NRG.COM

2020 TCFD Report



NRG's report following the guidelines of the Task Force on Climate-related Financial Disclosures

December 2021

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View from our Chairman

Providing guidance and oversight for NRG's approach to Environmental, Social, and Governance issues is an important Board priority. We know our stakeholders' expectations on climate change are increasing, and we are committed to helping achieve a lower-carbon future. Demonstrating our commitment to greater transparency and disclosure, in 2017, NRG formally expressed support for the recommendations set forth by the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD), and I am pleased to introduce our inaugural TCFD report. This report is a comprehensive view of our business and the potential risks and opportunities created by climate change, as well as strategies for managing them. We look forward to continuing the conversation and value your feedback.

Lawrence S. Coben

Chairman of the Board

Foreword from our President and CEO

I am pleased to share NRG's inaugural Task Force on Climate-related Financial Disclosures (TCFD) report. This report is a key part of our commitment to disclose our climate-related governance, strategy, risk management, and metrics and targets – as well as our progress to meeting our targets. At NRG, we have long recognized the urgency of climate change and have harnessed market-driven solutions to help address both the challenges and opportunities. We also believe in providing transparency to our stakeholders on our approach to managing climate-related impacts across our business and operations. Our inaugural TCFD Report provides an overview of our strategy and approach to climate-related risks and opportunities, including how the management and oversight of climate change matters are integrated across our business. We are proud to be a pioneer in the energy industry as it transitions to a low carbon future and I invite you to share your thoughts with me as we progress on this journey.

Mauricio Gutierrez

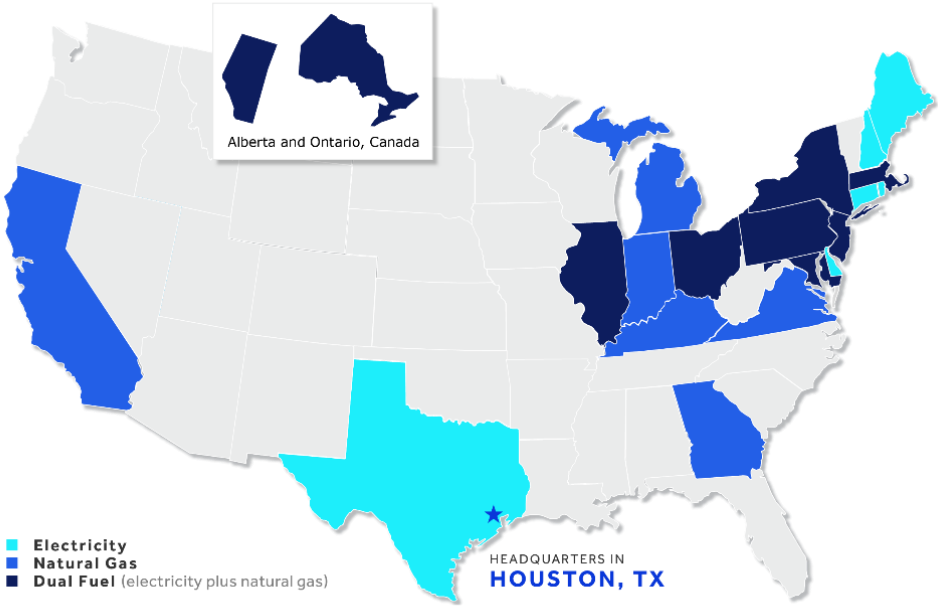
President and Chief Executive Officer

About NRG[1]

At NRG, we're bringing the power of energy to people and organizations by putting customers at the center of everything we do. We generate electricity[2] and provide energy solutions and natural gas to millions of customers through our diverse portfolio of retail brands. A Fortune 500 company, operating in the United States and Canada, NRG delivers innovative solutions while advocating for competitive energy markets and customer choice, working toward a sustainable energy future.

Figure 1 depicts the U.S. states and Canadian provinces in which NRG operates and the products and services we provide in each, as well as some quick facts about our business and operations.

Figure 1: NRG Overview



*Home Services across all states

~6 MM HOME CUSTOMERS

150 K BUSINESS CUSTOMERS[1]

914 MMDth NATURAL GAS[2]

152 TWh ELECTRICITY[2]

14 GW GENERATION CAPACITY[3]

~7,000 FULL -TIME EMPLOYEES

OVER **$20 B** REVENUE

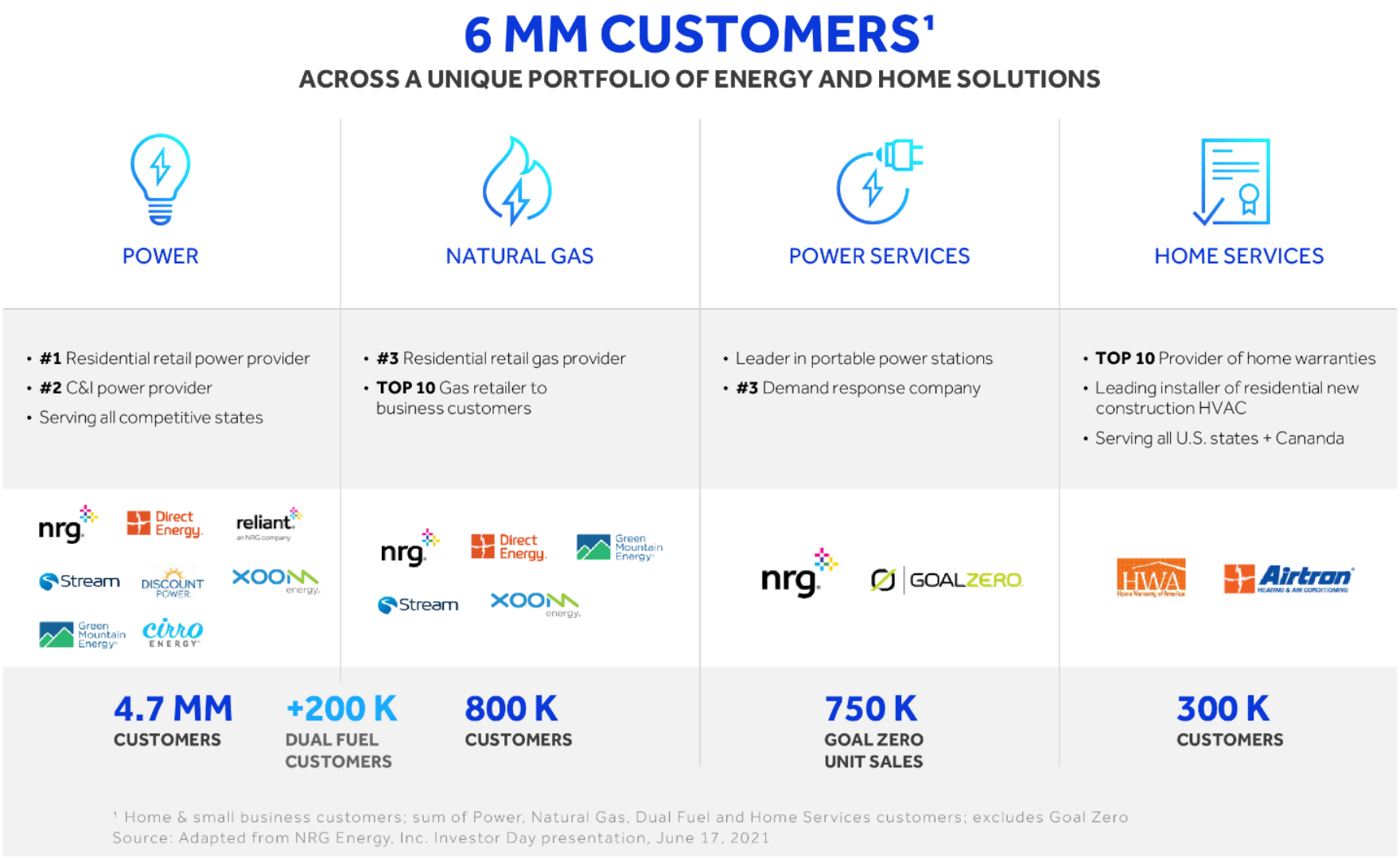
[1] Excludes small business customers; [2]See slide 21, 4Q2020 Earnings deck; [3] Excludes 7 GW of contracted supply. See NRG June 2021 Investor Day deck for details

[1]On January 5, 2021, NRG Energy closed its acquisition of Direct Energy (DE). Given that work on this report began in late 2020, the timing of the DE acquisition in early 2021, and the desire to publish our inaugural TCFD report in 2021, the scope of this report includes NRG as disclosed in its 2020 10-K Annual Report as well as certain information for Direct Energy, where available. However, this report does not fully account for DE's impact on NRG's current climate risks and opportunities. An update to this report, incorporating legacy DE, will be published in the future, once the integration process is complete and the requisite data from legacy DE are available.

[2] 21 GW supply portfolio is comprised of 14 GW of U.S. generation assets and 7 GW of contracted supply. 14 GW is *pro forma* for announced asset sales and retirements as of June 30, 2021 and excludes our leased assets Cottonwood and Arthur Kill as well as equity ownership interests.

Figure 2 further describes our portfolio of products and services, the brands through which we go to market, as well as our customer base and competitive position in the markets we serve.

Figure 2: NRG's Portfolio of Products, Services, and Brands



Introduction

At NRG, we have long recognized the urgency of climate change and have worked to harness market-driven solutions to help address the challenge. We also believe in providing transparency on our approach to managing climate-related impacts across our business and operations. Our Sustainability Report, Form 10-K, Proxy Statement, Sustainability-Linked Bond Framework, investor presentations, CDP Climate submissions, and SASB reporting among other disclosures have documented various dimensions of our approach. Our inaugural Task Force on Climate-related Financial Disclosures (TCFD) Report provides an overview of our strategy and approach to climate-related risks and opportunities, including how the management and oversight of climate change matters are integrated across our business. This report also details the initial steps we have undertaken on quantitative climate risk scenario analysis to understand the impact of carbon pricing as a transition risk. Climate change is highly complex, and it is inherently difficult to project how related financial risks will materialize across both the global economy and markets. In addition, climate scenario analysis is relatively new and evolving rapidly, including with respect to underlying assumptions, methodologies, and data. As such, this report represents the first step in our journey, a commitment to deepening our understanding of, and managing our approach to, climate-related risks and opportunities over time[3].

NRG has a longstanding commitment to sustainability transparency and disclosure. We follow the leading globally accepted frameworks and standards to provide decision-useful information to our stakeholders. In 2017, we were one of the first companies to publicly support the TCFD recommendations and, in late 2018, we engaged a third-party to improve our future thinking capability, including qualitative climate scenario analysis. 2020 also marked the fifth year we publicly disclosed non-financial data using the Sustainability Accounting Standards Board (SASB) standards. Where feasible, we strive to align our sustainability reporting to both SASB and TCFD. Content for this document was derived with guidance from the TCFD Knowledge Hub[4] as well as the CDP Climate Risk Questionnaire, and SASB's Climate Risk Technical Bulletin[5]. As frameworks and standards continue to evolve and harmonize, and as our business changes, we will stay engaged with stakeholders and adapt our ESG and sustainability reporting accordingly. Given that this document is solely focused on climate risks and opportunities, this inaugural TCFD report is intended to be read in conjunction with NRG's aforementioned numerous other reports, disclosures, and filings to provide a more holistic and complete view of the company[6].

