NRG Energy Inc - Climate Change 2018

C0. Introduction

C0.1

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

NRG Energy, Inc. is a leading integrated power company built on the strength of a diverse competitive electric generation portfolio and leading retail electricity platform. NRG aims to create a sustainable energy future by producing, selling and delivering electricity and related products and services in major competitive power markets in the U.S. in a manner that delivers value to all of NRG's stakeholders. NRG owns and operates approximately 30,000 MW of generation; engages in the trading of wholesale energy, capacity and related products; transacts in and trades fuel and transportation services; and directly sells energy, services, and innovative, sustainable products and services to retail customers under the names “NRG”, "Reliant" and other retail brand names owned by NRG. NRG 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, 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 company-wide processes, our ability to implement and execute on our publicly announced transformation plan, including any cost savings, margin enhancement, asset sale, and 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, risks related to project siting, financing, construction, permitting, government approvals and the negotiation of project development agreements, our ability to progress development pipeline projects, the timing or completion of GenOn’s emergence from bankruptcy, 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, our ability to close the Drop Down transactions with NRG Yield, and our ability to execute our Capital Allocation Plan. Debt and share repurchases may be made from time to time subject to market conditions and other factors, including as permitted by United States securities laws. Furthermore, any common stock dividend is subject to available capital and market conditions. 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. Additional factors could cause results to differ materially from those described in the forward-looking statements can be found in NRG’s 2017 Annual Report on Form 10-K and NRG’s other filing 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
Row 1	January 1 2017	December 31 2017	No	<Not Applicable>
Row 2	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 3	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 4	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

C0.3

(C0.3) Select the countries/regions for which you will be supplying data.

Australia
Turkey
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 consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.

Equity share

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

Please select

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) 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 strategy. The President and CEO is also on NRG's Board of Directors. NRG's vision is to create a sustainable energy future, therefore these issues are being managed by the President and CEO.
Board/Executive board	Since 2016, NRG's Board of Director's Governance and Nominating Committee officially oversees corporate sustainability. The rationale for formalizing board oversight of climate-related issues is because the board is ultimately responsible for all potential financial risks to the company. 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. Committee composition can be found at: http://investors.nrg.com/phoenix.zhtml?c=121544&p=irol-govcommcomp.

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	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies 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	Since 2016, our board's Governance and Nominating 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. Learn more about committee composition at http://investors.nrg.com/phoenix.zhtml?c=121544&p=irol-govcommcomp. The VP of Sustainability presents key strategic priorities to the Board during scheduled meetings throughout the fiscal year.

C1.2

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

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Sustainability Officer (CSO)	Both assessing and managing climate-related risks and opportunities	Half-yearly

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.

The CSO reports to the Chief Compliance Officer/Chief of Staff, 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 strategy to be integrated across the business.

The CSO leads all strategy and 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-to-business renewable energy solution proposals.

Climate-related issues are monitored on an ongoing basis through conversations with NRG's risk, regulatory 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?

Yes

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues.

Who is entitled to benefit from these incentives?
Management group

Types of incentives
Monetary reward

Activity incentivized
Efficiency project

Comment
Compensation of NRG's power plant personnel is, in part, based on environmental key performance indicator (E-KPI) scores. Factors that affect the E-KPI are performance, environmental reporting and the econrg projects that can reduce GHGs in the community or plant. For example, the scores take 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).

Who is entitled to benefit from these incentives?
All employees

Types of incentives
Monetary reward

Activity incentivized
Behavior change related indicator

Comment
Since 2014, NRG has used a social media app called 'InspireMe' which fosters healthy competition to encourage low-carbon and sustainable living. Employees that achieved the most points in a certain time period were awarded prizes such as cash 'points' to the NRG store.

Who is entitled to benefit from these incentives?
Environment/Sustainability manager

Types of incentives
Monetary reward

Activity incentivized
Emissions reduction project

Comment
The performance and incentive compensation of the Chief Sustainability Officer and sustainability team members are based on attainment of sustainability goals, including NRG's climate goals to reduce absolute emissions.

C2. Risks and opportunities

C2.1

(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.

	From (years)	To (years)	Comment
Short-term	0	2	Time horizons are subject to change.
Medium-term	2	5	Time horizons are subject to change.
Long-term	5	10	Time horizons are subject to change.

C2.2

(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

C2.2a

(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	NRG evaluates risks such as: regulatory, commercial, financial, and physical risks and opportunities associated with climate change and the different impacts on NRG's wholesale and retail businesses. Risks are further discussed in Item 1A in the 2017 NRG 10-K. NRG calculates annual greenhouse gas emission inventories. Monitoring of risks and opportunities occurs on an ongoing basis by NRG's Financial Risk Management Committee. 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 executive team communicates risks and mitigation efforts to NRG's board of directors quarterly. Externally, NRG reports material risks to investors and stakeholders through quarterly earnings calls, quarterly SEC filings, the CDP questionnaires and annual sustainability reporting.

C2.2b

(C2.2b) Provide further details on your organization's process(es) for identifying and assessing climate-related risks.

NRG evaluates risks such as: regulatory, commercial, financial, and physical risks and opportunities associated with climate change and the different impacts on NRG's wholesale and retail businesses. Risks are further discussed in Item 1A in the 2017 NRG 10-K. NRGnancial Risk Management Committee. 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 executive te calculates annual greenhouse gas emission inventories. Monitoring of risks and opportunities occurs on an ongoing basis by NRG's Fiam communicates risks and mitigation efforts to NRG's board of directors quarterly. The materiality threshold for risks is when revenue may be impacted. Externally, NRG reports material risks to investors and stakeholders through quarterly earnings calls, quarterly SEC filings, the CDP questionnaires and annual sustainability reporting.

C2.2c

(C2.2c) Which of the following 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. 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. NRG operates generating units in Connecticut, Delaware, Maryland, and New York that are subject to RGGI, which is a regional cap and trade system. 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. For example, intangible assets like emission allowances primarily consist of SO2 and NOx emission allowances established with the 2006 Texas Genco acquisition and also 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 NOx allowances amortized on a straight-line basis and SO2 allowances and RGGI credits amortized based on units of production. During the year ended December 31, 2017, NRG recorded an impairment loss of $20 million to reduce the value of excess SO2 allowances to zero. 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 is included in risk assessments because it may impact revenue in geographies such as California and the Northeast where NRG has power generating operations.
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. 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. 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. 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. 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 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 environmental laws that impose extensive and increasingly stringent requirements on NRG's ongoing operations, as well as potentially substantial liabilities arising out of environmental contamination. These environmental requirements and liabilities could adversely impact NRG's results of operations, financial condition and cash flows. NRG is subject to the environmental laws of foreign and U.S., federal, state and local authorities. NRG must comply with numerous environmental laws and obtain numerous governmental permits and approvals to build and operate NRG's plants. Federal and state environmental laws generally have become more stringent over time, although this trend could slow or pause. Should NRG fail to comply with any environmental requirements that apply to its operations, NRG could be subject to administrative, civil and/or criminal liability and fines, and regulatory agencies could take other actions seeking to curtail NRG's operations. In addition, when new requirements take effect or when existing environmental requirements are revised, reinterpreted or subject to changing enforcement policies, NRG's business, results of operations, financial condition and cash flows could be adversely affected. Therefore, legal risks are always included in risk assessments. For example, in 2012, the EPA enacted standards (the MATS rule) to control emissions of HAPs from coal and oil-fired electric generating units. The rule established limits for mercury, non-mercury metals, certain organics and acid gases, which had to be met beginning in April 2015. On April 27, 2017, the D.C. Circuit granted the EPA's request to postpone the oral argument and hold the case in suspension. While NRG cannot predict the final outcome of this rulemaking, NRG believes that because it has already invested in pollution controls and cleaner technologies, the fleet is well-positioned to comply with the MATS rule.
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. 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 Hurrican 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.

