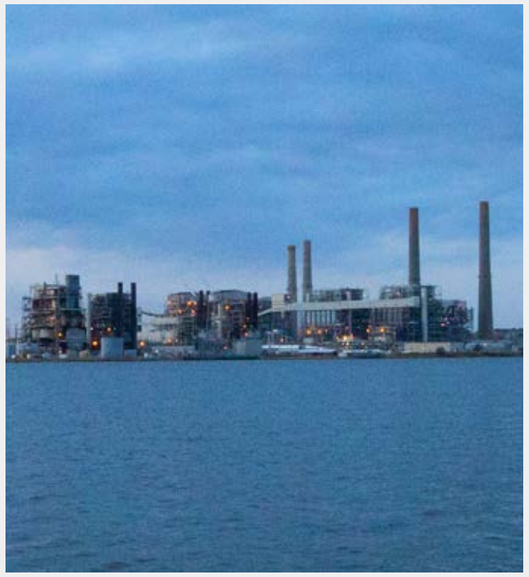
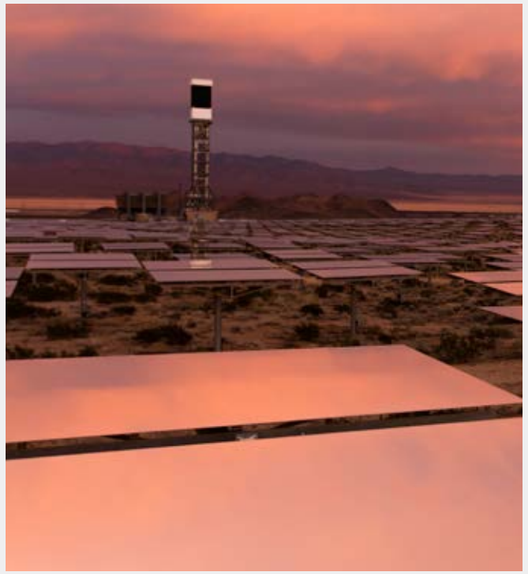
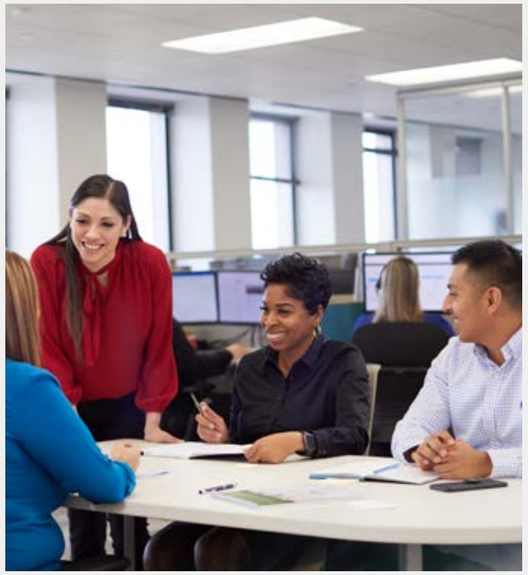
2018

# SUSTAINABILITY REPORT










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# Executive Summary

1



**At NRG, our comprehensive sustainability framework provides a solid foundation for operating our business at the highest standard. We believe that building a more sustainable business creates a stronger company and greater value for all our stakeholders. And as a stronger company, we are well-positioned to lead the way in redefining what power can be.**

In 2018, we achieved outstanding financial and operational performance, meeting the goals we set forth in our multi-year transformation plan, while focusing on our employees, customers, and communities. As we transform our company, our people power what is possible. With their robust industry expertise, market intelligence, creativity, get-it-done mentality, and spirit of philanthropy, they are moving us toward a more sustainable energy future.

Throughout our transformation, our commitment to environmental stewardship and transparency has accelerated. We have reduced our carbon emissions 37% since 2014 while creating tremendous business value. We are nearly three quarters of the way to achieving our science-based 2030 goal, which we expect to meet years early. I am also proud to say that for the 2018 reporting year, we reached CDP's Climate Leadership level for the first time in NRG's history — one of three U.S. electric utilities and the only U.S. integrated power company to do so.

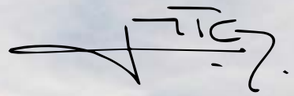
We will continue to set clear and measurable sustainability goals and communicate our progress with transparency, using the best available frameworks and standards, such as SASB and TCFD. This level of accountability creates trust and invites stakeholder dialogue. We will also continue to boldly advocate for customer choice by seeking to open markets to competition, which allows market-based mechanisms to drive down emissions and costs for the benefit of consumers, communities and the environment.

In addition to our sustainability framework, the values that hold us together are building a better NRG. We have long maintained a dedicated safety culture and, last year, achieved the best safety record in company history. While safety and employee well-being continue to be a topmost priority, we evolved our purpose and modernized our values to better reflect who we are today, and they serve as a guidepost for bringing the power of energy to our customers.

The power industry is more dynamic than ever, with the next generation of sustainable thinking pushing both government and companies to take action. Electricity is rapidly becoming the fuel that will power a low carbon economy. Climate change and the need to decarbonize has transcended policy and is now a priority for many businesses, families, and individuals. As electric cars, connected devices, and renewable generation continue to enter the market, we shifted our business to meet the needs of customers not only with reliable and affordable electricity, but also with cleaner and more tailored solutions to meet their specific needs.

For example, in 2018, we expanded our retail presence to enhance our customer value proposition. We also divested our in-house renewables development platform, allowing us to work with a broader set of developers and find the lowest cost and most flexible solution for our customers. Innovation within our business solutions space continued as we introduced our Renewable Select concept, a unique product that greatly simplifies how corporate and industrial clients buy renewable energy. By placing customers at the center of our business, we are taking the actionable steps to reimagine, reinvent, and reshape how electricity is produced, delivered, and experienced.

I am proud of the goals we set for ourselves and the way we have achieved strong financial and operational performance while exceeding our sustainability ambitions. As you read through our 2018 Sustainability Report, I trust you will share my pride as well as my excitement for our path ahead.



**Mauricio Gutierrez**
President and Chief Executive Officer

## Our Purpose Statement

We are an energy company powered by people and built on dynamic retail brands with diverse generation resources.




We bring the power of energy to people and organizations.

## Our Values

- Safety and Well-Being
- Customer-Focus
- Collaboration
- Accountability
- Inclusion and Diversity

## NRG: At a Glance

- 50 States (plus D.C.) **where we do business**
- FORTUNE 500 **company**
- Over 4,500 **full-time employees**
- 67 TWhs **served by retail**
- Approximately 3.1 million **customers**
- Over 35 assets **in nine states**
- Over $9 billion **in revenue**
- The nation's Leading **integrated competitive power generator**

**73%**
of the way to
our 2030 greenhouse gas (GHG) reduction goal

**74 million**
tons customer
avoided emissions

**7%**
revenue carbon intensity
decrease since 2014

**30%**
water withdrawal
decrease since 2014

**0.51 TCIR***
best ever
safety record



## A Sustainable Energy Future

Throughout a year of substantial change, we remained committed to our comprehensive sustainability framework. While we've already made significant progress in transforming our business, our work to redefine power is just beginning. Our industry continues to evolve and create actionable opportunities for NRG.

Tackling the impacts of climate change and the decarbonization of our economy is transcending federal policy, as businesses and individuals are taking more decisive action. Technological advances have been accelerating and enabling new ways for consumers to interact with electricity, from real-time data apps to smart appliances. Our energy system is going to be more connected, smarter, and more reliable than ever.



**7**
facilities
with VPP Star rating

**<25%**
coal revenue
in our generation portfolio

**~23,000 MW**
generation capacity
in our North America portfolio

**$3.1M**
donations
given through corporate philanthropy

**16,046**
volunteer hours
contributed by NRG employees

*Total Case Incident Rate

## Sustainability at NRG

We have a broad sustainability strategy, aimed at embedding sustainability into the culture and fabric of the organization and ensuring that sustainability becomes a core function that touches all aspects of our business. Our sustainability efforts closely align with our business and are organized with cross-functional engagement and strong governance. To help create a sustainable energy future, we prioritize our work into five key pillars. Each pillar comprises business activities that create value for NRG and its stakeholders.

### Sustainable business

The Sustainable Business pillar guides our company in the foundational pieces of strong sustainability leadership including governance, transparency, sustainability reporting, and stakeholder engagement.

### Sustainable operations

Our commitment to sustainable operations includes strong goals in reducing greenhouse gas emissions and water use, and increasing recycling rates of coal combustion residuals across all facilities.

### Sustainable customers

A key aspect of our sustainability strategy is providing sustainable solutions for our customers and helping to lead in the transition to a more sustainable future. Our goals are to continue to provide more clean energy choices and help reduce the overall environmental impacts.

### Sustainable suppliers

It is also important for companies to address sustainability in their entire value chain. We have established ambitious goals and started to put systems in place to measure and ultimately reduce the impacts in our supply chain.

### Sustainable workplace

Our commitment to a sustainable workforce at NRG includes a focus on worker safety, health and wellness, equality, diversity, and employee engagement, as well as environmentally conscious workplaces.

## Notable accomplishments

Reached leadership level of A- in **CDP Climate scoring**

One of the first companies to publicly commit to the **Task Force on Climate-related Financial Disclosures (TCFD)**

Only company in our sector to report using the **Sustainability Accounting Standards Board (SASB)** standards since 2016

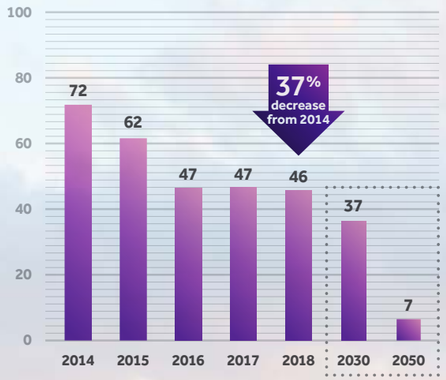
Named **CDP Supplier Engagement Leader** for second year in a row

# 2018 Performance Highlights

**73% of the way to our 2030 goal**

## Tracking toward our GHG reduction goals

(NRG U.S. $CO_2e$ emissions scopes 1, 2, & 3*) $mTCO_2e$




To ensure consistency and relevance, NRG's base year emissions have been recalculated according to GHG Protocol: A Corporate Accounting and Reporting Standard, Revised Edition following generation asset portfolio changes. This revised base year has been verified by a third party.

## Environmental Snapshot

| | |
|---|---|
| Scope 1 emissions* | 46 million mT $CO_2e$ |
| Scope 2 emissions* | 189,000 mT $CO_2e$ |
| Scope 3 emissions* (business travel) | 13,000 mT $CO_2$ |
| Revenue carbon intensity | 4,628 $tCO_2e$ /$M revenue |
| Generation emissions intensity | .68 mT/MWh |
| Water usage intensity | .05 megaliters/MWh |
| Water consumption* | 185 million $m^3$ |
| Coal Combustion Residuals (CCR) recycling rate | 63% |
| SOx | 60 million kg |
| NOx | 22 million kg |

## Diversity at NRG**

Companywide employees




- **WHITE** (NOT HISPANIC OR LATINO)
- **BLACK OR AFRICAN AMERICAN** (NOT HISPANIC OR LATINO)
- **HISPANIC OR LATINO**
- **ASIAN** (NOT HISPANIC OR LATINO)
- **TWO OR MORE** (NOT HISPANIC OR LATINO)
- **AMERICAN INDIAN OR ALASKAN NATIVE** (NOT HISPANIC OR LATINO)
- **NO ELECTION**
- **NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER** (NOT HISPANIC OR LATINO)

## Board diversity

### Gender Diversity




**2** Women

### Ethnic Diversity



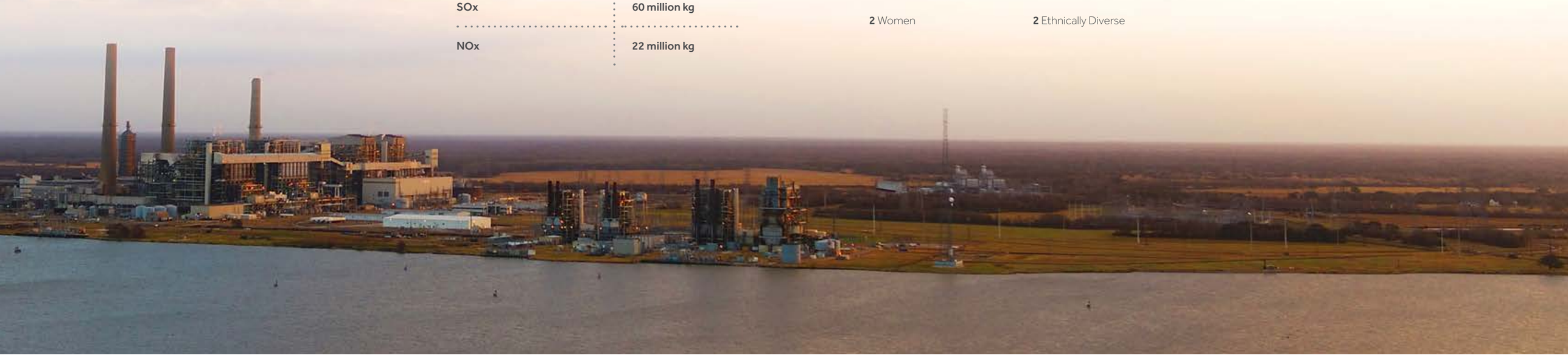

**2** Ethnically Diverse

### Independence




**90%** Independent (All Except CEO)

**90%** Meet Heightened Committee Independent Standards



*Third-party verified

**Self-selected

# Sustainability Context

2

## Overview

**In 2018, events like the record-setting Hurricane Florence and the devastating California wildfires served as stark reminders that climate change is no longer a distant threat but an increasing reality.**

And in 2018, two significant reports reinforced the scope and urgency of addressing greenhouse gas (GHG) emissions.

In October, the Intergovernmental Panel on Climate Change (IPCC) issued a comprehensive report detailing the importance of limiting global warming to no more than 1.5˚Celcius (2˚ Fahrenheit) above current levels by the end of this century to prevent the most significant impacts of climate change. It further pressed that in order to achieve this, "global net human-caused emissions of $CO_2$ would need to fall by about 45 percent from 2010 levels by 2030, and achieve 'net zero' around 2050," leaving us with only 12 years to make significant improvement against today's estimated 3.1-3.5˚ trajectory.

In November, the U.S. Federal Government released its Fourth U.S. National Climate Assessment. The core findings conclude that "climate change will affect all regions and all sectors of the U.S. economy," reinforcing the scientific consensus that action is needed to reduce GHG emissions across the economy, and the economy must also prepare and invest to adapt to our changing climate.

The good news is that the global community collectively rallied around this urgent call to action. At the inaugural Global Climate Action Summit in September, hosted by the State of California, numerous new commitments and coalitions — from renewable energy to electrification of transportation — were made across business, finance, and both national and sub-national governments. Further, at the 24th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP24) in December, held in Poland, the global community agreed on a "rulebook" to guide the implementation of the Paris Agreement at COP21.

## Megatrends of the Power Sector

Technologically speaking, we are living in electricity's most advanced era. Today's electricity solutions have the potential to address some of our society's largest challenges, including climate change, but we still face both political and cultural disparity toward the application of these solutions.