[3] Quantitative transition risk scenario analysis was started in late 2020. As this report was compiled, updated guidance on TCFD reporting was issued, including the *2021 TCFD Status Report* (https://www.tcfdhub.org/resource/) and *2021 Annex (*https://www.sasb.org/wp-content/uploads/2021/04/Climate-Risk-Technical-Bulletin2021-041221pm.pdf), both of which were published in October of 2021. Apart from additional guidance on physical risk scenario analysis – which is not included in this report, but which NRG intends to begin in 2022 – our review of these recent guidance documents did not reveal material gaps in our report outline compared to prior TCFD guidance.

[4] https://www.tcfdhub.org/resource/

[5] https://www.sasb.org/wp-content/uploads/2021/04/Climate-Risk-Technical-Bulletin2021-041221pm.pdf

[6] Please see https://www.nrg.com/sustainability/reporting.html for NRG's sustainability-related disclosures, https://investors.nrg.com/nrg-presentations-and-webcasts for NRG investor presentations, https://investors.nrg.com/financial-information/sec-filings for NRG filings to the U.S. Securities and Exchange Commission (SEC), and https://investors.nrg.com/fixed-income for NRG's sustainability-linked finance-related disclosures.

Governance [CDP-C1]

TCFD RECOMMENDATION

Disclose the organization's governance around climate-related risks and opportunities.

- Describe the board's oversight of climate-related risks and opportunities.
- Describe management's role in assessing and managing climate related risks and opportunities.

Board Oversight [CDP-C1.1]

NRG's Board of Directors has responsibility for overall risk oversight, which includes understanding the material risks of the business and what steps management is taking or should take to manage those risks, as well as understanding and determining the appropriate risk appetite for the company. To define NRG's risk appetite, the Board reviews and approves the annual budget and longer-term plan, strategic initiatives, material acquisitions and divestitures, and capital allocation plan. Climate-related issues are considered to the extent they are material. The Board may incorporate climate-related issues into relevant strategic decisions, particularly those related to power generating assets and to customer preferences.

Since 2016, the Governance and Nominating (G&N) Committee of NRG's Board of Directors has formally overseen sustainability at the company. The rationale for formalizing Board oversight of climate-related issues is that the Board is ultimately responsible for ensuring that all material risks to the company are mitigated, as well as for guiding the company's pursuit of significant business opportunities. The G&N Committee reviews NRG's strategies and efforts to manage its environmental, economic, and social impacts, including, but not limited to, NRG's environmental, climate change, and sustainability policies and programs. As of 2018, sustainability has been an agenda item at a full Board meeting at least once per annum and, in addition, is discussed separately by the G&N Committee at least once per annum. Sustainability is addressed in every quarterly earnings presentation and is part of project and transaction reviews. The skills matrix[7] of specific qualifications that the Governance and Nominating Committee and the Board believe should be represented on the Board includes: "*Environmental/Sustainability*: *Understands and assesses the impact and influence of environmental / sustainability issues on the company's business strategy.*" Currently, five of our eleven directors (45%) meet this qualification through their respective previous experiences. Complete information about committee composition can be in found in the 2020 Proxy Statement.

The Chief Sustainability Officer (CSO) presents key strategic priorities to the Board during scheduled meetings throughout the fiscal year. For example, in 2019, the Board reviewed and approved NRG's accelerated greenhouse gas (GHG) emissions reduction goal to halve emissions by

[7] https://investors.nrg.com/static-files/f85e0aa4-ef80-4022-924f-cbc14ea8eefb

2025 relative to our current 2014 baseline and to achieve net-zero by 2050 so that NRG's climate goals are 1.5 degree Celsius-aligned.[8]

Figure 3A depicts how NRG's full Board and its four committees oversee sustainability, including the nature and frequency of updates that each receives.

Figure 3A: NRG ESG Governance – Board of Directors

		Oversight Responsibilities	Selected ESG Topics Addressed Annually[1]
Board		• Overall oversight of ESG risks and opportunities, and integration of ESG risks and opportunities into the Company's long-term strategy • Annual sustainability update and review of Sustainability Report • Certain responsibilities delegated to board committees for more ***in-depth*** review and analysis	• Climate strategy, goals, and progress • Diversity, equity, and inclusion • COVID-19, safety, and well-being • Cybersecurity and data analytics • Community relations and philanthropy • Incorporating ESG into compensation (annual incentives, retirement plan)
Committees	Audit	• Oversight of ESG disclosure and processes and controls to ensure disclosures are accurate, consistent, and comparable	• Quarterly review of disclosure in Form 10-K/Qs and earnings releases
	Compensation	• Oversight of accountability for ESG goals and the talent and management succession to execute the ESG strategy	• Review of executive compensation program and succession planning for senior management
	Governance and Nominating	• Oversight of ESG engagement, board composition, and ongoing board education on ESG matters	• Annual sustainability update and review of political spending • Ongoing Board refreshment and director onboarding program
	Finance and Risk Management	• Oversight of risk assessment of material ESG risks such as climate change	• Review of new and emerging risks
Effective governance structure oversees the Company's ESG strategy			

[1] Not intended to provide exhaustive list of specific ESG topics addressed

[8] See https://investors.nrg.com/news-releases/news-release-details/nrg-accelerates-emissions-reduction-goals-align-15c-trajectory.

Executive Management [CDP-C1.1]

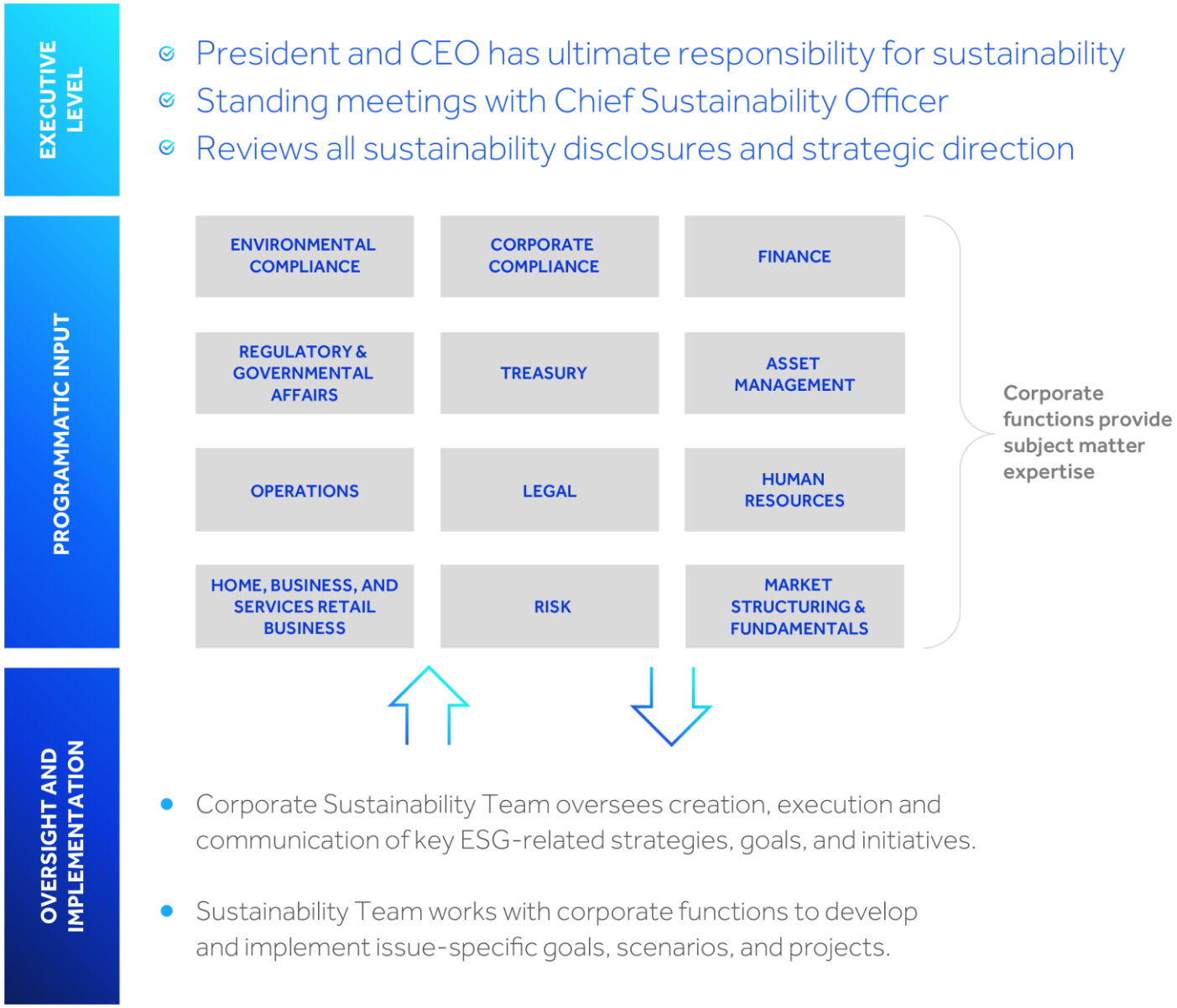
NRG's President and CEO has overall responsibility for the company's climate change-related issues and management, including creating and approving emissions reduction goals. The CEO reviews all sustainability-related strategies, goals, targets, and metrics, which are then reviewed and approved by the Company's G&N Committee and the full Board of Directors. The CEO is directly involved with creating and approving NRG's emissions reductions goals. For example, in 2019, the CEO made the previously described decision to accelerate NRG's emissions reduction goals to be in line with a 1.5 Celsius degree trajectory.

The position of CSO was formalized in 2013 as the strategic importance of sustainability was recognized, as was the need for sustainability to be integrated across the business. NRG's CSO reports to the SVP, Administration, Chief Compliance Officer & Chief of Staff, who reports to the Chief Executive Officer. The CSO also maintains a direct line of communication to the CEO through standing one-on-one meetings. The CSO leads the development and implementation of all sustainability-related strategies and programs and is responsible for the development of NRG's climate change policy positions and coordination between policy and commercial initiatives. This includes drafting and publishing NRG's climate-related transition documents, engaging with investors and analysts on integrating ESG factors into reporting practices, and advising on both business-to-business and business-to-consumer low carbon energy solutions. The CSO is responsible for monitoring progress toward NRG's science-based climate targets[9] to reduce absolute GHG emissions 50% by 2025 relative to our current 2014 baseline and to reaching net zero by 2050, and for monitoring megatrends in the power sector and relating those to the business. Climate-related issues are also monitored on an ongoing basis through conversations with NRG's risk, regulatory affairs, legal, retail and operations departments. Finally, the CSO attends the company's quarterly Financial Risk Management Committee meetings and the company's Financial Statement Drafting and Disclosure Committee. Each of these committees addresses climate risks that have been identified through ongoing third-party research as well as from internal monitoring of such risks.