	Relevance & inclusion	Please explain
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 cleanup 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.
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) NRG's financial performance may be impacted by price fluctuations in the wholesale power and natural gas, coal and oil markets and other market factors that are beyond the NRG's control. Long- and short-term power prices may also fluctuate substantially due to other factors outside of the 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.
Upstream	Relevant, always included	Upstream issues are always considered in assessments by the Financial Risk Management Committee. Monitoring of upstream 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 costs, results of operations, financial condition and cash flows could be adversely impacted by disruption of its upstream fuel supplies. 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 counterparties 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 counterparty fails to perform or if there is a disruption in the fuel delivery infrastructure. For example, water risk regarding the impact for barge delivery is evaluated on a daily basis, with contingency plans developed as needed. Upstream risks are always included in risk assessments because they may impact revenue.
Downstream	Relevant, always included	Downstream issues are always considered in assessments by the Financial Risk Management Committee. Monitoring of downstream 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 relies on power transmission facilities that it does not own or control and that are subject to transmission constraints within a number of NRG's core regions. If these facilities fail to provide NRG with adequate transmission capacity, NRG may be restricted in its ability to deliver wholesale electric power to its customers and may either incur additional costs or forego revenues. For example, disruptions in transmission due to extreme weather events and natural disasters such as fires may adversely affect distribution. A case like this occurred in August of 2017 during Hurricane Harvey when electricity distribution was interrupted for a time to approximately 300,000 Texas grid customers. Downstream risks are always included in risk assessments because they may impact revenue.

C2.2d

(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.

Company level: The SVP and General Counsel, VPs of Government Affairs and regional regulatory affairs team are responsible for assessing regulatory risks and opportunities at federal, regional and local agencies. NRG's President and CEO reports to the Board of Directors on any material risks. NRG's Head of Operations and SVP Environmental are responsible for identifying and mitigating environmental risks to operations. 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 President of NRG Retail and SVP of Business Solutions identify commercial opportunities and risks to all of NRG's retail businesses. The Financial Risk Management Committee manages reputational risk for affirmative marketing of our clean energy solutions. 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.

Asset level: For our wholesale generation assets, risks and opportunities are identified at a regional level. Asset Management, Renewables, Development and Municipalities/Cooperatives groups are responsible for identifying risks and opportunities in their regions and directly report these risks to the CEO. Commercial Operations and Risk groups help by conducting sensitivity analyses to assess exposure from weather and other risks. Climate change risks to retail subsidiaries are assessed by the respective subsidiary presidents. Risks are monitored by the management teams of our retail subsidiaries and managed by the NRG's Financial Risk Management Committee.

Materiality/priorities: For the preparation of NRG’s financial statements filed with the Securities and Exchange Commission (SEC), NRG applies both quantitative and qualitative materiality thresholds in accordance with SEC Staff Accounting Bulletin 99 in conjunction with the relevant accounting guidance under United States Generally Accepted Accounting Principles (US GAAP). To determine the magnitude of risks and/or opportunities, NRG conducts sensitivity analyses and modeling on an on-going basis. Materiality is assessed by the management teams of the individual business segments. Climate change is considered a material risk to NRG operations as stated on page 49 of NRG's 2017 10-K.

An example of managing transition risks related to climate change is evidenced by NRG's policy and regulatory engagement. NRG’s fleet of utility-scale power plants is heavily regulated by federal regulators. For example, 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 struggle to price environmental externalities into the wholesale price of electricity. That is one of the reasons why 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. Senior NRG executives have presented and testified on key issues related to transitional risks such as the Department of Energy (DOE) Grid Reliability and Resilience Proposal. More information can be found online at www.nrg.com/energy-policy.

An example of managing physical risks related to climate change can be seen by NRG's actions during the August 2017 weather event of Hurricane Harvey. In part because of the lessons learned and improvements made after Hurricanes Allison and Ike, NRG was well prepared in its operations and the business continuity plan well executed. The team at W.A. Parish – when faced with wet coal and flood conditions – successfully transitioned units 5 and 6 from coal to gas, and in real time, to keep the system running and power generation uninterrupted. The San Jacinto team was locked in at their facility for four full days – including a brief shelter-in-place event when a neighboring facility sprung a small ammonia leak. The team kept required steam flowing to a customer – a DuPont facility located next door – for as long as they needed it to keep their own operations running.

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
Transition risk

Primary climate-related risk driver
Policy and legal: Increased pricing of GHG emissions

Type of financial impact driver
Policy and legal: Write-offs, asset impairment, and early retirement of existing assets due to policy changes

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 operates generating units in Connecticut, Delaware, Maryland and New York that are subject to RGGI, which is a regional cap and trade system. The same holds true for the California Cap and Trade scheme. In 2013, each of these RGGI states finalized a rule that reduced and will continue to reduce the number of allowances, which NRG believes will increase the price of each allowance. These new rules could impact NRG's results of operations, financial condition and cash flows. For example, in 2017 NRG paid approximately $40,000 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.

Time horizon
Medium-term

Likelihood
About as likely as not

Magnitude of impact
Unknown

Potential financial impact
0

Explanation of financial impact
The potential financial impact is not able to be calculated at this time.

Management method
The SVP and General Counsel, VPs of Government Affairs 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 Head of Operations and SVP Environmental are responsible for identifying and mitigating environmental risks to operations. For our wholesale generation assets, risks and opportunities are identified at a regional level. 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 struggle to price environmental externalities into the wholesale price of electricity. That is one of the reasons why 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. The cost of management is integrated into operational costs.

Cost of management
0

Comment

Identifier
Risk 2

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

Risk type
Physical risk

Primary climate-related risk driver
Acute: Increased severity of extreme weather events such as cyclones and floods

Type of financial impact driver
Reduced revenues from lower sales/output

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. For example, in August, Harvey, a category 4 hurricane, devastated the eastern coast of Texas and southern Louisiana where NRG has significant physical operations and thousands of employees. Customers who are forced out of their homes and businesses who are forced to shut down are not buying power. Even though our business continuity plan was deployed well in advance of the storm, the scale and scope of Harvey demanded real-time improvising and inspired our employees to step up and demonstrate exemplary leadership. Some employees were deployed out of town altogether to ensure that payroll and other employee support services were not interrupted by the storm's impact. The NRG/Reliant team spent several weeks with outreach activities from Rockport to Houston and surrounding areas providing portable power and a helping hand where needed. This included over $2M in financial and in-kind donations in addition to the customer relief efforts. Nearly two weeks after the storm hit, electricity service was just being restored in many parts of these communities. To help residents recover in those hard-hit areas, our Power2Serve vehicle and team was deployed. This fully staffed, 26-foot-long truck is equipped with 40kW of diesel and solar electric generators and is designed to become an on-location, climate-controlled pavilion. 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. At the peak, approximately 300,000 customers were without power.