To understand how the broader power sector is changing and the opportunities this transformation is unlocking, we have identified three megatrends of the power sector, that are key to the role of electrification in advancing more sustainable energy solutions.

From the ways power is generated to how it's distributed and consumed, the entire electricity value chain is in the midst of transformation. At NRG, we are in our own transformation, working to redefine how power is produced, consumed, and experienced. And while our industry is largely influenced by technology, market design, and the policy landscape, the greatest opportunity for our sector to transform relies on our ability to respond to these megatrends, which are largely driven not by policymakers or electrical engineers, but by needs and expectations of energy consumers. In 2018, NRG's President and CEO Mauricio Gutierrez gave remarks at a Chief Executives for Corporate Purpose (CECP) meeting and spoke to the following trends:



**decarbonization of our economy**;



**digitization of just about everything**;



**era of customization**.

### Decarbonization

The need to decarbonize our industry and the economy is an imperative that is driving significant innovation and shift in customer demand across the power sector.

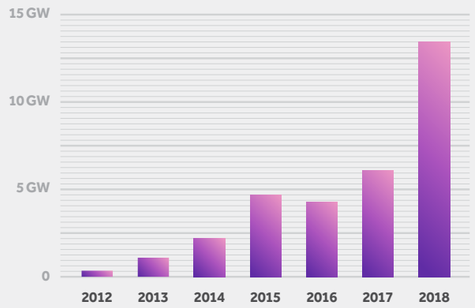
In the U.S., the approach to climate-centric policy continues to be fragmented. In 2018, the Environmental Protection Agency (EPA) introduced the Affordable Clean Energy (ACE) rule to replace the Clean Power Plan (CPP), an Obama administration-era rule which sought to require emissions reduction across the power sector. The proposed ACE rule seeks to establish guidelines for state-level GHG emission mitigation for existing coal-fired power plants, but no longer requires specific commitments or a timeline for achievement. In a similar vein, the current administration also rolled back vehicle fuel efficiency standards. In both cases, these regulatory moves are occurring as the power and transportation sectors are investing heavily in decarbonization, in large part to meet market demand.

Debate as to the best path to address climate change was present across the 2018 midterm elections.

Several successful midterm campaigns leveraged a clean energy platform, including many new House members and new and re-elected governors in Illinois, Colorado, and Pennsylvania. Still, voter sentiment as to the best path forward remains mixed. Washington state voters rejected a carbon tax proposal, while Arizona voters rejected a constitutional amendment that would have mandated 50% renewables by 2030. Nevada voters approved a 50% clean energy standard, but rejected retail electricity competition, which would have allowed consumers and businesses to select their electricity provider.

Corporate buyers who have the option keep voting with their feet. Bloomberg New Energy Finance reported that corporate procurement deals for renewable energy more than doubled in 2018, narrowly approaching 15 gigawatts.

**Corporate clean-power deals last year more than doubled the 2017 record**




Source: BloombergNEF

65%

**A 2018 survey by research firm Quadrant showed that 65% of U.S. respondents would choose to buy their power from a renewable source, if they had the option.**

In the wake of strong 2018 performance with respect to corporate renewable energy contracts, the U.S. renewable energy sector is expected to see its value to not only the grid, but companies and consumers alike, grow in 2019. Consulting firm Deloitte explains in a recent outlook that renewables-friendly, state-level policy and plummeting costs will carry positive renewables momentum into 2020. As business and consumer interest in renewables continues to grow, innovation will bring about new products and services to meet their demand for cleaner power in simplified and unexpected ways.

The financial community is also increasingly weighing in when it comes to the potential risks and costs associated with climate change. Investor coalitions such as the Climate Action 100+ and Global Investor Coalition on Climate Change are encouraging enhanced reporting and governance around climate matters. Big banks introduced new frameworks, such as the Principles for Responsible Banking in November 2018 and the Responsible Energy Lending. By encouraging companies to evaluate and report on their climate-related risks and opportunities, these financial institutions are enhancing their ability to make informed long-term decisions.

All of these factors, along with the abundance of low-cost natural gas, contribute to the rapidly changing makeup of our nation's electric grid. In 2018, an Institute for Energy Economics and Financial Analysis (IEEFA) report touted a "record year" for coal retirements, with a substantial 15.4 gigawatts of capacity coming offline, and the IEEFA expects this trend to continue. In Texas, ERCOT says that carbon-free resources made up more than 30% of its 2018 energy consumption, and a slightly larger percentage of its 2019 generation capacity.

As a result of these trends, the carbon intensity of the U.S. power sector decreased 30% over the past 15 years. Independent of recent political actions, we at NRG stand among over 3,500 organizations — including businesses, cities, states, and universities — that are committed to meeting the goals of the Paris Agreement through implementation of alternative energy sources and extended decarbonization efforts.

## Digitization

Much like in every other part of our modern economy, digitization is revolutionizing the power sector — from connected and smart devices to big data. As the internet of electricity becomes a reality, data and electrons move together, unlocking more potential than ever before.

Yesterday's electric grid is shifting from a centralized, analog system (where power is generated from limited sources and flows in only one direction) to a decentralized, digital, and multi-directional grid (where power can be generated from a number of distributed resources and stored or dispatched on an as-needed basis).

Today's digitization is also enabling real-time control while making demand much smarter. On the heels of several base-load retirements and increased renewables penetration, ERCOT projected record peak demand and tight reserve margins for the 2018 summer. Demand response programs played an important role in managing load by allowing consumers to reduce demand during peak conditions, saving them money in the process. This step toward a "smart grid" is also enabling the advent of plans and solutions that are as customer-friendly as they are grid-friendly, reinforcing the importance of choice and competition in the power market.

Consumers are also seeking new ways to engage with their power. Technologies such as smart thermostats, smart appliances, and even electric vehicles are giving individuals more choices and control than ever before.

These technologies allow even residential customers to participate in programs such as demand response, which were formerly reserved for big business. Armed with deeper insights and information when it comes to their energy consumption habits, today's ultra-informed consumers are better able to shop and evaluate all of the energy solutions in the market to find the plans and products that are best suited for their families.

As the desire to have a more hands-on approach to their energy spend has increased, so have the technologies and digital tools we can provide for both residential and commercial consumers. As customers receive more information about their power use, they are able to make smarter and more sustainable choices about electricity spend. This can include smart devices to report on energy spend and also leaning on robust energy efficiency audits to pinpoint appliances or systems that need to be updated. Greater information, available in real-time, enables all power consumers to think more critically about their power and become aware of the financial and ecological costs associated with their home or business' electricity.

To learn more about how digital options are changing the way we power homes and organizations, please visit our Solutions for a Sustainable Future section.



**Want to learn about customer choice? Read more from our experts.**

## Customization

We've entered the era of customer-centric power. Consumers today expect a range of choices and the ability to personalize their experience with nearly everything they consume, and electricity is no different. In markets with retail electricity choice, gone are the days where the average customer considers electricity a commodity with little differentiation. From 100% renewable energy to free power at night or on weekends, or earning airline miles every time you pay your bill, customers are choosing the plans and solutions that fit their objectives or lifestyles.

Unfortunately, only 13 states and the District of Columbia have active, statewide residential retail choice programs. These competitive markets account for about one-third of U.S. power consumption. We hope to see the benefits and value open in more states, as the competitive environment encourages innovative, differentiated offerings.

As businesses pursue renewable power, they will not compromise on reliability or cost—and in most cases they have no interest in becoming energy market experts either. It will be important to further innovate and simplify procuring renewable products and solutions for large buyers on the path toward decarbonization.

## The Role of Electrification

Released in 2018, the Electric Power Research Institute's (EPRI) U.S. National Electrification Assessment predicted that even modest electrification of transportation and households could yield a 20% reduction in total U.S. emissions with the grid resources of today — and this will only improve as the grid further decarbonizes. It is expected that by 2050, nearly 50% of all energy in the U.S. may come from electricity — up from about 20% today. In order to achieve the IPCC's 1.5˚ C scenario with little or no overshoot and avoid the worst impacts of climate change, the economy must accelerate the electrification of all energy end use.

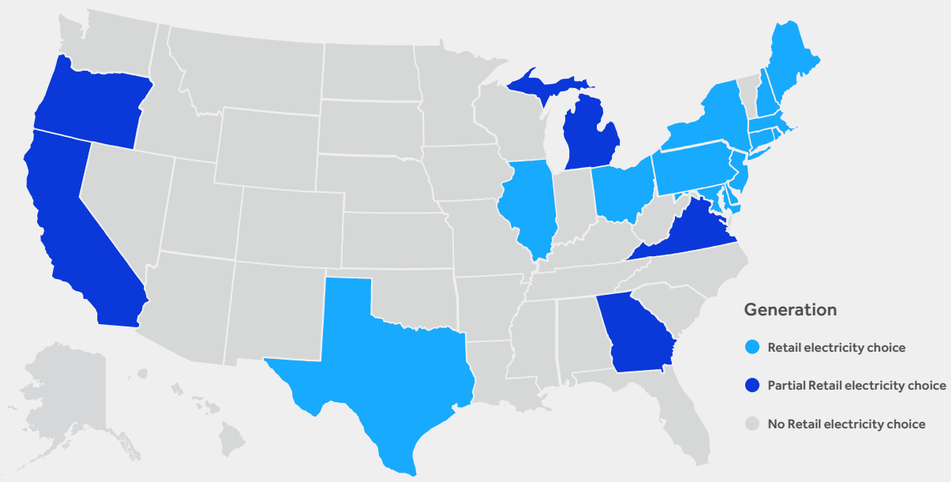
In 2018, electric vehicle (EV) advocacy reached new heights. Organizations across the power value chain announced time-bound commitments to increase the deployment of charging infrastructure, while companies with large commercial vehicle fleets made commitments as part of the EV100 to electrify and make it easier for their customers and employees to do so as well.

We expect this momentum to continue into 2019. With more solutions for EV integration, EV ownership will become more convenient. Additionally, the deployment of new types of EVs — from small SUVs to sedans, trucks, and buses —will attract new EV drivers with familiar and convenient options.

**50%**

**It is expected that by 2050, nearly 50% of all energy in the U.S. may come from electricity — up from about 20% today.***

### States with retail electricity choice




Source: National Renewable Energy Laboratory




*Source: The U.S. National Electrification Assessment.



# Commitment to a Sustainable Energy Future

# Overview

**Our comprehensive approach to sustainability is one of five primary focuses of the NRG business strategy, further reinforcing the commitment to integration across all business functions.**

**Leading retail brands**

**Purposeful generation**

**Predictable earnings + strong FCFbG**

**Disciplined capital allocation**

**Comprehensive sustainability + strong governance**

So, what do we mean when we say comprehensive sustainability?

We aim to embed sustainability into the culture and fabric of the organization and work to ensure this value becomes a core function of our company. That equates to reducing risk (and ensuring continuity), continuing to enhance brand value, and driving business results. As such, we've categorized the five segments of the business that directly tie to relevant goals.

## Our five sustainability pillars

NRG has a broad sustainability strategy aimed at embedding sustainability into the culture and fabric of the organization and ensuring that sustainability becomes a core function that touches all aspects of our business. To help create a sustainable energy future, we prioritize our work into five key pillars:

**Sustainable business**
The Sustainable Business pillar guides our company in the foundational pieces of strong sustainability leadership including governance, transparency, sustainability reporting, and stakeholder engagement.

**Sustainable operations**
Our commitment to sustainable operations includes strong goals in reducing greenhouse gas emissions and water use, and increasing recycling rates of coal combustion residuals across all facilities.

**Sustainable customers**
A key aspect of our sustainability strategy is providing sustainable solutions for our customers and helping to lead in the transition to a more sustainable future. Our goals are to continue to provide more clean energy choices and help reduce the overall environmental impacts.

**Sustainable suppliers**
It is also important for companies to address sustainability in their entire value chain. We have established ambitious goals and started to put systems in place to measure and ultimately reduce the impacts in our supply chain.

**Sustainable workplace**
Our commitment to a sustainable workforce at NRG includes a focus on worker safety, health and wellness, equality, diversity, and employee engagement, as well as environmentally conscious workplaces.

## United Nations Sustainable Development Goals

The 17 Sustainable Development Goals (SDGs) are a global set of goals, targets, and indicators developed by the United Nations to guide countries, communities, and organizations in their work to create a more sustainable future. These goals are intended to address all aspects of sustainable development spanning a wide range of environmental and social initiatives. Achieving the SDGs will require significant contributions from both the public and private sectors.

According to a report by KPMG, four in 10 of the world's largest companies are already referencing the SDGs in their corporate sustainability reporting, which suggests that the interest in the SDGs from the business sector has been growing considerably since they were launched in 2015.

### Aligning with the SDGs

Though there is not yet a standardized process for corporate reporting on SDGs, we continually assess our business strategy and operations to identify opportunities for a greater contribution toward the SDGs. Our core business strategy and vision most directly aligns with SDG 7, designed to "Ensure access to affordable, reliable, sustainable, and modern energy for all."

We deliver against this goal in multiple ways, including promoting competitive energy choice and offering renewable energy plans in all the retail markets in which we operate. Further, businesses can accelerate the transition to an affordable, reliable, and sustainable energy system by investing in renewable energy resources, prioritizing energy-efficient practices, and adopting clean energy technologies and infrastructure. In 2018, NRG introduced Renewable Select to make procuring renewable energy simple, flexible, and convenient for business customers — unlike most renewable contracts in force today.

Our activities at NRG also directly support SDG 13 - Climate Action, through our commitments to combat the negative effects of climate change, as well as several other SDGs, including SDG 5 - Gender Equality, and SDG 11 - Sustainable Cities and Communities.

**7 AFFORDABLE AND CLEAN ENERGY**

**Ensure access to affordable, reliable, sustainable, and modern energy for all**

**Empowered Customers**

- State-of-the-art retail platform
- Plans and solutions for all needs and budgets
- Advocate for competitive markets
- Champion of customer choice

**Sustainable Products**

- Flexible generation
- Energy storage
- 100% renewable plans offered in all our retail markets
- Demand response

**13 CLIMATE ACTION**

**Take urgent action to combat climate change and its negative impacts**

**Customer Solutions**

- Lower GHG emissions
- Added resilience
- Sustainable energy consulting
- Customer emissions avoidance goal

**Company Actions**

- Reduced GHG fleet emissions
- Science-based target
- Commitment to sustainable supply chain
- Carbon-capture innovation
- Climate-change principles

**The Sustainable Development Goals**



## Governance

Strong governance is a foundation of our decision making. In 2018, the size of our Board of Directors was reduced from 12 to 10, with several directors retiring and two new directors joining the board. This strengthened the skills and experience consistent with the direction of our customer-centric business strategy, while enhancing gender and ethnic diversity.

In addition to our board chair who is a Ph.D. scientist and strong supporter of sustainability, the board committee directly responsible for sustainability oversight is the Governance & Nominating Committee, whose risk oversight focus areas include: "Strategies and efforts to manage the company's environmental, economic, and social impacts, including environmental, climate change, and sustainability policies and programs."