Figure 3B depicts the governance of sustainability within NRG and, in particular, illuminates the multi-disciplinary, cross-functional nature of Sustainability's workflow.

[9] NRG's accelerated GHG goals were certified as 1.5 degree Celsius-aligned on March 11, 2021 by the Science-based Targets initiative.

Figure 3B: NRG ESG Governance – Company



Science-Based Target

In 2014, NRG established industry-leading GHG reduction goals and, in 2015, we became one of the first ten companies globally to have our decarbonization goals validated as 2 degrees Celsius-aligned by the Science Based Targets initiative (SBTi). In 2019, NRG announced the acceleration of these GHG emissions reduction goals to align with new United Nations Intergovernmental Panel on Climate Change (IPCC) guidance, which calls for limiting global warming to 1.5 degrees Celsius in the post-industrial era. We are now targeting a 50% reduction by 2025 from our current 2014 baseline and net-zero emissions by 2050. Our goal covers all of NRG's direct emissions (scope 1), all our purchased energy (scope 2), and the employee business travel portion of scope 3. As of December 31, 2020, we had reduced our cumulative emissions by 55% relative to our current 2014 baseline.[10] The decrease is attributed to reductions in fleet-wide annual net generation, a market-driven shift away from coal as a primary fuel to natural gas, and in 2020 reduced demand as a result of the COVID-19 pandemic. We believe the 2020 emissions level may change as the demand for electricity recovers from the impact of COVID-19. NRG is continuing to target a 50% reduction by 2025 and is on track to meet that goal. We are proud to have had our emissions reduction targets approved by SBTi — first in 2015 as previously mentioned, when our goals were declared to be 2 degrees Celsius-aligned, and more recently in March 2021 when our current goal was declared to be 1.5 degrees Celsius-aligned, the most ambitious designation currently available and what the latest climate science has told us is needed to prevent the most damaging effects of climate change. NRG is the first power company in North America to achieve this designation and was among only twelve globally at the March 2021 date of certification.

Sustainable Finance

In December 2020, NRG completed the issuance of $900 million in senior secured first lien notes in a landmark issuance, pioneering the first sustainability-linked bond (SLB) in North America, and the first issued by any energy company outside Europe. In concert with our acquisition of Direct Energy, the SLB supports our effort to pursue growth, achieve our climate transition strategy, and bring increasing value to our stakeholders. As a complement to the sustainability-linked pricing metric added to the NRG corporate credit agreement in 2019, the issuance of the SLB aligns our business and financing with commitments and values by creating a direct link between climate and funding strategies. The SLB links attractive financing to the realization of previously announced goals to achieve a 50% reduction of absolute greenhouse gas (GHG) emissions by 2025 from our current 2014 baseline and reach net-zero GHG emissions by 2050. To learn more about how the bond fit our strategy and brings our sustainability and financial goals together, read our SLB Framework here. In August 2021, NRG used this same SLB Framework to issue a $1.1 B sustainability-linked note (SLN).

Previously, in 2019, NRG became the second U.S.-based power company to engage in an ESG-linked loan. This Sustainability Linked Loan (SLL) or ESG loan embeds a pricing mechanism linked to specific sustainability metrics. Although our $2.6 billion SLL was only the third

[10] See page 75 of NRG's 2020 Sustainability Report for annual data over 2014-2020.

such transaction for a U.S. power company, demand is growing for this type of financing, which emphasizes a potential increased access to capital by demonstrating strategic long-term planning incorporating corporate responsibility. More information about our SLL can be found here.

Incentives Provided for the Management of Climate-Related Issues

For Plant Operations employees including the Management Group: Compensation of NRG's power plant personnel is, in part, based on environmental key performance indicator (EKPI) scores. Factors that affect the EKPI are environmental performance at plants (which is measured based on a number of leading and lagging parameters such as permit deviations, notices of violation, and reportable spills), environmental reporting, and the econrg projects that can reduce GHGs in the community or plant. To address climate change, the EKPI score also takes into account the accuracy of continuous emissions monitoring systems (CEMS) and whether a plant has complied with regulatory requirements such as the EPA's Mandatory Greenhouse Gas Reporting Rule (40 CFR Part 98). EKPI's are reported to the Board of Directors on a quarterly basis.

For Named Executive Officers (NEOs): As described in NRG's 2020 Proxy Statement, the Compensation Committee of NRG's Board of Directors designs and implements an executive compensation program that complements and advances NRG's Power Values, which are an integral part of our company culture. One of our Power Values is safety and well-being, and part of this objective includes expanding our sustainable workplace initiatives, which include climate initiatives (please see pages 46 and 49 of the 2020 Proxy Statement). For NEOs, which include the CEO, CFO, and the leaders of our major businesses, annual incentive compensation is based on a number of financial performance metrics as well as achievement of certain company goals. During 2020, such company goals included creating a company culture that promotes and fulfils our Power Values. NRG's Board Compensation Committee assessed the performance of each NEO relative to meeting our Power Values and was able to adjust his / her annual incentive plan compensation by a modifier of +/- 20% (please see pages 52-53 of the 2020 Proxy Statement).

NRG's Board of Directors is currently considering the addition of one or more ESG metrics to the Company's Annual Incentive Plan (AIP), which governs the annual bonuses paid to employees.

Just Transition

As part of our commitment to the Paris Climate Agreement, we acknowledge the imperative of providing decent work and quality jobs in the power sector throughout the energy transition and the decarbonization of our traditional fossil-fired power generation operations. In the event of a large downsizing at a plant (or a plant closure) our Plant Operations leadership, in concert with our Human Resources team, proactively ensures that employees are aware of the upcoming changes with as much notice as possible and are made aware of all options available to them during the transition. This

includes bargaining and meeting with union leadership, if applicable, on the effects of the transition, meeting with all impacted employees to assess if they are interested in another role at NRG, ensuring impacted employees are aware of job openings at the company, giving preference to displaced qualified internal employees for open roles at other plants, and, when the employee is willing, offering to relocate impacted employees to take those roles. In addition, NRG offers outplacement services, resume writing skills workshops, and tuition assistance for retraining.

Strategy [CDP-C2, C3]

TCFD RECOMMENDATION

Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's business, strategy, and financial planning where such information is material.

- Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.
- Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning
- Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

Sustainability at NRG

Figure 4: NRG Sustainability Strategy



Sustainability is an integral part of NRG's foundation and aligned with our Power Values, business strategy, and purpose

Sustainability is a philosophy that underpins and facilitates value creation across our business for our stakeholders. It is an integral piece of our corporate strategy and ties directly to business success, reduced risk, and enhanced reputational value. Our sustainability strategy spans five comprehensive key pillars – business, customers, workplace, operations, and suppliers – that help embed sustainability into the culture and fabric of our organization.



Sustainable Business

This pillar guides our Company in the foundational aspects of strong sustainability leadership in areas including governance, transparency, reporting, and stakeholder engagement.



Sustainable Customers

A key aspect of our strategy is providing relevant solutions for our customers, thereby helping to lead the transition to a more sustainable future. Our goals are to provide greater clean energy choices in ever more locations, closer to our customers, and to help reduce the overall environmental and social impacts associated with the energy use of our customers.



Sustainable Workplace

The key to NRG's success in working towards and achieving our goals across the value chain is having a strong, healthy, and engaged workforce. Our commitment to a sustainable workforce at NRG includes a focus on safety, health and wellness, pay equity, diversity and inclusion, and employee engagement, as well as environmentally conscious workplaces.



Sustainable Operations

NRG is committed to reducing impacts across all of the Company's operations. Our commitment to sustainable operations includes achieving our science-based greenhouse gas reduction targets, increasing recycling rates of coal combustion residuals, and improving environmental performance across all facilities.



Sustainable Suppliers

It is important for companies to address sustainability in their entire value chain. NRG is actively working to measure and ultimately reduce environmental impacts in our supply chain through collaboration and transparency.

NRG recognizes that each pillar of our sustainability strategy embodies both climate risk and opportunity, and that such risks and opportunities are continually evolving based both on external developments as well as on company strategy and activity. Below we outline our main climate risks and opportunities, their potential impact, and how we are approaching each.

While we currently face certain climate risks, we believe that our strategy is increasing the company's resilience to climate risks while positioning it to realize climate opportunities.

Although NRG is expected to own and operate some fossil-fired power generation plants for some time, ongoing changes to our portfolio are reducing both NRG's total carbon footprint and its carbon intensity, reducing climate-related risk from future potential policy and

regulatory interventions such as carbon pricing. Over 2014-2020, NRG divested 27.5 GW of fossil-fired power generation capacity. In 2021 alone, NRG divested a further 4.8 GW of fossil-fired generation capacity and announced the mid-2022 retirement of 1.6 GW of coal-fired generation capacity in the PJM market[11]. Conversely, renewable sources are an increasing part of the electricity that we sell to our customers. There are many paths to increasing renewable supply in our portfolio and we have chosen to actively pursue renewable contracts with third-parties through medium- and long-term power purchase agreements (PPAs) rather than by building and operating our own renewable generation and storage assets like many of our peers. As of the end of Q3 2021, NRG had procured 2.7 GW of renewable power through PPAs and is actively expanding such procurement. Over time, NRG aspires to become one of the largest enablers of new, renewable power generation through wind and solar facilities. Our engagement with developers early in the project development lifecycle provides them with the commercial assurance they need to begin construction, thereby serving to catalyze the creation of high-quality renewables.

To realize climate-related opportunities, NRG is focused on growing retail products and services. In early 2021, we acquired Direct Energy, furthering this evolution. Direct Energy did not own and operate any power generation facilities, but instead relied on market purchases of electricity that it resold to its customers. This, coupled with NRG's capital light strategy, means that the Direct Energy acquisition further diversifies our business away from traditional power generation. In addition, the acquisition of Direct Energy doubled NRG's customer base from approximately 3 million to roughly 6 million. This increase enhances our ability to reach more customers throughout North America with customized sustainable product and service offerings that will enable them to meet their clean energy goals. Please refer to NRG's June 2021 Investor Day presentation for more discussion of our approach to creating personalized customer offers and specific examples of such offerings. These include Reliant's "Degrees of Difference" demand response service; Green Mountain Energy's "Go Local Solar" 100% renewable electricity plan and its "Texas Driver" carbon offsets; and Reliant's "Make it Solar" plan, which allows customers to incorporate renewable electricity as an add-on to their electricity plan. Such offers are part of our campaign to enable customers to have "My Energy My Way". NRG also provides products and services designed to improve resilience in the home and offer "Home Peace of Mind". Such offerings include home warranties, heating, ventilation and air conditioning, and portable energy and energy storage solutions.

[11] Note that PJM has since notified NRG that it is evaluating whether NRG's Indian River power plant will need to remain online beyond mid-2022 for reliability reasons.