Time horizon
Current

Likelihood
About as likely as not

Magnitude of impact
Medium

Potential financial impact
20000000

Explanation of financial impact
Financial impact is meant to be illustrative. 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. At the peak, approximately 300,000 customers were without power.

Management method
The EVP of NRG Retail and SVP of Business Solutions 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 Head of Operations 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, the NRG/Reliant team spent several weeks with outreach activities from Rockport to Houston and surrounding areas providing portable power and a helping hand where needed. This included over $2M in financial and in-kind donations in addition to the customer relief efforts. Nearly two weeks after the storm hit, electricity service was just being restored in many parts of these communities. To help residents recover in those hard-hit areas, our Power2Serve vehicle and team was deployed. This fully staffed, 26-foot-long truck is equipped with 40kW of diesel and solar electric generators and is designed to become an on-location, climate-controlled pavilion. The cost of management is integrated into operational costs.

Cost of management
0

Comment

Identifier
Risk 3

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

Risk type
Physical risk

Primary climate-related risk driver
Acute: Increased severity of extreme weather events such as cyclones and floods

Type of financial impact driver
Increased capital costs (e.g., damage to facilities)

Company- specific description
In August, Harvey, a category 4 hurricane, devastated the eastern coast of Texas and southern Louisiana where NRG has significant physical operations and thousands of employees. Even though our business continuity plan was deployed well in advance of the storm, the scale and scope of Harvey demanded real-time improvising and inspired our employees to step up and demonstrate exemplary leadership. Some employees were deployed out of town altogether to ensure that payroll and other employee support services were not interrupted by the storm's impact. The team at W.A. Parish – when faced with wet coal and flood conditions – successfully transitioned units 5 and 6 from coal to gas, and in real time, to keep the system running and power generation uninterrupted. Our San Jacinto team was locked in at their facility for four full days – including a brief shelter-in-place event when a neighboring facility sprung a small ammonia leak. The team kept required steam flowing to a customer for as long as they needed it to keep their own operations running. Our team at Cedar Bayou was also in place for four full days– remaining in reserve and ready throughout the historic storm. Team members protected the facility and the site. In addition, 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.

Time horizon
Current

Likelihood
About as likely as not

Magnitude of impact
Medium-low

Potential financial impact
20000000

Explanation of financial impact
During August 2017, 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. 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 in part due to outages.

Management method
Corporate level: NRG's Head of Operations and Asset Management are responsible for identifying and mitigating environmental risks to operations. The Financial Risk Management Committee manages reputational risks to NRG's brand and the Senior Director of Marketing manages reputational risk for affirmative marketing of our clean energy solutions. 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. Asset level: For our wholesale generation assets, risks and opportunities are identified at a regional level. Asset Management group is responsible for identifying risks and opportunities in their regions and directly report these risks to the CEO. Commercial Operations and Risk groups help by conducting sensitivity analyses to assess exposure from weather and other risks. Climate change risks to retail subsidiaries are assessed by the respective subsidiary presidents. Risks are monitored by the management teams of our retail subsidiaries and managed by the NRG's Financial Risk Management Committee. The cost of management is integrated into operational costs.

Cost of management
0

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

Type of financial impact driver

Other, please specify (Increased demand for products/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.

Time horizon

Medium-term

Likelihood

About as likely as not

Magnitude of impact

Medium-low

Potential financial impact

0

Explanation of financial impact

Financial impact of this opportunity cannot be calculated at this time.

Strategy to realize opportunity

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. This easy-to-implement solution provides customers an opportunity to transition to a smarter energy consumption model. The platform, with a preliminary estimated hundreds of megawatts capacity or enough to power tens of thousands of homes, enhances a customer's energy usage through Cummins-powered generators and NRG distributed energy resource capabilities. The solution could potentially save customers up to 15 percent over their current energy costs, often at no enrollment expense. Beyond giving customers more control over their energy future, the platform is expected to significantly reduce environmental impact and grid stress. The platform architecture allows for more capacity to meet expanding market needs. Cummins and NRG will form a joint development team to pursue solution sales, and market and maintain energy assets to guarantee outcomes for end-use customers.

Cost to realize opportunity
0

Comment
Cost to realize opportunity is variable and cannot be calculated at this time.

Identifier
Opp2

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

Opportunity type
Markets

Primary climate-related opportunity driver
Other

Type of financial impact driver
Other, please specify (Increased demand for existing products)

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. 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 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, the 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 expand retail choice. That is one of the reasons why NRG supports a national "Consumer Bill of Rights," which includes the right of all Americans to "shop green," either by generating power themselves or buying green power from a retail electric provider of their choice.

Time horizon
Medium-term

Likelihood
About as likely as not

Magnitude of impact
Medium-low

Potential financial impact
0

Explanation of financial impact
Financial impact is variable cannot be calculated at this time.

Strategy to realize opportunity
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. 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

Cost to realize opportunity
0

Comment
Cost to realize opportunity is variable and cannot be calculated at this time.

Identifier
Opp3

Where in the value chain does the opportunity occur?
Customer

Opportunity type
Products and services

Primary climate-related opportunity driver
Shift in consumer preferences

Type of financial impact driver
Increased revenue through demand for lower emissions 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, NRG and Cirro 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

Potential financial impact
0

Explanation of financial impact
Financial impact is variable and cannot be calculated at this time.

Strategy to realize opportunity
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 2017 NRG completed 37 megawatts through nine solar farms across Minnesota to support the state's community solar program. NRG partnered with Cypress Creek and Xcel Energy to meet increasing customer demand (both residents and businesses) for renewable energy. This project combines the benefits of clean energy, financial incentives and the no-risk nature of purchasing solar energy from a third-party provider. More than 1,600 residents and several large businesses have already come onboard, including U.S. Bank, Land O'Lakes, Macy's and Ecolab. As a result, NRG helped make Minnesota the fifth-largest solar market in the U.S. as of the second quarter of 2017, according to GTM Research and SEIA.

Cost to realize opportunity
0

Comment
Cost to realize opportunity is variable and cannot be calculated at this time.

C2.5

(C2.5) Describe where and how the identified risks and opportunities have impacted your business.