### Board diversity

**Gender Diversity**




**2** Women

**Ethnic Diversity**




**2** Ethnically Diverse

**Independence**




**90%** Independent (All Except CEO)

**90%** Meet Heightened Committee Independent Standards

### Investor engagement and discourse

We engage with our investors on environmental, social, and governance (ESG) issues in a proactive, holistic, and integrated manner. In 2018, we organized investor meetings with NRG leadership, including Investor Relations, Sustainability, and our Corporate Secretary. This allowed us to share and discuss key ESG issues, including governance, executive compensation, and board composition, as well as sustainability as it pertains to our overall company strategy and transformation plan. This approach encouraged our investors to bring ESG analysts, proxy and governance experts, and sometimes sector analysts to meetings, resulting in our ability to address and unify these topics and demonstrate their importance to the overall company strategy. As further demonstration of our commitment to transparency, we posted our ESG investor presentation online.

In 2017, the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD) issued recommendations for companies to help them inform their investors, lenders, and insurance underwriters on climate-related risks. This included information to identify material risks and opportunities to which companies are exposed. Investors and stakeholders are asking for climate scenario analysis as part of the TCFD framework. However, rapid and complex change is disrupting the operating context for the energy business beyond merely climate impacts.



In 2018, we began work with Business for Social Responsibility (BSR), a global nonprofit business network dedicated to sustainability, to undertake climate scenario analysis. BSR helped NRG begin to test potential futures for the business, using multidimensional qualitative scenarios with extensive climate input, and including other future factors that can create risks or opportunities. These scenarios will enable NRG to examine how our strategy would perform under different conditions and develop options to make it more robust and resilient. The scenarios have a strong climate dimension and will also be used to explore business conditions under different warming levels and climate impact projections in line with the recommendations of the TCFD.

Anticipated outcomes of this work, which we will conclude in 2019, include:

- Improved futures thinking capability of NRG and a more holistic understanding of emerging issues that will confront the business.
- Creation of a shared perspective on key risks, opportunities, and options to enhance resilience.
- Climate scenario analysis in line with the TCFD recommendations.

## Climate scenarios




**Emissions Reductions:**
- IPCC Special Report on 1.5C

**Climate Impacts:**
- IPCC Special Report on 1.5C
- U.S. Fourth National Climate Assessment




**Emissions Reductions:**
- U.S. Mid-Century Strategy for Deep Decarbonization (reference scenario)

**Climate Impacts:**
- U.S. Fourth National Climate Assessment ("lower scenario")




**Emissions Reductions:**
- IEA 2018 New Policies Scenario

**Climate Impacts:**
- U.S. Fourth National Climate Assessment




**Emissions Reductions:**
- U.S. EIA Annual Energy Outlook 2018 Reference Case

**Climate Impacts:**
- U.S. Fourth National Climate Assessment ("higher scenario")

## Approach to stakeholder engagement

Beyond investors, we actively seek opportunities to engage with stakeholders and foster a collaborative dialogue. In support of this effort, NRG is a member of Ceres, a nonprofit organization whose mission is to "mobilize investor and business leadership to build a thriving, sustainable, global economy." With Ceres, we've set up a formal Stakeholder Advisory body, which includes some of our key investors, customers, leading NGOs, policy groups, and energy experts. We constructively engage with the Stakeholder Advisory group, as they provide us useful feedback on how to ensure alignment with stakeholder expectations, both commercial and otherwise. In 2017, the Ceres Stakeholder Advisory group formally convened for the first time and met with key NRG leaders in person at our headquarters in Princeton, New Jersey, and held several subsequent meetings conducted via teleconference. We remained in dialogue with the Advisory group in 2018 and are scheduled to meet again in 2019.

Additionally, we proactively engage with other leading companies and organizations to help advance standards, share best practices, activate stakeholders, and create action toward a sustainable economy. To that end, in 2018 NRG worked with leading disclosure-focused organizations including:

- Sustainability Accounting Standards Board Alliance
- CDP
- GRI GOLD Community
- BSR Future of Reporting

We were also a member of several sustainability-focused organizations, including the following:

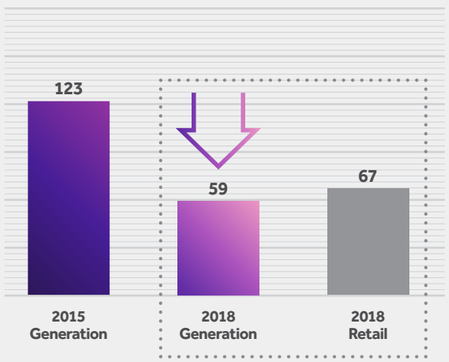
- BSR
- Ceres
- Corporate Eco Forum
- Corporate Responsibility Association
- Electric Power Research Institute's Energy Sustainability Interest Group
- GreenBiz Executive Network
- Rocky Mountain Institute Business Renewables Center
- Sustainability Leadership Forum
- Sustainable Brands
- Natural Gas Supply Collaborative

Throughout 2018, we continued to engage with policymakers in Washington, D.C., and at the state level. We also maintained our relationships with groups such as the National Climate Coalition, the Electric Power Supply Association, and various informal organizations. When possible, we collaborate with major environmental groups on clean energy access and climate solutions. Typically, we engage on legislative and regulatory actions designed to mitigate GHG emissions, as well as policies that foster the development and deployment of competitive low-carbon power generation technologies. We are most active in the debate aimed at protecting and expanding competitive power markets and consumer choice, both of which we believe are critical enablers of achieving cost-competitive low-carbon outcomes. Learn more about our policy engagement efforts here.

# Generation

We have made significant progress in rebalancing our generation fleet in terms of scale, fuel type, and location to better serve our residential, commercial, and industrial customers. We know that our customers increasingly want sustainable energy solutions to reduce risk and enhance value.

**Rebalanced and better-matched portfolio**
**(in TWh)**




As part of this rebalancing, in August 2018, we completed the sale of our renewables platform, causing some to wonder about NRG's commitment to renewables. Our decision was to cease being an owner and developer of renewables projects, while remaining steadfast in our commitment to bring renewable energy solutions and plans to customers of all sizes. The sale of the renewables platform does not in any way impact our commitment to provide comprehensive energy solutions for corporate and residential customers.

## Customer focus

The history of electrification is marked by technological advancements connecting power generation systems with consumers of electricity to raise the quality of life for all. At times, this requires reevaluating what part of the market we can best address and serve. Today, we proudly serve our customers in our digital society where reliable electricity is critical to our lifestyles. Just as important as reliability, our customers want affordable power. Further, today's customers also want electricity from increasingly cleaner sources.

A customer-focused future to match peaks in customer demand with the power that customers want brings the opportunity to be creative in meeting this need. Sometimes, it may mean owning generating units, but it also means renting them or buying power from plants owned by others.

## Reliability

We invest millions annually in maintenance to ensure generating units are available when customers need power — especially on the hottest (and coldest) days of the year, when demand is at its highest.

While renewable generation brings tremendous benefits in the form of increasingly competitive, clean energy, its intermittent nature presents challenges for grid integration.

We are responding to this need, supporting the advancement of battery technology as well as flexible, fast-start generation able to activate in minutes. Our battery project with Toshiba and the Texas Commission on Environmental Quality near the Elbow Creek wind farm continues to provide valuable data on energy storage and impact on the grid.

In states such as California, there is a growing need for fast-ramping resources when solar power drops off at night. In 2018, we developed the Carlsbad Energy Center (CEC) to meet this emergent need*. CEC consists of five fast-start, natural gas-fueled combustion turbines that can come online in 10 minutes and ramp down as demand subsides. CEC effectively replaced our recently retired Encina power station. Encina took roughly 12 hours to start up and would frequently operate overnight (even if not needed), just to be ready to meet demand the next day, while using substantial ocean water for cooling purposes and potable water in its steam cycle. By contrast, CEC does not use ocean water for cooling and eliminates the use of potable water in its generation processes. Finally, CEC uses approximately 30% less natural gas and emits at least 50% less criteria pollutants than Encina, all for the same amount of energy produced.



*In February 2019 Global Infrastructure Partners (GIP) acquired CEC from NRG.

## Resilience

Resilience includes the ability to generate power during and after extreme weather events. Our fleet utilizes a diverse mix of fuels, which has proven to be highly beneficial in extreme weather events and has contributed to the resilience of the electric power system. When one particular fuel supply becomes curtailed or constrained, the ability of a power plant to rely on multiple fuel sources enables grid operators to maintain reliable electricity. Fuel diversity means that oil and coal, with on-site fuel storage, can take over for natural gas when gas supplies are interrupted (such as during freeze events as we saw with the Polar Vortex of 2014) and natural gas can take over for coal when coal delivery is impacted (such as during extreme rain events like we saw during Hurricane Harvey). Likewise, when a natural disaster such as flooding impacts plants in one area, plants in different areas can take over and keep the power flowing.

Resilience also means making sure that we harden our physical assets to stay operational in the face of climate impacts. One example is the NRG Cottonwood plant in East Texas, downstream from a flood control dam. Due to its location and increase in extreme weather, the Cottonwood plant flooded in 2016 and again in 2017. To prevent future prolonged outages, in 2018, we built a flood protection system at the plant to reduce the likelihood that future floods will force the plant to cease operating.



## Carbon reduction

It is widely agreed among the scientific community that the only way to meet the goals of the Paris Agreement is to reduce the carbon output of existing thermal plants, in addition to investing in new carbon-free renewable generation, scaling battery storage, and enhancing the controllability of demand through digitization. In 2018, our Petra Nova carbon capture system reached a milestone of 2 million tons of $CO_2$ captured and sequestered underground. In 2017, our Joliet, Illinois plant was converted to run on gas instead of coal. As a result, the $CO_2$ output of both plants was greatly reduced.

We are often asked how we will meet our GHG reduction goals, especially following the announcement that we were divesting our renewables platform. There are four levers to reduce our GHG emissions and meet our science-based climate targets:

1. Retiring uneconomic units. By retiring units, total emissions from those units go to zero and contribute to our GHG goal.
2. Switching from coal to gas. By implementing this change, these plants will burn more than 50% cleaner once switched.
3. Running existing plants less often. By running plants less frequently, total emissions will decrease.
4. Carbon capture and sequestration (CCS), similar to our Petra Nova plant, which now captures more than 1 million tons a year on average.

When it comes to carbon reduction, we are building on our core strength of diverse power generation to transform and increasingly build a cleaner portfolio.

**2.3M**

**Milestone of 2.3 million tons of $CO_2$ captured since inception as of the end of 2018 at Petra Nova.**

## Environmental Performance

At NRG, sustainability is about much more than environmental responsibility, as demonstrated by our comprehensive five-pillar approach. Still, as an energy company, managing and reducing our environmental footprint is certainly a centerpiece of our overall program.

As such, we've outlined the key data that showcases our environmental performance in 2018. These metrics help us understand where we've been successful in our efforts and where we can improve. In a year where the U.S. power sector increased slightly in overall GHG emissions, ours decreased by about 2% and we are on track to meet our science-based emissions reductions goal years ahead of plan.

We have also helped customers avoid nearly 74 million metric tons $CO_2e$ through the sale of carbon-free power. We anticipate continuing to build our capacity to serve our customers with innovative renewable energy solutions.

### Science-based GHG emission reduction targets

In 2015, we became one of the first companies to set science-based GHG emission reduction targets and to have them validated and approved by the Science Based Targets initiative (SBTi), a joint effort of CDP, the World Resources Institute, the World Wildlife Fund, and the U.N. Global Compact. The initiative works with companies and approves only corporate targets that align with a 2°C limit to global warming.

To enable companies to set targets that are aligned with climate change scenarios published as part of the 2018 IPCC Special Report, in 2019, SBTi will be reviewing its target validation protocols to incorporate updates and provide guidance. After the updated guidance is published, we will review and evaluate whether we need to reframe our science-based targets in line with evolving SBTi protocol.

**73% of the way to our 2030 goal**

### NRG's Revenue Carbon Intensity

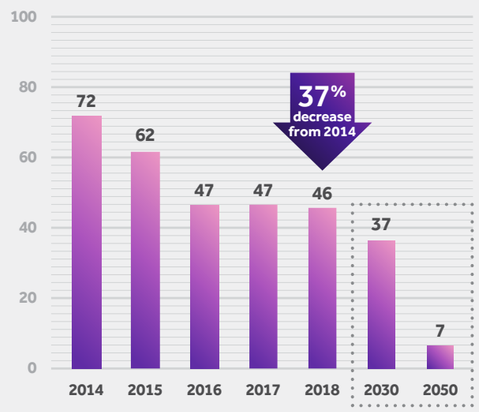



$mTCO_2e$ /$M revenue

Historical values have been adjusted for U.S. asset sales.

### Tracking toward our GHG reduction goals

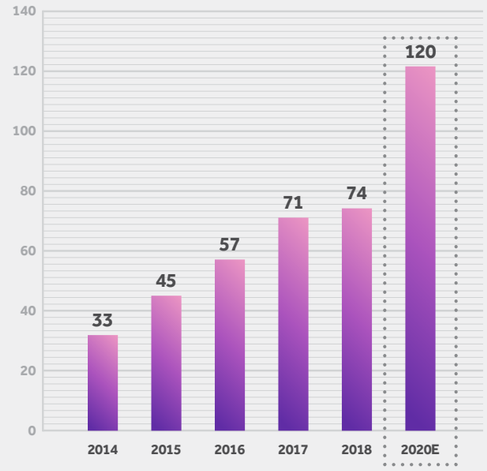
(NRG U.S. $CO_2e$ emissions scopes 1, 2, & 3*) $mTCO_2e$



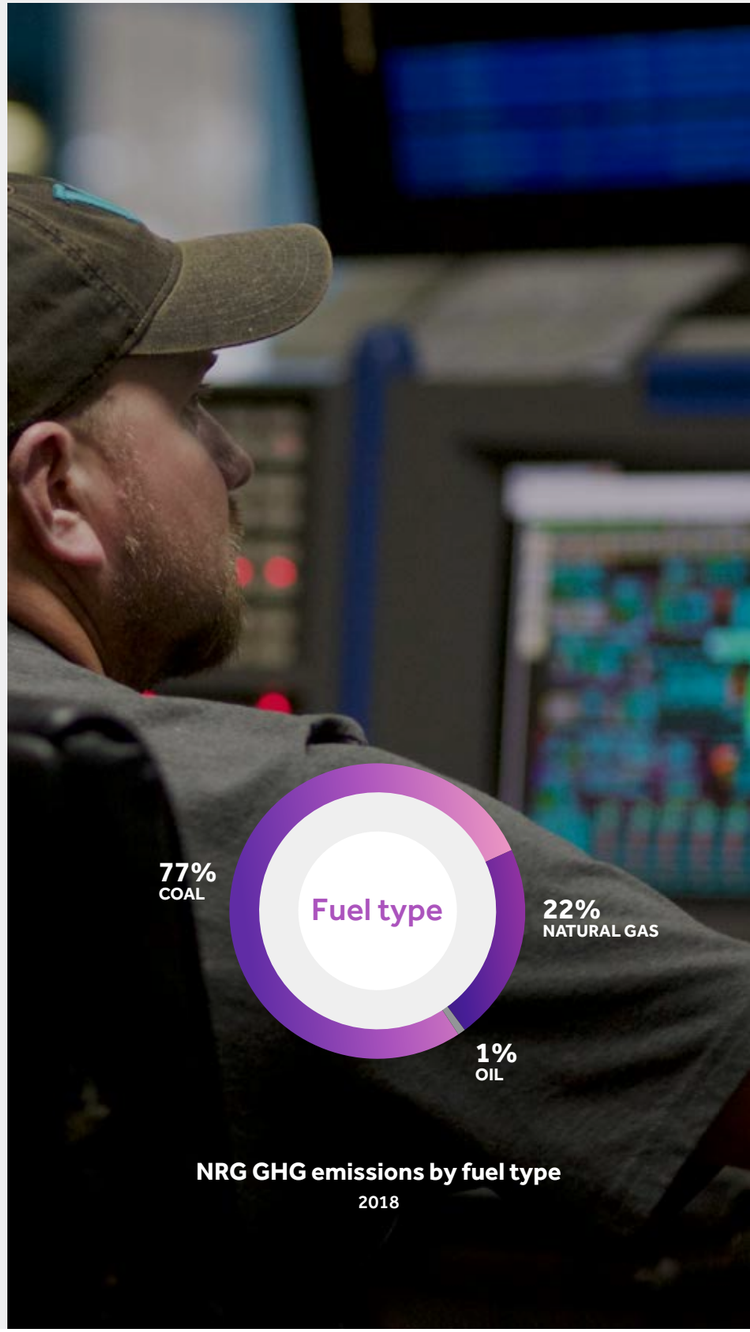

To ensure consistency and relevance, NRG's base year emissions have been recalculated according to GHG Protocol: A Corporate Accounting and Reporting Standard, Revised Edition following generation asset portfolio changes. This revised base year has been verified by a third party.