Climate-Related Risks [C2.2, 2.3]

FRAMEWORK OF MAIN TRANSITION RISKS				
Category	**Time Horizon[12]**	**Risk Description**	**Potential Impacts**	**Management Approach**
Policy and Legal	Short-, medium-, and long-term	• Regulations, taxes, and/or incentives that directly or indirectly impact the relative prices and quantities of various forms of energy • Such policy levers include but are not limited to: a price on carbon; limits on greenhouse gas emissions; production and/or investment tax credits and/or subsidies that favor certain energy forms and/or decarbonization pathways; regulations impacting the structure, conduct, and/or performance of electricity markets in the markets in which NRG operates; and/or	• Such regulations, taxes, and/or incentives could increase the relative cost of electricity generated by fossil fuels, and such increases could reduce demand for the fossil-fired electricity NRG generates and markets. This may impact revenue in areas in the U.S. where NRG has fossil-fired power generating operations. Adverse economic effects may, in turn, impact the decision to own, operate, or sell such fossil-fired power generating assets.	• The EVP & General Counsel and the Heads of the Environment, Government Affairs, and Regulatory Affairs teams are responsible for monitoring and assessing climate-related regulatory risks and opportunities at the federal, regional, and local levels through team members that are dedicated by region / state. • In addition, the Sustainability function actively participates in such monitoring and assessments as well as in discussions on proposed climate-related disclosures through organizations like SASB, ACORE, Business Roundtable, and CERES. • Potential climate-related regulation is included in all risk assessments • NRG is actively decarbonizing its portfolio by divesting fossil-fired assets and retiring uneconomic fossil-fired assets while developing in emissions-free

[12] Time horizons are defined according to section C2.1a of the CDP Climate questionnaire: short-term is 0-1 years, medium-term is 1-3 years, and long-term is 3-10 years.

		climate-related disclosure standards and/or requirements		products and services for commercial, industrial, and residential customers.
Technology	Short-, medium-, and long-term	• New technologies impacting electrification, including power generation, residential and business power consumption, and electric mobility) • New technologies impacting natural gas including production, transport, storage, and residential and business consumption	• Emerging technologies may affect the financial viability of power and gas companies and could ultimately have a materially adverse effect on NRG's financial condition, results of operations and cash flows. This may result from substitutions of existing technologies, products, and services with lower cost and lower emissions options as well as the costs to NRG to transition to such technologies.	• Technology developments are included in all risk assessments • On the generation side of its business, NRG is actively monitoring the economics of emerging decarbonization technologies and engaging with stakeholders on multiple decarbonization pathways such as hydrogen; carbon capture, use, and sequestration; and electrification, particularly in the context of mobility (electric vehicles and fleet electrification). • On the retail side of its business, NRG is expanding its data and analytics capabilities and technology-enabled products and services to allow its customers to choose and consume energy products and services that best meet their needs, including their needs for low carbon energy • NRG is technology- agnostic and actively monitors the landscape for any relevant and economically viable solutions that would further reduce our carbon footprint.

Legal	Short-, medium-, and long-term	• Environmental regulations and laws.	• 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.	• We are committed to operating in an environmentally responsible manner and in compliance with all applicable environmental requirements. Our Environment-Over-Production policy sets a clear directive that environmental compliance takes precedence over production at NRG. Every employee is empowered to take necessary steps to always maintain environmental compliance. NRG's Environmental Policy Statement can be found on our website here. In addition, we require all suppliers to adhere to our Supplier Code of Conduct and our small set of contract manufacturers (including sub-contractors) to adhere to our Social Responsibility Standards for Manufacturers, both of which require compliance with applicable laws and regulations including on the environment, and provide information on how to report any environmental concerns.
Market	Short-, medium-, and long-term	• Changing customer preferences and behavior driven by a desire to combat climate change	• May impact revenue to the extent that NRG is unable to provide products and services that meet customer demand for sustainable energy and related energy services. NRG's largest business is its	• NRG's retail businesses, which serve both home and business customers, continually monitor market, competitor, and customer trends and also engage with customers directly to understand their needs for sustainable products and services and develop offerings to meet these needs

			retail segment which includes residential as well and commercial and industrial customers, so the impact could be material.	• As of the end Q3 2021, NRG had procured 2.7 GW of renewable power through third party power purchase agreements • Market issues are always considered in assessments by the Financial Risk Management Committee. Monitoring of these 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
Reputation	Short-, medium-, and long-term	• Increased stakeholder concern or negative stakeholder feedback. Stigmatization of power sector.	• Reputational risks related to climate change and negative stakeholder views about NRG's sustainability strategy and performance may adversely impact revenue.	• In addition to the customer engagement described previously, NRG regularly engages with a broad and diverse group of stakeholders including investors, climate-focused non-government organizations, and industry, civic, philanthropic, and academic partners. Through such engagement, NRG both better understands stakeholder views of the energy, power, and natural gas industries as well as of NRG specifically. In turn, NRG shares details about its climate strategy, governance, and progress to meeting its goals • 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

FRAMEWORK OF MAIN PHYSICAL RISKS				
Category	**Time Horizon[13]**	**Risk Description**	**Potential Impacts**	**Management Approach**
Acute	Short-, medium-, and long-term	• Increased severity and frequency of extreme weather events such as hurricanes and floods.	• Increased severity of extreme weather events could disrupt NRG's operations and supply chain and cause them to incur significant costs in preparing for, or responding to, these effects. These or other changes in weather patterns could lead to increased operating costs, capital expenses, or commodity purchase costs.	• Both acute and chronic physical risks and are always considered in assessments by NRG's 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. • NRG also monitors water risk carefully and works with local entities on water quality and safety. NRG uses the World Resources Institute (WRI) Aqueduct Water Risk Atlas and the World Business Council for Sustainable Development (WBCSD) Water

[13] Time horizons are defined according to section C2.1a of the CDP Climate questionnaire: short-term is 0-1 years, medium-term is 1-3 years, and long-term is 3-10 years.

			• Long- and short-term commodity prices may also fluctuate substantially due to factors outside of NRG's control, including weather conditions (extreme weather, seasonal fluctuations, and other effects of climate change). Such factors and the associated fluctuations in power prices have affected NRG's wholesale power operating results in the past and will likely continue to do so in the future.	Tool for water risk assessments. For example, we model water risk using the WRI tool by entering our facilities' coordinates to map our assets by region and water basin, then apply facilities' water withdrawal data to determine which assets are located in regions with high baseline water stress. See NRG's CDP Water Security questionnaire on NRG's Sustainability Reporting website.

In addition to the management approaches described above, all of the foregoing risks are evaluated as we update the Risk Factors in NRG's 10-K every year. NRG's Financial Reporting and Analysis function governs the drafting process for the 10-K as well as for any updates deemed material enough to include in our 10-Q filings throughout the year. NRG's Disclosure Committee ultimately decides how to disclose risks in our filings to the U.S. Securities and Exchange Commission.

PHYSICAL RISK CASE STUDY: WINTER STORM URI

NRG has always had seasonal readiness plans for its operations that aim to maintain safety, business continuity, and reliability for customers, and we update these plans annually. Winter outages in 2011 were the most recent catalyst for enhancement of these plans, and after those outages we implemented an extensive winterization program. However, even with this improved plan our operations did not completely withstand the events of Winter Storm Uri in Texas, in February 2021. The weather was colder and more sustained than it had been in 30 years[14]. The Electric Reliability Council of Texas (ERCOT)'s Final Seasonal Assessment of Resource Adequacy for winter 2021, which was published on November 5, 2020, evaluated several major risk factors, including extremely high demand for electricity and extremely high levels of forced outages for fossil-fuel plants. Each of those extreme risks were exceeded by the actual events of February 2021.

In early February 2021, we recognized the threat of significant winter weather in Texas commencing around February 11. We directed our retail companies to send an energy conservation notification to our customers and we worked with our large commercial and industrial customers to proactively reduce their load. For our generation fleet we took additional steps to prepare. We put all our power plants in the highest level of alert and made all operational[15] units available to the market. We secured additional critical supplies at our sites; brought in personnel with technical expertise from our northeast plants; and bought supplemental energy and natural gas from the market.

We had just under 8,000 MW of generation capacity available for dispatch during the storm, including 2,425 MW we brought out of seasonal lay-up in advance of the storm. Our portfolio performed at 80% of this capacity on average, and we produced almost twice the amount of electricity compared to a similar period at the beginning of the month, despite material natural gas supply challenges that impacted Texas and the mid-west. Notwithstanding our best efforts to winterize our fleet, we suffered generating unit problems related to the cold weather.

We experienced weather-related issues at South Texas Project (STP) Unit 1 and W.A. Parish (Parish) Units 5 and 7. Our employees worked around the clock to return the Parish units to service as quickly as possible[16]. For the coal units at Parish, we were able to restore power within 24 hours. A large, ERCOT-wide frequency excursion, in the early morning of February 15th, threatened the majority of our fleet and caused Limestone Unit 2 to come offline. We were able to restore power later that day. We were also impacted by gas pressure issues that tripped the Greens Bayou plant offline twice during the event. Again, we were able to restore it within a few hours.

Winter Storm Uri's severity and duration pushed Texas' entire energy ecosystem beyond its limits, and we've spent the last several months reviewing our winterization protocols and enhancing them to ensure

[14] Uri had the most hours with below-freezing temperatures (216 compared to 72 in each of 2011 and 1989). Uri also represented one of the three coldest weather events ever – only 1989 and 1889 were colder. So, while it wasn't the lowest temperature event, it was the longest duration.
[15] Two units were non-operational at the time: Gregory was on a seasonal outage and the Petra Nova peaker was in mothball status.
[16] NRG does not own or operate STP. Rather, STP is operated by the South Texas Project Nuclear Operating Company (STPNOC) and NRG has a 44% minority interest. Therefore, it was STPNOC's employees who worked to bring the STP1 unit back to service as quickly as possible.

they address the unique challenges of increasingly severe winter weather. As of the time of writing of this report, we have executed our winter 2022 preparedness plan, which included checking all of the critical heat tracing and winterization equipment, ensuring that our employees are adequately trained, securing sufficient staffing, and purchasing sufficient supply of chemicals and other critical items needed to generate electricity.

We have also actively engaged in discussions with Texas regulators and legislators on ways to mitigate the risks of Uri-like disruptions to the energy system in the future. See here for a list of our regulatory filings, white papers, presentations, and other materials. These include our comments on ERCOT market redesign, our load serving entity reliability obligation proposal to the Public Utility Commission of Texas (PUCT), a third-party analysis we commissioned to evaluate customer exposure to energy price spikes during Winter Storm Uri, comments on establishing ERCOT power outage alerts, comments on critical natural gas facilities and entities, and comments on weather emergency preparedness measures.

Climate Scenario Analysis: Transition Risk of Carbon Pricing

In 2020-2021, NRG conducted a transition risk-based climate scenario analysis. The analysis examines the fuel mix and associated GHG intensity of NRG electricity sales under a U.S. Energy Information Agency (EIA) carbon fee scenario[17] over 2026-2050.

Table 1 describes the definitions, assumptions, and methodology underlying the scenario analysis, while Figure 5 depicts the results.