	Impact	Description
Products and services	Impacted for some suppliers, facilities, or product lines	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. The magnitude of impact could range from high to low depending on the weather event. For example, in late August 2017, Hurricane Harvey made landfall on the Texas coast. The relative impact to NRG's operations was of medium magnitude. During the third quarter of 2017, NRG's Retail business was impacted by Hurricane Harvey by approximately $20 million partly because of disrupted downstream transmission and distribution.
Supply chain and/or value chain	Impacted for some suppliers, facilities, or product lines	NRG's costs, results of operations, financial condition and cash flows could be adversely impacted by disruption of its upstream fuel supplies. 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 counterparties 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 counterparty fails to perform or if there is a disruption in the fuel delivery infrastructure. For example, 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 barge fuel delivery may be impacted if there is a disruption. The magnitude of the impact could range from high to low depending on the geographical location.
Adaptation and mitigation activities	Impacted for some suppliers, facilities, or product lines	An example of where an adaptation activity at the asset level proved successful was demonstrated in August of 2017 during Hurricane Harvey in Texas. The team at W.A. Parish – when faced with wet coal and flood conditions – successfully transitioned units 5 and 6 from coal to gas, and in real time, to keep the system running and power generation uninterrupted. The magnitude of the impact could range from high to low depending on the geographical location. The relative impact of Harvey to NRG's adaptation and mitigation activities was of medium-low magnitude.
Investment in R&D	Impacted for some suppliers, facilities, or product lines	Changes in technology may impair the vale of NRG's power plants. 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 the 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 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. The magnitude of the impact could range from high to low depending on the asset or project.
Operations	Impacted for some suppliers, facilities, or product lines	The magnitude of the impact could range from high to low depending on the geographical location. 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. 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. The relative impact to NRG's operations from Harvey was of medium magnitude.
Other, please specify	Please select	

C2.6

(C2.6) Describe where and how the identified risks and opportunities have factored into your financial planning process.

	Relevance	Description
Revenues	Impacted for some suppliers, facilities, or product lines	The magnitude of the impact is variable depending on the business unit or geographical asset.
Operating costs	Impacted for some suppliers, facilities, or product lines	The magnitude of the impact is variable depending on the business unit or geographical asset.
Capital expenditures / capital allocation	Impacted for some suppliers, facilities, or product lines	The magnitude of the impact is variable depending on the business unit or geographical asset.
Acquisitions and divestments	Impacted for some suppliers, facilities, or product lines	The magnitude of the impact is variable depending on the business unit or geographical asset.
Access to capital	Impacted for some suppliers, facilities, or product lines	The magnitude of the impact is variable depending on the business unit or geographical asset.
Assets	Impacted for some suppliers, facilities, or product lines	The magnitude of the impact is variable depending on the business unit or geographical asset.
Liabilities	Impacted for some suppliers, facilities, or product lines	The magnitude of the impact is variable depending on the business unit or geographical asset.
Other	Please select	

C3. Business Strategy

C3.1

(C3.1) Are climate-related issues integrated into your business strategy?

Yes

C3.1a

(C3.1a) Does your organization use climate-related scenario analysis to inform your business strategy?

No, but we anticipate doing so in the next two years

C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b)

(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b) Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.

In development, we plan to complete it within the next 2 years

C3.1c

(C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.

NRG’s vision is to create a sustainable energy future by safely providing reliable, cleaner power that enhances peoples' lives and delivers value to our stakeholders . In 2016, NRG's Board of Directors' Governance and Nominating Committee officially began oversight of sustainability activities. Each component of our strategy is intended to create customer and shareholder value in an increasingly sustainable manner, with the goal of both decreasing emissions and reducing the risks associated with climate change. The Enterprise Risk Management process enables us to manage uncertainty and to enhance or preserve enterprise value. Enterprise Risk Management facilitates the functional group's management of risk, including climate change.

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. For example, some of the business platforms to achieve this vision include 1) Adding clean energy solutions for our residential and business customers, which will save money, increase reliability and resiliency, and improve their own carbon footprints 2) Focusing on modernizing our generation fleet in a manner that reduces CO2 emissions by repowering or repurposing older, less efficient power plants. We believe carbon is one of the biggest sources of risk in our portfolio. We already pay for carbon emissions under RGGI and AB32 and carbon taxes are a growing possibility. Other physical risks include sea level rise and extreme weather events which can affect the productivity of our power generating assets as well as customer demand.

NRG was one of more than 2,000 organizations to sign the “We Are Still In” declaration which demonstrates commitment to following through on the promise of the Paris Agreement and America’s contribution to it. And in NRG's 2017 Sustainability Report (Appendix C) 'NRG’s Climate Change Principles' are published.

In the long term, we believe 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 customer-facing energy products and services including smart grid services, nationwide retail green electricity and unique retail sales channels involving loyalty and affinity programs; and facilitating or securing other forms of on-site clean power generation. In the short term, our strategy is designed to mitigate risks, including climate risks, where economically feasible . Providing customers with low carbon energy solutions helps in the challenge to mitigate climate change while reducing our commercial risk. In the long term, NRG has recognized the need to contribute to significant reductions in CO2 emissions through our strategy. NRG's short and long term strategies help mitigate potential climate change risks from GHG regulations while also positioning the company to capitalize on opportunities and a growing demand for clean energy solutions. NRG's long-term strategy also involves providing clean energy solutions for large and small retail customers’ energy needs, which will reduce their carbon footprints.

NRG's most substantive decision to date is the setting of our science-based targets that remain some of the industry's most aggressive. NRG remains committed to executing against our goals to reduce carbon emissions from a 2014 baseline by 50% by 2030 and 90% by 2050.

Our short and long term strategies will help NRG profitably reduce its carbon intensity through customized retail solutions. Having the retail support to sell power in diverse energy markets gives NRG the competitive advantage in providing customers sustainable energy solutions. For example, NRG Business Solutions makes sustainability a reality for organizations by developing unique energy solutions based on each customer’s needs. These solutions include demand response, commodity sales, access to renewable energy, asset-backed distributed energy systems, energy efficiency measures and energy management services. For example, in 2017, Cisco’s sustainability vision has become a reality through NRG's offsite solar solution – helping the company meet its 2017 sustainability goals to reduce GHG emissions by 40% and to use renewable energy for at least 25% of its power needs each year. The offsite nature of the solution was uniquely suited for both financial and logistical considerations. It leveraged the renewable power produced by the Blythe II solar project, located 550 miles away, to meet 10% of Cisco’s electricity needs each year. The actual energy created by the facility powers the local grid while Cisco receives renewable energy credits (RECs) that go toward its sustainability goals.

C3.1g

(C3.1g) Why does your organization not use climate-related scenario analysis to inform your business strategy?

NRG is one of more than 240 organizations that publically committed to support the TCFD. In early 2017, NRG conducted an internal pilot of the draft TCFD recommendations on a single business unit. One of the goals of this exercise was to build internal subject matter expertise and identify existing activities that support the TCFD recommendations. The learnings from this exercise informed our company-wide comprehensive analysis and the implications for disclosing on climate risk and opportunities. Currently, some climate-related factors are considered in our traditional enterprise risk management process, but not as a separate exercise. Additionally, a shadow price of carbon may be used in these analyses.