### Avoided customer GHG emissions

($mTCO_2e$)




This is a cumulative absolute number based on carbon offsets sold and total renewable megawatt-hours, including renewable energy credits, generated and sold by NRG brands.



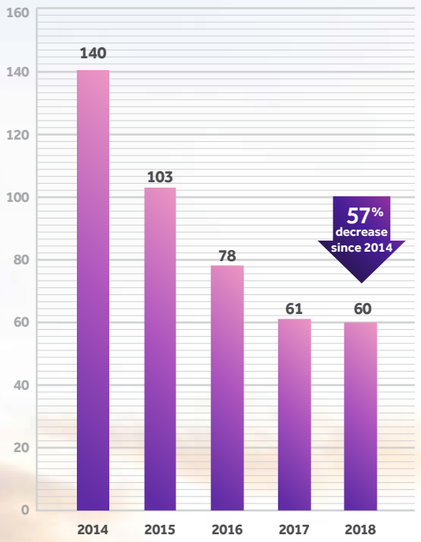

**NRG GHG emissions by fuel type**

2018

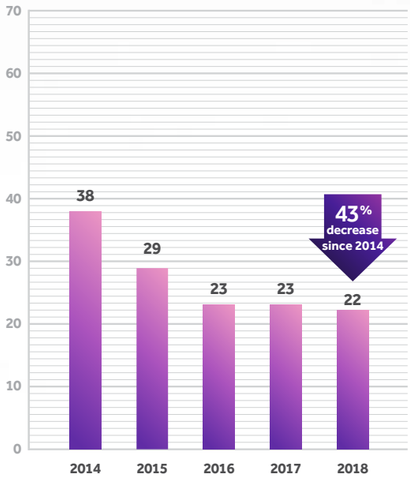
## Air emissions

The charts to the right include emissions from NRG-owned generation. Our SOx and NOx emissions declined 3% and 4%, respectively, from 2017. Factors leading to the decreases include reductions in fleet-wide annual net generation and improved environmental controls. In 2018, our mercury emissions decreased approximately 7% from 2017[1]. The reduction was driven by the slight decrease in coal-fired generation.

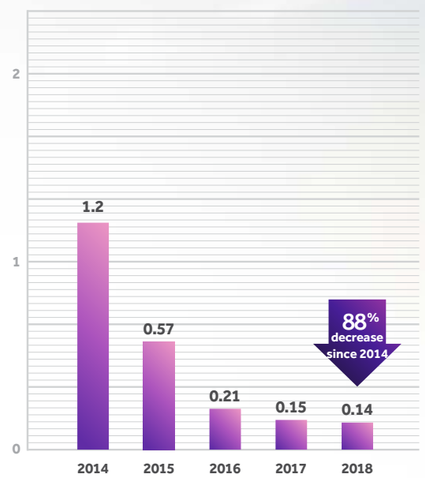
### NRG Annual U.S. $SO_x$ emissions
(Emissions million kilograms)




### NRG Annual U.S. $NO_x$ emissions
(Emissions million kilograms)




### NRG Annual U.S. mercury emissions
(Emissions in U.S. tons)




In the above charts all assets sold as of Dec. 31, 2018 have been removed from inventories.

[1]In the case of mercury emissions, volumes are estimated for some facilities due to incomplete data at time of publication.

## Water

Operating some of our power generation facilities depends on sufficient amounts of available fresh water, as well as recycled, brackish, and ocean water. The primary direct use of this water is cooling of condensers during power generation. We have designed our approach to water management with the understanding that water issues (usage, scarcity, quality, and biodiversity) are site-specific.

We have invested in water-saving technologies at our generating stations where cost-effective. We also reduce the water required to produce electricity by using non-potable water such as brackish ocean water or grey water from sewage treatment plants, and by reusing water in plant cooling and boiler systems.

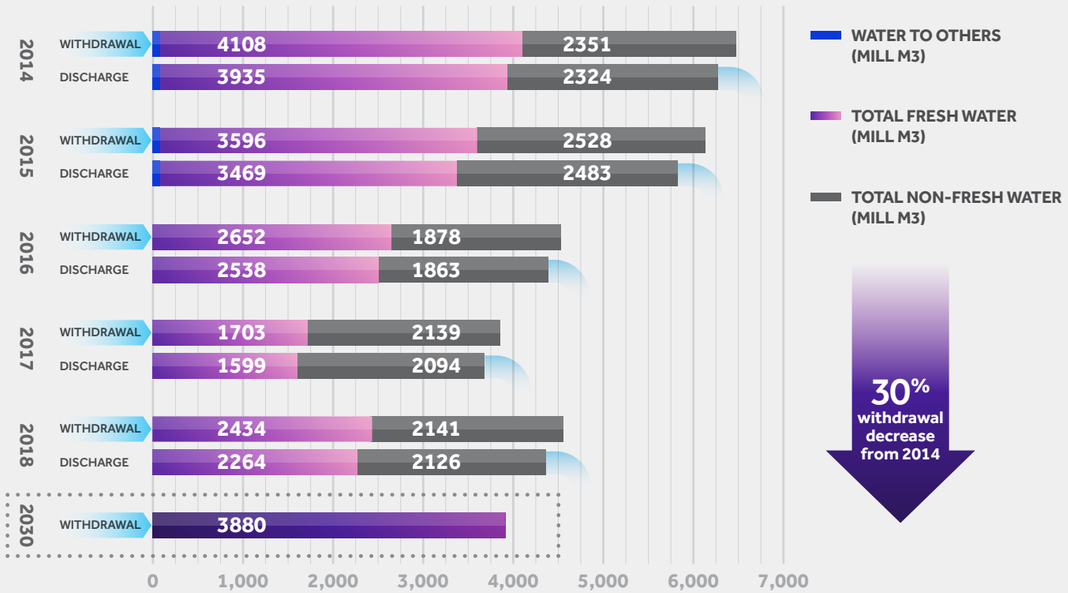
Climate change could affect the availability of a secure and economical supply of water in some locations, which is essential to NRG generation plants.

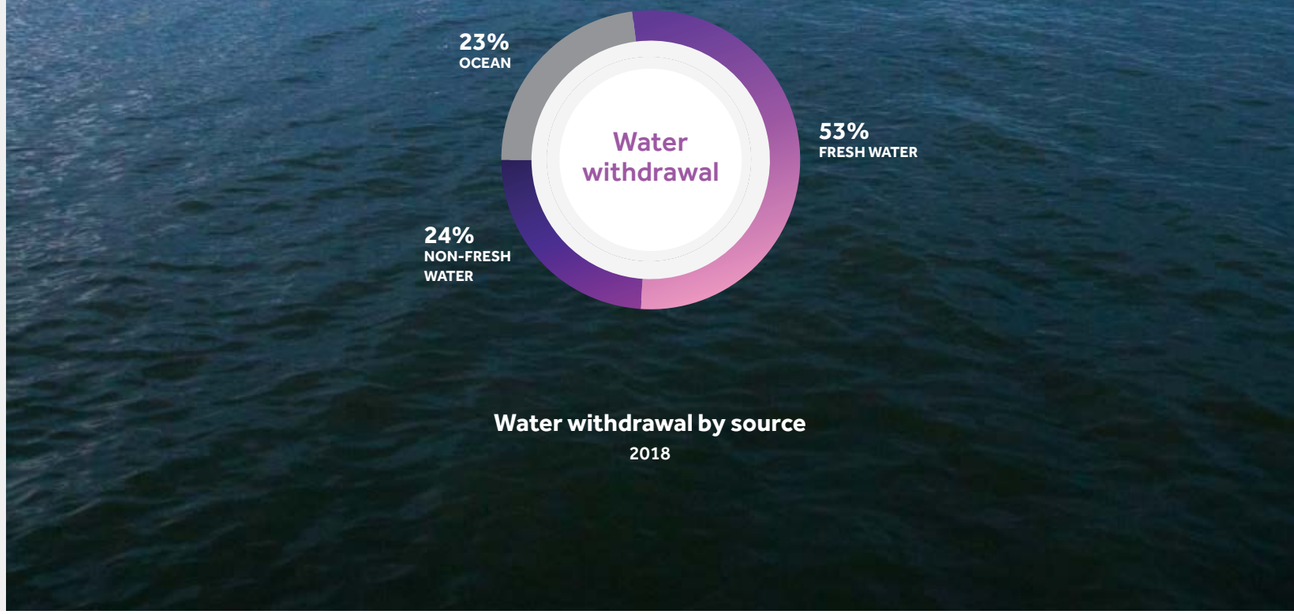
## Water effluents and waste

Reducing effluents and waste is important to us as stewards of the environment. For example, in completing the annual CDP Water Security questionnaire we use tools such as state water quality studies and designations and the World Resources Institute's Aqueduct tool to evaluate water sustainability impacts.

In 2018, we continued to enhance the current waste diversion program by evaluating waste generated and identifying recycling opportunities. We worked with business partners to implement waste reduction and recycling plans.

### NRG Water Withdrawal and Discharge*




**Water withdrawal by source**
2018

* Sold assets as of Dec. 31, 2018 have been removed from historical inventories.

## Coal combustion residuals

In 2018, NRG facilities generated 1.3 million metric tons of coal combustion residuals (CCR), more than 873,000 metric tons (63%) of which were recycled. Coal combustion residuals are used in industrial applications such as on- and-off-plant road construction, as well as in materials such as cement. This practice reduces the need for mining of virgin resources such as gravel and gypsum.

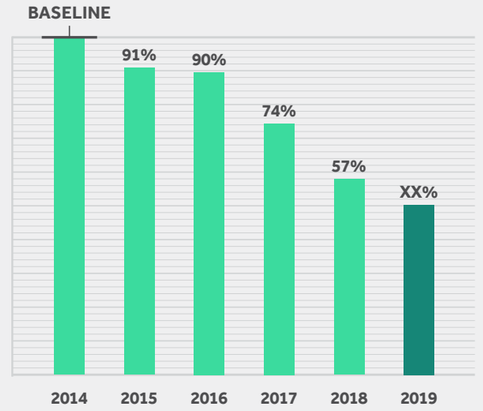
On April 17, 2015, the EPA promulgated a rule which regulates the disposal of CCRs. We maintain a CCR Rule Compliance Data and Information page on nrg.com as required. NRG has 14 surface impoundments defined by 40 CFR 257.2 as a facility or part of a facility that is a natural topographic depression, human-made excavation, or diked area formed primarily of earthen materials.

## Environmental compliance statement

We are committed to creating value for our owners by managing our business in economically and environmentally responsible ways that focus on continual improvement. To succeed, we must:

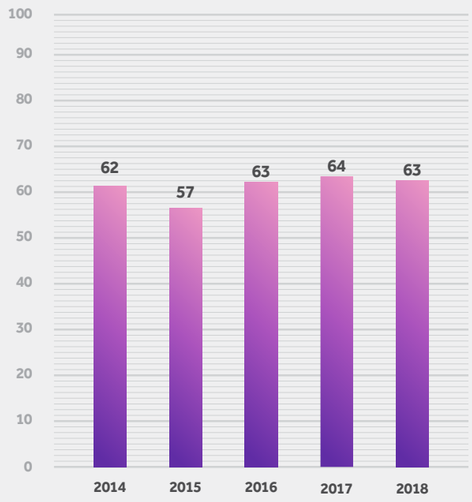
- Meet or exceed applicable environmental laws and instill environmental responsibility in our employees.
- Reduce our environmental impacts (including climate) by integrating environmental considerations into business operations and strategy, operating more efficiently, and using cleaner, cost-effective technologies.
- Promote stewardship and conserve biodiversity at our facilities and in our communities.
- Seek constructive engagement in the legislative and regulatory process, as well as with environmental stakeholders, through honest, respectful, and responsible dialogue.
- Measure the effectiveness of our environmental program by tracking environmental performance and communicating our performance internally and externally.

**Environmental performance metric***
**% of baseline (lower is better)**




* Our environmental performance metric counts environmental incidents such as reportable spills, permit deviations and receipt of Notices of Violation. Fewer incidents means a lower score. The chart shows the company's EKPI score per year as a percentage of the baseline year of 2014. *Baselines have been recalculated to reflect the composition of the NRG generation fleet. In some cases, that has resulted in differences from percentages previously reported.

**Coal combustion residual recycling rate (%)***




* Baselines have been recalculated to reflect the composition of the NRG generation fleet. In some cases, that has resulted in differences from beneficial use percentages previously reported.



## Sustainable Suppliers

In 2018, we made progress against all three of our goals to enhance the social and environmental performance of the NRG supply chain. We continued to invest in and enhance the way we select suppliers, relying on environmental, social, and governance factors to create a sustainability ranking. Ongoing amendments to our standard agreements and internal policies ensure these sustainability requirements are incorporated.

Additionally, leveraging the world-leading CDP Supply Chain engagement program, we asked our top suppliers to disclose information about their climate change and water performance and 39% of them submitted a response, an increase over 2017. We are also honored to be named a CDP Supplier Engagement Leader for 2018, the second consecutive year.

### Manufacturing Standards

NRG requires all contract manufacturers (including subcontractors) to adhere to our Social Responsibility Standards for Manufacturers which, at minimum, requires compliance with applicable laws and regulations, industry best practices, and the International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work. Manufacturers who employ subcontractors shall verify that these standards are upheld by their subcontractors. These standards are referenced and made part of any manufacturing agreement put forth by NRG. To manage compliance with these standards, manufacturers are encouraged to establish policies and performance objectives related to labor, grievances, health and safety, environmental responsibility and ethics, and business integrity.

Third-party supplier audits are conducted on a regular basis, depending on our total supplier portfolio and other administrative considerations. All new suppliers are audited as soon as is practical upon engagement with NRG. Depending on a facility's operational environment, confidential employee interviews may also be conducted with employees indirectly involved in facility operations. In addition, interviews with management shall foster understanding of manufacturers' management systems. Should non-compliance with the Standards be determined, manufacturers shall engage in corrective action. Long-term corrective action involves identification of root causes and implementation of management systems to ensure compliance in the future. NRG reserves the right to suspend any agreements with the manufacturer until corrective actions are implemented, or to terminate its relationship with the manufacturer. NRG reports manufacturing audits to the Board's Audit Committee.