Table 1: Scenario Analysis Definitions, Assumptions, and Methodology

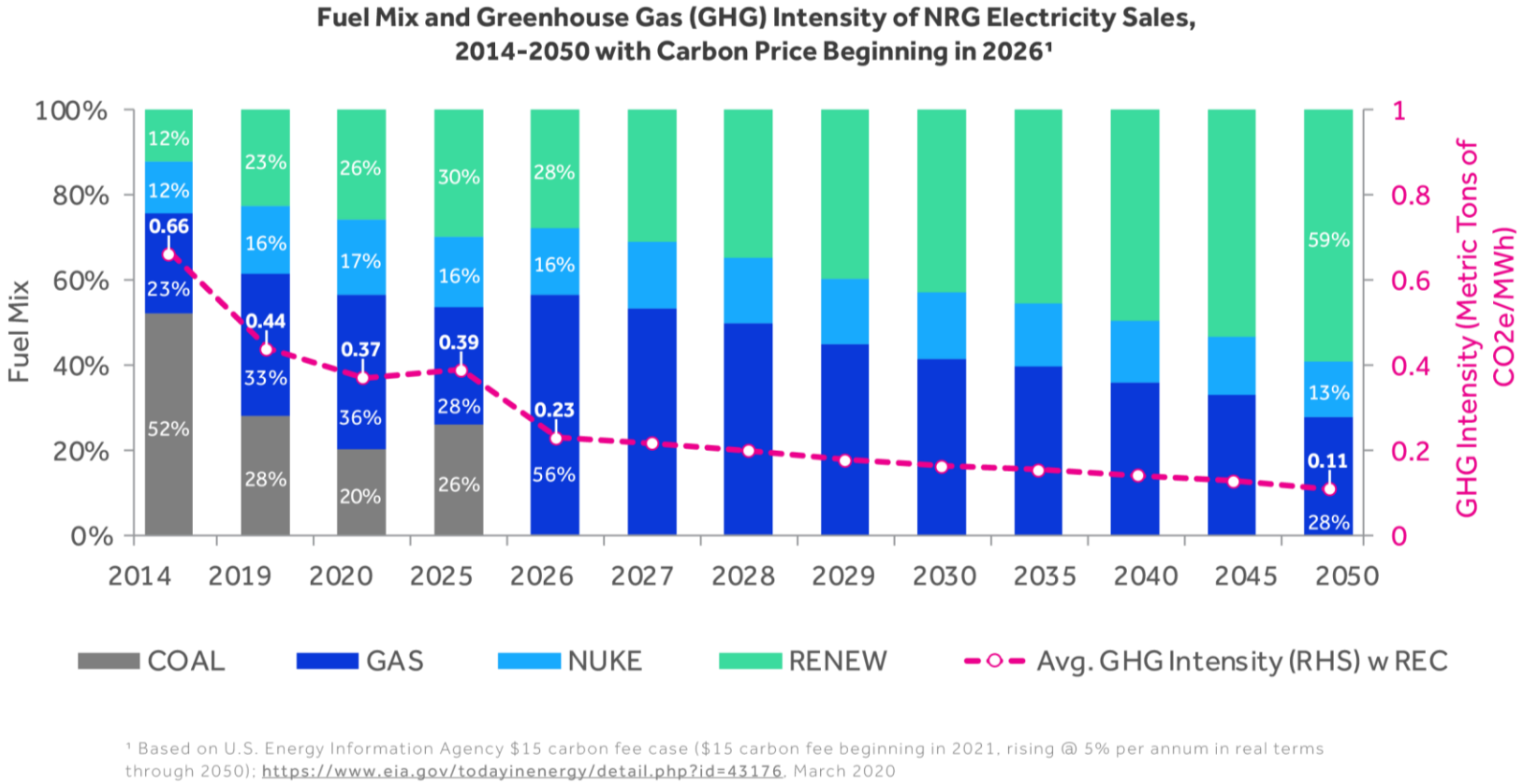
- Analysis scope: legacy NRG (i.e., does not include Direct Energy, acquired January 2021)
- Analysis focus: NRG total electricity sold
  - Note: this metric is more expansive than NRG electricity generated and aligns with NRG's increasing strategic focus on energy retail rather than primarily on electricity generation as in the past

[17] Based on U.S. Energy Information Agency $15 carbon fee case ($15 carbon fee beginning in 2021, rising @5% per annum in real terms through 2050); https://www.eia.gov/todayinenergy/detail.php?id=43176, March 2020. In 2026, the year when we first introduce carbon pricing in our scenario analysis, the fee is $22.78 in nominal terms. Note that we reviewed and considered using the International Energy Agency's Sustainable Development Scenario (IEA SDS). In the IEA SDS, the carbon price for power companies in developed economies ranges from $100 per metric ton of CO_2e in the 2030-2040 timeframe to $140 in the 2040-2050 timeframe (2018 dollars). We ultimately opted for the U.S. EIA scenario given that NRG's business operations are primarily in the U.S.

- NRG electricity sold = NRG retail sales + other market sales
  - NRG electricity sold is supplied by (1) NRG electricity generation + (2) NRG renewable and non-renewable electricity power purchase agreements (PPAs) + (3) market purchases of electricity when NRG's retail load (demand for electricity by NRG's customers) exceeds the sum of NRG electricity generation and NRG electricity PPAs
  - NRG retail load assumed to grow @ 1.2% per annum, 2026-2050
- Data sources:
  - 2014, 2019, and 2020: NRG actuals
    - Excludes divestitures of power plants over 2014-2020
    - Includes electricity generation and retail load in ERCOT, PJM, NYISO, ISO-NE, and MISO regions, as well as generation in CAISO
    - Adjusted per the methodology described below
  - 2025: NRG 2020 budget, adjusted per the methodology described below
  - 2026-2050: NRG and U.S. EIA scenario data
- Carbon price:
  - U.S. EIA $15 carbon fee case
    - $15 per metric ton of CO_2e starting in 2021
    - Carbon price rises at 5% per annum in real terms through 2050
    - 2050 carbon price is $128.27 in nominal terms and $61.70 in real terms
  - NRG scenario analysis applies carbon price over 2026-2050
    - In 2026, carbon price is $22.78 per metric ton of CO_2e in nominal terms and $19.10 in real terms
- Methodology to calculate fuel mix and GHG intensity:
  - NRG market purchases of electricity are allocated to fuel types based on annual Independent System Operator (ISO) generation by fuel type, excluding NRG electricity generation
    - ISO market fuel mix is based on EIA $15 per metric ton of CO_2e carbon fee case
  - For 2014-2025, renewable electricity credits (RECs) retired on behalf of NRG customers are overlaid on the above resulting total electricity sales by fuel type, converting fossil fuel types (coal, natural gas) to the renewable fuel type on a pro-rata basis
    - From 2026, RECs are assumed no longer to be needed given sufficient renewables in NRG's portfolio (from renewable PPAs) to satisfy customer demand for renewable electricity
  - GHG intensity of total electricity sold is calculated as metric tons of CO_2e from total electricity sold divided by total electricity sold in megawatt-hours
    - GHG include carbon dioxide, methane, and nitrous oxide

- Other assumptions:
  - Evolution of NRG supply portfolio follows a similar path to the evolution of the EIA fuel mix
  - Supply portfolio components ensure adequate flexibility to manage retail load (falling thermal generation replaced by energy storage and natural gas)

Figure 5: Climate Risk Scenario Analysis



¹ Based on U.S. Energy Information Agency $15 carbon fee case ($15 carbon fee beginning in 2021, rising @ 5% per annum in real terms through 2050): https://www.eia.gov/todayinenergy/detail.php?id=43176, March 2020

Figure 5 shows that the fuel mix and carbon intensity of electricity sold by NRG is highly sensitive to a carbon price:

- At the end of 2025, the last year for which the analysis relies on NRG forecast budget data and the last year prior to the introduction of the modelled carbon price, the share of coal in NRG's electricity sales is 26%, the share of natural gas is 28%, the share of nuclear is 16%, and the share of renewables is 30%.
- In 2026, after a carbon price is introduced at a level of $22.78 per metric ton of CO_2e, the share of coal in electricity sold falls to near-zero.
- While natural gas initially picks up coal's share of the fuel mix after the carbon price is introduced, its share of electricity sold in 2050 (28%) reverts to a level similar to its 2025 share (26%).
- Conversely, during the 2025-2050 period, the share of renewables in electricity sold nearly doubles from 30% to 59%, enabled both by growing NRG renewable PPAs and higher availability of renewables in the market.
- The share of nuclear is relatively flat, beginning the period at 16% and ending the period at 13%.
- The carbon intensity of sold electricity falls by roughly 72%, from 0.39 metric tons of CO_2e per MWh in 2025 to 0.11 metric tons of CO_2e per MWh in 2050.
    - In the first year of the carbon price alone, carbon intensity falls 41%, from 0.39 to 0.23, driven by the near-complete elimination of coal from the fuel mix.
    - Over 2026-2050, the carbon intensity halves again, from 0.23 to 0.11.

Although NRG is expected to own and operate some fossil-fired power generation plants for some time, ongoing changes to our portfolio are reducing both the fossil fuel mix and carbon intensity of NRG's electricity sold, thereby reducing climate-related risk from future potential policy and regulatory interventions such as carbon pricing. Over 2014-2020, we divested 27.5 GW and in 2021, we divested a further 4.8 GW.

As evident in Figure 5, the share of coal in NRG's electricity sold fell from 52% in 2014, NRG's baseline year for its climate goals, to 20% in 2020 – a 62% reduction. Over that same period, the carbon intensity of NRG's electricity sold fell from 0.66 to 0.37, a decline of 44%. These declines were driven by a number of deliberate company actions:

- Repowering existing coal-fired generators with more efficient and lower carbon gas-fired generators
- Retiring older fossil fuel generation assets as they approach their economic end of life
    - In 2021 alone, NRG announced the mid-2022 retirement of 1.6 GW of coal-fired generation capacity in the PJM market
- Running fossil fuel generation assets in line with market conditions, which may result in using them less frequently or only to meet periods of peak demand, and
- Leveraging new energy technologies, such as battery storage facilities to assist with load management and the incorporation of renewables
  Making ongoing maintenance capital expenditures and operating expenditures to drive incremental efficiency gains

Conversely, renewables are an increasing part of the electricity NRG sells to customers. Even in the absence of a carbon price, the share of renewables in NRG's electricity sold is expected to rise from 26% in 2020 to 30% in 2025, an increase of 15%. This is driven by both new and expected future renewable supply contracts that NRG has secured and will continue to secure to support growing residential and business

demand for clean electricity. NRG's increasing focus on being an energy products and services retailer rather than a traditional (fossil-fired) power generator therefore represents a favorable diversification of its business. As discussed previously, to serve customer demand for cleaner energy, NRG is relying on procurement of renewable power from third-parties through medium- and long-term power purchase agreements (PPAs) rather than by building and operating our own renewable generation and storage assets like many of our peers. By the end of Q3 2021, NRG had procured 2.7 GW of renewable power through PPAs and is actively expanding such procurement. Over time, NRG aspires to become one of the largest enablers of new, renewable power generation through wind and solar facilities. Our engagement with developers early in the project development lifecycle provides them with the commercial assurance they need to begin construction, thereby serving to catalyze the creation of high-quality renewables.