NRG is proactively engaging with key stakeholders and preparing to develop internal guidelines on integrating the TCFD. We plan to build upon our robust voluntary reporting protocols, enterprise risk management process and shareholder engagement strategy.

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

Scope

Scope 1+2 (location-based) +3 (upstream)

% emissions in Scope

100

% reduction from base year

50

Base year

2014

Start year

2014

Base year emissions covered by target (metric tons CO2e)

74000000

Target year

2030

Is this a science-based target?

Yes, this target has been approved as science-based by the Science-Based Targets initiative

% achieved (emissions)

35

Target status
Underway

Please explain
Progress to date has been made through fuel switchings and changes in the generation profile of some assets.

Target reference number
Abs 2

Scope
Scope 1+2 (location-based) +3 (upstream)

% emissions in Scope
100

% reduction from base year
90

Base year
2014

Start year
2014

Base year emissions covered by target (metric tons CO2e)
74000000

Target year
2050

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

% achieved (emissions)
35

Target status
Underway

Please explain
Progress to date has been made through fuel switchings and changes in the generation profile of some assets.

C4.2

(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.

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 projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of projects	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*	12	1259200
Not to be implemented	0	0

C4.3b

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

Activity type
Low-carbon energy installation

Description of activity
Carbon Capture & Storage

Estimated annual CO2e savings (metric tonnes CO2e)
1250000

Scope
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
0

Investment required (unit currency – as specified in CC0.4)
300000000

Payback period
1-3 years

Estimated lifetime of the initiative
16-20 years

Comment
Petra Nova is the world's largest post-combustion carbon capture facility, located at our WA Parish Generating Station southwest of Houston. Since late 2016, the project has combined carbon capture with enhanced oil recovery (EOR) to increase domestic oil supply while decreasing the amount of CO2 released into the atmosphere. The Petra Nova project captures more than 90 percent of the CO2 from a 240-megawatt equivalent slipstream of flue gas. The project can capture more than 5,000 tons of CO2 per day, and in 2017, the system sequestered more than 1.25 million tons of CO2. An 80-mile pipeline safely transports the captured CO2 through Fort Bend, Wharton and Jackson counties to the West Ranch oil field. Through EOR, oil production at West Ranch averages more than 5,000 barrels per day from around 300 barrels a day before we began EOR operation. The financial investment required represents just NRG's portion and not other partners. The financial investment Financing of Petra Nova includes equity contributions from both NRG and JX Nippon of approximately $300 million each. NRG's contribution will include investments already incurred during development of the project which will become assets of the joint venture. Annual monetary savings is not available. The values reported and payback period are illustrative and are subject to change. Please read more here: http://www.nrg.com/generation/projects/petra-nova/news/

Activity type
Energy efficiency: Building services

Description of activity
Lighting

Estimated annual CO2e savings (metric tonnes CO2e)
700

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
4000

Investment required (unit currency – as specified in CC0.4)
1000

Payback period
1-3 years

Estimated lifetime of the initiative
6-10 years

Comment
Within NRG's flagship environmental program econrg, 10 projects were aimed at reducing emissions at our generating facilities. Some of these projects included installing solar lighting, replacing lamps with high efficiency lighting, installing motion sensor lighting and upgrading equipment. Annual monetary savings and investments required are not representative of all projects. Each initiative is unique to the plant or office and savings/investment varies. The values reported are illustrative.

Activity type
Low-carbon energy installation

Description of activity
Other, please specify (Cogeneration)

Estimated annual CO2e savings (metric tonnes CO2e)
8500

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
0

Investment required (unit currency – as specified in CC0.4)
0

Payback period
<1 year

Estimated lifetime of the initiative
6-10 years

Comment
One of NRG's thermal plants undertook a project to provide heat and power to the facility. This project is expected to provide up to 95% of the facility electrical power while preheating boiler feedwater, which will reduce the consumpton of natural gas. Power savings will be based on a utility electric revenue meter on each of the two cogeneration units. There is monitoring software provided with each of the cogen units that tabulates power production, CO2 savings, methane savings, and water savings on an hourly, monthly, annually and lifetime basis. Annual monetary savings and investments required are not representative of all projects. Each initiative is unique to the plant or office and savings/investment varies. The values reported are illustrative.

C4.3c

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

Method	Comment
Employee engagement	InspireMEnrg 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. 21% of all employees participate in the program, with the vast majority taking action on a regular basis. 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.
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 pay check 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. econrg® is NRG's flagship program designed to make our existing fleet cleaner and help ensure that future power generation is smarter and more affordable. Through econrg, we promote ecological stewardship among our plant employees with initiatives aimed at improving environmental awareness and education.
Internal price on carbon	The price of carbon used in these analyses is confidential. NRG operates in the United States. This price varies given political administrations and proposed legislation as well as the fluctuating price of oil and natural gas. The price of carbon is determined by Commercial Operations.
Dedicated budget for low-carbon product R&D	NRG owned company, Goal Zero offers portable solar power products. Low-carbon product R&D are 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.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation
Company-wide

Description of product/Group of products
NRG's retail products and services provide both retail and commercial & industrial customers with choices for cleaner electricity, systems to track and reduce use and smart energy management products. 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 2017, GME electricity plans enabled business customers to avoid 900,000 pounds of CO2 and residential customers to avoid 8.6 million pounds.

Are these low-carbon product(s) or do they enable avoided emissions?
Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (Internal calculation of renewable MWh)

% revenue from low carbon product(s) in the reporting year
1

Comment
For example, Green Mountain is an office-based corporate entity. Because Green Mountain does not own any generation assets, the operational control approach was chosen for reporting emissions data from direct and indirect sources. We only count the avoided CO2 emissions attributable to "new" renewable energy facilities as defined by the Center for Resource Solutions (CRS) as part of the Green-e Energy National Standard. CRS defines "new" facilities as those that began operation or were repowered within the past 15 years (e.g., 2000 for 2014 sales, 2001 for 2015 sales). The energy generated by these new facilities displaces the need for an equivalent amount of energy from fossil fuel-powered facilities, thereby avoiding the CO2 emissions that would have been created in the absence of the renewable energy generation. The exact revenues from these low-carbon businesses are not available.

Level of aggregation
Group of products

Description of product/Group of products
Goal Zero Corporation 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 Corporation operates as a subsidiary of NRG Energy, Inc.

Are these low-carbon product(s) or do they enable avoided emissions?
Low-carbon product and avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (Internal classification)

% revenue from low carbon product(s) in the reporting year
1

Comment
The exact revenues from these low-carbon product lines are not available.

C-EU4.6

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

NRG does not own operations with significant methane emissions. However, natural gas is a key focus area in our supply chain. 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. 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.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start
January 31 2014

Base year end
December 31 2014

Base year emissions (metric tons CO2e)
74000000

Comment

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
January 1 2014

Base year end
December 31 2014

Base year emissions (metric tons CO2e)
254000

Comment

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 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?