### Supply chain performance goals

**80%**
Achieve GHG and water disclosures from 80% of major suppliers by 2020

**25%**
Reduce supply chain carbon and water intensity 25% by 2025

Develop and implement responsible sourcing principles

### 2018 supplier response highlights*

**39%**
2018 response rate, improved from 34% in 2017

**74%****
of NRG's suppliers have an active target to reduce their emissions

**92%**
of our responding suppliers measured and reported their GHG emissions

**23%**
have a specific renewable energy target, and 13% are committed to RE100[1]

CDP DISCLOSURE INSIGHT ACTION SUPPLIER ENGAGEMENT LEADER 2019

*Data sourced from CDP.
**CDP average of 67%
[1]RE100 is an initiative where organizations commit to sourcing 100% of their electricity from renewable power

**Take an extended look at our work with the NGSC.**

## Natural Gas Supply Collaborative

Analysis of carbon and water in our supply chain revealed that most of our impacts occur in a concentrated area of our supply chain: natural gas. That enables us to craft strategies that address our most significant areas of impact and the vendors that comprise the largest portion of our supply chain footprint.

In 2018, we continued our work within the Natural Gas Supply Collaborative (NGSC), a voluntary collaborative of natural gas purchasers promoting increased transparency through voluntary reporting by natural gas producers. Operating at the intersection of the natural gas supply chain and end-use customers, NGSC participants are increasingly being asked to address questions concerning natural gas production.

NGSC membership grew to 12 of the largest natural gas purchasers in North America in 2018; participants are Austin Energy, Calpine Corporation, Consolidated Edison Company of New York, CPS Energy, Énergir, National Grid, New York Power Authority, NRG, NW Natural, Pacific Gas and Electric Company, Vermont Gas, and Xcel Energy.

Collectively, NGSC participants purchase gas equivalent to more than 13% of U.S. marketed natural gas, and, as part of a portfolio of resources, generate enough electricity from natural gas to power almost 17 million households.

NGSC members encourage natural gas producers to build on recent progress and continue to improve transparency and voluntarily report on the collaborative's previously published 14 social and environmental performance indicators.

The indicators cover: methane and air emissions; water; chemical use; and community impacts and workforce safety. This type of voluntary reporting goes beyond demonstrating compliance with regulations and helps a company communicate directly with its stakeholders.

**13%**

**Collectively, NGSC participants purchase gas equivalent to more than 13% of U.S. marketed natural gas.**



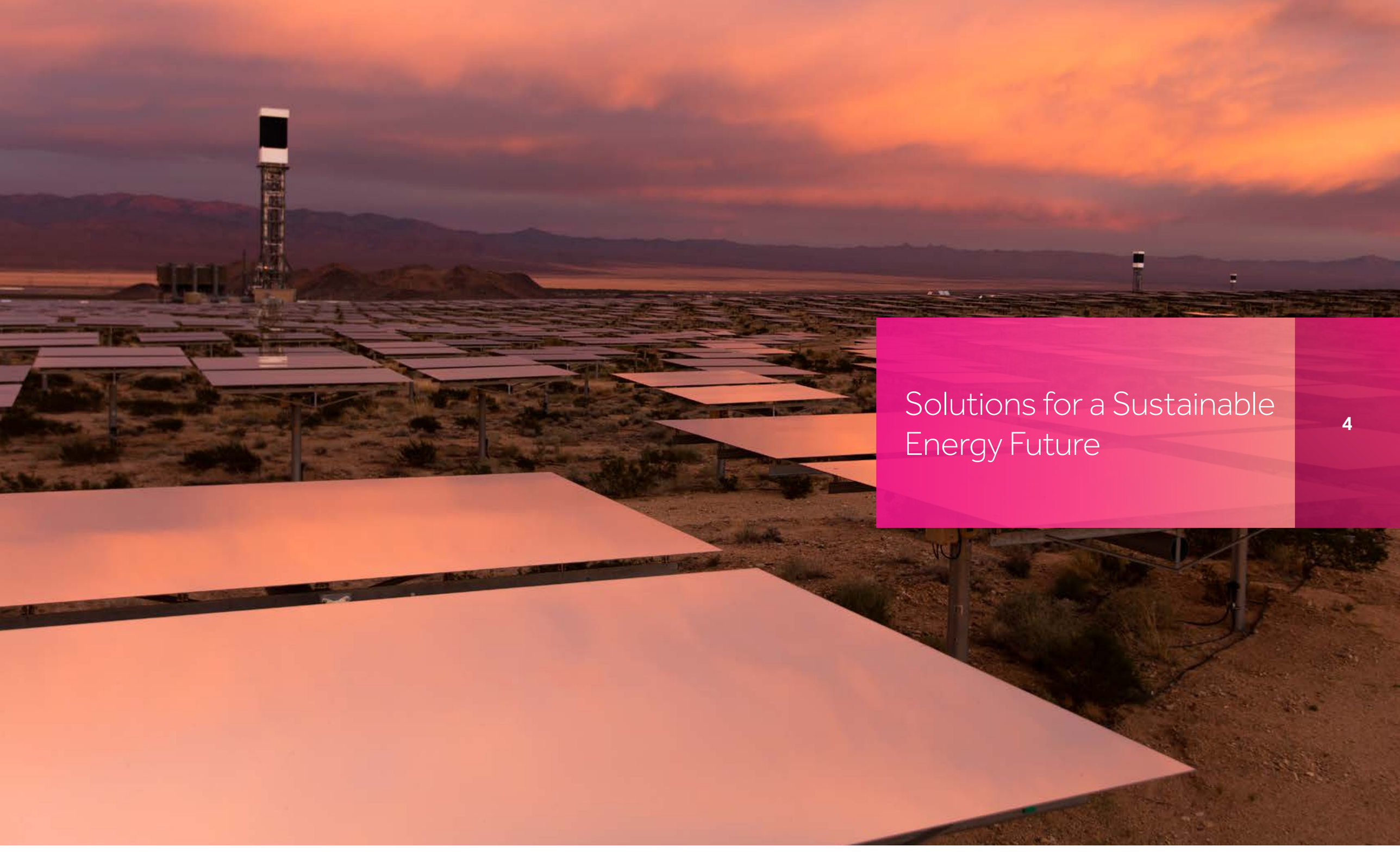
## Conflict minerals

In September 2014, NRG acquired Goal Zero, a provider of portable solar power and battery pack products and accessories. In our first conflict minerals filing in 2016, Goal Zero analyzed the materials used in the production of its products and determined that substantially all of its products may contain conflict minerals. Conflict minerals are tin, tantalum, tungsten, and gold, and are referred to as 3TGs.

Goal Zero's supply contracts require suppliers to represent and ensure that they supply Goal Zero with only 3TGs that are "conflict-free" unless otherwise agreed to by Goal Zero. Goal Zero also requires that its suppliers agree that they will inform all of their own suppliers of this policy and ensure that it is complied with throughout the supply chain. Goal Zero reserves the right, in its contracts, to audit its suppliers' compliance at any time and to terminate supply agreements if there is a material breach of the agreement.

In addition, in May 2016, NRG adopted manufacturing standards with which all Goal Zero suppliers are required to comply. (For more information, see 'Manufacturing Standards' section). The standards also set requirements based on industry best practices and international conventions, including those related to 3TGs.





# Solutions for a Sustainable Energy Future

4

## Overview

**In this section, we dive into the sustainable solutions we bring to customers through our residential and business teams. These include ongoing initiatives and plans, as well as specific projects and goals we achieved in 2018.**

## Business Solutions

For commercial and industrial clients, our Business Solutions team delivers energy solutions that meet renewable energy goals — while also expanding the definition of sustainability to include resiliency, reliability, control, and cost savings. By integrating technology and knowledge in a customized approach, we can bring multiple benefits and more impactful energy options to enterprise customers. This includes developing comprehensive digital tools that better track and report on power and giving customers access to our team of energy experts. Our experts help them plan for shifts in the market and provide education on emerging energy technologies.

In 2018, we sought feedback from our Business Solutions customers about the value of NRG sustainability leadership in our sector. A customer survey indicated that while economic value is paramount, 70% of customers said having a choice of sustainable products and services is important when choosing a provider. Satisfaction with the availability of sustainability products in our portfolio remained high, and rose slightly from 2017. In addition, customers indicated interest in sustainability-oriented products and services such as energy efficiency and off-site renewable energy, as well as sustainable energy advising. Research in progress will shed light on how customers prioritize action on reliability and resiliency, as well as how NRG products and services can support our customers to advance their energy goals. Ultimately, these solutions are designed to drive impact in an increasingly environmentally aware market.




**See how the NOC helps us manage demand response.**

### Our digital evolution

We see our customers searching for more decarbonized, customizable, and digitally based programs, and our Business Solutions team has created tools and solutions to meet their needs. Our demand response programs start with a simple premise: use less energy at times of peak grid usage and get paid for doing so. Now, digitization is making it even better by bringing a highly advanced metering platform to every demand response solution we develop. Our real-time energy monitoring, available through NRG's Active Management Platform (AMP), brings a deeper knowledge of how and when energy is used. From here, it becomes possible to reduce demand from more carbon-intensive resources. When the time comes to curtail, reduction measures take place with little or no impact on daily operations.

In 2018, we began implementing even more advanced digital tools for demand response customers. These new tools support bigger, more integrated energy systems with natural gas back-up generators, alternative energy sources, and battery storage systems, known as asset-backed demand response. These solutions can all be housed on-site and coordinated by intelligent management systems. So if the grid becomes less stable or grid prices go up, these resources can be instantly activated. This provides enhanced resiliency, greater reliability, and added control over outside costs.

Our Network Operations Center, also known as the NOC, located in Buffalo, New York, serves as the home base for our demand response business. We constantly monitor energy conditions as they are evolving so customers can respond in real time to curtail power use and stabilize the grid. This real time curtailment prevents higher-cost plants from being brought online and even allows us to use existing generation rather than building new plants to meet energy needs. But our digital options also extend beyond demand response. For example, when we enacted the Online Account Management platform, its initial function was to provide current customers access to billing information. However, it quickly became an opportunity for customers to view market trends and energy use to assess their spend and make smarter energy choices. Both these digital tools offer a broader view of energy and empower customers to view their own data in a way that makes sense to them.

## Team of energy experts

Our team of experts helps find tangible efficiency solutions, focused on a customer's unique energy usage and profile. In fact, energy efficiency is the first fuel of a sustainable energy system. It can mitigate risks from climate change, improve energy security, and grow economies while delivering environmental and societal benefits — but customers often don't have the insight to know what would make their operations more efficient[1]. Our energy efficiency engagements vary from preliminary usage assessments and on-site energy audits to a fully installed solution that includes measurement, verification, and service.

We've taken what we've learned as a sustainability trailblazer and turned it into a sustainable energy advisory service to guide businesses, institutions, and municipalities to achieve sustainability and energy objectives more quickly and cost-effectively. Through energy supply assessments, energy resilience master planning, and demand-side energy solutions, we help our customers thrive in complex energy markets.

We can also help prepare customers to keep the lights on during an outage, match them with tailored clean energy opportunities, and help in sourcing for their energy procurement needs. Our market expertise drives our ability to deliver on nuanced customer sustainability goals, backed by the latest regulatory and reporting trends — and it keeps us looking ahead to tomorrow's solutions.

## Cost-efficient, simplified renewables

We heard from businesses that the traditional path to buying renewable energy was too long and arduous. The Renewable Select plan is our solution. Launched in 2018, it delivers renewable energy through a simple contract with no lengthy negotiations and no on-site infrastructure. For a company without an energy procurement team, or any organization with a business to run, our team of market experts provides a real-world solution that grants 100% renewable energy without the pain of a complex financial product or the hassle of traditional renewable energy procurement. Renewable Select makes the procurement process:

- **Simple:** A standard electricity confirmation replaces a complex, lengthy power purchase agreement (PPA).
- **Easy:** An on-site investment is replaced with a flexible contract, no installation, and renewable energy in the exact amount desired.
- **Fast:** A typical renewable contract can take 18 months to negotiate. This solution takes as little as 60 days to complete.

With Renewable Select, there are larger benefits at play than the contract form. As more businesses are looking to be part of a decarbonized energy future, this power program drives momentum for additional renewable energy in the marketplace.

## Renewable Select for Sysco

The value of our Renewable Select plan became clear with the first customer to sign up — global food service distribution company Sysco. The company had set ambitious sustainability goals for itself and was looking for the means to get there. Our solution was a natural fit.

In one concise contract, we put them halfway toward their stated goal of powering their facilities with 20% renewable energy. This straight-forward solution allows them to embrace renewables without taking their eye off their core mission of food distribution. The plan provides 25 MW of clean energy, spread across three Texas solar sites, and reduces approximately 37,000 tons of $CO_2$ emissions, equivalent to taking 7,000 cars off the road[2].

**37k**

**tons of $CO_2$ emissions reduced annually for Sysco through Renewable Select**



Discover more about Renewable Select.

[1]U.S. Energy Information Administration (EIA)

[2]Estimated based on applicable $CO_2$ emission rate from the EPA and eGRID. Estimates include emissions avoided due to electricity not used. Estimates do not include manufacturing, shipping, or end-of-life impacts of wind energy assets.

## Sustainable solutions for Houston

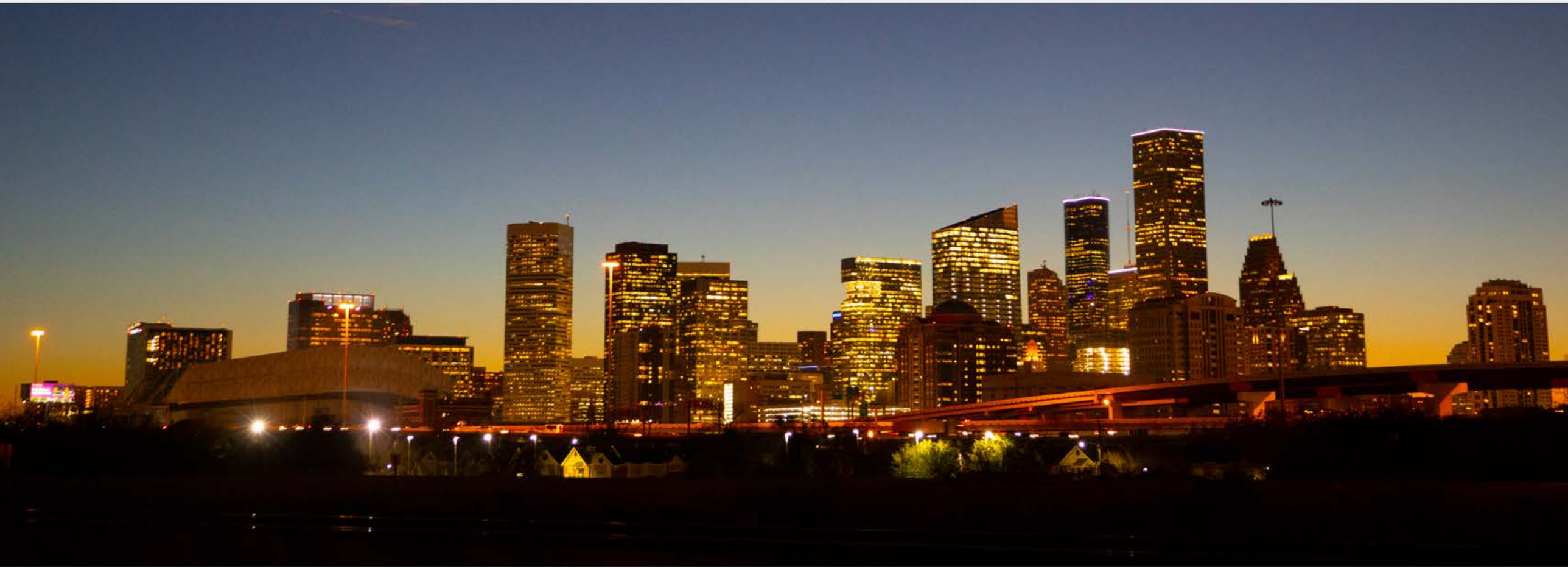
Sustainability takes many forms, as evidenced by the comprehensive solution we created for the City of Houston.

