid. These solutions include system power, distributed generation, solar and wind products, carbon management and specialty services, backup generation, storage and distributed solar, demand response and energy efficiency and advisory services. In providing on-site energy solutions, NRG often benefits from its ability to supply energy products from its wholesale generation portfolio to commercial and industrial retail customers.

Impact of engagement, including measures of success
Engagement and measurement of success includes gathering and summarizing customer testimonials and case studies about their experiences with our products and services including our sustainable products and services. In the Customers chapter of our 2021 Sustainability Report, we provide a product map of our sustainable products and services (please see pages 51-52).

In 2020, the Compensation Committee of NRG's Board added Net Promoter Score (NPS) as a key performance indicator governing annual incentive compensation for Named Executive Officers (see page 53 of 2020 Proxy Statement). Called "Customer Focus Index", NPS measures the overall satisfaction of a customer with NRG's products and services as well as a customer's loyalty to NRG's brand, as determined through a customer survey. The NPS is an index ranging from -100 to 100. To calculate the NPS, detractors (those that score 6 or less out of 10) are subtracted from promoters (a score of 10 or 9). For example, if 50% of respondents to the survey are promoters and 10% are detractors, the NPS is 40%. The Company uses an external company to assess NPS scores, thereby ensuring objective, measurable results. As reported at NRG's 2021 Investor Day, NRG's NPS for its Home business ranges from 45-70, as compared to 10-15 for leading regulated utilities (please see page 33-34 of the presentation at https://investors.nrg.com/static-files/c40972f6-622c-437f-b625-111ab807e2ea). We measure customer satisfaction based on percent achievement of a proprietary internal target of customer experience score related to NPS. Customer satisfaction level for 2021 was 139% compared with 124% in 2020 and 96% in 2019. We consider these results successful because we more than achieved the internal target (i.e., the NPS was greater than 100% of target).

For our Business customers, we have a product called Renewable Select, which allows businesses to deploy renewable energy without the need for onsite solar panels of their own or complicated and often risky contract structures (please see page 46-47 of 2020 Sustainability Report). We have found that our contracts with such customers have an average duration of 9 years compared to only 6 years for power customers overall (please see pages 55-56 of our Investor Day presentation). Increased customer retention is a measure of success in competitive markets.

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?
No, and we do not plan to introduce climate-related requirements within the next two years

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

Direct or indirect engagement that could influence policy, law, or regulation that may impact the climate

Yes, we engage directly with policy makers

Yes, we engage indirectly through trade associations

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

Yes

Attach commitment or position statement(s)

See attached 2021 Industry Association Climate Review and NRG's Climate Change Principles. Furthermore, please visit https://www.nrg.com/energy-policy.html for regulatory filings, white papers, presentations and other materials we have prepared and submitted that set forth our positions on a variety of critical subjects driving our business and the industry including those that may impact the climate.

2021 Industry Associations Climate Review Methodology.pdf

2018-climate-change-principles.pdf

Describe the process(es) your organization has in place to ensure that your engagement activities are consistent with your overall climate change strategy

As an energy and services provider that primarily operates in competitive markets, public policy can significantly affect our business and industry. Accordingly, NRG, like most businesses, belongs to organizations and trade associations that may engage in lobbying activities. While we annually review our membership in such organizations and our corporate political contributions, 2021 marks the first time that we conducted detailed analysis of these organizations' climate positions, as they relate to NRG's.

To ensure that the trade associations to which we contributed in 2021 align with NRG's Climate Change Principles, which in turn include alignment with the ambitions of the 2015 Paris Climate Agreement as noted above, we followed the process below:

• Determined scope of the review through cross-functional discussions among NRG's Legal, Government Affairs, Regulatory Affairs, Sustainability, and Investor Relations teams.

• Reviewed NRG's internal records and held discussions with senior management to compile a list of membership organizations, trade associations and social welfare organizations to which (1) we paid annual dues in 2021 of $25,000 or more; and (2) which were registered to lobby at the state or federal levels or who did, in fact, engage in such lobbying.

• For the resulting list, reviewed current policy statements and publicly available information such as reports, websites, policy submissions or other media sources to determine each trade association's climate positions.

• Compared each trade association's climate positions against NRG's Climate Change Principles to determine whether sufficient alignment exists.

o Decisions on alignment were made by the same internal multi-department team including representatives of Legal, Regulatory and Governmental Affairs, Investor Relations, and Sustainability.

• Reviewed output of this process with members of our executive team and the Board's Governance and Nominating Committee, which has oversight responsibility for sustainability at NRG

Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

C12.3a

(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?

Focus of policy, law, or regulation that may impact the climate
Electricity grid access for renewables
Green electricity tariffs
Renewable energy generation

Specify the policy, law, or regulation on which your organization is engaging with policy makers
Arizona's Energy Competition Act (ECA).

Green Mountain Energy (GME) submitted an application on August 4, 2021 to the Arizona Corporation Commission to provide regulated competitive retail electric services in accordance with the ECA. When approved, Green Mountain will be the first and only Arizona electricity provider to exclusively offer clean renewable energy to its customers, meeting the Arizona Corporation Commission's recent 100 percent clean energy requirement nearly 50 years ahead of the 2070 deadline.

Under Arizona's longstanding Energy Competition Act (ECA), energy providers have the right to petition the Commission for issuance of a certificate to provide regulated competitive retail electric services in Arizona. This was confirmed in 2020 by an Arizona Supreme Court decision and paves the way for this application. Green Mountain, winner of 'best solar provider' in 2020 by the Houston Chronicle, is the first company to apply to do so under the ECA.

Policy, law, or regulation geographic coverage
Sub-national

Country/region the policy, law, or regulation applies to
United States of America

Your organization's position on the policy, law, or regulation
Support with no exceptions

Description of engagement with policy makers
After GME applied to provide competitive retail electric service in Arizona, the Arizona Corporation Commission lobbied for the passage of Senate Bill 1631 which would prevent retail electric competition in the state). NRG testified before the Arizona Senate Committee of Natural Resources, Energy and Water in opposition to SB 1631 as detailed here: https://www.nrg.com/assets/documents/energy-policy/_2022/travis-kavulla-nrg-green-mountain-testimony-in-opposition-feb-16-2022.pdf

Subsequently, Arizona passed House Bill 2101, supported by the Arizona Corporation Commission, which effectively repealed the opportunity for Arizona customers to access competitive retail electricity markets.

Following the Arizona House and Senate's passage of House Bill 2101, Mark Parsons, Vice President and General Manager of Green Mountain Energy, released the following statement:
Green Mountain filed a license with the Arizona Corporation Commission last summer to serve customers in Arizona. Since that time, we have executed a Letter of Intent to purchase new, locally constructed solar energy. And we have patiently waited for the Arizona Corporation Commission to conduct a hearing on the merits of our application, where all parties could ask us questions about our
business model. We were disappointed that Arizona's utilities have aggressively maneuvered to deny their customers options for alternative providers by introducing HB 2101, which repeals the statutory basis for us to receive a license to operate in the state, but we were not surprised: Monopolies do not like competition. HB 2101 would close down our opportunity to receive a license to operate under state law without even a hearing in Arizona. We regret that outcome. We look forward to continuing this conversation, and we are frustrated that utilities have rejected any attempt to compromise on this legislation, instead favoring an absolute position that would deny customers innovative, clean, and affordable options in energy supply. We urge Governor Ducey to avoid an outcome that would take away choices from Arizona homeowners and businesses when it comes to their energy supply.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation
<Not Applicable>

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

C12.3b

(C12.3b) Provide details of the trade associations your organization engages with which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association
Other, please specify (Electric Power Supply Association (EPSA))

Is your organization's position on climate change consistent with theirs?
Consistent

Has your organization influenced, or is your organization attempting to influence their position?
We publicly promote their current position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)
EPSA members support policies that give all suppliers an equal opportunity to compete and give all customers an equal opportunity to reap the benefits of competition. For more information, please go to http://www.epsa.org/about/. NRG participates in meetings and conferences with trade groups and organizations similar to SEIA and EPGA to engage in dialogue on policy solutions.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

Describe the aim of your organization's funding
<Not Applicable>

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Trade association
Solar Energy Industries Association (SEIA)

Is your organization's position on climate change consistent with theirs?
Consistent

Has your organization influenced, or is your organization attempting to influence their position?
We publicly promote their current position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)
The SEIA's mission is to ensure continued incentives for the deployment of solar technologies coupled with effective regulation of GHGs from existing power plants under Section 111(d) of the Clean Air Act. For more information please go to http://www.seia.org/. NRG participates in meetings and conferences with trade groups and organizations similar to SEIA and EPGA and engage in dialogue on policy solutions. NRG works through SEIA to generate support for government incentives, mandates and procurements that help grow the solar energy market.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

Describe the aim of your organization's funding
<Not Applicable>

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication
In mainstream reports

Status
Complete

Attach the document
2022 Proxy Statement (FINAL).pdf

Page/Section reference
Pages 21-29

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

Publication
In voluntary sustainability report

Status
Complete

Attach the document
NRG 2021-sustainability-report.pdf

Page/Section reference
All, 75-76

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	Yes, both board-level oversight and executive management-level responsibility	In addition to NRG's Board Governance and Nominating Committee oversight of Environmental and Sustainability policies, NRG has a Senior Vice President of Environment and a Senior Vice President of Generation who jointly oversee biodiversity-related issues as defined in section 1.7.4 of NRG's Environmental Policy & Procedures Manual.	<Not Applicable>

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments only	Adoption of the mitigation hierarchy approach Commitment to respect legally designated protected areas	<Not Applicable>

C15.3

(C15.3) Does your organization assess the impact of its value chain on biodiversity?

	Does your organization assess the impact of its value chain on biodiversity?	Portfolio
Row 1	Yes, we assess impacts on biodiversity in both our upstream and downstream value chain	<Not Applicable>

C15.4

(C15.4) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Land/water management Species management Education & awareness Livelihood, economic & other incentives

C15.5

(C15.5) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	Yes, we use indicators	State and benefit indicators Pressure indicators Response indicators

C15.6

(C15.6) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In voluntary sustainability report or other voluntary communications	Content of biodiversity-related policies or commitments Biodiversity strategy	https://www.nrg.com/about/social-responsibility/resilience-and-sustainability.html Page 81 of 2021 Sustainability Report NRG 2021-sustainability-report.pdf

C16. Signoff

C-FI

(C-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.

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

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

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	26989000000

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?
No

SC1.4b

(SC1.4b) Explain why you do not plan to develop capabilities to allocate emissions to your customers.

NRG's current scope 1 footprint comprises 99% of its total GHG inventory. We are currently assessing including additional scope 3 categories to build out a complete value chain assessment of our carbon footprint. Given NRG's business nature as a diversified retail and generation power company, it is difficult to assign specific emissions to vendors at this time.

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?
No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?
No, I am not providing data

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 confirm below

I have read and accept the applicable Terms