Climate-Related Opportunities [CDP C2.4]

FRAMEWORK OF MAIN CLIMATE OPPORTUNITIES

Category	Time Horizon[18]	Event	Description of Opportunity
Acute/Chronic Physical	Short-, medium-, and long-term	Increased severity of extreme weather events such as hurricanes and floods. Changes in precipitation patterns and extreme variability in weather patterns including rising temperatures and sea levels and severe drought. 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	NRG retail operations stand to benefit from any increase in demand, while NRG's wholesale operations could benefit from any increase in pricing associated with extreme temperatures. Changes in energy supply and demand may impact the price of 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.

[18] Time horizons are defined according to section C2.1a of the CDP Climate questionnaire: short-term is 0-1 years, medium-term is 1-3 years, and long-term is 3-10 years.

		demand for electricity and fuels. Weather may also impact the availability of the NRG's generating assets.	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 brand Goal Zero offers portable solar, portable batteries, outdoor lighting, and chargers. For commercial and industrial customers, NRG offers demand-side management helping businesses reduce their energy usage during times of high demand and offers distributed energy resources to enhance energy resiliency. Please refer to our Investor Day presentation for more discussion of consumer preferences for solutions that improve the reliability and resilience of energy and related services. The presentation also includes scenarios modeling the financial impact to NRG from growing both its addressable market for such solutions and from its penetration of this market.
Current & Emerging Regulation	Short-, medium-, and long-term	Emerging regulation/carbon pricing mechanisms as well as laws, taxation, or disclosure standards, whether focused directly on GHGs or on other issues that affect GHG emissions.	Potential opportunities may arise from legislation or policies that enhance investment in, and development of, new clean technologies, products and services, and customer demand for NRG's products and services and open up new energy markets for competitive power sales. For example, all of our major retail brands including Reliant, Green Mountain Energy, and NRG offer zero-emission or low-emission electricity 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 energy 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 choose their provider. 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 allow consumers to save money. 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 outcomes. These issues continue to be discussed in policy and regulatory environments. To see regulatory filings, white papers, presentations, and other materials NRG has prepared and submitted that set forth our positions on a variety of critical subjects driving our business and the industry please visit: https://www.nrg.com/energy-policy.html
Market & Reputation	Short-, medium-, and long-term	Changing customer preferences and behavior as related to energy, in particular the increasing demand for low carbon forms of energy.	Business growth opportunities are arising from increasing customer demand for clean energy and clean energy technologies. NRG's retail business provides energy and related services to consumers through various brands and channels across the U.S. These brands, which include Reliant, Green Mountain Energy and NRG, offer renewable electricity, natural gas paired with carbon offsets, and smart energy management products, among others, 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. Customers are able to 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, 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.

As described above, to realize climate-related opportunities NRG is increasingly focused on growing our retail products and services. In early 2021, NRG acquired Direct Energy, furthering this evolution. Direct Energy did not own and operate any power generation facilities, but instead relied on market purchases of electricity that it resold to its customers. This, coupled with NRG's capital light strategy, means that the Direct Energy acquisition further diversifies our business away from traditional power generation. In addition, as mentioned previously, the acquisition of Direct

Energy doubled NRG's customer base from approximately 3 million to roughly 6 million. This increase enhances our ability to reach more customers throughout North America with customized sustainable product and service offerings that will enable them to meet their clean energy goals.

Risk Management [CDP C2.2]

TCFD RECOMMENDATION

Disclose how the organization identifies, assesses, and manages climate-related risks

- Describe the organization's processes for identifying and assessing climate related risks.
- Describe the organization's processes for managing climate-related risks.
- Describe how processes for identifying, assessing, and managing climate related risks are integrated into the organization's overall risk management.

Risk Management Process and Organization

Climate-related issues are integrated in multi-disciplinary, company-wide opportunity and risk identification, assessment, and management processes.

NRG systematically evaluates both opportunities and risks associated with climate change on an ongoing basis, as well as their potential impact on NRG's wholesale and retail businesses. Climate-related opportunities and risks include regulatory, commercial, financial, transition, and physical. NRG's approach and its supporting organizations and processes to manage these risks and opportunities are outlined below:

- The **EVP, Residential Retail Solutions, SVP of Business Retail Solutions**, and their respective heads of our retail brands and subsidiaries identify ***commercial opportunities and risks to all of NRG's retail businesses, including from climate change***.
- The **EVP & General Counsel and the heads of the Environment, Government Affairs, and Regulatory Affairs teams** are responsible for assessing and managing ***regulatory risks and opportunities*** at federal, regional, and local agencies.
- NRG's **SVP, Operations and SVP Environment** are responsible for identifying and managing ***environmental risks to operations***.
- NRG's **Chief Risk Officer** reports to the CFO and monitors ***commercial risks to domestic revenues from commodity and electric power availability and pricing, carbon and emission trading, and renewable energy credits***.
- **Asset Management, Commercial Operations, and Plant Operations** identify risks and opportunities for each of our wholesale generation assets arising from ***weather exposure and other physical risks*** and directly report these to the CEO. In addition, the **Structuring and Fundamentals** group uses

carbon price scenario analysis both to assess risk for internal financial purposes as well as for evaluating ***transition risk***.

- The **Financial Risk Management Committee** monitors risks and opportunities on an ongoing basis and meets quarterly to review risks and approve mitigation initiatives. In addition to monitoring climate risk at a high-level, the Committee specifically tracks renewable electricity credit (REC) purchases and retirements required to meet mandatory renewable portfolio standards (RPS) in the states in which NRG operates. NRG's **CEO and Executive Management Team** communicate opportunities, risks, and risk mitigation strategies and activities to NRG's **Board of Directors** quarterly.
- Externally, **NRG reports material risks to investors and other stakeholders** through quarterly earnings calls, quarterly SEC filings, CDP questionnaires, and NRG's annual Sustainability Report among other disclosures. Risks are specifically discussed in Item 1A of NRG's annual 10-K, and the 10-K and other reports include NRG's annual greenhouse gas emission inventories. NRG's **Financial Reporting and Analysis function** governs the drafting process for Item 1A – Risk Factors in our 10-K as well as for any updates deemed material enough to include in our 10-Q filings throughout the year. NRG's **Disclosure Committee** ultimately decides how to disclose risks in our filings to the U.S. Securities and Exchange Commission.

NRG's Enterprise Risk Management process enables leadership to address uncertainty, to enhance or preserve enterprise value, and to facilitate the mitigation of risk while pursuing opportunity. NRG's strategy addresses long- and short-term risks and opportunities and aims to reduce the company's own GHG risks and those of its customers. As previously discussed, NRG is increasingly focused on providing retail energy solutions to its residential and business customers and this includes various clean energy products and services. These offerings can save money for our customers, increase the reliability and resiliency of the energy they consume, and reduce their carbon footprints. We also have modernized our generation fleet in a manner that reduces CO_2 emissions by repowering or retiring older, uneconomic power plants.

NRG's Climate Transition Strategy

NRG's Transition Levers

To meet NRG's 1.5°C-aligned net-zero by 2050 goal, NRG is using multiple transition levers. These transition levers can be grouped into four main categories:

- **DECARBONIZATION** of existing business lines
- **DIVERSIFICATION** into low emissions businesses
- **DIVESTMENT** of select high emissions assets
- **DEPLOYMENT** of new technologies and innovations

<u>Decarbonization of existing business lines</u>

Over the near-term, NRG is deploying a range of initiatives in order to decarbonize our existing business, including the optimization of our generation fleet. These initiatives include:

- Repowering existing fossil fuel generators with more efficient gas-fired generators
- Retiring older fossil fuel generation assets as they approach their economic end of life.

  - In June 2021, for example, NRG announced the mid-2022 retirement of 1.6 GW of PJM coal plant capacity, representing 55% of NRG's PJM coal fleet.
- Running fossil fuel generation assets in line with market conditions, which may result in using them less frequently or only to meet periods of peak demand,
- Leveraging new energy technologies, such as battery storage facilities to assist with load management and the incorporation of renewables
- Making ongoing maintenance capital expenditures and operating expenditures to drive incremental efficiency gains

Diversification into low emissions businesses

As previously described, NRG has transitioned from a wholesale electricity generator to an integrated full-service energy retailer, providing residential, small business, commercial, and industrial customers with a range of energy and energy-adjacent products and services. This both reduces NRG's reliance on revenue from electricity generation while also reducing the direct emissions from NRG's business activities.

Sustainability is integral to NRG's purpose of bringing the power of energy to people and organizations, and many of the energy products and services we provide to our customers help them reduce their carbon footprints. We are continuing both to grow such offerings and identify new ones. Examples of our current sustainability solutions include:

- 100% renewable electricity plans offered in all of NRG's retail markets, including plans tailored for electric vehicle charging and rooftop solar
- Partnerships with rooftop solar installers and electric vehicle retailers
- Energy storage solutions
- Customized demand response programs
- Energy efficiency audits and energy management tools
- Certified carbon offsets that enable customers to offset their natural gas and gasoline consumption
- Sustainability advisory services
- Portable and sustainable energy products including portable solar panels, portable lighting, and home energy storage and resilience solutions
- Renewable power purchase agreements and virtual power purchase agreements for businesses
- Community solar brokerage
- Distributed energy resource management incorporating renewable energy, traditional back-up generation, combined heat and power, fuel cells, battery energy storage, demand response and microgrids

More information on NRG's sustainable products and services can be found in the "Customers" chapter of NRG's 2020 Sustainability Report.

Divestment of high emission assets

On NRG's journey to net-zero emissions by 2050, NRG will also look to exit certain high GHG activities via strategically targeted sales of non-core assets where the opportunity generates appropriate risk-adjusted returns for shareholders. Over 2014-2020, NRG divested 27,510 MW net capacity of fossil generation. In addition, in 2021, NRG divested 4.8 GW of fossil-fired power plant capacity. We will continue to monitor the market for future portfolio optimization opportunities.

Deployment of new technologies and innovations

The power sector is making progress toward a clean energy future, and NRG has reduced its carbon footprint by 55% since 2014. However, new and/or enhanced processes and technology will be required for further, sector-wide decarbonization. Globally, research and development activities are ongoing both to develop novel approaches and to improve the efficiency of existing technologies to produce power. These technologies include wind, photovoltaic (solar) cells, energy storage, and improvements in traditional technologies and equipment, such as more efficient gas turbines.

NRG believes that the imperatives of the energy transition demand a flexible, all-of-the-above approach rather than a singular reliance on any one technology. As such, we continually monitor technology developments and stand ready to implement these in our supply portfolio when commercially feasible at scale. However, we recognize that no single entity can drive decarbonization on its own. Therefore, we actively participate in several external, multi-stakeholder groups focused on various decarbonization pathways including electrification; low emission power generation; hydrogen; carbon capture, use, and storage (CCUS); nature-based solutions; and reducing the carbon footprint of the natural gas supply chain. We also support the climate-tech start-up ecosystem which we believe will help us identify technologies and partners that could both decarbonize our own business as well as help our customers decarbonize.

Below we describe some of our activities in these areas in more detail.