## Resilience in extreme weather

For the City of Houston, 2008's Hurricane Ike highlighted the importance of energy resilience, when power to the entire water supply was cut off for several days.

In working with the City of Houston, we created a solution that incorporates a large-scale emergency backup network with a 20-year service agreement. The resiliency of this system was tested in 2017 with Hurricane Harvey — the power stayed on and the water system remained operational throughout the storm, a monumental feat considering the impact of previous storms. Through our work together, Houston was fully prepared to meet the City's electricity demands and remain stable — from both a financial and reliability standpoint.

We also facilitated the decarbonization of the City's electricity use while securing its leadership position as the nation's largest municipal purchaser of renewable power with 85% renewable annual power for City operations. Our solutions for Houston included solar power allocated across multiple locations, a 20-year PPA, and renewable energy credits (RECs). And we finished all projects on time and within budget: large-scale emergency backup generation; three-electricity plan enabling the expansion of REC purchases from 37% to 50%; and the establishment of a public-private partnership that resulted in the city's first public electric vehicle infrastructure. Across the board, our customized solutions have turned energy goals into realities, helping the City secure a #1 EPA clean energy ranking.



**41%**

**Reliant increased e-bill customers from 29.8% to 41% in 2018**

## Residential Solutions

Our residential and small business brands — NRG, Reliant, and Green Mountain Energy — provide electricity packaged in ways that meet the needs and lifestyles of our customers. Increasingly, these solutions are becoming sustainable solutions. Renewable energy plans are the most direct example, but we are also thinking more critically about more in-depth sustainability opportunities.

We've seen that better understanding of energy usage, combined with the tools to adjust and save power, provides a clear path to sustainable energy consumption. Taking this a step further, we have incorporated energy preparedness into our power programs. In an era of more frequent extreme weather events, it takes sustainability to a higher level for customers living in both hot and cold weather climates.

Waste reduction and operational efficiency has also improved through measures in e-billing and enrollments, e-disclosures, and providing residential sales representatives with tablets to make sales outreach more efficient. Our Goal Zero brand, which provides customers with portable, solar-powered products, is even utilizing sustainable packaging with low environmental impact. In addition, carbon offsets are received for every product imported via a selected freight-forwarding supplier. And looking beyond our business offerings, community outreach is also an important and impactful aspect of our residential brands[1].

As demonstrated by our Sustainable Business and Sustainable Customers pillars, we actively take opportunities to incorporate a more eco-conscious perspective into our product offerings and brand operations for both 2018 and beyond.

### Renewable energy

We continued to bring renewable energy to customers in 2018 — through an ever-increasing range of energy plans, designed to optimize sustainability even for customers who might not be environmentally focused. Green Mountain Energy (GME) expands on its 20-year mission of 100% renewable energy plans with options like Go Local Solar, which taps into solar fields across Texas and accounts for 15 MW of power[2]. GME's commitment to renewable energy accounts for 9.9 billion pounds of $CO_2$ emissions avoided in 2018, which is equivalent to taking 1 million cars off the road for a year. The drive to offer more renewable plans means offerings like our Reliant 100% solar plan, which includes fixed-price solar for 12 months, no panels needed. Additionally, Reliant offers a power plan that discounts energy charges at night, when EV vehicles are typically recharging, making it ideal for EV users. On the east coast, NRG, which supports customers in the region, offers electric and natural gas plan options with renewable energy components, namely wind and carbon offsets, to help customers make a greener choice.

### Eco products

Where applicable, our renewable solutions extend to tangible products that customers can install in their homes or use in their travels. With portable solar-powered products from Goal Zero, we have accounted for roughly 66,000 solar panels sold to customers. Both during and after Hurricane Harvey, Reliant saw firsthand the need to keep our customers powered during extreme weather events. Following the storm, we partnered with Goal Zero to bring solar-charged, battery-powered products to customers most impacted by the storms. In the year following, we continued those efforts by offering Reliant customers 15% off any Goal Zero purchase, including products like the Home Integration Kit, which allows customers to use their Yeti Portable Power Station to keep essential home circuits running.

### Eco-focused rebates and incentives

Our residential solutions often include either rebates available for customers to become more sustainable energy users or incentives for those who are already environmentally conscious. GME has thousands of customers on solar products nationwide. This includes solar REC-based products, buy back products, and rooftop installations. GME also helps Texas customers to have solar panels installed on their roof by offering them a solar buyback plan that provides a bill credit for 100% of their solar outflow to the electric grid. Additionally, the GME Texas driver program allows customers to neutralize the carbon footprint related to their driving through the purchase of a corresponding level of carbon offsets. Additionally, NRG connects qualified customers with solar installers and grants $300 cash back when installation is completed; this program created 200 leads in 2018.



[1]This is shared between GME and Reliant.
[2]Specifics on how this commitment was implemented in 2018 can be found in the Community section of this report.

## Sustainable retail partnerships

We work with small businesses and organizations to provide sustainable energy solutions at scale. Below are some of our notable commitments and partnerships from 2018.

**Renewables for Small Businesses**

GME now offers only 100% renewable plans for commercial customers

**AMLI Residential**

Residential community developer

330 kW solar panel installations at four Dallas locations

100% renewable energy powers common areas at apartments in Dallas and Houston

**Discovery Green**

12-acre downtown Houston park

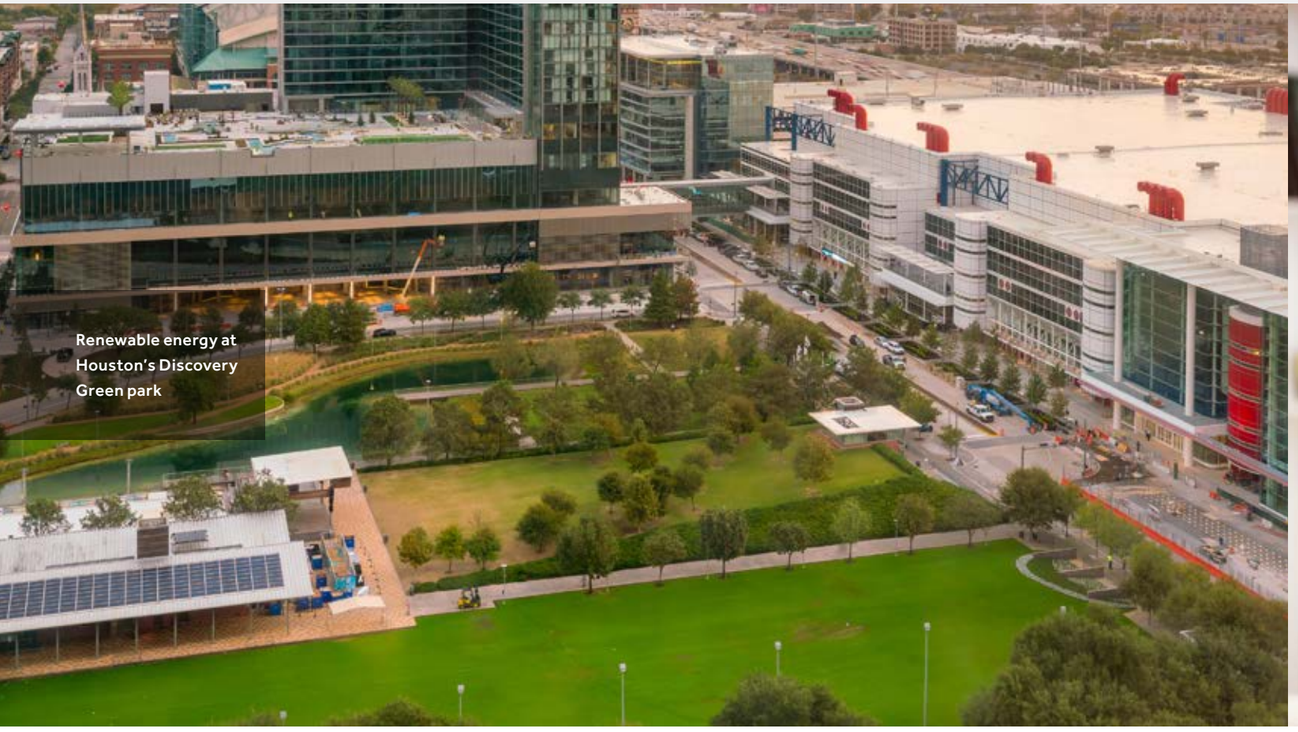
Powered by 100% renewable energy from GME for 10 years

## Digitization and technology

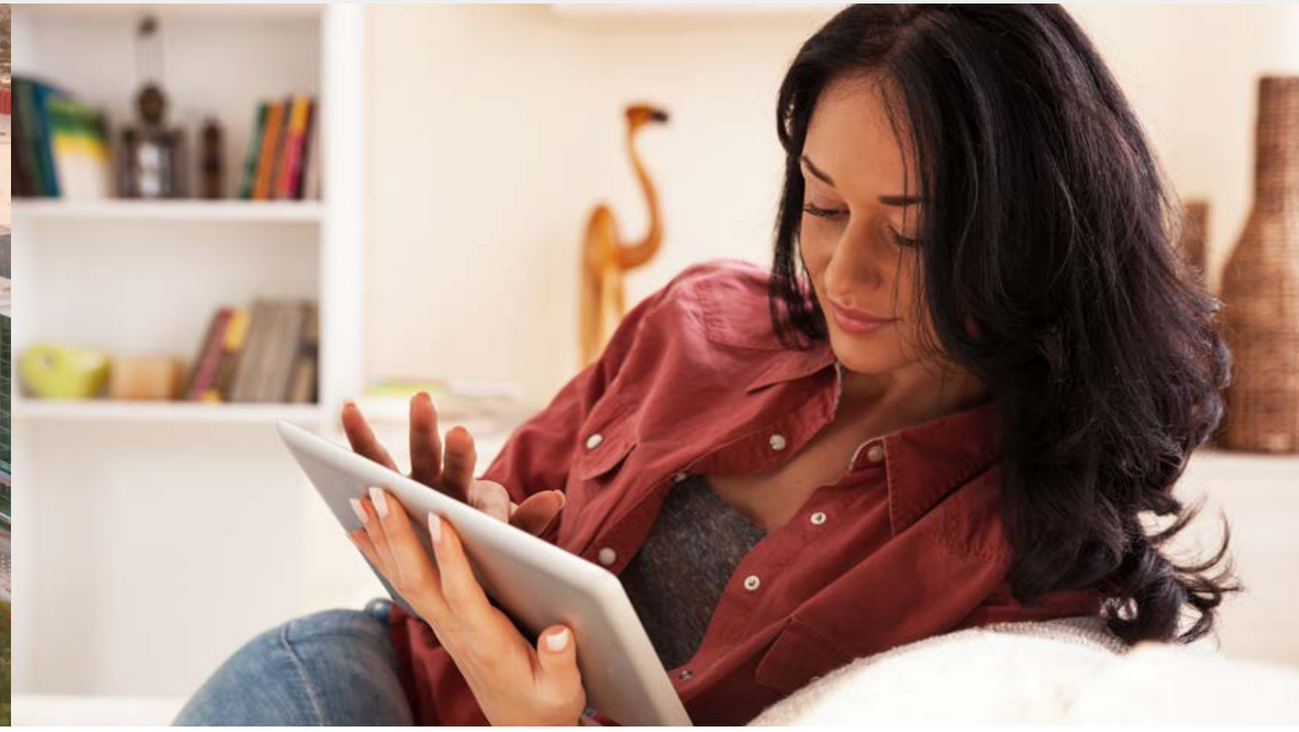
As previously mentioned in the Sustainability Context section, digitization is one of the three megatrends we see revolutionizing the power sector. In 2018, we launched an exclusive partnership with best-in-class leading tech companies to bring innovative energy management solutions to customers. Our goal is to provide them with the latest smart home devices and make it easy for them to understand their energy usage, manage their accounts, and become a more sustainable group of energy consumers.

This includes smart devices like the Nest thermostat and Google Home Hub that empower users to monitor their energy use and to even scale back when they are not at home. We also developed the Reliant app to showcase customer energy spend and help customers view their billing data.

Looking forward, we hope to gain additional data about how smart technology integration contributes to customers' adjusting or modifying their energy spend, and begin reporting on overall energy saved as a result.



Renewable energy at Houston's Discovery Green park







**Want to learn more about smart home integrations?**
**See plan options here.**

## Smarter homes with robust data

In our partnerships with both Google and Nest, customers are able to see their energy use in near-real-time through voice-activated technology and intelligent connectivity. In 2018, several electricity plans were launched with a Google Home device and/or Nest thermostat included at no additional cost, to incentivize customers to take control of their energy use.

As customers learn more about usage both through their smart devices and in marketing initiatives like opt-in communications and SMS alerts, they can make more informed choices about their usage. For example, time-of-use plans from Reliant and NRG provide lower rates during off-peak periods, like nights and weekends. When coupled with remote tools and access, customers are empowered to easily switch usage to more economical periods.

## Energy apps

Our apps, offered to both Reliant and NRG customers, allow for easy and remote access to energy data and customer account information. In 2018, specific voice-activated commands were developed for both Google Home and Amazon Alexa devices to help customers quickly understand and monitor their energy spend, allowing customers to adjust their HVAC units directly from the Reliant app. GME is positioned to launch their own app in 2019. This smart device integration is an ongoing initiative that we will expand upon in the coming years as we continue to promote consumer education and access to energy data.

## Phillips Hue

This partnership enabled GME customers to embrace smarter LED lighting through Phillips Hue. As a central offering in the Pollution Free™ with Smart Lighting Kit plan, GME customers receive a smart lighting kit at no charge that uses up to 80% less energy than traditional incandescent lightbulbs. The LEDs in smart lights can last up to 15 years.

## Energy preparedness

The Texas summer energy market forecast for 2018 was a daunting one for customers. High temperatures coupled with low supply set the stage for challenging outcomes — including high prices and the threat of rolling outages. In response, all of our Texas retail brands implemented a multi-faceted campaign, designed to prepare them with advance knowledge and action steps to guide them through a stressful energy season. This summer conservation messaging campaign included:

- Proactive communications with summer energy savings tips delivered via bill messages, account alerts, social posts, and website content.
- As record-breaking temperatures hit, conservation requests were sent via account alerts, texts, call center messaging, emails, and app push notifications.

Energy usage in the face of extreme weather presents an opportunity to elevate our value as an electricity provider by helping customers and communities become more resilient and more sustainable when it matters most. Our 2018 summer campaign, along with a similar one in place for an extreme cold scenario in the northeast, puts us and our customers in a better position to face the worst of nature's storms — and educates them as to what steps can be taken in future extreme weather situations.