Row 1

Gross global Scope 1 emissions (metric tons CO2e)
51000000

End-year of reporting period
<Not Applicable>

Comment
Rounded to nearest million. Includes 37.5% ownership of 144MW capacity natural gas plant in Turkey and 80% of a 605MW capacity coal plant in Australia. Excludes GenOn assets.

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?

Row 1

Scope 2, location-based
229000

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

End-year of reporting period
<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

Scope 1 mobile refrigerated emissions in US, Australia and Turkey and Scope 2 purchased electricity emissions in Australia and Turkey

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 the source is excluded

The emissions from excluded sources are insignificant when compared to Scope 1 and 2 emissions from US domestic generation.

C6.5

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

Purchased goods and services

Evaluation status

Relevant, calculated

Metric tonnes CO2e

7200000

Emissions calculation methodology

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 modeled 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).

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

0

Explanation

NRG used a third-party to calculate the footprint based on spend data. See above emissions methodology.

Capital goods

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation
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
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation
NRG defines fuel and energy related activities as fuel transportation. 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.

Upstream transportation and distribution

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation
NRG defines upstream transportation as third party logistics. Due to the nature of the company there are no transportation or distribution fleets. Scope 1 GHG emissions are most material for electricity generators to the extent that the US EPA requires reporting under 40 CFR Part 98.

Waste generated in operations

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation
NRG defines waste generated in operations as waste management and disposal companies. NRG calculates non hazardous and municipal solid waste at facilities and plants. Though these waste streams exist, the Scope 3 GHG emissions are not material compared to NRG's Scope 1 GHG emissions.

Business travel

Evaluation status
Relevant, calculated

Metric tonnes CO2e
15100

Emissions calculation methodology
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 is obtained through Adelman, NRG's travel agent provider.

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

Explanation

Employee commuting

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation
Employee commuting Scope 3 GHG emissions are not material compared to NRG's Scope 1 GHG emissions. 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.

Upstream leased assets

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation
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. NRG has not yet estimated these emissions. Also, NRG reports electricity purchased for our rental properties as Scope 2.

Downstream transportation and distribution

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation
NRG is primarily a wholesale power generator and we do not own any transmission or distribution lines.

Processing of sold products

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation
NRG is primarily a wholesale power generator. This category pertains mainly to financial institutions.

Use of sold products

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation
In 2017, NRG remained primarily a wholesale power generator. 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.

End of life treatment of sold products

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation
NRG is primarily a wholesale power generator. 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

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation
NRG is primarily a wholesale power generator. NRG has some rental properties that we sublet but these are not relevant to our primary business

Franchises

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology
NRG does not own franchises.

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

Explanation

Investments

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation
NRG defines investments as financial transactions. Scope 1 carbon dioxide 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

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Other (downstream)

Evaluation status
Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

C6.7

(C6.7) Are carbon dioxide emissions from biologically sequestered 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
0.00482

Metric numerator (Gross global combined Scope 1 and 2 emissions)
51229000

Metric denominator
unit total revenue

Metric denominator: Unit total
10629000000

Scope 2 figure used
Location-based

% change from previous year
2.8

Direction of change
Decreased

Reason for change
The primary factor leading to the decreased emissions intensity include reductions in fleet wide annual net generation due to a continued market-driven shift towards increased generation from natural gas over coal. 2016 scope 1 global and scope 2 emissions were approximately 52 mmt CO2e. 2016 revenue was $10,512 million. (GenOn assets removed.)
52,000,000/10512000000=.00496. .00482/.00496-1*100=2.8

Intensity figure
0.65

Metric numerator (Gross global combined Scope 1 and 2 emissions)
51229000

Metric denominator
megawatt hour generated (MWh)

Metric denominator: Unit total
78000000

Scope 2 figure used
Location-based

% change from previous year
0

Direction of change
No change

Reason for change
The primary factor leading to the static emissions intensity include a similar fleet performance and fuel mix from 2016 to 2017. 2016 wholesale generation was 80,000,000 MWh. (Excluding GenOn) 2016 Scope 1 and 2 emissions were 52,000,000.
52000000/80000000=.65

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization have greenhouse gas emissions other than carbon dioxide?
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
CH4	116250	Other, please specify (Mandatory GHG Reporting Tule, 40 CFR Par) *Mandatory GHG Reporting Rule, 40 CFR Part 98, Table C-1*
N2O	198750	Other, please specify (Mandatory GHG Reporting Rule, 40 CFR Par) *Mandatory GHG Reporting Rule, 40 CFR Part 98, Table C-1*
CO2	50685000	Other, please specify (Mandatory GHG Reporting Rule, 40 CFR Par) *Mandatory GHG Reporting Rule, 40 CFR Part 98, Table C-1*

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)	Gross Scope 1 emissions (metric tons CO2e)	Comment
Fugitives	0	0	0	0	
Combustion (Electric utilities)	50685000	116250	0	51000000	Values have been rounded
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*	48000000
Australia *Values have been rounded*	2912000
Turkey *Values have been rounded*	511000

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	51000000

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 generation activities	51000000	<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 (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>

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
United States of America	229000	0	0	0

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
NRG Wholesale	229000	0

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?

Decreased

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	0	Please select	0	
Other emissions reduction activities	0	Please select	0	
Divestment	0	Please select	0	
Acquisitions	0	Please select	0	
Mergers	0	Please select	0	
Change in output	1000000	Decreased	2	2016 Global Scope 1 and 2 = 52000000 2017 Global scope 1 and 2 = 51000000 (52000000-51000000)/51000000=.019 Scope 1 and 2 totals are rounded.
Change in methodology	0	Please select	0	
Change in boundary	0	Please select	0	
Change in physical operating conditions	0	Please select	0	
Unidentified	0	Please select	0	
Other	0	Please select	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 0% but less than or equal to 5%

C8.2

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

	Indicate whether your organization undertakes this energy-related activity
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	Yes
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 MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	0	171734901	171734901
Consumption of purchased or acquired electricity	<Not Applicable>	0	473858	473858
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	0	0	0
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>	0	0	0

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 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.

Fuels (excluding feedstocks)

Bituminous Coal

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization
62144947

MWh fuel consumed for the self-generation of electricity
4286622

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>

Fuels (excluding feedstocks)
Subbituminous Coal

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
63086896

MWh fuel consumed for the self-generation of electricity
4729096

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>

Fuels (excluding feedstocks)
Fuel Oil Number 2

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
64218

MWh fuel consumed for the self-generation of electricity
3210

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>

Fuels (excluding feedstocks)
Fuel Oil Number 6

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
364113

MWh fuel consumed for the self-generation of electricity
18206

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>

Fuels (excluding feedstocks)
Natural Gas

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
46022224

MWh fuel consumed for the self-generation of electricity
2301111

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>

Fuels (excluding feedstocks)
Kerosene

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
52503

MWh fuel consumed for the self-generation of electricity
2625

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>

C8.2d

(C8.2d) List the average emission factors of the fuels reported in C8.2c.