NRG is working to reduce the carbon footprint of its gas-fired generation fleet. The company is exploring the potential to upgrade combined cycle gas turbines to newer technology turbines that can accept alternative low carbon gases such as bio-methane and/or green or blue hydrogen[19] as it seeks to continue to drive additional GHG emissions reductions.

NRG is also working to reduce the carbon footprint, particularly the methane emissions, of its natural gas supply chain. NRG is a founding member of the Natural Gas Supply Collaborative (NGSC), a voluntary collaborative of some of the largest natural gas purchasers in the U.S. The NGSC began in 2014 to promote safe and responsible practices for natural gas supply. It has engaged natural gas producers over the last several years as it investigated and promoted voluntary environmental reporting and the use of best practices. NGSC reviews producers' voluntary disclosures against NGSC performance indicators, while striving to further engage producers. Most recently, NGSC has reviewed various voluntary standards that aim to certify natural gas as "responsibly sourced". As part of this process, the NGSC has engaged with both the relevant certification bodies as well as with producers which have certified their gas as "responsibly sourced".

NRG's net-zero goal targets an elimination of the company's Scope 1, 2, and 3 (employee business travel only) GHG emissions by 2050. Any remaining emissions will therefore require offsetting

[19] Green hydrogen is hydrogen produced by the electrolysis of water using 100% renewable energy electricity. Blue hydrogen is hydrogen produced using traditional fossil fuel methods (such as Steam Methane Reforming and/or Auto Thermal Reactor technology) but captures the resultant GHG emissions, stopping their release into the atmosphere. When hydrogen is used (combusted), it forms water and does not emit GHGs.

or capturing. According to the International Energy Agency (IEA), CCUS technologies are most likely necessary to remain within a 1.5°C global warming limit. **NRG participates in the development of CCUS technologies**. For example, NRG has invested in CCUS at its Petra Nova[20] facility, the world's largest post-combustion carbon capture facility located at one of its WA Parish coal-fired power generating units 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 CO_2 released into the atmosphere. The Petra Nova project captures more than 90% of the CO_2 from a 240-megawatt equivalent slipstream of flue gas. The project can capture more than 5,000 tons of CO_2 per day, and since operations began in late 2016, Petra Nova has captured nearly four million tons of CO_2[21].

Further, **NRG supports innovation in the economic and beneficial use of carbon.** The $20 million NRG Canadian Oil Sands Innovation Alliance (COSIA) Carbon XPRIZE was a 5-year global competition to develop breakthrough technologies that convert CO_2 emissions from power plants and industrial facilities into valuable products like building materials, alternative fuels, and other everyday items. The NRG COSIA Carbon XPRIZE inspired the development of new and emerging CO_2 conversion technologies to help solve climate change. The competition ended in spring 2021 when the winners, CarbonCure Technologies and CarbonBuilt, were announced. Both companies focus on reducing CO_2 emissions associated with traditional concrete, which is currently the world's most abundant human-made material and accounts for 7% of all global CO_2 emissions. Both companies' technologies make use of CO_2 by injecting it into the concrete-making process, converting it to a permanently embedded material with strength-enhancing properties.

In fall 2020, NRG joined the Carbon-to-Value (C2V) initiative, a multi-year program driving the creation of a thriving innovation ecosystem for the commercialization of carbon-tech – technologies that capture and convert carbon dioxide into valuable end products or services. The C2V Initiative is a collaboration among the Urban Future Lab at New York University-Tandon, Greentown Labs, and the Fraunhofer USA TechBridge Program, and supported by the New York State Energy Research and Development Authority and the Consulate General of Canada in New York. As a founding member of the initiative, NRG joined the program's Carbon-tech Leadership Council (CLC) alongside a select group of corporate, academic, NGOs, and government leaders who are fostering commercialization opportunities and identifying avenues for technology validation, testing, and demonstration of carbon-

[20] Due to economic conditions, as of May 2020, NRG and JX Nippon Oil and Gas Exploration have temporarily suspended carbon capture operations at Petra Nova and the delivery of CO_2 to the West Ranch Oil Field.

[21] NRG recognizes that the four million tons of CO_2 captured by Petra Nova to date is a gross figure because it does not reflect the carbon footprints associated with other processes over the cradle-to-grave life cycle of CO_2 capture, its use for EOR, and the ultimate use of the oil produced thereby. These other processes include CO_2 capture, CO_2 compression, CO_2 pipeline transport, CO_2 injection, oil processing, CO_2 recycling and dehydration, fugitive emissions, construction, land use, well drilling, oil transport, oil refining, and hydrocarbon product combustion, among other processes. Although NRG has not done a life cycle assessment of Petra Nova, recent academic studies suggest that CO_2 captured and used for EOR can result in net negative emissions on a life cycle basis. See Joel Minchak, Sanjay Mawalkar, and Neeraj Gupta, "Large CO_2 Storage Volumes Result in Net Negative Emissions for Greenhouse Gas Life Cycle Analysis Based on Records from 22 Years of CO_2-Enhanced Oil Recovery Operations", *Energy & Fuels*, February 25, 2020 and Vanessa Nunez-Lopez, Ramon Gil-Egui, Pooneh Hosseininoosheri, Susan D. Hovorka, and Larry W. Lake, "Final Report: Carbon Life Cycle Analysis of CO_2-EOR for Net Carbon Negative Oil (NCNO) Classification", work submitted to U.S. Department of Energy National Energy Technology Laboratory, April 1, 2019.

tech. Members of the CLC are creating a technology roadmap for the future of the carbon-tech industry and engaging with the highly selective cohorts of start-ups chosen for the C2V initiative.

NRG participates in several multi-stakeholder group consortia working to scale various decarbonization pathways. These consortia include:

- EVolve Houston
- Houston CCS Hub
- Houston Hydrogen Hub
- University of Houston-Southern States Energy Board CCUS Commercialization Effort
- Rice University Baker Institute Working Group on CCUS and Hydrogen
- United States Business Council on Sustainable Development's Gulf Coast Carbon Collaborative (which convenes working groups on electrification, low-emission power generation, nature-based solutions, CCUS, and hydrogen)
- Greater Houston Partnership's Energy 2.0 and Energy Advisory Committees
- Rice University Carbon Hub

NRG is an active supporter of the climate-tech community, which will help it identify technologies and partners that could help decarbonize its business. In June 2020, NRG became a founding sponsor of Greentown Labs' expansion to Houston. Greentown Labs is the largest climate-tech startup incubator in North America, and brings together start-ups, corporations, investors, policymakers, and others with a focus on scaling climate solutions. Additionally, in September 2020, NRG became a founding supporter of a new clean energy accelerator hosted by the Rice Alliance for Technology and Entrepreneurship at Rice University in Houston. The accelerator supports early-stage energy start-ups from around the world, all of which have access to the Rice Alliance network of energy companies, investors, advisors, and Rice's energy tech venture forums.

Metrics and Targets

TCFD RECOMMENDATION

Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process

- Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.
- Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

Metrics

Metric	UNIT OF MEASURE	2020	2019	2018
Total CO_2e (U.S. carbon dioxide equivalent) emissions (Scope 1)[22]	**Metric Tons of CO_2e**	27,600,000	36,800,000	41,700,000
GHG emissions intensity (Scope 1)	**Metric Tons of CO_2e per MWh of net generation**	0.62	0.72	0.70
Total CO_2e emissions (Scope 2)[23, 24]	**Metric Tons of CO_2e**	241,460	187,000	189,000

[22] Scope 1 GHG emissions represent GHG emissions that occur from fuel combustion in boilers, turbines, and engines used for the production of wholesale electric power at facilities owned or controlled by the Company. The Scope 1 GHG emissions were determined by using methods specified by the Environmental Protection Agency within Title 40, Chapter I, Subchapter C, Part 98, Subparts A, C, and D of the Code of Federal Regulations. GHG emissions from the combustion of fossil fuels used for other activities or equipment, such as auxiliary boilers, starter engines, mobile sources, and offices are not included in Scope 1 as they are immaterial. GHG emissions were calculated using the Global Warming Potentials (GWP) from the International Panel on Climate Change Fifth Assessment Report for CO_2, CH_4 and N_2O.

[23] Scope 2 GHG emissions represent the generation of purchased electricity consumed by NRG and are determined using the guidance of the GHG Protocol Scope 2 Guidance, an amendment to the GHG Protocol Corporate Standard, 2015. Metered electricity purchases from United States-based electricity distribution utilities are multiplied by appropriate regional United States Environmental Protection Agency's eGRID emissions factors within the EPA's Simplified GHG Emissions Calculator. These factors were sourced from EPA Center for Corporate Climate Leadership and used factors published in 2021. Emissions factors used to calculate market-based emissions, including both utility-specific factors and residual mix, are not as widely available in the United States, therefore only location-based factors are used which may result in double counting between electricity consumers. Where utility metering and invoices are not available, some facility estimates of electricity usage were made using average electricity usage per square foot by region observed at other NRG facilities of similar type or provided by building owner / operator. Estimates for plants are made using available historical values and applying linear adjustment for Net Capacity Factor (NCF). If there is no historical information, then values are estimated based on 1) fuel type, 2) size of plant, and 3) technology of the plant. For scope 2, GWP were manually updated to reflect values in the IPCC 5th assessment to maintain consistency with the scope 1 and 3 calculations.

[24] Increase in Scope 2 emissions from 2019 to 2020 was due to lower power generation in 2020 compared to 2019, which resulted in less in-house electricity generation (Scope 1 emissions) and more purchases of electricity from the grid (Scope 2 emissions).

Total CO_2e emissions (Scope 3; Business Travel Only)[25, 26]	**Metric Tons of CO_2e**	2,487	10,000	13,000
GHG Intensity of Total Electricity Sales[27]	**Metric Tons of CO_2e per MWh of total electricity sold**	0.37	0.44	Not calculated for 2018; 0.66 in 2014, baseline year for NRG climate goals
SOx	**Metric Tons**	27,400	34,280	48,000
NOx	**Metric Tons**	12,050	16,510	22,510
Mercury	**Metric Tons**	0.018	0.10	0.14
Net generation[28]	**Thousands of MWh**	44,658	54,370	59,303
Scope 1 emissions covered under emissions-limiting regulations	**Percentage**	10%	8%	8%
Scope 1 emissions covered under emissions-reporting regulations	**Percentage**	99.99%	99.99%	99.99%
Total Water Withdrawn	**Thousands of cubic meters**	3,672,500	3,863,115	4,575,000
Total Water Consumed	**Thousands of cubic meters**	902,781	183,816	185,000
Coal combustion residuals generated	**Metric tons**	748,000	1,032,000	1,300,000
Coal combustion residuals recycled	**Percentage**	80%	66%	63%

Additional metrics may be found in NRG's SASB Tables and Sustainability Reports here.

[25] Scope 3 GHG emissions were compiled by NRG's primary travel agency for air travel, hotel, and rental car travel. Train travel and taxi services such as Uber and Lyft are not currently included as business travel categories. NRG's travel policy requires all business-related travel to be booked through Adelman Travel Group (Adelman). However, it does not include travel booked outside of the Adelman agency. Due to the electronic tracking of nights booked, some room stays may be included that are outside of the calendar year. Adelman used the Carbonfund.org Foundation's calculator 2 to determine the GHG emissions for air travel and car rental emissions booked through the travel agency. The factors used to calculate rental car emissions were sourced from the EPA Center for Corporate Climate Leadership and used factors published in 2020 for CO_2, and 2018 for CH_4 and N_2O. Hotel stays reported by Adelman also use the Carbonfund.org Foundation's methodology for hospitality assuming the upscale hotel emission rate of 26.6 kg CO_2 per room day.