# Values for a Sustainable Energy Future

5

**0.51**

**TCIR, our best ever.**

## Overview

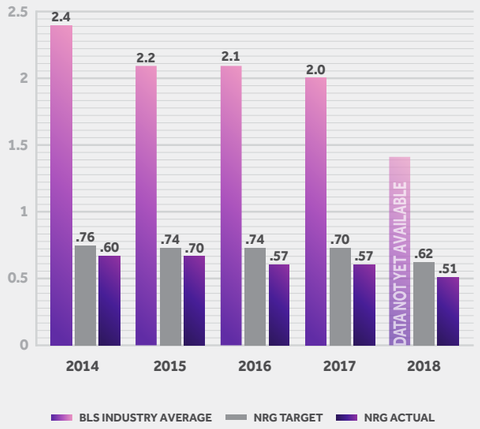
**We have evolved our purpose and modernized our values to better reflect who we are today and serve as a guidepost for bringing the power of energy to our customers. The values that hold us together are building a better NRG. While our emphasis on safety, equality, and community are still vital to our success as a company, we brought on new initiatives, causes, and projects in 2018 that expand on our promise of a sustainable workforce and workplace.**

**7**

**Facilities with VPP Star Rating[1]**

### Recordable incident rates*

NRG Industry




## Safety

A key metric of our workplace is safety. 2018 encouraged our business to rededicate itself to safety and embrace new opportunities to focus on safety. This year, we honored our safety commitment to stay well below the industry average Total Case Incident Rate (TCIR) by registering 0.51 TCIR, which is within the top decile.

### Keeping contractors safe

Our comprehensive safety program includes everyone who works within an NRG facility: employees, contractors, vendors, and visitors. We screen contractors and assign them on-site coordinators to monitor their safety performance. Additionally, we audit our contractors to ensure they meet all safety expectations.

### Safety training numbers for 2018

We are committed to providing valuable resources and training to help our workforce understand what it takes to stay safe. Over the course of the year, we had 48,733 total hours of safety training completed, with a total of 4,923 employees and 1,028 contractors completing safety courses in 2018.

### NRG fleet facilities with OSHA Voluntary Protection Program (VPP) Star status[1]

- Cedar Bayou
- Central Repair Shop
- Limestone
- San Jacinto
- Seward
- TH Wharton
- WA Parish

### Plants with zero recordables in 2018[1]

- Arthur Kill
- Astoria
- Carlsbad Energy Center
- Connecticut Jets
- Cottonwood
- Devon
- Doga
- Energy Srvcs. - Central Repair Shop
- Greens Bayou
- Gregory
- Indian River
- Joliet
- Long Beach
- Middletown
- Midway Sunset
- Montville
- Plum Point
- San Jacinto
- Seward
- Sunrise
- Vienna
- Waukegan
- Will County

*NRG rates do not include non-plants and supporting entities.

[1]Owned or operated facilities as of December 31, 2018

## Diversity and Inclusion

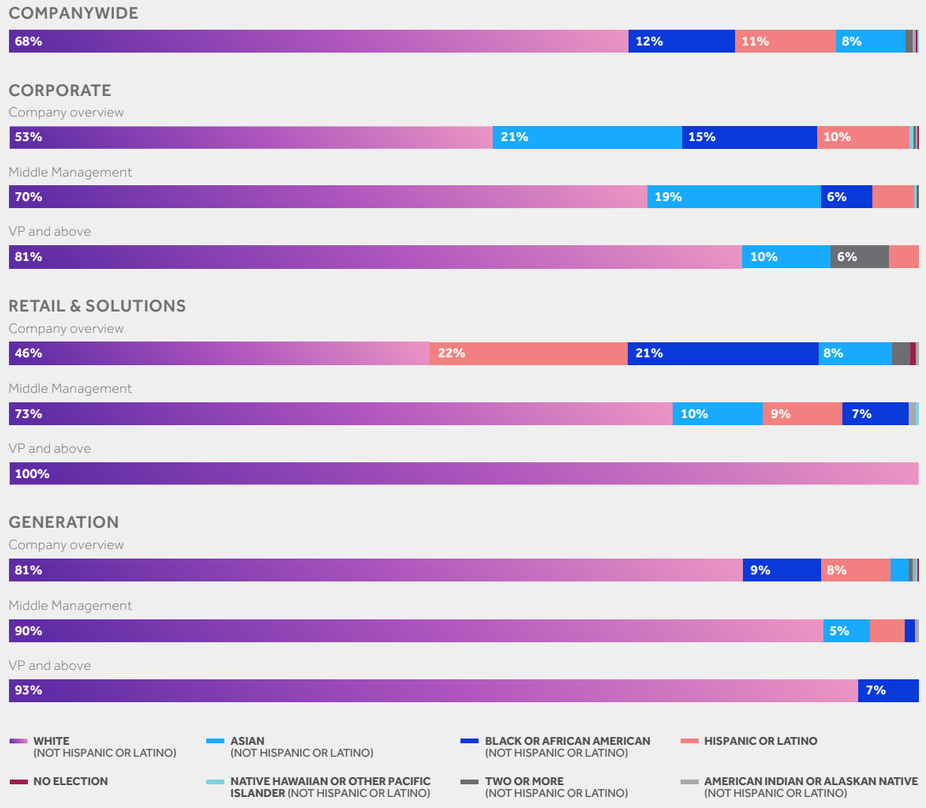
Diversity in talent, gender, ethnicity, sexual orientation, cultural perspectives, and experiences is a cornerstone of a productive workplace. We aspire to create a culture that fosters inclusion, inspires innovation, encourages respect, and promotes unlimited success for everyone as we create a suitable energy future. We also recognize that the power generation sector, including NRG, has room for improvement.

In 2018, Forbes recognized NRG as one of the Best Employers for Diversity. As a signatory to the U.N.'s Women Empowerment Principles, NRG has an active Women in Power program that focuses on mentorship and development of females in technical roles in our Plant Operations. We also received distinct recognition as the "Best of the Best" from both the Black Employment and Entrepreneur Journal and Professional Woman's Magazine, which will be awarded in spring 2019. We have increased the NRG Board diversity, and use our membership in the Gartner Diversity & Inclusion Leadership Council to gain access to research from Fortune 500 companies on best practices in diversity.

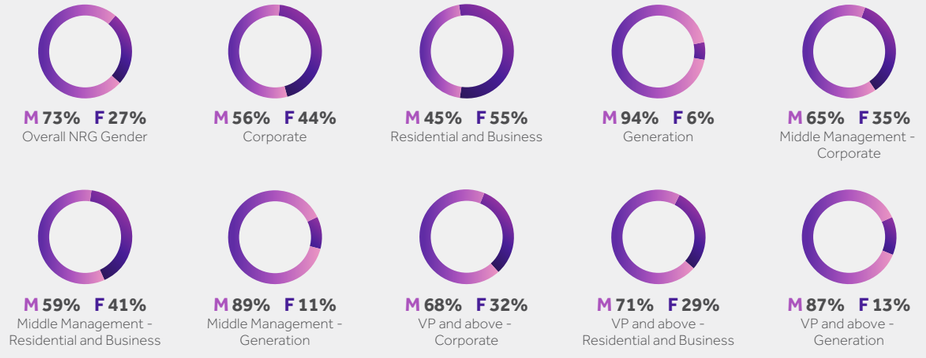
Additionally, we continually foster our recruiting relationships with Recruit Military, IvyQ, NAACP, ProWomen, American Association of Blacks in Energy, Black Data Processing Associates, and Professional Diversity Network to ensure a diverse slate of qualified candidates for our external hiring needs.



### Diversity at NRG*




### NRG gender breakdown*




*Self-selected

**Learn more about our corporate giving here.**

## Community

The mission of our giving programs, including NRG Gives and Reliant Gives, is to support causes that are important to our employees and communities. Through this crowd-sourced charitable giving program, employees nominate nonprofits, narrow the list of potential recipients down to three, and then the public at large votes for the organizations to receive up to a $100,000 donation. Since the programs began in 2016, the NRG Retail Charitable Foundation donated $1,230,000 to 38 charities in the communities that Reliant and NRG serve.

### March of Dimes

Since 2002, NRG has been supporting March of Dimes, raising more than $2.4 million dollars for their cause. In 2018, NRG employees in the Houston, Princeton, and Philadelphia areas raised nearly $125,000 dollars. An outstanding employee in Philadelphia raised over $2,000, ranking him in the March of Dimes Circle of Champions. NRG employees also serve on the Philadelphia Market March of Dimes Board. In Houston, over 100 employees, family members, and friends participated in the March for Babies. Employees rally around the company to raise funds for March of Dimes by participating in a variety of activities, from bowling tournaments and food drives to raffles and bake sales.

### MS 150

The MS 150 is a fundraising challenge and 150-mile cycling race from Houston to Austin. Since 2005, the NRG cycling team has raised over $1 million for multiple sclerosis by participating in this event. For 2018, 40% of cycling team members came from outside of Texas, with participants representing eight different states across the NRG footprint, as well as a representative mix of core job functions — 57% retail, 33% generation, and 10% corporate. In addition to the 36 riders, 28 volunteers supported the team along the journey into Austin.

### positiveNRG

Our corporate philanthropy program, also known as positiveNRG, enriches the communities we serve by supporting initiatives that address education, human welfare, the environment, and health and wellness. This includes our corporate giving efforts and special projects, like our wetland restoration in Galveston Bay and nonprofit partnerships through GME's Sun Club.






## PositiveNRG Week

PositiveNRG Week is our annual week-long philanthropic initiative where companywide volunteer opportunities are available for employees. For the 11th year, NRG employees dedicated a week to making a positive impact in their communities. During positiveNRG Week, 952 NRG employees in 16 states volunteered at more than 70 nonprofit organizations and donated $36,500 to charitable causes.

### 2018 positiveNRG impact

**16,046**
VOLUNTEER HOURS

**42 STATES**
THAT RECEIVED A DONATION*

**1,238**
EMPLOYEES PARTICIPATED

**$157,113**
DONATED TO SUPPORT 2018 DISASTER RELIEF EFFORTS

**$3.1 M**
IN TOTAL DONATIONS

**$229,500**
GIVEN TO SCHOLARSHIPS

**324**
NONPROFITS SERVED BY NRG VOLUNTEERS

**AWARD**
BIG BROTHERS BIG SISTERS CORPORATE PARTNER

## ecoNRG®

ecoNRG promotes ecological stewardship among our plant employees with initiatives aimed at improving environmental awareness and education. In 2018, NRG plant employees participated in 61 voluntary ecoNRG projects and NRG facilities donated more than $25,000 to benefit the environment and provided $24,000 in scholarships to students expressing interest in environmental studies.

- **Biodiversity:** nine projects including invasive species removal, stocking native fish in local rivers, building osprey nesting platforms, supporting butterfly survey activities, bee rescue, and tree planting.
- **Climate change:** seven projects including several aimed at reducing the consumption of natural resources by installing LED lighting and high-efficiency system upgrades as well as increasing planted areas.
- **Community:** 26 projects including educational outreach to local schools, beach cleanups, and public space invasive species removal.
- **Resource reduction, reuse, and recycling:** 17 projects including chemical use reduction initiatives, energy savings projects, and paper cup elimination.
- **Water conservation:** two projects including xeriscaping (landscaping in a way that requires little or no irrigation) and a water savings garden for the Boys and Girls Club.







*plus D.C. and two countries

## Wellness

The sustainable energy future we envision requires involvement from all of our employees. Providing a productive work environment helps us to align our actions with our core values, vision, and mission.

To keep our employees healthy, happy, and operating at their best, NRG provides several wellness benefits. We offer full- and part-time employees scheduled to work 20 or more hours per week benefits that include: health, dental, and vision insurance; mental health assistance; a non-tobacco user discount; adoption assistance; parental leave; and tuition reimbursement. Additionally in 2018, we sponsored more than a dozen runs, walks, and bike rides to promote healthy behavior, and hosted more than a dozen employee health fairs. Since the introduction of the Power Up nutrition platform, members enrolled in Power Up My Life are offered free membership in three different weight management programs: Omada, Naturally Slim, and Weight Watchers. Power Up My Life continues to be one of our strongest employee initiatives with increased engagement year after year.

## Employee Engagement

Holistic sustainability at NRG means equipping our most valuable asset — our people — with the resources to bring sustainability to life at work, at home, and in their communities. In 2018, we launched the NRG Sustainability Academy to bring employees a self-paced online certificate course designed in partnership with Arizona State University's School of Sustainability. This course is available to all employees and contractors. More than 150 employees have completed the course and earned their sustainability certificate.

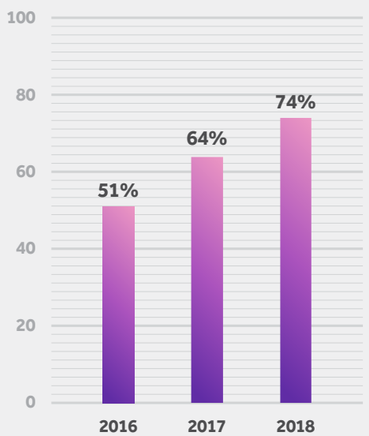
We also brought the company's sustainability story on the road, visiting four company locations and hosting a webinar for plant employees, with additional engagement planned for 2019. The Sustainability team provided detailed insight into our company's sustainability strategy and answered questions from across the business. This also marked the relaunch of NRG's Green Ambassadors program, where employees are equipped to spearhead location-specific sustainability initiatives in their office and communities.

Our web-based and mobile platform, InspireMeNRG, continues to be a tool for NRG employees to take actions that reflect sustainable choices at work and at home. In 2018, the platform received a makeover. In partnership with positiveNRG, employees can access both NRG's giving and sustainability programs in one location.

At NRG, supporting a more sustainable future goes beyond our own emission reduction goals. There are many ways the concept is taking hold at our company and in the communities we serve — one example is through our Community Supported Agriculture (CSA) program.

For the second year in a row, employees who take part in the CSA program agree to purchase a "share" of locally grown produce. In return, we provide each of them with an annual reimbursement for a portion of their costs. Through the CSA program, our employees connect with those growing their food and handling crop management and production, which also represents a healthier choice for them and their families.

**Power Up My Life**
**NRG employees enrolled**








# Appendix

6

## Feedback

If you have any comments or questions about this report, or would like more information on our sustainability efforts, please visit nrg.com or email sustainability@nrg.com.

## Safe Harbor

### Forward-looking statements

The 2018 Sustainability Report contains forward-looking statements that may state NRG's or its management's intentions, beliefs, expectations or predictions for the future. Such forward-looking statements are subject to certain risks, uncertainties and assumptions, and typically can be identified by the use of words such as "will," "expect," "estimate," "anticipate," "forecast," "plan," "believe" and similar terms. Although NRG believes that its expectations are reasonable, it can give no assurance that these expectations will prove to have been correct, and actual results may vary materially. Factors that could cause actual results to differ from those implied by the forward-looking statements are set forth in the Company's most recent Annual Report on Form 10-K, quarterly and other periodic reports, current reports and other filings with the Securities and Exchange Commission at www.sec.gov. NRG undertakes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.