Bituminous Coal

Emission factor
0.94

Unit
metric tons CO2e per MWh

Emission factor source
measured unit emissions and generation

Comment

Fuel Oil Number 2

Emission factor
1.49

Unit
metric tons CO2e per MWh

Emission factor source
measured and estimated unit emissions and generation

Comment

Fuel Oil Number 6

Emission factor
1.04

Unit
metric tons CO2e per MWh

Emission factor source
measured and estimated unit emissions and generation

Comment

Kerosene

Emission factor
0.65

Unit
metric tons CO2e per MWh

Emission factor source
measured and estimated unit emissions and generation

Comment

Natural Gas

Emission factor
0.65

Unit
metric tons CO2e per MWh

Emission factor source
measured unit emissions and generation

Comment

Subbituminous Coal

Emission factor
1.1

Unit
metric tons CO2e per MWh

Emission factor source
measured unit emissions and generation

Comment

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	79666494	4126636	10680770	0
Heat	0	0	0	0
Steam	1145703	0	0	0
Cooling	780335	0	0	0

C-EU8.2e

(C-EU8.2e) 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)
8381

Gross electricity generation (GWh)
39898615

Net electricity generation (GWh)
37028993

Absolute scope 1 emissions (metric tons CO2e)
38061172

Scope 1 emissions intensity (metric tons CO2e per GWh)
1027.9

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)
3829

Gross electricity generation (GWh)
350590

Net electricity generation (GWh)
319227

Absolute scope 1 emissions (metric tons CO2e)
129022

Scope 1 emissions intensity (metric tons CO2e per GWh)
978.9

Comment

Gas

Nameplate capacity (MW)
14135

Gross electricity generation (GWh)
18768654

Net electricity generation (GWh)
18005552

Absolute scope 1 emissions (metric tons CO2e)
10022498

Scope 1 emissions intensity (metric tons CO2e per GWh)
647.9

Comment

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)
1136

Gross electricity generation (GWh)
9967865

Net electricity generation (GWh)
9509343

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

Hydroelectric

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)

Comment

Wind

Nameplate capacity (MW)
2853

Gross electricity generation (GWh)
7693087

Net electricity generation (GWh)
7693087

Absolute scope 1 emissions (metric tons CO2e)
0

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

Comment

Solar

Nameplate capacity (MW)
1843

Gross electricity generation (GWh)
2987683

Net electricity generation (GWh)
2987683

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)
32177

Gross electricity generation (GWh)
79666494

Net electricity generation (GWh)
75543885

Absolute scope 1 emissions (metric tons CO2e)
48212692

Scope 1 emissions intensity (metric tons CO2e per GWh)
916.1

Comment
US generating facilities only

C8.2f

(C8.2f) Provide details on the electricity, heat, steam and/or cooling amounts that were accounted for at a low-carbon emission factor in the market-based Scope 2 figure reported in C6.3.

C-EU8.4

(C-EU8.4) Does your electric utility organization have a global 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 total planned CAPEX in your current CAPEX plan for power generation.

Primary power generation source	CAPEX planned for power generation from this source	Percentage of total CAPEX planned for power generation	End year of CAPEX plan	Comment
Coal – hard	184546000	26	2022	
Oil	51353000	7	2022	
Gas	308262000	44	2022	
Nuclear	39590000	6	2022	excludes capital fuel
Wind	111872000	16	2022	
Solar	5290000	1	2022	

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 *This product is more accurately described as asset-backed distributed energy. CAPEX is not publicly available for a specific product/service.*	An integrated provider of supply and distributed energy resources, NRG's 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. For example, 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. Commercial customers that already have a Cummins generator on-site can still benefit, as they will also gain the power of NRG's customer support team and AMP, both of which can be utilized to set and meet energy goals, as well as shed light on potential energy savings opportunities. 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.	0	0	2018

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

(C-CO9.6/C-EU9.6/C-OG9.6) Disclose your investments in low-carbon research and development (R&D), equipment, products, and services.

Investment start date
January 1 2017

Investment end date
December 31 2017

Investment area
Products

Technology area
Digital technology

Investment maturity
Full/commercial-scale demonstration

Investment figure
0

Low-carbon investment percentage
0

Please explain
In 2017, NRG publically announced its new SpaceTag platform to the market to optimize distributed energy resources. Using technology built in-house, the SpaceTag platform determines the compatibility of different buildings across a target region for distributed energy products by harvesting, synthesizing and analyzing data for business locations to automatically identify the best solutions for each customer, making the potential customer identification and acquisition process more accurate and efficient. SpaceTag uses data about the physical attributes of the building, how it's used, and its existing energy data, to create a profile of its energy performance. It also assesses its location in relation to the power grid, from the distribution feeder level all the way up to the grid operator level. Finally, SpaceTag uses data on the distributed energy equipment itself -- its capital cost, the associated costs of providing generation and demand-reduction attributes over time, and the optimal mix of each technology choice on the building and portfolio level. Once deployed, the same data analytics platform can help it monitor the technical operations, and ultimately, the financial performance. The first use case of this is for Southern California Edison's (SCE) 5.2 million customer service territory. NRG is using SpaceTag to gather 60 megawatts of flexible clean energy capacity for SCE as part of SCE's 2014 disctributed energy procurement plan. NRG had already laid out its three main technology offerings to meet its SCE commitments, making Thursday's list unsurprising. First, it's working with startup Ice Energy to install up to 25 megawatts of its ice-making, load-shifting air conditioning systems. Second, it's teaming up with Lockheed Martin Energy to achieve up to 30 megawatts of peak load reduction through commercial HVAC, industrial refrigeration, process cooling, compressors and lighting. Third, it's launching a demand response program aimed at 5 megawatts of commercial and industrial load. The investment figure and low-carbon investment percentage is confidential.

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 and/or Scope 2 emissions and attach the relevant statements.

Scope
Scope 1

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
2017-independent-accountants-report-review-nrg.pdf

Page/ section reference
Page 2

Relevant standard
Attestation standards established by AICPA (AT105)

Proportion of reported emissions verified (%)
100

Scope
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
2017-independent-accountants-report-review-nrg.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 3 emissions and attach the relevant statements.

Scope
Scope 3- at least one applicable category

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Attach the statement
2017-independent-accountants-report-review-nrg.pdf

Page/section reference
Page 2

Relevant standard
Attestation standards established by AICPA (AT105)

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, we do not verify any other climate-related information reported in our CDP disclosure

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
RGGI

C11.1b

(C11.1b) Complete the following table for each of the emissions trading systems in which you participate.

California CaT

% of Scope 1 emissions covered by the ETS
5

Period start date
January 1 2017

Period end date
December 31 2017

Allowances allocated
0

Allowances purchased
2404176

Verified emissions in metric tons CO2e
2478826

Details of ownership
Facilities we own and operate

Comment
Does not include GenOn assets. Total US Scope 1 emissions rounded to 48,000,000 metric tons CO2e.

RGGI

% of Scope 1 emissions covered by the ETS
3

Period start date
January 1 2017

Period end date
December 31 2017

Allowances allocated
0

Allowances purchased
1268489

Verified emissions in metric tons CO2e
1296350

Details of ownership
Facilities we own and operate

Comment
Does not include GenOn assets. Total US Scope 1 emissions rounded to 48,000,000 metric tons CO2e.