[26] Lower Scope 3 emissions from business travel were driven by COVID-19-induced reductions in business travel.

[27] Total NRG electricity sales = NRG retail sales + other NRG market sales. Total NRG electricity sales are supplied by (1) NRG electricity generation + (2) NRG renewable electricity power purchase agreements (PPAs) + (3) NRG market purchases of electricity when NRG's retail load (demand for electricity by NRG's customers) exceeds the sum of NRG electricity generation and NRG renewable electricity PPAs.

[28] Net generation figures taken from NRG's 2020 10-K Annual Report, page 16, and exclude equity method investments.

Use of Internal Carbon Pricing

NRG uses internal carbon prices in two ways.

First, NRG calculates the net present value of the incremental cash flow per metric ton of CO_2e that would be reduced by pursuing various decarbonization pathways. Such pathways include coal-to-gas switching; carbon capture, use, and storage; asset retirements; operations improvement; and reducing the carbon intensity of the day-to-day and longer-term fuel mix used to operate our power plant portfolio. As such, this metric – alongside other criteria including safety, reliability, and profitability – informs capital expenditure, operating expenditure, and product and service development decisions. Knowing this metric allows us to rank order potential investments, and all else equal, choose decarbonization pathways that maximize CO_2e reduction at lowest cost. In addition, we compare this metric with statutory carbon prices in the jurisdictions in which we operate to determine when it would be economic to make an investment to reduce our carbon footprint.

Second, as described previously, NRG uses carbon price scenario analysis both to assess risk for internal financial purposes as well as for evaluating transition risk. We consider Scope 1, 2, and 3 (employee business travel) emissions in this scenario analysis although the overwhelming majority of NRG's footprint is Scope 1 from our power generating facilities. Using carbon pricing scenario analysis allows us to understand the impact of potential carbon pricing on our business. In the short-term, the main impact is the financial cost of paying a carbon price when running our power plants. Over the medium and long-term, the impacts include how carbon prices would influence the fuel mix of our power plant portfolio and therefore the fuel diversity of the power we provide to customers.

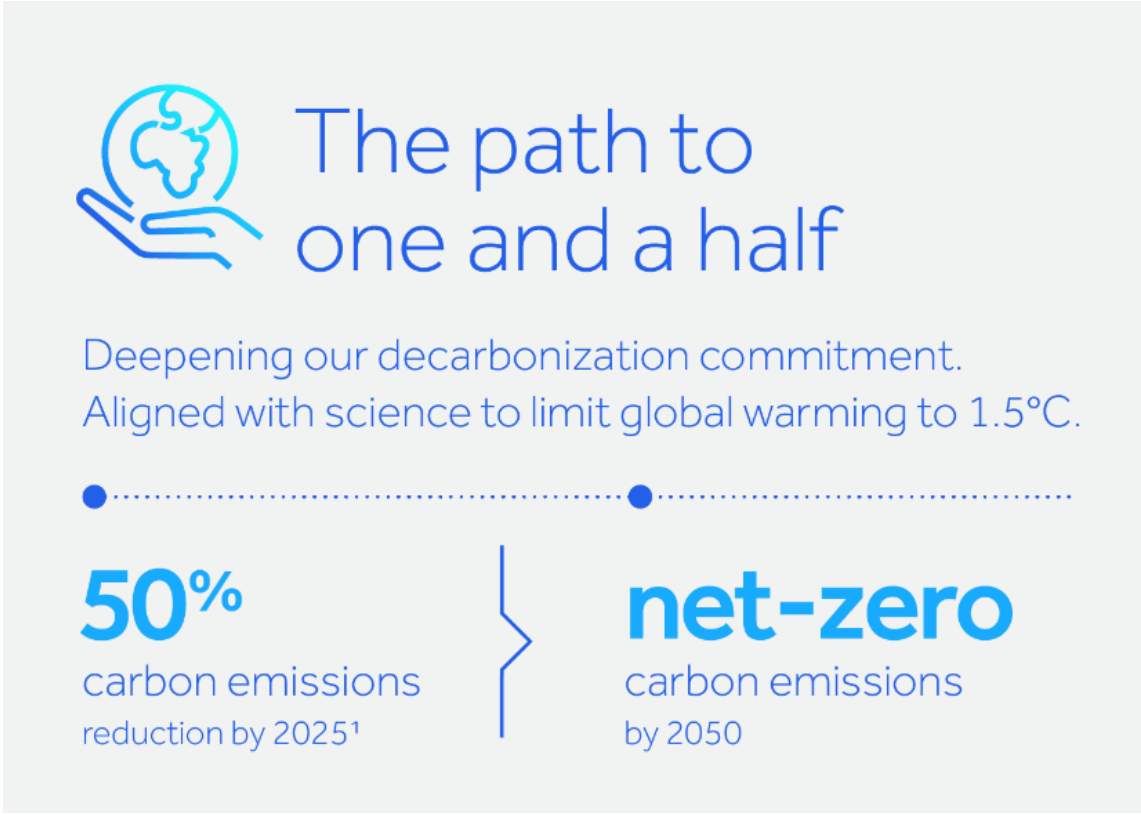
More fundamentally, NRG believes that the American energy industry is going to be increasingly impacted by the long-term societal trend towards sustainable forms of energy that have low or no GHG emissions, at both the utility scale and smaller distributed energy resource level. To meet this trend, NRG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

Targets

NRG's climate targets consist of:

- 50% reduction of greenhouse gas emissions (Scope 1, 2, and the employee business portion of Scope 3) by 2025, from its current 2014 baseline, and
- Net-zero emissions by 2050.

These targets have been validated by the Science Based Targets initiative as 1.5 degree Celsius-aligned.

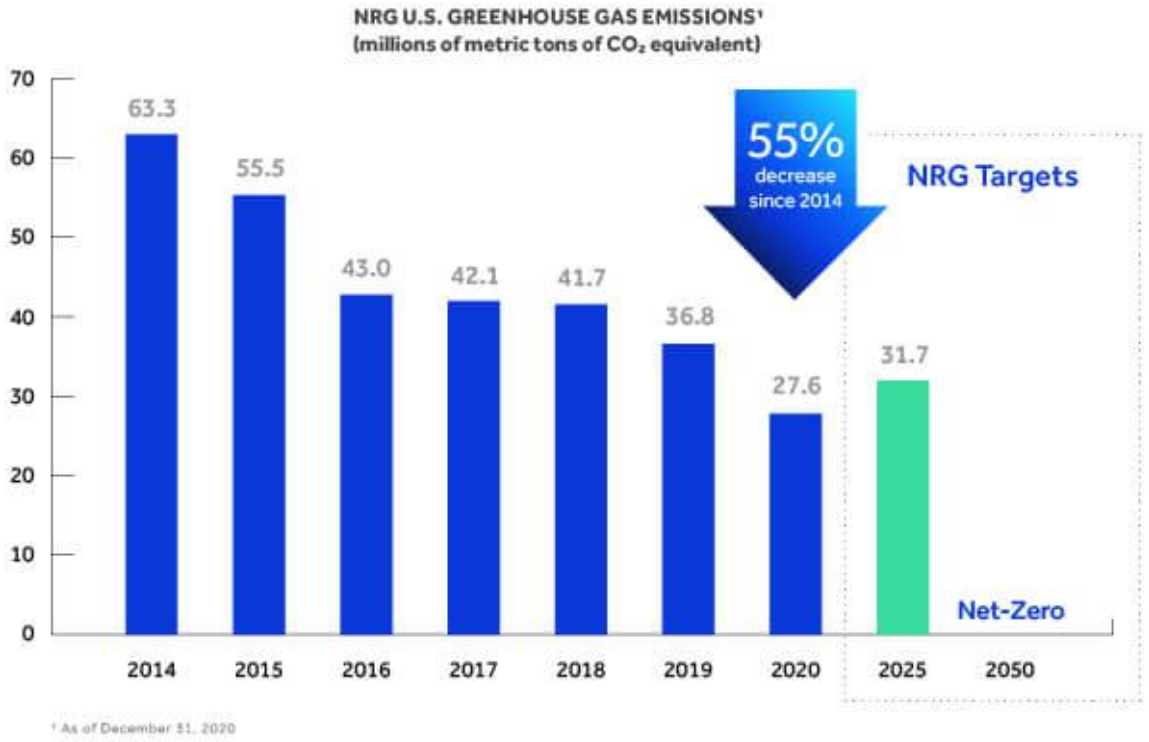


[1]Scope 1, 2, and the employee business portion of Scope 3, relative to current 2014 baseline.

Performance Against Targets

As depicted in Figure 6 below, from 2014 to 2020, the Company's CO_2e emissions decreased from 63 million metric tons to 28 million metric tons, representing a cumulative 55% reduction. The decrease is attributed to reductions in fleet-wide annual net generation, a market-driven shift away from coal as a primary fuel to natural gas, and in 2020 reduced load as a result of the COVID-19 pandemic. The Company believes the 2020 emissions level may change as load recovers from the impact of COVID-19. The Company is continuing to target a 50% reduction by 2025 and is on track to meet that goal.

Figure 6: NRG U.S. Greenhouse Gas Emissions



Appendix

FORWARD-LOOKING STATEMENTS

This Task Force on Climate-Related Financial Disclosures (TCFD) Report contains certain forward-looking statements that reflect NRG Energy, Inc.'s current views with respect to future events and the financial and operational performance of NRG Energy, Inc. These forward-looking statements are based on NRG Energy, Inc.'s current expectations and projections about future events. Because these forward-looking statements are subject to risks and uncertainties, actual future results or performance may differ materially from those expressed in or implied by these statements due to any number of different factors, many of which are beyond the ability of NRG Energy, Inc. to control or estimate precisely, including changes in the regulatory environment, future market developments, fluctuations in prices, impact of climate and other risks. For a list of important factors that could affect future results and could cause those results to differ materially from those expressed in the forward-looking statements, please refer to NRG Energy, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2020 and its Quarterly Reports on Form 10-Q for the quarters ended March 31, 2021, June 30, 2021 and September 30, 2021. NRG disclaims any current intention to update such guidance, except as required by law. The foregoing review of factors that could cause NRG's actual results to differ materially from those contemplated in the forward-looking statements included in this presentation should be considered in connection with information regarding risks and uncertainties that may affect NRG's future results included in NRG's filings with the Securities and Exchange Commission at www.sec.gov. You are cautioned not to place undue reliance on the forward-looking statements contained herein, which are made only as of the date of this document. NRG Energy, Inc. does not undertake any obligation to publicly release any updates or revisions to any forward-looking statements to reflect events or circumstances after the date of this document. The information contained in this TCFD Report does not purport to be comprehensive and has not been verified by any independent third party.

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