## Our Approach to Sustainability Reporting

This sustainability report is based on NRG corporate performance for all operations in calendar year 2018 and, where stated, "NRG" refers to NRG Energy, Inc., as well as its affiliates. This is our ninth annual sustainability report and was developed with guidance from the GRI Standards at the Core level, as well as the GRI Electric Utilities Sector Supplement. In 2018, NRG was a member of the GRI GOLD Community, which supports our commitment to embed sustainability into our strategic decision-making. The report includes topics from the GRI framework for our sector that are priority issues to the company. See the GRI Standards table for a full list.

The scope of this report is primarily contained within the calendar year 2018, but some long-term projects and goals are discussed. The NRG website also provides visitors the latest news and events around the company's social, economic, and environmental initiatives.

NRG is committed to leading its sector in sustainability transparency and disclosure. NRG's sector is defined as electric utility or power producer. Achievement will be measured according to stakeholder feedback, including through investor relations and participation in engagement and disclosure organizations such as GRI, Ceres, and SASB.

2018 marked the third year NRG disclosed sustainability data using the SASB standards, now final and no longer provisional. Although these standards were originally designed for disclosure in financial filings to the Securities and Exchange Commission, they have not yet been formally adopted for such use. The financial sector welcomes such disclosures, and as such we have included a table as part of our sustainability reporting. After reviewing the guidance at the beginning of each of the standards and the indicators for each of the sectors, we identified the Infrastructure Sector — Electric Utilities & Power Generators — as most applicable given the nature of our business. Click to access the 2018 SASB table. In 2017, NRG became a founding member of the SASB Alliance and provided feedback to codify the final standards.

## Key Material Issues Overview

NRG strives to report decision-useful information to our stakeholders in an efficient and concise manner. We recognize that we have many different stakeholder groups which may require information presented in a variety of ways and on numerous topics. We work diligently with our key stakeholders to seek out the type of information they are looking for and evaluate the processes to deliver this data to them. However, given the rapidly growing landscape of voluntary reporting this past decade, we must also determine what is the most relevant material to collect on NRG operations while achieving greater transparency year over year.

Part of this process is conducting a key issues assessment periodically to ensure the topics we focus on help us identify potential strategic and operational risks and opportunities. This assessment provides a foundation of topics from which to prioritize our sustainability goals and initiatives, build our annual sustainability report, as well as provide insight into emerging issues that our stakeholders care about.

For the purposes of sustainability reporting, NRG follows the GRI framework to report on issues of importance to the company and its stakeholders. Key sustainability issues for NRG as delineated by the GRI Standards for 2018 include:

- Compliance
- Economic performance
- Effluents and waste
- Emissions
- Employment
- Energy
- Occupational health and safety
- Procurement practices (supply chain)
- Supplier environmental performance
- Water
- Water and effluents

These topics aim to cover all NRG brands and businesses. We do recognize, however, that some of these topics are more relevant to certain parts of the organization than others. For example, most of the environmental disclosure is focused on our power-generating fleet since that is where we have the ability to make the most impact, with respect to climate change, through carbon-emission reduction. Relevant financial implications, as well as a discussion of risk and opportunities associated with some of these issues, can be found in Part 1, Item 1A in our 2018 Form 10-K. Additional financial statements or equivalent documents can be found here.

### Key issues assessment

Our key issues list identifies sustainability issues that are relevant to NRG's current business and operating environment. In 2018, we comprehensively assessed key issues, pending completion of the NRG Transformation Plan elements and divestitures. To support this project, NRG engaged with Datamaran, a business intelligence tool using big data and artificial intelligence, to help us identify and prioritize key issues by scanning the competitive, regulatory, and media landscape. Additionally, a group of internal stakeholders reviewed the universe of issues and shared their perspective on importance to NRG.

For the purpose of the Sustainability Report, these findings were also compared with external best practice publications on metrics, such as the EPRI, Metrics for the Electricity Producers Industry, the Financial Stability Board's (FSB), TCFD, and the SASB.

We use this independent analysis to better inform business decisions and shape our voluntary reporting process.

SASB ALLIANCE
ORGANIZATIONAL MEMBER

## SASB Standards Table

The Sustainability Accounting Standards Board's (SASB) mission is to develop sustainability metrics for public corporations to disclose material, decision-useful information to investors. We support work that contributes directly to generating comparable and consistent data. The nature of our business directs us to consult the Infrastructure Sector – Electric Utilities & Power Generators. Below is a table which contains those topics we have identified as key issues and against which we are able to report on as a publicly traded company. Activity metrics that may assist in the accurate evaluation and comparability of disclosure may be found in NRG's 2018 Form 10-K and in NRG's 2018 Sustainability Report. Quantitative data may be followed by narrative information that contextualizes the data table and is also responsive to any qualitative metrics. For more details on our report process please visit Our approach to sustainability reporting on page 81.

## Sustainability Disclosure Topics and Accounting Metrics

| SASB code | Accounting metric | 2018 |
|---|---|---|
| **Greenhouse gas emissions and energy resource planning** | | |
| IF0101-01 | **(1) Gross global scope 1 emissions (million metric tons)** | 46,000,000*<br>*Rounded to nearest million. Includes 37.5% ownership of 144MW capacity natural gas plant in Turkey and 80% of a 605MW capacity coal plant in Australia. Generation includes equity-owned plants as of Dec. 31, 2018. |
| | **(2) Percentage covered under emissions-limiting regulations, and** | 8% |
| | **(3) Percentage covered under emissions-reporting regulations** | 99.99% |
| | **Clarification of percentage covered under emissions-limiting and emissions-reporting regulations:**<br>A significant majority (>99%) of NRG's emission sources are subject to mandatory federal (USEPA) greenhouse gas reporting regulations. In addition, some of these emission sources (18% specified under IF0101-01(2) above) also report to regional and state CO2e reporting programs that are disclosed annually as part of NRG's financial reporting data (RGGI, AB32). | |
| | **Discussion of accounting, estimations and uncertainty for scope 1 emissions:**<br>Scope 1 includes only direct GHG emissions associated with fuel combustion in boilers, turbines and engines used for the production of wholesale electric power. The Scope 1 GHG emissions were determined by using methods specified within Title 40, Chapter I, Subchapter C, Part 98, Subparts A, C and D of the Code of Federal Regulations. The determination of the equity share of GHG emissions is consistent with equity share methodologies for equity share accounting for greenhouse gas emissions as described in GHG Protocol: A Corporate Accounting and Reporting Standard, Revised Edition.<br>GHG emissions from combustion of fossil fuels used for other activities or equipment, such as auxiliary boilers, starter engines, mobile sources and offices is not included and was estimated to represent under 0.25% of the reported Scope 1 emissions. The Scope 1 emissions do not include emissions from fugitive sources such as hydro fluorocarbon releases from use of refrigeration and/or air conditioning equipment, sulfur hexafluoride (SF6) from electrical equipment and methane releases from natural gas transport. | |
| TA11-06-01 | **Description of long-term and short-term strategy or plan to manage scope 1 emissions, emission-reduction targets, and an analysis of performance v. those targets** | There are four levers within our control to reduce our GHG emissions and meet our science-based climate targets: 1) Retiring uneconomic units 2) Switching from coal to gas 3) Running existing plants less often 4) Carbon capture and sequestration. NRG's goal is to reduce its total U.S. Scope 1, 2 and 3 (business travel) CO2e emissions 50% by 2030, and 90% by 2050, using 2014 as a baseline. From 2017 to 2018, NRG's CO2e emissions decreased from 47 million metric tons to approximately 46 million metric tons, representing a 2% reduction year over year and 73% of the way to our 2030 goal. This puts us on track to meet our science-based targets ahead of schedule. |

| SASB code | Accounting metric | 2018 | | |
|---|---|---|---|---|
| **Air quality** | | | | |
| IF0101-04 | **Air emissions source** | **Air emissions** (metric tons) | **Percentage from production facilities within urbanized areas** | |
| | NOx | 22,510 | 7% | |
| | SOx | 61,430 | 35% | |
| | PM10* | 2,300 | 67% | |
| | Pb** | .24 | 22% | |
| | Hg*** | .14 | 8% | |
| | **Discussion of accounting, estimations and uncertainty for air emissions:**<br>*The requirement to report PM10 emissions in annual emissions inventories or emissions statements varies between states. In addition, the earliest reporting deadline for a reporting year is April 1st of the following year. For sites in NRG's fleet that have not yet or are not required to report PM10 emissions at the time of submittal to SASB, NRG has used USEPA's AP-42 emission factors to estimate emissions.<br>** In the case of lead emissions, volumes are estimated for some facilities due to incomplete data at time of publication.<br>***In the case of mercury emissions, volumes are estimated for some facilities due to incomplete data at time of publication. | | | |
| **Water management** | | | | |
| IF0101-05 | **(1) Total water withdrawn (thousands of cubic meters)** | 4,575,000 | | |
| | | **2018 NRG water withdraw by source** | | |
| | | **Water source** | **Total (thousands of cubic meters)** | **Percent** |
| | | Fresh water | 2,434,000 | 53% |
| | | Non-fresh water | 1,092,000 | 24% |
| | | Ocean | 1,049,000 | 23% |
| | | Total | 4,575,000 | 100% |
| | **(2) Total water consumed (thousands of cubic meters)** | 185,000 | | |
| | **Percentage of each in regions with high or extremely high baseline water stress** | **Baseline water stress high (40-80%) extremely high (>80%)** | **Withdrawal from areas with high or extremely high baseline water stress** | **Consumption from areas with high or extremely high baseline water stress** |
| | | Percent of total water | 39% | 45% |
| | | Percent that is non-fresh* | 18% | .04% |
| | | *Non-fresh water has a total dissolved solids greater than 1000 mg/l and is not used for agriculture or municipal water supply.<br>NRG uses the WRI Aqueduct and the WWF Water Risk Tool to model and help assess water basin risks in combination with regional internal expertise. | | |
| | | **Type of generating facility in baseline water stress area** | | **Number** |
| | | Fossil fuel (natural gas, coal, oil) | | 13 |
| | | Renewable (solar and wind) | | 0 |
| | | Nuclear | | 1 |
| | | Thermal (district heating and cooling) | | 0 |
| | | Total | | 14 |

| SASB code | Accounting metric | 2018 |
|---|---|---|
| **Water management (continued)** | | |
| TA11-02-01 | **Number of incidents of non-compliance with water-quality and/or quantity permits, standards and regulations** | 9 |
| IF0101-07 | **Discussion of water management risks:**<br>NRG's definition of substantive risk from water is the possibility that an event will occur and significantly affect the achievement of NRG's business goals. Risk identification and assessment process applies to both direct operations and supply chain. NRG uses the measures, metrics and indicators for water risk assessment leveraging the management and professional judgment from the following perspectives:<br>• **Financial impact**<br>◦ Corporate earnings<br>◦ Capital expenditure on technologies to reduce water consumption and withdrawal<br>• **Plant operation**<br>◦ Operation disruption due to water shortage<br>◦ Increase in costs of water usage<br>◦ Supply chain risk<br>• **Environmental impact**<br>◦ Water availability<br>◦ Water quality of river basins<br>◦ Regulations that impact supply and/or management of water | |
| | **Discussion of strategies and practices to mitigate risks:**<br>Water risk is monitored by the risk owners (individual plant operators) and reported to management upon material changes with a threshold of 20% in water consumption and withdrawal levels. If determined that a water supply risk exists that could impact projected generation levels at any plant within a two-year time frame, risk mitigation efforts are identified and economically evaluated for implementation. NRG Plant Ops reviews modelling scenarios generated. Plant water usage is reviewed annually. Analysis is reviewed by the senior leaders of NRG Operations, Engineering and Commercial Operations. WRI Aqueduct tool is used annually to develop a high-level view of basin level risk that informs strategic decision-making and the setting of goals and targets. This tool was chosen because of its open source nature and ease of use. Each generating facility is unique. The water risk approach identifies and addresses risks for each covering: •Availability •Quality •Regulatory •Stakeholders •Supply chain impacts •Financial •Operational •Environmental. Risk response decisions are primarily made and executed by managing plant operations to maintain compliance with all regulations. NRG identifies, assesses, and responds to supply chain water risk through CDP Water. | |
| **Coal ash management** | | |
| IF0101-08 | **Amount of coal combustion residuals generated (metric tons)** | 1,300,000 |
| | **Percentage recycled (metric tons)** | 63% (875,000) |
| IF0101-09 | **Total number of coal combustion residuals impoundments** | 14 surface impoundments as defined by 40 CFR 257.2. |
| | **Number by EPA hazard potential classification, broken down by EPA structural integrity assessment** | NRG impoundment structural integrity rating and hazard potential classification |

| | Less than low | Low | Significant | High | Incised** |
|---|---|---|---|---|---|
| **Satisfactory** | 0 | 4 | 5 | 0 | 0 |
| **Fair** | 0 | 0 | 0 | 0 | 0 |
| **Poor** | 0 | 0 | 0 | 0 | 0 |
| **Unsatisfactory** | 0 | 0 | 0 | 0 | 0 |
| **Not applicable** | 0 | 1 | 2 | 0 | 2 |

*The safety factor assessment was not performed for the Former Ash Pond at Powerton due to lack of necessary information because of the construction age of the impoundment. The inactive impoundment will be closed in accordance with 40 CFR 257.101 and 257.102.

**To align with EPA reporting we have added a column for 'Incised' and a row 'Not applicable' to account for all impoundments as defined by the EPA.

| SASB code | Accounting metric | 2018 |
|---|---|---|
| **Workforce health and safety** | | |
| IF0101-12 | **(1) Total recordable injury rate** | 0.51 |
| | **(2) Fatality rate** | 0 |
| | **(3) Near miss frequency rate** | 39.07<br>**Process for classifying, recording and reporting:**<br>*# of near misses reported / total hours worked X 1,000,000 = near miss frequency rate*<br>The National Safety Agency defined near misses as "an unplanned event that did not result in injury, illness, or damage, but had the potential to do so." NRG utilizes an electronic Incident Management System to document, communicate, track, and trend specific factors about each event including causal factors and corrective actions; this system provides automated fleet-wide notifications. The number of near misses was derived from a report pulled from the incident management system. NRG's OHS management system applies to 100% of U.S. operations. The system also includes notifications to executive management when significant safety events occur that meet the defined criteria for a Significant Event notification. The system also generates weekly reports to communicate previous weeks' event to NRG personnel. |
| **Nuclear safety and emergency management** | | |
| IF0101-15 | **Total number of nuclear power units, broken down by nuclear regulatory commission action matrix column** | NRG South Texas LP is a 44% owner of a joint undivided interest in STP. |

| Reactor unit | Action matrix column | Current regulatory oversight |
|---|---|---|
| **South Texas 1** | Licensee Response | Baseline inspection |
| **South Texas 2** | Licensee Response | Baseline inspection |

Table source: https://www.nrc.gov/reactors/operating/oversight/actionmatrix-summary.html#r_4 as of March 2019

| | | |
|---|---|---|
| IF0101-16 | **Discussion of efforts to manage nuclear safety and emergency preparedness** | As a holder of an ownership interest in STP, NRG South Texas LP is an NRC licensee and is subject to NRC regulation. The NRC license gives NRG the right only to possess an interest in STP but not to operate it. As a possession-only licensee, i.e., non-operating co-owner, the NRC's regulation of NRG South Texas LP is primarily focused on NRG's ability to meet its financial and decommissioning funding assurance obligations. In connection with the NRC license, NRG and its subsidiaries have a support agreement to provide up to $120 million to support operations at STP. |