C11.1d

(C11.1d) What is your strategy for complying with the systems in which you participate or anticipate participating?

NRG's strategy involves complying through purchasing allowances.

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
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

Potential applications for the use of an internal carbon price include capital expenditure, operations, risk assessment, product and investment decisions. For example, NRG conducts scenario analysis that includes carbon pricing as part of our prudent financial risk assessment. Scopes 1, 2 and 3 are considered in this scenario analysis although the majority of NRG's footprint is Scope 1 from our power generating facilities. In this sense, current and potential carbon pricing is embedded into management decision-making processes. As NRG operates primarily in the United States, this price varies given political administrations and proposed legislation as well as the fluctuating price of oil and natural gas. The price of carbon is determined internally by Commercial Operations.

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

0

Variance of price(s) used

The price of carbon used in these analyses is confidential. As NRG operates primarily in the United States, this price varies given political administrations and proposed legislation as well as the fluctuating price of oil and natural gas. The price of carbon is determined internally by Commercial Operations.

Type of internal carbon price

Shadow price

Impact & implication

One example of how carbon pricing affects investment decisions is the shift toward investment in diversified retail products and carbon capture technologies. NRG's business strategy addresses long and short term risks and opportunities and aims to reduce the company's own GHG risks and those of its customers. In the long term, we believe 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 customer-facing energy products and services including smart grid services, nationwide retail green electricity and unique retail sales channels involving loyalty and affinity programs; and construction of other forms of on-site clean power generation. In the short term, our strategy is designed to mitigate risks including climate risks.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers
Yes, our customers
Yes, other partners in the value chain

C12.1a

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

Type of engagement
Information collection (understanding supplier behavior)

Details of engagement
Collect climate change and carbon information at least annually from suppliers

% of suppliers by number
25

% total procurement spend (direct and indirect)
90

% Scope 3 emissions as reported in C6.5
75

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 and water performance. In 2017 the suppliers were selected based on those representing 90% of supply chain spend.

Impact of engagement, including measures of success
Non-monetary incentives included opportunities for recognition in NRG communications and potential partnerships for collaboration to further reduce environmental impact. Success is measured by tracking against our goal to receive CDP GHG and water disclosure from 80% of our major suppliers by 2020. In 2017 we received GHG data from 34% of major suppliers

Comment

C12.1b

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

Type of engagement
Education/information sharing

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

Size of engagement
25

% Scope 3 emissions as reported in C6.5
0

Please explain the rationale for selecting this group of customers and scope of engagement
The percentage of customers engage varies by type of engagement. Due to the varying nature of the engagements within different NRG businesses, the percentage of scope 3 emissions are not able to be calculated at this time. 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 vary 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
NRG's website provides many insightful blogs and white papers for current and potential customers. On the website are also a list of events where NRG subject matter experts will be attending or speaking. This is an ongoing engagement across multiple businesses. For details visit: https://www.nrg.com/insights/sustainability.html The measurement of success and impact of engagement is variable and difficult to track. NRG may track the number of downloads of a white paper or clicks on a certain blog. Anecdotal evidence of success campaigns include feedback received from business partners and asking new customers why they chose NRG for their energy solutions.

C12.1c

(C12.1c) Give details of your climate-related engagement strategy with other partners in the value chain.

NRG interprets 'other partners in the value chain' as suppliers, investors, NGOs, communities and other key stakeholders.

In 2017, we engaged stakeholders in our supply chain and analyzed best practices for responsible sourcing within the energy sector and the broader economy. Our research is informing what new responsible sourcing principles can supplement our existing supplier code of conduct and is also intended to yield actionable insights across our sector. For example, natural gas is a key focus area in our supply chain. 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. 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. 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 continues to be an active member in the Natural Gas Supply Collaborative.

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

Direct engagement with policy makers
Trade associations
Funding research organizations

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Clean energy generation	Support	NRG has engaged by meeting directly with policymakers in Washington and indirectly through groups such as the American Council on Renewable Energy (ACORE), the Renewable Energy Markets Association the US Partnership for Renewable Energy Finance (USPREF), the Electric Power Supply Association, and various informal organizations. NRG collaborates where possible with major environmental groups on clean energy and climate solutions. (NRDC, EDF, TNC, NWF).	NRG supports meaningful Congressional and regulatory actions to mitigate GHG emissions, and supports policies that foment the development and deployment of competitive low-carbon power generation technologies. To this end, NRG has actively engaged in EPA GHG rule development by working with other companies, the EPA and states to develop appropriate frameworks for use under section 111(d) of the Clean Air Act. Previously, NRG supported climate change legislation and incentives for clean energy solutions. NRG also engages with local and national environmental groups to seek feedback on new business initiatives and collaborate on ways to work together for the environment, such as through exclusive renewable energy product offerings for members.
Other, please specify (GHG regulation)	Support	NRG has engaged by meeting directly with policymakers in Washington and indirectly through groups such as the Electrification Coalition, which supports policies promoting electric vehicles, Resource for the Future, which conducts prominent economic studies on national climate policies; Princeton University Adglinger Center for Energy and the Environment, which develop solutions and inform policies through researches in engineering and economics. Green Mountain Energy continues to support the future of clean energy and the smart grid as a sponsor and active participant in the nationally acclaimed Pecan Street Project. Pecan Street Inc. is a research and development organization focused on developing and testing advanced technology, business model and customer behavior surrounding advanced energy management systems.	NRG believes in economically efficient and innovation-driving policies to support competitive clean energy generation. NRG is an active thought leader on policies aimed at supporting both utility-scale renewables and customer-facing, distributed energy technologies like rooftop solar. NRG recognizes the benefits afforded by policies like the investment tax credit, retail net energy metering.

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association
Electric Power Supply Association (EPSA)

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
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/.

How have you, or are you attempting to, influence the position?
NRG participates in meetings and conferences with trade groups and organizations similar to SEIA and EPGA to engage in dialogue on policy solutions.

Trade association
Solar Energy Industries Association (SEIA)

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
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/

How have you, or are you attempting to, influence the position?
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.

C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?
Yes

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

The development of all significant policy positions are coordinated through appropriate senior management. ensuring overall consistency with NRG's climate change management strategy. All NRG's policy positions that are published or disclosed go through a consistent review process involving NRG's Investor Relations, Legal, Marketing and Communication teams.

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 voluntary sustainability report

Status
Complete

Attach the document
2017-nrg-sustainability-report.pdf

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

Publication
In other regulatory filings

Status
Complete

Attach the document
2017_NRGEnergyInc.pdf

Content elements
Strategy
Risks & opportunities
Emissions figures
Emission targets

Publication
In voluntary communications

Status
Complete

Attach the document
July NRG ESG Investor Deck_vF.pdf

Content elements
Governance
Strategy
Emissions figures
Emission targets
Other metrics

C14. 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.

C14.1

(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Chief Sustainability Officer	Chief Sustainability Officer (CSO)

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms