2020

FORM 10-K

Stockholder information

STOCK TRANSFER AGENT AND REGISTRAR

Shareholder correspondence should be mailed to:
Computershare
P.O. BOX 505000
Louisville, KY 40233-5000

STOCKHOLDER INQUIRIES

Overnight correspondence should be sent to:
Computershare
462 South 4th Street, Suite 1600
Louisville, KY 40202

1.866.214.2213

Email: shareholder@computershare.com

Online inquires: https://www-us.computershare.com/investor/Contact

Website: www.computershare.com/investor

Send certificates for transfer and address changes to:
Computershare
P.O. BOX 505000
Louisville, KY 40233-5000

STOCK LISTING

NRG's common stock is listed on the New York Stock Exchange under the ticker symbol NRG.

FINANCIAL INFORMATION

NRG's Annual Report on Form 10-K, Proxy Statement and other SEC Filings are available at www.nrg.com under the Investors section.

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the Fiscal Year ended December 31, 2020.

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the Transition period from to .

Commission file No. 001-15891

NRG Energy, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**41-1724239**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*
804 Carnegie Center , Princeton , New Jersey	**08540**
(Address of principal executive offices)	*(Zip Code)*

(609) 524-4500
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Trading Symbol(s)	Name of Exchange on Which Registered
Common Stock, par value $0.01	NRG	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer ☒	Accelerated filer ☐	Non-accelerated filer ☐	Smaller reporting company	☐
			Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C 7262(b)) by the registered public accounting firm that prepared or issued its audit report ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

As of the last business day of the most recently completed second fiscal quarter, the aggregate market value of the common stock of the registrant held by non-affiliates was approximately $6,941,658,699 based on the closing sale price of $32.56 as reported on the New York Stock Exchange.

Indicate the number of shares outstanding of each of the registrant's classes of common stock as of the latest practicable date.

Class	Outstanding at March 1, 2021
Common Stock, par value $0.01 per share	244,687,907

Documents Incorporated by Reference:
Portions of the Registrant's definitive Proxy Statement relating to its 2021 Annual Meeting of Stockholders are incorporated by reference into Part III of this Annual Report on Form 10-K

TABLE OF CONTENTS

Glossary of Terms

When the following terms and abbreviations appear in the text of this report, they have the meanings indicated below:

2023 Term Loan Facility	The Company's term loan facility due 2023, a component of the Senior Credit Facility, which was repaid during the second quarter of 2019
ACE	Affordable Clean Energy
Adjusted EBITDA	Adjusted earnings before interest, taxes, depreciation and amortization
ARO	Asset Retirement Obligation
ASC	The FASB Accounting Standards Codification, which the FASB established as the source of authoritative GAAP
ASU	Accounting Standards Updates – updates to the ASC
AUC	Alberta Utilities Commission
Average realized prices	Volume-weighted average power prices, net of average fuel costs and reflecting the impact of settled hedges
Bankruptcy Code	Chapter 11 of Title 11 of the U.S. Bankruptcy Code
Bankruptcy Court	United States Bankruptcy Court for the Southern District of Texas, Houston Division
Baseload	Units expected to satisfy minimum baseload requirements of the system and produce electricity at an essentially constant rate and run continuously
BETM	Boston Energy Trading and Marketing LLC
BTU	British Thermal Unit
Business Solutions	NRG's business solutions group, which includes demand response, commodity sales, energy efficiency and energy management services
CAA	Clean Air Act
CAISO	California Independent System Operator
California Bankruptcy Court	United States Bankruptcy Court for the Northern District of California, San Francisco Division
CARES Act	Coronavirus Aid, Relief, and Economic Security Act
Carlsbad	Carlsbad Energy Center, a 528 MW natural gas-fired project located in Carlsbad, CA
CCR	Coal Combustion Residuals
CDD	Cooling Degree Day
CFTC	U.S. Commodity Futures Trading Commission
Chapter 11 Cases	Voluntary cases commenced by the GenOn Entities under the Bankruptcy Code in the Bankruptcy Court
C&I	Commercial, industrial and governmental/institutional
CES	Clean Energy Standard
Cleco	Cleco Corporate Holdings LLC
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalents
ComEd	Commonwealth Edison
Company	NRG Energy, Inc.
Convertible Senior Notes	As of December 31, 2020, consists of NRG’s $575 million unsecured 2.75% Convertible Senior Notes due 2048
Cottonwood	Cottonwood Generating Station, a 1,153 MW natural gas-fueled plant
COVID-19	Coronavirus Disease 2019
CPP	Clean Power Plan
CPUC	California Public Utilities Commission
CWA	Clean Water Act
D.C. Circuit	U.S. Court of Appeals for the District of Columbia Circuit
Distributed Solar	Solar power projects that primarily sell power to customers for usage on site, or are interconnected to sell power into a local distribution grid
DSI	Dry Sorbent Injection

DSU	Deferred Stock Unit
Economic gross margin	Sum of energy revenue, capacity revenue, retail revenue and other revenue, less cost of fuels and other cost of sales
EGU	Electric Generating Unit
EME	Edison Mission Energy
Energy Plus Holdings	Energy Plus Holdings LLC
EPA	U.S. Environmental Protection Agency
EPC	Engineering, Procurement and Construction
ERCOT	Electric Reliability Council of Texas, the Independent System Operator and the regional reliability coordinator of the various electricity systems within Texas
ESCO	Energy Service Companies
ESP	Electrostatic Precipitator
ESPP	NRG Energy, Inc. Amended and Restated Employee Stock Purchase Plan
Exchange Act	The Securities Exchange Act of 1934, as amended
FASB	Financial Accounting Standards Board
FERC	Federal Energy Regulatory Commission
FGD	Flue gas desulfurization
FPA	Federal Power Act
FTRs	Financial Transmission Rights
GAAP	Generally accepted accounting principles in the U.S.
GenConn	GenConn Energy LLC
GenOn	GenOn Energy, Inc.
GenOn Americas Generation	GenOn Americas Generation, LLC
GenOn Entities	GenOn and certain of its wholly owned subsidiaries, including GenOn Americas Generation, that filed voluntary petitions for relief under Chapter 11 of the Bankruptcy Code in the Bankruptcy Court on June 14, 2017
GenOn Mid-Atlantic	GenOn Mid-Atlantic, LLC and, except where the context indicates otherwise, its subsidiaries, which include the coal generation units at two generating facilities under operating leases
GHG	Greenhouse Gas
GIP	Global Infrastructure Partners
Green Mountain Energy	Green Mountain Energy Company
Guam	NRG's wholly owned subsidiary NRG Solar Guam, LLC that was sold during the first quarter of 2019
GW	Gigawatt
GWh	Gigawatt Hour
HDD	Heating Degree Day
Heat Rate	A measure of thermal efficiency computed by dividing the total BTU content of the fuel burned by the resulting kWhs generated. Heat rates can be expressed as either gross or net heat rates, depending whether the electricity output measured is gross or net generation and is generally expressed as BTU per net kWh
HLBV	Hypothetical Liquidation at Book Value
HLW	High-level radioactive waste
IPPNY	Independent Power Producers of New York
ICE	Intercontinental Exchange
ISO	Independent System Operator, also referred to as RTOs
ISO-NE	ISO New England Inc.
Ivanpah	Ivanpah Solar Electric Generation Station, a 393 MW solar thermal power plant located in California's Mojave Desert in which NRG owns 54.5% interest
kWh	Kilowatt-hour

LaGen	Louisiana Generating LLC
LIBOR	London Inter-Bank Offered Rate
LSE	Load Serving Entities
LTIPs	Collectively, the NRG LTIP and the NRG GenOn LTIP
Mass Market	Residential and small commercial customers
MATS	Mercury and Air Toxics Standards promulgated by the EPA
MDth	Thousand Dekatherms
Merger	The merger completed on December 14, 2012 by NRG and GenOn pursuant to the Merger Agreement
Midwest Generation	Midwest Generation, LLC
MISO	Midcontinent Independent System Operator, Inc.
MMBtu	Million British Thermal Units
MMDth	Million Dekatherms
MSU	Market Stock Unit
MW	Megawatts
MWe	Megawatt equivalent
MWh	Saleable megawatt hour net of internal/parasitic load megawatt-hour
NAAQS	National Ambient Air Quality Standards
NEIL	Nuclear Electric Insurance Limited
NEPOOL	New England Power Pool
NERC	North American Electric Reliability Corporation
Net Capacity Factor	The net amount of electricity that a generating unit produces over a period of time divided by the net amount of electricity it could have produced if it had run at full power over that time period. The net amount of electricity produced is the total amount of electricity generated minus the amount of electricity used during generation
Net Exposure	Counterparty credit exposure to NRG, net of collateral
Net Generation	The net amount of electricity produced, expressed in kWhs or MWhs, that is the total amount of electricity generated (gross) minus the amount of electricity used during generation
Net Revenue Rate	Sum of retail revenues less TDSP transportation charges
NJBPU	New Jersey Board of Public Utilities
NOL	Net Operating Loss
NO_x	Nitrogen Oxides
NPNS	Normal Purchase Normal Sale
NQSO	Non-Qualified Stock Option
NRC	U.S. Nuclear Regulatory Commission
NRG	NRG Energy, Inc.
NRG GenOn LTIP	NRG 2010 Stock Plan for GenOn Employees (formerly the GenOn Energy, Inc. 2010 Omnibus Incentive Plan, which was assumed by NRG in connection with the Merger)
NRG LTIP	NRG Energy, Inc. Amended and Restated Long-Term Incentive Plan
NRG Yield, Inc.	NRG Yield, Inc., which changed its name to Clearway energy, Inc. following the sale by NRG or NRG Yield and the Renewables Platform to GIP
Nuclear Decommissioning Trust Fund	NRG's nuclear decommissioning trust fund assets, which are for the Company's portion of the decommissioning of the STP, units 1 & 2
Nuclear Waste Policy Act	U.S. Nuclear Waste Policy Act of 1982
NYISO	New York Independent System Operator
NYMEX	New York Mercantile Exchange
NYSDEC	New York State Department of Environmental Conservation
NYSPSC	New York State Public Service Commission
OCI/OCL	Other Comprehensive Income/(Loss)

ORDC	Operating Reserve Demand Curve
Peaking	Units expected to satisfy demand requirements during the periods of greatest or peak load on the system
PER	Peak Energy Rent
Petra Nova	Petra Nova Parish Holdings, LLC
PG&E	PG&E Corporation (NYSE: PCG) and its primary operating subsidiary, Pacific Gas and Electric Company
Pipeline	Projects that range from identified lead to shortlisted with an offtake, and represents a lower level of execution certainty
PJM	PJM Interconnection, LLC
PM2.5	Particulate Matter that has a diameter of less than 2.5 micrometers
PPA	Power Purchase Agreement
PPM	Parts per million
PSU	Performance Stock Unit
PTC	Production Tax Credit
PUCT	Public Utility Commission of Texas
RCE	Residential Customer Equivalent is a unit of measure used by the energy industry to denote the typical annual commodity consumption by a single-family residential customer. 1 RCE represents 1,000 therms of natural gas or 10,000 kWh of electricity
RCRA	Resource Conservation and Recovery Act of 1976
RECs	Renewable Energy Certificates
REMA	NRG REMA LLC, which leases a 100% interest in the Shawville generating facility and 16.7% and 16.5% interests in the Keystone and Conemaugh generating facilities, respectively
Renewables	Consists of the following projects in which NRG has an ownership interest: Agua Caliente, Ivanpah, and solar generating stations located at various NFL Stadiums
Renewables Platform	The renewable operating and development platform sold to GIP with NRG's interest in NRG Yield.
Restructuring Support Agreement	Restructuring Support and Lock-Up Agreement, dated as of June 12, 2017 and as amended on October 2, 2017, by and among GenOn Energy, Inc., GenOn Americas Generation, LLC, and subsidiaries signatory thereto, NRG Energy, Inc. and the noteholders signatory thereto
Revolving Credit Facility	The Company's $2.6 billion revolving credit facility as of December 31, 2020, a component of the Senior Credit Facility, due 2024 was amended on May 28, 2019 and August 20, 2020
RGGI	Regional Greenhouse Gas Initiative
RMR	Reliability Must-Run
RPM	Reliability Pricing Model
RPS	Renewable Portfolio Standards
RPSU	Relative Performance Stock Unit
RSU	Restricted Stock Unit
RTO	Regional Transmission Organization
SCE	Southern California Edison Company
SCR	Selective Catalytic Reduction Control System
SDG&E	San Diego Gas & Electric
SEC	U.S. Securities and Exchange Commission
Securities Act	The Securities Act of 1933, as amended
Senior Credit Facility	NRG's senior secured credit facility, comprised of the Revolving Credit Facility and the 2023 Term Loan Facility. The 2023 Term Loan Facility was repaid in the second quarter of 2019

Senior Notes	As of December 31, 2020, NRG's $5.3 billion outstanding unsecured senior notes consisting of $1.0 billion of the 7.25% senior notes due 2026, $1.23 billion of the 6.625% senior notes due 2027, $821 million of 5.75% senior notes due 2028, $733 million of the 5.25% senior notes due 2029, $500 million of the 3.375% senior notes due 2029, and $1.0 billion of the 3.625% senior notes due 2031
Senior Secured Notes	As of December 31, 2020, NRG’s $2.5 billion outstanding Senior Secured First Lien Notes consists of $600 million of the 3.75% Senior Secured First Lien Notes due 2024, $500 million of the 2.0% Senior Secured First Lien Notes due 2025, $900 million of the 2.45% Senior Secured First Lien Notes due 2027, and $500 million of the 4.45% Senior Secured First Lien Notes due 2029
Services Agreement	NRG provided GenOn with various management, personnel and other services, which include human resources, regulatory and public affairs, accounting, tax, legal, information systems, treasury, risk management, commercial operations, and asset management, as set forth in the services agreement with GenOn
Settlement Agreement	A settlement agreement and any other documents necessary to effectuate the settlement among NRG, GenOn, and certain holders of senior unsecured notes of GenOn Americas Generations and GenOn, and certain of GenOn's direct and indirect subsidiaries
SNF	Spent Nuclear Fuel
SO_2	Sulfur Dioxide
South Central Portfolio	NRG's South Central Portfolio, which owned and operated a portfolio of generation assets consisting of Bayou Cove, Big Cajun-I, Big Cajun-II, Cottonwood and Sterlington, was sold on February 4, 2019. NRG is leasing back the Cottonwood facility through May 2025
S&P	Standard & Poor's
STP	South Texas Project — nuclear generating facility located near Bay City, Texas in which NRG owns a 44% interest
STPNOC	South Texas Project Nuclear Operating Company
Tax Act	The Tax Cuts and Jobs Act of 2017
TDSP	Transmission/distribution service provider
Texas Genco	Texas Genco LLC
Transformation Plan	NRG's three-year plan announced in 2017 that included targets related to operations and excellence, portfolio optimization, and capital structure and allocation enhancement and was completed as of December 31, 2020
TSA	Transportation Services Agreement
TSR	Total Shareholder Return
TWCC	Texas Westmoreland Coal Co.
TWh	Terawatt Hour
UPMC	University of Pittsburgh Medical Center
U.S.	United States of America
U.S. DOE	U.S. Department of Energy
Utility-Scale Solar	Solar power projects, typically 20 MW or greater in size (on an alternating current basis), that are interconnected into the transmission or distribution grid to sell power at a wholesale level
VaR	Value at Risk
VIE	Variable Interest Entity
WECC	Western Electricity Coordinating Council

PART I

Item 1 — Business

General

NRG Energy, Inc., or NRG or the Company, is an integrated power company built on dynamic retail brands with diverse generation assets. NRG brings the power of energy to customers by producing and selling energy and related products and services, in major competitive power and gas markets in the U.S. and Canada in a manner that delivers value to all of NRG's stakeholders. NRG is a customer-centric business focused on perfecting the integrated model by balancing retail load with generation supply within its deregulated markets. As of December 31, 2020, the Company sold energy, services, and innovative, sustainable products and services directly to retail customers under the brand names NRG, Reliant, Green Mountain Energy, Stream, and XOOM Energy, as well as other brand names owned by NRG, supported by approximately 23,000 MW of generation.

NRG also conducts business under the brand name of Direct Energy as a result of the Company's acquisition of Direct Energy, a North American subsidiary of Centrica plc, on January 5, 2021. Direct Energy is a leading retail provider of electricity, natural gas, and home and business energy related products and services in North America, with operations in all 50 U.S. states and 8 Canadian provinces. In addition, Direct Energy is a participant in the wholesale gas and power markets in the United States and Canada. See Item 15 — Note 4, *Acquisitions, Discontinued Operations and Dispositions*, to the Consolidated Financial Statements for further discussion of the acquisition of Direct Energy.

On February 28, 2021, the Company entered into a definitive purchase agreement with Generation Bridge, an affiliate of ArcLight Capital Partners, to sell approximately 4,850 MWs of fossil generating assets from its East and West regions of operations for total proceeds of $760 million, subject to standard purchase price adjustments and certain other indemnifications. As part of the transaction, NRG is entering into a tolling agreement for its 866 MW Arthur Kill plant in New York City through April 2025. The transaction is expected to close in the fourth quarter of 2021, and is subject to various closing conditions, approvals and consents, including FERC, NYSPSC, and antitrust review under Hart-Scott-Rodino.

The Company has achieved the targets related to operations and cost excellence, portfolio optimization, and capital structure and allocation enhancement, as set out by the Transformation Plan. See Item 7 - *Management's Discussion and Analysis of Financial Conditions and Results of Operations* for further discussion.

Strategy

NRG's strategy is to maximize stakeholder value through the safe production and sale of reliable power and gas to its customers in the markets it serves, while positioning the Company to provide innovative solutions to the end-use energy customer. This strategy is intended to enable the Company to optimize its integrated model to generate stable and predictable cash flow, significantly strengthen earnings and cost competitiveness, and lower risk and volatility.

To effectuate the Company’s strategy, NRG is focused on: (i) serving the energy needs of end-use residential, commercial and industrial, and wholesale customers in competitive markets through multiple brands and channels; (ii) offering a variety of energy products and services, including renewable energy solutions, that are differentiated by innovative features, premium service, sustainability, and loyalty/affinity programs; (iii) excellence in operating performance of its existing assets; (iv) optimal hedging of NRG's portfolio; and (v) engaging in disciplined and transparent capital allocation.

Sustainability is an integral piece of NRG's strategy and ties directly to business success, reduced risks and brand value. In 2019, NRG announced the acceleration of its science-based GHG emissions reduction goals to align with prevailing climate science, limiting global warming in the post-industrial era to 1.5 degree Celsius. Under its new GHG emissions reduction timeline, NRG is targeting a 50% reduction by 2025, from its current 2014 baseline, and net-zero emissions by 2050. The Company is on track to meet its 2025 goal.

Business Overview

The Company’s core business is the sale of electricity and natural gas to residential, commercial and industrial customers, supported by the Company's wholesale generation.

As part of perfecting the integrated model, in which the majority of the Company’s generation serves its retail customers, the Company began managing its operations based on the combined results of the retail and wholesale generation businesses with a geographical focus in 2020. As a result, the Company changed its business segments from Retail and Generation to Texas, East and West/Other beginning in the first quarter of 2020. The Company's updated segment structure reflects how management makes financial decisions and allocates resources.

The Company's business is segregated as follows:

- Texas, which includes all activity related to customer, plant and market operations in Texas;

- East, which includes the remaining activity related to customer operations and all activity related to plant and market operations in the East;
- West/Other, which includes the following assets and activities: (i) all activity related to plant and market operations in the West, (ii) activity related to the Cottonwood power plant that was sold to Cleco on February 4, 2019 and is being leased back until 2025, (iii) the remaining renewables activity, including the Company’s equity method investments in Ivanpah Master Holdings, LLC and Agua Caliente (which was sold on February 3, 2021) and the NFL stadium solar generating assets, and (iv) activity related to the Company’s equity method investment for the Gladstone power plant in Australia; and
- Corporate activities.

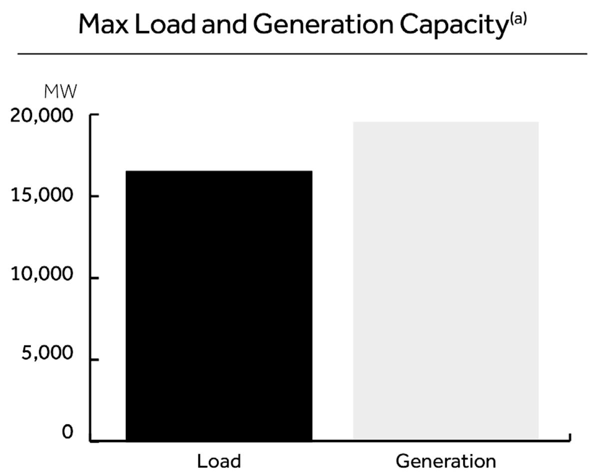
As of December 31, 2020, the vast majority of the Company’s business was in Texas, where the Company’s generation supply is fully integrated with its retail load. In the East, the Company’s retail load is more dispersed throughout the region and not fully integrated with the Company’s generation supply due to the locations of its power plants in that region. In the West, the Company’s business is primarily generation supply. The acquisition of Direct Energy broadens the Company's presence in the Northeast and into states and locales where it did not previously operate, supporting NRG's objective to diversify its business.

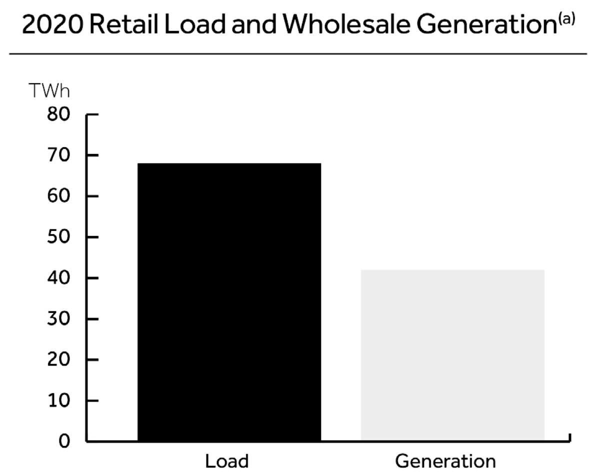
The acquired operations of Direct Energy will be integrated into the existing NRG segment structure. Domestic customer and market operations will be combined into the corresponding geographical segments of Texas, East and West/Other. The East segment will also include the deregulated customer and market operations of Canada. The West/Other segment will also include activity related to the regulated operations in Alberta, Canada and the services businesses.

The Company’s integrated model consists of three core functions: Customer Operations, Market Operations and Plant Operations, which directly support each other in each geographic region. The Company’s integrated model provides the advantage of being able to supply the Company’s retail customers with electricity from the Company’s assets, which reduces the need to sell electricity to and buy electricity from other institutions and intermediaries, resulting in stable earnings and cash flows, lower transaction costs and less credit exposure. The integrated model also results in a reduction in actual and contingent collateral through offsetting transactions, thereby minimizing transactions with third parties.

NRG provides energy and related services to residential, industrial and commercial, and wholesale customers at either fixed, indexed or month-to-month prices through various brands and sales channels across the U.S. and Canada. Residential and small commercial ("Mass market") customers typically contract for terms ranging from one month to five years, while industrial and large commercial ("C&I") contracts are often between one year and five years in length. NRG sold approximately 68.2 TWhs of electricity and 23.5 MMDth of natural gas in 2020 and served approximately 3.6 million customers as of December 31, 2020, making it one of the largest competitive energy retailers in the U.S. In any given year, the quantity of TWhs and MMDth sold can be affected by weather, economic conditions and competition. As of the end of 2020, NRG had recurring electricity and/or natural gas sales in 19 U.S. states, the District of Columbia, and 2 provinces in Canada. Following the acquisition of Direct Energy, NRG has recurring electricity and/or natural gas sales in 24 U.S. states, the District of Columbia, and 8 provinces in Canada. NRG's retail brands, collectively, have the largest share of competitively served residential electric customers in Texas and nationwide.

The charts below illustrate NRG's U.S. retail capabilities, power generation and net capacity as of and for the year ended December 31, 2020:





(a) Excludes International, West, and Renewables.

Extreme Weather Event in Texas During February 2021

During February 2021, Texas experienced unprecedented cold temperatures for a prolonged duration, resulting in a power emergency, blackouts, and an estimated all-time peak demand of 77 GWs (without load shed). Ahead of the event, NRG launched residential customer communications calling for conservation across all of its brands, and initiated residential and commercial and industrial demand response programs to curtail customer load. The Company maximized available generating capacity and brought in additional resources to supplement in-state staff with technical and operating experts from the rest of its U.S. fleet. NRG is committed to working with all necessary stakeholders on a comprehensive, objective, and exhaustive root cause analysis of the entirety of the energy system.

The estimated financial impact is still preliminary, due to customer meter and settlement data not being finalized, as well as potential customer and counterparty risk and expected ERCOT default allocations. Based on a preliminary analysis, Winter Storm Uri's financial impact is not expected to be adverse to NRG's financial results. The Company separately stress-tested assumptions and although at a lower probability, this stress-test analysis indicated a potential plus or minus $100 million to income from continuing operations in 2021. NRG's integrated platform continues to deliver stable results through unprecedented events.

COVID-19

In March 2020, the World Health Organization categorized COVID-19 as a pandemic and the President of the United States declared the COVID-19 outbreak a national emergency. Electricity was deemed a ‘critical and essential business operation’ under various state and federal governmental COVID-19 mandates.

NRG has been and continues to remain focused on protecting the health and well-being of its employees, while supporting its customers and the communities in which it operates and assuring the continuity of its operations. During 2020, NRG contributed $2 million to COVID-19 relief efforts, including funding for urgently needed safety equipment supporting first responders, as well as funds that aided local communities and teachers. The Company also allocated funding to the NRG Employee Relief Fund to assist employees adversely impacted by natural disasters and other extraordinary events.

NRG activated its Crisis Management Team ("CMT") in January 2020, which proactively began managing the Company's response to the impacts of COVID-19. The CMT implemented the business continuity plans for the Company and had taken a variety of measures to ensure the ongoing availability of the Company's services, while maintaining the Company's commitment to its core values of health and safety. Pursuant to the Company's Infectious Disease & Pandemic Policy, in March 2020, NRG implemented restrictions on business travel and face-to-face sales channels, instituted remote work practices and enhanced cleaning and hygiene protocols in all of its offices and facilities.

In order to effectively serve the Company’s customers, select essential employees and contractors continued to report to plant and certain office locations. In June 2020, summer-critical office employees also returned to the offices.

The Company requires pre-entry screening, including temperature checks, separation of work crews, additional personal protective equipment for employees and contractors when social distancing cannot be maintained, and a ban on all non-essential visitors. As a result of these business continuity measures, the Company has not experienced any material disruptions in its ability to continue its business operations to date. The first COVID-19 vaccine became available in the United States in December 2020. NRG continues to advocate alongside state and federal trade groups for the high prioritization of essential electric industry personnel for inoculation against COVID-19. States are receiving weekly doses of vaccines and allocating those doses to frontline healthcare workers, elderly populations and high risk individuals. NRG continues to monitor state information as well as dosage and allocation numbers to anticipate the latest timing of vaccine distribution to our essential employees. The Company will continue to evaluate additional return to normal work operations on a location-by-location basis as COVID-19 conditions evolve.

The Company continues to utilize the communication protocol established in January 2020, including a central information hub on its intranet. The Company has provided additional wellness programs to support employees through the pandemic, including no-cost access to telehealth services, a mindfulness and meditation program, center or home-based backup child and elder care, and access to the Company's Emergency Relief Fund for financially impacted employees.

Following the President's declaration of COVID-19 outbreak as a national emergency in March 2020, the Governors of the majority of states in which the Company operates issued executive orders that every person should, except where necessary to provide or obtain essential services, minimize social gatherings and minimize in-person contact with people who are not in the same household. The impact of these orders affected energy loads due to closed schools, restaurants and bars, except in certain cases for takeout, and other non-essential businesses. As state restrictions have been eased or lifted, loads have begun to recover in those markets in which the Company operates. The rebound in demand has varied across the Company's market footprint, as restrictions vary regionally. During 2020, the Company experienced increased demand from its residential portfolio as many people remained at home, while the load for small businesses and C&I customers decreased due to reduced economic activity. The Company expects similar demand trends to continue in the near future. These restrictions have also created limitations to the Company's face-to-face sales channels and are expected to negatively impact the Company's customer count primarily in the East region. As the COVID-19 vaccine is distributed and the spread of transmission decreases, the Company would anticipate changes to the previously disclosed restrictions.

In Texas, the PUCT adopted the COVID-19 Electricity Relief Program (“ERP”) to mitigate the impact of COVID-19 on Texas retail electric customers experiencing economic hardship as a result of the pandemic. The COVID-19 ERP provided temporary disconnection protection for eligible customers and established funds to offset some of the costs incurred by retail electric providers that continued service to those customers. The COVID-19 ERP disconnection protection and benefits ended on September 30, 2020. Consistent with the PUCT's orders, NRG is continuing to offer deferred payment plans to all residential and small commercial customers while the declaration of emergency in Texas is in place.

While the pandemic presented risks, as further described in Part II, Item 1A — Risk Factors of this Form 10-K, to the Company’s business, there was not a material adverse impact on the Company’s results of operations for the year ended December 31, 2020. NRG believes it has sufficient liquidity on hand to continue business operations in light of current circumstances posed by the pandemic. As disclosed in the Liquidity and Capital Resources section, the Company has total available liquidity of $7.0 billion as of December 31, 2020, consisting of cash on hand, its Revolving Credit Facility and additional facilities.

The situation surrounding COVID-19 remains fluid and the potential for a material adverse impact on the Company exists as long as the virus impacts the level of economic activity in the United States and abroad. The Company expects the risk to decrease in the future as vaccinations are administered. NRG cannot reasonably estimate with any degree of certainty the full impact COVID-19, and any resurgence of COVID-19, may have on the Company’s future results of operations, financial position, and liquidity. The extent to which the COVID-19 pandemic may impact the Company’s business, operating results, financial condition, risk exposure or liquidity will depend on future developments, including the duration of the pandemic, travel restrictions, business and workforce disruptions, any resurgence of the pandemic and the effectiveness of actions taken to contain, mitigate and treat the disease. See Part I, Item 1A — Risk Factors of this Form 10-K.

Customer Operations

Customer Operations is responsible for growing and retaining the customer base and delivering an outstanding customer experience. This includes acquisition and retention of all of NRG’s residential, small commercial, government and commercial & industrial customers. NRG employs a multi-brand strategy that leverages a wide array of sales and partnership channels, direct face-to-face sales channels, call centers, websites, and brokers. Go-to-market activities include market strategy planning and development, product innovation, offer design, campaign execution, marketing and creative services, and selling. Customer portfolio maintenance and retention activities include fulfillment, billing, payment processing, collections, customer service, issue resolution, and contract renewals. Throughout all Customer Operations activities, the customer experience is kept at the forefront to inform decision-making and optimize retention, while creating supporters and advocates for NRG’s brands in the market. Following the expansion of the customer base with the acquisition of Direct Energy, Customer Operations now comprises three end-use customer facing teams: NRG Home, which serves Mass Market customers, NRG Business, which serves medium and large business customers, and NRG Services, which primarily includes the services businesses acquired.

Product Offerings

NRG sells a variety of products to residential and small commercial customers, including retail electricity and energy management, natural gas, home security, line and surge protection products, HVAC installation, repair and maintenance, home warranty and protection products, carbon offsets, back-up power stations, portable power, portable solar and portable lighting. Mass market customers make purchase decisions based on a variety of factors, including price, incentive, customer service, brand, innovative offers/features and referrals from friends and family. Through its broad range of service offerings and value propositions, NRG is able to attract, retain, and increase the value of its customer relationships. NRG's brands are recognized for exemplary customer service, innovative smart energy and technology product offerings, and environmentally-friendly solutions.

The Company provides power and natural gas to the business-to-business markets in North America, as well as retail services, including demand response, commodity sales, energy efficiency and energy management solutions to C&I customers. The Company is an integrated provider of supply and distributed energy resources and focuses on distributed products and services as businesses seek greater reliability, cleaner power and/or other benefits that they cannot obtain from the grid. These solutions include system power, distributed generation, renewable products, carbon management and specialty services, backup generation, storage and distributed solar, demand response, and energy efficiency and advisory services. In providing on-site energy solutions, the Company often benefits from its ability to supply energy products from its wholesale generation portfolio to C&I customers. In 2020, the Company sold approximately 20 TWhs of electricity to C&I customers and managed approximately 1,750 MWs of demand response positions across its portfolio.

Market Operations

Market Operations has two primary objectives: (i) to supply energy to our customers in the most cost-efficient manner; and (ii) to maximize the value of the Company's assets after satisfying its customer load requirements. These objectives are intended to reduce supply costs and maximize earnings with predictable cash flows.

To meet these objectives, NRG enters into supply, power and gas sales and hedging arrangements via a wide range of products and contracts, including (i) renewable PPAs, (ii) capacity auctions and other contracted revenue sources, (iii) fuel supply and transportation contracts, and (iv) physical and financial natural gas derivative instruments and other financial instruments.

In addition, because changes in power prices in the markets where NRG operates are generally correlated to changes in natural gas prices, NRG uses hedging strategies that may include power and natural gas forward purchases and sales contracts to manage the commodity price risk.

Renewable PPAs

During 2019, NRG began procuring mid to long-term renewable generation through power purchase agreements. As of December 31, 2020, NRG has entered into PPAs in Texas totaling approximately 1,800 MWs with third-party project developers and other counterparties. The tenor of these agreements is an average between eleven and twelve years. The Company expects to continue evaluating and executing agreements, such as these, that support the needs of the business.

Capacity and Other Contracted Revenue Sources

NRG's revenues and cash flows, primarily in the East and West, benefit from capacity/demand payments and other contracted revenue sources, originating from market clearing capacity prices, resource adequacy contracts, tolling arrangements and other long-term contractual arrangements.

The Company's largest sources of capacity revenues are capacity auctions in PJM, ISO-NE and NYISO. Both PJM and ISO-NE operate a pay-for-performance model where capacity payments are modified based on real-time performance and NRG's actual revenues will be the combination of revenues based on the cleared auction MWs plus the net of any over- and under-performance of NRG's respective generation assets. The Company primarily sells physical and financial capacity forward through bilateral contracts for our New York state assets. To the extent NRG is not able to enter into physical bilateral contracts, NRG will sell the remaining capacity into the NYISO six month strip, monthly or spot auctions.

- *2024/2025 ISO-NE Auction Results* - On February 11, 2020 ISO-NE announced the results of its 2024/2025 forward capacity auction. NRG cleared 1,518 MW of capacity. NRG's expected capacity revenues from the auction for the 2024/2025 delivery year are approximately $48 million.

- *PJM Auction Results* —PJM announced during 2019 it was suspending all auction deadlines relating to Base Residual Auctions for 2022/2023 and 2023/2024 delivery year, consistent with FERC's July 25, 2019 Order. The auctions are now set to resume in 2021. Refer to the Capacity Market Reforms Filing discussion within the Regional Regulatory Developments section below for further discussion.

In California, there is a resource adequacy requirement that is primarily satisfied through bilateral contracts. Such bilateral contracts are typically short-term resource adequacy contracts. When bilateral contracting does not satisfy the resource adequacy need, such shortfalls can be addressed through procurement tools administered by the CAISO, including the capacity procurement mechanism or reliability must-run contracts.

Fuel Supply and Transportation

NRG's fuel requirements consist of various forms of fossil fuel and nuclear fuel. The prices of fossil fuels can be volatile. The Company obtains its fossil fuels from multiple suppliers and through multiple transporters. Although availability is generally not an issue, localized shortages, transportation availability, delays arising from extreme weather conditions and supplier financial stability issues can and do occur. The preceding factors related to the sources and availability of raw materials are fairly uniform across the Company's business and fuel products used. NRG's primary fuel requirements consist of the following:

Natural Gas — NRG operates a fleet of mid-merit and peaking natural gas plants across all its U.S. wholesale regions. Fuel needs are managed on a spot basis, especially for peaking assets, as the Company does not believe it is prudent to forward purchase natural gas for these types of units as the dispatch is highly unpredictable. The Company contracts for natural gas storage services, as well as natural gas transportation services to deliver natural gas when needed.

Coal — The Company believes it is adequately hedged, using forward coal supply agreements, for its domestic coal consumption for 2021. NRG actively manages its coal requirements based on forecasted generation, market volatility and its inventory on site. As of December 31, 2020, NRG had purchased forward contracts to provide fuel for approximately 50% of the Company's expected requirements for 2021 and 2022 . NRG purchased approximately 11 million tons of coal in 2020, almost all of which was Powder River Basin coal. For fuel transport, NRG has entered into various rail transportation and rail car lease agreements with varying tenures that will provide for most of the Company's transportation requirements of Powder River Basin coal for the next 2 years.

Nuclear Fuel — STP's owners, including NRG, satisfy their fuel supply requirements by: (i) acquiring uranium concentrates and contracting for conversion of the uranium concentrates into uranium hexafluoride; (ii) contracting for enrichment of uranium hexafluoride; and (iii) contracting for fabrication of nuclear fuel assemblies. Through its proportionate participation in STPNOC, which is the NRC-licensed operator of STP that is responsible for all aspects of fuel procurement, NRG is party to a number of long-term forward purchase contracts with many of the world's largest suppliers covering STP's requirements for uranium concentrates with only approximately 25% of STP's requirements outstanding for the duration of the original operating license. Similarly, NRG is party to long-term contracts to procure STP's requirements for conversion and enrichment services and fuel fabrication for the life of the operating license. Since the operating license was renewed for another 20 years in 2017, STPNOC has begun to review a second phase of fuel purchasing.

Derivative Instruments and Other Financial Instruments

NRG also trades electric power, natural gas and related commodities, environmental products, weather products and financial products, including forwards, futures, options and swaps. NRG enters into these instruments for many reasons, including to manage price and delivery risk, optimize physical and contractual assets in the portfolio, manage working capital requirements, reduce the carbon exposure in its business and comply with regulations and laws.

Plant Operations

The Company owns a diversified power generation portfolio with approximately 23,000 MW of fossil fuel, nuclear and renewable generation capacity at 33 plants as of December 31, 2020. The Company's power generation assets are diversified by fuel-type, dispatch level and region, which helps mitigate the risks associated with fuel price volatility and market demand cycles. NRG continually evaluates its generation portfolio to focus on asset optimization opportunities and the locational value of its generation assets in each of the markets where the Company participates, as well as opportunities for the development of new generation.

The following table summarizes NRG's generation portfolio as of December 31, 2020:

	(In MW)[a]			
Type	Texas	East	West/Other	Total
Natural gas	4,774	2,742	2,308	9,824
Coal	4,174	3,140	605	7,919
Oil	—	3,600	—	3,600
Nuclear	1,132	—	—	1,132
Utility Scale Solar	—	—	321	321
Battery Storage[b]	2	—	—	2
Total generation capacity	10,082	9,482	3,234	22,798

(a) All Utility Scale Solar are described in MW on an alternating current basis. MW figures provided represent nominal summer net MW capacity of power generated as adjusted for the Company's owned or leased interest excluding capacity from inactive/mothballed units

(b) The Distributed Solar figure includes the aggregate production capacity of installed and activated residential solar energy systems

Plant Operations is responsible for operating the Company's generation facilities at the highest standards of safety and reliability, and includes (i) operations and maintenance, (ii) asset management, and (iii) development, engineering and construction.

Operations & Maintenance

NRG operates and maintains its generation portfolio, as well as approximately 7,243 MW of additional coal and natural gas generation capacity at 11 plants operated on behalf of third parties as of December 31, 2020 using prudent industry practices for the safe, reliable and economic generation of electricity in compliance with all local, state and federal requirements. The Company follows a consistent set of operating requirements, including a solid base of training, required adherence to specific safety and environmental limits, procedure and checklist usage, and the implementation of continuous process improvement through incident investigations.

NRG uses best-in-class maintenance practices for preventive, predictive, and corrective maintenance planning. The Company’s strategic planning process evaluates equipment condition, performance, and obsolescence to support the development of a comprehensive work scope and schedule for long-term performance.

Asset Management

NRG manages all aspects of its generation portfolio to optimize the lifecycle value of the assets, consistent with the Company’s goals. The Company evaluates capital projects required for continued operation and strategic enhancement of the assets, provides quality assurance on capital outlays, and assesses the impact of rules, regulations, and laws on business profitability. In addition, the Company manages its long-term contracts, power purchase agreements, and real estate holdings and provides third party asset management services.

Development, Engineering & Construction

NRG develops, engineers and executes major plant modifications, “new build” generation and energy storage projects that enhance the value of its generation portfolio and provide options to meet generation growth needs in the retail markets we serve, in accordance with the Company’s strategic goals. Projects have included gas-fired generation development and construction, coal to gas conversions, grid scale energy storage development, grid scale renewable construction, and asset demolition, remediation and reclamation work.

Operational Statistics

The following statistics represent the Company's retail customer count, load and contract mix:

	Years ended December 31,		
	2020	2019	2018
Sales volumes *(in GWh)*			
Mass Market electricity - Texas	38,473	38,958	37,846
Mass Market electricity - East	10,221	9,918	7,968
C&I electricity - Texas	17,928	18,976	20,192
C&I electricity - East	1,596	1,214	984
Total Load	68,218	69,066	66,990
Customer count - Electricity *(in thousands)*			
Mass Market - Texas [(a)]			
Average retail	2,449	2,358	2,209
Ending retail	2,451	2,450	2,318
Mass Market - East			
Average retail	1,019	990	790
Ending retail	970	1,070	903
[(a)] Includes customers of non-electric services			
Customer count - Natural gas - East *(in thousands)*			
Average retail Mass Market	156	122	64
Ending retail Mass Market	166	158	99
Customer contract mix			
Fixed	69 %	67 %	65 %
Month-to-month	23 %	24 %	25 %
Indexed	8 %	9 %	10 %
	100 %	100 %	100 %

The following are industry statistics for the Company's fossil and nuclear plants, as defined by the NERC, and are more fully described below:

Annual Equivalent Availability Factor, or EAF — Measures the percentage of maximum generation available over time as the fraction of net maximum generation that could be provided over a defined period of time after all types of outages and deratings, including seasonal deratings, are taken into account.

Net Heat Rate — The net heat rate represents the total amount of fuel in BTU required to generate one net kWh provided.

Net Capacity Factor — The net amount of electricity that a generating unit produces over a period of time divided by the net amount of electricity it could have produced if it had run at full power over that time period. The net amount of electricity produced is the total amount of electricity generated minus the amount of electricity used during generation.

The tables below present these performance metrics for the Company's generation portfolio, including leased facilities and those accounted for as equity method investments, for the years ended December 31, 2020 and 2019:

	Year Ended December 31, 2020				
			Fossil and Nuclear Plants [(a)]		
	Net Owned Capacity (MW)	Net Generation (In thousands of MWh) [(a)]	Annual Equivalent Availability Factor	Average Net Heat Rate BTU/kWh	Net Capacity Factor
Texas	10,082	31,385	76.0 %	7,704	35.9 %
East	9,482	4,102	81.7 %	12,329	4.8 %
West/Other [(b)(c)]	3,234	9,171	88.0 %	7,338	52.3 %

	Year Ended December 31, 2019				
			Fossil and Nuclear Plants [(a)]		
	Net Owned Capacity (MW)	Net Generation (In thousands of MWh) [(a)]	Annual Equivalent Availability Factor	Average Net Heat Rate BTU/kWh	Net Capacity Factor
Texas	10,061	37,995	83.3 %	10,542	43.2 %
East	9,426	6,913	81.7 %	11,917	8.3 %
West/Other [(b)(c)]	3,294	9,462	79.9 %	6,751	51.4 %

(a) Net generation excludes equity method investments
(b) Includes the Sherbino and Guam facilities that were sold in 2019
(c) Includes the aggregate production capacity of installed and activated residential solar energy systems

The generation performance by region for the three years ended December 31, 2020, 2019 and 2018 is shown below:

	Net Generation		
(In thousands of MWh)	2020	2019	2018
Texas			
Coal	15,701	21,985	24,781
Gas	6,006	6,315	4,415
Nuclear [(a)]	9,678	9,695	9,018
Total Texas	31,385	37,995	38,214
East			
Coal	1,888	4,435	7,965
Oil	322	209	544
Gas	1,892	2,269	1,610
Total East	4,102	6,913	10,119
West/Other			
Gas	9,165	9,450	10,187
Renewables	6	12	783
Total West/Other	9,171	9,462	10,970

(a) Reflects the Company's undivided interest in total MWh generated by STP

Competition

While there has been consolidation in the competitive retail space over the past few years, there is still considerable competition for customers. In Texas, there is healthy competition in deregulated areas and customers can choose providers based on the most appealing offers. Outside of Texas, electricity retailers compete with the incumbent utilities, in addition to other retail electric providers, which can inhibit competition, depending on the market rules of the state. There is a high degree of fragmentation, with both large and small competitors offering a range of value propositions, including value, rewards, and sustainability.

Wholesale generation is highly fragmented and diverse in terms of industry structure by region. As such, there is a wide variation in terms of the capabilities, resources, nature and identities of the Company's competitors depending on the market. Competitors include regulated utilities, municipalities, cooperatives, other independent power producers, and power marketers or trading companies, including those owned by financial institutions.

Seasonality and Price Volatility

The sale of electric power to retail customers is a seasonal business with the demand for power generally peaking during the summer months. In connection with the acquisition of Direct Energy, the Company acquired a large natural gas customer portfolio, which generally experiences peak demand during the winter months. As a result, net working capital requirements for the Company's retail operations generally increase during summer and winter months along with the higher revenues, and then decline during off-peak months. Weather may impact operating results and extreme weather conditions could have a material impact. The rates charged to retail customers may be impacted by fluctuations in total power prices and market dynamics, such as the price of natural gas, transmission constraints, competitor actions, and changes in market heat rates.

Annual and quarterly operating results of the Company's generation portfolio can be significantly affected by weather and energy commodity price volatility. Significant other events, such as the demand for natural gas, interruptions in fuel supply infrastructure and relative levels of hydroelectric capacity can increase seasonal fuel and power price volatility. The preceding factors related to seasonality and price volatility are fairly uniform across the regions in which the Company operates.

Market Framework

NRG sells electricity, natural gas and related products and services to customers throughout the U.S. and Canada. In most of the states and regions that have introduced retail consumer choice, NRG competitively offers electricity, natural gas, portable power and other value-enhancing services to customers. Each retail consumer choice state or province establishes its own retail competition laws and regulations, and the specific operational, licensing, and compliance requirements vary by state or province. Regulated terms and conditions of default service, as well as any movement to replace default service with competitive services, as is done in ERCOT, can affect customer participation in retail competition. In Canada, NRG sells energy and related services to residential and commercial customers in the province of Alberta pursuant both to a regulated rate service governed by provincial regulations as well as a competitive service with rates set by market forces. Sales of energy to commercial customers take place in other provinces as well. The attractiveness of NRG's retail offerings may be impacted by the rules, regulations, market structure and communication requirements from public utility commissions in each state and province.

NRG's fleet operates in organized energy markets, known as RTOs or ISOs. Each organized market administers day-ahead and real-time centralized bid-based energy and ancillary services markets pursuant to tariffs approved by FERC, or in the case of ERCOT, market rules approved by the PUCT. These tariffs and rules dictate how the energy markets operate, how market participants make bilateral sales with one another, and how entities with market-based rates are compensated. Established prices reflect the value of energy at the specific location and time it is delivered, which is known as the Locational Marginal Price. Each market is subject to market mitigation measures designed to limit the exercise of locational market power. These market structures facilitate NRG's sale of power and capacity products at market-based rates.

Other than ERCOT, each of the ISO regions also operates a capacity or resource adequacy market that provides an opportunity for generating and demand response resources to earn revenues to offset their fixed costs that are not recovered in the energy and ancillary services markets. The ISOs are also responsible for transmission planning and operations.

Texas

NRG's business in Texas is subject to standards and regulations adopted by the PUCT and ERCOT[(a)], including the requirement for retailers to be certified by the PUCT in order to contract with end-users to sell electricity. The ERCOT market is one of the nation's largest and, historically, fastest growing power markets. ERCOT is an energy-only market and has implemented market rule changes referred to as the Operating Reserve Demand Curve (ORDC) to provide pricing more reflective of higher energy value when operating reserves are scarce or constrained. The PUCT directed the implementation of the ORDC in 2014 to act as the primary scarcity pricing mechanism, with subsequent amendments made in 2019 and 2020. The majority of the retail load in the ERCOT market region is served by competitive retail suppliers, except certain areas that have not opted into competitive consumer choice and are served by municipal utilities and electric cooperatives.

East

While most of the states in the East region have introduced some level of retail consumer choice for electricity and/or natural gas, the incumbent utilities currently provide default service in most of the states and as a result typically serve the majority of residential customers. NRG's retail activities in the East are subject to standards and regulations adopted by the ISOs and state public utility commissions, including the requirement for retailers to be certified in each state in order to contract with end-users to sell electricity.

(a) The Cottonwood facility is located in Deweyville, Texas, but operates in the MISO market

NRG's power plants and demand response assets located in the East region of the U.S. are within the control areas of ISO-NE, MISO, NYISO and PJM. Each of the market regions in the East region provides for robust competition in the day-ahead and real-time energy and ancillary services markets. Additionally, the East region receives a significant portion of its revenues from capacity markets. PJM and ISO-NE use a three-year forward capacity auction, while NYISO uses a month-ahead capacity auction. MISO has an annual auction, known as the Planning Resource Auction. Capacity market prices are sensitive to design parameters, as well as additions of new capacity. Both ISO-NE and PJM operate a pay-for-performance model where capacity payments are modified based on real-time generator performance. In such markets, NRG's actual capacity revenues will be the combination of cleared auction prices times the quantity of MWs cleared, plus the net of any over-performance "bonus payments" and any under-performance charges. Additionally, bidding rules allow for the incorporation of a risk premium into generator bids.

West

In the West region of the U.S., NRG operates a fleet of natural gas-fired power plants located entirely within the CAISO footprint. The CAISO operates day-ahead and real-time locational markets for energy and ancillary services, while managing congestion primarily through nodal prices. The CAISO system facilitates NRG's sale of power, ancillary services and capacity products at market-based rates, either within the CAISO's centralized energy and ancillary service markets or bilaterally pursuant to tolling arrangements or other capacity sales with California's LSEs. The CPUC also determines capacity requirements for LSEs and for specified local areas utilizing inputs from the CAISO. Both the CAISO and CPUC rules require LSEs to contract with sufficient generation resources in order to maintain minimum levels of generation within defined local areas. Additionally, the CAISO has independent authority to contract with needed resources under certain circumstances, typically either when LSEs have failed to procure sufficient resources, or system conditions change unexpectedly.

Canada

In Canada, NRG sells to residential and commercial retail customers in Alberta under both regulated rates approved by the AUC as well as through competitive service with rates set by the market. The Company's regulated rates are approved through periodic rate applications that establish rates for power and gas sales as well as for recovery of other costs associated with operating the regulated business. In addition, the Company conducts retail sales of energy to commercial customers in other provinces. All sales and operations are subject to applicable federal and provincial laws, regulations and licensing requirements.

Regulatory Matters

As participants in wholesale and retail energy markets and owners and operators of power plants, certain NRG entities are subject to regulation by various federal and state government agencies. These include the CFTC, FERC, NRC and the PUCT, as well as other public utility commissions in certain states where NRG's generation or distributed generation assets are located. In addition, NRG is subject to the market rules, procedures and protocols of the various ISO and RTO markets in which it participates. Likewise, certain NRG entities participating in the retail markets are subject to rules and regulations established by the states and provinces in which NRG entities are licensed to sell at retail. NRG must also comply with the mandatory reliability requirements imposed by NERC and the regional reliability entities in the regions where NRG operates.

Since entering office in January 2021, the President has signed a package of executive orders which, amongst other things, intends to boost the federal government's response to COVID-19, as well as elevate climate change across all levels and jurisdictions of the federal government. The administration has requested all agencies delay submitting rules to the Federal Register or posting their effective date for 60 days if not already effective, until they can be reviewed by appointees of the current administration. NRG is closely monitoring agency action as the orders will likely result in the promulgation of new regulations, where applicable.

NRG's operations within the ERCOT footprint are not subject to rate regulation by FERC, as they are deemed to operate solely within the ERCOT market and not in interstate commerce. These operations are subject to regulation by the PUCT, as well as to regulation by the NRC with respect to NRG's ownership interest in STP.

Federal Energy Regulation

D.C. Circuit Ruling on FERC's Use of Tolling Orders — On June 30, 2020, the U.S. Court of Appeals for the D.C. Circuit issued a decision stating that FERC's ability to "toll" actions on rehearing beyond the statutory 30-day period is unlawful. On September 17, 2020, FERC staff explained that in Federal Power Act cases, it will no longer issue tolling orders but instead will issue either a Notice of Denial of Rehearing by Operation of Law or a Notice of Denial of Rehearing by Operation of Law and Providing for Further Consideration. The first indicates that FERC would not intend to issue a merits order and the second indicates that FERC intends to issue further action. This decision impacts an array of appeals related to the PJM MOPR order and will impact how rehearings are decided and appeals filed.

State and Provincial Energy Regulation

State Proceedings Regarding States' Participation in the Wholesale Market — Various states, including Connecticut, New Jersey, and New York as well as the District of Columbia have initiated proceedings to investigate resource adequacy alternatives and to consider its participation in the regional wholesale electricity market constructs, specifically withdrawal from the regional market or implementing a Fixed Resource Requirement Regime. Any actions taken by the states could affect market design and market prices in the respective regional markets.

Regional Regulatory Developments

NRG is affected by rule/tariff changes that occur in the ISO regions. For further discussion on regulatory developments see Item 15 — Note 25, *Regulatory Matters,* to the Consolidated Financial Statements.

East/West

PJM

Capacity Market Reforms Filing — On December 19, 2019, FERC issued an order on the pending proposals to reform the PJM market to mitigate subsidized resources in the capacity market. FERC directed PJM to apply the Minimum Offer Price Rule, or MOPR, to new and existing resources receiving state subsidies and subject them to default offer floor prices in their capacity bids. The Order provided for various category specific exemptions to the MOPR, as well as a unit specific exemption, which permits any resource that can justify an offer lower than the default offer price floor to submit such capacity bids to PJM for review. After subsequent filings and orders, on November 13, 2020, PJM submitted its third compliance filing, including a timeline to hold the next Base Residual Auction for Delivery Year 2022-2023 on May 19-25, 2021, which was accepted by FERC. Multiple parties filed appeals in this matter, which have been consolidated at the Seventh Circuit Court of Appeals. Subjecting subsidized resources to default offer floors in the capacity market should protect the market from further price suppression. The impact of these changes on capacity market outcomes depends on, among other factors, bidding behavior, load forecast changes, new resource entry, and existing resource exit.

Indiana Municipal Power Agency and City of Lawrenceburg, Indiana Complaint on Station Power — On September 17, 2020, FERC issued an order in response to a complaint and request for declaratory judgement challenging the station power wholesale netting provisions in PJM's tariff. FERC found that it does not have jurisdiction over the supply of station power and the provision of station power is a retail sale subject to state jurisdiction. The order established a Section 206 proceeding and required PJM to submit a filing within 60 days to show why the station service netting provisions of its tariff are just and reasonable. Lawrenceburg Power, LLC filed for rehearing, which was denied by operation of law on November 19, 2020 and they subsequently appealed to the United States Court of Appeals for the District of Columbia Circuit. The matter is pending. On November 23, 2020, PJM submitted its station power compliance filing to FERC. Multiple parties filed comments and protests to PJM's compliance filing. This decision could affect the rates that plants pay for station power.

PJM's ORDC Filing and Compliance Directives — On March 29, 2019, PJM proposed energy and reserve market reforms to enhance price formation in reserve markets, which includes modifying its ORDC and aligning market-based reserve product in Day-Ahead and Real-Time markets. On May 21, 2020, FERC approved PJM's proposed energy and reserve market reforms. FERC also directed PJM to implement a forward-looking Energy and Ancillary Services Offset to be used in PJM's capacity markets. PJM submitted a compliance filing to revise its tariff on August 5, 2020. On November 12, 2020, FERC approved two PJM compliance filings regarding PJM's reserve markets and the forward-looking Energy and Ancillary Services Offset and subsequently issued a timeline to hold the Base Residual Auction as noted above. PJM will implement the forward-looking Energy and Ancillary Services Offset for the 2022/2023 Base Residual Auction.

New England

ISO-NE Inventoried Energy Compensation Proposal — FERC approved ISO-NE's proposed interim measure to address near-term fuel security concerns by operation of law. After an appeal to the Court of Appeals and a remand back to FERC, FERC issued an order accepting Inventoried Energy Compensation Proposal and by operation of law denied requests for rehearing on August 20, 2020. Multiple parties filed amended petitions for review to include FERC's order on remand. ISO-NE's proposal will affect future capacity market prices and the compensation that fuel secure units receive.

Mystic's Complaint on Transmission Reliability Review — On June 10, 2020, Constellation Mystic Power LLC filed a complaint at FERC against ISO-NE alleging that ISO-NE violated its Tariff in its addition of language to its planning procedure and in its conduct in carrying out a competitive transmission REP to address the retirements of Mystic Units 8 and 9. On August 17, 2020, FERC issued an order denying the complaint. After a rehearing that was denied by operation of law, on January 4, 2021, Constellation Mystic Power LLC filed an appeal to the D.C. Circuit. The outcome of this proceeding affects the retirement of the Mystic Units 8 and 9, thereby affecting capacity prices in ISO-NE.

Paper Hearing on ISO-NE's New Entrant Rule — On July 1, 2020, FERC issued an order establishing a Section 206 hearing initiated by FERC's preliminary finding that the "new entrant rules" may be unjust and unreasonable, specifically as it relates to the seven-year price-lock rule as a result of the D.C. Circuit Court's remand on a FERC Order. The price-lock mechanism permits qualified new resources that clear the auction to receive their first-year clearing price for seven years. On December 1, 2020, FERC issued an order eliminating the seven-year price lock rule beginning in Forward Capacity Auction 16. The elimination of the seven-year price lock rule could affect future capacity prices in ISO-NE.

Competitive Auctions with Sponsored Resources Proposal (CASPR) — On January 8, 2018, ISO-NE filed the CASPR proposal which attempts to accommodate state sponsored resources while maintaining competitive market pricing. On November 19, 2020, FERC upheld the order approving CASPR. Multiple parties filed an appeal to the D.C. Circuit. The outcome of this proceeding will potentially affect future capacity market prices.

New York

New York State Public Service Commission Retail Energy Market Proceedings — On February 23, 2016, the NYSPSC issued an order referred to as the Retail Reset Order. Among other things, the Retail Reset Order placed a price cap on energy supply offers and imposed burdensome new regulations on ESCO's. Various parties have challenged the NYSPSC's authority to regulate prices charged by competitive suppliers. On May 9, 2019 the New York Court of Appeals, the state's highest tribunal, issued a decision affirming the NYSPSC's authority to regulate ESCO's prices as a condition of access to the utilities' infrastructure. On December 12, 2019, the NYSPSC issued an order limiting ESCO's offers for electric and natural gas to three compliant products: guaranteed savings from the utility default rate, a fixed term capped at 5% of the rolling 12-month average utility default rate, or NY-sourced renewable energy that is at least 50% greater than the prevailing NY Renewable Energy Standard for load serving entities. The Order effectively limited ESCO offers to natural gas customers to only the guaranteed savings and capped fixed term compliant products because no equivalent renewable energy product exists for natural gas. The Order also establishes new ESCO eligibility criteria and certification process, as well as re-certification of current ESCOs. Multiple parties filed for rehearing, which were denied. After extension requests, the NYSPSC ordered compliance effective April 16, 2021. On January 21, 2021, the NYSPSC issued an Order setting a timeline to evaluate additional compliant energy-related value-added products and also provided for a limited one-year waiver whereby ESCOs, including NRG's Green Mountain Energy and XOOM Energy, which currently offer green gas products, could continue to serve existing customers. The limited offerings imposed by the Order, as issued, may impact the Company's retail sales to Mass Market customers in New York, although the Company is currently in the process of moving existing customers to compliant products.

New York Buyer Side Mitigation Proceedings — On February 20, 2020, FERC issued multiple orders pertaining to the NYISO capacity market. The orders narrowed certain exemptions to buyer side mitigation measures. Specifically, FERC stated that certain renewable and self-supply resources would be exempt from offer floor mitigation but rejected NYISO's proposal of a 1,000 MW cap on renewable resources that could qualify for the exemption. FERC ordered NYISO to make a compliance filing narrowly tailoring its cap. The NYISO submitted its compliance filing, which FERC largely accepted. FERC rejected a complaint to exempt new electric storage resources and also rejected a blanket exemption to demand response providers currently subject to mitigation but granted a request for new demand response to receive a blanket exemption from the buyer side mitigation measures. On June 18, 2020, the NYSPSC filed petitions for review with the D.C. Circuit regarding these buyer side mitigation orders, but the appeals were held in abeyance pending FERC's consideration of rehearing requests. On December 7, 2020, FERC denied rehearings by operation of law regarding the exemption to demand response providers. FERC sustained its position in an October 15, 2020 order regarding the rehearing on electric storage resources. Parties have re-appealed the order regarding electric storage resources. Implementation of buyer side mitigation measures to address price suppression provides more accurate capacity price signals in the competitive market.

New York Generators' Complaint on Buyer Side Mitigation Rules — On October 14, 2020, two New York generators, Cricket Valley and Empire Generating, filed a complaint at FERC against the NYISO arguing that the NYISO's offer floor rules are unjust and unreasonable because they do not address price suppression in the market. The complaint requests that FERC order the NYISO to implement a MOPR that covers out-of-market support to new and existing resources, similar to that in PJM. The outcome of this proceeding could affect capacity market prices in New York. The complaint remains pending at FERC.

Texas

Public Utility Commission of Texas' Actions Related to COVID-19 — On March 26, 2020, the PUCT adopted the COVID-19 Electricity Relief Program ("ERP") aimed to mitigate the impact of COVID-19 on residential customers in the competitive retail electric market who are experiencing economic hardship as a result of the pandemic. The COVID-19 ERP protected residential customers deemed eligible by the PUCT's third party administrator from disconnection for nonpayment until September 30, 2020 and established an emergency fund to allow Retail Electric Providers ("REPs") to recover a certain amount of credit losses incurred while continuing to serve these customers. Final reimbursement requests by REPs were due by November 30, 2020.

California

California Resource Adequacy Proceedings — Since a summer 2020 heat storm that resulted in emergency load curtailments, the State of California and CAISO have embarked on numerous new regulatory activities while redirecting existing proceedings related to the topic of resource adequacy. In a rulemaking docket, on December 28, 2020, the CPUC directed the state's major investor-owned utilities to engage in emergency procurement for 2021 and 2022. In the same docket, the CPUC is considering ways to increase the volume of demand response available to the state during emergency conditions. The CPUC is also considering longer term structural reforms of the resource adequacy policy in California. Additionally, the CAISO has indicated it will procure resources to a higher reserve margin in 2021 than it employed in 2020, while evaluating the conditions likely to exist at early-evening hours when peak load, net of solar resources, is highest.

Midway-Sunset RMR Proceeding — San Joaquin Energy, LLC, a subsidiary of NRG, owns a 50%, non-controlling interest in the Midway-Sunset Cogeneration Company ("MSCC"). MSCC owns a cogeneration facility near Fellows, CA and submitted mothball notices for the cogeneration facility to the CAISO in the latter half of 2020. On December 17, 2020, the CAISO Board effectively rejected the mothball notices by authorizing its staff to designate the MSCC facility as a reliability must-run resource conditioned on execution of a RMR contract. In a letter dated December 16, 2020 sent to the CAISO Board, MSCC indicated that it did not object to the RMR designation but noted certain permitting and maintenance requirements for RMR operation. On January 29, 2021, MSCC made its RMR filing at FERC.

Canada

Alberta Energy Market — In December 2020, prior to its acquisition by NRG, Direct Energy filed a Non-Energy Rate Application with the AUC to approve cost recovery for the 2020-2022 period. Major cost elements of this application relate to bad debt, corporate costs, and customer care and billing contracts. The Company is engaged in a mediation and settlement process. Typically, AUC proceeding take 12-18 months to reach resolution, if settlement procedures do not result in the resolution of contested issues more quickly. The AUC's decision ultimately will result in a surcharge or rebate to adjust collected revenues to AUC-approved costs for the 2020-2022 period. The Company also is waiting on a final review and approval from the AUC of a negotiated rate settlement for its electricity focused 2020-2022 Energy Price Setting Plan, of which a decision is expected during the first quarter of 2021. The Company is also in the process of repaying the remainder of amounts advanced to it from the Balance Pool and the Alberta government as part of its 90 day utility bill deferral program. This program, effective March 18, 2020, was designed to assist residential, farms, and small business customers who were negatively affected by COVID-19 related economic circumstances by temporarily deferring their utility bill payments. The program was also designed to mitigate bad debt risks associated with the implementation of the program.

Environmental Regulatory Matters

NRG is subject to numerous environmental laws in the development, construction, ownership and operation of power plants. These laws generally require that governmental permits and approvals be obtained before construction and maintained during operation of power plants. Federal and state environmental laws historically have become more stringent over time. Future laws may require the addition of emissions controls or other environmental controls or impose restrictions on the Company's operations. Complying with environmental laws often involves specialized human resources and significant capital and operating expenses, as well as occasionally curtailing operations. The COVID-19 pandemic may prevent the Company from complying with certain of its environmental requirements, which federal and state regulators have recognized. NRG decides to invest capital for environmental controls based on the relative certainty of the requirements, an evaluation of compliance options, and the expected economic returns on capital.

A number of regulations that affect the Company have been revised recently by the EPA, including ash storage and disposal requirements, NAAQS revisions and implementation and effluent limitation guidelines. Some of these recent revisions may, in turn, be revised by the new U.S. presidential administration. NRG will evaluate the impact of these regulations as they are revised but cannot fully predict the impact of each until anticipated revisions and legal challenges are resolved.

Air

The CAA and related regulations (as well as similar state and local requirements) have the potential to affect air emissions, operating practices and pollution control equipment required at power plants. Under the CAA, the EPA sets NAAQS for certain pollutants including SO_2, ozone, and PM2.5. Many of the Company's facilities are located in or near areas that are classified by the EPA as not achieving certain NAAQS (non-attainment areas). The relevant NAAQS may become more stringent. The Company maintains a comprehensive compliance strategy to address continuing and new requirements. Complying with increasingly stringent air regulations could require the installation of additional emissions control equipment at some NRG facilities or retiring of units if installing such controls is not economic. Significant changes to air regulatory programs affecting the Company are described below.

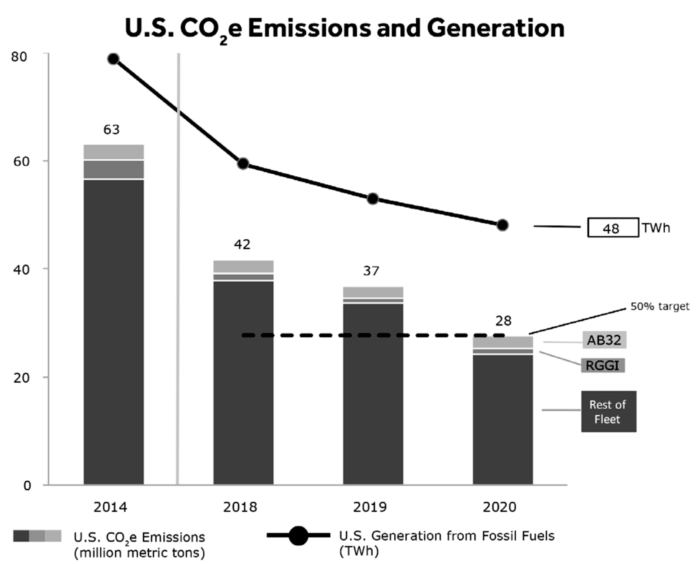
CPP/ACE Rules — The attention in recent years on GHG emissions has resulted in federal and state regulations. In October 2015, the EPA promulgated the CPP, addressing GHG emissions from existing EGUs. On February 9, 2016, the U.S. Supreme Court stayed the CPP. In July 2019, EPA promulgated the ACE rule, which rescinded the CPP, which had sought to broadly regulate CO_2 emissions from the power sector. On January 19, 2021, the D.C. Circuit vacated the ACE rule (but on February 22, 2021, at the EPA's request, stayed the issuance of the portion of the mandate that would vacate the repeal of the CPP). Accordingly, we expect the EPA to promulgate a new rule to regulate GHG emissions from power plants.

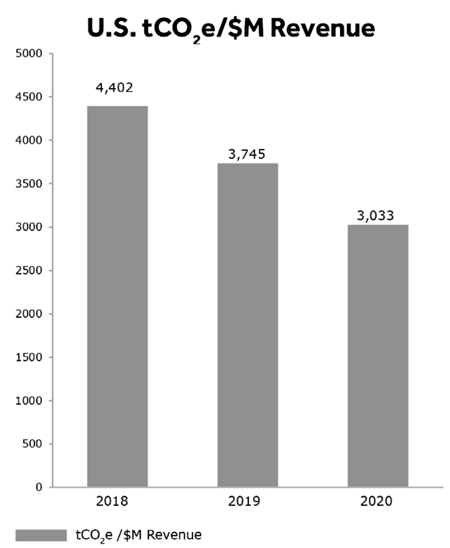
Greenhouse Gas Emissions — NRG emits CO_2 (and small quantities of other GHGs) when generating electricity at a majority of its facilities. The graphs presented below illustrate NRG's domestic emissions of CO_2e for the 2014, and the 2018 through 2020 period. Nearly all (>99%) of NRG's GHG emissions are subject to federal (U.S. EPA) GHG reporting requirements.

In 2019, NRG announced the acceleration of its science-based GHG emissions reduction goals to align with prevailing climate science, which seeks to limit global warming in the post-industrial era to 1.5 degrees Celsius. NRG is targeting a 50% reduction by 2025, from its current 2014 baseline, and net-zero emissions by 2050. From 2014 to 2020, the Company's CO_2e emissions decreased from 63 million metric tons to 28 million metric tons, representing a cumulative 55% reduction. The decrease is attributed to reductions in fleet-wide annual net generation, a market-driven shift away from coal as a primary fuel to natural gas, and in 2020 reduced load as a result of the COVID-19 pandemic. The Company believes the 2020 emissions level may change as load recovers from the impact of COVID-19. The Company is continuing to target a 50% reduction by 2025 and is on track to meet that goal.

As of December 31, 2020, less than 10% of the Company's consolidated operating revenues were derived from coal-fired operating assets.

The following tables reflect the Company’s generation portfolio, including leased facilities and those accounted for through equity method investments. Prior year information was adjusted to remove divested assets.





Byproducts, Wastes, Hazardous Materials and Contamination

In April 2015, the EPA finalized the rule regulating byproducts of coal combustion (e.g., ash and gypsum) as solid wastes under the RCRA. In September 2017, the EPA agreed to reconsider the rule. On July 30, 2018, the EPA promulgated a rule that amended the existing ash rule by extending some of the deadlines and providing more flexibility for compliance. On August 21, 2018, the D.C. Circuit found, among other things, that the EPA had not adequately regulated unlined ponds and legacy ponds. In 2019 and 2020, the EPA proposed several changes to this rule. On August 28, 2020, the EPA finalized "A Holistic Approach to Closure Part A: Deadline to Initiate Closure," which amended the April 2015 Rule to address the August 2018 D.C. Circuit decision and extend some of the deadlines. On November 12, 2020, the EPA finalized "A Holistic Approach to Closure Part B: Alternative Demonstration for Unlined Surface Impoundments," which further amended the April 2015 Rule to, among other things, provide procedures for requesting approval to operate existing ash impoundments with an alternate liner. The Company has updated its estimates of required environmental capital expenditures to address this revised rule.

Domestic Site Remediation Matters

Under certain federal, state and local environmental laws, a current or previous owner or operator of a facility, including an electric generating facility, may be required to investigate and remediate releases or threatened releases of hazardous or toxic substances or petroleum products. NRG may be responsible for property damage, personal injury and investigation and remediation costs incurred by a party in connection with hazardous material releases or threatened releases. These laws impose liability without regard to whether the owner knew of or caused the presence of the hazardous substances, and the courts have interpreted liability under such laws to be strict (without fault) and joint and several. Cleanup obligations can often be triggered during the closure or decommissioning of a facility, in addition to spills during its operations. Further discussions of affected NRG sites can be found in Item 15 — Note 24, *Commitments and Contingencies*, to the Consolidated Financial Statements.

Jewett Mine Lignite Contract — The Company's Limestone facility historically burned lignite obtained from the Jewett mine, which was operated by TWCC. In 2019, the Jewett mine and related lignite supply agreement with NRG were acquired by Westmoreland Jewett Mining LLC ("Jewett Mining"), a subsidiary of Westmoreland Mining LLC pursuant to a plan of reorganization confirmed by the Texas Bankruptcy Court. Effective August 5, 2020, NRG's subsidiary, NRG Texas LLC, acquired all of the equity interests of Jewett Mining. Active mining under the lignite supply agreement ceased as of December 31, 2016; however, under the terms of the lignite supply agreement, Jewett Mining remains responsible for reclamation activities and NRG is responsible for all reclamation costs. NRG has recorded an adequate ARO liability. The Railroad Commission of Texas has imposed a bond obligation of approximately $99 million for the reclamation of the Jewett mine, which NRG supports through surety bonds. The cost of the reclamation may exceed the value of the bonds. NRG may provide additional performance assurance if required by the Railroad Commission of Texas.

Nuclear Waste — The federal government's program to construct a nuclear waste repository at Yucca Mountain, Nevada was discontinued in 2010. Since 1998, the U.S. DOE has been in default of the federal government's obligations to begin accepting spent nuclear fuel, or SNF, and high-level radioactive waste, or HLW, under the Nuclear Waste Policy Act. Owners of nuclear plants, including the owners of STP, had been required to enter into contracts setting out the obligations of the owners and the U.S. DOE, including the fees to be paid by the owners for the U.S. DOE's services to license a spent fuel repository. Effective May 16, 2014, the U.S. DOE stopped collecting the fees.

On February 5, 2013, STPNOC entered into a settlement agreement with the U.S. DOE for payment of damages relating to the U.S. DOE's failure to accept SNF and HLW under the Nuclear Waste Policy Act through December 31, 2013, which has been extended three times through addendums to cover payments through December 31, 2022. There are no facilities for the reprocessing or permanent disposal of SNF currently in operation in the U.S., nor has the NRC licensed any such facilities. STPNOC currently stores all SNF generated by its nuclear generating facilities on-site. STPNOC plans to continue to assert claims against the U.S. DOE for damages relating to the U.S. DOE's failure to accept SNF and HLW.

Under the federal Low-Level Radioactive Waste Policy Act of 1980, as amended in 1985, the state of Texas is required to provide, either on its own or jointly with other states in a compact, for the disposal of all low-level radioactive waste generated within the state. Texas is currently in a compact with the state of Vermont, and the compact low-level waste facility located in Andrews County in Texas has been operational since 2012.

Water

The Company is required under the CWA to comply with intake and discharge requirements, requirements for technological controls and operating practices. As with air quality regulations, federal and state water regulations have become more stringent and imposed new requirements.

Effluent Limitations Guidelines — In November 2015, the EPA revised the Effluent Limitations Guidelines for Steam Electric Generating Facilities, which imposed more stringent requirements (as individual permits were renewed) for wastewater streams from FGD, fly ash, bottom ash, and flue gas mercury control. On September 18, 2017, the EPA promulgated a final rule that, among other things, postponed the compliance dates to preserve the status quo for FGD wastewater and bottom ash transport water by two years to November 2020 until the EPA amended the rule. On October 13, 2020, the EPA amended the 2015 ELG rule by: (i) altering the stringency of certain limits for FGD wastewater; (ii) relaxing the zero-discharge requirement for bottom ash transport water; and (iii) changing several deadlines. The Company is in the process of estimating the environmental capital expenditures that will be required to comply. The capital expenditures required to comply will depend on elections regarding future operations of each coal-fired unit. NRG expects to make these elections for each unit in Q4 2021 at which time the EPA will be notified as required. Accordingly, we do not expect to provide estimates of ELG compliance costs until early 2022.

Regional Environmental Developments

NY NOx — On December 31, 2019, the New York State Department of Environmental Conservation finalized a more stringent NOx regulation that will result in the retirement of the Company's combustion turbines in Astoria, New York in 2023.

Ash Regulation in Illinois — On July 30, 2019, Illinois enacted legislation that requires the state to promulgate regulations regarding coal ash at surface impoundments. On March 30, 2020, the state released its proposed implementing regulations. The Company expects the state to promulgate the final implementing regulations in March 2021, at which time regulated entities will then prepare and submit permit applications.

Customers

NRG sells to a wide variety of customers, primarily end-use customers in the residential, commercial and industrial sectors. The Company owns and operates power plants to generate and sell power to wholesale customers, such as utilities and other intermediaries. The Company had no customer that comprised more than 10% of the Company's consolidated revenues for the year ended December 31, 2020.

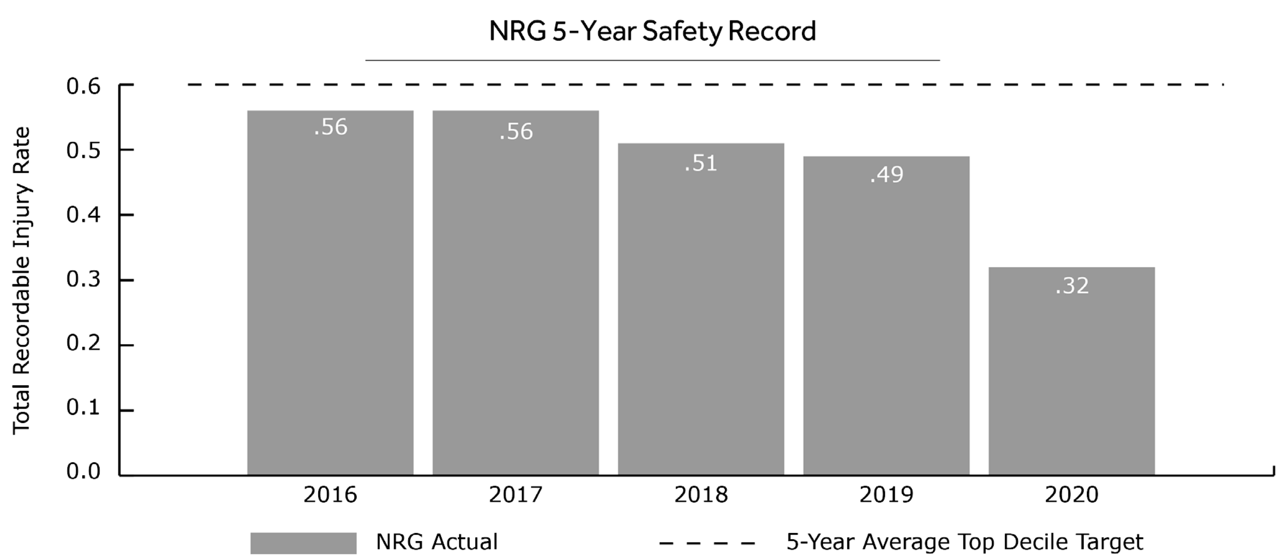
Human Capital

As of December 31, 2020, NRG and its consolidated subsidiaries had 4,104 employees, approximately 23% of whom were covered by U.S. collective bargaining agreements. During 2020, the Company did not experience any labor stoppages or labor disputes at any of its facilities.

NRG believes its employees are vital to its success and is committed to offering employees a rewarding career that provides opportunities for growth and the ability to make valuable contributions toward the achievement of the Company's business objectives. NRG focuses on safety, health and wellness, diversity and inclusion, talent development and total rewards for its employees.

Safety

Safety is embedded in the culture at NRG. The Company strives to begin each meeting with a safety moment and regularly reminds its employees that safety comes first. NRG has achieved its targeted top decile safety record of Occupational Safety and Health Administration recordable injury rates in each of the 5 previous years.



Health and Wellness

For several years, NRG has invested in the well-being of its employees and their families. NRG provides programs that holistically support its employees' physical, emotional and financial wellness, allowing employees the opportunity to take control of their well-being and focus on what matters most to them for a healthy, secure future.

During 2020, the Company evaluated its approach to health and well-being in light of the circumstances resulting from the COVID-19 pandemic. In response to COVID-19, NRG implemented additional programs to provide services to support the needs of employees, including those working from home, such as programs that provided back-up childcare, expanded access to telemedicine (for both physical and mental health), and supported mental and emotional well-being through programs such as mindfulness.

For a further discussion on the Company's overall response to COVID-19, please see above in this Item 1 — *Business* under the caption COVID-19.

Diversity and Inclusion

NRG is committed to diversity and inclusion as an integral part of the Company. In 2020, NRG completed a gender and race pay equity study to ensure that the Company's pay decisions were not influenced by gender, race, or other similar factors. The study showed equitable pay practices after accounting for education, experience, performance and location. NRG also conducted company-wide unconscious bias training to help all employees recognize, understand, and reduce implicit bias and offers various other related guides and tools to its employees and management.

Talent Development

NRG deploys various talent development strategies and programs with the goal of ensuring a pipeline of leadership who can execute on the Company's strategy and drive value for all stakeholders. The Board of Directors regularly engages with management on leadership development and succession planning, including providing feedback on development plans and bench strength for key senior leader positions. The Board of Directors also has a structured program that allows directors to interact directly with individuals deeper within the organization whom management, through a robust talent assessment program, as well as mentoring relationships, has identified as high potential future leaders. The Company has a performance management tool that emphasizes a continuous feedback loop and a robust online training curriculum with topics including leadership, communication and productivity.

Total Rewards

NRG seeks to provide the median target of compensation and benefits, benchmarked against direct peers, industry, and, where appropriate, general peers. To ensure incentives are properly aligned with business needs and can attract and retain qualified employees, the Compensation Committee of the Board of Directors actively reviews the Company's total rewards programs, including benchmarking programs against peer groups, assessing the risks of programs and evaluating the design of the annual and long-term incentive programs. The Company offers full-time employees incentives designed to motivate and reward success. NRG continues to evaluate its offerings taking into consideration the needs of its employees to ensure they are competitive and best serve its employees. Every two years, the Company engages an independent third party to benchmark its compensation and benefits programs against its peers and report the results to the Compensation Committee of the Board of Directors.

For additional information and recent available data regarding the Company's efforts and programs please see the Company's 2020 Proxy Statement and 2019 Sustainability Report, which are available on the Company's website at: *www.nrg.com*. Information included in these documents is not intended to be incorporated into this Form 10-K.

Available Information

NRG's annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to section 13(a) or 15(d) of the Exchange Act are available free of charge through the SEC's website, *www.sec.gov*, and through the Company's website, *www.nrg.com*, as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. The Company also routinely posts press releases, presentations, webcasts, sustainability reports and other information regarding the Company on the Company's website. The information posted on the Company's website is not a part of this report.

Item 1A — Risk Factors

NRG's risk factors are grouped into the following categories: (i) Risks Related to Public Health Threats; (ii) Risks Related to the Acquisition of Direct Energy; (iii) Risks Related to the Operation of NRG's Business; (iv) Risks Related to Governmental Regulation and Laws; and (v) Risks Related to the Company's Indebtedness and Economic and Financial Market Conditions.

Risks Related to Public Health Threats

Public health threats or outbreaks of communicable diseases could have a material adverse effect on the Company's operations and financial results.

The Company may face risks related to public health threats or outbreaks of communicable diseases. A widespread healthcare crisis, such as an outbreak of a communicable disease, could adversely affect the global economy and the Company's ability to conduct its business for an indefinite period of time. For example, the ongoing global COVID-19 pandemic has negatively impacted local and global economies, disrupted financial markets and international trade, resulted in increased unemployment levels and impacted local and global supply chains, all of which negatively impact the electricity industry and the Company's business. In addition, federal, state, and local governments have implemented various mitigation measures, including travel restrictions, border closings, restrictions on public gatherings, shelter-in-place orders and limitations on business activities. Although the operations of the Company are considered an essential service, some of these measures have adversely impacted the ability of NRG employees, contractors, suppliers, customers, and other business partners to conduct business activities. This could have a material adverse effect on the Company's results of operations, financial condition, risk exposure and liquidity.

In particular, the continued spread of COVID-19 and efforts to contain the virus could:

- adversely impact demand for the Company's electricity services and other products and services and the ability of customers to pay their bills;
- cause an increase in costs for the Company as a result of emergency measures taken by state and local regulatory authorities in response to the COVID-19 crisis, including regulatory changes prohibiting customer disconnects and late fees;
- impact the ability of the Company's partners or counterparties to perform their obligations under existing arrangements, including development projects, power purchase and sale arrangements, hedging arrangements or other commercial activities; and
- cause other unpredicted events which may have an adverse impact on the Company's results of operations, financial condition, risk exposure and liquidity.

The situation surrounding COVID-19 remains fluid and the potential for a material impact on the Company's results of operations, financial condition, risk exposure and liquidity increases the longer the virus, or any variants thereof, impacts the level of economic activity in the United States and abroad. NRG cannot reasonably estimate with any degree of certainty the future impact of COVID-19, or any resurgence of COVID-19 or other pandemic may have on the Company's results of operations, financial position, risk exposure and liquidity.

Risks Related to the Acquisition of Direct Energy

The acquisition of Direct Energy may not achieve its intended results.

Achieving the anticipated benefits of cost savings and operating efficiencies of the acquisition is subject to a number of uncertainties, including whether the businesses of NRG and Direct Energy are integrated in an efficient and effective manner. Failure to achieve these anticipated benefits could result in increased costs, lower-than-expected revenues or income generated by the combined company and diversion of management's time and energy, which could have an adverse effect on the Company's business, financial results and prospects.

The Company will be subject to business uncertainties related to Direct Energy that could adversely affect its financial results.

Uncertainty about the effects of the acquisition of Direct Energy on employees, customers and suppliers may have an adverse effect on NRG's business. Although the Company intends to take steps designed to reduce any adverse effects, these uncertainties may impair its ability to attract, retain and motivate key personnel for a period of time, and could cause customers, suppliers and others that deal with it to seek to change existing business relationships.

Employee retention and recruitment may be particularly challenging, as employees and prospective employees may experience uncertainty about their future roles with the Company. If, despite the Company's retention and recruiting efforts, key employees depart or fail to accept employment with NRG because of issues relating to the uncertainty and difficulty of integration or a desire not to remain with NRG, the Company's financial results could be affected.

The integration of NRG and Direct Energy may disrupt or have a negative impact on the Company's business.

The acquisition of Direct Energy is complex, and the Company will devote significant time and resources to integrating its operations with the operations of NRG. NRG could have difficulty integrating the acquired assets and personnel of Direct Energy with its own. The integration of NRG and Direct Energy may place a significant burden on management and internal resources. The diversion of management attention away from ongoing business concerns and any difficulties encountered in the transition and integration process could affect the Company's business, results of operations and financial condition. Risks that could impact the Company negatively include:

- the difficulty of managing and integrating Direct Energy and its operations;
- the potential disruption of the ongoing businesses and distraction of management;
- changes in our business focus and/or management;
- difficulties in implementing and maintaining uniform processes, systems, standards, controls, procedures, practices, policies and compensation standards;
- unanticipated issues in integrating information technology, communications, and other systems;
- the possibility of faulty assumptions underlying expectations regarding the integration process;
- the potential impairment of relationships with employees and partners as a result of any integration of new management personnel;
- unforeseen expenses associated with the acquisition of Direct Energy, including delays to the integration of Direct Energy's business as a result of the COVID-19 pandemic;
- the potential difficulty in managing an increased number of locations and employees;
- the potential loss of valuable employees;
- difficulty addressing any possible differences in corporate cultures and management philosophies;
- unanticipated changes in federal or state laws or regulations; and
- the effect of any government regulations which relate to the business acquired.

If the Company is not successful in addressing these risks effectively, the business could be impacted. Many of these factors will be outside of the Company's control, and any one of them could result in delays, increased costs, decreases in the amount of expected revenues and diversion of management's time and energy, which could materially affect NRG's business, results of operations and financial condition.

Risks Related to the Operation of NRG's Business

NRG's financial performance may be impacted by price fluctuations in the retail and wholesale power and natural gas markets, as well as fluctuations in coal and oil markets and other market factors that are beyond the Company's control.

Market prices for power, capacity, ancillary services, natural gas, coal and oil are unpredictable and tend to fluctuate substantially. Unlike most other commodities, electric power can only be stored on a very limited basis and generally must be produced concurrently with its use. As a result, power prices are subject to significant volatility due to supply and demand imbalances, especially in the day-ahead and spot markets. Long and short-term power and gas prices may also fluctuate substantially due to other factors outside of the Company's control, including:

- changes in generation capacity in the Company’s markets, including the addition of new supplies of power as a result of the development of new plants, expansion of existing plants, the continued operation of uneconomic power plants due to state subsidies, or additional transmission capacity;
- environmental regulations and legislation;
- electric supply disruptions, including plant outages and transmission disruptions;
- changes in power and gas transmission infrastructure;
- fuel price volatility and transportation capacity constraints or inefficiencies;
- changes in law, including judicial decisions;
- weather conditions, including extreme weather conditions and seasonal fluctuations, including the effects of climate change;
- changes in commodity prices and the supply of commodities, including but not limited to natural gas, coal and oil;
- changes in the demand for power or gas, or in patterns of power or gas usage, including the potential development of demand-side management tools and practices, distributed generation, and more efficient end-use technologies;
- development of new fuels, new technologies and new forms of competition for the production of power;
- economic and political conditions;
- federal, state and provincial power regulations and legislation, and regulations and actions of the ISO and RTOs;
- changes in prices related to RECs; and
- changes in capacity prices and capacity markets.

While retail rates are generally designed to allow retail sellers of electricity and natural gas to pass through price fluctuations and other changes to costs, the Company may not be able to pass through all such changes to customers. For example, serving retail power customers in ISOs that have a capacity market exposes the Company to the risk that capacity costs can change and may not be recoverable, or the Company may engage in sales of power at fixed prices. Additionally, increases in wholesale costs to retail customers may cause additional customer defaults or increased customer attrition, or may be limited by regulatory rules.

Further, low natural gas prices can cause natural gas to be the more cost-competitive fuel compared to coal for generating electricity. Because the Company enters into guaranteed supply contracts to provide for the amount of coal needed to operate its base load coal-fired generating facilities, the Company may experience periods where it holds excess amounts of coal if fuel pricing results in the Company reducing or idling coal-fired generating facilities. In addition, the Company may incur costs to terminate supply contracts for coal in excess of its generating requirements.

Such factors and the associated fluctuations in power prices have affected the Company's wholesale and retail profitability in the past and are expected to continue to do so in the future.

Volatile power and gas supply costs and demand for power and gas could adversely affect the financial performance of NRG's retail operations.

NRG's retail power operations purchase a significant portion of their supply from third parties. All of the gas sold by the Company in retail and wholesale markets is purchased from third parties. As a result, financial performance depends on the ability to obtain adequate supplies of power and gas from third parties at prices below the prices it charges its customers. Consequently, the Company's earnings and cash flows could be adversely affected in any period in which the wholesale power or gas prices rise at a greater rate than the rates the Company can charge to customers. The price of wholesale electricity and gas supply purchases associated with the retail operations' energy commitments can be different than that reflected in the rates charged to customers due to, among other factors:

- varying supply procurement contracts used and the timing of entering into related contracts;
- subsequent changes in the overall price of natural gas;

- daily, monthly or seasonal fluctuations in the price of natural gas relative to the 12-month forward prices;
- transmission and transportation constraints and the Company's ability to move power or gas to its customers; and
- changes in market heat rate (i.e., the relationship between power and natural gas prices).

The Company's earnings and cash flows could also be adversely affected in any period in which its customers' actual usage of electricity or gas significantly varies from the forecasted usage, which could occur due to, among other factors, weather events, changes in usage patterns, competition and economic conditions.

Substantially all of NRG's businesses operates, wholly or partially, without long-term power sale agreements.

Many of NRG’s retail customers are contracted for a period of one year or less, and NRG may or may not hedge its retail power sales exposure, or may hedge in a manner that is not effective at managing quantity or price risk in the retail market. In addition, many of NRG’s generation facilities are exposed to market risk because they operate as "merchant" facilities without long-term power sales agreements for some or all of their generating capacity and output. Without the benefit of long-term power sales or purchase agreements, and without long-term load obligations, NRG cannot be sure that it will be able to sell or purchase power at commercially attractive rates or that its generation facilities will be able to operate profitably. This could lead to future impairments of the Company's property, plants and equipment, the closing of certain of its facilities or the loss of retail customers, which could have a material adverse effect on the Company's results of operations, financial condition or cash flows.

Competition may have a material adverse effect on NRG's results of operations, cash flows and the market value of its assets.

NRG has numerous competitors in all aspects of its business, and additional competitors may enter the industry. The Company's retail operations specifically face competition for customers. Competitors may offer different products, lower prices, and other incentives, which may attract customers away from the Company. In some retail electricity markets, the principal competitor may be the incumbent utility. The incumbent utility has the advantage of long-standing relationships with its customers and strong brand recognition. Furthermore, NRG may face competition from other energy service providers, other energy industry participants, or nationally branded providers of consumer products and services, who may develop businesses that will compete with NRG.

The Company’s plant operations face competition from newer or more efficient plants owned by competitors, which may put some of the Company's plants at a disadvantage to the extent these competitors are able to consume the same or less fuel as the Company's plant. Over time, the Company's plants may be unable to compete with these more efficient plants, which could result in retirements.

NRG’s competitors may have greater liquidity, greater access to credit and other financial resources, lower cost structures, more effective risk management policies and procedures, greater ability to incur losses, longer-standing relationships with customers, greater potential for profitability from retail sales or greater flexibility in the timing of their sale of generation capacity and ancillary services than NRG does. Competitors may also have better access to subsidies or other out-of-market payments that put NRG at a competitive disadvantage.

NRG's competitors may be able to respond more quickly to new laws or regulations or emerging technologies, or to devote greater resources to marketing of retail power than NRG can. In addition, current and potential competitors may make strategic acquisitions or establish cooperative relationships among themselves or with third parties. Accordingly, it is possible that new competitors or alliances among current and new competitors may emerge and rapidly gain significant market share.

There can be no assurance that NRG will be able to compete successfully against current and future competitors, and any failure to do so would have a material adverse effect on the Company's business, financial condition, results of operations and cash flow.

NRG's costs, results of operations, financial condition and cash flows could be adversely impacted by disruption of its fuel supplies.

NRG relies on natural gas, coal and oil to fuel a majority of its power generation facilities. Grid operations depend on the continuing financial viability of contractual counterparties, as well as the infrastructure (including rail lines, rail cars, barge facilities, roadways, riverways and natural gas pipelines) available to serve generation facilities and to ensure that there is sufficient power produced to meet retail demand. As a result, the Company’s wholesale generation facilities are subject to the risks of disruptions or curtailments in the production of power at its generation facilities if no fuel is available at any price, if a counterparty fails to perform or if there is a disruption in the fuel delivery infrastructure.

NRG routinely hedges both its wholesale sales and purchases to support its retail load obligations. In order to hedge these obligations, the Company may enter into long-term and short-term contracts for the purchase and delivery of fuel. Many of the forward power sales contracts do not allow the Company to pass through changes in fuel costs or discharge the power sale obligations in the case of a disruption in fuel supply due to force majeure events or the default of a fuel supplier or transporter.

Disruptions in the Company's fuel supplies or power supply arrangements may therefore require it to find alternative fuel sources at higher costs, to find other sources of power to deliver to retail customers or other counterparties at a higher cost, or to pay damages to counterparties for failure to deliver power or sell electricity or natural gas as contracted. Any such event could have a material adverse effect on the Company's financial performance.

NRG also buys significant quantities of electricity and fuel on a short-term or spot market basis. Prices sometimes rise or fall significantly over a relatively short period of time. The price NRG can obtain for the sale of energy may not rise at the same rate, or may not rise at all, to match a rise in fuel or delivery costs. Retail rates may also not rise at the same rate or may not rise at all. This may have a material adverse effect on the Company's financial performance.

NRG's plant operating characteristics and equipment, particularly at its coal-fired plants, often dictate the specific fuel quality to be combusted. The availability and price of specific fuel qualities may vary due to supplier financial or operational disruptions, transportation disruptions and force majeure. At times, coal of specific quality may not be available at any price or the Company may not be able to transport such coal to its facilities on a timely basis. In this case, the Company may not be able to run the coal facility even if it would be profitable. Operating a coal facility with different quality coal can lead to emission or operating problems. If the Company had sold forward the power from such a coal facility, it could be required to supply or purchase power from alternate sources, perhaps at a loss. This could have a material adverse impact on the financial results of specific plants and on the Company's results of operations.

There may be periods when NRG will not be able to meet its commitments under forward sale or purchase obligations at a reasonable cost or at all.

The Company may sell fixed price gas as a proxy for power. Because the obligations under most of the Company's forward sale agreements are not contingent on a unit being available to generate power, NRG is generally required to deliver power to the buyer, even in the event of a plant outage, fuel supply disruption or a reduction in the available capacity of the unit. To the extent that the Company does not have sufficient lower-cost capacity to meet its commitments under its forward sale obligations, the Company would be required to supply replacement power either by running its other, higher cost power plants or by obtaining power from third-party sources at market prices that could substantially exceed the contract price. If NRG fails to deliver the contracted power, it would be required to pay the difference between the market price at the delivery point and the contract price, and the amount of such payments could be substantial.

NRG's trading operations and use of hedging agreements could result in financial losses that negatively impact its results of operations, and NRG's hedging activities may increase the volatility in the Company's quarterly and annual financial results.

The Company typically enters into hedging agreements, including contracts to purchase or sell commodities at future dates and at fixed prices, to manage the commodity price risks inherent in its business. The Company’s risk management policies and hedging procedures may not mitigate risk as planned, and the Company may fail to fully or effectively hedge its commodity supply and price risk. In addition, these activities, although intended to mitigate price volatility, expose the Company to other risks. When the Company sells or buys power or gas forward, it gives up the opportunity to buy or sell at the future price, which not only may result in lost opportunity costs but also may require the Company to post significant amounts of cash collateral or other credit support to its counterparties. The Company also relies on counterparty performance under its hedging agreements and is exposed to the credit quality of its counterparties under those agreements. Further, if the values of the financial contracts change in a manner that the Company does not anticipate, or if a counterparty fails to perform under a contract, it could harm the Company's business, operating results or financial position.

NRG does not typically hedge the entire exposure of its operations against commodity price volatility. To the extent it does not hedge against commodity price volatility, the Company's results of operations and financial position may be improved or diminished based upon movement in commodity prices.

NRG may engage in trading activities, including the trading of power, fuel and emissions allowances that are not directly related to the operation of the Company's generation facilities or the management of related risks. These trading activities take place in volatile markets and some of these trades could be characterized as speculative. The Company would expect to settle these trades financially rather than through the production of power or the delivery of fuel. This trading activity may expose the Company to the risk of significant financial losses which could have a material adverse effect on its business and financial condition.

NRG generally attempts to balance its fixed-price physical and financial purchases and sales commitments in terms of contract volumes and the timing of performance and delivery obligations through the use of financial and physical derivative contracts. These derivatives are accounted for in accordance with the FASB ASC 815, *Derivatives and Hedging,* or ASC 815, which requires the Company to record all derivatives on the balance sheet at fair value with changes in the fair value resulting from fluctuations in the underlying commodity prices immediately recognized in earnings, unless the derivative qualifies for

cash flow hedge accounting treatment or a scope exception. As a result, the Company's quarterly and annual results are subject to significant fluctuations caused by changes in market prices.

NRG may not have sufficient liquidity to hedge market risks effectively.

The Company is exposed to market risks through its retail and wholesale operations, which involve the purchase of electricity and natural gas for resale, the sale of energy, capacity and related products, and the purchase and sale of fuel, transmission services and emission allowances. These market risks include, among other risks, volatility arising from location and timing differences that may be associated with buying and transporting fuel, converting fuel into energy and delivering energy to a buyer.

NRG undertakes these market activities through agreements with various counterparties. Many of the Company's agreements with counterparties include provisions that require the Company to provide guarantees, offset or netting arrangements, letters of credit, a first lien on assets and/or cash collateral to protect the counterparties against the risk of the Company's default or insolvency. The amount of such credit support that must be provided typically is based on the difference between the price of the commodity in a given contract and the market price of the commodity. Significant movements in market prices can result in the Company being required to provide cash collateral and letters of credit in very large amounts. The effectiveness of the Company's strategy may depend on the amount of collateral available to enter into or maintain these contracts, and liquidity requirements may be greater than the Company anticipates or will be able to meet. Without a sufficient amount of working capital to post as collateral in support of performance guarantees or as a cash margin, the Company may not be able to manage price volatility effectively or to implement its strategy. An increase in the amount of letters of credit or cash collateral required to be provided to the Company's counterparties may negatively affect the Company's liquidity and financial condition.

Further, if any of NRG's facilities experience unplanned outages or if retail customers use more power or gas than expected, the Company may be required to procure additional power or gas at spot market prices to fulfill contractual commitments. Without adequate liquidity to meet margin and collateral requirements, the Company may be exposed to significant losses, may miss significant opportunities, and may have increased exposure to the volatility of spot markets.

Operation of power generation facilities involves significant risks and hazards customary to the power industry that could have a material adverse effect on NRG's revenues and results of operations, and NRG may not have adequate insurance to cover these risks and hazards.

The ongoing operation of NRG's facilities involves risks that include the breakdown or failure of equipment or processes, performance below expected levels of output or efficiency and the inability to transport the Company's product to its customers in an efficient manner due to a lack of transmission capacity. Unplanned outages of generating units, including extensions of scheduled outages due to mechanical failures or other problems occur from time to time and are an inherent risk of the Company's business. Unplanned outages typically increase the Company's operation and maintenance expenses and may reduce the Company's revenues as a result of selling fewer MWh or non-performance penalties or require NRG to incur significant costs as a result of running one of its higher cost units or obtaining replacement power from third parties in the open market to satisfy the Company's forward power sales obligations. NRG's inability to operate the Company's plants efficiently, manage capital expenditures and costs, and generate earnings and cash flow from the Company's asset-based businesses could have a material adverse effect on the Company's results of operations, financial condition or cash flows.

In addition, NRG provides plant operations and commercial services to a variety of third-parties. There is a risk that mistakes, mis-operations, or actions taken by these third-parties could be attributed to NRG, including the risk of investigation or penalties being assessed to NRG in connection with the services it offers, or that regulators could question whether NRG had the appropriate safeguards in place.

Power generation involves hazardous activities, including acquiring, transporting and unloading fuel, operating large pieces of rotating equipment and delivering electricity to transmission and distribution systems. In addition to natural risks such as earthquake, flood, lightning, hurricane and wind, other hazards, such as fire, explosion, structural collapse and machinery failure are inherent risks in the Company's operations. These and other hazards can cause significant personal injury or loss of life, severe damage to and destruction of property, plant and equipment, contamination of, or damage to, the environment and suspension of operations. The occurrence of any one of these events may result in NRG being named as a defendant in lawsuits asserting claims for substantial damages, including for environmental cleanup costs, personal injury and property damage and fines and/or penalties.

NRG maintains an amount of insurance protection that it considers adequate, obtains warranties from vendors and obligates contractors to meet certain performance levels, but the Company cannot provide any assurance that these measures will be sufficient or effective under all circumstances and against all hazards or liabilities to which it may be subject. A successful claim for which the Company is not fully insured or protected could hurt its financial results and materially harm NRG's financial condition. NRG cannot provide any assurance that its insurance coverage will continue to be available at all or at rates or on terms similar to those presently available. Any losses not covered by insurance could have a material adverse effect on the Company's financial condition, results of operations or cash flows.

Maintenance, expansion and refurbishment of power generation facilities involve significant risks that could result in unplanned power outages or reduced output and could have a material adverse effect on NRG's results of operations, cash flows and financial condition.

Many of NRG's facilities require periodic maintenance and repair. Any unexpected failure, including failure associated with breakdowns, forced outages or any unanticipated capital expenditures could result in reduced profitability.

NRG cannot be certain of the level of capital expenditures that will be required due to changing environmental and safety laws (including changes in the interpretation or enforcement thereof) needed facility repairs and unexpected events (such as natural disasters or terrorist attacks). The unexpected requirement of large capital expenditures could have a material adverse effect on the Company's liquidity and financial condition.

NRG and its subsidiaries have guaranteed the performance of third parties, which may result in substantial costs in the event of non-performance.

NRG and its subsidiaries have issued certain guarantees of the performance of others, which obligate NRG and its subsidiaries to perform in the event that the third parties do not perform. In the event of non-performance by the third parties, NRG could incur substantial cost to fulfill their obligations under these guarantees. Such performance guarantees could have a material impact on the operating results, financial condition, or cash flows of the Company.

Supplier and/or customer concentration may expose the Company to significant financial credit or performance risks.

NRG often relies on a single contracted supplier or a small number of suppliers for the provision of fuel, transportation of fuel, chemicals and other services required for the operation of certain of its facilities. If these suppliers cannot perform, the Company utilizes the marketplace to provide these services. There can be no assurance that the marketplace can provide these services as, when and where required or at comparable prices.

At times, NRG may rely on a single customer or a few customers to purchase all or a significant portion of a facility's output, in some cases under long-term agreements that account for a substantial percentage of the anticipated revenue from a given facility. In many cases for renewable generation, these purchases are specific to a facility, which at times may be in the early stages of development. The Company may also hedge a portion of its exposure to power and fuel price fluctuations through various physical or financial agreements with counterparties. Counterparties to these agreements may breach or may be unable to perform their obligations, and in case of renewable generation, such counterparties may be subject to additional risks, such as facility development and transmission risks, unfavorable weather and atmospheric conditions, and mechanical or operational failures. NRG may not be able to enter into replacement agreements on terms as favorable as its existing agreements, or at all. If the Company was unable to enter into replacement PPAs, the Company would sell its plants' power at market prices. If the Company is unable to enter into replacement fuel or fuel transportation purchase agreements or other replacement hedging agreements, the Company would be exposed to market price volatility and the risk that fuel and transportation may not be available during certain periods at any price.

The failure of any supplier or customer to fulfill its contractual obligations to NRG could have a material adverse effect on the Company's financial results. Consequently, the financial performance of the Company's facilities is dependent on the credit quality of, and continued performance by, suppliers and customers.

NRG relies on power transmission and distribution facilities that it does not own or control and that are subject to transmission constraints within a number of the Company's core regions.

NRG depends on transmission and distribution facilities owned and operated by others to deliver power to its customers. If transmission or distribution is disrupted, including by force majeure events, or if the transmission or distribution infrastructure is inadequate, NRG's ability to deliver power may be adversely impacted. The Company also cannot predict whether transmission or distribution facilities will be expanded in specific markets to accommodate competitive access to those markets.

In addition, in certain of the markets in which NRG operates, energy transmission congestion may occur and the Company may be deemed responsible for congestion costs associated with power sales or purchases, or retail sales, particularly where the Company’s load is not co-located with its retail sales obligations. If NRG were liable for such congestion costs, the Company's financial results could be adversely affected.

NRG relies on storage, transportation assets and suppliers, which they do not own or control, to deliver natural gas.

The Company depends on natural gas pipelines and other transportation and storage facilities owned and operated by third parties to deliver natural gas to wholesale and retail markets and to provide retail energy services to customers. The Company's ability to provide natural gas for its present and projected sales will depend upon its suppliers' ability to obtain and deliver supplies of natural gas, as well as NRG's ability to acquire supplies directly from new sources. Factors beyond the control of the Company and its suppliers may affect the Company's ability to deliver such supplies. These factors include other parties' control over the drilling of new wells and the facilities to transport natural gas to the Company's receipt points, development of additional interstate pipeline infrastructure, availability of supply sources competition for the acquisition of natural gas, priority allocations, impact of severe weather disruptions to natural gas supplies and the regulatory and pricing policies of federal and state regulatory agencies, as well as the availability of Canadian reserves for export to the U.S. Energy deregulation legislation may increase competition among natural gas utilities and impact the quantities of natural gas requirements needed for sales service. If supply, transportation or storage is disrupted, including for reasons of force majeure, the ability of the Company to sell and deliver its products and services may be hindered. As a result, the Company may be responsible for damages incurred by its customers, such as the additional cost of acquiring alternative supply at then-current market rates. These conditions could have a material impact on the Company's financial condition, results of operations and cash flows.

Rates and terms for service of certain residential and commercial customers in Alberta are subject to regulatory review and approval.

As a result of the acquisition of Direct Energy, the Company owns Direct Energy Regulated Services, which serves as a regulated rate supplier for residential and commercial energy customers in portions of the province of Alberta. It is required to engage in regulatory approval proceedings as a part of the process of establishing the terms and rates for sales of power and natural gas. These proceedings typically involve multiple parties, including governmental bodies and officials, consumer advocacy groups and various consumers of energy, who have differing concerns but who have the common objective of limiting rate increases or even reducing rates. Decisions are subject to appeal, potentially leading to additional uncertainty associated with the approval proceedings. The potential duration of such proceedings creates a risk that rates ultimately approved by the applicable regulatory body may not be sufficient for the Company to recover its costs by the time the rates become effective. Established rates are also subject to subsequent reviews by regulators, whereby various portions of rates could be adjusted, subject to refund or disallowed. In certain instances, the Company could agree to negotiated settlements related to various rate matters and other cost recovery elements. These settlements are subject to regulatory approval. The ultimate outcome and timing of regulatory rate proceedings have a significant effect on the Company to recover its costs or earn an adequate return. In addition, subsequent legislative or regulatory action could alter the terms on which the regulated business operates and future earnings could be negatively impacted. The Company also operates a competitive energy supply business in Alberta that is not subject to rate regulation and is subject to stringent requirements to segregate operations and information relating to the competitive business from the regulated business. Failure to comply with these and other requirements on the business could subject the Company's regulated and competitive businesses in Alberta to fines, penalties, and restrictions on the ability to continue business.

Because NRG owns less than a majority of the ownership interests of some of its project investments, the Company cannot exercise complete control over their operations.

NRG has limited control over the operation of some project investments and joint ventures because the Company's investments are in projects where it beneficially owns less than a majority of the ownership interests. NRG seeks to exert a degree of influence with respect to the management and operation of projects in which it owns less than a majority of the ownership interests by negotiating to obtain positions on management committees or to receive certain limited governance rights, such as rights to veto significant actions. However, the Company may not always succeed in such negotiations. NRG may be dependent on its co-venturers to operate such projects. The Company's co-venturers may not have the level of experience, technical expertise, human resources management or other attributes necessary to operate these projects optimally. The approval of co-venturers also may be required for NRG to receive distributions of funds from projects or to transfer the Company's interest in projects.

NRG may be unable to integrate the operations of acquired entities in the manner expected.

NRG enters into acquisitions that result in various benefits, including, among other things, cost savings and operating efficiencies. Achieving the anticipated benefits of these acquisitions depends on whether the businesses can be integrated into NRG in an efficient and effective manner. The integration process could take longer than anticipated and could result in the loss of valuable employees, the disruption of NRG's businesses, processes and systems or inconsistencies in standards, controls, procedures, practices, policies and compensation arrangements, any of which could divert the attention of management and adversely affect the Company's ability to achieve the anticipated benefits of the acquisitions. NRG may have difficulty addressing possible differences in corporate cultures and management philosophies. Failure to achieve these anticipated benefits could result in increased costs or decreases in the amount of expected revenues and could adversely affect NRG's future business, financial condition, operating results and prospects.

Future acquisition or disposition activities could involve unknown risks and may have materially adverse effects and NRG may be subject to trailing liabilities from businesses that it disposes of or that are inactive.

NRG may in the future acquire or dispose of businesses or assets, acquire or sell books of retail customers, or pursue other business activities, directly or indirectly through subsidiaries, that involve a number of risks. The acquisition of companies and assets is subject to substantial risks, including the failure to identify material problems during due diligence, the risk of over-paying for assets or customers, the ability to retain customers and the inability to arrange financing for an acquisition as may be required or desired. Further, the integration and consolidation of acquisitions requires substantial human, financial and other resources and, ultimately, the Company's acquisitions may not be successfully integrated. In the case of dispositions, such risks may relate to employment matters, counterparties, regulators and other stakeholders in the disposed business, risks relating to separating the disposed assets from NRG's business, risks related to the management of NRG's ongoing business, risks unknown to NRG at the time, and other financial, legal and operational risks related to such disposition. In addition, NRG may be subject to material trailing liabilities from disposed businesses. Any such risk may result in one or more costly disputes or litigation. There can be no assurances that any future acquisitions will perform as expected or that the returns from such acquisitions will support the indebtedness incurred to acquire them or the capital expenditures needed to develop them. There can also be no assurances that NRG will realize the anticipated benefits from any such dispositions. The failure to realize the anticipated returns or benefits from an acquisition or disposition could adversely affect NRG's results of operations, cash flows and financial condition.

The Company has made investments, and may continue to make investments, in new business initiatives predominantly focused on consumer products and in markets that may not be successful, may not achieve the intended financial results or may result in product liability and reputational risk that could adversely affect the Company.

NRG continues to pursue growth in its existing businesses and markets and further diversification across the competitive energy value chain. Such initiatives may involve significant risks and uncertainties, including distraction of management from current operations, inadequate return on capital, and unidentified issues not discovered in the diligence performed prior to launching an initiative or entering a market.

As part of these initiatives, the Company may be liable to customers for any damage caused to customers' homes, facilities, belongings or property during the installation of Company products and systems, such as mass market back-up generators and residential HVAC system repairs, installation and replacements. Where such work is performed by independent contractors, such as repairs performed under the Company's home warranty and protection plan products, the Company may nonetheless face claims and costs for damage. In addition, shortages of skilled labor for Company projects could significantly delay a project or otherwise increase its costs. The products that the Company sells or manufactures may expose the Company to product liability claims relating to personal injury, death, or environmental or property damage, and may require product recalls or other actions. Although the Company maintains liability insurance, the Company cannot be certain that its coverage will be adequate for liabilities actually incurred or that insurance will continue to be available to the Company on economically reasonable terms, or at all. Further, any product liability claim or damage caused by the Company could significantly impair the Company's brand and reputation, which may result in a failure to maintain customers and achieve the Company's desired growth initiatives in these new businesses.

NRG's business, financial condition and results of operations could be adversely impacted by strikes or work stoppages by its unionized employees or inability to replace employees as they retire.

As of December 31, 2020, approximately 23% of NRG's employees were covered by collective bargaining agreements. In the event that the Company's union employees strike, participate in a work stoppage or slowdown or engage in other forms of labor strife or disruption, NRG would be responsible for procuring replacement labor or the Company could experience reduced power generation or outages. Although NRG's ability to procure such labor is uncertain, contingency staffing planning is completed as part of each respective contract negotiations. Strikes, work stoppages or the inability to negotiate future collective bargaining agreements on favorable terms could have a material adverse effect on the Company's business, financial condition, results of operations and cash flows. In addition, a number of the Company's employees at NRG's plants are close to retirement. The Company's inability to replace retiring workers could create potential knowledge and expertise gaps as such workers retire.

Changes in technology may impair the value of NRG's power plants and the attractiveness of its retail products, and the Company may potentially be affected by emerging technologies that may over time affect change in capacity markets and the energy industry overall with the inclusion of distributed generation and clean technology.

Research and development activities are ongoing in the industry to provide alternative and more efficient technologies to produce power, including wind, photovoltaic (solar) cells, hydrogen, energy storage, and improvements in traditional technologies and equipment, such as more efficient gas turbines. Advances in these or other technologies could reduce the costs

of power production to a level below what the Company has currently forecasted, which could adversely affect its cash flows, results of operations or competitive position. Technology, including distributed technology or changes in retail rate structures, may also have a material impact on the Company's ability to retain retail customers.

Some emerging technologies, such as distributed renewable energy technologies, broad consumer adoption of electric vehicles and energy storage devices, could affect the price of energy. These emerging technologies may affect the financial viability of utility counterparties and could have significant impacts on wholesale market prices, which could ultimately have a material adverse effect on NRG's financial condition, results of operations and cash flows.

Risks that are beyond NRG's control, including but not limited to acts of terrorism or related acts of war, natural disaster, hostile cyber intrusions, data breaches or other catastrophic events could have a material adverse effect on NRG's financial condition, results of operations and cash flows.

NRG's generation facilities and the facilities of third parties on which they rely may be targets of terrorist activities, as well as events occurring in response to or in connection with such activities, all of which could cause environmental repercussions and/or result in full or partial disruption of the facilities ability to generate, transmit, transport or distribute electricity or natural gas. Strategic targets, such as energy-related facilities, may be at greater risk of future terrorist activities than other domestic targets. Any such environmental repercussions or disruption could result in a significant decrease in revenues or significant reconstruction or remediation costs beyond what could be recovered through insurance policies, which could have a material adverse effect on the Company's financial condition, results of operations and cash flows. In addition, significant weather events or terrorist actions could damage or shut down the power or gas transmission and distribution facilities upon which the Company is dependent, which may reduce retail volume for extended periods of time. Power or gas supply may be sold at a loss if these events cause a significant loss of retail customer demand.

Numerous functions affecting the efficient operation of NRG's businesses depend on the secure and reliable storage, processing and communication of electronic data and the use of sophisticated computer hardware and software systems. Hostile cyber intrusions, including those targeting information systems, as well as electronic control systems used at the generation facilities and for the distribution systems, could severely disrupt business operations and result in loss of service to customers, as well as significant expense to repair security breaches or system damage. The operation of NRG's generation plants, including STP, and of NRG's energy and fuel trading businesses rely on cyber-based technologies and, therefore, are subject to the risk that such systems could be the target of disruptive actions, particularly through cyber-attack or cyber intrusion, including by computer hackers, foreign governments and cyber terrorists, or otherwise be compromised by unintentional events. As a result, operations could be interrupted, property could be damaged and sensitive customer information could be lost or stolen, causing NRG to incur significant losses of revenues, other substantial liabilities and damages, costs to replace or repair damaged equipment and damage to NRG's reputation. In addition, NRG may experience increased capital and operating costs to implement increased security for its cyber systems and plants.

In addition, the Company requires access to sensitive data in the ordinary course of business. Examples of sensitive data are names, addresses, account information, historical electricity usage, expected patterns of use, payment history, credit bureau data, credit and debit card account numbers, driver's license numbers, social security numbers and bank account information. NRG provides sensitive data to vendors and service providers, who require access to this information in order to provide services to NRG, such as call center operations. If a significant breach occurs or if sensitive data that was entrusted to the Company were mishandled, the reputation of NRG and its businesses may be adversely affected, customer confidence may be diminished, or NRG and its retail operations may be subject to legal claims, any of which may contribute to the loss of customers and have a negative impact on the business and/or results of operations.

Risks Related to Governmental Regulation and Laws

NRG's business is subject to substantial energy regulation and may be adversely affected by legislative or regulatory changes, as well as liability under, or any future inability to comply with, existing or future energy regulations or requirements.

NRG's business is subject to extensive U.S. federal, state and local laws and foreign and provincial laws. Compliance with, or changes to, the requirements under these legal and regulatory regimes may cause the Company to incur significant additional costs, reduce the Company's ability to hedge exposure or to sell retail power within certain states or to certain classes of retail customers, or restrict the Company's marketing practices, its ability to pass through costs to retail customers, or its ability to compete on favorable terms with competitors, including the incumbent utility. Retail competition and home warranty services are regulated on a state-by-state or at the province-by-province level and are highly dependent on state and provincial laws, regulations and policies, which could change at any moment. Failure to comply with such requirements could result in the shutdown of a non-complying facility, the imposition of liens, fines, and/or civil or criminal liability.

Public utilities under the FPA are required to obtain FERC acceptance of their rate schedules for wholesale sales of electricity. Except for ERCOT generation facilities and power marketers, all of NRG's non-qualifying facility generating companies and power marketing affiliates in the U.S. make sales of electricity in interstate commerce and are public utilities for purposes of the FPA. FERC has granted each of NRG's generating and power marketing companies that make sales of electricity outside of ERCOT the authority to sell electricity at market-based rates. FERC's orders that grant NRG's generating and power marketing companies market-based rate authority reserve the right to revoke or revise that authority if FERC subsequently determines that NRG can exercise market power in transmission or generation, create barriers to entry, or engage in abusive affiliate transactions. In addition, NRG's market-based sales are subject to certain market behavior rules, and if any of NRG's generating and power marketing companies were deemed to have violated those rules, they are subject to potential disgorgement of profits associated with the violation and/or suspension or revocation of their market-based rate authority. If NRG's generating and power marketing companies were to lose their market-based rate authority, such companies would be required to obtain FERC's acceptance of a cost-of-service rate schedule and could become subject to the accounting, record-keeping, and reporting requirements that are imposed on utilities with cost-based rate schedules. This could have a material adverse effect on the rates NRG charges for power from its facilities.

Substantially all of the Company's generation assets are also subject to the reliability standards promulgated by the designated Electric Reliability Organization (currently NERC) and approved by FERC. If NRG fails to comply with the mandatory reliability standards, NRG could be subject to sanctions, including substantial monetary penalties and increased compliance obligations. NRG is also affected by legislative and regulatory changes, as well as changes to market design, market rules, tariffs, cost allocations, and bidding rules that occur in the existing ISOs. The ISOs that oversee most of the wholesale power markets impose, and in the future may continue to impose, mitigation, including price limitations, offer caps, non-performance penalties and other mechanisms to address some of the volatility and the potential exercise of market power in these markets. These types of price limitations and other regulatory mechanisms may have a material adverse effect on the profitability of NRG's generation facilities that sell energy and capacity into the wholesale power markets.

The regulatory environment has undergone significant changes in the last several years due to state and federal policies affecting wholesale and retail competition and the creation of incentives for the addition of large amounts of new renewable generation and, in some cases, transmission. These changes are ongoing, and the Company cannot predict the future design of the wholesale power markets or the ultimate effect that the changing regulatory environment will have on NRG's business. In addition, in some of these markets, interested parties have proposed material market design changes, including the elimination of a single clearing price mechanism, as well as proposals to reinstate the vertical monopoly utility of the markets or require divestiture by generating companies to reduce their market share. If competitive restructuring of the electric power markets is reversed, discontinued, or delayed, the Company's business prospects and financial results could be negatively impacted. In addition, since 2010, there have been a number of reforms to the regulation of the derivatives markets, both in the United States and internationally. These regulations, and any further changes thereto, or adoption of additional regulations, including any regulations relating to position limits on futures and other derivatives or margin for derivatives, could negatively impact NRG’s ability to hedge its portfolio in an efficient, cost-effective manner by, among other things, potentially decreasing liquidity in the forward commodity and derivatives markets or limiting NRG’s ability to utilize non-cash collateral for derivatives transactions.

NRG’s business may be affected by interference in the competitive wholesale marketplace.

NRG’s generation and competitive retail operations rely on a competitive wholesale marketplace. The competitive wholesale marketplace may be impacted by out-of-market subsidies, including bailouts of uneconomic nuclear plants, imports of power from Canada, renewable mandates or subsidies, mandates to sell power below its cost of acquisition and associated costs, as well as out-of-market payments to new or existing generators. These out-of-market subsidies to existing or new generation undermine the competitive wholesale marketplace, which can lead to premature retirement of existing facilities, including those owned by the Company. If these measures continue, capacity and energy prices may be suppressed, and the Company may not be successful in its efforts to insulate the competitive market from this interference. The Company's retail operations may be materially impacted by rules or regulations that allow regulated utilities to participate in competitive retail markets or own and operate facilities that could be provided by competitive market participants.

The integration of the Capacity Performance product into the PJM market and the Pay-for-Performance mechanism in ISO-NE could lead to substantial changes in capacity income and non-performance penalties, which could have a material adverse effect on NRG’s results of operations, financial condition and cash flows.

Both ISO-NE and PJM operate a pay-for-performance model where capacity payments are modified based on real-time generator performance. Capacity market prices are sensitive to design parameters, as well as additions of new capacity. NRG may experience substantial changes in capacity income and non-performance penalties, which could have a material adverse effect on NRG’s results of operations, financial condition and cash flows.

NRG's ownership interest in a nuclear power facility subjects the Company to regulations, costs and liabilities uniquely associated with these types of facilities.

Under the Atomic Energy Act of 1954, as amended, or AEA, ownership and operation of STP, of which NRG indirectly owns a 44% interest, is subject to regulation by the NRC. Such regulation includes licensing, inspection, enforcement, testing, evaluation and modification of all aspects of nuclear reactor power plant design and operation, environmental and safety performance, technical and financial qualifications, decommissioning funding assurance and transfer and foreign ownership restrictions. The current facility operating licenses for STP expire on August 20, 2047 (Unit 1) and December 15, 2048 (Unit 2).

There are unique risks to owning and operating a nuclear power facility. These include liabilities related to the handling, treatment, storage, disposal, transport, release and use of radioactive materials, particularly with respect to spent nuclear fuel, and uncertainties regarding the ultimate, and potential exposure to, technical and financial risks associated with modifying or decommissioning a nuclear facility. The NRC could require the shutdown of the plant for safety reasons or refuse to permit restart of the unit after unplanned or planned outages. New or amended NRC safety and regulatory requirements may give rise to additional operation and maintenance costs and capital expenditures. Additionally, aging equipment may require more capital expenditures to keep each of these nuclear power plants operating efficiently. This equipment is also likely to require periodic upgrading and improvement. Any unexpected failure, including failure associated with breakdowns, forced outages, or any unanticipated capital expenditures, could result in reduced profitability. STP will be obligated to continue storing spent nuclear fuel if the U.S. DOE continues to fail to meet its contractual obligations to STP made pursuant to the U.S. Nuclear Waste Policy Act of 1982 to accept and dispose of STP's spent nuclear fuel. See also Item 1 — *Regulatory Matters — Nuclear Operations — Decommissioning Trusts* and Item 1 — *Environmental Matters — Federal Environmental Initiatives — Nuclear Waste* for further discussion. Costs associated with these risks could be substantial and could have a material adverse effect on NRG's results of operations, financial condition or cash flow to the extent not covered by the Decommissioning Trusts or recovered from ratepayers. In addition, to the extent that all or a part of STP is required by the NRC to permanently or temporarily shut down or modify its operations, or is otherwise subject to a forced outage, NRG may incur additional costs to the extent it is obligated to provide power from more expensive alternative sources — either NRG's own plants, third party generators or the ERCOT — to cover the Company's then existing forward sale obligations. Such shutdown or modification could also lead to substantial costs related to the storage and disposal of radioactive materials and spent nuclear fuel.

While STP maintains property and liability insurance for losses related to nuclear operations, there may be limitations on the amounts and types of insurance commercially available. See also Item 15 — Note 24, *Commitments and Contingencies, Nuclear Insurance*. An accident at STP or another nuclear facility could have a material adverse effect on NRG's financial condition, its operational results, or liquidity as losses may exceed the insurance coverage available and/or may result in the obligation to pay retrospective premium obligations.

NRG is subject to environmental laws that impose extensive and increasingly stringent requirements on the Company's ongoing operations, as well as potentially substantial liabilities arising out of environmental contamination. These environmental requirements and liabilities could adversely impact NRG's results of operations, financial condition and cash flows.

NRG is subject to the environmental laws of foreign and U.S., federal, state and local authorities. The Company must comply with numerous environmental laws and obtain numerous governmental permits and approvals to build and operate the Company's plants. Federal and state environmental laws generally have become more stringent over time. Should NRG fail to comply with any environmental requirements that apply to its operations, the Company could be subject to administrative, civil and/or criminal liability and fines, and regulatory agencies could take other actions seeking to curtail the Company's operations. In addition, when new requirements take effect or when existing environmental requirements are revised, reinterpreted or subject to changing enforcement policies, NRG's business, results of operations, financial condition and cash flows could be adversely affected.

NRG's businesses are subject to physical, market and economic risks relating to potential effects of climate change, and policies at the national, regional and state levels to regulate GHG emissions and mitigate climate change could adversely impact NRG's results of operations, financial condition and cash flows.

Fluctuations in weather and other environmental conditions, including temperature and precipitation levels, may affect consumer demand for electricity or natural gas. In addition, the potential physical effects of climate change, such as increased frequency and severity of storms, floods and other climatic events, could disrupt NRG's operations and supply chain, and cause it to incur significant costs in preparing for or responding to these effects. These or other changes in climate could lead to increased operating costs or capital expenses. NRG's customers may also experience the potential physical impacts of climate change and may incur significant costs in preparing for or responding to these efforts, including increasing the mix and resiliency of their energy solutions and supply.

Hazards customary to the power production industry include the potential for unusual weather conditions, which could affect fuel pricing and availability, the Company's route to market or access to customers, i.e., transmission and distribution lines, transportation and delivery, or critical plant assets. The contribution of climate change to the frequency or intensity of weather-related events could affect NRG's operations and planning process.

Climate change could also affect the availability of a secure and economical supply of water in some locations, which is essential for the continued operation of NRG's generation plants. NRG monitors water risk carefully. If it is determined that a water supply risk exists that could impact projected generation levels at any plant risk mitigation efforts are identified and evaluated for implementation.

Further, demand for NRG's energy-related services could be similarly impacted by consumers' preferences or market factors favoring energy efficiency, low-carbon power sources or reduced electricity usage.

NRG's GHG emissions for 2020 can be found in Item 1, *Business —Environmental Regulatory Matters.* GHG regulation, at the state or federal level, could increase the cost of electricity generated by fossil fuels, and such increases could reduce demand for the power NRG generates and markets. Any increase in costs at a national, regional or state level could adversely affect NRG's results of operations, financial condition and cash flows

Changes in data privacy and data protection laws and regulations, particularly in California, or any failure to comply with such laws and regulations, could adversely affect NRG's business and financial results.

There has been increased public attention regarding the use of personal information and data transfers, accompanied by legislation and regulations intended to strengthen data protection, information security and consumer and personal privacy. The law in these areas continues to develop and the changing nature of privacy laws in the United States, Europe and elsewhere could impact how NRG processes personal information of employees, customers, and others. Effective January 1, 2020, the California Consumer Privacy Act of 2018 (the "CCPA") grants certain rights to California residents with respect to their personal information, and the California electorate recently approved Proposition 24, the California Privacy Rights Act (the "CPRA"), which will replace the CCPA effective January 1, 2023 and grant additional rights to California residents as well as create a new state privacy regulator. As new laws are created, NRG cannot determine the impact that they may have on the Company's business. Any failure or perceived failure to comply with laws may result in proceedings or actions against the Company by governmental entities or individuals. Moreover, any inquiries or investigations, any other government actions, or any actions by individuals may be costly to comply with, result in negative publicity, increase operating costs, require significant management time and attention, and lead to remedies that may harm the business, including fines, demands or orders that existing business practices be modified or terminated.

The General Data Protection Regulation, adopted in the European Union, requires companies to satisfy strict new requirements regarding the handling of personal information, including its use, protection and the ability of persons whose data is processed to exercise a number of rights with respect to their personal information, such as correcting or requiring deletion of data about themselves. The CCPA requires companies to make new disclosures to consumers about such companies' data collection, use, and sharing practices and inform consumers of their personal information rights such as deletion rights, allows consumers to opt out of data sales to third parties, and provides a new cause of action for data breaches. The CPRA will add more disclosure obligations (including an obligation to disclose retention periods or criteria for categories of personal information), grant consumers additional rights (including rights to correct their data, limit the use and disclosure of sensitive personal information, and opt out of the sharing of personal information for certain targeted behavioral advertising purposes), which will likely result in greater regulatory activity and enforcement in the privacy area.

NRG's retail operations are subject to changing rules and regulations that could have a material impact on the Company's profitability.

The competitiveness of NRG's retail operations partially depends on regulatory policies that establish the structure, rules, terms and conditions on which services are offered to retail customers. These policies can include, among other things, controls on the retail rates that NRG can charge, the imposition of additional costs on sales, restrictions on the Company's ability to obtain new customers through various marketing channels and disclosure requirements. The Company's retail operations may be materially impacted by rules or regulations that allow regulated utilities to participate in competitive retail markets or own and operate facilities that could be provided by competitive market participants. Additionally, state, federal or provincial imposition of net metering or RPS programs can make it more or less expensive for retail customers to supplement or replace their reliance on grid power.

The Company's international operations are exposed to political and economic risks, commercial instability and events beyond the Company's control in the countries in which it operates, which risks may negatively impact the Company's business.

The Company's international operations depend on products manufactured, purchased and sold in the U.S. and internationally, including in countries with political and economic instability. In some cases, these countries have greater political and economic volatility and greater vulnerability to infrastructure and labor disruptions than in NRG's other markets. Operating a business in a number of different regions and countries exposes the Company to a number of risks, including: multiple and potentially conflicting laws, regulations and policies that are subject to change; imposition of currency restrictions on repatriation of earnings or other restraints; imposition of burdensome tariffs or quotas; national and international conflict, including terrorist acts; and political and economic instability or civil unrest that may severely disrupt economic activity in affected countries.

The occurrence of one or more of these events may negatively impact the Company's business, results of operations and financial condition.

Risks Related to the Company's Indebtedness and Economic and Financial Market Conditions

NRG's level of indebtedness could adversely affect its ability to raise additional capital to fund its operations or return capital to stockholders. It could also expose it to the risk of increased interest rates and limit its ability to react to changes in the economy or its industry.

NRG's substantial debt could have negative consequences, including:

- increasing NRG's vulnerability to general economic and industry conditions;
- requiring a substantial portion of NRG's cash flow from operations to be dedicated to the payment of principal and interest on its indebtedness, therefore reducing NRG's ability to pay dividends or to use its cash flow to fund its operations, capital expenditures and future business opportunities;
- limiting NRG's ability to enter into long-term power sales or fuel purchases which require credit support;
- limiting NRG's ability to obtain additional financing for working capital including collateral postings, capital expenditures, debt service requirements, acquisitions and general corporate or other purposes;
- limiting NRG's ability to adjust to changing market conditions and placing it at a competitive disadvantage compared to its competitors who have less debt; and
- exposing NRG to the risk of increased interest rates because certain of its borrowings are at variable rates of interest, primarily through its Revolving Credit Facility.

The Company's credit documents contain financial and other restrictive covenants that may limit the Company's ability to return capital to stockholders or otherwise engage in activities that may be in its long-term best interests. NRG's failure to comply with those covenants could result in an event of default which, if not cured or waived, could result in the acceleration of all of the Company's indebtedness. In addition, the Company recently amended its corporate credit agreement to include a sustainability-linked metric and issued sustainability-linked bonds, which could result in increased interest expense to the Company if the sustainability metrics set forth therein are not met. Furthermore, financial and other restrictive covenants contained in any project level subsidiary debt may limit the ability of NRG to receive distributions from such subsidiary.

In addition, NRG's ability to arrange financing, either at the corporate level, a non-recourse project-level subsidiary or otherwise, and the costs of such capital, are dependent on numerous factors, including: general economic and capital market conditions; credit availability from banks and other financial institutions; investor confidence in NRG, its partners and the regional wholesale power markets; NRG's financial performance and the financial performance of its subsidiaries; NRG's level of indebtedness and compliance with covenants in debt agreements; maintenance of acceptable credit ratings; cash flow; and provisions of tax and securities laws that may impact raising capital.

NRG may not be successful in obtaining additional capital for these or other reasons. The failure to obtain additional capital from time to time may have a material adverse effect on its business and operations.

Adverse economic conditions could adversely affect NRG's business, financial condition, results of operations and cash flows.

Adverse economic conditions and declines in wholesale energy prices, partially resulting from adverse economic conditions, may impact NRG's results of operations. The breadth and depth of negative economic conditions may have a wide-ranging impact on the U.S. business environment. In addition, adverse economic conditions also reduce the demand for energy commodities. Reduced demand from negative economic conditions continues to impact the key domestic wholesale energy markets NRG serves. The combination of lower demand for power and increased supply of natural gas has put downward price pressure on wholesale energy markets in general, further impacting NRG's energy marketing results. In general, economic and commodity market conditions will continue to impact NRG's unhedged future energy margins, liquidity, earnings growth and overall financial condition. In addition, adverse economic conditions, declines in wholesale energy prices, reduced demand for power and other factors may negatively impact the trading price of NRG's common stock and impact forecasted cash flows, which may require NRG to evaluate its goodwill and other long-lived assets for impairment. Any such impairment could have a material impact on NRG's financial statements.

Goodwill and other intangible assets that NRG has recorded in connection with its acquisitions are subject to impairment evaluations and, as a result, the Company could be required to write off some or all of this goodwill and other intangible assets, which may adversely affect the Company's financial condition and results of operations.

Goodwill is not amortized but is reviewed annually or more frequently for impairment. Other intangibles are also reviewed at least annually or more frequently, if certain conditions exist, and are amortized. Any reduction in or impairment of the value of goodwill or other intangible assets will result in a charge against earnings, which could materially adversely affect NRG's reported results of operations and financial position in future periods.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

This Annual Report on Form 10-K of NRG Energy, Inc., or NRG or the Company, includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or Exchange Act. The words "believes," "projects," "anticipates," "plans," "expects," "intends," "estimates" and similar expressions are intended to identify forward-looking statements. These forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause NRG's actual results, performance and achievements, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. These factors, risks and uncertainties include the factors described under Item 1A — *Risk Factors* and the following:

- NRG's inability to estimate with any degree of certainty the future impact that COVID-19, any resurgence of COVID-19, or other pandemic may have on NRG's results of operations, financial position, risk exposure and liquidity;
- Business uncertainties related to the acquisition of Direct Energy and NRG's ability to integrate the operations of Direct Energy with its own;
- NRG's ability to obtain and maintain retail market share;
- General economic conditions, changes in the wholesale power and gas markets and fluctuations in the cost of fuel;
- Volatile power and gas supply costs and demand for power and gas;
- Changes in law, including judicial and regulatory decisions;
- Hazards customary to the power production industry and power generation operations, such as fuel and electricity price volatility, unusual weather conditions, catastrophic weather-related or other damage to facilities, unscheduled generation outages, maintenance or repairs, unanticipated changes to fuel supply costs or availability due to higher demand, shortages, transportation problems or other developments, environmental incidents, or electric transmission or gas pipeline system constraints and the possibility that NRG may not have adequate insurance to cover losses as a result of such hazards;
- NRG's ability to successfully integrate, realize cost savings and manage any acquired businesses;
- NRG's ability to engage in successful sales and divestitures, as well as mergers and acquisitions activity;
- The effectiveness of NRG's risk management policies and procedures and the ability of NRG's counterparties to satisfy their financial commitments;
- Counterparties' collateral demands and other factors affecting NRG's liquidity position and financial condition;
- NRG's ability to operate its businesses efficiently and generate earnings and cash flows from its asset-based businesses in relation to its debt and other obligations;
- NRG's ability to enter into contracts to sell power and procure fuel on acceptable terms and prices;
- The liquidity and competitiveness of wholesale markets for energy commodities;
- Government regulation, including changes in market rules, rates, tariffs and environmental laws;
- NRG's ability to develop and innovate new products, as retail and wholesale markets continue to change and evolve;
- Price mitigation strategies and other market structures employed by ISOs or RTOs that result in a failure to adequately and fairly compensate NRG's generation units;
- NRG's ability to mitigate forced outage risk for units subject to capacity performance requirements in PJM, performance incentives in ISO-NE, and scarcity pricing in ERCOT;
- NRG's ability to borrow funds and access capital markets, as well as NRG's substantial indebtedness and the possibility that NRG may incur additional indebtedness in the future;
- Operating and financial restrictions placed on NRG and its subsidiaries that are contained in the in NRG's corporate credit agreements, and in debt and other agreements of certain of NRG subsidiaries and project affiliates generally;
- Cyber terrorism and inadequate cybersecurity, data breaches or the occurrence of a catastrophic loss and the possibility that NRG may not have adequate insurance to cover losses resulting from such hazards or the inability of NRG's insurers to provide coverage;
- NRG's ability to develop and build new power generation facilities;
- NRG's ability to implement its strategy of finding ways to meet the challenges of climate change, clean air and protecting natural resources, while taking advantage of business opportunities;
- NRG's ability to increase cash from operations through operational and market initiatives, corporate efficiencies, asset strategy, and a range of other programs throughout NRG to reduce costs or generate revenues;

- NRG's ability to successfully evaluate investments and achieve intended financial results in new business and growth initiatives;
- NRG's ability to develop and maintain successful partnering relationships as needed.

Forward-looking statements speak only as of the date they were made, and NRG undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. The foregoing review of factors that could cause NRG's actual results to differ materially from those contemplated in any forward-looking statements included in this Annual Report on Form 10-K should not be construed as exhaustive.

Item 1B — Unresolved Staff Comments

None.

Item 2 — Properties

Listed below are descriptions of NRG's interests in facilities, operations and/or projects owned or leased as of December 31, 2020. The rated MW capacity figures provided represent nominal summer MW capacity of power generated. Net MW capacity is adjusted for the Company's owned or leased interest, excluding capacity from inactive/mothballed units as of December 31, 2020. The Company believes its existing facilities, operations and/or projects are suitable for the conduct of its business. The following table summarizes NRG's power production and cogeneration facilities by region:

Name of Facility	Power Market	Plant Type	Primary Fuel	Location	Rated MW Capacity[(a)]	Net MW Capacity[(b)]	% Owned
Texas							
Cedar Bayou	ERCOT	Fossil	Natural Gas	TX	1,494	1,494	100.0
Cedar Bayou 4	ERCOT	Fossil	Natural Gas	TX	504	252	50.0
Elbow Creek	ERCOT	Other	Battery Storage	TX	2	2	100.0
Greens Bayou	ERCOT	Fossil	Natural Gas	TX	330	330	100.0
Gregory	ERCOT	Fossil	Natural Gas	TX	385	385	100.0
Limestone	ERCOT	Fossil	Coal	TX	1,660	1,660	100.0
Petra Nova Cogen[(c)]	ERCOT	Fossil	Natural Gas	TX	68	34	50.0
San Jacinto	ERCOT	Fossil	Natural Gas	TX	160	160	100.0
South Texas Project	ERCOT	Nuclear	Uranium	TX	2,572	1,132	44.0
T.H. Wharton	ERCOT	Fossil	Natural Gas	TX	1,001	1,001	100.0
W.A. Parish	ERCOT	Fossil	Coal	TX	2,514	2,514	100.0
W.A. Parish	ERCOT	Fossil	Natural Gas	TX	1,118	1,118	100.0
				Total Texas	**11,808**	**10,082**	
East							
Arthur Kill	NYISO	Fossil	Natural Gas	NY	866	866	100.0
Astoria Turbines	NYISO	Fossil	Natural Gas	NY	423	423	100.0
Chalk Point	PJM	Fossil	Natural Gas	MD	80	80	100.0
Connecticut Jet Power	ISO-NE	Fossil	Oil	CT	142	142	100.0
Devon	ISO-NE	Fossil	Oil	CT	133	133	100.0
Fisk	PJM	Fossil	Oil	IL	171	171	100.0
Indian River	PJM	Fossil	Coal	DE	410	410	100.0
Indian River	PJM	Fossil	Oil	DE	16	16	100.0
Joliet	PJM	Fossil	Natural Gas	IL	1,373	1,373	100.0
Middletown	ISO-NE	Fossil	Oil	CT	762	762	100.0
Montville	ISO-NE	Fossil	Oil	CT	491	491	100.0
Oswego	NYISO	Fossil	Oil	NY	1,617	1,617	100.0
Powerton	PJM	Fossil	Coal	IL	1,538	1,538	100.0
Vienna	PJM	Fossil	Oil	MD	167	167	100.0
Waukegan	PJM	Fossil	Coal	IL	682	682	100.0
Waukegan	PJM	Fossil	Oil	IL	101	101	100.0
Will County	PJM	Fossil	Coal	IL	510	510	100.0
				Total East	**9,482**	**9,482**	
West/Other							
Agua Caliente	WECC	Renewable	Solar	AZ	290	102	35.0
Cottonwood	MISO	Fossil	Natural Gas	TX	1,153	1,153	—[(d)]
Gladstone		Fossil	Coal	AUS	1,613	605	37.5
Ivanpah	CAISO	Renewable	Solar	CA	393	214	54.5
Long Beach	CAISO	Fossil	Natural Gas	CA	252	252	100.0
Midway-Sunset	CAISO	Fossil	Natural Gas	CA	226	113	50.0
Stadiums		Renewable	Solar	various	5	5	100.0
Sunrise	CAISO	Fossil	Natural Gas	CA	586	586	100.0
Watson	CAISO	Fossil	Natural Gas	CA	416	204	49.0
				Total West/Other	**4,934**	**3,234**	
				Total Fleet	**26,224**	**22,798**	

(a) MW capacity of the facility without taking into account NRG ownership percentage
(b) Actual capacity can vary depending on factors including weather conditions, operational conditions, and other factors. Additionally, ERCOT requires periodic demonstration of capability, and the capacity may vary individually and in the aggregate from time to time
(c) The cogeneration facility operated on a seasonal basis in ERCOT during 2020. Carbon capture operations were suspended in May 2020 with the downturn in oil prices. The facility is fully capable of operating and can be brought back online when economics improve.
(d) NRG leases 100% interests in the Cottonwood facility through a facility lease agreement expiring in May 2025 and operates the Cottonwood facility

Other Properties

NRG owns several real properties and facilities related to its generation assets, other vacant real property unrelated to its generation assets, and properties not used for operational purposes. NRG believes it has satisfactory title to its plants and facilities in accordance with standards generally accepted in the electric power industry, subject to exceptions that, in the Company's opinion, would not have a material adverse effect on the use or value of its portfolio.

NRG leases its financial and commercial corporate headquarters at 804 Carnegie Center, Princeton, New Jersey, its operational headquarters at 910 Louisiana Street, Houston, Texas, as well as its retail operations offices and call centers, and various other office space.

Item 3 — Legal Proceedings

See Item 15 — Note 24, *Commitments and Contingencies*, to the Consolidated Financial Statements for discussion of the material legal proceedings to which NRG is a party.

Item 4 — Mine Safety Disclosures

There have been no events that are required to be reported under this Item.

PART II

Item 5 — Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Market Information and Holders

NRG's common stock trades on the New York Stock Exchange under the symbol "NRG." NRG's authorized capital stock consists of 500,000,000 shares of common stock and 10,000,000 shares of preferred stock. A total of 25,000,000 shares of the Company's common stock are authorized for issuance under the NRG LTIP. For more information about the NRG LTIP and the NRG GenOn LTIP, refer to Item 12 — S*ecurity Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters* and Item 15 — Note 22, *Stock-Based Compensation*, to the Consolidated Financial Statements.

As of January 31, 2021, there were 17,427 common stockholders of record.

NRG increased the annual dividend to $1.20 per share in the first quarter of 2020 from $0.12 per share, and further increased the annual dividend to $1.30 per share beginning in the first quarter of 2021. NRG expects to target an annual dividend growth rate of 7-9% per share in subsequent years.

Issuer Purchases of Equity Securities

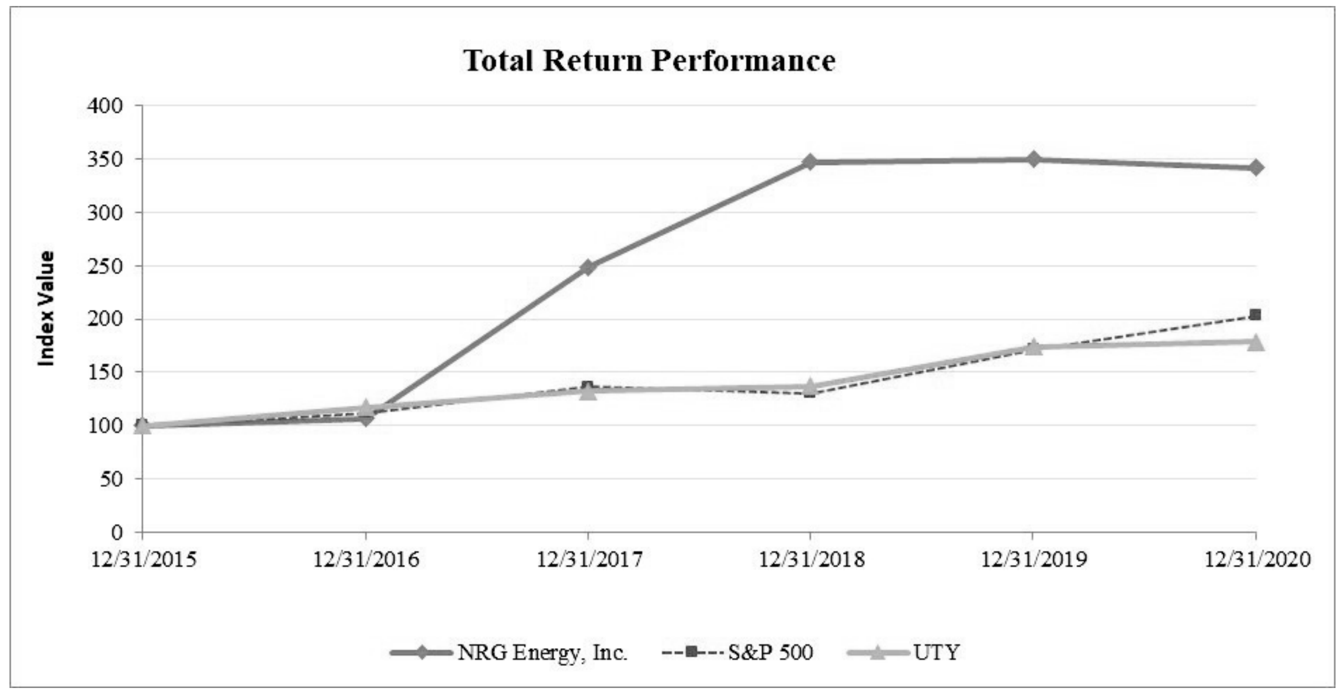
During the quarter ended December 31, 2020, no purchases of NRG's common stock were made by or on behalf of NRG or any "affiliated purchaser" (as defined in Rule 10b-18(a)(3) under the Exchange Act).

Stock Performance Graph

The performance graph below compares the cumulative total stockholder return on NRG's common stock for the period December 31, 2015 through December 31, 2020 with the cumulative total return of the Standard & Poor's 500 Composite Stock Price Index, or S&P 500, and the Philadelphia Utility Sector Index, or UTY.

The performance graph shown below is being furnished and compares each period assuming that $100 was invested on December 31, 2015, in each of the common stock of NRG, the stocks included in the S&P 500 and the stocks included in the UTY, and that all dividends were reinvested.

Comparison of Cumulative Total Return



	12/31/2015	12/31/2016	12/31/2017	12/31/2018	12/31/2019	12/31/2020
NRG Energy, Inc.	$ 100.00	$ 106.40	$ 248.67	$ 347.11	$ 349.50	$ 342.02
S&P 500	100.00	111.96	136.40	130.42	171.49	203.04
UTY	100.00	117.39	132.45	137.10	173.87	178.61

Item 6 — Removed and Reserved

Item 7 — Management's Discussion and Analysis of Financial Condition and Results of Operations

The discussion and analysis below has been organized as follows:

- Executive Summary, including the business environment in which the Company operates, a discussion of regulation, weather, competition and other factors that affect the business, a Transformation Plan update, and other significant events that are important to understanding the results of operations and financial condition;
- Results of operations for the years ended December 31, 2020 and December 31, 2019, including an explanation of significant differences between the periods in the specific line items of NRG's Consolidated Statements of Operations;
- Financial condition addressing credit ratings, liquidity position, sources and uses of cash, capital resources and requirements, commitments, and off-balance sheet arrangements; and
- Critical accounting policies that are most important to both the portrayal of the Company's financial condition and results of operations, and require management's most difficult, subjective or complex judgments.

As you read this discussion and analysis, refer to NRG's Consolidated Statements of Operations in this Form 10-K, which present the results of the Company's operations for the years ended December 31, 2020 and 2019, and also refer to Item 1 to this Form 10-K for more detail discussion about the Company's business. A discussion and analysis of fiscal year 2018 may be found in Part II, Item 7 — Management's Discussion and Analysis of Financial Condition and Results of Operations of Exhibit 99.1 to the Current Report on Form 8-K, filed on May 7, 2020, which provides retrospectively revised historical financial information to correspond with the Company's current segment structure.

As further described in Item 15 — Note 4, *Acquisitions, Discontinued Operations and Dispositions*, to the Consolidated Financial Statements, the Company determined in prior years that the following businesses were discontinued operations and recast to present their results in the corporate segment:

- South Central Portfolio
- NRG Yield, Inc. and its Renewables Platform
- Carlsbad
- GenOn Energy, Inc.

Executive Summary

NRG is an integrated power company built on dynamic retail brands with diverse generation assets. NRG brings the power of energy to customers by producing and selling energy and related products and services in major competitive power and gas markets in the U.S. and Canada in a manner that delivers value to all of NRG's stakeholders. As of December 31, 2020, the Company sold energy, services, and innovative, sustainable products and services directly to retail customers under the brand names NRG, Reliant, Green Mountain Energy, Stream, and XOOM Energy, as well as other brand names owned by NRG, supported by approximately 23,000 MW of generation.

For discussion of COVID-19 related considerations refer to Item 1 — *Business.*

Business Environment

The industry dynamics and external influences affecting the Company, its businesses, and the retail energy and power generation industry in 2020 and for the future medium term include:

Commodities Markets — The price of natural gas plays an important role in setting the price of electricity in many of the regions where NRG operates. Natural gas prices are driven by variables including demand from the industrial, residential, and electric sectors, productivity across natural gas supply basins, costs of natural gas production, changes in pipeline infrastructure, and the financial and hedging profile of natural gas customers and producers. In 2020, the average natural gas prices at Henry Hub was 21% lower than in 2019.

If long-term gas prices increase, the Company is likely to encounter higher realized energy prices, leading to higher energy revenues as lower priced hedge contracts mature and are replaced by contracts with higher gas and power prices. This impact is partially offset by the retail operations, as NRG's retail gross margins have historically decreased as natural gas prices increase.

NRG's retail gross margins have historically improved as natural gas prices decline. This would be partially offset by lower realized energy prices, leading to lower energy revenues as higher priced hedge contracts mature and are replaced by contracts with lower gas and power prices. To further mitigate this impact, NRG may increase its percentage of coal and nuclear capacity sold forward using a variety of hedging instruments, as described under the heading "Energy-Related Commodities" in Item 15 — Note 6, *Accounting for Derivative Instruments and Hedging Activities,* to the Consolidated Financial Statements.

Natural gas prices are a primary driver of coal demand. The low-priced commodity environment has stressed coal equities, leading coal suppliers to file for bankruptcy protection, launch debt exchanges, rationalize assets, and cut production. If multiple parties withdraw from the market, liquidity could be challenged in the short term. Inventory overhang will be utilized to offset production losses. Coal prices are typically affected by the price of natural gas.

Electricity Prices — The price of electricity is a key determinant of the profitability of the Company. Many variables such as the price of different fuels, weather, load growth and unit availability all coalesce to impact the final price for electricity and the Company's profitability. An increase in supply cost volatility in the competitive retail markets may result in smaller companies choosing to exit the market, which may result in further consolidation in the competitive retail space. The following table summarizes average on-peak power prices for each of the major markets in which NRG operates for the years ended December 31, 2020 and 2019. ERCOT power prices decreased for the year ended December 31, 2020 as compared to 2019 primarily due to the lower power prices in summer and lower gas prices in the first half of the year. Power prices in the East and West/Other decreased for the year ended December 31, 2020 as compared to 2019 due to lower prices associated with lower demand due to COVID-19.

	Average On-Peak Power Price ($/MWh)		
	Year Ended December 31		2020 vs 2019
Region	**2020**	**2019**	**Change %**
Texas [(a)]			
ERCOT - Houston[(a)]	$ 27.65	$ 51.44	(46)%
ERCOT - North[(a)]	25.85	50.80	(49)%
East			
NY J/NYC[(b)]	24.55	33.73	(27)%
NEPOOL[(b)]	26.52	34.89	(24)%
COMED (PJM)[(b)]	22.48	28.28	(21)%
PJM West Hub[(b)]	24.49	30.85	(21)%
West/Other			
CAISO - SP15[(b)]	38.15	38.15	— %
MISO - Louisiana Hub[(b)]	24.43	30.58	(20)%

(a) Average on-peak power prices based on real time settlement prices as published by the respective ISOs
(b) Average on-peak power prices based on day-ahead settlement prices as published by the respective ISOs

The following table summarizes average realized power prices for each region in which NRG operates, including the impact of settled hedges, for the years ended December 31, 2020 and 2019:

	Average Realized Power Price ($/MWh)		
	Year Ended December 31		2020 vs 2019
Region	**2020**	**2019**	**Change %**
East	$ 34.92	$ 34.37	2 %
West/Other	34.80	32.41	7 %

(a) Average Realized Power Price reflects energy sales from the generation fleet, omitting sales to the retail component of the East Segment. Intercompany financial transactions hedging generation with the retail operations make up $12.18/MWh in the year ended December 31, 2020 and $5.40/MWh in the year ended December 31, 2019.

The average realized power prices were relatively stable year over year due to the Company's hedging program.

Increased Awareness of, and Action to Combat, Climate Change — Diverse groups of stakeholders, including investors, asset managers, financial institutions, non-government organizations, industry coalitions, individual companies, consumer groups and academic institutions, are increasingly engaged in efforts to limit global warming in the post-industrial era to well below 2 degrees Celsius. As a result, policymakers and regulators at regional, national, sub-national and local levels of government, both in the United States and other parts of the world, are increasingly focused on actions to combat climate change.

In the United States, the current Administration has stated that limiting climate change is one of its top priorities. In its early days, the Administration issued an Executive Order on "Tackling the Climate Crisis at Home and Abroad." This included commitments to reset the United States' greenhouse gas emission reduction targets under the Paris Climate Agreement, integrate environmental justice considerations into all aspects of its climate and environmental policy, consider climate change and conservation in federal permitting decisions and align government procurement strategy and standards with climate goals.

To enable climate policy development and implementation, the Administration has pledged to adopt a "whole-of-government" approach and is establishing various new climate-oriented positions and working groups. For example, it created the White House Office of Domestic Climate Policy, led by the first-ever National Climate Advisor and Deputy National Climate Advisor, which will create a central office in the White House that is charged with coordinating and implementing the President's domestic climate agenda. The newly established National Climate Task Force will assemble representatives from across 21 federal agencies and departments. The Federal Reserve is creating a committee to deepen its understanding of the risks that climate change poses to the financial system. The SEC has created the new role of Senior Policy Advisor for Climate and Environmental, Social and Governance ("ESG") to oversee and coordinate the agency's efforts related to climate risk and other ESG developments, and to examine how these issues intersect with the regulatory framework across its offices and divisions. An interagency working group on Coal and Power Plant Communities and Revitalization will identify and deliver federal resources to revitalize the economics of coal, oil, gas and power plant dependent communities. Outside the United States, a foreign climate agenda will be advanced through the Special Presidential Envoy for Climate in concert with departments including State and Treasury.

NRG actively monitors climate change related developments that could impact its business and regularly engages with a diverse set of stakeholders on these issues. Such engagement helps the Company identify and pursue potential opportunities both to decarbonize its business and better serve its customers. NRG is committed to providing transparent disclosures of its climate risks and opportunities to stakeholders. The Company became an early supporter of the Task Force on Climate-related Financial Disclosures ("TCFD") recommendations after they were issued in 2017, published a TCFD mapping disclosure in December 2020 and will issue a stand-alone TCFD report in 2021.

Lower Carbon Infrastructure Development — Policy mechanisms at the state and federal level, including production and investment tax credits, cash grants, loan guarantees, accelerated depreciation tax benefits, RPS, and carbon trading plans, have supported and continue to support the development of renewable generation, demand-side and smart grid, and other lower carbon infrastructure technologies. In addition, the costs associated with the development of lower carbon infrastructure, such as wind and solar generating facilities, continue to decline. These factors continue to drive increases in the development of lower carbon infrastructure in the markets where the Company participates, which may impact the ability of the Company's generating facilities to participate in those markets. According to ERCOT, Inc., 36% of 2020 energy consumption in the ERCOT market was generated from carbon emission-free resources, with wind power contributing 23%. In addition, subsidies and incentives have contributed to the increase in renewable power sources, and customer awareness and preferences are shifting toward sustainable solutions. Increased demand for sustainable energy products from both residential and commercial customers creates opportunities for diversified product offerings in competitive retail markets.

Digitization and Customization — The electric industry is experiencing major technology changes in the way power is distributed and used by end-use customers. The electric grid is shifting from a centralized analog system, where power is generated from limited sources and flows in one direction, to a decentralized multidirectional system, where power can be generated from a number of distributed resources and stored or dispatched on an as-needed basis. In addition, customers are seeking new ways to engage with their power providers. Technologies like smart thermostats, appliances and electric vehicles are giving individuals more choice and control over their electricity usage.

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

For discussion of the recent weather event in Texas, see *Other Significant Events - Extreme Weather Event in Texas During February 2021* below.

Other Factors — A number of other factors significantly influence the level and volatility of prices for energy commodities and related derivative products for NRG's business. These factors include:

- seasonal, daily and hourly changes in demand;
- extreme peak demands;
- available supply resources;
- transportation and transmission availability and reliability within and between regions;
- location of NRG's generating facilities relative to the location of its load-serving opportunities;
- procedures used to maintain the integrity of the physical electricity system during extreme conditions; and
- changes in the nature and extent of federal and state regulations.

These factors can affect energy commodity and derivative prices in different ways and to different degrees. These effects may vary throughout the country as a result of regional differences in:

- weather conditions;
- market liquidity;
- capability and reliability of the physical electricity and gas systems;
- local transportation systems; and
- the nature and extent of electricity deregulation.

Environmental Matters, Regulatory Matters and Legal Proceedings — Details of environmental matters are presented in Item 15 — Note 26, *Environmental Matters*, to the Consolidated Financial Statements and Item 1 — Business, *Environmental Matters*. Details of regulatory matters are presented in Item 15 — Note 25, *Regulatory Matters*, to the Consolidated Financial Statements and Item 1 — Business, *Regulatory Matters*. Details of legal proceedings are presented in Item 15 — Note 24, *Commitments and Contingencies*, to the Consolidated Financial Statements. Some of this information relates to costs that may be material to the Company's financial results.

Transformation Plan

NRG completed its three-year Transformation Plan as of December 31, 2020. The Transformation Plan targets were achieved as follows:

- Achieved recurring cost savings and margin enhancement of $1,065 million, including $590 million of cumulative cost savings, a $215 million net margin enhancement program, $50 million annual reduction in maintenance capital expenditures, and $210 million in permanent selling, general and administrative expense reduction associated with asset sales
- Fully realized $370 million of non-recurring working capital improvements and $295 million of one-time costs to achieve
- Completed asset sales of $3.0 billion, accomplishing the planned portfolio optimization
- Initially targeted credit ratio of 3.0x net debt / adjusted EBITDA[a] was achieved. The credit metrics target was subsequently revised and successfully completed, to further strengthen its balance sheet and improve credit ratings by reducing leverage

(a) adjusted EBITDA as defined per the Senior Credit Facility

Other Significant Events

The following additional significant events occurred during 2020 and through the filing date:

Extreme Weather Event in Texas During February 2021

During February 2021, Texas experienced unprecedented cold temperatures for a prolonged duration, resulting in a power emergency, blackouts, and an estimated all-time peak demand of 77 GWs (without load shed). Ahead of the event, NRG launched residential customer communications calling for conservation across all of its brands, and initiated residential and commercial and industrial demand response programs to curtail customer load. The Company maximized available generating capacity and brought in additional resources to supplement in-state staff with technical and operating experts from the rest of its U.S. fleet. NRG is committed to working with all necessary stakeholders on a comprehensive, objective, and exhaustive root cause analysis of the entirety of the energy system.

The estimated financial impact is still preliminary, due to customer meter and settlement data not being finalized, as well as potential customer and counterparty risk and expected ERCOT default allocations. Based on a preliminary analysis, Winter Storm Uri's financial impact is not expected to be adverse to NRG's financial results. The Company separately stress-tested assumptions and although at a lower probability, this stress-test analysis indicated a potential plus or minus $100 million to income from continuing operations in 2021. NRG's integrated platform continues to deliver stable results through unprecedented events.

Direct Energy Acquisition

On January 5, 2021, the Company acquired Direct Energy, a North American subsidiary of Centrica plc. Direct Energy is a leading retail provider of electricity, natural gas, and home and business energy related products and services in North America, with operations in all 50 U.S. states and 8 Canadian provinces. The acquisition increases NRG's retail portfolio by over 3 million customers and complements its integrated model. It also broadens the Company's presence in the Northeast and into states and locales where it does not currently operate, supporting NRG's objective to diversify its business.

The Company paid an aggregate purchase price of $3.625 billion in cash, subject to a purchase price adjustment of $77 million. The Company funded the purchase price using a combination of $715 million of cash on hand, $166 million from a draw on its Revolving Credit Facility (of which $107 million was used to fund acquisition costs and financing fees that are not included in the aggregate purchase price above) as well as approximately $2.9 billion in secured and unsecured corporate debt issued in December 2020. The Company also increased its collective collateral facilities by $3.4 billion through a combination of amending its Revolving Credit Facility, amending its credit default swap facility, entering into a revolving accounts receivable financing facility, entering into an uncommitted repurchase facility and entering into multiple agreements to issue letters of credit. For further discussion on the increase of collateral facilities, see Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations, Liquidity and Capital Resources, Item 15 — Note 13, Receivables Securitization and Repurchase Facility, and Item 15 — Note 14, Long-term Debt and Finance Leases.

Issuance of 2029 Senior Unsecured Notes and 2031 Senior Unsecured Notes

On December 2, 2020, NRG issued $500 million aggregate principal amount of 3.375% senior notes due 2029 (the "2029 Unsecured Notes") and $1.0 billion aggregate principal amount of 3.625% senior notes due 2031 (the "2031 Unsecured Notes, together with the 2029 Unsecured Notes, the "Unsecured Notes").

Issuance of 2025 and 2027 Senior Secured First Lien Notes

On December 2, 2020, NRG issued $1.4 billion of aggregate principal amount of senior secured first lien notes, consisting of $500 million 2.000% senior secured first lien notes due 2025 (the "2025 Secured Notes") and $900 million 2.450% senior secured first lien notes due 2027 (the "2027 Secured Notes"), at a discount. The 2027 Secured Notes were issued under NRG's Sustainability-Linked Bond Framework, which links attractive financing terms with the realization of certain sustainability targets, including reducing greenhouse gas emissions.

Receivables Securitization and Repurchase Facility

On September 22, 2020, NRG Receivables LLC, a bankruptcy remote, special purpose, indirect wholly owned subsidiary, entered into a revolving accounts receivable financing facility (the "Receivables Facility") for an amount up to $750 million, subject to adjustments on a seasonal basis, with issuers of asset-backed commercial paper and commercial banks (the "Lenders".) As of December 31, 2020, there were no outstanding borrowings and there were $198 million in letters of credit issued under the Receivables Facility.

On September 22, 2020, the Company entered into an uncommitted repurchase facility (the "Repurchase Facility") related to the Receivables Facility. Under the Repurchase Facility, the Company can borrow up to $75 million, collateralized by a subordinated note issued by NRG Receivables LLC to NRG Retail LLC in favor of the originating entities representing a portion of the balance of receivables sold to NRG Receivables LLC under the Receivables Facility. As of December 31, 2020, there were no outstanding borrowings under the Repurchase Facility.

For further discussion on the Receivables Facility and Repurchase Facility, see Note 9, *Receivables Securitization and Repurchase Facility.*

Midwest Generation Lease Purchase

On September 29, 2020, Midwest Generation acquired all of the ownership interests in the Powerton facility and Units 7 and 8 of the Joliet facility, which were being leased through 2034 and 2030, respectively, for approximately $260 million. The purchase was funded with cash-on-hand. Upon closing, lease expense related to these facilities, which totaled approximately $14 million in 2019, and the operating lease liability of $148 million were eliminated.

Home Solar Disposition

In the third quarter of 2020, the Company concluded its Home Solar business was held for sale and recorded an impairment loss of $29 million. On November 13, 2020, the Company completed the sale of the Home Solar business for cash proceeds of $66 million, resulting in a $2 million loss on the sale. In connection with the sale, the Company extinguished debt of $27 million and recognized a $5 million loss on the extinguishment.

Sale of Agua Caliente

On November 19, 2020, the Company entered an agreement to sell its 35% ownership in Agua Caliente to Clearway Energy, Inc. for $202 million. The sale of the 290 MW solar project closed on February 3, 2021. On October 21, 2019, the Company had repaid the Agua Caliente Borrower 1 notes associated with the project of $83 million.

Sale of 4.8 GW of Fossil Generation Assets

On February 28, 2021, the Company entered into a definitive purchase agreement with Generation Bridge, an affiliate of ArcLight Capital Partners, to sell approximately 4,850 MWs of fossil generating assets from its East and West regions of operations for total proceeds of $760 million, subject to standard purchase price adjustments and certain other indemnifications. As part of the transaction, NRG is entering into a tolling agreement for its 866 MW Arthur Kill plant in New York City through April 2025.

The transaction is expected to close in the fourth quarter of 2021, and is subject to various closing conditions, approvals and consents, including FERC, NYSPSC, and antitrust review under Hart-Scott-Rodino.

Share Repurchases

In 2020, the Company completed $224 million of share repurchases at an average price of $33.05 per share, including $27 million of equivalent shares purchased in lieu of tax withholdings on equity compensation issuance.

Renewable Power Purchase Agreements

NRG began execution of its strategy to procure mid to long-term generation through power purchase agreements in 2019. As of December 31, 2020, NRG has entered into PPAs totaling approximately 1,800 MWs with third-party project developers and other counterparties. The tenor of these agreements is an average between eleven and twelve years. The Company expects to continue evaluating and executing similar agreements that support the needs of the business. Due to COVID-19, certain of these PPA contracts have been amended to allow for the delay of project completion dates from mid-2021 into 2022. These amendments include improved terms for NRG.

Dividend Increase

In the first quarter of 2020, NRG increased the annual dividend to $1.20 from $0.12 per share, as part of a long-term capital allocation policy adopted in the fourth quarter of 2019 that targets allocating 50% of cash available for allocation generated each year to growth investments and 50% to be returned to shareholders. The return of capital to shareholders is expected to be completed through the increased dividend supplemented by share repurchases. The long-term capital allocation policy targets an annual dividend growth rate of 7-9% per share in years subsequent to 2020. In 2021, NRG further increased the annual dividend to $1.30 per share, representing an 8% increase from 2020.

Consolidated Results of Operations for the years ended December 31, 2020 and 2019

The following table provides selected financial information for the Company:

(In millions, except otherwise noted)	Year Ended December 31, 2020	2019	Change
Operating Revenues			
Retail revenue	$ 7,460	$ 7,533	$ (73)
Energy revenue[a]	539	1,169	(630)
Capacity revenue[a]	680	700	(20)
Mark-to-market for economic hedging activities	95	33	62
Other revenues[a][b]	319	386	(67)
Total operating revenues	9,093	9,821	(728)
Operating Costs and Expenses			
Cost of sales[c]	4,920	5,878	958
Mark-to-market for economic hedging activities	214	53	(161)
Contract and emissions credit amortization[c]	5	19	14
Operations and maintenance	1,129	1,082	(47)
Other cost of operations	272	271	(1)
Total cost of operations	6,540	7,303	763
Depreciation and amortization	435	373	(62)
Impairment losses	75	5	(70)
Selling, general and administrative costs	933	827	(106)
Reorganization costs	—	23	23
Development costs	8	7	(1)
Total operating costs and expenses	7,991	8,538	547
Gain on sale of assets	3	7	(4)
Operating Income	1,105	1,290	(185)
Other Income/(Expense)			
Equity in earnings of unconsolidated affiliates	17	2	15
Impairment losses on investments	(18)	(108)	90
Other income, net	67	66	1
Net loss on debt extinguishment	(9)	(51)	42
Interest expense	(401)	(413)	12
Total other expenses	(344)	(504)	160
Income from Continuing Operations Before Income Taxes	761	786	(25)
Income tax expense/(benefit)	251	(3,334)	3,585
Income from Continuing Operations	510	4,120	(3,610)
Income from discontinued operations, net of income tax	—	321	(321)
Net Income	510	4,441	(3,931)
Less: Net income attributable to noncontrolling interests and redeemable noncontrolling interests	—	3	(3)
Net Income Attributable to NRG Energy, Inc.	$ 510	$ 4,438	$ (3,928)
Business Metrics			
Average natural gas price — Henry Hub ($/MMBtu)	$ 2.08	$ 2.63	(21)%

(a) Includes realized gains and losses from financially settled transactions
(b) Includes realized and unrealized trading gains and losses
(c) Includes amortization of SO_2 and NO_x credits and excludes amortization of RGGI credits

Economic Gross Margin

In addition to gross margin, the Company evaluates its operating performance using the measure of economic gross margin, which is not a GAAP measure and may not be comparable to other companies' presentations or deemed more useful than the GAAP information provided elsewhere in this report. Economic gross margin should be viewed as a supplement to and not a substitute for the Company's presentation of gross margin, which is the most directly comparable GAAP measure. Economic gross margin is not intended to represent gross margin. The Company believes that economic gross margin is useful to investors as it is a key operational measure reviewed by the Company's chief operating decision maker. Economic gross margin is defined as the sum of energy revenue, capacity revenue and other revenue, less cost of fuels and other cost of sales. Economic gross margin does not include mark-to-market gains or losses on economic hedging activities, contract amortization, emission credit amortization, or other operating costs.

The tables below present the composition and reconciliation of gross margin and economic gross margin for the years ended December 31, 2020 and 2019 based on the Company's reportable segments:

($ in millions, except otherwise noted)	Year Ended December 31, 2020 Texas	East	West/Other	Corporate/ Eliminations	Total
Retail revenue	$ 6,061	$ 1,401	$ —	$ (2)	$ 7,460
Energy revenue	24	183	333	(1)	539
Capacity revenue	—	620	61	(1)	680
Mark-to-market for economic hedging activities	2	88	(3)	8	95
Other revenue	222	62	43	(8)	319
Operating revenue	6,309	2,354	434	(4)	9,093
Cost of fuel	(546)	(151)	(154)	—	(851)
Purchased power	(945)	(507)	(24)	6	(1,470)
Other costs of sales[a][b]	(2,165)	(422)	(12)	—	(2,599)
Mark-to-market for economic hedging activities	(211)	5	—	(8)	(214)
Contract and emission credit amortization	(5)	—	—	—	(5)
Gross margin	$ 2,437	$ 1,279	$ 244	$ (6)	$ 3,954
Less: Mark-to-market for economic hedging activities, net	(209)	93	(3)	—	(119)
Less: Contract and emission credit amortization	(5)	—	—	—	(5)
Economic gross margin	$ 2,651	$ 1,186	$ 247	$ (6)	$ 4,078

(a) Includes capacity and emissions credits
(b) Includes $1,967 million and $10 million of TDSP expense in Texas and East, respectively

Business Metrics	Texas	East	West/Other	Total
Mass Market electricity sales volume (GWh)	38,473	10,221		48,694
C&I electricity sales volume (GWh)	17,928	1,596		19,524
Natural gas retail sales volumes (MDth)	—	23,509		23,509
Average retail Mass Market customer count (in thousands)[a]	2,449	1,175		3,624
Ending retail Mass Market customer count (in thousands)[a]	2,451	1,136		3,587
GWh sold	31,385	8,136	9,569	49,090
GWh generated[b]	31,385	4,102	9,171	44,658

(a) East represents combined electricity and natural gas customers
(b) Includes owned generation and excludes equity investments

($ in millions, except otherwise noted)	Year Ended December 31, 2019 Texas	East	West/Other[a]	Corporate/ Eliminations	Total
Retail revenue	$ 6,232	$ 1,304	$ —	$ (3)	$ 7,533
Energy revenue	529	322	318	—	1,169
Capacity revenue	—	664	36	—	700
Mark-to-market for economic hedging activities	47	(29)	16	(1)	33
Other revenue	261	58	70	(3)	386
Operating revenue	7,069	2,319	440	(7)	9,821
Cost of fuel	(694)	(208)	(178)	—	(1,080)
Purchased power	(1,557)	(612)	(13)	1	(2,181)
Other costs of sales[(a)(b)]	(2,233)	(342)	(42)	—	(2,617)
Mark-to-market for economic hedging activities	(57)	4	(1)	1	(53)
Contract and emission credit amortization	(19)	—	—	—	(19)
Gross margin	$ 2,509	$ 1,161	$ 206	$ (5)	$ 3,871
Less: Mark-to-market for economic hedging activities, net	(10)	(25)	15	—	(20)
Less: Contract and emission credit amortization	(19)	—	—	—	(19)
Economic gross margin	$ 2,538	$ 1,186	$ 191	$ (5)	$ 3,910

(a) Includes capacity and emissions credits

(b) Includes $1,944 million and $9 million of electric TDSP charges for Texas and East, respectively

Business Metrics	Texas	East	West/Other	Total
Mass Market electricity sales volume (GWh)	38,958	9,918	—	48,876
C&I electricity sales volume (GWh)	18,976	1,214	—	20,190
Natural gas retail sales volumes (MDth)	—	23,359	—	23,359
Average retail Mass Market customer count (in thousands)[(a)]	2,358	1,112	—	3,470
Ending retail Mass Market customer count (in thousands)[(a)]	2,450	1,228	—	3,678
GWh sold	42,662	11,113	9,811	63,586
GWh generated[(b)]	37,995	6,913	9,462	54,370

(a) East represents combined electricity and natural gas customers

(b) Includes owned generation and excludes equity investments

The table below represents the weather metrics for 2020 and 2019:

	Years ended December 31,			Quarters ended December 31,			Quarters ended September 30,			Quarters ended June 30,			Quarters ended March 31,		
Weather Metrics	**Texas**	**East**	**West/ Other[(a)]**	**Texas**	**East**	**West/ Other[(a)]**	**Texas**	**East**	**West/ Other[(a)]**	**Texas**	**East**	**West/ Other[(a)]**	**Texas**	**East**	**West/ Other[(a)]**
2020															
CDDs[(b)]	3,102	1,362	1,971	280	79	181	1,640	874	1,152	1,012	353	562	170	56	76
HDDs[(b)]	1,501	4,268	1,939	634	1,517	763	6	72	4	70	634	178	791	2,045	994
2019															
CDDs	3,115	1,349	1,899	266	98	136	1,840	869	1,219	934	348	513	75	34	31
HDDs	1,868	4,615	2,199	757	1,664	806	—	29	9	70	465	192	1,041	2,457	1,192
10-year average															
CDDs	3,076	1,297	1,900	277	83	153	1,693	818	1,149	1,002	361	552	104	35	46
HDDs	1,756	4,629	2,108	696	1,616	779	5	54	13	60	501	206	995	2,458	1,110

(a) The West/Other weather metrics are comprised of the average of the CDD and HDD regional results for the West - California and West - South Central regions

(b) National Oceanic and Atmospheric Administration-Climate Prediction Center - A Cooling Degree Day, or CDD, represents the number of degrees that the mean temperature for a particular day is above 65 degrees Fahrenheit in each region. A Heating Degree Day, or HDD, represents the number of degrees that the mean temperature for a particular day is below 65 degrees Fahrenheit in each region. The CDDs/HDDs for a period of time are calculated by adding the CDDs/HDDs for each day during the period.

Gross margin and economic gross margin

Gross margin increased $83 million and economic gross margin increased $168 million for the year ended December 31, 2020, compared to the same period in 2019. The detail by segment is as follows:

Texas

	(In millions)
Lower fuel and supply costs primarily due to $18 per MWh lower average power purchases in 2020 to serve the retail load, driven by purchasing incremental supply in 2019 at escalated prices above $1,000/MWh during periods of extreme weather during the third quarter; partially offset by a reduction in sell back of excess supply in 2020	$ 540
Lower gross margin due to a decrease in net sales of generation to third parties, as the supply was utilized to serve the Company's retail load following the integration of the wholesale generation and retail operations with a geographical focus in 2020	(269)
Lower net revenue due to: • lower volumes from attrition, customer mix, and reduced sales from direct and alternative sales channels due to the impact of COVID-19 of $212 million, • lower net revenue rates driven by customer term, product, mix and the impact of COVID-19 of $0.76 per MWh or $43 million, • decreased load of 1.1 TWhs from unfavorable weather of $89 million; • partially offset by higher retail net revenue due to increased volumes from the acquisition of Stream in August 2019 of $231 million	(113)
Lower gross margin from market optimization activities	(27)
Lower gross margin due to the sale of emissions in 2019	(13)
Other	(5)
Increase in economic gross margin	$ 113
Decrease in mark-to-market for economic hedging primarily due to net unrealized gains/losses on open positions related to economic hedges	(199)
Increase in contract and emission credit amortization	14
Decrease in gross margin	$ (72)

East

	(In millions)
Higher gross margin driven by a 43% increase in New York realized capacity prices	$ 47
Higher gross margin due to increased volumes from the acquisition of Stream Energy in August 2019	33
Higher gross margin due to increased sales of portable solar and power products	24
Higher gross margin due to lower supply costs on contracted load	23
Higher gross margin due to lower supply costs of approximately $2.50 per MWh, or $21 million, driven by lower electricity and natural gas prices, partially offset by $19 million from lower volumes due to attrition and customer mix, and the impact of COVID-19	2
Lower gross margin due to a 6% decrease in PJM capacity volumes and a 4% decrease in PJM capacity prices	(41)
Lower gross margin due to a 25% decrease in New England realized capacity prices	(36)
Lower gross margin due to a lower of cost or market adjustment on oil inventory in 2020	(29)
Lower gross margin primarily due to a 41% decrease in economic generation volumes, primarily due to dark spread contractions and planned outages in 2020	(16)
Lower gross margin due to insurance proceeds from outages in 2019	(8)
Other	1
Economic gross margin	$ —
Increase in mark-to-market for economic hedging primarily due to net unrealized gains/losses on open positions related to economic hedges	118
Increase in gross margin	$ 118

West/Other

	(In millions)
Higher gross margin primarily due to MISO uplift payments resulting from out-of-market dispatch during Hurricane Laura, spark spread expansion in MISO and increased California resource adequacy pricing; partially offset by lower realized pricing in the West	$ 55
Higher gross margin from generation outage insurance proceeds received in 2020 for forced outages in 2019	30
Higher gross margin due to the extended forced outage at the Sunrise facility in 2019, partially offset by 2020 forced outages at Cottonwood	2
Lower gross margin from market optimization activities	(17)
Lower gross margin due to the Canal 3 substantial completion payment earned in 2019	(9)
Lower gross margin due to the sale of emissions in 2019	(4)
Other	(1)
Increase in economic gross margin	$ 56
Decrease in mark-to-market for economic hedging primarily due to net unrealized gains/losses on open positions related to economic hedges	(18)
Increase in gross margin	$ 38

Mark-to-market for Economic Hedging Activities

Mark-to-market for economic hedging activities includes asset-backed hedges that have not been designated as cash flow hedges. Total net mark-to-market results decreased by $99 million during the year ended December 31, 2020, compared to the same period in 2019.

The breakdown of gains and losses included in operating revenues and operating costs and expenses by segment was as follows:

	Year Ended December 31, 2020				
(In millions)	**Texas**	**East**	**West/Other**	**Eliminations**	**Total**
Mark-to-market results in operating revenues					
Reversal of previously recognized unrealized losses/(gains) on settled positions related to economic hedges	$ 1	$ 33	$ (7)	$ 4	$ 31
Net unrealized gains on open positions related to economic hedges	1	55	4	4	64
Total mark-to-market gains/(losses) in operating revenues	$ 2	$ 88	$ (3)	$ 8	$ 95
Mark-to-market results in operating costs and expenses					
Reversal of previously recognized unrealized (gains)/losses on settled positions related to economic hedges	$ (87)	$ 5	$ —	$ (4)	$ (86)
Reversal of acquired loss positions related to economic hedges	2	2	—	—	4
Net unrealized (losses) on open positions related to economic hedges	(126)	(2)	—	(4)	(132)
Total mark-to-market (losses)/gains in operating costs and expenses	$ (211)	$ 5	$ —	$ (8)	$ (214)

	Year Ended December 31, 2019				
(In millions)	**Texas**	**East**	**West/Other**	**Eliminations**	**Total**
Mark-to-market results in operating revenues					
Reversal of previously recognized unrealized losses on settled positions related to economic hedges	$ 21	$ 14	$ 12	$ —	$ 47
Net unrealized gains/(losses) on open positions related to economic hedges	26	(43)	4	(1)	(14)
Total mark-to-market gains/(losses) in operating revenues	$ 47	$ (29)	$ 16	$ (1)	$ 33
Mark-to-market results in operating costs and expenses					
Reversal of previously recognized unrealized (gains)/losses on settled positions related to economic hedges	$ (117)	$ 3	$ (1)	$ —	$ (115)
Reversal of acquired loss positions related to economic hedges	1	5	—	—	6
Net unrealized gains/(losses) on open positions related to economic hedges	59	(4)	—	1	56
Total mark-to-market (losses)/gains in operating costs and expenses	$ (57)	$ 4	$ (1)	$ 1	$ (53)

Mark-to-market results consist of unrealized gains and losses on contracts that are yet to be settled. The settlement of these transactions is reflected in the same revenue or cost caption as the items being hedged.

The reversals of acquired gain or loss positions were valued based upon the forward prices on the acquisition date.

For the year ended December 31, 2020 the $95 million gain in operating revenues from economic hedge positions was driven primarily by an increase in the value of open positions as a result of decreases in New York capacity prices, as well as the reversal of previously recognized unrealized losses on contracts that settled during the period. The $214 million loss in operating costs and expenses from economic hedge positions was driven primarily by a decrease in the value of open positions as a result of decreases in ERCOT power prices and heat rate contraction, as well as the reversal of previously recognized unrealized gains on contracts that settled during the period.

For the year ended December 31, 2019 the $33 million gain in operating revenues from economic hedge positions was driven primarily by the reversal of previously recognized unrealized losses on contracts that settled during the period. The $53 million loss in operating costs and expenses from economic hedge positions was driven primarily by the reversal of previously recognized unrealized gains, partially offset by an increase in the value of open positions as a result of gains on ERCOT heat rate positions due to heat rate expansion.

In accordance with ASC 815, the following table represents the results of the Company's financial and physical trading of energy commodities for the years ended December 31, 2020 and 2019. The realized and unrealized financial and physical trading results are included in operating revenue. The Company's trading activities are subject to limits within the Company's Risk Management Policy.

	Year ended December 31,	
(In millions)	**2020**	**2019**
Trading gains/(losses)		
Realized	$ 41	$ 57
Unrealized	(5)	20
Total trading gains	$ 36	$ 77

Operations and Maintenance Expenses

Operations and maintenance expenses are comprised of the following:

(In millions)	**Texas**	**East**	**West/Other**	**Corporate**	**Eliminations**	**Total**
Year Ended December 31, 2020	$ 651	$ 374	$ 101	$ 9	$ (6)	$ 1,129
Year Ended December 31, 2019	605	368	105	9	(5)	1,082

Operations and maintenance expenses increased by $47 million for the year ended December 31, 2020 compared to the same period in 2019, due to the following:

	(In millions)
Increase due to the final settlement of the asbestos liability related to Midwest Generation and the resulting reduction of the accrual in 2019	$ 27
Increase due to higher customer operations spend including digital capabilities, data analytics and customer retention	19
Increase due to a suspended plant project and reserves for obsolete inventory	13
Increase due to Stream Energy acquisition in August 2019	11
Increase primarily due to planned outages at Midwest Generation in 2020	8
Increase due to incremental safety measures resulting from COVID-19	8
Decrease in variable chemical costs due to a reduction in East generation volumes	(14)
Decrease in plant deactivation costs due to projects at Midwest Generation and Encina in 2019	(12)
Decrease due to return to service costs incurred at Gregory facility in 2019	(7)
Other	(6)
Increase in operations and maintenance expense	$ 47

Other Cost of Operations

Other Cost of operations are comprised of the following:

(In millions)	Texas	East	West/Other	Total
Year Ended December 31, 2020	$ 163	$ 91	$ 18	$ 272
Year Ended December 31, 2019	166	78	27	271

Other cost of operations increased by $1 million for the year ended December 31, 2020 compared to the same period in 2019, due to the following:

	(In millions)
Increase in gross receipts tax due to the Stream Energy acquisition in August 2019 and higher revenue from increased rates and customer counts	$ 6
Decrease in ARO expense due to Encina decommissioning and Jewett Mine remediation in 2019, partially offset by an increase in costs due to changes in regulatory requirements at the Joliet facility	(5)
Increase in other cost of operations	$ 1

Depreciation and Amortization

Depreciation and amortization expenses are comprised of the following:

(In millions)	Texas	East	West/Other	Corporate	Total
Year Ended December 31, 2020	$ 227	$ 142	$ 32	$ 34	$ 435
Year Ended December 31, 2019	188	121	33	31	373

Depreciation and amortization expense increased by $62 million for the year ended December 31, 2020 compared to the same period in 2019, primarily due to the acquisition of Stream Energy in August 2019, retail customer book acquisitions in 2020 and the Midwest Generation lease purchase in 2020.

Impairment Losses

During the year ended December 31, 2020, the Company recorded impairment losses of $75 million primarily related to the Cottonwood facility and the Home Solar business, compared to impairment losses of $5 million recorded on intangible assets during the same period in 2019, as further described in Item 15 — Note 11, *Asset Impairments*, to the Consolidated Financial Statements.

Selling, General and Administrative Costs

Selling, general and administrative costs are comprised of the following:

(In millions)	Texas	East	West/Other	Corporate	Total
Year Ended December 31, 2020	$ 559	$ 288	$ 37	$ 49	$ 933
Year Ended December 31, 2019	481	291	31	24	827

Selling, general and administrative costs increased by $106 million for the year ended December 31, 2020 compared to the same period in 2019, due to the following:

	(In millions)
Increase due to the acquisitions of Stream Energy in August 2019	$ 27
Increase due to income from transition services agreements ending in 2019 and an increase in personnel costs in 2020	24
Increase due to higher amortization of commissions	18
Increase in acquisition costs related to the Direct Energy acquisition	17
Increase in selling and marketing expenses primarily due to higher advertising expenses and marketing campaigns to increase customer count, partially offset by reduced spend in direct and alternative sales channels due to COVID-19	11
Increase in bad debt expense primarily due to the impact of COVID-19	5
Other	4
Increase in selling, general and administrative costs	$ 106

Reorganization Costs

For the year ended December 31, 2019, reorganization costs of $23 million primarily related to severance and contract modifications for the Transformation Plan. The Company significantly achieved the operations and cost excellent portion of the Transformation Plan during 2019.

Equity in Earnings of Unconsolidated Affiliates

Equity in earnings of unconsolidated affiliates increased by $15 million for the year ended December 31, 2020 compared to the same period in 2019 primarily due to higher revenues at Ivanpah driven by operational efficiencies and favorable weather.

Impairment Losses on Investments

During the year ended December 31, 2020, the Company recorded other-than-temporary impairment losses on the Company's investment in Petra Nova Parish Holdings of $18 million, compared to $108 million recorded in the same period in 2019, as further described in Item 15 — Note 11, *Asset Impairments*, to the Consolidated Financial Statements.

Other Income, Net

Other income increased by $1 million for the year ended December 31, 2020 compared to the same period in 2019, primarily due to income from insurance proceeds received, partially offset by decreases in interest income and dividends received from cost method investments in 2020.

Loss on Debt Extinguishment

A loss on debt extinguishment of $9 million was recorded for the year ended December 31, 2020, driven by the debt extinguished in connection with the sale of Home Solar and the redemptions of the Indian River and Dunkirk bonds.

A loss on debt extinguishment of $51 million was recorded for the year ended December 31, 2019, driven by the redemption of Senior Notes, due 2024, and the repayment of the 2023 Term Loan Facility.

Interest Expense

Interest expense decreased by $12 million for the year ended December 31, 2020 compared to the same period in 2019, due to the following:

	(In millions)
Decrease due to the repayment of the Term Loan and 2024 Senior Notes	$ (16)
Decrease in derivative interest expense due to the termination of interest rate swaps in 2019, partially offset by settlement of in-the-money interest rate swaps in 2019	(14)
Decrease due to repayment of Agua Caliente debt in the fourth quarter of 2019	(7)
Decrease due to lower interest on the Revolving Credit Facility in 2020	(3)
Decrease due to the early settlement of an interest rate swap in 2020, partially offset by interest expense related to financings entered into in connection with the Direct Energy acquisition	(2)
Increase due to full year of interest incurred in 2020 on bonds issued in the second quarter of 2019	33
Other	(3)
Decrease in interest expense	$ (12)

Income Tax Expense/(Benefit)

For the year ended December 31, 2020, NRG recorded income tax expense of $251 million on pre-tax income of $761 million. For the same period in 2019, NRG recorded an income tax benefit of $3.3 billion on pre-tax income of $786 million. The effective tax rate was 33.0% and (424.2)% for the years ended December 31, 2020 and 2019, respectively. The large benefit for the year ended December 31, 2019 was due to a $3.5 billion release of the Company's valuation allowance. Refer to Item 15 – Note 21, *Income Taxes,* to the Consolidated Financial Statements for further discussion of the release in valuation allowance.

For the year ended December 31, 2020, NRG's overall effective tax rate was different than the federal statutory tax rate of 21% primarily due to state tax expense, recognition of state valuation allowance on NOLs, and return to provision adjustments.

	Year Ended December 31,	
(In millions, except effective income tax rate)	**2020**	**2019**
Income from continuing operations before income taxes	$ 761	$ 786
Tax at federal statutory tax rate	160	165
State taxes	18	13
Deferred impact of state tax rate changes	2	12
Changes in valuation allowance	24	(3,492)
Permanent differences	8	(9)
Return to provision adjustments	36	—
Recognition of uncertain tax benefits	3	(10)
Other	—	(13)
Income tax expense/(benefit)	$ 251	$ (3,334)
Effective income tax rate	33.0 %	(424.2)%

The effective income tax rate may vary from period to period depending on, among other factors, the geographic and business mix of earnings and losses and changes in valuation allowances in accordance with ASC 740, *Income Taxes,* or ASC 740. These factors and others, including the Company's history of pre-tax earnings and losses, are taken into account in assessing the ability to realize deferred tax assets.

Income from Discontinued Operations, Net of Income Tax

	Year ended December 31,
(In millions)	**2019**
South Central	$ 28
Yield Renewables Platform & Carlsbad	296
GenOn	(3)
Income from discontinued operations, net of income tax	**$ 321**

Refer to Item 15 — Note 4, *Acquisitions, Discontinued Operations and Dispositions,* to the Consolidated Financial Statements for further discussion.

Liquidity and Capital Resources

Liquidity Position

As of December 31, 2020 and 2019, NRG's liquidity, excluding collateral funds deposited by counterparties, was approximately $7.0 billion and $2.1 billion, respectively, comprised of the following:

	As of February 26,	As of December 31,	
(In millions)	**2021**	**2020**	**2019**
Cash and cash equivalents:	$ 1,923	$ 3,905	$ 345
Restricted cash - operating	10	3	4
Restricted cash - reserves [(a)]	2	3	4
Total	1,935	3,911	353
Total availability under Revolving Credit Facility and collective collateral facilities	1,865	3,129	1,794
Total liquidity, excluding collateral funds deposited by counterparties	$ 3,800	$ 7,040	$ 2,147

(a) Includes reserves primarily for debt service, performance obligations and capital expenditures

As of December 31, 2020, total liquidity, excluding collateral funds deposited by counterparties, increased by $4.9 billion. The increase was primarily driven by $2.9 billion of newly-issued secured and unsecured corporate debt and a $1.5 billion increase in collateral facilities to fund the Direct Energy acquisition. As of February 26, 2021, NRG had $3.8 billion of liquidity available to continue to support its operations. Changes in cash and cash equivalent balances are further discussed under the heading *Cash Flow Discussion*. Cash and cash equivalents at December 31, 2020 were predominantly held in money market funds invested in treasury securities, treasury repurchase agreements or government agency debt.

Management believes that the Company's liquidity position and cash flows from operations will be adequate to finance operating and maintenance capital expenditures, to fund dividends to NRG's common stockholders, and to fund other liquidity commitments. Management continues to regularly monitor the Company's ability to finance the needs of its operating, financing and investing activity within the dictates of prudent balance sheet management.

Credit Ratings

On July 24, 2020, Moody's affirmed NRG's corporate family rating of Ba1, with positive outlook. The agency also affirmed the ratings on all NRG's outstanding debt, including the Ba2 rating on senior unsecured bonds, Baa3 rating on senior secured bonds with fall-away security provisions and Baa2 rating on senior secured bonds without the fall-away feature. On July 27, 2020, S&P upgraded the NRG corporate family rating to BB+ with a stable outlook and senior unsecured rating to BB+.

The following table summarizes the Company's current credit ratings:

	S&P	Moody's
NRG Energy, Inc.	BB+ Stable	Ba1 Positive
3.75% Senior Secured Notes, due 2024	BBB-	Baa3
2.00% Senior Secured Notes, due 2025	BBB-	Baa3
7.25% Senior Notes, due 2026	BB+	Ba2
2.45% Senior Secured Notes, due 2027	BBB-	Baa3
6.625% Senior Notes, due 2027	BB+	Ba2
5.75% Senior Notes, due 2028	BB+	Ba2
3.375% Senior Notes, due 2029	BB+	Ba2
4.45% Senior Secured Notes, due 2029	BBB-	Baa3
5.25% Senior Notes, due 2029	BB+	Ba2
3.625% Senior Notes, due 2031	BB+	Ba2
Revolving Credit Facility, due 2024	BBB-	Baa3

Liquidity

The principal sources of liquidity for NRG's operating and capital expenditures are expected to be derived from cash on hand, cash flows from operations and financing arrangements. As described in Item 15 — Note 14, *Long-term Debt and Finance Leases,* to the Consolidated Financial Statements, the Company's financing arrangements consist mainly of the Senior Credit Facility, the Senior Notes and the Senior Secured Notes.

The Company's requirements for liquidity and capital resources, other than for operating its facilities, can generally be categorized by the following: (i) market operations activities; (ii) debt service obligations, as described more fully in Item 15 — Note 14, *Long-term Debt and Finance Leases*, to the Consolidated Financial Statements; (iii) capital expenditures, including environmental; and (iv) allocations in connection with return of capital and dividend payments to shareholders as described in Item 15 — Note 17, *Capital Structure*, to the Consolidated Financial Statements, acquisition opportunities, and debt repayments.

Direct Energy Acquisition

On July 24, 2020, the Company entered into the Purchase Agreement with Centrica plc to acquire Direct Energy, a North American subsidiary of Centrica plc. Direct Energy is a leading retail provider of electricity, natural gas, and home and business energy related products and services in North America, with operations in all 50 U.S. states and 8 Canadian provinces. The acquisition increased NRG's retail portfolio by over 3 million customers and strengthens its integrated model. It also broadens the Company's presence in the Northeast and into states and locales where it did not previously operate, supporting NRG's objective to diversify its business.

The Company paid an aggregate purchase price of $3.625 billion in cash, subject to a purchase price adjustment of $77 million. The Company funded the purchase price using a combination of $715 million of cash on hand, $166 million from a draw on its Revolving Credit Facility (of which $107 million was used to fund acquisition costs and financing fees that are not included in the aggregate purchase price above) as well as approximately $2.9 billion in secured and unsecured corporate debt issued in December 2020. The Company also increased its liquidity and collateral facilities by $3.4 billion through a combination of new letter of credit facilities and increases to its existing Revolving Credit Facility, as further discussed below.

Liquidity and Collateral Facility Increases

The following table presents increases to the Company's liquidity and collateral facilities in connection with the Direct Energy acquisition:

(In millions)	**December 31, 2020**
Revolving Credit Facility commitment increase[(a)]	$ 802
Revolving Credit Facility new tranche[(a)]	273
Credit default swap facility	150
Revolving accounts receivable financing facility	750
Repurchase facility	75
Facility agreement in connection with the sale of pre-capitalized trust securities[(a)]	874
Bilateral letter of credit facilities	475
Total Increases to Liquidity and Collateral Facilities	$ 3,399

(a) Available upon the Acquisition Closing Date

In connection with the close of the Direct Energy acquisition, the Company is working to replace the collateral posted by Centrica plc utilizing the availability under the above and existing facilities.

Issuance of 2029 Senior Unsecured Notes and 2031 Senior Unsecured Notes

On December 2, 2020, NRG issued $500 million aggregate principal amount of 3.375% senior notes due 2029 (the "2029 Unsecured Notes") and $1.0 billion aggregate principal amount of 3.625% senior notes due 2031 (the "2031 Unsecured Notes" and, together with the 2029 Unsecured Notes, the "Unsecured Notes"). Interest is payable on the Unsecured Notes on February 15 and August 15 of each year beginning on August 15, 2021 until the maturity date of February 15, 2029 for the 2029 Unsecured Notes and February 15, 2031 for the 2031 Unsecured Notes.

Issuance of 2025 and 2027 Senior Secured First Lien Notes

On December 2, 2020, NRG issued $1.4 billion of aggregate principal amount of senior secured first lien notes, consisting of $500 million 2.000% senior secured first lien notes due 2025 (the "2025 Secured Notes") and $900 million 2.450% senior secured first lien notes due 2027 (the "2027 Secured Notes" and, together with the 2025 Secured Notes, the "2025 and 2027 Senior Secured First Lien Notes"), at a discount. The 2027 Secured Notes were issued under NRG's Sustainability-Linked Bond Framework, which sets out certain sustainability targets, including reducing greenhouse gas emissions. Failure to meet such sustainability targets will result in a 25 basis point increase to the interest rate payable on the 2027 Secured Notes from and including the interest period ending on June 2, 2026. The 2025 and 2027 Senior Secured First Lien Notes are guaranteed on a first-priority basis by each of NRG's current and future subsidiaries that guarantee indebtedness under its credit agreement. The 2025 and 2027 Senior Secured First Lien Notes will be secured by a first priority security interest in the same collateral that is pledged for the benefit of the lenders under NRG's credit agreement, which consists of a substantial portion of the property and assets owned by NRG and the guarantors. The collateral securing the 2025 and 2027 Senior Secured First Lien Notes will be released if the Company obtains an investment grade rating from two out of the three rating agencies, subject to an obligation to reinstate the collateral if such rating agencies withdraw the Company's investment grade rating or downgrade its rating below investment grade Interest is payable on the 2025 and 2027 Senior Secured First Lien Notes on June 2 and December 2 of each year beginning on June 2, 2021 until the maturity date of December 2, 2025 for the 2025 Secured Notes and until the maturity date of December 2, 2027 for the 2027 Secured Notes.

Dunkirk Bonds

On March 11, 2020, NRG issued $59 million in aggregate principal amount of NRG Dunkirk 2020 1.30% tax-exempt refinancing bonds due 2042 (the "Dunkirk Bonds"). The Dunkirk Bonds are guaranteed on a first-priority basis by each of NRG's current and future subsidiaries that guarantee indebtedness under its credit agreement. The Dunkirk Bonds are secured by a first priority security interest in the same collateral that is pledged for the benefit of the lenders under NRG's credit agreement, which consists of a substantial portion of the property and assets owned by NRG and the guarantors. The collateral securing the Dunkirk Bonds will, at the request of NRG, be released if NRG satisfies certain conditions, including receipt of an investment grade rating on its senior, unsecured debt securities from two out of the three rating agencies, subject to reversion if those rating agencies withdraw their investment grade rating of the Bonds or any of NRG's senior, unsecured debt securities or downgrade such rating below investment grade. The Dunkirk Bonds are subject to mandatory tender and purchase on April 3, 2023 and have a final maturity date of April 1, 2042.

NRG used the net proceeds from the offering to redeem in 2020 the existing principal amount of outstanding Dunkirk Power LLC 5.875% tax exempt bonds due 2042.

Indian River Bonds

On December 17, 2020, NRG issued $57 million in aggregate principal amount of NRG Indian River 2020 1.25% tax-exempt refinancing bonds due 2040 (the "IR 2040 Bonds") and $190 million aggregate principal amount of NRG Indian River Power 2020 1.25% tax-exempt refinancing bonds due 2045 (the "IR 2045 Bonds") (together the "IR Bonds"). The IR Bonds are guaranteed on a first-priority basis by each of NRG's current and future subsidiaries that guarantee indebtedness under its credit agreement. The Bonds are secured by a first priority security interest in the same collateral that is pledged for the benefit of the lenders under NRG's credit agreement, which consists of a substantial portion of the property and assets owned by NRG and the guarantors. The collateral securing the IR Bonds will, at the request of NRG, be released if NRG satisfies certain conditions, including receipt of an investment grade rating on its senior, unsecured debt securities from two out of the three rating agencies, subject to reversion if those rating agencies withdraw their investment grade rating of the IR Bonds or any of NRG's senior, unsecured debt securities or downgrade such rating below investment grade. The IR Bonds are subject to mandatory tender and purchase on October 1, 2025 and have final maturity dates of October 1, 2040 for the IR 2040 Bonds and October 1, 2045 for the IR 2045 Bonds.

NRG used the net proceeds from the offering to redeem in 2020 the existing principal amounts of outstanding Indian River Power 6.000% tax exempt bonds due 2040 and Indian River Power LLC 5.375% tax exempt bonds due 2045.

Revolving Credit Facility

The Company had $83 million outstanding under its Revolving Credit Facility as of December 31, 2019, which was used to repay the outstanding indebtedness on the Agua Caliente Borrower 1 notes on a leverage-neutral basis during the fourth quarter of 2019. There were no borrowings outstanding as of December 31, 2020.

On August 20, 2020, the Company amended its existing credit agreement to, among other things, (i) increase the existing revolving commitments in an aggregate amount of $802 million, (ii) provide for a new tranche of revolving commitments in an aggregate amount of $273 million with a maturity date that is 30 months after the date of closing of the Direct Energy acquisition (the "Acquisition Closing Date"), The maturity date of the new revolving tranche of commitments may, upon request by the Company, at the option of each applicable lender under the new tranche be extended by 12 months, but not beyond May 28, 2024, which is the maturity date of the existing and increased commitments. Other than with respect to the maturity date, the terms of all revolving commitments and loan made pursuant thereto are identical. The increase in the existing commitments and the commitments with respect to the new tranche are effective on August 20, 2020 but only became available on the Acquisition Closing Date. For further discussion on the acquisition of Direct Energy see Item 15 — Note 4, *Acquisitions, Discontinued Operations and Dispositions*, to the Consolidated Financial Statements. Upon the Acquisition Closing Date, total revolving commitments available, subject to usage, under this amendment will be $3.7 billion.

In addition, the amendment includes changes to, among other things, (i) permit the borrowing of up to the full amount of the revolving commitments in Canadian dollars, (ii) increase the swingline facility from $50 million to $100 million and provide a $10 million swingline facility in Canadian dollars, (iii) increase the credit facilities lien basket from the greater of $6 billion and 30% of total assets to the greater of $10 billion and 30% of total assets, (iv) increase the credit facilities debt basket from $6 billion to $10 billion, (v) increase the basket for securitization indebtedness from $750 million to $1.7 billion, (vi) provide an additional indebtedness basket equal to $600 million for certain liquidity facilities, and (vii) make certain other changes to the existing covenants and other provisions.

Put Option Agreement for Senior Debt Issuance

During the fourth quarter of 2020, the Company entered into a 3-year put option agreement with a Delaware trust formed by the Company upon completion of the sale of $900 million pre-capitalized trust securities redeemable November 15, 2023 (the "P-Caps"). The Trust invested the proceeds from the sale of the P-Caps in a portfolio of principal and interest strips of U.S. Treasury securities (the "Eligible Treasury Assets"). Under the put option agreement, NRG has the right, from time to time, to issue to the Trust and to require the Trust to purchase from NRG, on one or more occasions (the "Issuance Right"), up to $900 million aggregate principal amount of NRG's 1.841% Senior Secured First Lien Notes due 2023 (the "P-Caps Secured Notes") in exchange for all or a portion of the Eligible Treasury Assets corresponding to the portion of the Issuance Right. NRG will pay a semi-annual premium to the Trust at a rate of 1.65%.

In connection with the issuance of the P-Caps, on December 2, 2020, NRG entered into a facility agreement for the issuance of letters of credit (the "LC Agreement") and Deutsche Bank Trust Company Americas as collateral agent (the "Collateral Agent") and administrative agent pursuant to which certain financial institutions (the "LC Issuers") are permitted to join with commitments to provide letters of credit in an aggregate amount not to exceed $874 million to support the operations of NRG and its subsidiaries and minority investments, including to replace certain currently outstanding letters of credit and other credit support issued for the account of entities being acquired pursuant to the Acquisition. In addition, on December 2, 2020, the Trust entered into a pledge and control agreement (the "Pledge Agreement"), among NRG, the Trust and the Collateral Agent for the LC Issuers, under which the Trust agreed to grant a pledge over the Eligible Treasury Assets in favor of the Collateral Agent for the benefit of the LC Issuers. Pursuant to the LC Agreement and the Pledge Agreement, the Collateral Agent is entitled to withdraw Eligible Treasury Assets from the Trust's pledged account, following notice to NRG, in the event NRG has failed to reimburse amounts drawn under any letter of credit issued pursuant to the LC Agreement, and the LC Issuers have the right to instruct the Collateral Agent to enforce the pledge over the Eligible Treasury Assets upon the occurrence of any event of default under the LC Agreement (a "Collateral Enforcement Event"). As of December 31, 2020 no letters of credit were issued under this agreement. See Note 14, *Long-term Debt and Finance Leases* for further discussion.

Credit Default Swap Facility

On January 4, 2019, the Company entered into an $80 million credit agreement to issue letters of credit, which is currently supporting the Cottonwood facility lease. Annual fees of 1.33% on the facility were paid quarterly in advance. On August 13, 2020, the agreement was amended permitting the Company to increase the size of the facility and fees on the facility were adjusted to reflect the costs of the credit default swaps that serve as collateral for the facility. In order to increase the Company's collective collateral facilities in connection with the Direct Energy acquisition. NRG expanded the facility allowing for the issuance of an additional $150 million of letters of credit as of December 31, 2020. As of December 31, 2020, $229 million was issued under this facility.

Bilateral Letter of Credit Facilities

In December 2020, the Company entered into a series of bilateral letter of credit facilities to allow for the issuance of up to $475 million of letters of credit. These facilities are uncommitted. As of December 31, 2020, $5 million was issued under these facilities.

Receivables Securitization

On September 22, 2020, NRG Receivables LLC, a bankruptcy remote, special purpose, indirect wholly owned subsidiary, entered into the Receivables Facility for an amount up to $750 million, subject to adjustments on a seasonal basis, with issuers of asset-backed commercial paper and commercial banks (the "Lenders".) The assets of NRG Receivables LLC are first available to satisfy the claims of the Lenders before making payments on the subordinated note and equity issued by NRG Receivables LLC. The assets of NRG Receivables LLC are not available to the Company and its subsidiaries and creditors unless and until distributed by NRG Receivables LLC. Under the Receivables Facility, certain indirect subsidiaries of the Company sell their accounts receivables to NRG Receivables LLC, subject to certain terms and conditions. In turn, NRG Receivables LLC has granted a security interest in the purchased receivables to the Lenders as collateral for borrowings of cash and issuances of letters of credit. Receivables remain on the Company's consolidated balance sheet and amounts funded by the Lenders to NRG Receivables LLC are reflected as short-term borrowings. Cash flows from the Receivables Facility are reflected as financing activities in the Company's Consolidated Statements of Cash Flows. The Company will continue to service the receivables sold in exchange for a servicing fee. The Receivables Facility is scheduled to expire on September 21, 2021, unless renewed by the mutual consent of the parties in accordance with its terms. Borrowings by NRG Receivables LLC under the Receivables Facility bear interest as defined under the Receivables Financing Agreement. The weighted average interest rate related to usage under the Receivables Facility as of December 31, 2020 was 0.537%. As of December 31, 2020, there were no outstanding borrowings and there were $198 million in letters of credit issued under the Receivables Facility.

Repurchase Facility

On September 22, 2020, the Company entered into an uncommitted repurchase facility ("Repurchase Facility") related to the Receivables Facility. Under the Repurchase Facility the Company can borrow up to $75 million, collateralized by a subordinated note issued by NRG Receivables LLC to NRG Retail LLC in favor of the originating entities representing a portion of the balance of receivables sold to NRG Receivables LLC under the Receivables Facility. The Repurchase Facility is scheduled to expire on September 22, 2021, unless renewed by the mutual consent of the parties in accordance with its terms. The Repurchase Facility has no commitment fee and borrowings will be drawn at LIBOR +1.25%. As of December 31, 2020, there were no outstanding borrowings under the Repurchase Facility.

Midwest Generation Lease Purchase

On September 29, 2020, Midwest Generation acquired all of the ownership interests in the Powerton facility and Units 7 and 8 of the Joliet facility, which were being leased through 2034 and 2030, respectively, for approximately $260 million. The Company funded the purchase with cash-on-hand. Upon closing, lease expense related to these facilities, which totaled approximately $14 million in 2019, and the operating lease liability of $148 million were eliminated.

Sale of Agua Caliente

On November 19, 2020, the Company entered into an agreement to sell its 35% ownership in Agua Caliente to Clearway Energy for $202 million. The sale of the solar project closed on February 3, 2021. On October 21, 2019, the Company had repaid the Agua Caliente Borrower 1 notes associated with the project of $83 million.

Sale of 4.8 GW of Fossil Generation Assets

On February 28, 2021, the Company entered into a definitive purchase agreement with Generation Bridge, an affiliate of ArcLight Capital Partners, to sell approximately 4,850 MWs of fossil generating assets from its East and West regions of operations for total proceeds of $760 million, subject to standard purchase price adjustments and certain other indemnifications. As part of the transaction, NRG is entering into a tolling agreement for its 866 MW Arthur Kill plant in New York City through April 2025.

The transaction is expected to close in the fourth quarter of 2021, and is subject to various closing conditions, approvals and consents, including FERC, NYSPSC, and antitrust review under Hart-Scott-Rodino.

CARES Act

On March 27, 2020, the U.S. government enacted the CARES Act, which provides, among other things, the option to defer payments of certain 2019 employer payroll taxes incurred after the date of enactment and pension contributions due in 2020, as well as claim a refund now for AMT credits from the IRS that were previously refundable over several years. As a result, the Company (i) deferred the payment of $17 million for the employer share of social security taxes that would otherwise have been due in 2020, with 50% due by December 31, 2021 and the remaining 50% due by December 31, 2022 and (ii) received $34 million of refundable AMT credits on August 4, 2020, inclusive of $17 million that was originally scheduled to be received in 2021. Of the amount received, $22 million was paid to GenOn for its share of the AMT credits received during the year of 2020.

Pension Plan Contribution

In the Company's 2019 Form 10-K, NRG had anticipated making contributions of $63 million to its pension plans, including STP, in 2020. Cash contributions of $18 million were made during 2020, of which $7 million was related to STP. The remaining planned contributions for 2020 were satisfied by available pre-funded pension balances (previous contributions in excess of required pension contributions).

Debt Service Obligations

Principal payments on debt and finance leases as of December 31, 2020 are due in the following periods:

(In millions) Description	2021	2022	2023	2024	2025	Thereafter	Total
Recourse Debt:							
Senior notes, due 2026	$ —	$ —	$ —	$ —	$ —	$ 1,000	$ 1,000
Senior notes, due 2027	—	—	—	—	—	1,230	1,230
Senior notes, due 2028	—	—	—	—	—	821	821
Senior notes, due 2029	—	—	—	—	—	733	733
Senior notes, due 2029	—	—	—	—	—	500	500
Senior notes, due 2031	—	—	—	—	—	1,030	1,030
Convertible Senior Notes, due 2048	—	—	—	—	—	575	575
Senior Secured First Lien Notes, due 2024	—	—	—	600	—	—	600
Senior Secured First Lien Notes, due 2025	—	—	—	—	500	—	500
Senior Secured First Lien Notes, due 2027	—	—	—	—	—	900	900
Senior Secured First Lien Notes, due 2029	—	—	—	—	—	500	500
Tax-exempt bonds	—	—	—	—	—	466	466
Subtotal Recourse Debt	—	—	—	600	500	7,755	8,855
Finance Leases:							
Finance leases	1	2	1	—	—	—	4
Subtotal Finance Leases	1	2	1	—	—	—	4
Total Debt and Finance Leases	$ 1	$ 2	$ 1	$ 600	$ 500	$ 7,755	$ 8,859

The Company plans to reduce debt by nearly $1.2 billion during 2021 to maintain its targeted investment grade credit metrics. The Company intends to fund the repurchase from cash from operations. NRG continues to look at optimizing its debt structure and seeking out lower interest rates.

Market Operations

The Company's market operations activities require a significant amount of liquidity and capital resources. These liquidity requirements are primarily driven by: (i) margin and collateral posted with counterparties; (ii) margin and collateral required to participate in physical markets and commodity exchanges; (iii) timing of disbursements and receipts (e.g. buying fuel before receiving energy revenues); (iv) initial collateral for large structured transactions; and (v) collateral for project development. As of December 31, 2020, market operations had total cash collateral outstanding of $50 million and $768 million outstanding in letters of credit to third parties primarily to support its market activities for both wholesale and retail transactions. As of December 31, 2020, total funds deposited by counterparties was $19 million in cash and $75 million of letters of credit.

Future liquidity requirements, including those related to the acquisition of Direct Energy, may change based on the Company's hedging activities and structures, power purchases and sales, fuel purchases, and future market conditions, including forward prices for energy and fuel and market volatility. In addition, liquidity requirements are dependent on the Company's credit ratings and general perception of its creditworthiness.

First Lien Structure

NRG has granted first liens to certain counterparties on a substantial portion of property and assets owned by NRG and the guarantors of its senior debt. NRG uses the first lien structure to reduce the amount of cash collateral and letters of credit that it would otherwise be required to post from time to time to support its obligations under out-of-the-money hedge agreements for forward sales of power or gas used as a proxy for power. To the extent that the underlying hedge positions for a counterparty are out-of-the-money to NRG, the counterparty would have a claim under the first lien program. The first lien program limits the volume that can be hedged, not the value of underlying out-of-the-money positions. The first lien program does not require NRG to post collateral above any threshold amount of exposure. Within the first lien structure, the Company can hedge up to 80% of its coal and nuclear capacity and 10% of its other assets with these counterparties for the first 60 months and then declining thereafter. Net exposure to a counterparty on all trades must be positively correlated to the price of the relevant commodity for the first lien to be available to that counterparty. The first lien structure is not subject to unwind or termination upon a ratings downgrade of a counterparty and has no stated maturity date.

The Company's first lien counterparties may have a claim on its assets to the extent market prices exceed the hedged prices. As of December 31, 2020, all hedges under the first liens were in-the-money on a counterparty aggregate basis.

The following table summarizes the amount of MW hedged against the Company's coal and nuclear assets and as a percentage relative to the Company's coal and nuclear capacity under the first lien structure as of December 31, 2020:

Equivalent Net Sales Secured by First Lien Structure [(a)]	2021	2022	2023	2024
In MW	692	803	801	0
As a percentage of total net coal and nuclear capacity [(b)]	15%	18%	18%	—%

(a) Equivalent Net Sales include natural gas swaps converted using a weighted average heat rate by region

(b) Net coal and nuclear capacity represents 80% of the Company's total coal and nuclear assets eligible under the first lien, which excludes coal assets acquired in the Midwest Generation acquisition

Small Book Acquisitions

During 2020, the Company acquired multiple books of customers totaling approximately 56,000 customers for $22 million.

Capital Expenditures

The following table summarizes the Company's capital expenditures for maintenance, environmental, and growth investments for the year ended December 31, 2020:

(In millions)	Maintenance	Environmental	Growth Investments[(a)]	Total
Texas	$ (99)	$ (1)	$ (30)	$ (130)
East	(20)	(2)	(23)	(45)
West/Other	(30)	—	—	(30)
Corporate	(7)	—	(18)	(25)
Total capital expenditures	(156)	(3)	(71)	(230)
Other investments	—	—	(32)	(32)
Total capital expenditures and investments	$ (156)	$ (3)	$ (103)	$ (262)

(a) Includes other investments, acquisitions, digital NRG and costs to achieve. Excludes Midwest Generation lease buyout

Growth investments in East for the year ended December 31, 2020 include the Astoria generating facility, for which the Company has proposed to replace existing units with a single, new state-of-the-art Simple Cycle Combustion Turbine having a total generating capacity of 437 MW. The Company is working to obtain the permits and regulatory approvals necessary to commence construction of the project. NRG is targeting 2023 for commercial operation. Additionally, included in other investments are expenditures for Encina site improvements classified as ARO payments. Demolition at the Encina site is underway and is expected to be completed in the first half of 2022. The Company expects to initiate the planning and marketing process of the Encina site in 2021.

Environmental Capital Expenditures Estimate

NRG estimates that environmental capital expenditures from 2021 through 2025 required to comply with environmental laws will be approximately $61 million. These costs are primarily associated with the cost of complying with the federal CCR rule and ash storage projects.

The table below summarizes the status of NRG's coal fleet with respect to air quality controls. NRG uses an integrated approach to fuels, controls and emissions markets to meet environmental requirements.

		SO_2		NO_x		Mercury		Particulate	
Units	**State**	**Control Equipment**	**Install Date**	**Control Equipment**	**Install Date**	**Control Equipment**	**Install Date**	**Control Equipment**	**Install Date**
Indian River 4	DE	CDS	2011	LNBOFA/SCR	1999/2011	ACI/CDS/FF	2008/2011	ESP/FF	1980/2011
Limestone 1-2	TX	FGD	1985-86	LNBOFA	2002/2003	ACI	2015	ESP	1985-1986
Powerton 5	IL	DSI	2016	OFA/SNCR	2003/2012	ACI	2009	ESP/upgrade	1973/2016
Powerton 6	IL	DSI	2014	OFA/SNCR	2002/2012	ACI	2009	ESP/upgrade	1976/2014
W.A. Parish 5, 6, 7	TX	FF co-benefit	1988	SCR	2004	ACI	2015	FF	1988
W.A. Parish 8	TX	FGD	1982	SCR	2004	ACI	2015	FF	1988
Waukegan 7	IL	DSI	2014	LNBOFA	2002	ACI	2008	ESP/upgrade	1958/2002, 2014
Waukegan 8	IL	DSI	2015	LNBOFA	1999	ACI	2008	ESP/upgrade	1962/1999, 2015
Will County 4	IL	DSI	2017	LNBOFA	1999,2000	ACI	2009	ESP/upgrade	1963,72/2000

ACI - Activated Carbon Injection
CDS - Circulating Dry Scrubber
DSI - Dry Sorbent Injection with Trona
ESP - Electrostatic Precipitator
FGD - Flue Gas Desulfurization (wet)

FF- Fabric Filter
LNBOFA - Low NO_x Burner with Overfire Air
OFA - Overfire Air
SCR - Selective Catalytic Reduction
SNCR - Selective Non-Catalytic Reduction

The following table summarizes the estimated environmental capital expenditures by region:

(In millions)	Texas	East	Total
2021	$ 2	$ 7	$ 9
2022	10	17	27
2023	4	14	18
2024	4	1	5
2025	2	—	2
Total	$ 22	$ 39	$ 61

Share Repurchases

In 2020, the Company completed $224 million of share repurchases at an average price of $33.05 per share, including $27 million of equivalent shares purchased in lieu of tax withholdings on equity compensation issuance.

Common Stock Dividends

NRG increased the annual dividend to $1.20 per share from $0.12 per share in the first quarter of 2020, and to $1.30 per share beginning in the first quarter of 2021. NRG expects to target an annual dividend growth rate of 7-9% per share in subsequent years.

The Company returned $294 million of capital to shareholders in the year ended 2020 through a $1.20 dividend per common share.

On January 21, 2021, NRG declared a quarterly dividend on the Company's common stock of $0.325 per share, or $1.30 per share on an annualized basis, payable on February 16, 2021, to stockholders of record as of February 1, 2021. The Company's common stock dividends are subject to available capital, market conditions, and compliance with associated laws and regulations.

Cash Flow Discussion

2020 compared to 2019

The following table reflects the changes in cash flows for the comparative years:

	Year ended December 31,		
(In millions)	**2020**	**2019**	**Change**
Net cash provided by operating activities	$ 1,837	$ 1,413	$ 424
Net cash (used)/provided by investing activities	(494)	556	(1,050)
Net cash provided/(used) by financing activities	2,204	(2,148)	4,352

Net Cash Provided/(Used) By Operating Activities

Changes to net cash provided/(used) by operating activities were driven by:

	(In millions)
Increase in operating income adjusted for other non-cash items	$ 212
Increase in working capital primarily attributed to lower fuel payables in 2020 driven by lower volumes of gas and fewer coal shipments received.	121
Increase in other working capital due to the final settlement of the asbestos liability with ComEd and the resulting reduction of the accrual in 2019	53
Increase primarily due to decreased pension contributions in 2020 due to the utilization of pre-funded pension balances	50
Decrease due to receipt of refundable AMT credits	(34)
Changes in cash collateral in support of risk management activities due to change in commodity prices	22
Change in cash provided by discontinued operations	(8)
Other changes in working capital	8
	$ 424

Net Cash (Used)/Provided By Investing Activities

Changes to net cash (used)/provided by investing activities were driven by:

	(In millions)
Decrease in proceeds from sales of assets and discontinued operations primarily due to sales of South Central and Carlsbad in 2019	$ (1,213)
Change in investments in unconsolidated affiliates	93
Decrease in cash paid for acquisitions of assets, businesses and leases	71
Decrease in contributions to discontinued operations	44
Decrease in net sales of emissions allowances	(21)
Increase in purchases of investments in nuclear decommissioning trust fund securities, net of proceeds from sales	(18)
Other	(6)
	$ (1,050)

Net Cash Provided/(Used) By Financing Activities

Changes in net cash provided/(used) by financing activities were driven by:

	(In millions)
Decrease in payments of long-term debt	$ 2,236
Increase in proceeds from issuance of long-term debt	1,401
Decrease in payments for share repurchase activity	1,211
Increase in payments of dividends to common stockholders	(263)
Changes in the Revolving Credit Facility	(166)
Change in cash provided by discontinued operations	(43)
Increase in payments of debt extinguishment costs and deferred issuance costs	(19)
Other	(5)
	$ 4,352

NOLs, Deferred Tax Assets and Uncertain Tax Position Implications

As of December 31, 2020, the Company had domestic pre-tax book income of $749 million and foreign pre-tax book income of $12 million. For the year ended December 31, 2020, the Company utilized U.S. federal NOLs of $134 million due to current year taxable income. As of December 31, 2020, the Company has cumulative U.S. federal NOL carryforwards of $10.1 billion, which will begin expiring in 2031 and cumulative state NOL carryforwards of $5.4 billion. NRG also has cumulative foreign NOL carryforwards of $347 million, which do not have an expiration date. In addition to the above NOLs, NRG has a $14 million indefinite carryforward for interest deductions, as well as $384 million of tax credits to be utilized in future years. As a result of the Company's tax position, including the utilization of federal and state NOLs, and based on current forecasts, the Company anticipates income tax payments, primarily due to state and local jurisdictions, of up to $26 million in 2021.

The Company has $15 million of tax effected uncertain state tax benefits for which the Company has recorded a non-current tax liability of $18 million (including accrued interest) until such final resolution with the related taxing authority.

The Company is no longer subject to U.S. federal income tax examinations for years prior to 2017. With few exceptions, state and local income tax examinations are no longer open for years before 2012.

Off-Balance Sheet Arrangements

Obligations under Certain Guarantee Contracts

NRG and certain of its subsidiaries enter into guarantee arrangements in the normal course of business to facilitate market transactions with third parties. These arrangements include financial and performance guarantees, stand-by letters of credit, debt guarantees, surety bonds and indemnifications. See also Item 15 — Note 28, *Guarantees,* to the Consolidated Financial Statements for additional discussion.

Retained or Contingent Interests

NRG does not have any material retained or contingent interests in assets transferred to an unconsolidated entity.

Obligations Arising Out of a Variable Interest in an Unconsolidated Entity

Variable interest in Equity investments — As of December 31, 2020, NRG has several investments with an ownership interest percentage of 50% or less in energy and energy-related entities that are accounted for under the equity method of accounting. Ivanpah is considered a variable interest entity for which NRG is not the primary beneficiary.

NRG's pro-rata share of non-recourse debt held by unconsolidated affiliates was approximately $829 million as of December 31, 2020. This indebtedness may restrict the ability of these subsidiaries to issue dividends or distributions to NRG. See also Item 15 — Note 18, *Investments Accounted for by the Equity Method and Variable Interest Entities,* to the Consolidated Financial Statements for additional discussion.

Contractual Obligations and Market Commitments

NRG has a variety of contractual obligations and other market commitments that represent prospective cash requirements in addition to the Company's capital expenditure programs. The following tables summarize NRG's contractual obligations and contingent obligations for guarantees. See also Item 15 — Note 14, *Long-term Debt and Finance Leases*, Note 24, *Commitments and Contingencies*, and Note 28, *Guarantees*, to the Consolidated Financial Statements for additional discussion.

(In millions)	By Remaining Maturity at December 31, 2020				
Contractual Cash Obligations	Under 1 Year	1-3 Years	3-5 Years	Over 5 Years	Total [(a)]
Long-term debt (including estimated interest)	$ 431	$ 901	$ 1,883	$ 9,098	$ 12,313
Finance lease obligations (including estimated interest)	1	3	—	—	4
Operating leases	86	163	118	34	401
Fuel purchase and transportation obligations	146	167	132	80	525
Purchased power commitments[(b)]	48	112	99	316	575
Pension minimum funding requirement [(c)]	27	30	25	43	125
Other postretirement benefits minimum funding requirement [(d)]	6	11	10	19	46
Other liabilities [(e)]	34	46	34	108	222
Cash consideration for the acquisition of Direct Energy[(f)]	3,702	—	—	—	3,702
Total	$ 4,481	$ 1,433	$ 2,301	$ 9,698	$ 17,913

(a) Excludes $15 million non-current payable relating to NRG's uncertain tax benefits under ASC 740 as the period of payment cannot be reasonably estimated. Also excludes $760 million of asset retirement obligations that are discussed in Item 15 — Note 15, *Asset Retirement Obligations*, to the Consolidated Financial Statements

(b) Includes purchase power commitments and renewable minimum purchase power commitments under PPAs

(c) These amounts represent the Company's estimated minimum pension contributions required under the Pension Protection Act of 2006. These amounts represent estimates based on assumptions that are subject to change.

(d) These amounts represent estimates based on assumptions that are subject to change

(e) Includes water right agreements, service and maintenance agreements, stadium naming rights, stadium sponsorships, LTSA commitments and other contractual obligations

(f) On January 5, 2021 the Company acquired all of the issued and outstanding common shares of Direct Energy and paid an aggregate purchase price of $3.625 billion in cash, subject to a purchase price adjustment of $77 million. For more information see Item 15 — Note 4, *Acquisitions, Discontinued Operations and Dispositions*.

(In millions)	By Remaining Maturity at December 31, 2020				
Guarantees	Under 1 Year	1-3 Years	3-5 Years	Over 5 Years	Total
Letters of credit and surety bonds	$ 1,049	$ 73	$ 31	$ —	$ 1,153
Asset sales guarantee obligations	86	282	26	112	506
Other guarantees	—	—	—	87	87
Total guarantees	$ 1,135	$ 355	$ 57	$ 199	$ 1,746

Guarantor Financial Information

As of December 31, 2020, the Company had outstanding $5.9 billion of Senior Notes and Convertible Senior Notes due 2026 to 2048 and outstanding $2.5 billion of Senior Secured First Lien Notes due from 2024 to 2029, as shown in Note 14, *Long-term Debt and Finance Leases*. These Senior Notes and Senior Secured First Lien Notes are guaranteed by certain of NRG's current and future 100% owned domestic subsidiaries, or guarantor subsidiaries (the “Guarantors”). See Exhibit 22.1 for a listing of the Guarantors. These guarantees are both joint and several.

NRG conducts much of its business through and derives much of its income from its subsidiaries. Therefore, the Company's ability to make required payments with respect to its indebtedness and other obligations depends on the financial results and condition of its subsidiaries and NRG's ability to receive funds from its subsidiaries. There are no restrictions on the ability of any of the Guarantors to transfer funds to NRG. Other subsidiaries of the Company do not guarantee the registered debt securities of either NRG Energy, Inc or the Guarantors (such subsidiaries are referred to as the “Non-Guarantors”). The Non-Guarantors include all of NRG's foreign subsidiaries and certain domestic subsidiaries.

In March 2020, the SEC adopted final rules that amend the financial disclosure requirements for subsidiary issuers and guarantees of registered debt securities under Rule 3-10 of Regulation S-X, permitting registrants to disclose summarized financial information for each subsidiary issuer and guarantor. These final rules were codified in Rule 13-01 of Regulation S-X.

In compliance thereof, the Company is including summarized financial information for NRG Energy, Inc. and the Guarantors on a combined basis after transactions and balances within the combined entities have been eliminated.

The tables below present summarized financial information of NRG Energy, Inc. and the Guarantors in accordance with Rule 3-10 under the SEC's Regulation S-X. The financial information may not necessarily be indicative of results of operations or financial position of NRG Energy, Inc. and the Guarantors in accordance with U.S. GAAP.

The following table presents the summarized statement of operations:

(In millions)	For the Year Ended December 31, 2020[a]
Operating revenues	$ 8,146
Operating income	1,011
Total other expense	(348)
Income from Continuing Operations	663
Net Income	431

(a) Intercompany transactions with Non-Guarantors include operating revenue of $10 million, cost of operations of $(169) million and selling, general and administrative of $18 million

The following table presents the summarized balance sheet information:

(In millions)	December 31, 2020
Current assets[a]	$ 5,389
Property, plant and equipment, net	1,303
Non-current assets	7,599
Current liabilities[a]	1,846
Non-current liabilities	10,976

(a) Includes intercompany receivables of $55 million and intercompany payables of $52 million due from Non-Guarantors

Fair Value of Derivative Instruments

NRG may enter into power purchase and sales contracts, fuel purchase contracts and other energy-related financial instruments to mitigate variability in earnings due to fluctuations in spot market prices and to hedge fuel requirements at power plants or retail load obligations.

NRG's trading activities are subject to limits in accordance with the Company's Risk Management Policy. These contracts are recognized on the balance sheet at fair value and changes in the fair value of these derivative financial instruments are recognized in earnings.

The tables below disclose the activities that include both exchange and non-exchange traded contracts accounted for at fair value in accordance with ASC 820, *Fair Value Measurements and Disclosures*, or ASC 820. Specifically, these tables disaggregate realized and unrealized changes in fair value; disaggregate estimated fair values at December 31, 2020, based on their level within the fair value hierarchy defined in ASC 820; and indicate the maturities of contracts at December 31, 2020. For a full discussion of the Company's valuation methodology of its contracts, see *Derivative Fair Value Measurements* in Item 15 — Note 5, *Fair Value of Financial Instruments*, to the Consolidated Financial Statements.

Derivative Activity Gains/(Losses)	(In millions)
Fair value of contracts as of December 31, 2019	$ 67
Contracts realized or otherwise settled during the period	(77)
Changes in fair value	(53)
Fair value of contracts as of December 31, 2020	$ (63)

(In millions)	Fair Value of Contracts as of December 31, 2020				
	Maturity				
Fair value hierarchy (Losses)/Gains	1 Year or Less	Greater Than 1 Year to 3 Years	Greater Than 3 Years to 5 Years	Greater Than 5 Years	Total Fair Value
Level 1	$ (22)	$ (6)	$ —	$ 1	$ (27)
Level 2	79	(60)	(32)	(7)	(20)
Level 3	4	(9)	(5)	(6)	(16)
Total	$ 61	$ (75)	$ (37)	$ (12)	$ (63)

The Company has elected to disclose derivative assets and liabilities on a trade-by-trade basis and does not offset amounts at the counterparty master agreement level. Also, collateral received or posted on the Company's derivative assets or liabilities are recorded on a separate line item on the balance sheet. Consequently, the magnitude of the changes in individual current and non-current derivative assets or liabilities is higher than the underlying credit and market risk of the Company's portfolio. As discussed in Item 7A — *Quantitative and Qualitative Disclosures About Market Risk, Commodity Price Risk*, NRG measures the sensitivity of the Company's portfolio to potential changes in market prices using VaR, a statistical model which attempts to predict risk of loss based on market price and volatility. NRG's risk management policy places a limit on one-day holding period VaR, which limits the Company's net open position. As the Company's trade-by-trade derivative accounting results in a gross-up of the Company's derivative assets and liabilities, the net derivative assets and liability position is a better indicator of NRG's hedging activity. As of December 31, 2020, NRG's net derivative liability was $63 million, a decrease to total fair value of $130 million as compared to December 31, 2019. This decrease was primarily driven by roll-off trades that settled during the period, as well as losses in fair value.

Based on a sensitivity analysis using simplified assumptions, the impact of a $0.50 per MMBtu increase in natural gas prices across the term of the derivative contracts would result in an increase of approximately $102 million in the net value of derivatives as of December 31, 2020.

The impact of a $0.50 per MMBtu decrease in natural gas prices across the term of the derivative contracts would result in a decrease of approximately $105 million in the net value of derivatives as of December 31, 2020.

Critical Accounting Policies and Estimates

NRG's discussion and analysis of the financial condition and results of operations are based upon the Consolidated Financial Statements, which have been prepared in accordance with GAAP. The preparation of these financial statements and related disclosures in compliance with GAAP requires the application of appropriate technical accounting rules and guidance as well as the use of estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosures of contingent assets and liabilities. The application of these policies involves judgments regarding future events, including the likelihood of success of particular projects, legal and regulatory challenges, and the fair value of certain assets and liabilities. These judgments, in and of themselves, could materially affect the financial statements and disclosures based on varying assumptions, which may be appropriate to use. In addition, the financial and operating environment may also have a significant effect, not only on the operation of the business, but on the results reported through the application of accounting measures used in preparing the financial statements and related disclosures, even if the nature of the accounting policies have not changed.

On an ongoing basis, NRG evaluates these estimates, utilizing historic experience, consultation with experts and other methods the Company considers reasonable. In any event, actual results may differ substantially from the Company's estimates. Any effects on the Company's business, financial position or results of operations resulting from revisions to these estimates are recorded in the period in which the information that gives rise to the revision becomes known.

NRG's significant accounting policies are summarized in Item 15 — Note 2, *Summary of Significant Accounting Policies*, to the Consolidated Financial Statements. The Company identifies its most critical accounting policies as those that are the most pervasive and important to the portrayal of the Company's financial position and results of operations, and require the most difficult, subjective and/or complex judgments by management regarding estimates about matters that are inherently uncertain.

Accounting Policy	Judgments/Uncertainties Affecting Application
Derivative Instruments	Assumptions used in valuation techniques
	Assumptions used in forecasting generation
	Assumptions used in forecasting borrowings
	Market maturity and economic conditions
	Contract interpretation
	Market conditions in the energy industry, especially the effects of price volatility on contractual commitments
Income Taxes and Valuation Allowance for Deferred Tax Assets	Ability to be sustained upon audit examination of taxing authorities
	Interpret existing tax statute and regulations upon application to transactions
	Ability to utilize tax benefits through carry backs to prior periods and carry forwards to future periods
Impairment of Long-Lived Assets and Investments	Recoverability of investment through future operations
	Regulatory and political environments and requirements
	Estimated useful lives of assets
	Environmental obligations and operational limitations
	Estimates of future cash flows
	Estimates of fair value
	Judgment about impairment triggering events
Goodwill and Other Intangible Assets	Estimated useful lives for finite-lived intangible assets
	Judgment about impairment triggering events
	Estimates of reporting unit's fair value
	Fair value estimate of intangible assets acquired in business combinations
Contingencies	Estimated financial impact of event(s)
	Judgment about likelihood of event(s) occurring
	Regulatory and political environments and requirements

Derivative Instruments

The Company follows the guidance of ASC 815 to account for derivative instruments. ASC 815 requires the Company to mark-to-market all derivative instruments on the balance sheet and recognize changes in the fair value of non-hedge derivative instruments immediately in earnings. In certain cases, NRG may apply hedge accounting to the Company's derivative instruments. The criteria used to determine if hedge accounting treatment is appropriate are: (i) the designation of the hedge to an underlying exposure; (ii) whether the overall risk is being reduced; and (iii) if there is a correlation between the changes in fair value of the derivative instrument and the underlying hedged item. Changes in the fair value of derivatives instruments accounted for as hedges are deferred and recorded as a component of OCI and subsequently recognized in earnings when the hedged transactions occur.

For purposes of measuring the fair value of derivative instruments, NRG uses quoted exchange prices and broker quotes. When external prices are not available, NRG uses internal models to determine the fair value. These internal models include assumptions of the future prices of energy commodities based on the specific market in which the energy commodity is being purchased or sold, using externally available forward market pricing curves for all periods possible under the pricing model. These estimations are considered to be critical accounting estimates.

Upon repayment of the Term Loan in 2019, all of the Company's interest rate swaps were terminated. During the fourth quarter of 2020, NRG entered into $1.6 billion of interest rate hedges associated with anticipated certain financing needs. As of December 31, 2020, the interest rate hedges were settled in connection with the issuance of fixed rate debt, resulting in a gain of $11 million that was recorded as a reduction to interest expense. In order to qualify the derivative instruments for hedged transactions prior to termination, NRG estimated the forecasted borrowings for interest rate swaps occurring within a specified time period. Judgments related to the probability of forecasted borrowings were based on the estimated timing of project construction, which can vary based on various factors. The probability that forecasted borrowings will occur by the end of a specified time period could change the results of operations by requiring amounts classified in OCI to be reclassified into earnings, creating increased variability in the Company's earnings.

Certain derivative instruments that meet the criteria for derivative accounting treatment also qualify for a scope exception to derivative accounting, as they are considered to be NPNS. The availability of this exception is based upon the assumption

that NRG has the ability and it is probable to deliver or take delivery of the underlying item. These assumptions are based on expected load requirements, available baseload capacity, internal forecasts of sales and generation and historical physical delivery on contracts. Derivatives that are considered to be NPNS are exempt from derivative accounting treatment and are accounted for under accrual accounting. If it is determined that a transaction designated as NPNS no longer meets the scope exception due to changes in estimates, the related contract would be recorded on the balance sheet at fair value combined with the immediate recognition through earnings.

Income Taxes and Valuation Allowance for Deferred Tax Assets

As of December 31, 2020, NRG's deferred tax assets were primarily the result of U.S. federal and state NOLs, the difference between book and tax basis in property, plant, and equipment, and tax credit carryforwards. The realization of deferred tax assets is dependent upon the Company's ability to generate sufficient future taxable income during the periods in which those temporary differences become deductible, prior to the expiration of the tax attributes. The evaluation of deferred tax assets requires judgment in assessing the likely future tax consequences of events that have been recognized in the Company's financial statements or tax returns and forecasting future profitability by tax jurisdiction.

A valuation allowance of $266 million and $242 million was recorded against NRG's gross deferred tax asset balance as of December 31, 2020, and December 31, 2019, respectively. During the year ended December 31, 2019, NRG released the majority of its valuation allowance against its U.S. federal and state deferred tax assets, resulting in a non-cash benefit to income tax expense of approximately $3.5 billion.

The Company evaluates its deferred tax assets quarterly on a jurisdictional basis to determine whether adjustments to the valuation allowance are appropriate considering changes in facts or circumstances. As of each reporting date, management considers new evidence, both positive and negative, when determining the future realization of the Company's deferred tax assets. In making the determination to release the majority of the valuation allowance as of December 31, 2019, the Company evaluated a number of factors, including its recent history of pre-tax earnings, utilization of $593 million of NOLs in 2019, as well as its forecasted future pre-tax earnings. Based on this evaluation, the Company determined that its future U.S. federal tax benefits are more-likely-than-not to be realized. Given the Company's current level of pre-tax earnings and forecasted future pre-tax earnings, the Company expects to generate income before taxes in the U.S. in future periods at a level that would fully utilize its U.S. federal NOL carryforwards and the majority of its state NOL carryforwards prior to their expiration.

NRG continues to maintain a valuation allowance of approximately $266 million as of December 31, 2020 against net deferred tax assets consisting of state net operating losses and foreign NOL carryforwards in jurisdictions where the Company does not currently believe that the realization of its deferred tax assets is more likely than not.

Considerable judgment is required to determine the tax treatment of a particular item that involves interpretations of complex tax laws, including the impact of the Tax Act effective December 22, 2017. NRG is subject to examination by taxing authorities for income tax returns filed in the U.S. federal jurisdiction and various state and foreign jurisdictions, including operations located in Australia and Canada. NRG continues to be under audit for multiple years by taxing authorities in various jurisdictions.

The Company is no longer subject to U.S. federal income tax examinations for years prior to 2017. With few exceptions, state and local income tax examinations are no longer open for years before 2012.

Evaluation of Assets for Impairment and Other-Than-Temporary Decline in Value

In accordance with ASC 360, *Property, Plant, and Equipment*, or ASC 360, NRG evaluates property, plant and equipment and certain intangible assets for impairment whenever indicators of impairment exist. Examples of such indicators or events are:

- Significant decrease in the market price of a long-lived asset;
- Significant adverse change in the manner an asset is being used or its physical condition;
- Adverse business climate;
- Accumulation of costs significantly in excess of the amount originally expected for the construction or acquisition of an asset;
- Current period loss combined with a history of losses or the projection of future losses; and
- Change in the Company's intent about an asset from an intent to hold to a greater than 50% likelihood that an asset will be sold, or disposed of before the end of its previously estimated useful life.

Recoverability of assets to be held and used is measured by a comparison of the carrying amount of the assets to the future net cash flows expected to be generated by the asset, through considering project specific assumptions for long-term power prices, escalated future project operating costs and expected plant operations. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the fair value of the assets by factoring in the different courses of action available to the Company. Generally, fair value will be determined using valuation techniques, such as the present value of expected future cash flows. NRG uses its best estimates in making these evaluations and considers various factors, including forward price curves for energy, fuel and operating costs. However, actual future market prices and project costs could vary from the assumptions used in the Company's estimates and the impact of such variations could be material.

For assets to be held and used, if the Company determines that the undiscounted cash flows from the asset are less than the carrying amount of the asset, NRG must estimate fair value to determine the amount of any impairment loss. Assets held-for-sale are reported at the lower of the carrying amount or fair value less the cost to sell. The estimation of fair value, whether in conjunction with an asset to be held and used or with an asset held-for-sale, and the evaluation of asset impairment are, by their nature, subjective. NRG considers quoted market prices in active markets to the extent they are available. In the absence of such information, the Company may consider prices of similar assets, consult with brokers, or employ other valuation techniques. NRG will also discount the estimated future cash flows associated with the asset using a single interest rate representative of the risk involved with such an investment or asset. The use of these methods involves the same inherent uncertainty of future cash flows as previously discussed with respect to undiscounted cash flows. Actual future market prices and project costs could vary from those used in the Company's estimates and the impact of such variations could be material.

In the third quarter of 2020, the Company concluded its Home Solar business was held for sale as a result of advanced negotiations to sell the business and recorded an impairment loss of $29 million in the West/Other segment to adjust the carrying amount of the assets and liabilities to fair market value based on indicative sale prices. On November 13, 2020, the Company completed the sale of the Home Solar business for $66 million.

Annually, during the fourth quarter, the Company revises its views of power and fuel prices including the Company's fundamental view for long-term prices, forecasted generation and operating and capital expenditures, in connection with the preparation of its annual budget. Changes to the Company's views of long-term power and fuel prices impact the Company's projections of profitability, based on management's estimate of supply and demand within the sub-markets for its operations and the physical and economic characteristics of each of its businesses.

During 2020, the Company identified a long-lived asset impairment related to the Cottonwood facility, as further described in Item 15 — Note 11**,** *Asset Impairments*. The Company recognized an impairment loss of $32 million in 2020 in the West/Other segment associated with the Company's long-term services agreement and related lease payments, as the carrying amounts of the assets from the contract were higher than the estimated operating cash flow though the remaining lease period.

Equity Method Investments

NRG is also required to evaluate its equity method investments to determine whether or not they are impaired in accordance with ASC 323, *Investments - Equity Method and Joint Ventures*, or ASC 323. The standard for determining whether an impairment must be recorded under ASC 323 is whether a decline in the value is considered an other-than-temporary decline in value. The evaluation and measurement of impairments under ASC 323 involves the same uncertainties as described for long-lived assets that the Company owns directly and accounts for in accordance with ASC 360. Similarly, the estimates that NRG makes with respect to its equity method investments are subjective, and the impact of variations in these estimates could be material. Additionally, if the projects in which the Company holds these investments recognize an impairment under the provisions of ASC 360, NRG would record its proportionate share of that impairment loss and would evaluate its investment for an other-than-temporary decline in value under ASC 323. During the year ended December 31, 2020, the Company recorded an impairment loss of $18 million in the Texas segment, which included the anticipated drawdown of the $12 million letter of credit posted in September 2019 to cover certain project debt reserve requirements.

Other Impairments

For the year ended December 31, 2020, the Company recorded $14 million of impairment losses related to intangible assets in the Texas segment.

Goodwill and Other Intangible Assets

At December 31, 2020, NRG reported goodwill of $579 million, consisting of $165 million associated with the acquisition of Midwest Generation and $414 million for retail operations acquisitions, including Stream Energy and XOOM, which were acquired in 2019 and 2018, respectively.

The Company applies ASC 805, *Business Combinations*, or ASC 805, and ASC 350, to account for its goodwill and intangible assets. Under these standards, the Company amortizes all finite-lived intangible assets over their respective estimated weighted-average useful lives, while goodwill has an indefinite life and is not amortized. Goodwill is tested for impairment at least annually, or more frequently whenever an event or change in circumstances occurs that would more likely than not reduce the fair value of a reporting unit below its carrying amount. The Company tests goodwill for impairment at the reporting unit

level, which is identified by assessing whether the components of the Company's operating segments constitute businesses for which discrete financial information is available and whether segment management regularly reviews the operating results of those components. The Company performs the annual goodwill impairment assessment as of December 31 or when events or changes in circumstances indicate that the fair value of the reporting unit may be below the carrying amount. The Company first assesses qualitative factors to determine whether it is more likely than not that an impairment has occurred. In the absence of sufficient qualitative factors, the Company performs a quantitative assessment by determining the fair value of the reporting unit and comparing to its book value. If it is determined that the fair value of a reporting unit is below its carrying amount, where necessary, the Company's goodwill will be impaired at that time.

The Company performed its qualitative assessment of macroeconomic, industry and market events and circumstances, and the overall financial performance of the Texas (Texas segment) and East Retail (East segment) reporting units. The Company determined it was more-likely-than not that the fair value of the goodwill attributed to these reporting units were more than their carrying amount and accordingly, no impairment existed for the year ended December 31, 2020.

The Company performed a quantitative assessment for the Midwest Generation (East segment) reporting unit. The Company determined the fair value of the reporting unit using an income approach. Under the income approach, the Company estimated the fair value of the reporting unit's cash flow exceeded its carrying value and, as such, the Company concluded that goodwill associated with the reporting unit was not impaired as of December 31, 2020.

The Company believes the methodology and assumptions used in its quantitative assessments were consistent with the views of market participants. Significant inputs to the determinations of fair value were as follows:

- The Company applied a discounted cash flow methodology to the long-term budgets for the Midwest Generation plants, resulting in fair value over the carrying value of the reporting unit of 115%. The significant assumptions used to derive the long-term budgets used in the income approach are affected by the following key inputs:
    - The Company's views of power, capacity and fuel prices consider market prices for the next five years and the Company's fundamental view for the longer term, driven by the Company's long-term view of the price of natural gas. The Company's fundamental view for the longer term reflects the implied prices and heat rate that would support new build of a combined cycle gas plant. The price of natural gas plays an important role in setting the price of electricity in many of the regions where NRG operates power plants. Hedging is included to the extent of contracts already in place;
    - The Company's estimate of generation, fuel costs, capital expenditure requirements and the existing and anticipated impact of environmental regulations;
    - The Company's fundamental view for the longer term, cash flows for the plants in the region were included in the fair value calculation through the end of each plants' estimated useful life; and
    - Projected generation and resulting energy gross margin in the long-term budgets is based on an hourly dispatch that simulates dispatch of each unit into the power market. The dispatch simulation is based on power prices, fuel prices, and the physical and economic characteristics of each plant

Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions and factors. As a result, there can be no assurance that the estimates and assumptions made for purposes of the annual goodwill impairment test will prove to be accurate predictions of the future.

Contingencies

NRG records reserves for estimated losses from contingencies when information available indicates that a loss is probable and the amount of the loss, or range of loss, can be reasonably estimated. Gain contingencies are not recorded until management determines it is certain that the future event will become or does become a reality. Such determinations are subject to interpretations of current facts and circumstances, forecasts of future events, and estimates of the financial impacts of such events. NRG describes in detail its contingencies in Item 15 — Note 24, *Commitments and Contingencies,* to the Consolidated Financial Statements.

Recent Accounting Developments

See Item 15 — Note 2, *Summary of Significant Accounting Policies,* to the Consolidated Financial Statements for a discussion of recent accounting developments.

Item 7A — Quantitative and Qualitative Disclosures About Market Risk

NRG is exposed to several market risks in the Company's normal business activities. Market risk is the potential loss that may result from market changes associated with the Company's retail operations, merchant power generation, or with an existing or forecasted financial or commodity transaction. The types of market risks the Company is exposed to are commodity price risk, interest rate risk, liquidity risk, credit risk and currency exchange risk. In order to manage these risks, the Company uses various fixed-price forward purchase and sales contracts, futures and option contracts traded on NYMEX, and swaps and options traded in the over-the-counter financial markets to:

- Manage and hedge fixed-price purchase and sales commitments;
- Reduce exposure to the volatility of cash market prices, and
- Hedge fuel requirements for the Company's generating facilities.

Commodity Price Risk

Commodity price risks result from exposures to changes in spot prices, forward prices, volatilities, and correlations between various commodities, such as natural gas, electricity, coal, oil, and emissions credits. NRG manages the commodity price risk of the Company's merchant generation operations and load serving obligations by entering into various derivative or non-derivative instruments to hedge the variability in future cash flows from forecasted sales and purchases of electricity, natural gas and fuel. These instruments include forwards, futures, swaps, and option contracts traded on various exchanges, such as NYMEX and ICE, as well as over-the-counter markets. The portion of forecasted transactions hedged may vary based upon management's assessment of market, weather, operation and other factors.

While some of the contracts the Company uses to manage risk represent commodities or instruments for which prices are available from external sources, other commodities and certain contracts are not actively traded and are valued using other pricing sources and modeling techniques to determine expected future market prices, contract quantities, or both. NRG uses the Company's best estimates to determine the fair value of those derivative contracts. However, it is likely that future market prices could vary from those used in recording mark-to-market derivative instrument valuation and such variations could be material.

NRG measures the risk of the Company's portfolio using several analytical methods, including sensitivity tests, scenario tests, stress tests, position reports, and VaR. NRG uses a Monte Carlo simulation based VaR model to estimate the potential loss in the fair value of the Company's energy assets and liabilities, which includes generation assets, load obligations, and bilateral physical and financial transactions. The key assumptions for the Company's VaR model include: (i) lognormal distribution of prices; (ii) one-day holding period; (iii) 95% confidence interval; (iv) rolling 36-month forward looking period; and (v) market implied volatilities and historical price correlations.

As of December 31, 2020, the VaR for NRG's commodity portfolio, including generation assets, load obligations and bilateral physical and financial transactions calculated using the VaR model was $30 million.

The following table summarizes average, maximum and minimum VaR for NRG for the years ended December 31, 2020 and 2019:

(In millions)	2020	2019
VaR as of December 31,	$ 30	$ 42
For the year ended December 31,		
Average	$ 30	$ 44
Maximum	47	55
Minimum	22	33

Due to the inherent limitations of statistical measures such as VaR, the evolving nature of the competitive markets for electricity and related derivatives, and the seasonality of changes in market prices, the VaR calculation may not capture the full extent of commodity price exposure. As a result, actual changes in the fair value of mark-to-market energy assets and liabilities could differ from the calculated VaR, and such changes could have a material impact on the Company's financial results.

In order to provide additional information, the Company also uses VaR to estimate the potential loss of derivative financial instruments that are subject to mark-to-market accounting. These derivative instruments include transactions that were entered into for both asset management and trading purposes. The VaR for the derivative financial instruments calculated using the diversified VaR model for the entire term of these instruments entered into for both asset management and trading was $13 million as of December 31, 2020, primarily driven by asset-backed transactions.

Retail Customer Credit Risk

NRG is exposed to retail credit risk related to its C&I and Mass Market customers. Retail credit risk results in losses when a customer fails to pay for services rendered. The losses may result from both nonpayment of customer accounts receivable and the loss of in-the-money forward value. NRG manages retail credit risk through the use of established credit policies that include monitoring of the portfolio and the use of credit mitigation measures, such as deposits or prepayment arrangements.

As of December 31, 2020, the Company's retail customer credit exposure to C&I and Mass customers was diversified across many customers and various industries, as well as government entities. The Company's provision for credit losses resulting from credit risk was $108 million, $95 million and $85 million for the years ending December 31, 2020, 2019, and 2018, respectively. Current economic conditions may affect the Company's customers' ability to pay bills in a timely manner, which could increase customer delinquencies and may lead to an increase in credit losses.

Liquidity Risk

Liquidity risk arises from the general funding needs of the Company's activities and the management of the Company's assets and liabilities. The Company is currently exposed to additional collateral posting if natural gas prices decline, primarily due to the long natural gas equivalent position at various exchanges used to hedge NRG's retail supply load obligations.

Based on a sensitivity analysis for power and gas positions under marginable contracts as of December 31, 2020, a $0.50 per MMBtu decrease in natural gas prices across the term of the marginable contracts would cause an increase in margin collateral posted of approximately $226 million and a 1.00 MMBtu/MWh decrease in heat rates for heat rate positions would result in an increase in margin collateral posted of approximately $204 million. This analysis uses simplified assumptions and is calculated based on portfolio composition and margin-related contract provisions as of December 31, 2020.

Counterparty Credit Risk

Credit risk relates to the risk of loss resulting from non-performance or non-payment by counterparties pursuant to the terms of their contractual obligations. The Company monitors and manages credit risk through credit policies that include: (i) an established credit approval process; (ii) a daily monitoring of counterparties' credit limits; (iii) the use of credit mitigation measures such as margin, collateral, prepayment arrangements, or volumetric limits; (iv) the use of payment netting agreements; and (v) the use of master netting agreements that allow for the netting of positive and negative exposures of various contracts associated with a single counterparty. Risks surrounding counterparty performance and credit could ultimately impact the amount and timing of expected cash flows. The Company seeks to mitigate counterparty risk by having a diversified portfolio of counterparties. The Company also has credit protection within various agreements to call on additional collateral support if and when necessary. Cash margin is collected and held at the Company to cover the credit risk of the counterparty until positions settle.

As of December 31, 2020, aggregate counterparty credit exposure to a significant portion of the Company's counterparties totaled $210 million, of which the Company held collateral (cash and letters of credit) against those positions of $14 million resulting in a net exposure of $204 million. NRG periodically receives collateral from counterparties in excess of their exposure. Collateral amounts shown include such excess while net exposure shown excludes excess collateral received. Approximately 54% of the Company's exposure before collateral is expected to roll off by the end of 2022. The following table highlights the net counterparty credit exposure by industry sector and by counterparty credit quality. Net counterparty credit exposure is defined as the aggregate net asset position for NRG with counterparties where netting is permitted under the enabling agreement and includes all cash flow, mark-to-market, NPNS, and non-derivative transactions. As of December 31, 2020, the aggregate credit exposure is shown net of collateral held, and includes amounts net of receivables or payables.

Category	Net Exposure [(a) (b)] (% of Total)
Utilities, energy merchants, marketers and other	96 %
Financial institutions	4
Total	100 %

Category	Net Exposure [(a) (b)] (% of Total)
Investment grade	59 %
Non-Investment grade/Non-Rated	41
Total	100 %

(a) Counterparty credit exposure excludes uranium and coal transportation contracts because of the unavailability of market prices

(b) The figures in the tables above exclude potential counterparty credit exposure related to RTOs, ISOs, registered commodity exchanges and certain long-term contracts

The Company has $47 million of exposure to two wholesale counterparties in excess of 10% of the total net exposure discussed above as of December 31, 2020. Changes in hedge positions and market prices will affect credit exposure and counterparty concentration. Given the credit quality, diversification and term of the exposure in the portfolio, the Company does not anticipate a material impact on its financial position or results of operations from nonperformance by any counterparty.

RTOs and ISOs

The Company participates in the organized markets of CAISO, ERCOT, ISO-NE, MISO, NYISO and PJM, known as RTOs or ISOs. Trading in these markets is approved by FERC, or in the case of ERCOT, approved by the PUCT and include credit policies that, under certain circumstances, require that losses arising from the default of one member on spot market transactions be shared by the remaining participants. As a result, the counterparty credit risk to these markets is limited to NRG's applicable share of the overall market and are excluded from the above exposures.

Exchange Traded Transactions

The Company enters into commodity transactions on registered exchanges, notably ICE, NYMEX and Nodal. These clearinghouses act as the counterparty and transactions are subject to extensive collateral and margining requirements. As a result, these commodity transactions have limited counterparty credit risk.

Long-Term Contracts

Counterparty credit exposure described above excludes credit risk exposure under certain long-term contracts, primarily solar PPAs. As external sources or observable market quotes are not available to estimate such exposure, the Company values these contracts based on various techniques including, but not limited to, internal models based on a fundamental analysis of the market and extrapolation of observable market data with similar characteristics. Based on these valuation techniques, as of December 31, 2020, aggregate credit risk exposure managed by NRG to these counterparties was approximately $645 million for the next five years.

Interest Rate Risk

NRG was previously exposed to fluctuations in interest rates through its issuance of variable rate debt. Exposures to interest rate fluctuations may be mitigated by entering into derivative instruments known as interest rate swaps, caps, collars and put or call options. These contracts reduce exposure to interest rate volatility and result in primarily fixed rate debt obligations when taking into account the combination of the variable rate debt and the interest rate derivative instrument. NRG's risk management policies allow the Company to reduce interest rate exposure from variable rate debt obligations.

The Company previously entered into interest rate swaps. As of December 31, 2019, NRG had no interest rate derivative instruments, as a result of the early termination of such contracts in connection with the repayment of the 2023 Term Loan Facility during the second quarter of 2019.

During the fourth quarter of 2020, NRG entered into $1.6 billion of interest rate hedges associated with anticipated certain financing needs. As of December 31, 2020 the interest rate hedges were settled in connection with the issuance of fixed rate debt resulting in a gain of $11 million that was recorded as a reduction to interest expense.

As of December 31, 2020, the Company's debt fair value was $9.4 billion and carrying value was $8.8 billion. NRG estimates that a 1% decrease in market interest rates would have increased the fair value of the Company's long-term debt by $765 million.

Credit Risk Related Contingent Features

Certain of the Company's hedging agreements contain provisions that require the Company to post additional collateral if the counterparty determines that there has been deterioration in credit quality, generally termed "adequate assurance" under the agreements, or require the Company to post additional collateral if there were a downgrade in the Company's credit rating. The collateral required for contracts that have adequate assurance clauses that are in a net liability position as of December 31, 2020, was $26 million. The Company is also a party to certain marginable agreements under which it has a net liability position, but the counterparty has not called for the collateral due, which was approximately $35 million as of December 31, 2020. If called for by the counterparty, $1 million of additional collateral would be required for all contracts with credit rating contingent features as of December 31, 2020.

Currency Exchange Risk

NRG's foreign earnings and investments may be subject to foreign currency exchange risk, which NRG generally does not hedge. As these earnings and investments are not material to NRG's consolidated results, the Company's foreign currency exposure is limited.

Item 8 — Financial Statements and Supplementary Data

The financial statements and schedules are included in Part IV, Item 15 of this Form 10-K.

Item 9 — Changes in and Disagreements With Accountants on Accounting and Financial Disclosure

None.

Item 9A — Controls and Procedures

Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures and Internal Control Over Financial Reporting

Under the supervision and with the participation of NRG's management, including its principal executive officer, principal financial officer and principal accounting officer, NRG conducted an evaluation of the effectiveness of the design and operation of its disclosure controls and procedures, as such term is defined in Rules 13a-15(e) or 15d-15(e) of the Exchange Act. Based on this evaluation, the Company's principal executive officer, principal financial officer and principal accounting officer concluded that the disclosure controls and procedures were effective as of the end of the period covered by this Annual Report on Form 10-K. Management's report on the Company's internal control over financial reporting and the report of the Company's independent registered public accounting firm are incorporated under the caption "Management's Report on Internal Control over Financial Reporting" and under the caption "Report of Independent Registered Public Accounting Firm" in this Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

Changes in Internal Control over Financial Reporting

There were no changes in NRG's internal control over financial reporting (as such term is defined in Rule 13a-15(f) under the Exchange Act) that occurred in the fourth quarter of 2020 that materially affected, or are reasonably likely to materially affect, NRG's internal control over financial reporting.

Inherent Limitations over Internal Controls

NRG's internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with GAAP. The Company's internal control over financial reporting includes those policies and procedures that:

1. Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the Company's assets;
2. Provide reasonable assurance that transactions are recorded as necessary to permit preparation of consolidated financial statements in accordance with GAAP, and that the Company's receipts and expenditures are being made only in accordance with authorizations of its management and directors; and
3. Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the consolidated financial statements.

Internal control over financial reporting cannot provide absolute assurance of achieving financial reporting objectives because of its inherent limitations, including the possibility of human error and circumvention by collusion or overriding of controls. Accordingly, even an effective internal control system may not prevent or detect material misstatements on a timely basis. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

Management's Report on Internal Control over Financial Reporting

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of the Company's management, including its principal executive officer, principal financial officer and principal accounting officer, the Company conducted an evaluation of the effectiveness of its internal control over financial reporting based on the framework in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on the Company's evaluation under the framework in *Internal Control — Integrated Framework (2013)*, the Company's management concluded that its internal control over financial reporting was effective as of December 31, 2020.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2020 has been audited by KPMG LLP, the Company's independent registered public accounting firm, as stated in its report which is included in this Annual Report on Form 10-K.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders
NRG Energy, Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited NRG Energy, Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2020 and 2019, and the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes and financial statement schedule II (collectively, the consolidated financial statements), and our report dated March 1, 2021 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG LLP

Philadelphia, Pennsylvania
March 1, 2021

Item 9B — Other Information

Sale of 4.8 GWs of Generation Assets

On February 28, 2021, the Company entered into a Purchase and Sale Agreement (the "Purchase Agreement") with Generation Bridge Acquisition, LLC ("Generation"), a Delaware limited liability company, pursuant to which NRG has agreed to sell, or cause to be sold, as applicable, to Generation one hundred percent (100%) of the outstanding membership interests of each of (1) Long Beach Generation LLC ("Long Beach") and Mission Del Cielo, LLC ("Mission Del Cielo"), each of which is an indirect wholly owned subsidiary of NRG, and (2) Arthur Kill Power LLC ("Arthur Kill"), Connecticut Jet Power LLC ("Connecticut Jet Power"), Devon Power LLC ("Devon"), Middletown Power LLC ("Middletown"), Montville Power LLC ("Montville") and Oswego Harbor Power LLC ("Oswego," and together with Long Beach, Mission Del Cielo, Arthur Kill, Connecticut Jet Power, Devon, Middletown and Montville, the "Subsidiaries"), each of which is a wholly owned subsidiary of NRG (such sale, the "Transaction").

Mission Del Cielo owns one hundred percent (100%) of the outstanding membership interests of Mission del Sol, LLC ("Mission Del Sol," and together with Mission Del Cielo, the "Holdcos"). Mission Del Sol owns one hundred percent (100%) of the outstanding membership interests of Sunrise Power Company, LLC (together with Long Beach, the "California Project Companies"). Arthur Kill, Connecticut Jet Power, Devon, Middletown, Montville and Oswego, together with the California Project Companies, are referred to as the "Project Companies".

Consideration

Subject to the terms and conditions of the Purchase Agreement, NRG has agreed to sell, or cause to be sold, as applicable, to Generation all of the outstanding membership interests of the Subsidiaries for an aggregate base purchase price of $760 million, subject to adjustments for working capital, indebtedness, and certain operations of the Holdcos and the Project Companies during the interim period between the date of the Purchase Agreement and the consummation of the Transaction (the "Closing").

Representations and Warranties and Covenants

The Purchase Agreement contains customary representations and warranties of NRG and Generation. The representations and warranties of each party set forth in the Purchase Agreement have been made solely for the benefit of the other party to the Purchase Agreement, and such representations and warranties should not be relied on by any other person. In addition, such representations and warranties (a) have been qualified by disclosure schedules that the parties have delivered in connection with the execution of the Purchase Agreement, (b) are subject to the materiality standards set forth in the Purchase Agreement, which may differ from what may be viewed as material by investors, (c) in certain cases, were made as of a specific date, and (d) may have been used for purposes of allocating risk between the respective parties rather than establishing matters of fact. Accordingly, no person should rely on the representations and warranties as characterizations of the actual state of facts. Moreover, information concerning the subject matter of the representations and warranties may change after the date of the execution of the Purchase Agreement.

Generation has agreed to obtain, at its sole cost, a representation and warranty insurance policy. As a result, NRG will not be liable for any breach of its representations and warranties that occurs after the Closing.

Between the date of the Purchase Agreement and the Closing, subject to certain exceptions, NRG agrees to cause the Holdcos and the Project Companies to be operated in the ordinary course of business consistent with laws and permits and past practice and to use commercially reasonable efforts to preserve, maintain and protect the assets and business of the Holdcos and the Project Companies.

Following the Closing, NRG will be required to pay all costs incurred by Generation or the applicable Project Companies arising out of or related to certain environmental liabilities (the "Specific Environmental Liabilities") relating to certain remedial actions or the ownership of the Project Companies or the generation facilities owned by the Project Companies, other than certain costs to decommission such facilities, prior to the date of the Closing (the "Closing Date"), subject to a $39 million cap established as set forth in the Purchase Agreement (the "Seller Environmental Liability Cap"). NRG's obligations to pay such costs will terminate on the earlier to occur of the seventh anniversary of the Closing Date and the date on which NRG has paid Generation an amount equal to the Seller Environmental Liability Cap, subject to an extension of such term and a corresponding increase in the Seller Environmental Liability Cap to the extent there are remaining costs to address Specific Environmental Liabilities that have been reasonably estimated but not yet incurred prior to such anniversary date.

Conditions to Closing and Deliverables

The Transaction is subject to various conditions to Closing, including: (a) the accuracy of the representations and warranties of each party at the time of Closing, (b) compliance by each party with its covenants), (c) the absence of any law or order prohibiting the Closing, (d) certain contractual consents having been obtained, (e) receipt of certain regulatory approvals, as necessary (including HSR, FERC, and NYSPSC authorizations), and (f) the absence of a material adverse effect with respect to the Holdcos, the California Project Companies and the other Subsidiaries, as well as other customary closing conditions. The Transaction is expected to close in the fourth quarter of 2021.

In connection with the closing of the Transaction, NRG and Generation will enter in to certain additional ancillary agreements, including a transition services agreement. In addition, ArcLight Energy Partners Fund VII, L.P., the parent company of Generation, has executed and delivered a parent guaranty with respect to the obligations of Generation in connection with the Transaction.

Indemnification and Termination

Both NRG and Generation have agreed, subject to certain limitations, to indemnify the other party for losses arising from certain breaches of the Purchase Agreement. In addition, NRG has agreed to indemnify Generation for liabilities related to certain environmental matters and certain ongoing actions or proceedings, among other things.

The Purchase Agreement contains certain customary termination rights for each of NRG and Generation, including among other things, that either party may terminate the Purchase Agreement if (a) the parties mutually agree in writing, (b) the Closing has not occurred on or before December 31, 2021, which date may be extended for an additional 90 days to enable the parties to satisfy certain regulatory conditions, or (c) the other party has incurably breached a representation, warranty, covenant or agreement contained in the Purchase Agreement resulting in a failure of a condition set forth in the Purchase Agreement. If NRG terminates the Purchase Agreement as a result of a breach by Generation of certain representations, warranties covenants or other agreements, Generation will be required to pay NRG a termination fee equal to 10 percent of the purchase price as adjusted in accordance with the Purchase Agreement.

Compensatory Arrangements of Certain Officers

As previously disclosed in a Current Report on Form 8-K, filed with the SEC on February 4, 2021, the Company announced that Gaëtan Frotté was appointed Interim Chief Financial Officer of the Company effective February 4, 2021. On March 1, 2021, the Compensation Committee of the Board of Directors of the Company (the "Compensation Committee") determined that while Mr. Frotté serves as Interim Chief Financial Officer, in addition to his base salary, he will be entitled to a monthly stipend of $50,000, effective February 4, 2021, to recognize his additional responsibilities.

In addition, the Board of Directors of the Company approved the promotion of Mr. Brian E. Curci, the Senior Vice President and General Counsel, to Executive Vice President and General Counsel, effective on February 22, 2021. Mr. Curci will continue to be responsible for the day-to-day legal operations of the Company.

In addition, on March 1, 2021, the Compensation Committee approved changes to Mr. Curci's annual compensation. Mr. Curci's annual base salary increased to $500,000 effective February 22, 2021. In addition, Mr. Curci's target long-term incentive award under the Company's LTIP has been increased to 200% of his base salary and Mr. Curci's target bonus under the Company's Annual Incentive Plan ("AIP") has been increased to 75% of his base salary with a maximum of 150%. The general terms and conditions of the LTIP and AIP are described in the Company's definitive proxy statement filed on March 15, 2020 with the SEC.

The description of the LTIP is qualified in its entirety by reference to the full text of the LTIP, a copy of which was filed as Exhibit 10.1 to the Company's current report on Form 8-K filed on April 28, 2017, and the description of the AIP is qualified in its entirety by reference to the full text of the AIP, a copy of which was filed as Exhibit 10.1 to the Company's current report on Form 8-K filed on May 7, 2015.

PART III

Item 10 — Directors, Executive Officers and Corporate Governance

Directors

E. Spencer Abraham has been a director of NRG since December 2012. Previously, he served as a director of GenOn Energy, Inc. from January 2012 to December 2012. He is Chairman and Chief Executive Officer of The Abraham Group, an international strategic consulting firm based in Washington, D.C. which he founded in 2005. Prior to that, Secretary Abraham served as Secretary of Energy under President George W. Bush from 2001 through January 2005 and was a U.S. Senator for the State of Michigan from 1995 to 2001. Secretary Abraham serves on the boards of the following public companies: PBF Energy and Two Harbors Investment Corp., as well as chairman of the board of Uranium Energy Corp. Secretary Abraham previously served as the non-executive chairman of AREVA, Inc., the U.S. subsidiary of the French-owned nuclear company, and as a director of Occidental Petroleum Corporation, Deepwater Wind LLC, International Battery, C3 IoT, Green Rock Energy, ICx Technologies, PetroTiger and Sindicatum Sustainable Resources. He also previously served on the advisory board or committees of Midas Medici (Utilipoint), Millennium Private Equity, Sunovia and Wetherly Capital.

Antonio Carrillo has been a director of NRG since October 2019. Mr. Carrillo currently serves as Arcosa Inc.'s President and Chief Executive Officer since November 2018 and is a member of its Board of Directors. From April 2018 to November 2018, Mr. Carrillo served as Senior Vice President and Group President of Construction, Energy, Marine and Components of Trinity Industries, Inc. (Trinity). From 2012 to February 2018, Mr. Carrillo served as the Chief Executive Officer of Orbia Advance Corporation (formerly known as Mexichem S.A.B. de C.V.) (Orbia), a publicly-traded global specialty chemical company. Prior to joining Orbia, Mr. Carrillo spent 16 years at Trinity where he served as Senior Vice President and Group President of Trinity's Energy Equipment Group and was responsible for Trinity's Mexico operations. Mr. Carrillo previously served as a director of Trinity from 2014 until November 2018 and a director of Dr Pepper Snapple Group, Inc. from 2015 to 2018.

Matthew Carter, Jr. has been a director of NRG since March 2018. Mr. Carter currently serves as Chief Executive Officer of Aryaka Networks, Inc. Mr. Carter served as President and Chief Executive Officer and a director of Inteliquent, Inc., a publicly traded provider of voice telecommunications services, from June 2015 until February 2017 when Inteliquent, Inc. was acquired. He served as President of the Sprint Enterprise Solutions business unit of Sprint Corporation, a publicly traded telecommunications company, from September 2013 until January 2015 and, previous to that position, served as President, Sprint Global Wholesale & Emerging Solutions at Sprint Nextel Corporation. Mr. Carter also serves as a director of Jones Lang Lasalle Incorporated. He previously served as a director of USG Corporation from 2012 to 2018, Apollo Education Group, Inc. from 2012 to 2017 and Inteliquent, Inc. from June 2015 to February 2017 and has significant marketing, technology and international experience, including previous management oversight for all of Inteliquent, Inc.'s operations.

Lawrence S. Coben has served as Chairman of the Board since February 2017, and has been a director of NRG since December 2003. He was Chairman and Chief Executive Officer of Tremisis Energy Corporation LLC until December 2017. Dr. Coben was Chairman and Chief Executive Officer of both Tremisis Energy Acquisition Corporation II, a publicly held company, from July 2007 through March 2009 and of Tremisis Energy Acquisition Corporation from February 2004 to May 2006. From January 2001 to January 2004, he was a Senior Principal of Sunrise Capital Partners L.P., a private equity firm. From 1997 to January 2001, Dr. Coben was an independent consultant. From 1994 to 1996, Dr. Coben was Chief Executive Officer of Bolivian Power Company. Dr. Coben serves on the board of Freshpet, Inc. and served on the advisory board of Morgan Stanley Infrastructure II, L.P. from September 2014 through December 2016. Dr. Coben is also Executive Director of the Escala Initiative and a Consulting Scholar at the University of Pennsylvania Museum of Archaeology and Anthropology.

Heather Cox has been a director of NRG since March 2018. Ms. Cox currently serves as Chief Digital Health and Analytics Officer at Humana Inc. Ms. Cox was Executive Vice President, Chief Technology & Digital Officer of United Services Automobile Association, Inc. from October 2016 to March 2018. Ms. Cox served as Chief Executive Officer, Financial Technology Division and Head of Citi FinTech of Citigroup, Inc. from November 2015 to September 2016, and as Chief Client Experience, Digital and Marketing Officer, Global Consumer Bank of Citigroup, Inc. from April 2014 to November 2015. Prior to that, Ms. Cox served at Capital One Financial Corporation for six years, most recently as Executive Vice President, US Card Operations, Capital One from August 2011 to August 2014. Ms. Cox also served in various managerial and executive roles at E*Trade Bank for ten years.

Elisabeth B. Donohue has been a director of NRG since October 2020. Ms. Donohue retired in January 2020 from Publicis Groupe, the world's third largest communications company where she spent 32 years advising clients on their consumer marketing efforts and business transformation. Her most recent role included serving as the chief executive officer of Publicis Spine, a data and technology start up launched by Publicis Groupe in October 2017. From April 2016 to October 2017, Ms. Donohue served as Global Brand President of the media communications agency Starcom Worldwide. From 2009 through 2016, Ms. Donohue served as chief executive officer of Starcom USA, where she drove Starcom's digital offering and built the agency's data and analytics practice. Ms. Donohue plays leadership roles on two non-profit boards. She is currently President of the Board of Trustees of Milton Academy based in Milton, Massachusetts and immediate past Board President of She Runs It based in New York City. Ms. Donohue also serves as a director of Synacor, where she acts as the chair of the compensation committee and is a member of the audit committee. Ms. Donohue graduated from Brown University with a B.A. in both Organizational Behavior & Management and Business Economics.

Mauricio Gutierrez has served as President and Chief Executive Officer of NRG since December 2015 and as a director of NRG since January 2016. Prior to December 2015, Mr. Gutierrez was the Executive Vice President and Chief Operating Officer of NRG from July 2010 to December 2015. Mr. Gutierrez also served as the Interim President and Chief Executive Officer of Clearway Energy, Inc. from December 2015 to May 2016 and Executive Vice President and Chief Operating Officer of Clearway Energy, Inc. from December 2012 to December 2015. Mr. Gutierrez has been with NRG since August 2004 and served in multiple executive positions within NRG including Executive Vice President - Commercial Operations from January 2009 to July 2010 and Senior Vice President - Commercial Operations from March 2008 to January 2009. Prior to joining NRG in August 2004, Mr. Gutierrez held various commercial positions within Dynegy, Inc. Mr. Gutierrez served as a director of Clearway Energy, Inc. from 2012 until 2018.

Paul W. Hobby has been a director of NRG since March 2006. Mr. Hobby is the Managing Partner of Genesis Park, L.P., a Houston-based private equity business specializing in technology and communications investments which he founded in 1999. Mr. Hobby routinely provides management and governance services to Genesis Park portfolio companies. Since November 2020, Mr. Hobby is also serving as Chief Executive Officer and a director of Genesis Park Acquisition Corp., a newly formed special purpose acquisition vehicle. He previously served as the Chief Executive Officer of Alpheus Communications, Inc., a Texas wholesale telecommunications provider from 2004 to 2011, and as Former Chairman of CapRock Services Corp., the largest provider of satellite services to the global energy business from 2002 to 2006. From November 1992 until January 2001, he served as Chairman and Chief Executive Officer of Hobby Media Services and was Chairman of Columbine JDS Systems, Inc. from 1995 until 1997. Mr. Hobby currently serves on the board of directors of Flotek Industries Inc. Mr. Hobby is former Chairman of the Houston Branch of the Federal Reserve Bank of Dallas and the Greater Houston Partnership and is former Chairman of the Texas Ethics Commission. He was an Assistant U.S. Attorney for the Southern District of Texas from 1989 to 1992, Chief of Staff to the Lieutenant Governor of Texas, Bob Bullock and an Associate at Fulbright & Jaworski from 1986 to 1989.

Alexandra Pruner has been a director of NRG since October 2019. Ms. Pruner is a Senior Advisor of Perella Weinberg Partners, a global independent advisory firm providing strategic and financial advice and asset-management services, and its energy division, Tudor, Pickering, Holt & Co., since December 2018. She previously served as Partner and Chief Financial Officer of Perella Weinberg Partners from December 2016 through November 2018. She served as Chief Financial Officer and a member of the Management Committee at Tudor, Pickering, Holt & Co. from the firm's founding in 2007 until its combination with Perella Weinberg in 2016. Ms. Pruner serves on the board of directors and as a member of the audit committees of Plains All American Pipeline, L.P. and its general partner PAA GP Holdings LLC, and on the Board of Directors of Encino Acquisition Partners, a privately held company backed by CCPIB. She previously served on the Anadarko Petroleum Corporation Board until its merger with Occidental Petroleum. She is the founder and a board member of Women's Global Leadership Conference in Energy & Technology, is an Emeritus Director of the Amegy Bank Development Board and is the Chair of Brown University's President's Advisory Council on the Economics Department. Ms. Pruner is on the board of the Houston Zoo and serves on the Houston advisory Board of The Nature Conservancy, among other volunteer efforts.

Anne C. Schaumburg has been a director of NRG since April 2005. From 1984 until her retirement in January 2002, she was Managing Director of Credit Suisse First Boston and a senior banker in the Global Energy Group. Ms. Schaumburg worked in the Investment Banking industry for 28 years specializing in the power sector. She ran Credit Suisse's Power Group from 1994 - 1999, prior to its consolidation with Natural Resources and Project Finance, where she was responsible for assisting clients on advisory and finance assignments. Her transaction expertise, across the spectrum of utility and unregulated power, includes mergers and acquisitions, debt and equity capital market financings, project finance and leasing, utility disaggregation and privatizations. Ms. Schaumburg is also the chair of the board of directors of Brookfield Infrastructure Partners since 2008 and chair of its audit committee.

Thomas H. Weidemeyer has been a director of NRG since December 2003. Mr. Weidemeyer served as Director, Senior Vice President and Chief Operating Officer of United Parcel Service, Inc., the world's largest transportation company and President of UPS Airlines, until his retirement in December 2003. Mr. Weidemeyer became Manager of the Americas International Operation in 1989, and in that capacity directed the development of the UPS delivery network throughout Central and South America. In 1990, Mr. Weidemeyer became Vice President and Airline Manager of UPS Airlines and, in 1994, was elected its President and Chief Operating Officer. Mr. Weidemeyer became Senior Vice President and a member of the Management Committee of United Parcel Service, Inc. that same year, and he became Chief Operating Officer of United Parcel Service, Inc. in January 2001. Mr. Weidemeyer also serves as a director of The Goodyear Tire & Rubber Co., Waste Management, Inc. and Amsted Industries Incorporated.

Executive Officers

Mauricio Gutierrez has served as President and Chief Executive Officer of NRG since December 2015 and as a director of NRG since January 2016. For additional biographical information for Mr. Gutierrez, see above under "Directors."

Gaëtan Frotté has served as Interim Chief Financial Officer since February 2021 and Senior Vice President and Treasurer since December 2015. Mr. Frotté has held various senior management positions since joining the Company in 2006. He studied management at The University of Hertfordshire and received a B.A. in Accounting and Financing from Institut Supérieur du Commerce. He also holds an MBA, Finance from the University of Virginia - Darden Graduate School of Business Administration.

David Callen has served as Senior Vice President and Chief Accounting Officer since February 2016 and Vice President and Chief Accounting Officer from March 2015 to February 2016. In this capacity, Mr. Callen is responsible for directing NRG's financial accounting and reporting activities. Mr. Callen also has served as Vice President and Chief Accounting Officer of Clearway Energy, Inc. from March 2015 to August 2018. Mr. Callen served as the Company's Vice President, Financial Planning & Analysis from November 2010 to March 2015. He previously served as Director, Finance from October 2007 through October 2010, Director, Financial Reporting from February 2006 through October 2007, and Manager, Accounting Research from September 2004 through February 2006. Prior to NRG, Mr. Callen was an auditor for KPMG LLP in both New York City and Tel Aviv Israel from October 1996 through April 2001.

Brian Curci has served as Executive Vice President, General Counsel of NRG since March 2021. Mr. Curci served as Senior Vice President and General Counsel from March 2018 to March 2021 and Senior Vice President and Deputy General Counsel from April 2017 to March 2018. Since joining NRG in 2007, Mr. Curci has served in various legal roles with NRG, including as Corporate Secretary from October 2011 to July 2018. Prior to NRG, Mr. Curci was a corporate associate with the law firm Saul Ewing LLP in Philadelphia.

Robert Gaudette has served as Senior Vice President, Business Solutions of NRG since December 2013. In this role, Mr. Gaudette oversees NRG's broad portfolio of products and services for the commercial and industrial customers. Prior to December 2013, Mr. Gaudette was Senior Vice President, C&I and Origination, starting in August 2013, and Senior Vice President - Product Development & Origination following the acquisition of GenOn in December 2012. Mr. Gaudette served as Senior Vice President and Chief Commercial Officer at GenOn from December 2010 to December 2012 and served as Vice President of Mirant's Mid-Atlantic business unit from August 2009 to December 2010. During his career at Mirant, which began in 2001, Mr. Gaudette worked in various other capacities including Director of West Power, Director of NYMEX Trading, Assistant to the Chief Operating Officer and NYMEX natural gas trader.

Elizabeth Killinger has served as Executive Vice President and President, NRG Retail and Reliant of NRG since February 2016. Ms. Killinger was Senior Vice President and President, NRG Retail from June 2015 to February 2016 and Senior Vice President and President, NRG Texas Retail from January 2013 to June 2015. Ms. Killinger has also served as President of Reliant, a subsidiary of NRG, since October 2012. Prior to that, Ms. Killinger was Senior Vice President of Retail Operations and Reliant Residential from January 2011 to October 2012. Ms. Killinger has been with the Company and its predecessors since 2002 and has held various operational and business leadership positions within the retail organization. Prior to joining the Company, Ms. Killinger spent a decade providing strategy, management and systems consulting to energy, oilfield services and retail distribution companies across the U.S. and in Europe.

Christopher Moser has served as Executive Vice President, Operations of NRG since January 2018. Mr. Moser previously served as Senior Vice President, Operations of NRG, with responsibility for Plant Operations, Commercial Operations, Business Operations and Engineering and Construction, beginning in March 2016. From June 2010 to March 2016, Mr. Moser served as Senior Vice President, Commercial Operations. In this capacity, he was responsible for the optimization of the Company's wholesale generation fleet.

Code of Ethics

NRG has adopted a code of ethics entitled "NRG Code of Conduct" that applies to directors, officers and employees, including the chief executive officer and senior financial officers of NRG. It may be accessed through the "Governance" section of the Company's website at www.nrg.com. NRG also elects to disclose the information required by Form 8-K, Item 5.05, "Amendments to the Registrant's Code of Ethics, or Waiver of a Provision of the Code of Ethics," through the Company's website, and such information will remain available on this website for at least a 12-month period. A copy of the "NRG Code of Conduct" is available in print to any stockholder who requests it.

Other information required by this Item is incorporated by reference to the similarly named section of NRG's Definitive Proxy Statement for its 2021 Annual Meeting of Stockholders.

Item 11 — Executive Compensation

Information required by this Item is incorporated by reference to the similarly named section of NRG's Definitive Proxy Statement for its 2021 Annual Meeting of Stockholders.

Item 12 — Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Securities Authorized for Issuance under Equity Compensation Plans

Plan Category	(a) Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights		(b) Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights	(c) Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)	
Equity compensation plans approved by security holders	2,449,484	(1)	$ 19.83	12,139,321	
Equity compensation plans not approved by security holders	78,903	(2)	26.16	—	(4)
Total	2,528,387		$ 25.13	12,139,321	(3)

(1) Consists of shares issuable under the NRG LTIP and the ESPP. The NRG LTIP became effective upon the Company's emergence from bankruptcy. On April 27, 2017, the NRG LTIP was amended and restated to increase the number of shares available for issuance to 25,000,000. The ESPP, as amended and restated, was approved by the Company's stockholders on April 27, 2017, and became effective April 28, 2017. As of December 31, 2020, there were 2,753,591 shares reserved from the Company's treasury shares for the ESPP

(2) Consists of shares issuable under the NRG GenOn LTIP. The plans is listed as "not approved" because it was not subject to separate line item approval by NRG's stockholders when the Merger was approved. See Item 15 — Note 22, *Stock-Based Compensation*, to Consolidated Financial Statements for a discussion of the NRG GenOn LTIP

(3) Consists of 9,385,730 shares of common stock under NRG's LTIP and 2,753,591 shares of treasury stock reserved for issuance under the ESPP.

(4) Upon adoption of the NRG Amended and Restated LTIP effective April 27, 2017, no securities remain available for future issuance under the NRG GenOn LTIP. See Note 22, *Stock-Based Compensation*, for additional information

NRG LTIP currently provides for grants of restricted stock units, relative performance stock units, deferred stock units and dividend equivalent rights. NRG's directors, officers and employees, as well as other individuals performing services for, or to whom an offer of employment has been extended by the Company, are eligible to receive grants under the NRG LTIP. The purpose of the NRG LTIP is to promote the Company's long-term growth and profitability by providing these individuals with incentives to maximize stockholder value and otherwise contribute to the Company's success and to enable the Company to attract, retain and reward the best available persons for positions of responsibility. The Compensation Committee of the Board of Directors administers the NRG LTIP.

Other information required by this Item is incorporated by reference to the similarly named section of NRG's Definitive Proxy Statement for its 2021 Annual Meeting of Stockholders.

Item 13 — Certain Relationships and Related Transactions, and Director Independence

Information required by this Item is incorporated by reference to the similarly named section of NRG's Definitive Proxy Statement for its 2021 Annual Meeting of Stockholders.

Item 14 — Principal Accounting Fees and Services

Information required by this Item is incorporated by reference to the similarly named section of NRG's Definitive Proxy Statement for its 2021 Annual Meeting of Stockholders.

PART IV

Item 15 — Exhibits, Financial Statement Schedules

(a)(1) Financial Statements

The following consolidated financial statements of NRG Energy, Inc. and related notes thereto, together with the reports thereon of KPMG LLP, are included herein:

Consolidated Statements of Operations — Years ended December 31, 2020, 2019, and 2018

Consolidated Statements of Comprehensive Income — Years ended December 31, 2020, 2019, and 2018

Consolidated Balance Sheets — As of December 31, 2020 and 2019

Consolidated Statements of Cash Flows — Years ended December 31, 2020, 2019, and 2018

Consolidated Statements of Stockholders' Equity — Years ended December 31, 2020, 2019, and 2018

Notes to Consolidated Financial Statements

(a)(2) Financial Statement Schedule

The following Consolidated Financial Statement Schedule of NRG Energy, Inc. is filed as part of Item 15 of this report and should be read in conjunction with the Consolidated Financial Statements.

Schedule II — Valuation and Qualifying Accounts

All other schedules for which provision is made in the applicable accounting regulation of the Securities and Exchange Commission are not required under the related instructions or are inapplicable, and therefore, have been omitted.

(a)(3) Exhibits: See Exhibit Index submitted as a separate section of this report.

(b) Exhibits

See Exhibit Index submitted as a separate section of this report.

(c) Not applicable

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders
NRG Energy, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of NRG Energy, Inc. and subsidiaries (the Company) as of December 31, 2020 and 2019, the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes and financial statement schedule II (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2020, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated March 1, 2021 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Changes in Accounting Principle

As discussed in Note 10 to the consolidated financial statements, effective January 1, 2019, the Company adopted Financial Accounting Standard Board (FASB) Accounting Standards Codification (ASC) Topic 842, *Leases*, and related amendments. As discussed in Note 3 to the consolidated financial statements, effective January 1, 2018, the Company adopted FASB ASC Topic 606, *Revenue from Contracts with Customers*, and related amendments.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of a critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Evaluation of the sufficiency of audit evidence obtained over operating revenues

As discussed in Note 3 to the consolidated financial statements, the Company had $9,093 million of operating revenues. Operating revenue is derived from various revenue streams in different geographic markets and the Company’s processes and related information technology (IT) systems used to record revenue differ for each of these revenue streams.

We identified the evaluation of the sufficiency of audit evidence over operating revenues as a critical audit matter which required a high degree of auditor judgment due to the number of revenue streams and IT systems involved in the revenue recognition process. This included determining the revenue streams over which procedures were to be performed and evaluating the nature and extent of evidence obtained over the individual revenue streams as well as operating revenue in the aggregate. It also included the involvement of IT professionals with specialized skills and knowledge to assist in the performance of certain procedures.

The following are the primary procedures we performed to address this critical audit matter. We, with the assistance of IT professionals, applied auditor judgment to determine the revenue streams over which procedures were performed as well as the nature and extent of such procedures. For each revenue stream over which procedures were performed, we evaluated the design and tested the operating effectiveness of certain internal controls over the Company’s revenue recognition processes; involved IT professionals, who assisted in testing certain IT applications used by the Company in its revenue recognition processes; and assessed the recorded revenue by selecting transactions and comparing the amounts recognized to underlying documentation, including contracts with customers. In addition, we evaluated the sufficiency of audit evidence obtained over operating revenues by assessing the results of procedures performed, including the appropriateness of such evidence.

/s/ KPMG LLP

We have served as the Company's auditor since 2004.

Philadelphia, Pennsylvania
March 1, 2021

NRG ENERGY, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS

(In millions, except per share amounts)	For the Year Ended December 31, 2020	2019	2018
Operating Revenues			
Total operating revenues	$ 9,093	$ 9,821	$ 9,478
Operating Costs and Expenses			
Cost of operations	6,540	7,303	7,108
Depreciation and amortization	435	373	421
Impairment losses	75	5	99
Selling, general and administrative costs	933	827	799
Reorganization costs	—	23	90
Development costs	8	7	11
Total operating costs and expenses	7,991	8,538	8,528
Gain on sale of assets	3	7	32
Operating Income	1,105	1,290	982
Other Income/(Expense)			
Equity in earnings of unconsolidated affiliates	17	2	9
Impairment losses on investments	(18)	(108)	(15)
Other income, net	67	66	18
Loss on debt extinguishment, net	(9)	(51)	(44)
Interest expense	(401)	(413)	(483)
Total other expense	(344)	(504)	(515)
Income from Continuing Operations Before Income Taxes	761	786	467
Income tax expense/(benefit)	251	(3,334)	7
Income from Continuing Operations	510	4,120	460
Income from discontinued operations, net of income tax	—	321	(192)
Net Income	510	4,441	268
Less: Net income attributable to noncontrolling interest and redeemable interests	—	3	—
Net Income Attributable to NRG Energy, Inc.	$ 510	$ 4,438	$ 268
Earnings/(Loss) Per Share Attributable to NRG Energy, Inc. Common Stockholders			
Weighted average number of common shares outstanding — basic	245	262	304
Income from continuing operations per weighted average common share — basic	$ 2.08	$ 15.71	$ 1.51
Income/(loss) from discontinued operations per weighted average common share — basic	$ —	$ 1.23	$ (0.63)
Net Income per Weighted Average Common Share — Basic	$ 2.08	$ 16.94	$ 0.88
Weighted average number of common shares outstanding — diluted	246	264	308
Income from continuing operations per weighted average common share — diluted	$ 2.07	$ 15.59	$ 1.49
Income/(loss) from discontinued operations per weighted average common share — diluted	$ —	$ 1.22	$ (0.62)
Net Income per Weighted Average Common Share — Diluted	$ 2.07	$ 16.81	$ 0.87

See notes to Consolidated Financial Statements

NRG ENERGY, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(In millions)	For the Year Ended December 31, 2020	2019	2018
Net Income	$ 510	$ 4,441	$ 268
Other Comprehensive Income/(Loss), net of tax			
Unrealized gain on derivatives, net of income tax	—	—	23
Foreign currency translation adjustments, net of income tax	8	(1)	(11)
Available-for-sale securities, net of income tax	—	(19)	1
Defined benefit plans, net of income tax	(22)	(78)	(35)
Other comprehensive (loss)	(14)	(98)	(22)
Comprehensive Income	496	4,343	246
Less: Comprehensive income attributable to noncontrolling interests and redeemable noncontrolling interests	—	3	14
Comprehensive Income Attributable to NRG Energy, Inc.	$ 496	$ 4,340	$ 232

See notes to Consolidated Financial Statements

NRG ENERGY, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

(In millions)	As of December 31, 2020	2019
ASSETS		
Current Assets		
Cash and cash equivalents	$ 3,905	$ 345
Funds deposited by counterparties	19	32
Restricted cash	6	8
Accounts receivable, net	904	1,025
Inventory	327	383
Derivative instruments	560	860
Cash collateral posted in support of energy risk management activities	50	190
Prepayments and other current assets	257	245
Total current assets	6,028	3,088
Property, plant and equipment, net	2,547	2,593
Other Assets		
Equity investments in affiliates	346	388
Operating lease right-of-use assets, net	301	464
Goodwill	579	579
Intangible assets, net	668	789
Nuclear decommissioning trust fund	890	794
Derivative instruments	261	310
Deferred income taxes	3,066	3,286
Other non-current assets	216	240
Total other assets	6,327	6,850
Total Assets	$ 14,902	$ 12,531

See notes to Consolidated Financial Statements

NRG ENERGY, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS (Continued)

(In millions, except share data)	As of December 31, 2020	2019
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities		
Current portion of long-term debt and finance lease	$ 1	$ 88
Current portion of operating lease liabilities	69	73
Accounts payable	649	722
Derivative instruments	499	781
Cash collateral received in support of energy risk management activities	19	32
Accrued expenses and other current liabilities	678	663
Total current liabilities	1,915	2,359
Other Liabilities		
Long-term debt and finance lease	8,691	5,803
Non-current operating lease liabilities	278	483
Nuclear decommissioning reserve	303	298
Nuclear decommissioning trust liability	565	487
Derivative instruments	385	322
Deferred income taxes	19	17
Other non-current liabilities	1,066	1,084
Total other liabilities	11,307	8,494
Total Liabilities	13,222	10,853
Redeemable noncontrolling interest in subsidiaries	—	20
Commitments and Contingencies		
Stockholders' Equity		
Common stock; $0.01 par value; 500,000,000 shares authorized; 423,057,848 and 421,890,790 shares issued; and 244,231,933 and 248,996,189 shares outstanding at December 31, 2020 and 2019	4	4
Additional paid-in capital	8,517	8,501
Accumulated deficit	(1,403)	(1,616)
Treasury stock, at cost; 178,825,915 and 172,894,601 shares at December 31, 2020 and 2019	(5,232)	(5,039)
Accumulated other comprehensive loss	(206)	(192)
Total Stockholders' Equity	1,680	1,658
Total Liabilities and Stockholders' Equity	$ 14,902	$ 12,531

See notes to Consolidated Financial Statements

NRG ENERGY, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In millions)	For the Year Ended December 31, 2020	2019	2018
Cash Flows from Operating Activities			
Net income	$ 510	$ 4,441	$ 268
Income/(loss) from discontinued operations, net of income tax	—	321	(192)
Income from continuing operations	510	4,120	460
Adjustments to reconcile net income to net cash provided by operating activities:			
Distributions from and equity in earnings of unconsolidated affiliates	45	14	46
Depreciation and amortization	435	373	421
Accretion expense related to asset retirement obligations	45	51	38
Provision for credit losses	108	95	85
Amortization of nuclear fuel	54	52	48
Amortization of financing costs and debt discounts	48	26	29
Loss on debt extinguishment, net	9	51	44
Amortization of emission allowances, out-of-market contracts and REC retirements	70	72	71
Amortization of unearned equity compensation	22	20	25
Net gain on sale of assets and disposal of assets	(23)	(23)	(49)
Impairment losses	93	113	114
Changes in derivative instruments	137	34	37
Changes in deferred income taxes and liability for uncertain tax benefits	228	(3,353)	5
Changes in collateral deposits in support of risk management activities	127	105	(105)
Changes in nuclear decommissioning trust liability	51	37	60
Oil lower of cost or market adjustment	29	—	2
GenOn settlement, net of insurance proceeds	—	—	(63)
Net loss on deconsolidation of Agua Caliente and Ivanpah projects	—	—	13
Cash provided/(used) by changes in other working capital, net of acquisition and disposition effects:			
Accounts receivable - trade	—	5	(83)
Inventory	27	22	29
Prepayments and other current assets	4	29	(41)
Accounts payable	(56)	(177)	113
Accrued expenses and other current liabilities	(42)	(75)	(192)
Other assets and liabilities	(84)	(186)	(104)
Cash provided by continuing operations	1,837	1,405	1,003
Cash provided by discontinued operations	—	8	374
Net Cash Provided by Operating Activities	1,837	1,413	1,377
Cash Flows from Investing Activities			
Payments for acquisitions of assets, businesses and leases	(284)	(355)	(243)
Capital expenditures	(230)	(228)	(388)
Net (purchases)/sales of emissions allowances	(10)	11	19
Investments in nuclear decommissioning trust fund securities	(492)	(416)	(572)
Proceeds from sales of nuclear decommissioning trust fund securities	439	381	513
Proceeds from sale of assets, net of cash disposed and sale of discontinued operations, net of fees	81	1,294	1,564
Deconsolidations of Agua Caliente and Ivanpah projects	—	—	(268)
Changes in investments in unconsolidated affiliates	2	(91)	(39)
Net contributions to discontinued operations	—	(44)	(60)
Other	—	6	(6)
Cash (used)/provided by continuing operations	(494)	558	520
Cash used by discontinued operations	—	(2)	(725)
Net Cash (Used)/Provided by Investing Activities	(494)	556	(205)

(In millions)	For the Year Ended December 31, 2020	2019	2018
Cash Flows from Financing Activities			
Proceeds from issuance of long-term debt	3,234	1,833	1,100
Payments for short and long-term debt	(335)	(2,571)	(1,734)
Net (repayments)/proceeds of Revolving Credit Facility	(83)	83	—
Payments of debt issuance costs	(75)	(35)	(19)
Payments of dividends to common stockholders	(295)	(32)	(37)
Payments for share repurchase activity	(229)	(1,440)	(1,250)
Payments for debt extinguishment costs	(5)	(26)	(32)
Purchase of and distributions to noncontrolling interests from subsidiaries	(2)	(2)	(16)
Proceeds from issuance of common stock	1	3	21
Receivable from affiliate	—	—	(26)
Other	(7)	(4)	(4)
Cash provided/(used) by continuing operations	2,204	(2,191)	(1,997)
Cash provided by discontinued operations	—	43	471
Net Cash Provided/(Used) by Financing Activities	2,204	(2,148)	(1,526)
Effect of exchange rate changes on cash and cash equivalents	(2)	—	1
Change in Cash from discontinued operations	—	49	120
Net Increase/(Decrease) in Cash and Cash Equivalents, Funds Deposited by Counterparties and Restricted Cash	3,545	(228)	(473)
Cash and Cash Equivalents, Funds Deposited by Counterparties and Restricted Cash at Beginning of Period	385	613	1,086
Cash and Cash Equivalents, Funds Deposited by Counterparties and Restricted Cash at End of Period	$ 3,930	$ 385	$ 613

See notes to Consolidated Financial Statements

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(In millions)	Common Stock	Additional Paid-In Capital	Accumulated Deficit	Treasury Stock	Accumulated Other Comprehensive Loss	Noncon-trolling Interest	Total Stock-holders' Equity
Balances at December 31, 2017	$ 4	$ 8,376	$ (6,268)	$ (2,386)	$ (72)	$ 2,314	$ 1,968
Net income			268			26	294
Other comprehensive loss					(22)		(22)
Sale of assets to NRG Yield, Inc.		8				8	16
Shares reissuance for ESPP		(2)		4			2
Share repurchases				(1,250)			(1,250)
Equity-based awards activity, net		6					6
Issuance of common stock		21					21
Common stock dividends and dividend equivalents declared[(a)]			(37)				(37)
Distributions to noncontrolling interests						(43)	(43)
Dividends paid to NRG Yield, Inc.						(61)	(61)
Contributions from noncontrolling interests						304	304
Adoption of new accounting standards			15				15
Sale of NRG Yield and other business						(2,548)	(2,548)
Equity component of convertible senior notes		101					101
Balances at December 31, 2018	$ 4	$ 8,510	$ (6,022)	$ (3,632)	$ (94)	$ —	$ (1,234)
Net income attributable to NRG Energy, Inc.			4,438				4,438
Other comprehensive loss					(98)		(98)
Shares reissuance for ESPP		1		2			3
Share repurchases				(1,409)			(1,409)
Equity-based awards activity, net		(16)					(16)
Issuance of common stock		6					6
Common stock dividends and dividend equivalents declared[(a)]			(32)				(32)
Balance at December 31, 2019	$ 4	$ 8,501	$ (1,616)	$ (5,039)	$ (192)	$ —	$ 1,658
Net income attributable to NRG Energy, Inc.			510				510
Other comprehensive loss					(14)		(14)
Repurchase of partners' equity interest in VIE		18					18
Shares reissuance for ESPP				4			4
Share repurchases				(197)			(197)
Equity-based awards activity, net		(3)					(3)
Issuance of common stock		1					1
Common stock dividends and dividend equivalents declared[(a)]			(297)				(297)
Balance at December 31, 2020	$ 4	$ 8,517	$ (1,403)	$ (5,232)	$ (206)	$ —	$ 1,680

(a) Dividends per common share were $1.20 for the year ended December 31, 2020 and $0.12 for each of the years ended December 31, 2019 and 2018

See notes to Consolidated Financial Statements

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1 — *Nature of Business*

General

NRG Energy, Inc., or NRG or the Company, is an integrated power company built on dynamic retail brands with diverse generation assets. NRG brings the power of energy to customers by producing and selling energy and related products and services in major competitive power and gas markets in the U.S. and Canada in a manner that delivers value to all of NRG's stakeholders. NRG is a customer-centric business focused on perfecting the integrated model by balancing retail load with generation supply within its deregulated markets. As of December 31, 2020, the Company sold energy, services, and innovative, sustainable products and services directly to retail customers under the names NRG, Reliant, Green Mountain Energy, Stream and XOOM Energy, as well as other brand names owned by NRG, supported by approximately 23,000 MW of generation.

NRG also conducts business under the brand name of Direct Energy as a result of the Company's acquisition of Direct Energy, a North American subsidiary of Centrica plc, on January 5, 2021. Direct Energy is a leading retail provider of electricity, natural gas, and home and business energy related products and services in North America, with operations in all 50 U.S. states and 8 Canadian provinces. Following the acquisition, the Company serves more than 6 million customers. In addition, Direct Energy is a participant in the wholesale gas and power markets in the United States and Canada. Note 4, *Acquisitions, Discontinued Operations and Dispositions* for further discussion of the acquisition of Direct Energy.

The Company began managing its integrated model based on the combined results of the retail and wholesale generation businesses with a geographical focus in 2020. As a result, the Company changed its business segments from Retail and Generation to Texas, East and West/Other beginning in the first quarter of 2020. The Company's updated segment structure reflects how management makes financial decisions and allocates resources.

The Company's businesses are segregated as follows:

- Texas, which includes all activity related to customer, plant and market operations in Texas;
- East, which includes the remaining activity related to customer operations and all activity related to plant and market operations in the East;
- West/Other, which includes the following assets and activities: (i) all activity related to plant and market operations in the West, (ii) activity related to the Cottonwood power plant that was sold to Cleco on February 4, 2019 and is being leased back until 2025, (iii) the remaining renewables activity, including the Company's equity method investments in Ivanpah Master Holdings, LLC and Agua Caliente (which was sold on February 3, 2021), the remaining Home Solar assets (which were primarily sold on November 13, 2020) and the NFL stadium solar generating assets, and (iv) activity related to the Company's equity method investment for the Gladstone power plant in Australia; and
- Corporate activities.

All affected disclosures presented herein have been recast to reflect these changes for all periods presented. For further discussion of segment reporting, refer to Note 20, *Segment Reporting*.

The acquired operations of Direct Energy will be integrated into the existing NRG segment structure. Domestic customer and market operations will be combined into the corresponding geographical segments of Texas, East and West/Other. The East segment will also include the deregulated customer and market operations of Canada. The West/Other segment will also include activity related to the regulated operations in Alberta, Canada and the services businesses.

COVID-19

In March 2020, the World Health Organization categorized COVID-19 as a pandemic and the President of the United States declared the COVID-19 outbreak a national emergency. Electricity was deemed a 'critical and essential business operation' under various state and federal governmental COVID-19 mandates. NRG had activated its Crisis Management Team ("CMT") in January 2020 to proactively manage the Company's response to the impacts of COVID-19.

NRG continues to remain focused on protecting the health and well-being of its employees, while supporting its customers and the communities in which it operates and assuring the continuity of its operations. In June 2020, summer-critical office employees returned to the offices and safety protocols were successfully implemented.

The Company continues to maintain certain restrictions on business travel and face-to-face sales channels, remote work practices remain in place and there are enhanced cleaning and hygiene protocols in all of its facilities. In addition, select essential employees and contractors are continuing to report to plant and certain office locations. The Company also continues to require pre-entry screening, including temperature checks, separation of work crews, additional personal protective equipment for employees and contractors when social distancing cannot be maintained, and a ban on all non-essential visitors. The Company has not experienced any material disruptions in its ability to continue its business operations to date.

The first COVID-19 vaccine became available in the United States in December 2020. NRG continues to advocate alongside state and federal trade groups for the high prioritization of essential electric industry personnel for inoculation against COVID-19. States are receiving weekly doses of vaccines and allocating those doses to frontline healthcare workers, elderly populations and high risk individuals. NRG continues to monitor state information, as well as dosage and allocation numbers to anticipate the latest timing of vaccine distribution to our essential employees. The Company will continue to evaluate additional return to normal work operations on a location-by-location basis as COVID-19 conditions evolve.

Discontinued Operations

On December 31, 2018, as described in Note 4, *Acquisitions, Discontinued Operations and Dispositions*, the Company concluded that the sale of its South Central Portfolio to Cleco, excluding the Cottonwood facility, met held-for-sale criteria and should be presented as a discontinued operation, as the sale represented a strategic shift in the business in which NRG operates. The financial information for all historical periods was recast in 2018 to reflect the presentation of these entities as discontinued operations.

On August 31, 2018, as described in Note 4, *Acquisitions, Discontinued Operations and Dispositions*, the Company deconsolidated NRG Yield, Inc. and its Renewables Platform for financial reporting purposes. The financial information for all historical periods was recast in 2018 to reflect the presentation of these entities, as well as the Carlsbad project, as discontinued operations. As a result of the sale of NRG Yield, the Company no longer controls the Agua Caliente project. Due to this change in control, the Company deconsolidated the Agua Caliente project from its financial results and began accounting for the project as an equity method investment.

Note 2 — *Summary of Significant Accounting Policies*

Basis of Presentation and Principles of Consolidation

The Company's consolidated financial statements have been prepared in accordance with U.S. GAAP. The ASC, established by the FASB, is the source of authoritative U.S. GAAP to be applied by nongovernmental entities. In addition, the rules and interpretative releases of the SEC under authority of federal securities laws are also sources of authoritative U.S. GAAP for SEC registrants.

The consolidated financial statements include NRG's accounts and operations and those of its subsidiaries in which the Company has a controlling interest. All significant intercompany transactions and balances have been eliminated in consolidation. The usual condition for a controlling financial interest is ownership of a majority of the voting interests of an entity. However, a controlling financial interest may also exist through arrangements that do not involve controlling voting interests. As such, NRG applies the guidance of ASC 810, *Consolidations,* or ASC 810, to determine when an entity that is insufficiently capitalized or not controlled through its voting interests, referred to as a VIE, should be consolidated.

Net Income/(Loss) attributable to NRG Energy, Inc.

The following table reflects the net income/(loss) attributable to NRG Energy, Inc. after removing the net loss attributable to the noncontrolling interest and redeemable noncontrolling interest:

	Year Ended December 31,		
(In millions)	**2020**	**2019**	**2018**
Income from continuing operations, net of income tax	$ 510	$ 4,117	$ 465
Income/(loss) from discontinued operations, net of income tax	—	321	(197)
Net income attributable to NRG Energy, Inc. stockholders	$ 510	$ 4,438	$ 268

Cash and Cash Equivalents

Cash and cash equivalents include highly liquid investments with an original maturity of three months or less at the time of purchase.

Funds Deposited by Counterparties

Funds deposited by counterparties consist of cash held by the Company as a result of collateral posting obligations from its counterparties. Some amounts are segregated into separate accounts that are not contractually restricted but, based on the Company's intention, are not available for the payment of general corporate obligations. Depending on market fluctuations and the settlement of the underlying contracts, the Company will refund this collateral to the hedge counterparties pursuant to the terms and conditions of the underlying trades. Since collateral requirements fluctuate daily and the Company cannot predict if

any collateral will be held for more than twelve months, the funds deposited by counterparties are classified as a current asset on the Company's balance sheet, with an offsetting liability for this cash collateral received within current liabilities.

Credit Losses

On January 1, 2020, the Company adopted ASU No. 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, or ASU No. 2016-13, using the modified retrospective approach. Following the adoption of the new standard, the Company’s process of estimating expected credit losses remains materially consistent with its historical practice. Information prior to January 1, 2020, which was previously referred to as the allowance and provision for bad debt, has not been restated and continues to be reported under the accounting standards in effect for that period.

Retail trade receivables are reported on the balance sheet net of the allowance for credit losses. The Company accrues an allowance for current expected credit losses based on (i) estimates of uncollectible revenues by analyzing accounts receivable aging and current and reasonable forecasts of expected economic factors including, but not limited to, unemployment rates and weather-related events, (ii) historical collections and delinquencies, and (iii) counterparty credit ratings for commercial and industrial customers. The Company writes off customer contract receivable balances against the allowance for credit losses when it is determined a receivable is uncollectible.

The following table represents the activity in the allowance for credit losses for the year ended December 31, 2020:

(In millions)	**Year Ended December 31, 2020**
Beginning balance	$ 43
Provision for credit losses	108
Write-offs	(101)
Recoveries collected	17
Ending balance	$ 67

Restricted Cash

The following table provides a reconciliation of cash and cash equivalents, restricted cash and funds deposited by counterparties reported within the consolidated balance sheets that sum to the total of the same such amounts shown in the statements of cash flows.

	Year Ended December 31,		
(In millions)	**2020**	**2019**	**2018**
Cash and cash equivalents	$ 3,905	$ 345	$ 563
Funds deposited by counterparties	19	32	33
Restricted cash	6	8	17
Cash and cash equivalents, funds deposited by counterparties and restricted cash shown in the statements of cash flows	$ 3,930	$ 385	$ 613

Restricted cash consists primarily of funds held within the Company's projects that are restricted in their use.

Inventory

Inventory is valued at the lower of weighted average cost or market, and consists principally of fuel oil, coal and raw materials used to generate electricity or steam. The Company removes these inventories as they are used in the production of electricity or steam. Spare parts inventory is valued at weighted average cost. The Company removes these inventories when they are used for repairs, maintenance or capital projects. The Company expects to recover the fuel oil, coal, raw materials, and spare parts costs in the ordinary course of business. Finished goods inventory is valued at the lower of cost or net realizable value with cost being determined on a first-in first-out basis. The Company removes these inventories as they are sold to customers. Sales of inventory are classified as an operating activity in the consolidated statements of cash flows.

Property, Plant and Equipment

Property, plant and equipment are stated at cost or, in the case of business acquisitions, fair value; however, impairment adjustments are recorded whenever events or changes in circumstances indicate that their carrying values may not be recoverable. NRG also classifies nuclear fuel related to the Company's 44% ownership interest in STP as part of the Company's property, plant, and equipment. Significant additions or improvements extending asset lives are capitalized as incurred, while repairs and maintenance that do not improve or extend the life of the respective asset are charged to expense as incurred. Depreciation, other than nuclear fuel, is computed using the straight-line method, while nuclear fuel is amortized based on units of production over the estimated useful lives. Certain assets and their related accumulated depreciation amounts are adjusted for asset retirements and disposals with the resulting gain or loss included in cost of operations in the consolidated statements of operations.

Asset Impairments

Long-lived assets that are held and used are reviewed for impairment whenever events or changes in circumstances indicate carrying values may not be recoverable. Such reviews are performed in accordance with ASC 360. An impairment loss is indicated if the total future estimated undiscounted cash flows expected from an asset are less than its carrying value. An impairment charge is measured by the difference between an asset's carrying amount and fair value with the difference recorded in operating costs and expenses in the consolidated statements of operations. Fair values are determined by a variety of valuation methods, including third-party appraisals, sales prices of similar assets, and present value techniques.

Investments accounted for by the equity method are reviewed for impairment in accordance with ASC 323, *Investments-Equity Method and Joint Ventures*, or ASC 323, which requires that a loss in value of an investment that is an other-than-temporary decline should be recognized. The Company identifies and measures losses in the value of equity method investments based upon a comparison of fair value to carrying value. For further discussion of these matters, refer to Note 11, *Asset Impairments*.

Development Costs and Capitalized Interest

Development costs include project development costs, which are expensed in the preliminary stages of a project and capitalized when the project is deemed to be commercially viable. Commercial viability is determined by one or a series of actions including, among others, Board of Director approval pursuant to a formal project plan that subjects the Company to significant future obligations that can only be discharged by the use of a Company asset. When a project is available for operations, capitalized interest and capitalized project development costs are reclassified to property, plant and equipment and depreciated on a straight-line basis over the estimated useful life of the project's related assets. Capitalized costs are charged to expense if a project is abandoned or management otherwise determines the costs to be unrecoverable.

Interest incurred on funds borrowed to finance capital projects is capitalized until the project under construction is ready for its intended use. The amount of interest capitalized for the years ended December 31, 2020, 2019 and 2018, was $2 million, $3 million and $7 million, respectively.

Debt Issuance Costs

Debt issuance costs are capitalized and amortized as interest expense on a basis which approximates the effective interest method over the term of the related debt. Debt issuance costs are presented as a direct deduction from the carrying amount of the related debt, or as an asset if the issuance costs relate to revolving debt agreements or certain other financing arrangements.

Intangible Assets

Intangible assets represent contractual rights held by the Company. The Company recognizes specifically identifiable intangible assets including customer contracts, customer relationships, energy supply contracts, marketing partnerships, trade names, emission allowances, and fuel contracts when specific rights and contracts are acquired. These intangible assets are amortized based on expected volumes, expected delivery, expected discounted future net cash flows, straight line or units of production basis. As of December 31, 2020 and 2019, the Company had accumulated amortization related to its intangible assets of $1.4 billion and $1.3 billion, respectively.

Emission allowances held-for-sale, which are included in other non-current assets on the Company's consolidated balance sheet, are not amortized; they are carried at the lower of cost or fair value and reviewed for impairment in accordance with ASC 360.

Goodwill

In accordance with ASC 350, *Intangibles-Goodwill and Other*, or ASC 350, the Company recognizes goodwill for the excess cost of an acquired entity over the net value assigned to assets acquired and liabilities assumed. NRG performs goodwill impairment tests annually, during the fourth quarter, and when events or changes in circumstances indicate that the carrying value may not be recoverable.

The Company first assesses qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. The more-likely-than-not threshold is defined as having a likelihood of more than 50 percent. If it is not more-likely-than-not that the fair value of a reporting unit is less than its carrying amount, there is no goodwill impairment.

In the absence of sufficient qualitative factors indicating that it is more-likely-than-not that no impairment occurred, the Company performs a quantitative assessment by determining the fair value of the reporting unit and comparing the fair value to its book value. If the fair value of the reporting unit exceeds its book value, goodwill of the reporting unit is not considered impaired. If the book value exceeds fair value, the Company recognizes an impairment loss equal to the difference between book value and fair value.

For further discussion of goodwill and goodwill impairment losses recognized refer to Note 12, *Goodwill and Other Intangibles.*

Income Taxes

The Company accounts for income taxes using the liability method in accordance with ASC 740, *Income Taxes,* or ASC 740, which requires that the Company use the asset and liability method of accounting for deferred income taxes and provide deferred income taxes for all significant temporary differences.

The Company has two categories of income tax expense or benefit — current and deferred, as follows:

- Current income tax expense or benefit consists solely of current taxes payable less applicable tax credits, and
- Deferred income tax expense or benefit is the change in the net deferred income tax asset or liability, excluding amounts charged or credited to accumulated other comprehensive income

The Company reports some of its revenues and expenses differently for financial statement purposes than for income tax return purposes, resulting in temporary and permanent differences between the Company's financial statements and income tax returns. The tax effects of such temporary differences are recorded as either deferred income tax assets or deferred income tax liabilities in the Company's consolidated balance sheets. The Company measures its deferred income tax assets and deferred income tax liabilities using income tax rates that are expected to be in effect when the deferred tax is realized.

The Company accounts for uncertain tax positions in accordance with ASC 740, which applies to all tax positions related to income taxes. Under ASC 740, tax benefits are recognized when it is more-likely-than-not that a tax position will be sustained upon examination by the authorities. The benefit recognized from a position is the amount of benefit that has surpassed the more-likely-than-not threshold, as it is more than 50% likely to be realized upon settlement. The Company recognizes interest and penalties accrued related to uncertain tax benefits as a component of income tax expense.

In accordance with ASC 805 and as discussed further in Note 21, *Income Taxes*, changes to existing net deferred tax assets or valuation allowances or changes to uncertain tax benefits, are recorded to income tax (benefit)/expense.

Contract Amortization

Assets and liabilities recognized through acquisitions related to the sale of electric capacity and energy in future periods for which the fair value has been determined to be significantly less or more than market are amortized to cost of operations over the term of each underlying contract based on actual generation and/or contracted volumes.

Lease Revenue

Certain of the Company’s revenues are obtained through leases of rooftop residential solar systems, which are accounted for as operating leases in accordance with ASC 842, *Leases.* Pursuant to the lease agreements, the customers’ monthly payments are pre-determined fixed monthly amounts and may include an annual fixed percentage escalation to reflect the impact of utility rate increases over the lease term, which is 20 years. The Company records operating lease revenue on a straight-line basis over the life of the lease term. Certain customers made initial down payments that are being amortized over the life of the lease. The difference between the payments received and the revenue recognized is recorded as deferred revenue.

Lessor Accounting

Certain of the Company's revenues are obtained through PPAs or other contractual agreements. Many of these agreements are accounted for as operating leases under ASC 842.

Certain of these leases have no minimum lease payments and all of the rent is recorded as contingent rent on an actual basis when the electricity is delivered. Judgment is required by management in determining the economic life of each generating facility, in evaluating whether certain lease provisions constitute minimum payments or represent contingent rent and other factors in determining whether a contract contains a lease and whether the lease is an operating lease or finance lease. Contingent rental income under ASC 840 was $104 million for the year ended December 31, 2018.

Gross Receipts and Sales Taxes

In connection with its retail sales, the Company records gross receipts taxes on a gross basis in revenues and cost of operations in its consolidated statements of operations. During the years ended December 31, 2020, 2019 and 2018, the Company's revenues and cost of operations included gross receipts taxes of $107 million, $109 million and $99 million, respectively. Additionally, the Company records sales taxes collected from its taxable retail customers and remitted to the various governmental entities on a net basis; thus, there is no impact on the Company's consolidated statement of operations.

Purchased Energy and Other Cost of Sales for Customer Operations

The cost of energy for electricity sales and services to retail customers is included in cost of operations and is based on actual and estimated supply volumes for the applicable reporting period. A portion of the cost of energy, $98 million, $103 million and $105 million as of December 31, 2020, 2019 and 2018, respectively, was accrued and consisted of estimated transmission and distribution charges not yet billed by the transmission and distribution utilities. In estimating supply volumes, the Company considers the effects of historical customer volumes, weather factors and usage by customer class. Transmission and distribution delivery fees are estimated using the same method used for electricity sales and services to retail customers. In addition, ISO fees are estimated based on historical trends, estimated supply volumes and initial ERCOT ISO settlements. Volume estimates are then multiplied by the supply rate and recorded as cost of operations in the applicable reporting period.

Derivative Financial Instruments

The Company accounts for derivative financial instruments under ASC 815, which requires the Company to record all derivatives on the balance sheet at fair value unless they qualify for a NPNS exception. Changes in the fair value of non-hedge derivatives are immediately recognized in earnings. Changes in the fair value of derivatives accounted for as cash flow hedges, if elected for hedge accounting, are deferred and recorded as a component of accumulated OCI until the hedged transactions occur and are recognized in earnings.

The Company's primary derivative instruments are power purchase or sales contracts, fuels purchase contracts, and other energy related commodities used to mitigate variability in earnings due to fluctuations in market prices and interest rates. On an ongoing basis, the Company assesses the effectiveness of all derivatives that are designated as hedges for accounting purposes in order to determine that each derivative continues to be highly effective in offsetting changes in fair values or cash flows of hedged items. Internal analyses that measure the statistical correlation between the derivative and the associated hedged item determine the effectiveness of such a contract designated as a hedge. If it is determined that the derivative instrument is not highly effective as a hedge, hedge accounting will be discontinued prospectively. In this case, the gain or loss previously deferred in accumulated OCI would be frozen until the underlying hedged instrument is delivered unless the transactions being hedged are no longer probable of occurring in which case the amount in OCI would be immediately reclassified into earnings. If the derivative instrument is terminated, the effective portion of this derivative deferred in accumulated OCI will be frozen until the underlying hedged item is delivered. The Company had no cash flow hedges as of December 31, 2020.

Revenues and expenses on contracts that qualify for the NPNS exception are recognized when the underlying physical transaction is delivered. While these contracts are considered derivative financial instruments under ASC 815, they are not recorded at fair value, but on an accrual basis of accounting. If it is determined that a transaction designated as NPNS no longer meets the scope exception, the fair value of the related contract is recorded on the balance sheet and immediately recognized through earnings.

NRG's trading activities are subject to limits in accordance with the Company's Risk Management Policy. These contracts are recognized on the balance sheet at fair value and changes in the fair value of these derivative financial instruments are recognized in earnings.

Foreign Currency Translation and Transaction Gains and Losses

The local currencies are generally the functional currency of NRG's foreign operations. Foreign currency denominated assets and liabilities are translated at end-of-period rates of exchange. Revenues, expenses, and cash flows are translated at the weighted-average rates of exchange for the period. The resulting currency translation adjustments are not included in the Company's consolidated statements of operations for the period, but are accumulated and reported as a separate component of stockholders' equity until sale or complete or substantially complete liquidation of the net investment in the foreign entity takes place. Foreign currency transaction gains or losses are reported within other income/(expense) in the Company's consolidated statements of operations. For the years ended December 31, 2020, 2019 and 2018, amounts recognized as foreign currency transaction gains/(losses) were immaterial. The Company's cumulative translation adjustment balances as of December 31, 2020, 2019 and 2018 were $(2) million, $(13) million and $(13) million, respectively.

Concentrations of Credit Risk

Financial instruments which potentially subject the Company to concentrations of credit risk consist primarily of trust funds, accounts receivable, notes receivable, derivatives, and investments in debt securities. Trust funds are held in accounts managed by experienced investment advisors. Certain accounts receivable, notes receivable, and derivative instruments are concentrated within entities engaged in the energy industry. These industry concentrations may impact the Company's overall exposure to credit risk, either positively or negatively, in that the customers may be similarly affected by changes in economic, industry or other conditions. Receivables and other contractual arrangements are subject to collateral requirements under the

terms of enabling agreements. However, the Company believes that the credit risk posed by industry concentration is offset by the diversification and creditworthiness of its customer base. See Note 5, *Fair Value of Financial Instruments,* for a further discussion of derivative concentrations.

Fair Value of Financial Instruments

The carrying amount of cash and cash equivalents, funds deposited by counterparties, receivables, accounts payable, and accrued liabilities approximate fair value because of the short-term maturity of these instruments. See Note 5, *Fair Value of Financial Instruments,* for a further discussion of fair value of financial instruments.

Asset Retirement Obligations

The Company accounts for AROs in accordance with ASC 410-20, *Asset Retirement Obligations,* or ASC 410-20. Retirement obligations associated with long-lived assets included within the scope of ASC 410-20 are those for which a legal obligation exists under enacted laws, statutes, and written or oral contracts, including obligations arising under the doctrine of promissory estoppel, and for which the timing and/or method of settlement may be conditional on a future event. ASC 410-20 requires an entity to recognize the fair value of a liability for an ARO in the period in which it is incurred and a reasonable estimate of fair value can be made.

Upon initial recognition of a liability for an ARO, the Company capitalizes the asset retirement cost by increasing the carrying amount of the related long-lived asset by the same amount. Over time, the liability is accreted to its future value, while the capitalized cost is depreciated over the useful life of the related asset. See Note 15, *Asset Retirement Obligations,* for a further discussion of AROs.

Pensions and Other Postretirement Benefits

The Company offers pension benefits through a defined benefit pension plan. In addition, the Company provides postretirement health and welfare benefits for certain groups of employees. The Company accounts for pension and other postretirement benefits in accordance with ASC 715, *Compensation — Retirement Benefits*, or ASC 715. The Company recognizes the funded status of the Company's defined benefit plans in the statement of financial position and records an offset for gains and losses as well as all prior service costs that have not been included as part of the Company's net periodic benefit cost to other comprehensive income. The determination of the Company's obligation and expenses for pension benefits is dependent on the selection of certain assumptions. These assumptions determined by management include the discount rate, the expected rate of return on plan assets and the rate of future compensation increases. The Company's actuarial consultants assist in determining assumptions for such items as retirement age. The assumptions used may differ materially from actual results, which may result in a significant impact to the amount of pension obligation or expense recorded by the Company.

The Company measures the fair value of its pension assets in accordance with ASC 820, *Fair Value Measurements and Disclosures,* or ASC 820.

Stock-Based Compensation

The Company accounts for its stock-based compensation in accordance with ASC 718, *Compensation — Stock Compensation,* or ASC 718. The fair value of the Company's performance stock units is estimated on the date of grant using a Monte Carlo valuation model. NRG uses the Company's common stock price on the date of grant as the fair value of the Company's deferred stock units. The fair value of the Company's restricted stock units is derived from the closing price of NRG's common stock at the grant date. Forfeiture rates are estimated based on an analysis of the Company's historical forfeitures, employment turnover, and expected future behavior. The Company recognizes compensation expense for both graded and cliff vesting awards on a straight-line basis over the requisite service period for the entire award.

Investments Accounted for by the Equity Method

The Company has investments in various domestic energy projects, as well as one Australian project. The equity method of accounting is applied to such investments in affiliates, which include joint ventures and partnerships, because the ownership structure prevents the Company from exercising a controlling influence over the operating and financial policies of the projects. Under this method, equity in pre-tax income or losses of domestic partnerships and, generally, in the net income or losses of its Australian project, are reflected as equity in earnings of unconsolidated affiliates. Distributions from equity method investments that represent earnings on the Company's investment are included within cash flows from operating activities and distributions from equity method investments that represent a return of the Company's investment are included within cash flows from investing activities.

Tax Equity Arrangements

The Company's redeemable noncontrolling interest in subsidiaries represented third-party interests in the net assets under certain tax equity arrangements, which were consolidated by the Company, that had been entered into to finance the cost of solar energy systems under operating leases. The Company determined that the provisions in the contractual agreements of these structures represented substantive profit sharing arrangements. Further, the Company had determined that the appropriate methodology for calculating the redeemable noncontrolling interest that reflected the substantive profit sharing arrangements was a balance sheet approach that utilized the HLBV method. Under the HLBV method, the amounts reported as redeemable noncontrolling interests represented the amounts the investors that were party to the tax equity arrangements would hypothetically receive at each balance sheet date under the liquidation provisions of the contractual agreements, assuming the net assets of the funding structures were liquidated at their recorded amounts. The investors' interests in the results of operations of the funding structures were determined as redeemable noncontrolling interests at the start and end of each reporting period, after taking into account any capital transactions between the structures and the funds' investors. The calculations utilized to apply the HLBV method included estimated calculations of taxable income or losses for each reporting period. During the first quarter of 2020, the Company repurchased its partners' equity interest as further described in Note 18, *Investments Accounted for by the Equity Method and Variable Interest Entities***.** The Company has no remaining tax equity arrangements as of December 31, 2020.

Redeemable Noncontrolling Interest

To the extent that the third-party has the right to redeem their interests for cash or other assets, the Company had included the noncontrolling interest attributable to the third party as a component of temporary equity in the mezzanine section of the consolidated balance sheet. During the first quarter of 2020, the Company repurchased its partners' equity interest. The following table reflects the changes in the Company's redeemable noncontrolling interest balance for the years ended December 31, 2020, 2019 and 2018.

		(In millions)
Balance as of December 31, 2017	$	78
Distributions to redeemable noncontrolling interest		(3)
Contributions from redeemable noncontrolling interest		26
Non-cash adjustments to redeemable noncontrolling interest		(8)
Net income attributable to redeemable noncontrolling interest - continuing operations		1
Net loss attributable to redeemable noncontrolling interest - discontinued operations		(27)
Sale of NRG Yield and the Renewables Platform (a)		(48)
Balance as of December 31, 2018		19
Distributions to redeemable noncontrolling interest		(2)
Net income attributable to redeemable noncontrolling interest - continuing operations		3
Balance as of December 31, 2019		20
Repurchase of redeemable noncontrolling interest		(20)
Balance as of December 31, 2020	**$**	—

(a) See Note 4, *Acquisitions, Discontinued Operations and Dispositions*, for further information regarding the sale of NRG Yield and its Renewables Platform

Sale-Leaseback Arrangements

NRG is party to sale-leaseback arrangements that provide for the sale of certain assets to a third party and simultaneously leases back the same asset to the Company. If the seller-lessee transfers control of the underlying assets to the buyer-lessor, the arrangement is accounted for under ASC 842-40, Sale-Leaseback Transactions. These arrangements are classified as operating leases on the Company's consolidated balance sheets. See Note 10, *Leases,* for further discussion.

Marketing and Advertising Costs

The Company expenses its marketing and advertising costs as incurred and includes them within selling, general and administrative expenses. The costs of tangible assets used in advertising campaigns are recorded as fixed assets or deferred advertising costs and amortized as advertising costs over the shorter of the useful life of the asset or the advertising campaign. The Company has several long-term sponsorship arrangements. Payments related to these arrangements are deferred and expensed over the term of the arrangement. Advertising expenses for the years ended December 31, 2020, 2019 and 2018 were $74 million, $66 million and $73 million, respectively.

Reorganization Costs

Reorganization costs include costs incurred by the Company related to the Transformation Plan implementation and primarily reflect severance and contract modifications. There were no reorganization costs for the year ended December 31, 2020. Reorganization costs for the years ended December 31, 2019 and 2018 were $23 million and $90 million, respectively.

Business Combinations

The Company accounts for its business combinations in accordance with ASC 805, *Business Combinations,* or ASC 805, which requires an acquirer to recognize and measure in its financial statements the identifiable assets acquired, the liabilities assumed, and any noncontrolling interest in the acquiree at fair value at the acquisition date. The Company also recognizes and measures the goodwill acquired or a gain from a bargain purchase in the business combination. In addition, transaction costs are expensed as incurred.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

In recording transactions and balances resulting from business operations, the Company uses estimates based on the best information available. Estimates are used for such items as plant depreciable lives, tax provisions, uncollectible accounts, actuarially determined benefit costs, the valuation of energy commodity contracts, environmental liabilities, legal costs incurred in connection with recorded loss contingencies, and assets acquired and liabilities assumed in business combinations, among others. In addition, estimates are used to test long-lived assets and goodwill for impairment and to determine the fair value of impaired assets. As better information becomes available or actual amounts are determinable, the recorded estimates are revised. Consequently, operating results can be affected by revisions to prior accounting estimates.

Reclassifications

Certain prior year amounts have been reclassified for comparative purposes. The reclassifications did not affect results from operations, net assets or cash flows.

Recent Accounting Developments - Guidance Adopted in 2020

ASU 2020-09 — In October 2020, the FASB issued ASU 2020-09, *Debt (Topic 470) - Amendments to SEC Paragraphs Pursuant to SEC Release No. 33-10762*, or ASU 2020-09, to reflect the SEC's amended disclosure rules for guaranteed debt securities offerings. The final rule amends the disclosure requirements in SEC Regulation S-X, Rule 3-10, which require entities to separately present financial statements for subsidiary issuers and guarantors of registered debt securities unless certain exceptions are met. The amended rule allows entities to provide summarized financial information of the parent company and its issuers and guarantors on a combined basis either in a note to the financial statements or as part of management's discussion and analysis. ASU 2020-09 is effective for filings on or after January 4, 2021, with early adoption permitted. The Company adopted the amendments effective December 31, 2020. As the amendments contemplate changes in disclosures only, it did not have an impact on the Company's results of operations, cash flows, or statement of financial position.

ASU 2018-17 — In October 2018, the FASB issued ASU No. 2018-17, *Consolidations (Topic 810): Targeted Improvements to Related Party Guidance for Variable Interest Entities*, or ASU No. 2018-17, in response to stakeholders' observations that Topic 810, *Consolidations*, could be improved thereby improving general purpose financial reporting. Specifically, ASU No. 2018-17 requires application of the variable interest entity (VIE) guidance to private companies under common control and consideration of indirect interest held through related parties under common control for determining whether fees paid to decision makers and service providers are variable interests. The Company adopted the amendments effective January 1, 2020 using the retrospective approach. The adoption did not have a material impact on the Company's results of operations, cash flows, or statement of financial position.

ASU 2018-15 — In August 2018, the FASB issued ASU No. 2018-15, *Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in Cloud Computing Arrangement That Is a Service Contract*, or ASU No. 2018-15. The amendments in ASU No. 2018-15 align the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing costs incurred to develop or obtain internal-use software (and hosting arrangement that include an internal-use software license). The amendment also requires the customer to amortize the capitalized implementation costs of a hosting arrangement that is a service contract over the term of the hosting arrangement. The Company adopted the amendments effective January 1, 2020 using the prospective approach. The adoption did not have a material impact on the Company's results of operations, cash flows, or statement of financial position.

ASU 2018-13 — In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework - Changes to the Disclosure Requirement for Fair value Measurement)*, or ASU No. 2018-13. The amendments in ASU No. 2018-13 eliminate such disclosures as the amount of and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy and add new disclosure requirements for Level 3 measurements. The Company adopted the amendments effective January 1, 2020. Certain disclosures in ASU No. 2018-13 were applied on a retrospective basis and others on a prospective basis as required. As the amendments contemplates changes in disclosures only, it did not have an impact on the Company's results of operations, cash flows, or statement of financial position.

ASU 2016-13 — In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Statements,* or ASU No. 2016-13, which was further amended through various updates issued by the FASB thereafter. The guidance in ASU No. 2016-13 provides a new model for recognizing credit losses on financial assets carried at amortized cost using an estimate of expected credit losses, instead of the "incurred loss" methodology previously required for recognizing credit losses that delayed recognition until it was probable that a loss was incurred. The estimate of expected credit losses is to be based on consideration of past events, current conditions and reasonable and supportable forecasts of future conditions. The Company adopted the standard and its subsequent corresponding updates effective January 1, 2020 using the modified retrospective approach. Results for the reporting periods after January 1, 2020 are presented under Topic 326 while prior period amounts continue to be reported in accordance with previously applicable GAAP. The Company's adoption of Topic 326 did not have a material impact on the Company's results of operations, cash flows, or statement of financial position.

Recent Accounting Developments - Guidance Not Yet Adopted

ASU 2020-06 — In August 2020, the FASB issued ASU No. 2020-06, *Debt - Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging - Contracts in Entity's Own Equity (Subtopic 815-40)*, or ASU No. 2020-06. The guidance in ASU 2020-06 reduces the number of accounting models for convertible debt instruments and convertible preferred stock. In addition, ASU 2020-06 improves and amends the related earnings per share guidance. This standard is effective for fiscal years beginning after December 15, 2021, and interim periods within those fiscal years. Early adoption is permitted in fiscal years beginning after December 15, 2020, including interim periods within those fiscal years. The Company is currently in the process of assessing the impact of this guidance on the consolidated financial statements and disclosures related to earnings per share.

ASU 2019-12 — In December 2019, the FASB issued ASU No. 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes,* or ASU No. 2019-12, to simplify various aspects related to accounting for income taxes. The guidance in ASU 2019-12 amends the general principles in Topic 740 to eliminate certain exceptions for recognizing deferred taxes for investment, performing intraperiod allocation and calculating income taxes in interim periods. This ASU also includes guidance to reduce complexity in certain areas, including recognizing deferred taxes for tax goodwill and allocating taxes to members of a consolidated group. ASU 2019-12 is effective for fiscal years beginning after December 15, 2020, and interim periods within those fiscal years. The Company does not believe that the adoption of this ASU will have a material impact on the Company's results of operations, cash flows, or statement of financial position.

Note 3 — *Revenue Recognition*

Revenue from Contracts with Customers

On January 1, 2018, the Company adopted the guidance in ASC 606, Revenue from Contracts with Customers, or ASC 606, using the modified retrospective method applied to contracts that were not completed as of the adoption date. The Company recognized the cumulative effect of initially applying the new standard as a credit to the opening balance of accumulated deficit, resulting in a decrease of $15 million. The adjustment primarily related to costs incurred to obtain a contract with customers and customer incentives. Following the adoption of the new standard, the Company's revenue recognition of its contracts with customers remains materially consistent with its historical practice. The Company's policies with respect to its various revenue streams are detailed below. The Company generally applies the invoicing practical expedient to recognize revenue for the revenue streams detailed below, except in circumstances where the invoiced amount does not represent the value transferred to the customer.

Retail Revenue

Gross revenues for energy sales and services to retail customers are recognized as the Company transfers the promised goods and services to the customer. For the majority of its electricity and natural gas contracts, the Company's performance obligation with the customer is satisfied over time and performance obligations for its electricity and natural gas products are recognized as the customer takes possession of the product. The Company also allocates the contract consideration to distinct performance obligations in a contract for which the timing of the revenue recognized is different. Additionally, customer discounts and incentives reduce the contract consideration and are recognized over the term of the contract.

Energy sales and services that have been delivered but not billed by period end are estimated. Accrued unbilled revenues are based on estimates of customer usage since the date of the last meter reading provided by the independent system operators, utilities, or electric distribution companies. Volume estimates are based on daily forecasted volumes and estimated customer

usage by class. Unbilled revenues are calculated by multiplying these volume estimates by the applicable rate by customer class. Estimated amounts are adjusted when actual usage is known and billed.

As contracts for retail electricity and natural gas can be for multi-year periods, the Company has performance obligations under these contracts that have not yet been satisfied. These performance obligations have transaction prices that are both fixed and variable, and that vary based on the contract duration, customer type, inception date and other contract-specific factors. For the fixed price contracts, the amount of any unsatisfied performance obligations will vary based on customer usage, which will depend on factors such as weather and customer activity and therefore it is not practicable to estimate such amounts.

Energy Revenue

Both physical and financial transactions consist of revenues billed to a third party at either market or negotiated contract terms to optimize the financial performance of the Company's generating facilities. Electric energy revenue is recognized upon transmission to the customer over time, using the output method for measuring progress of satisfaction of performance obligations. Physical transactions, or the sale of generated electricity to meet supply and demand, are recorded on a gross basis in the Company's consolidated statements of operations. The Company applies the invoicing practical expedient in recognizing energy revenue. Under the practical expedient, revenue is recognized based on the invoiced amount which is equal to the value to the customer of NRG's performance obligation completed to date. Financial transactions used to hedge the sale of electricity are recorded net within operating revenues in the consolidated statements of operations in accordance with ASC 815.

Capacity Revenue

The Company's largest sources of capacity revenues are capacity auctions in PJM, ISO-NE and NYISO. Capacity revenues also include revenues billed to a third party at either market or negotiated contract terms for making installed generation and demand response capacity available in order to satisfy system integrity and reliability requirements. Capacity revenues are recognized over time, using the output method for measuring progress of satisfaction of performance obligations. The Company applies the invoicing practical expedient in recognizing capacity revenue. Under the practical expedient, revenue is recognized based on the invoiced amount which is equal to the value to the customer of NRG's performance obligation completed to date.

Performance Obligations

As of December 31, 2020, estimated future fixed fee performance obligations are $668 million, $289 million, $47 million, $36 million and $20 million for fiscal years 2021, 2022, 2023, 2024 and 2025, respectively. These performance obligations are for cleared auction MWs in the PJM, ISO-NE, NYISO and MISO capacity auctions and are subject to penalties for non performance.

Renewable Energy Credits

Renewable energy credits are usually sold through long-term contracts. Revenue from the sale of self-generated RECs is recognized when related energy is generated and simultaneously delivered even in cases where there is a certification lag as it has been deemed to be perfunctory.

In a bundled contract to sell energy, capacity and/or self-generated RECs, all performance obligations are deemed to be delivered at the same time and hence, timing of recognition of revenue for all performance obligations is the same and occurs over time. In such cases, it is often unnecessary to allocate transaction price to multiple performance obligations.

Sale of Emission Allowances

The Company records its inventory of emission allowances as part of intangible assets. From time to time, management may authorize the transfer of emission allowances in excess of expected usage from the Company's emission bank to intangible assets held-for-sale for trading purposes. The Company records the sale of emission allowances on a net basis within operating revenue in the Company's consolidated statements of operations.

Disaggregated Revenue

The following tables represent the Company's disaggregation of revenue from contracts with customers for the years ended December 31, 2020, 2019 and 2018:

	For the Year Ended December 31, 2020				
(In millions)	**Texas**	**East**	**West/Other**	**Corporate/ Eliminations**	**Total**
Retail revenue					
Mass Market	$ 5,027	$ 1,306	$ —	$ (2)	$ 6,331
Business Solutions	1,034	95	—	—	1,129
Total retail revenue	6,061	1,401	—	(2)	7,460
Energy revenue[(a)]	24	183	333	(1)	539
Capacity revenue[(a)]	—	620	61	(1)	680
Mark-to-market for economic hedging activities[(b)]	2	88	(3)	8	95
Other revenue[(a)]	222	62	43	(8)	319
Total operating revenue	6,309	2,354	434	(4)	9,093
Less: Lease revenue	—	1	17	—	18
Less: Realized and unrealized ASC 815 revenue	30	314	38	3	385
Total revenue from contracts with customers	$ 6,279	$ 2,039	$ 379	$ (7)	$ 8,690

(a) The following amounts of energy, capacity and other revenue relate to derivative instruments and are accounted for under ASC 815:

(In millions)	**Texas**	**East**	**West/Other**	**Corporate/ Eliminations**	**Total**
Energy revenue	$ —	$ 67	$ 43	$ (5)	$ 105
Capacity revenue	—	156	—	—	156
Other revenue	28	3	(2)	—	29

(b) Revenue relates entirely to unrealized gains and losses on derivative instruments accounted for under ASC 815

	For the Year Ended December 31, 2019				
(In millions)	**Texas**	**East**	**West/Other**	**Corporate/ Eliminations**	**Total**
Retail revenue					
Mass Market	$ 5,027	$ 1,230	$ —	$ (3)	$ 6,254
Business Solutions	1,205	74	—	—	1,279
Total retail revenue	6,232	1,304	—	(3)	7,533
Energy revenue[(a)]	529	322	318	—	1,169
Capacity revenue[(a)]	—	664	36	—	700
Mark-to-market for economic hedging activities[(b)]	47	(29)	16	(1)	33
Other revenue[(a)(c)]	261	58	70	(3)	386
Total operating revenue	7,069	2,319	440	(7)	9,821
Less: Lease revenue	—	1	19	—	20
Less: Realized and unrealized ASC 815 revenue	1,562	183	67	(2)	1,810
Total revenue from contracts with customers	$ 5,507	$ 2,135	$ 354	$ (5)	$ 7,991

(a) The following amounts of energy, capacity and other revenue relate to derivative instruments and are accounted for under ASC 815:

(In millions)	**Texas**	**East**	**West/Other**	**Corporate/ Eliminations**	**Total**
Energy revenue	$ 1,459	$ 98	$ 39	$ (1)	$ 1,595
Capacity revenue	—	109	—	—	109
Other revenue	56	5	12	—	73

(b) Revenue relates entirely to unrealized gains and losses on derivative instruments accounted for under ASC 815

	For the Year Ended December 31, 2018				
(In millions)	**Texas**	**East**	**West/Other**	**Corporate/ Eliminations**	**Total**
Retail revenue					
Mass Market	$ 4,618	$ 974	$ —	$ (1)	$ 5,591
Business Solutions	1,238	65	—	—	1,303
Total retail revenue	5,856	1,039	—	(1)	6,894
Energy revenue[(a)]	371	546	566	13	1,496
Capacity revenue[(a)]	—	746	79	—	825
Mark-to-market for economic hedging activities[(b)]	(77)	(35)	(5)	(13)	(130)
Other revenue[(a)(c)]	251	75	84	(17)	393
Total operating revenue	6,401	2,371	724	(18)	9,478
Less: Lease revenue	1	1	19	—	21
Less: Realized and unrealized ASC 815 revenue	1,096	210	2	1	1,309
Total revenue from contracts with customers	$ 5,304	$ 2,160	$ 703	$ (19)	$ 8,148

(a) The following amounts of energy, capacity and other revenue relate to derivative instruments and are accounted for under ASC 815:

(In millions)	**Texas**	**East**	**West/Other**	**Corporate/ Eliminations**	**Total**
Energy revenue	$ 1,131	$ 90	$ (2)	$ 14	$ 1,233
Capacity revenue	—	137	—	—	137
Other revenue	42	17	9	1	69

(b) Revenue relates entirely to unrealized gains and losses on derivative instruments accounted for under ASC 815

Contract Balances

The following table reflects the contract assets and liabilities included in the Company's balance sheet as of December 31, 2020 and 2019:

(In millions)	**December 31, 2020**	**December 31, 2019**
Deferred customer acquisition costs	$ 113	$ 133
Accounts receivable, net - Contracts with customers	866	1,002
Accounts receivable, net - Derivative instruments	33	18
Accounts receivable, net - Affiliate	5	5
Total accounts receivable, net	$ 904	$ 1,025
Unbilled revenues (included within Accounts receivable, net - Contracts with customers)	$ 393	$ 402
Deferred revenues [(a)]	$ 60	$ 82

(a) Deferred revenues from contracts with customers for the years ended December 31, 2020 and 2019 were approximately $31 million and $24 million, respectively.

The revenue recognized from contracts with customers during both years ended December 31, 2020 and 2019 relating to the deferred revenue balance at the beginning of each period was $13 million. The change in deferred revenue balances during the years ended December 31, 2020 and 2019 was primarily due to the timing difference of when consideration was received and when the performance obligation was transferred.

The Company's customer acquisition costs consist of broker fees, commission payments and other costs that represent incremental costs of obtaining the contract with customers for which the Company expects to recover. The Company amortizes these amounts over the estimated life of the customer contract. As a practical expedient, the Company expenses the incremental costs of obtaining a contract if the amortization period of the asset would have been one year or less.

When the Company receives consideration from the customer that is in excess of the amount due, such consideration is reclassified to deferred revenue, which represents a contract liability. Generally, the Company will recognize revenue from contract liabilities in the next period as the Company satisfies its performance obligations.

Note 4 —*Acquisitions, Discontinued Operations and Dispositions*

Acquisitions

Direct Energy Acquisition

On January 5, 2021 (the "Acquisition Closing Date"), the Company acquired all of the issued and outstanding common shares of Direct Energy, a North American subsidiary of Centrica plc. Direct Energy is a leading retail provider of electricity, natural gas, and home and business energy related products and services in North America, with operations in all 50 U.S. states and 8 Canadian provinces. The acquisition increased NRG's retail portfolio by over 3 million customers and strengthens its integrated model. It also broadens the Company's presence in the Northeast and into states and locales where it did not previously operate, supporting NRG's objective to diversify its business.

The Company paid an aggregate purchase price of $3.625 billion in cash, subject to a purchase price adjustment of $77 million. The Company funded the purchase price using a combination of $715 million of cash on hand, $166 million from a draw on its Revolving Credit Facility (of which $107 million was used to fund acquisition costs and financing fees that are not included in the aggregate purchase price above) as well as approximately $2.9 billion in secured and unsecured corporate debt issued in December 2020. The Company also increased its collective collateral facilities by $3.4 billion as of the Acquisition Closing Date to meet the additional liquidity requirements related to the acquisition, as detailed in the following table:

(In millions)	December 31, 2020
Revolving Credit Facility commitment increase[(a)]	$ 802
Revolving Credit Facility new tranche[(a)]	273
Credit default swap facility	150
Revolving accounts receivable financing facility	750
Repurchase facility	75
Facility agreement in connection with the sale of pre-capitalized trust securities[(a)]	874
Bilateral letter of credit facilities	475
Total Increases to Liquidity and Collateral Facilities	$ 3,399

(a) Available upon the Acquisition Closing Date

For further discussion see Note 13, *Receivables Securitization and Repurchase Facility* and Note 14, *Long-term Debt and Finance Leases*.

Acquisition costs of $17 million for the year ended December 31, 2020 are included in selling, general and administrative costs in the Company's consolidated statement of operations.

The acquisition will be recorded as a business combination under ASC 805, with identifiable assets acquired and liabilities assumed provisionally recorded at their estimated fair values on the acquisition date. The initial accounting for the business combination is not complete because the evaluation necessary to assess the fair value of certain net assets acquired and the amount of goodwill to be recognized are still in process. The provisional amounts are subject to revision until the evaluations are completed to the extent that additional information is obtained about the facts and circumstances that existed as of the acquisition date.

The purchase price is provisionally allocated as follows:

	(In millions)
Assets	
Cash and cash equivalents	$ 152
Current assets	3,374
Property, plant and equipment	166
Goodwill and other intangibles [(a)]	3,446
Other non-current assets	687
Total assets acquired	7,825
Liabilities	
Current liabilities	3,085
Non-current liabilities	1,038
Total liabilities assumed	4,123
Direct Energy Purchase Price	$ 3,702

(a) Goodwill arising from the acquisition is attributed to the value of the platform acquired and the synergies expected from combining the operations of Direct Energy with NRG's existing businesses.

Midwest Generation Lease Purchase — On September 29, 2020, Midwest Generation acquired all of the ownership interests in the Powerton facility and Units 7 and 8 of the Joliet facility, which were being leased through 2034 and 2030, respectively, for approximately $260 million. The purchase was funded with cash-on-hand. Upon closing, lease expense related to these facilities, which totaled approximately $14 million in 2019, and the operating lease liability of $148 million were eliminated.

Stream Energy Acquisition — On August 1, 2019, the Company completed the acquisition of Stream Energy's retail electricity and natural gas business operating in 9 states and Washington, D.C. for $329 million, including working capital and other adjustments of approximately $29 million. The acquisition increased NRG's retail portfolio by approximately 600,000 RCEs or 450,000 customers. The purchase price was allocated as follows:

	(In millions)
Account receivable	$ 98
Accounts payable	(73)
Other net current and non-current working capital	5
Marketing partnership	154
Customer relationships	85
Trade name	28
Other intangible assets	26
Goodwill [(a)]	6
Stream Purchase Price	$ 329

(a) Goodwill arising from the acquisition is attributed to the value of the platform acquired and the synergies expected from combining the operations of Stream Energy with NRG's existing businesses. Goodwill of $5 million and $1 million was assigned to the Texas and East segments, respectively, and is not deductible for tax purposes

XOOM Energy Acquisition — On June 1, 2018, the Company completed the acquisition of XOOM Energy, LLC, an electricity and natural gas retailer operating in 19 states, Washington, D.C. and Canada, for approximately $213 million, including working capital and other adjustments of $48 million. The acquisition increased NRG's retail portfolio by approximately 395,000 RCEs or 300,000 customers. The purchase price was allocated as follows:

	(In millions)
Net current and non-current working capital	$ 46
Other intangible assets	133
Goodwill	34
XOOM Purchase Price	$ 213

(a) Goodwill arising from the acquisition is attributed to the value of the platform acquired and the synergies expected from combining the operations of XOOM Energy with NRG's existing businesses. Goodwill of $28 million and $6 million was assigned to the Texas and East segments, respectively, and is deductible for tax purposes

Small Book Acquisitions — In 2020, the Company acquired multiple books of customers totaling approximately 56,000 customers for $22 million. During 2019, the Company acquired several books of customers totaling approximately 72,000 customers for $17 million, of which $13 million was paid in 2019. During 2018, the Company acquired several books of customers totaling approximately 115,000 customers, along with brand names, for $44 million, of which $40 million was paid in 2018 and $2 million was paid in 2019. The majority of the purchase price for the 2020, 2019 and 2018 book acquisitions were allocated to acquired intangible assets.

Discontinued Operations

Sale of South Central Portfolio

On February 4, 2019, the Company completed the sale of its South Central Portfolio to Cleco for cash consideration of $1 billion excluding working capital and other adjustments. The Company concluded that the divested business met the criteria for discontinued operations, as the disposition represents a strategic shift in the business in which NRG operates and held-for-sale criteria as of December 31, 2018. As such, all prior period results for the operations of the South Central Portfolio were reclassified as discontinued operations at December 31, 2018. In connection with the transaction, NRG also entered into a transition services agreement to provide certain corporate services to the divested business, which have been substantially completed in 2020.

The South Central Portfolio includes the 1,153 MW Cottonwood natural gas generating facility. Upon the closing of the sale of the South Central Portfolio, NRG entered into a lease agreement with Cleco to leaseback the Cottonwood facility through 2025. Due to its continuing involvement with the Cottonwood facility, NRG did not use held-for-sale or discontinued operations treatment in accounting for the Cottonwood facility.

Summarized results of South Central discontinued operations were as follows:

	Year Ended December 31,	
(In millions)	**2019**	**2018**
Operating revenues	$ 31	$ 410
Operating costs and expenses	(23)	(346)
Other income	—	2
Gain from operations of discontinued components	**8**	**66**
Gain on disposal of discontinued operations, net of tax	20	—
Gain from discontinued operations, including disposal, net of tax	**$ 28**	**$ 66**

Sale of Ownership in NRG Yield, Inc. and its Renewables Platform

On August 31, 2018, the Company completed the sale of its ownership interests in NRG Yield, Inc. and its Renewables Platform to GIP for total cash consideration of $1.348 billion. The Company concluded that the divested businesses met the criteria for discontinued operations, as the dispositions represented a strategic shift in the business in which NRG operates. As such, all prior period results for the transaction were reclassified as discontinued operations. In connection with the transaction, NRG entered into a transition services agreement to provide certain corporate services to the divested businesses in 2018, which concluded in 2020. During the year ended December 31, 2019, the Company recorded an adjustment to reduce the purchase price by $15 million in connection with the completion of the Patriot Wind project. During the year ended December 31, 2019, the Company reduced the liability related to the indemnification of NRG Yield for any increase in property taxes for certain solar properties by $22 million due to updated estimates.

Carlsbad

On February 6, 2018, NRG entered into an agreement with NRG Yield and GIP to sell 100% of its membership interests in Carlsbad Energy Holdings LLC, which owns the Carlsbad project, for $385 million of cash consideration, excluding working capital adjustments. The primary condition to close the Carlsbad transaction was the completion of the sale of NRG Yield and the Renewables Platform. At the time of the sale of NRG Yield and the Renewables Platform in August 2018, the Company concluded that the Carlsbad project met the criteria for discontinued operations and accordingly, all current and prior period results for Carlsbad were reclassified as discontinued operations. The transaction closed on February 27, 2019. Carlsbad will continue to have a ground lease and easement agreement with NRG with an initial term ending in 2039 and two ten-year extensions. As a result of the transaction, additional commitments related to the project totaled $23 million as of December 31, 2020 and December 31, 2019.

Summarized results of NRG Yield, Inc. and Renewables Platform and Carlsbad discontinued operations were as follows:

(In millions)	**2019**	**2018**
Operating revenues	$ 19	$ 909
Operating costs and expenses	(9)	(661)
Other expenses	(5)	(174)
Gain/(loss) from operations of discontinued components, before tax	5	74
Income tax expense	—	4
Gain/(loss) from discontinued operations, net of tax	**5**	**70**
Gain/(loss) on disposal of discontinued operations, net of tax	265	(134)
Income/(expense) from California property tax indemnification	22	(153)
Income/(expense) from other commitments, indemnification and fees	4	(75)
Income/(loss) on disposal of discontinued operations, net of tax	**291**	**(362)**
Income/(loss) from discontinued operations, net of tax	**$ 296**	**$ (292)**

Sale of Assets to NRG Yield, Inc. Prior to Discontinued Operations

On June 19, 2018, the Company completed the UPMC Thermal Project and received cash consideration from NRG Yield of $84 million, plus an additional $3 million received at final completion in January 2019.

On March 30, 2018, as part of the Transformation Plan, the Company sold to NRG Yield, Inc. 100% of NRG's interests in Buckthorn Renewables, LLC, which owns a 154 MW construction-stage utility-scale solar generation project, located in Texas. NRG Yield, Inc. paid cash consideration of approximately $42 million, excluding working capital adjustments, and assumed non-recourse debt of $183 million.

GenOn

On June 14, 2017, the GenOn Entities filed voluntary petitions for relief under Chapter 11 of the Bankruptcy Code in the Bankruptcy Court. As a result of the bankruptcy filings, NRG concluded that it no longer controlled GenOn as it was subject to the control of the Bankruptcy Court; and, accordingly, NRG deconsolidated GenOn and its subsidiaries for financial reporting purposes as of such date.

By eliminating a large portion of its operations in the PJM market with the deconsolidation of GenOn, NRG concluded that GenOn met the criteria for discontinued operations, as this represented a strategic shift in the business in which NRG operated. As such, all prior period results for GenOn were reclassified in 2017 as discontinued operations.

Summarized results of discontinued operations were as follows:

	Year Ended December 31,	
(In millions)	**2019**	**2018**
Interest income - affiliate	$ —	$ 3
Income/(loss) from discontinued operations, net of tax	**—**	**3**
Settlement consideration, insurance and services credit	—	63
Pension and post-retirement liability assumption	—	21
Other	(3)	(53)
(Loss)/income on disposal of discontinued operations, net of tax	**(3)**	**31**
(Loss)/income from discontinued operations, net of tax	**$ (3)**	**$ 34**

GenOn Settlement and Plan Confirmation

Effective July 16, 2018, NRG and GenOn consummated the GenOn Settlement whereby the Company paid GenOn approximately $125 million, which included (i) the settlement consideration of $261 million, (ii) the transition services credit of $28 million and (iii) the return of $15 million of collateral posted to NRG; offset by the (i) $151 million in borrowings under the intercompany secured revolving credit facility, (ii) related accrued interest and fees of $12 million, (iii) remaining payments due under the transition services agreement of $10 million, (iv) $4 million reduction of the settlement payment related to NRG assigning to GenOn approximately $8 million of historical claims against REMA and (v) certain other balances due to NRG totaling $2 million.

GenOn's plan of reorganization was confirmed on December 14, 2018. Pursuant to the confirmed plan, NRG retained the pension liability for GenOn employees for service provided prior to the completion of the reorganization. NRG also retained the liability for GenOn's post-employment and retiree health and welfare benefits. As a result of GenOn's emergence from bankruptcy, NRG took a deduction for GenOn tax losses of $9.5 billion, including a worthless stock deduction.

Other than those obligations which survive or are independent of the releases described herein, the GenOn Settlement and the GenOn Chapter 11 plan provide NRG releases from GenOn and each of its debtor and non-debtor subsidiaries.

REMA Plan of Reorganization

On October 16, 2018, REMA and its subsidiaries filed voluntary petitions for chapter 11 relief and a prepackaged plan of reorganization in the United States Bankruptcy Court for the Southern District of Texas. The REMA debtors' plan of reorganization has been formally accepted by REMA's voting creditors and is consistent with the releases NRG received under the GenOn Settlement and the GenOn plan.

GenMA Settlement

The Bankruptcy Court order confirming the plan of reorganization also approved the settlement terms agreed to among the GenOn Entities, NRG, the Consenting Holders, GenOn Mid-Atlantic, and certain of GenOn Mid-Atlantic's stakeholders, or the GenMA Settlement, and directed the settlement parties to cooperate in good faith to negotiate definitive documentation consistent with the GenMA Settlement term sheet in order to pursue consummation of the GenMA Settlement. The definitive documentation effectuating the GenMA Settlement was finalized and effective as of April 27, 2018. Certain terms of the compromise with respect to NRG and GenOn Mid-Atlantic are as follows:

- Settlement of all pending litigation and objections to the Plan (including with respect to releases and feasibility);
- NRG provided $38 million in letters of credit as new qualifying credit support to GenOn Mid-Atlantic; such letters of credit were never drawn and were returned and canceled on December 17, 2019 and
- NRG paid approximately $6 million as reimbursement of professional fees incurred by certain of GenOn Mid-Atlantic's stakeholders in connection with the GenMA Settlement.

Dispositions

On February 28, 2021, the Company entered into a definitive purchase agreement with Generation Bridge, an affiliate of ArcLight Capital Partners, to sell approximately 4,850 MWs of fossil generating assets from its East and West regions of operations for total proceeds of $760 million, subject to standard purchase price adjustments and certain other indemnifications. As part of the transaction, NRG is entering into a tolling agreement for its 866 MW Arthur Kill plant in New York City through April 2025. The transaction is expected to close in the fourth quarter of 2021, and is subject to various closing conditions, approvals and consents, including FERC, NYSPSC, and antitrust review under Hart-Scott-Rodino.

On November 19, 2020, the Company entered an agreement to sell its 35% ownership in Agua Caliente to Clearway Energy for $202 million. The sale of the solar project closed on February 3, 2021.

In the third quarter of 2020, the Company concluded its Home Solar business was held for sale and recorded an impairment loss of $29 million, as further discussed in Note 11, *Asset Impairments*. On November 13, 2020, the Company completed the sale of the Home Solar business for cash proceeds of $66 million, resulting in a $2 million loss on the sale. In connection with the sale, the Company extinguished debt of $27 million and recognized a $5 million loss on the extinguishment.

On August 1, 2018, the Company completed the sale of 100% of its ownership interests in BETM to Diamond Energy Trading and Marketing, LLC for $71 million, net of working capital adjustments, which resulted in a gain of $15 million on the sale. The sale also resulted in the release and return of approximately $119 million of letters of credit, $32 million of parent guarantees, and $4 million of net cash collateral to NRG.

On June 29, 2018, the Company completed the sale of Canal 3 to Stonepeak Kestrel for cash proceeds of approximately $16 million and recorded a gain of $17 million. Prior to the sale, Canal 3 entered into a financing arrangement and received cash proceeds of $167 million, of which $151 million was distributed to the Company. The related debt was non-recourse to NRG and was transferred to Stonepeak Kestrel in connection with the sale of Canal 3. The Company entered into a project management agreement in 2018 to manage construction of Canal 3 and substantial completion was reached in June 2019.

The Company completed other asset sales for cash proceeds of $15 million and $22 million during the years ended December 31, 2020 and 2019, respectively.

Note 5 — *Fair Value of Financial Instruments*

For cash and cash equivalents, funds deposited by counterparties, restricted cash, accounts and other receivables, accounts payable, restricted cash, and cash collateral posted and received in support of energy risk management activities, the carrying amount approximates fair value because of the short-term maturity of those instruments and are classified as Level 1 within the fair value hierarchy.

The estimated carrying values and fair values of the Company's recorded financial instruments not carried at fair market value are as follows:

	As of December 31,			
	2020		2019	
(In millions)	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Assets				
Notes receivable	$ 2	$ 2	$ 11	$ 8
Liabilities				
Long-term debt, including current portion [(a)]	$ 8,781	$ 9,446	$ 5,956	$ 6,504

(a) Excludes deferred financing costs, which are recorded as a reduction to long-term debt on the Company's consolidated balance sheets

The fair value of the Company's publicly-traded long-term debt is based on quoted market prices and is classified as Level 2 within the fair value hierarchy. The fair value of debt securities, non-publicly traded long-term debt, and certain notes receivable of the Company are based on expected future cash flows discounted at market interest rates or current interest rates for similar instruments with equivalent credit quality and are classified as Level 3 within the fair value hierarchy. The following table presents the level within the fair value hierarchy for long-term debt, including current portion as of December 31, 2020 and 2019:

	As of December 31, 2020		As of December 31, 2019	
(In millions)	Level 2	Level 3	Level 2	Level 3
Long-term debt, including current portion	$ 9,446	$ —	$ 6,388	$ 116

Fair Value Accounting under ASC 820

ASC 820 establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three levels as follows:

- Level 1 — quoted prices (unadjusted) in active markets for identical assets or liabilities that the Company has the ability to access as of the measurement date. NRG's financial assets and liabilities utilizing Level 1 inputs include active exchange-traded securities, energy derivatives, and trust fund investments.
- Level 2 — inputs other than quoted prices included within Level 1 that are directly observable for the asset or liability or indirectly observable through corroboration with observable market data. NRG's financial assets and liabilities utilizing Level 2 inputs include fixed income securities, exchange-based derivatives, and over the counter derivatives such as swaps, options and forward contracts.
- Level 3 — unobservable inputs for the asset or liability only used when there is little, if any, market activity for the asset or liability at the measurement date. NRG's financial assets and liabilities utilizing Level 3 inputs include infrequently-traded, non-exchange-based derivatives and commingled investment funds, and are measured using present value pricing models.

In accordance with ASC 820, the Company determines the level in the fair value hierarchy within which each fair value measurement in its entirety falls, based on the lowest level input that is significant to the fair value measurement in its entirety.

Recurring Fair Value Measurements

Debt securities, equity securities, and trust fund investments, which are comprised of various U.S. debt and equity securities, and derivative assets and liabilities, are carried at fair market value.

The following tables present assets and liabilities measured and recorded at fair value on the Company's consolidated balance sheets on a recurring basis and their level within the fair value hierarchy:

	As of December 31, 2020			
	Fair Value			
(In millions)	**Total**	**Level 1**	**Level 2**	**Level 3**
Investments in securities (classified within other current and non-current assets)	$ 25	$ 10	$ 15	$ —
Nuclear trust fund investments:				
Cash and cash equivalents	23	23	—	—
U.S. government and federal agency obligations	70	69	1	—
Federal agency mortgage-backed securities	89	—	89	—
Commercial mortgage-backed securities	36	—	36	—
Corporate debt securities	144	—	144	—
Equity securities	434	434	—	—
Foreign government fixed income securities	7	1	6	—
Other trust fund investments:				
U.S. government and federal agency obligations	1	1	—	—
Derivative assets:				
Commodity contracts	821	59	623	139
Measured using net asset value practical expedient:				
Equity securities-nuclear trust fund investments	87	—	—	—
Equity securities	8	—	—	—
Total assets	$ 1,745	$ 597	$ 914	$ 139
Derivative liabilities:				
Commodity contracts	$ 884	$ 86	$ 643	$ 155
Total liabilities	$ 884	$ 86	$ 643	$ 155

	As of December 31, 2019			
	Fair Value			
(In millions)	**Total**	**Level 1**	**Level 2**	**Level 3**
Investments in securities (classified within other current or non-current assets)	$ 20	$ —	$ 20	$ —
Nuclear trust fund investments:				
Cash and cash equivalents	17	17	—	—
U.S. government and federal agency obligations	68	68	—	—
Federal agency mortgage-backed securities	100	—	100	—
Commercial mortgage-backed securities	29	—	29	—
Corporate debt securities	109	—	109	—
Equity securities	388	388	—	—
Foreign government fixed income securities	5	—	5	—
Other trust fund investments:				
U.S. government and federal agency obligations	1	1	—	—
Derivative assets:				
Commodity contracts	1,170	84	893	193
Measured using net asset value practical expedient:				
Equity securities-nuclear trust fund investments	78	—	—	—
Equity securities	8	—	—	—
Total assets	$ 1,993	$ 558	$ 1,156	$ 193
Derivative liabilities:				
Commodity contracts	$ 1,103	$ 143	$ 805	$ 155
Total liabilities	$ 1,103	$ 143	$ 805	$ 155

The following tables reconcile, for the years ended December 31, 2020 and 2019, the beginning and ending balances for financial instruments that are recognized at fair value in the consolidated financial statements at least annually using significant unobservable inputs:

	For the Year Ended December 31, 2020
	Fair Value Measurement Using Significant Unobservable Inputs (Level 3)
(In millions)	**Derivatives [a]**
Beginning balance as of January 1, 2020	$ 38
Total (losses) — realized/unrealized included in earnings	(44)
Purchases	(13)
Transfers into Level 3 [b]	1
Transfers out of Level 3 [b]	2
Ending balance as of December 31, 2020	$ (16)
Gains for the period included in earnings attributable to the change in unrealized gains or losses relating to assets or liabilities still held as of December 31, 2020	$ 9

(a) Consists of derivatives assets and liabilities, net

(b) Transfers into/out of Level 3 are related to the availability of external broker quotes, and are valued as of the end of the reporting period. All transfers into/out of Level 3 are from/to Level 2

	For the Year Ended December 31, 2019		
	Fair Value Measurement Using Significant Unobservable Inputs (Level 3)		
(In millions)	**Debt Securities**	**Derivatives [a]**	**Total**
Beginning balance as of January 1, 2019	$ 19	$ 20	$ 39
Contracts added from acquisitions	—	(3)	$ (3)
Total (losses) — realized/unrealized included in earnings	—	(26)	(26)
Purchases	—	40	40
Sale	(19)	—	(19)
Transfers into Level 3 [b]	—	2	2
Transfers out of Level 3 [b]	—	5	5
Ending balance as of December 31, 2019	$ —	$ 38	$ 38
Gains for the period included in earnings attributable to the change in unrealized gains or losses relating to assets or liabilities still held as of December 31, 2019	$ —	$ 17	$ 17

(a) Consists of derivatives assets and liabilities, net

(b) Transfers into/out of Level 3 are related to the availability of external broker quotes, and are valued as of the end of the reporting period. All transfers into/out of Level 3 are from/to Level 2

Realized and unrealized gains and losses included in earnings that are related to the energy derivatives are recorded in operating revenues and cost of operations.

Non-derivative fair value measurements

NRG's investments in debt securities are classified as Level 3 and consist of non-traded debt instruments that were valued based on third-party market value assessments.

The trust fund investments are held primarily to satisfy NRG's nuclear decommissioning obligations. These trust fund investments hold debt and equity securities directly and equity securities indirectly through commingled funds. The fair values of equity securities held directly by the trust funds are based on quoted prices in active markets and are categorized in Level 1. In addition, U.S. government and federal agency obligations are categorized as Level 1 because they trade in a highly liquid and transparent market. The fair values of corporate debt securities are based on evaluated prices that reflect observable market information, such as actual trade information of similar securities, adjusted for observable differences and are categorized in Level 2. Certain equity securities, classified as commingled funds, are analogous to mutual funds, are maintained by investment companies, and hold certain investments in accordance with a stated set of fund objectives. The fair value of the equity securities classified as commingled funds are based on net asset values per fund share (the unit of account), derived from the quoted prices in active markets of the underlying equity securities. However, because the shares in the commingled funds are not publicly quoted, not traded in an active market and are subject to certain restrictions regarding their purchase and sale, the commingled funds are measured using net asset value practical expedient. See also Note 7, *Nuclear Decommissioning Trust Fund.*

Derivative fair value measurements

A portion of the Company's contracts are exchange-traded contracts with readily available quoted market prices. A majority of NRG's contracts are non-exchange-traded contracts valued using prices provided by external sources, primarily price quotations available through brokers or over-the-counter and on-line exchanges. For the majority of NRG markets, the Company receives quotes from multiple sources. To the extent that NRG receives multiple quotes, the Company's prices reflect the average of the bid-ask mid-point prices obtained from all sources that NRG believes provide the most liquid market for the commodity. If the Company receives one quote, then the mid-point of the bid-ask spread for that quote is used. The terms for which such price information is available vary by commodity, region and product. A significant portion of the fair value of the Company's derivative portfolio is based on price quotes from brokers in active markets who regularly facilitate those transactions and the Company believes such price quotes are executable. The Company does not use third party sources that derive price based on proprietary models or market surveys. The remainder of the assets and liabilities represents contracts for which external sources or observable market quotes are not available. These contracts are valued based on various valuation techniques including but not limited to internal models based on a fundamental analysis of the market and extrapolation of observable market data with similar characteristics. Contracts valued with prices provided by models and other valuation techniques make up 17% of derivative assets and 18% of derivative liabilities. The fair value of each contract is discounted using a risk free interest rate. In addition, the Company applies a credit reserve to reflect credit risk, which for interest rate swaps is calculated utilizing the bilateral method based on published default probabilities. For commodities, to the extent that NRG's net exposure under a specific master agreement is an asset, the Company uses the counterparty's default swap rate. If the exposure under a specific master agreement is a liability, the Company uses NRG's default swap rate. For interest rate swaps and commodities, the credit reserve is added to the discounted fair value to reflect the exit price that a market participant would be willing to receive to assume NRG's liabilities or that a market participant would be willing to pay for NRG's assets. As of December 31, 2020 the credit reserve resulted in a $2 million increase primarily within cost of operations. As of December 31, 2019 the credit reserve did not result in a significant change in fair value in operations revenue and cost of operations.

The fair values in each category reflect the level of forward prices and volatility factors as of December 31, 2020, and may change as a result of changes in these factors. Management uses its best estimates to determine the fair value of commodity and derivative contracts NRG holds and sells. These estimates consider various factors including closing exchange and over-the-counter price quotations, time value, volatility factors and credit exposure. It is possible, however, that future market prices could vary from those used in recording assets and liabilities from energy marketing and trading activities and such variations could be material.

NRG's significant positions classified as Level 3 include physical and financial power executed in illiquid markets as well as financial transmission rights, or FTRs. The significant unobservable inputs used in developing fair value include illiquid power location pricing which is derived as a basis to liquid locations. The basis spread is based on observable market data when available or derived from historic prices and forward market prices from similar observable markets when not available. For FTRs, NRG uses the most recent auction prices to derive the fair value.

The following tables quantify the significant unobservable inputs used in developing the fair value of the Company's Level 3 positions as of December 31, 2020 and 2019:

	Significant Unobservable Inputs						
	December 31, 2020						
	Fair Value				Input/Range		
(In millions)	Assets	Liabilities	Valuation Technique	Significant Unobservable Input	Low	High	Weighted Average
Power Contracts	$ 111	$ 143	Discounted Cash Flow	Forward Market Price (per MWh)	$ 10	$ 105	$ 21
FTRs	28	12	Discounted Cash Flow	Auction Prices (per MWh)	(28)	43	0
	$ 139	$ 155					

	Significant Unobservable Inputs						
	December 31, 2019						
	Fair Value				Input/Range		
(In millions)	Assets	Liabilities	Valuation Technique	Significant Unobservable Input	Low	High	Weighted Average
Power Contracts	$ 151	$ 139	Discounted Cash Flow	Forward Market Price (per MWh)	$ 8	$ 218	$ 24
FTRs	42	16	Discounted Cash Flow	Auction Prices (per MWh)	(105)	213	0
	$ 193	$ 155					

The following table provides sensitivity of fair value measurements to increases/(decreases) in significant unobservable inputs as of December 31, 2020 and 2019:

Significant Unobservable Input	Position	Change In Input	Impact on Fair Value Measurement
Forward Market Price Power	Buy	Increase/(Decrease)	Higher/(Lower)
Forward Market Price Power	Sell	Increase/(Decrease)	Lower/(Higher)
FTR Prices	Buy	Increase/(Decrease)	Higher/(Lower)
FTR Prices	Sell	Increase/(Decrease)	Lower/(Higher)

Under the guidance of ASC 815, entities may choose to offset cash collateral posted or received against the fair value of derivative positions executed with the same counterparties under the same master netting agreements. The Company has chosen not to offset positions as defined in ASC 815. As of December 31, 2020, the Company recorded $50 million of cash collateral posted and $19 million of cash collateral received on its balance sheet.

Concentration of Credit Risk

In addition to the credit risk discussion as disclosed in Note 2, *Summary of Significant Accounting Policies*, the following item is a discussion of the concentration of credit risk for the Company's financial instruments. Credit risk relates to the risk of loss resulting from non-performance or non-payment by counterparties pursuant to the terms of their contractual obligations. The Company monitors and manages credit risk through credit policies that include: (i) an established credit approval process; (ii) a daily monitoring of counterparties' credit limits; (iii) the use of credit mitigation measures such as margin, collateral, prepayment arrangements, or volumetric limits; (iv) the use of payment netting agreements; and (v) the use of master netting agreements that allow for the netting of positive and negative exposures of various contracts associated with a single counterparty. Risks surrounding counterparty performance and credit could ultimately impact the amount and timing of expected cash flows. The Company seeks to mitigate counterparty risk by having a diversified portfolio of counterparties. The Company also has credit protection within various agreements to call on additional collateral support if and when necessary. Cash margin is collected and held at the Company to cover the credit risk of the counterparty until positions settle.

Counterparty Credit Risk

As of December 31, 2020, counterparty credit exposure, excluding credit exposure from RTOs, ISOs, and registered commodity exchanges and certain long-term agreements, was $210 million and NRG held collateral (cash and letters of credit) against those positions of $14 million, resulting in a net exposure of $204 million. NRG periodically receives collateral from counterparties in excess of their exposure. Collateral amounts shown include such excess while net exposure shown excludes excess collateral received. Approximately 54% of the Company's exposure before collateral is expected to roll off by the end of 2022. Counterparty credit exposure is valued through observable market quotes and discounted at a risk free interest rate. The following tables highlight net counterparty credit exposure by industry sector and by counterparty credit quality. Net counterparty credit exposure is defined as the aggregate net asset position for NRG with counterparties where netting is permitted under the enabling agreement and includes all cash flow, mark-to-market and NPNS, and non-derivative transactions. The exposure is shown net of collateral held, and includes amounts net of receivables or payables.

Category	**Net Exposure [(a) (b)]** **(% of Total)**
Utilities, energy merchants, marketers and other	96 %
Financial institutions	4
Total	100 %

Category	**Net Exposure [(a) (b)]** **(% of Total)**
Investment grade	59 %
Non-Investment grade/Non-Rated	41
Total	100 %

(a) Counterparty credit exposure excludes uranium and coal transportation contracts because of the unavailability of market prices.
(b) The figures in the tables above exclude potential counterparty credit exposure related to RTOs, ISOs, registered commodity exchanges and certain long term contracts.

The Company currently has $47 million exposure to two wholesale counterparties in excess of 10% of the total net exposure discussed above as of December 31, 2020. Changes in hedge positions and market prices will affect credit exposure and counterparty concentration. Given the credit quality, diversification and term of the exposure in the portfolio, NRG does not anticipate a material impact on the Company's financial position or results of operations from nonperformance by any of NRG's counterparties.

RTOs and ISOs

The Company participates in the organized markets of CAISO, ERCOT, ISO-NE, MISO, NYISO and PJM, known as RTOs or ISOs. Trading in these markets is approved by FERC, or in the case of ERCOT, approved by the PUCT and includes credit policies that, under certain circumstances, require that losses arising from the default of one member on spot market transactions be shared by the remaining participants. As a result, the counterparty credit risk to these markets is limited to NRG's share of overall market and are excluded from the above exposures.

Exchange Traded Transactions

The Company enters into commodity transactions on registered exchanges, notably ICE and NYMEX. These clearinghouses act as the counterparty and transactions are subject to extensive collateral and margining requirements. As a result, these commodity transactions have limited counterparty credit risk.

Long-Term Contracts

Counterparty credit exposure described above excludes credit risk exposure under certain long term contracts, primarily solar PPAs. As external sources or observable market quotes are not available to estimate such exposure, the Company values these contracts based on various techniques including, but not limited to, internal models based on a fundamental analysis of the market and extrapolation of observable market data with similar characteristics. Based on these valuation techniques, as of December 31, 2020, aggregate credit risk exposure managed by NRG to these counterparties was approximately $645 million for the next five years.

Retail Customer Credit Risk

The Company is exposed to retail credit risk through the Company's retail electricity providers, which serve C&I customers and the Mass market. Retail credit risk results in losses when a customer fails to pay for services rendered. The losses may result from both nonpayment of customer accounts receivable and the loss of in-the-money forward value. The Company manages retail credit risk through the use of established credit policies that include monitoring of the portfolio and the use of credit mitigation measures such as deposits or prepayment arrangements.

As of December 31, 2020, the Company's retail customer credit exposure to C&I and Mass customers was diversified across many customers and various industries, as well as government entities. The Company is also subject to risk with respect to its residential solar customers. The Company's provision for credit losses was $108 million, $95 million, and $85 million for the years ending December 31, 2020, 2019, and 2018, respectively. Current economic conditions may affect the Company's customers' ability to pay bills in a timely manner, which could increase customer delinquencies and may lead to an increase in credit losses.

Note 6 — *Accounting for Derivative Instruments and Hedging Activities*

ASC 815 requires the Company to recognize all derivative instruments on the balance sheet as either assets or liabilities and to measure them at fair value each reporting period unless they qualify for a NPNS exception. The Company may elect to designate certain derivatives as cash flow hedges, if certain conditions are met, and defer the change in fair value of the derivatives to accumulated OCI, until the hedged transactions occur and are recognized in earnings.

For derivatives that are not designated as cash flow hedges or do not qualify for hedge accounting treatment, the changes in the fair value will be immediately recognized in earnings. Certain derivative instruments may qualify for the NPNS exception and are therefore exempt from fair value accounting treatment. ASC 815 applies to NRG's energy related commodity contracts, and interest rate swaps.

As the Company engages principally in the trading and marketing of its generation assets and retail operations, some of NRG's commercial activities qualify for NPNS accounting. Most of the retail load contracts either qualify for the NPNS exception or fail to meet the criteria for a derivative and the majority of the retail supply and fuels supply contracts are recorded under mark-to-market accounting. All of NRG's hedging and trading activities are subject to limits within the Company's Risk Management Policy.

Energy-Related Commodities

To manage the commodity price risk associated with the Company's competitive supply activities and the price risk associated with wholesale power sales from the Company's electric generation facilities and retail power sales from NRG's retail operations, NRG enters into a variety of derivative and non-derivative hedging instruments, utilizing the following:

- Forward contracts, which commit NRG to purchase or sell energy commodities or purchase fuels in the future;
- Futures contracts, which are exchange-traded standardized commitments to purchase or sell a commodity or financial instrument;
- Swap agreements, which require payments to or from counterparties based upon the differential between two prices for a predetermined contractual, or notional, quantity;
- Option contracts, which convey to the option holder the right but not the obligation to purchase or sell a commodity;
- Extendable swaps, which include a combination of swaps and options executed simultaneously for different periods. This combination of instruments allows NRG to sell out-year volatility through call options in exchange for natural gas swaps with fixed prices in excess of the market price for natural gas at that time. The above-market swap combined with its later-year call option are priced in aggregate at market at the trade's inception; and
- Weather derivative products used to mitigate a portion of lost revenue due to weather.

The objectives for entering into derivative contracts designated as hedges include:

- Fixing the price of a portion of anticipated power purchases for the Company's retail sales;
- Fixing the price for a portion of anticipated future electricity sales that provides an acceptable return on the Company's electric generation operations; and
- Fixing the price of a portion of anticipated fuel purchases for the operation of the Company's power plants.

These contracts are recognized on the balance sheet at fair value and changes in the fair value of these derivative financial instruments are recognized in earnings.

As of December 31, 2020, NRG's derivative assets and liabilities consisted primarily of the following:

- Forward and financial contracts for the purchase/sale of electricity and related products economically hedging NRG's generation assets' forecasted output or NRG's retail load obligations through 2034;
- Forward and financial contracts for the purchase of fuel commodities relating to the forecasted usage of NRG's generation assets through 2021; and
- Other energy derivatives instruments extending through 2029.

Also, as of December 31, 2020, NRG had other energy-related contracts that did not meet the definition of a derivative instrument or qualified for the NPNS exception and were therefore exempt from fair value accounting treatment as follows:

- Load-following forward electric sale contracts extending through 2034;
- Power tolling contracts through 2037;
- Coal purchase contracts through 2021;
- Power transmission contracts through 2025;
- Natural gas transportation contracts and storage agreements through 2030; and
- Coal transportation contracts through 2029.

Interest Rate Swaps

NRG was exposed to changes in interest rates through the Company's issuance of variable rate debt. In order to manage the Company's interest rate risk, NRG entered into interest rate swap agreements. As of December 31, 2019, NRG had no interest rate derivative instruments as a result of the early termination of such contracts in connection with the repayment of the 2023 Term Loan Facility during the second quarter of 2019.

During the fourth quarter of 2020, NRG entered into $1.6 billion of interest rate hedges associated with anticipated certain financing needs. As of December 31, 2020, the interest rate hedges were settled in connection with the issuance of fixed rate debt, resulting in a gain of $11 million that was recorded as a reduction to interest expense.

Volumetric Underlying Derivative Transactions

The following table summarizes the net notional volume buy/(sell) of NRG's open derivative transactions broken out by commodity, excluding those derivatives that qualified for the NPNS exception as of December 31, 2020 and 2019. Option contracts are reflected using delta volume. Delta volume equals the notional volume of an option adjusted for the probability that the option will be in-the-money at its expiration date.

(In millions)		Total Volume	
Commodity	Units	December 31, 2020	December 31, 2019
Emissions	Short Ton	1	3
Renewables Energy Certificates	Certificates	5	1
Coal	Short Ton	2	10
Natural Gas	MMBtu	(286)	(181)
Power	MWh	57	38
Capacity	MW/Day	(1)	(1)

Fair Value of Derivative Instruments

The following table summarizes the fair value within the derivative instrument valuation on the balance sheet:

	Fair Value			
	Derivative Assets		Derivative Liabilities	
(In millions)	December 31, 2020	December 31, 2019	December 31, 2020	December 31, 2019
Derivatives Not Designated as Cash Flow or Fair Value Hedges:				
Commodity contracts current	$ 560	$ 860	$ 499	$ 781
Commodity contracts long-term	261	310	385	322
Total Derivatives Not Designated as Cash Flow or Fair Value Hedges	$ 821	$ 1,170	$ 884	$ 1,103

The Company has elected to present derivative assets and liabilities on the balance sheet on a trade-by-trade basis and does not offset amounts at the counterparty master agreement level. In addition, collateral received or paid on the Company's derivative assets or liabilities are recorded on a separate line item on the balance sheet. The following table summarizes the offsetting derivatives by counterparty master agreement level and collateral received or paid:

	Gross Amounts Not Offset in the Statement of Financial Position			
(In millions)	Gross Amounts of Recognized Assets/ Liabilities	Derivative Instruments	Cash Collateral (Held)/Posted	Net Amount
As of December 31, 2020				
Commodity contracts:				
Derivative assets	$ 821	$ (658)	$ (5)	$ 158
Derivative liabilities	(884)	658	—	(226)
Total commodity contracts	$ (63)	$ —	$ (5)	$ (68)

	Gross Amounts Not Offset in the Statement of Financial Position			
(In millions)	Gross Amounts of Recognized Assets/ Liabilities	Derivative Instruments	Cash Collateral (Held)/Posted	Net Amount
As of December 31, 2019				
Commodity contracts:				
Derivative assets	$ 1,170	$ (909)	$ (7)	$ 254
Derivative liabilities	(1,103)	909	73	(121)
Total commodity contracts	$ 67	$ —	$ 66	$ 133

Accumulated Other Comprehensive Income

The following table summarizes the effects on NRG's accumulated OCI balance attributable to cash flow hedge derivatives, net of tax, for the year 2018:

	Interest Rate Contracts
(In millions)	2018
Accumulated OCI beginning balance	$ (54)
Reclassified from accumulated OCI to income:	
Due to realization of previously deferred amounts	8
Mark-to-market of cash flow hedge accounting contracts	21
Sale of NRG Yield and Renewables	25
Accumulated OCI ending balance	$ —

Amounts reclassified from accumulated OCI into income were recorded in discontinued operations.

Impact of Derivative Instruments on the Statement of Operations

Unrealized gains and losses associated with changes in the fair value of derivative instruments not accounted for as cash flow hedges are reflected in current period earnings.

The following table summarizes the pre-tax effects of economic hedges that have not been designated as cash flow hedges or fair value hedges and trading activity on the Company's statement of operations. The effect of commodity hedges is included within operating revenues and cost of operations and the effect of interest rate hedges is included in interest expense.

	Year Ended December 31,		
(In millions)	**2020**	**2019**	**2018**
Unrealized mark-to-market results			
Reversal of previously recognized unrealized (gains) on settled positions related to economic hedges	$ (55)	$ (68)	$ (73)
Reversal of acquired loss/(gain) positions related to economic hedges	4	6	(10)
Net unrealized (losses)/gains on open positions related to economic hedges	(68)	42	97
Total unrealized mark-to-market (losses)/gains for economic hedging activities	(119)	(20)	14
Reversal of previously recognized unrealized (gains) on settled positions related to trading activity	(20)	(11)	(12)
Net unrealized gains on open positions related to trading activity	15	31	29
Total unrealized mark-to-market (losses)/gains for trading activity	(5)	20	17
Total unrealized (losses)/gains	$ (124)	$ —	$ 31

	Year Ended December 31,		
(In millions)	**2020**	**2019**	**2018**
Unrealized gains/(losses) included in operating revenues	$ 90	$ 53	$ (113)
Unrealized (losses)/gains included in cost of operations	(214)	(53)	144
Total impact to statement of operations — energy commodities	$ (124)	$ —	$ 31
Total impact to statement of operations — interest rate contracts	$ —	$ (38)	$ —

The reversal of gain or loss positions acquired as part of acquisitions were valued based upon the forward prices on the acquisition dates. The roll-off amounts were offset by realized gains or losses at the settled prices and are reflected in revenue or cost of operations during the same period.

For the year ended December 31, 2020, the $68 million loss from open economic hedge positions was primarily the result of a decrease in the value of forward positions as a result of decreases in ERCOT power prices and heat rate contraction, partially offset by an increase in value of forward positions as a result of decreases in New York capacity prices.

The gains from open economic hedge positions of $42 million and $97 million for the years ended December 31, 2019 and 2018, respectively, were primarily the result of an increase in the value of forward purchases of ERCOT heat rate contracts due to ERCOT heat rate expansion.

Credit Risk Related Contingent Features

Certain of the Company's hedging agreements contain provisions that require the Company to post additional collateral if the counterparty determines that there has been deterioration in credit quality, generally termed "adequate assurance" under the agreements, or require the Company to post additional collateral if there were a downgrade in the Company's credit rating. The collateral required for contracts that have adequate assurance clauses that are in net liability positions as of December 31, 2020 was $26 million. The Company is also a party to certain marginable agreements under which it has a net liability position, but the counterparty has not called for the collateral due, which was approximately $35 million as of December 31, 2020. If called for by the counterparty, $1 million of additional collateral would be required for all contracts with credit rating contingent features as of December 31, 2020.

See Note 5, *Fair Value of Financial Instruments,* for discussion regarding concentration of credit risk.

Note 7 — *Nuclear Decommissioning Trust Fund*

NRG's Nuclear Decommissioning Trust Fund assets, which are for the decommissioning of STP, are comprised of securities classified as available-for-sale and recorded at fair value based on actively quoted market prices. Although NRG is responsible for managing the decommissioning of its 44% interest in STP, the predecessor utilities that owned STP are authorized by the PUCT to collect decommissioning funds from their ratepayers to cover decommissioning costs on behalf of NRG. NRC requirements determine the decommissioning cost estimate which is the minimum required level of funding. In the event that funds from the ratepayers that accumulate in the nuclear decommissioning trust are ultimately determined to be inadequate to decommission the STP facilities, the utilities will be required to collect through rates charged to rate payers all additional amounts, with no obligation from NRG, provided that NRG has complied with PUCT rules and regulations regarding decommissioning trusts. Following completion of the decommissioning, if surplus funds remain in the decommissioning trusts, any excess will be refunded to the respective ratepayers of the utilities.

NRG accounts for the Nuclear Decommissioning Trust Fund in accordance with ASC 980, *Regulated Operations*, or ASC 980, because the Company's nuclear decommissioning activities are subject to approval by the PUCT, with regulated rates that are designed to recover all decommissioning costs and that can be charged to rate payers per PUCT mandate. Since the Company is in compliance with PUCT rules and regulations regarding decommissioning trusts and the cost of decommissioning is the responsibility of the Texas ratepayers, not NRG, all realized and unrealized gains or losses (including other-than-temporary impairments) related to the Nuclear Decommissioning Trust Fund are recorded to the Nuclear Decommissioning Trust liability and are not included in net income or accumulated other comprehensive income, consistent with regulatory treatment.

The following table summarizes the aggregate fair values and unrealized gains and losses for the securities held in the trust funds, as well as information about the contractual maturities of those securities.

	As of December 31, 2020				As of December 31, 2019			
(In millions, except otherwise noted)	**Fair Value**	**Unrealized Gains**	**Unrealized Losses**	**Weighted-average maturities (in years)**	**Fair Value**	**Unrealized Gains**	**Unrealized Losses**	**Weighted-average maturities (in years)**
Cash and cash equivalents	$ 23	$ —	$ —	—	$ 17	$ —	$ —	—
U.S. government and federal agency obligations	70	6	—	10	68	4	—	11
Federal agency mortgage-backed securities	89	4	—	24	100	3	—	24
Commercial mortgage-backed securities	36	2	—	27	29	1	1	24
Corporate debt securities	144	13	—	12	109	6	—	11
Equity securities	521	372	—	—	466	324	—	—
Foreign government fixed income securities	7	1	—	10	5	—	—	10
Total	$ 890	$ 398	$ —		$ 794	$ 338	$ 1	

The following table summarizes proceeds from sales of available-for-sale securities and the related realized gains and losses from these sales. The cost of securities sold is determined using the specific identification method.

	Year Ended December 31,		
(In millions)	**2020**	**2019**	**2018**
Realized gains	$ 34	$ 18	$ 17
Realized (losses)	(13)	(9)	(13)
Proceeds from sale of securities	439	381	513

Note 8 — *Inventory*

Inventory consisted of:

(In millions)	As of December 31, 2020	As of December 31, 2019
Fuel oil	$ 37	$ 73
Coal	73	93
Natural gas	22	21
Spare parts	195	196
Total Inventory	$ 327	$ 383

The Company recorded a $29 million lower of weighted average cost or market adjustment related to fuel oil during the year ended December 31, 2020.

Note 9 — *Property, Plant and Equipment*

The Company's major classes of property, plant, and equipment were as follows:

(In millions)	As of December 31, 2020	As of December 31, 2019	Depreciable Lives
Facilities and equipment	$ 3,365	$ 3,262	1-40 years
Land and improvements	329	324	
Nuclear fuel	239	235	5 years
Hardware and office equipment and furnishings	453	422	2-10 years
Construction in progress	97	102	
Total property, plant, and equipment	4,483	4,345	
Accumulated depreciation	(1,936)	(1,752)	
Net property, plant, and equipment	$ 2,547	$ 2,593	

The Company recorded long-lived asset impairments during the years ended December 31, 2020 and 2019, as further described in Note 11, *Asset Impairments.* Depreciation expense of property, plant and equipment recorded during the years ended 2020, 2019 and 2018 was $295 million, $271 million and $356 million, respectively.

Note 10 — *Leases*

The Company leases generating facilities, land, office and equipment, railcars, and storefront space at retail stores. Operating leases with an initial term greater than twelve months are recognized as right-of-use assets and lease liabilities in the consolidated balance sheets. The Company made an accounting policy election for all asset classes not to recognize right-of-use assets and lease liabilities in the consolidated balance sheets for its short-term leases, which are leases that have a lease term of twelve months or less. The Company recognizes lease expense for all operating leases on a straight-line basis over the lease term. In the future, should another systematic basis become more representative of the pattern in which the lessee expects to consume the remaining economic benefit of the right-of-use asset, the Company will use that basis for lease expense.

The Company considers a contract to be or to contain a lease when both of the following conditions apply: 1) an asset is either explicitly or implicitly identified in the contract and 2) the contract conveys to the Company the right to control the use of the identified asset for a period of time. The Company has the right to control the use of the identified asset when the Company has both the right to obtain substantially all the economic benefits from the use of the identified asset and the right to direct how and for what purpose the identified asset is used throughout the period of use.

Lease payments are typically fixed and payable on a monthly, quarterly, semi-annual or annual basis. Lease payments under certain agreements may escalate over the lease term either by a fixed percentage or a fixed dollar amount. Certain leases may provide for variable lease payments in the form of payments based on usage, a percentage of sales from the location under lease, or index-based (e.g., the U.S. Consumer Price Index) adjustments to lease payments. The Company has no leases which contain residual value guarantees provided by the Company as a lessee.

The Company's leases may grant the Company an option to renew a lease for an additional term(s) or to terminate the lease after a certain period. As part of its transition from the guidance contained in ASC 840 to the updated guidance in ASC 842, the Company elected not to use the practical expedient of using hindsight to determine the lease term and in assessing impairment of the right-of-use assets.

As permitted by ASC 842, the Company made an accounting policy election for all asset classes not to recognize right-of-use assets and lease liabilities in the consolidated balance sheets for its short-term leases, which are leases that have a lease term of twelve months or less. For the initial measurement of lease liabilities, the discount rate that the Company uses is either the rate implicit in the lease, if known, or its incremental borrowing rate, which is the rate of interest that the Company would have to pay to borrow, on a collateralized basis, over a similar term an amount equal to the payments for the lease.

In transition to ASC 842, the Company elected to apply the effective date transition method as of the January 1, 2019 adoption date. In accordance with this method, the Company's reporting for comparative periods prior to January 1, 2019 presented in the financial statements continues to be in conformity with the guidance in ASC 840. The Company elected the following practical expedients, which allow entities to:

- Not reassess whether any contracts that existed prior to the January 1, 2019 implementation date are or contain leases;
- Not reassess the lease classification for any leases that commenced prior to the January 1, 2019 implementation date, meaning that all commenced capital leases under ASC 840 will be classified as finance leases under ASC 842 and all commenced operating leases under ASC 840 will be classified as operating leases under ASC 842;
- Not reassess initial direct costs for any leases;
- Not reassess whether existing land easements, which were not previously accounted as leases under ASC 840, are or contain leases; and
- Not separate lease and non-lease components for all asset classes, except office space leases and generation facilities leases.

As described in Note 4, *Acquisitions, Discontinued Operations and Dispositions*, upon the close of the South Central Portfolio sale in 2019, the Company entered into an agreement to leaseback the Cottonwood facility through May 2025. The lease was accounted for in accordance with ASC 842-40, *Sale and Leaseback Transactions*, as an operating lease and accordingly, a right-of-use asset and lease liability were established on the lease commencement date and will be amortized through the end of the lease.

Lease Cost:

(In millions)	For the Year Ended December 31, 2020	For the Year Ended December 31, 2019
Finance lease cost	$ 3	$ —
Operating lease cost	100	109
Short-term lease cost	3	3
Variable lease cost	6	6
Sublease income	(17)	(17)
Total lease cost	$ 95	$ 101

Other information:

(In millions)	For the Year Ended December 31, 2020	For the Year Ended December 31, 2019
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$ 101	$ 104
Financing cash flows from finance leases	1	—
Right-of-use assets obtained in exchange for new finance lease liabilities	5	—
Right-of-use assets obtained in exchange for new operating lease liabilities	4	215

Lease Term and Discount Rate for leases:

	December 31, 2020	December 31, 2019
Finance leases:		
Weighted average remaining lease term (in years)	1.1	—
Weighted average discount rate	4.79 %	—
Operating leases:		
Weighted average remaining lease term (in years)	5.3	7.8
Weighted average discount rate	5.63 %	5.72 %

As of December 31, 2020, annual payments based on the maturities of NRG's leases are expected to be as follows:

	(In millions)
2021	$ 86
2022	82
2023	81
2024	71
2025	47
Thereafter	34
Total undiscounted lease payments	$ 401
Less: present value adjustment	(54)
Total discounted lease payments	$ 347

Note 11 — *Asset Impairments*

2020 Impairment Losses

During the fourth quarter of 2020, the Company completed its annual budget and revised its view of long-term power and fuel prices and the corresponding impact on estimated cash flows associated with its long-lives assets. The Cottonwood facility had estimated cash flows that were lower than its carrying amount and the assets were considered impaired. The fair value of the assets was determined using an income approach by applying a discounted cash flow methodology to the long-term budget for the facility. The income approach utilized estimates of after-tax cash flows, which were Level 3 fair value measurements, and included key inputs such as forecasted power prices, fuel costs, operating and maintenance costs, plant investment capital expenditures and discount rates.

The Cottonwood facility is being leased through 2025 and the Company recognized an impairment loss of $32 million in 2020 in the West/Other segment associated with the Company's long-term services agreement and related lease payments, as the carrying amounts of the assets from the contract were higher than the estimated operating cash flow though the remaining lease period.

The Company also recorded the following impairments in 2020 based on specific triggering events that occurred:

Home Solar — In the third quarter of 2020, the Company concluded its Home Solar business was held for sale and recorded an impairment loss of $29 million in the West/Other segment to adjust the carrying amount of the assets and liabilities to fair market value based on indicative sale prices.

Petra Nova Parish Holdings — During the first quarter of 2020, due to the decline in oil prices, NRG determined that the carrying amount of the Company’s equity method investment exceeded the fair value of the investment and that the decline is considered to be other-than-temporary. In determining the fair value, the Company utilized an income approach to estimate future project cash flows. The Company recorded an impairment loss of $18 million in the Texas segment, which included the anticipated drawdown of the $12 million letter of credit posted in September 2019 to cover certain project debt reserve requirements.

Other Impairments — For the year ended December 31, 2020, the Company recorded $14 million of impairment losses related to intangible assets in the Texas segment.

2019 Impairment Losses

Petra Nova Parish Holdings — During the third quarter of 2019, NRG contributed $95 million in cash to Petra Nova and posted a $12 million letter of credit to cover certain project debt reserve requirements. The cash portion of the contribution was used by Petra Nova to prepay a significant portion of the project debt. As a result, the previously disclosed guarantee of up to $124 million related to the project level debt provided by NRG was canceled and the remaining project debt became non-recourse to NRG. In relation to this contribution, the Company evaluated the project for impairment and determined that the carrying amount of the Company’s equity method investment exceeded the fair value of the investment and that the decline is considered to be other-than-temporary. In determining the fair value, the Company utilized an income approach and considered project specific assumptions for the estimated future project cash flows. The Company measured the impairment loss as the difference between the carrying amount and the fair value of the investment and recorded an impairment loss of $101 million.

Other Impairments — For the year ended December 31, 2019, the Company recorded $12 million of impairment losses primarily related to investments and intangibles.

2018 Impairment Losses

Guam — During the fourth quarter of 2018, the Company concluded its wholly-owned subsidiary, NRG Solar Guam, LLC, was held for sale after board approval and advanced negotiations to sell the business. Accordingly, the Company recorded the assets and liabilities at fair market value as of December 31, 2018 based on the contractual sale price, which resulted in an impairment loss of $12 million. On February 20, 2019, the Company completed the sale of Guam for cash consideration of approximately $8 million.

Keystone and Conemaugh — On September 5, 2018, the Company sold its approximately 3.7% interests in the Keystone and Conemaugh generating stations. NRG recorded impairment losses of $14 million for Keystone and $14 million for Conemaugh to adjust the carrying amount of the assets to fair value based on the contractual sale price.

Dunkirk — During the second quarter of 2018, NRG ceased its development of the project to add gas capability at the Dunkirk generating station. The project was put on hold in 2015 pending the resolution of a lawsuit filed by Entergy Corporation against the NYPSC, which challenged the legality of its contract with Dunkirk. The lawsuit was later dropped and development continued, but the delay imposed a new requirement on Dunkirk to enter into the NYISO interconnection study process. The NYISO studies have concluded that extensive electric system upgrades would be necessary for the station to return to service. This would cause the Company to incur a material increase in cost and delay the project schedule that would render the project impractical. Consequently, the Company has recorded an impairment loss of $46 million, reducing the carrying amount of the related assets to $0.

Other Impairments — As of December 31, 2018, the Company recorded additional asset impairment losses of $13 million and impairment losses on equity method investments of $15 million.

Note 12 — *Goodwill and Other Intangibles*

Goodwill

NRG's goodwill balance was $579 million as of December 31, 2020 and 2019. As of December 31, 2020, goodwill consisted of $165 million associated with the acquisition of Midwest Generation and $414 million for retail operations acquisitions, including Stream Energy and XOOM, which were acquired in 2019 and 2018, respectively.

Intangible Assets

The Company's intangible assets as of December 31, 2020, primarily reflect intangible assets established with the acquisitions of various companies, including Stream Energy, XOOM, other retail acquisitions, and Texas Genco. Intangible assets are comprised of the following:

- *Emission Allowances* — These intangibles primarily consist of SO2 emission allowances, including those established with the 2006 acquisition of Texas Genco, RGGI emission credits and California carbon allowances. These emission allowances are held-for-use and are amortized to cost of operations based on units of production.
- *In-market nuclear fuel contracts* — These intangibles were established with the Texas Genco acquisition in 2006 and are amortized to cost of operations over expected volumes over the life of each contract.
- *Customer relationships* — These intangibles represent the fair value at the acquisition date of acquired businesses' customer base. The customer relationships are amortized to depreciation and amortization expense based on the expected discounted future net cash flows by year.

- *Marketing partnerships* — These intangibles represent the fair value at the acquisition date of existing agreements with marketing vendors and loyalty and affinity partners for customer acquisition. The marketing partnerships are amortized to depreciation and amortization expense based on the expected discounted future net cash flows by year.
- *Trade names* — These intangibles are amortized to depreciation and amortization expense on a straight-line basis.
- *Other* — Consists of renewable energy credits, costs to extend the operating license for STP Units 1 and 2, and energy supply contracts acquired with Stream Energy that represent the fair value at the acquisition date of in-market contracts for the purchase of energy to serve retail electric customers. Renewable energy credits are retired, as required, for the applicable compliance period. They are expensed to cost of operations based on NRG's customer usage. Energy supply contracts are amortized to depreciation and amortization based on the expected delivery under the respective contracts.

The following tables summarize the components of NRG's intangible assets subject to amortization:

(In millions)

Year Ended December 31, 2020	Emission Allowances	Fuel Contracts	Customer Relationships	Marketing Partnerships	Trade Names	Other[(b)]	Total
January 1, 2020	$ 662	$ 49	$ 573	$ 285	$ 373	$ 109	$ 2,051
Purchases	25	—	—	—	—	45	70
Acquisition of businesses [(a)]	—	—	22	—	—	—	22
Retirements	—	—	—	—	—	(35)	(35)
Write-off of fully amortized balances	(4)	—	(70)	—	—	—	(74)
Impairment	(14)	—	—	—	—	—	(14)
Other	3	—	2	—	—	—	5
December 31, 2020	672	49	527	285	373	119	2,025
Less accumulated amortization	(563)	(46)	(349)	(99)	(247)	(53)	(1,357)
Net carrying amount	$ 109	$ 3	$ 178	$ 186	$ 126	$ 66	$ 668

(a) The weighted average life of acquired intangibles was 5 years for customer relationships
(b) RECs are not subject to amortization and had a carrying value of $28 million

(In millions)

Year Ended December 31, 2019	Emission Allowances	Fuel Contracts	Customer Relationships	Marketing Partnerships	Trade Names	Other[(b)]	Total
January 1, 2019	$ 659	$ 49	$ 478	$ 131	$ 345	$ 80	$ 1,742
Purchases	13	—	—	—	—	29	42
Acquisition of businesses [(a)]	—	—	110	154	28	26	318
Usage/Retirements	(4)	—	—	—	—	(17)	(21)
Write-off of fully amortized balances	(8)	—	(13)	—	—	(9)	(30)
Impairment	—	—	(2)	—	—	—	(2)
Other	2	—	—	—	—	—	2
December 31, 2019	662	49	573	285	373	109	2,051
Less accumulated amortization	(539)	(45)	(345)	(75)	(220)	(38)	(1,262)
Net carrying amount	$ 123	$ 4	$ 228	$ 210	$ 153	$ 71	$ 789

(a) The weighted average life of acquired intangibles was: customer relationships 7 years, trade names 12 years, marketing partnerships 9 years, and energy supply contracts 2 years
(b) RECs are not subject to amortization and had a carrying value of $18 million

The following table presents NRG's amortization and retirements of intangible assets for each of the past three years:

	Years Ended December 31,		
(In millions)	**2020**	**2019**	**2018**
Emission allowances	$ 28	$ 32	$ 39
Customer relationships	74	44	32
Marketing partnerships	24	15	9
Trade names	27	25	23
Other[(a)]	51	35	30
Total amortization	$ 204	$ 151	$ 133

(a) For the years ended December 31, 2020, 2019 and 2018, RECs were retired to cost of operations for $36 million, $17 million and $28 million, respectively. For the years ended December 31, 2020, 2019 and 2018, other intangibles were amortized to depreciation and amortization expense for $15 million, $18 million and $2 million, respectively.

The following table presents estimated amortization of NRG's intangible assets as of December 31, 2020 for each of the next five years:

(In millions)

Year Ended December 31,	Emission Allowances	Fuel Contracts	Customer Relationships	Marketing Partnerships	Trade Names	Other	Total
2021	$ 31	$ —	$ 64	$ 24	$ 27	$ 3	$ 149
2022	30	1	44	23	27	3	128
2023	30	—	45	23	26	3	127
2024	31	1	16	23	17	3	91
2025	29	—	5	22	11	3	70

Intangible assets held-for-sale — From time to time, management may authorize the transfer from the Company's emission bank of emission allowances held-for-use to intangible assets held-for-sale. Emission allowances held-for-sale are included in other non-current assets on the Company's consolidated balance sheet and are not amortized, but rather expensed as sold. As of December 31, 2020 and 2019, the value of emission allowances held-for-sale was $14 million and $6 million, respectively, within the Corporate segment. Once transferred to held-for-sale, these emission allowances are prohibited from moving back to held-for-use.

Note 13 — *Receivables Securitization and Repurchase Facility*

Receivables Securitization

On September 22, 2020, NRG Receivables LLC, a bankruptcy remote, special purpose, indirect wholly owned subsidiary, entered into the Receivables Facility for an amount up to $750 million, subject to adjustments on a seasonal basis, with issuers of asset-backed commercial paper and commercial banks (the "Lenders".) The assets of NRG Receivables LLC are first available to satisfy the claims of the Lenders before making payments on the subordinated note and equity issued by NRG Receivables LLC. The assets of NRG Receivables LLC are not available to the Company and its subsidiaries or creditors unless and until distributed by NRG Receivables LLC. Under the Receivables Facility, certain indirect subsidiaries of the Company sell their accounts receivables to NRG Receivables LLC, subject to certain terms and conditions. In turn, NRG Receivables LLC grants a security interest in the purchased receivables to the Lenders as collateral for cash borrowings and issuances of letters of credit. Pursuant to the Performance Guaranty, the Company has guaranteed, for the benefit of NRG Receivables and the lenders, the payment and performance by each indirect subsidiary of its respective obligations under the Receivables Facility. The accounts receivables remain on the Company's consolidated balance sheet and any amounts funded by the Lenders to NRG Receivables LLC will be reflected as short-term borrowings. Cash flows from the Receivables Facility are reflected as financing activities in the Company's consolidated statements of cash flows. The Company will continue to service the accounts receivables sold in exchange for a servicing fee. The Receivables Facility is scheduled to expire on September 21, 2021, unless renewed by the mutual consent of the parties in accordance with its terms. Borrowings by NRG Receivables LLC under the Receivables Facility bear interest as defined under the Receivables Financing Agreement. The weighted average interest rate related to usage under the Securitization Facility as of December 31, 2020 was 0.537%. As of December 31, 2020, there were no outstanding borrowings and there were $198 million in letters of credit issued under the Receivables Facility.

Repurchase Facility

On September 22, 2020, the Company entered into an uncommitted repurchase facility ("Repurchase Facility") related to the Receivables Facility. Under the Repurchase Facility, the Company can borrow up to $75 million, collateralized by a subordinated note issued by NRG Receivables LLC to NRG Retail LLC in favor of the originating entities representing a portion of the balance of receivables sold to NRG Receivables LLC under the Receivables Facility. The Repurchase Facility is scheduled to expire on September 22, 2021, unless renewed by the mutual consent of the parties in accordance with its terms. The Repurchase Facility has no commitment fee and borrowings will be drawn at LIBOR + 1.25%. As of December 31, 2020, there were no outstanding borrowings under the Repurchase Facility.

Note 14 — *Long-term Debt and Finance Leases*

Long-term debt and finance leases consisted of the following:

(In millions, except rates)	December 31, 2020	December 31, 2019	Interest rate %
Recourse debt:			
Senior Notes, due 2026	$ 1,000	$ 1,000	7.250
Senior Notes, due 2027	1,230	1,230	6.625
Senior Notes, due 2028	821	821	5.750
Senior Notes, due 2029	733	733	5.250
Senior Notes, due 2029	500	—	3.375
Senior Notes, due 2031	1,030	—	3.625
Convertible Senior Notes, due 2048[(a)]	575	575	2.750
Senior Secured First Lien Notes, due 2024	600	600	3.750
Senior Secured First Lien Notes, due 2025	500	—	2.000
Senior Secured First Lien Notes, due 2027	900	—	2.450
Senior Secured First Lien Notes, due 2029	500	500	4.450
Revolving Credit Facility	—	83	L+ 1.75
Tax-exempt bonds	466	466	1.250 - 4.75
Subtotal recourse debt	8,855	6,008	
Non-recourse debt:			
Other	—	34	various
Subtotal all non-recourse debt	—	34	
Subtotal long-term debt (including current maturities)	8,855	6,042	
Finance leases	4	—	various
Subtotal long-term debt and finance leases (including current maturities)	8,859	6,042	
Less current maturities	(1)	(88)	
Less debt issuance costs	(93)	(65)	
Discounts	(74)	(86)	
Total long-term debt and finance leases	$ 8,691	$ 5,803	

(a) The effective interest rate was 5.19% and 5.05% for the years ended December 31, 2020 and 2019, respectively. As of the ex-dividend date of January 29, 2021, the Convertible Notes were convertible at a price of $45.94, which is equivalent to a conversion rate of approximately 21.77 shares of common stock per $1,000 principal amount. The remaining period over which the discount on the liability component will be amortized is 4.7 years.

Debt includes the following discounts:

(In millions)	As of December 31, 2020	2019
Senior Secured First Lien Notes, due 2024, 2025, 2027 and 2029	$ (2)	$ (1)
Convertible Senior Notes, due 2048	(72)	(85)
Total discounts	$ (74)	$ (86)

Consolidated Annual Maturities

As of December 31, 2020, annual payments based on the maturities of NRG's debt and finance leases are expected to be as follows:

	(In millions)
2021	$ 1
2022	2
2023	1
2024	600
2025	500
Thereafter	7,755
Total	$ 8,859

Recourse Debt

Senior Notes

Issuance of 2029 Senior Unsecured Notes and 2031 Senior Unsecured Notes

On December 2, 2020, NRG issued $500 million aggregate principal amount of 3.375% senior notes due 2029 (the "2029 Unsecured Notes") and $1.0 billion aggregate principal amount of 3.625% senior notes due 2031 (the "2031 Unsecured Notes" and, together with the 2029 Unsecured Notes, the "Unsecured Notes"). Interest is payable on the Unsecured Notes on February 15 and August 15 of each year beginning on August 15, 2021 until the maturity date of February 15, 2029 for the 2029 Unsecured Notes and February 15, 2031 for the 2031 Unsecured Notes.

Issuance of 2025 and 2027 Senior Secured First Lien Notes

On December 2, 2020, NRG issued $1.4 billion of aggregate principal amount of senior secured first lien notes, consisting of $500 million 2.000% senior secured first lien notes due 2025 (the "2025 Secured Notes") and $900 million 2.450% senior secured first lien notes due 2027 (the "2027 Secured Notes" and, together with the 2025 Secured Notes, the "2025 and 2027 Senior Secured First Lien Notes"), at a discount. The 2027 Secured Notes were issued under NRG's Sustainability-Linked Bond Framework, which sets out certain sustainability targets, including reducing greenhouse gas emissions. Failure to meet such sustainability targets will result in a 25 basis point increase to the interest rate payable on the 2027 Secured Notes from and including the interest period ending on June 2, 2026. The 2025 and 2027 Senior Secured First Lien Notes are guaranteed on a first-priority basis by each of NRG's current and future subsidiaries that guarantee indebtedness under its credit agreement. The 2025 and 2027 Senior Secured First Lien Notes will be secured by a first priority security interest in the same collateral that is pledged for the benefit of the lenders under NRG's credit agreement, which consists of a substantial portion of the property and assets owned by NRG and the guarantors. The collateral securing the 2025 and 2027 Senior Secured First Lien Notes will be released if the Company obtains an investment grade rating from two out of the three rating agencies, subject to an obligation to reinstate the collateral if such rating agencies withdraw the Company's investment grade rating or downgrade its rating below investment grade. Interest is payable on the 2025 and 2027 Senior Secured First Lien Notes on June 2 and December 2 of each year beginning on June 2, 2021 until the maturity date of December 2, 2025 for the 2025 Secured Notes and until the maturity date of December 2, 2027 for the 2027 Secured Notes.

Issuance of 2029 Senior Notes

On May 14, 2019, NRG issued $733 million of aggregate principal amount at par of 5.25% senior unsecured notes due 2029, or the 2029 Senior Notes. The 2029 Senior Notes are senior unsecured obligations of NRG and are guaranteed by certain of its subsidiaries. Interest will be paid semi-annually beginning on December 15, 2019, until the maturity date of June 15, 2029. The proceeds from the issuance of the 2029 Senior Notes were utilized to redeem the Company's remaining 6.25% Senior Notes due 2024.

Issuance of 2024 and 2029 Senior Secured First Lien Notes

On May 28, 2019, NRG issued $1.1 billion of aggregate principal amount of senior secured first lien notes, consisting of $600 million 2.75% senior secured first lien notes due 2024 and $500 million 4.45% senior secured first lien notes due 2029, or the Senior Secured First Lien Notes, at a discount. The Senior Secured First Lien Notes are guaranteed on a first-priority basis by each of NRG's current and future subsidiaries that guarantee indebtedness under its credit agreement. The Senior Secured First Lien Notes will be secured by a first priority security interest in the same collateral that is pledged for the benefit of the lenders under NRG's credit agreement, which consists of a substantial portion of the property and assets owned by NRG and the guarantors. The collateral securing the Senior Secured First Lien Notes will be released if the Company obtains an investment grade rating from two out of the three rating agencies, subject to an obligation to reinstate the collateral if such rating agencies withdraw the Company's investment grade rating or downgrade its rating below investment grade. Interest will be paid semi-annually beginning on December 15, 2019, until the maturity dates of June 15, 2024 and June 15, 2029. The proceeds from the issuance of the Senior Secured First Lien Notes, together with cash on hand, were used to repay the Company's 2023 Term Loan Facility.

2019 Senior Note Redemptions

During the year ended December 31, 2019, the Company redeemed $733 million of its 6.25% Senior Notes due 2024 and recorded a loss on debt extinguishment of $29 million, which included the write-off of previously deferred debt issuance costs of $5 million.

2048 Convertible Senior Notes

The Convertible Notes are accounted for in accordance with ASC 470-20, *Debt with Conversion and Other Options*. Under ASC 470-20, issuers of convertible debt instruments that may be settled in cash upon conversion, including partial cash settlement, are required to separately account for the liability (debt) and equity (conversion option) components. The Convertible Notes are convertible, under certain circumstances, into the Company's common stock, cash or a combination thereof (at NRG's option) at a price of $46.24 per common share as of December 31, 2020, which is equivalent to an conversion rate of approximately 21.6242 shares of common stock per $1,000 principal amount of Convertible Notes. As of December 31, 2019, the Convertible Notes were convertible at a price of $47.74 per common share, which is equivalent to an conversion rate of approximately 20.9479 shares of common stock per $1,000 principal amount of Convertible Notes. The carrying amounts of the liability components as of December 31, 2020 and 2019 of $503 million and $491 million, respectively, were calculated by estimating the fair value of similar liabilities without a conversion feature at inception and amortizing the debt discount using the effective interest rate over the life of the note.

Senior Notes Early Redemption

As of December 31, 2020, NRG had the following outstanding issuances of senior notes with an early redemption feature, or Senior Notes:

i. 7.250% senior notes, issued May 23, 2016 and due May 15, 2026, or the 2026 Senior Notes;
ii. 6.625% senior notes, issued August 2, 2016 and due January 15, 2027, or the 2027 Senior Notes;
iii. 5.750% senior notes, issued December 7, 2017 and due January 15, 2028, or the 2028 Senior Notes;
iv. 5.250% senior notes, issued May 24, 2019 and due June 15, 2029, or the 2029 Senior Notes;
v. 3.375% senior notes, issued December 2, 2020 and due February 15, 2029, or the 3.375% 2029 Senior Notes; and
vi. 3.625% senior notes, issued December 2, 2020 and Due February 15, 2031, or the 2031 Senior Notes.

The Company periodically enters into supplemental indentures for the purpose of adding entities under the Senior Notes as guarantors.

The indentures and the forms of notes provide, among other things, that the Senior Notes will be senior unsecured obligations of NRG. The indentures also provide for customary events of default, which include, among others: nonpayment of principal or interest; breach of other agreements in the indentures; defaults in failure to pay certain other indebtedness; the rendering of judgments to pay certain amounts of money against NRG and its subsidiaries; the failure of certain guarantees to be enforceable; and certain events of bankruptcy or insolvency. Generally, if an event of default occurs, the Trustee or the Holders of at least 25% in principal amount of the then outstanding series of Senior Notes may declare all of the Senior Notes of such series to be due and payable immediately. The terms of the indentures, among other things, limit NRG's ability and certain of its subsidiaries' ability to return capital to stockholders, grant liens on assets to lenders and incur additional debt. Interest is payable semi-annually on the Senior Notes until their maturity dates.

2026 Senior Notes

At any time prior to May 15, 2021, NRG may redeem all or a part of the 2026 Senior Notes, at a redemption price equal to 100% of the principal amount, accrued and unpaid interest to the redemption date, plus a premium. The premium is the greater of: (i) 1% of the principal amount of the notes; or (ii) the excess of the principal amount of the note over the following: the present value of 103.625% of the note, plus interest payments due on the note from the date of redemption through May 15, 2021 computed using a discount rate equal to the Treasury Rate as of such redemption date plus 0.50%. In addition, on or after May 15, 2021, NRG may redeem some or all of the notes at redemption prices expressed as percentages of principal amount as set forth in the following table, plus accrued and unpaid interest on the notes redeemed to the first applicable redemption date:

Redemption Period	**Redemption Percentage**
May 15, 2021 to May 14, 2022	103.625 %
May 15, 2022 to May 14, 2023	102.417 %
May 15, 2023 to May 14, 2024	101.208 %
May 15, 2024 and thereafter	100.000 %

2027 Senior Notes

At any time prior to July 15, 2021, NRG may redeem all or a part of the 2027 Senior Notes, at a redemption price equal to 100% of the principal amount, accrued and unpaid interest to the redemption date, plus a premium. The premium is the greater of: (i) 1% of the principal amount of the notes; or (ii) the excess of the principal amount of the note over the following: the present value of 103.313% of the note, plus interest payments due on the note from the date of redemption through July 15, 2021 computed using a discount rate equal to the Treasury Rate as of such redemption date plus 50%. In addition, on or after July 15, 2021, NRG may redeem some or all of the notes at redemption prices expressed as percentages of principal amount as set forth in the following table, plus accrued and unpaid interest on the notes redeemed to the first applicable redemption date:

Redemption Period	**Redemption Percentage**
July 15, 2021 to July 14, 2022	103.313 %
July 15, 2022 to July 14, 2023	102.208 %
July 15, 2023 to July 14, 2024	101.104 %
July 15, 2024 and thereafter	100.000 %

2028 Senior Notes

At any time prior to January 15, 2021, NRG may redeem up to 35% of the aggregate principal amount of the 2028 Senior Notes, at a redemption price equal to 105.750% of the principal amount of the notes redeemed, plus accrued and unpaid interest, with an amount equal to the net cash proceeds of certain equity offerings. At any time prior to January 15, 2023, NRG may redeem all or a part of the 2028 Senior Notes, at a redemption price equal to 100% of the principal amount, accrued and unpaid interest to the redemption date, plus a premium. The premium is the greater of: (i) 1% of the principal amount of the notes; or (ii) the excess of the principal amount of the note over the following: the present value of 102.875% of the note, plus interest payments due on the note from the date of redemption through January 15, 2023 computed using a discount rate equal to the Treasury Rate as of such redemption date plus 50%. In addition, on or after January 15, 2023, NRG may redeem some or all of the notes at redemption prices expressed as percentages of principal amount as set forth in the following table, plus accrued and unpaid interest on the notes redeemed to the first applicable redemption date:

Redemption Period	**Redemption Percentage**
January 15, 2023 to January 14, 2024	102.875 %
January 15, 2024 to January 14, 2025	101.917 %
January 15, 2025 to January 14, 2026	100.958 %
January 15, 2026 and thereafter	100.000 %

5.250% 2029 Senior Notes

At any time prior to June 15, 2022, NRG may redeem up to 40% of the aggregate principal amount of the 2029 Senior Notes, at a redemption price equal to 105.250% of the principal amount of the notes redeemed, plus accrued and unpaid interest, with an amount equal to the net cash proceeds of certain equity offerings, provided that at least 50% of the aggregate principal amount remains outstanding immediately after the occurrence of such redemption. At any time prior to June 15, 2024, NRG may redeem all or a part of the 2029 Senior Notes, at a redemption price equal to 100% of the principal amount accrued and unpaid interest to the redemption date, plus a premium. The premium is the greater of: (i) 1% of the principal amount of the notes; or (ii) the excess of the principal amount of the note over the following: the present value of 102.625% of the note, plus interest payments due on the note through June 15, 2024 (excluding accrued but unpaid interest to the redemption date), computed using a discount rate equal to the Treasury Rate as of such redemption date plus 0.50%. In addition, on or after June 15, 2024, NRG may redeem some or all of the notes at redemption prices expressed as percentages of principal amount as set forth in the following table, plus accrued and unpaid interest on the notes redeemed to the first applicable redemption date:

Redemption Period	Redemption Percentage
June 15, 2024 to June 14, 2025	102.625 %
June 15, 2025 to June 14, 2026	101.750 %
June 15, 2026 to June 14, 2027	100.875 %
June 15, 2027 and thereafter	100.000 %

3.375% 2029 Senior Notes

At any time prior to February 15, 2024, NRG may redeem up to 40% of the aggregate principal amount of the 2029 Senior Notes, at a redemption price equal to 103.375% of the principal amount of the notes redeemed, plus accrued and unpaid interest, with an amount equal to the net cash proceeds of certain equity offerings, provided that at least 50% of the aggregate principal amount remains outstanding immediately after the occurrence of such redemption. At any time prior to February 15, 2024, NRG may redeem all or a part of the 2029 Senior Notes, at a redemption price equal to 100% of the principal amount accrued and unpaid interest to the redemption date, plus a premium. The premium is the greater of: (i) 1% of the principal amount of the notes; or (ii) the excess of the principal amount of the note over the following: the present value of 101.688% of the note, plus interest payments due on the note through February 15, 2024 (excluding accrued but unpaid interest to the redemption date), computed using a discount rate equal to the Treasury Rate as of such redemption date plus 0.50%. In addition, on or after February 15, 2024, NRG may redeem some or all of the notes at redemption prices expressed as percentages of principal amount as set forth in the following table, plus accrued and unpaid interest on the notes redeemed to the first applicable redemption date:

Redemption Period	Redemption Percentage
February 15, 2024 to February 14, 2025	101.688 %
February 15, 2025 to February 14, 2026	100.844 %
February 15, 2026 and thereafter	100.000 %

2031 Senior Notes

At any time prior to February 15, 2026, NRG may redeem up to 40% of the aggregate principal amount of the 2031 Senior Notes, at a redemption price equal to 103.625% of the principal amount of the notes redeemed, plus accrued and unpaid interest, with an amount equal to the net cash proceeds of certain equity offerings, provided that at least 50% of the aggregate principal amount remains outstanding immediately after the occurrence of such redemption. At any time prior to February 15, 2026, NRG may redeem all or a part of the 2031 Senior Notes, at a redemption price equal to 100% of the principal amount accrued and unpaid interest to the redemption date, plus a premium. The premium is the greater of: (i) 1% of the principal amount of the notes; or (ii) the excess of the principal amount of the note over the following: the present value of 101.813% of the note, plus interest payments due on the note through February 15, 2026 (excluding accrued but unpaid interest to the redemption date), computed using a discount rate equal to the Treasury Rate as of such redemption date plus 0.50%. In addition, on or after February 15, 2026, NRG may redeem some or all of the notes at redemption prices expressed as percentages of principal amount as set forth in the following table, plus accrued and unpaid interest on the notes redeemed to the first applicable redemption date:

Redemption Period	Redemption Percentage
February 15, 2026 to February 14, 2027	101.813 %
February 15, 2027 to February 14, 2028	101.208 %
February 15, 2028 to February 14, 2029	100.604 %
February 15, 2029 and thereafter	100.000 %

Senior Credit Facility

2023 Term Loan Facility Repayment

On May 28, 2019, the Company repaid its $1.7 billion 2023 Term Loan Facility using the proceeds from the issuance of the Senior First Lien Notes, as well as cash on hand, resulting in a decrease of $594 million to long-term debt outstanding. The Company recorded a loss on debt extinguishment of $17 million, which included the write-off of previously deferred debt issuance costs of $13 million. As a result of the repayment of the outstanding 2023 Term Loan Facility, the Company terminated the related interest rate swap agreements, which were in-the-money, and received $25 million that was recorded as a reduction to interest expense.

Revolving Credit Facility Modification

On May 28, 2019, the Company amended its existing credit agreement to, among other thing, (i) provide for a $184 million increase in revolving commitments, resulting in aggregate revolving commitments under the amended credit agreement equal to $2.6 billion, (ii) extend the maturity date of the revolving loans and commitments under the amended credit agreement to May 28, 2024, (iii) provide for a release of the collateral securing the amended credit agreement if NRG obtains an investment grade rating form two out of the three rating agencies, subject to an obligation to reinstate the collateral if such rating agencies withdraw NRG's investment grade rating or downgrade NRG's rating below investment grade, (iv) reduce the applicable margins for borrowings under (a) ABR Revolving Loans from 1.25% to 0.75% and (b) Eurodollar Revolving Loans from 2.25% to 1.75%, (v) add a sustainability covenant and (vi) make certain other changes to the existing covenants.

On August 20, 2020, the Company amended its existing credit agreement to, among other things, (i) increase the existing revolving commitments in an aggregate amount of $802 million, (ii) provide for a new tranche of revolving commitments in an aggregate amount of $273 million with a maturity date that is 30 months after the Acquisition Close Date. The maturity date of the new revolving tranche of commitments may, upon request by the Company, at the option of each applicable lender under the new tranche be extended by a further 12 months, but not beyond May 28, 2024, which is the maturity date of the existing and increased commitments. Other than with respect to the maturity date, the terms of all revolving commitments and loan made pursuant thereto are identical. The increase in the existing commitments, and the commitments with respect to the new tranche, are effective on August 20, 2020 but only became available on the Acquisition Closing Date. For further discussion on the acquisition of Direct Energy see Note 4, *Acquisitions, Discontinued Operations and Dispositions*. Upon the Acquisition Closing Date, total revolving commitments available, subject to usage, under this amendment will be $3.7 billion.

In addition, the amendment includes changes to, among other things, (i) permit the borrowing of up to full amount of the revolving commitments in Canadian dollars, (ii) increase the swingline facility from $50 million to $100 million and provide a $10 million swingline facility in Canadian dollars, (iii) increase the credit facilities lien basket from the greater of $6 billion and 30% of total assets to the greater of $10 billion and 30% of total assets, (iv) increase the credit facilities debt basket from $6 billion to $10 billion, (v) increase the basket for securitization indebtedness from $750 million to $1.7 billion, (vi) provide an additional indebtedness basket equal to $600 million for certain liquidity facilities, and (vii) make certain other changes to the existing covenants and other provisions.

Tax Exempt Bonds

(In millions, except rates)	As of December 31, 2020	2019	Interest Rate %
NRG Indian River Power 2020, tax exempt bonds, due 2040	$ 57	$ —	1.250
NRG Indian River Power 2020, tax exempt bonds, due 2045	190	—	1.250
Indian River Power, tax exempt bonds, due 2040	—	57	6.000
Indian River Power LLC, tax exempt bonds, due 2045	—	190	5.375
NRG Dunkirk 2020, tax exempt bonds, due 2042	59	—	1.300
Dunkirk Power LLC, tax exempt bonds, due 2042	—	59	5.875
City of Texas City, tax exempt bonds, due 2045	33	33	4.125
Fort Bend County, tax exempt bonds, due 2038	54	54	4.750
Fort Bend County, tax exempt bonds, due 2042	73	73	4.750
Total	$ 466	$ 466	

Dunkirk Bonds

On March 11, 2020, NRG issued $59 million in aggregate principal amount of NRG Dunkirk 2020 1.30% tax-exempt refinancing bonds due 2042 (the "Dunkirk Bonds"). The Dunkirk Bonds are guaranteed on a first-priority basis by each of NRG's current and future subsidiaries that guarantee indebtedness under its credit agreement. The Dunkirk Bonds are secured by a first priority security interest in the same collateral that is pledged for the benefit of the lenders under NRG's credit agreement, which consists of a substantial portion of the property and assets owned by NRG and the guarantors. The collateral securing the Dunkirk Bonds will, at the request of NRG, be released if NRG satisfies certain conditions, including receipt of an investment grade rating on its senior, unsecured debt securities from two out of the three rating agencies, subject to reversion if those rating agencies withdraw their investment grade rating of the Bonds or any of NRG's senior, unsecured debt securities or downgrade such rating below investment grade. The Dunkirk Bonds are subject to mandatory tender and purchase on April 3, 2023 and have a final maturity date of April 1, 2042.

NRG used the net proceeds from the offering to redeem during 2020 the existing principal amount of outstanding Dunkirk Power LLC 5.875% tax exempt bonds due 2042.

Indian River Bonds

On December 17, 2020, NRG issued $57 million in aggregate principal amount of NRG Indian River 2020 1.25% tax-exempt refinancing bonds due 2040 (the "IR 2040 Bonds") and $190 million aggregate principal amount of NRG Indian River Power 2020 1.25% tax-exempt refinancing bonds due 2045 (the "IR 2045 Bonds") (together the "IR Bonds"). The IR Bonds are guaranteed on a first-priority basis by each of NRG's current and future subsidiaries that guarantee indebtedness under its credit agreement. The IR Bonds are secured by a first priority security interest in the same collateral that is pledged for the benefit of the lenders under NRG's credit agreement, which consists of a substantial portion of the property and assets owned by NRG and the guarantors. The collateral securing the IR Bonds will, at the request of NRG, be released if NRG satisfies certain conditions, including receipt of an investment grade rating on its senior, unsecured debt securities from two out of the three rating agencies, subject to reversion if those rating agencies withdraw their investment grade rating of the IR Bonds or any of NRG's senior, unsecured debt securities or downgrade such rating below investment grade. The IR Bonds are subject to mandatory tender and purchase on October 1, 2025 and have final maturity dates of October 1, 2040 for the IR 2040 Bonds and October 1, 2045 for the IR 2045 Bonds.

NRG used the net proceeds from the offering to redeem during 2020 the existing principal amounts of outstanding Indian River Power 6.000% tax exempt bonds due 2040 and Indian River Power LLC 5.375% tax exempt bonds due 2045.

Non-Recourse Debt

The following are descriptions of certain indebtedness of NRG's subsidiaries. All of NRG's non-recourse debt is secured by the assets in the respective project subsidiaries as further described below.

Credit Default Swap Facility

On January 4, 2019, the Company entered into an $80 million credit agreement to issue letters of credit, which is currently supporting the Cottonwood facility lease. Annual fees of 1.33% on the facility were paid quarterly in advance. On August 13, 2020, the agreement was amended permitting the Company to increase the size of the facility and fees on the facility were adjusted to reflect the costs of the credit default swaps that serve as collateral for the facility. In order to increase the Company's collective collateral facilities in connection with the Direct Energy acquisition, NRG expanded the facility allowing for the issuance of an additional $150 million of letters of credit as of December 31, 2020. As of December 31, 2020, $229 million was issued under this facility.

Bilateral Letter of Credit Facilities

In December 2020 the Company entered into a series of Bilateral Letter of Credit Facilities to allow for the issuance of up to $475 million of letters of credit. These facilities are uncommitted. As of December 31, 2020, $5 million was issued under these facilities.

Put Option Agreement for Senior Debt Issuance

During the fourth quarter of 2020, the Company entered into a 3-year put option agreement with a Delaware trust formed by the Company upon completion of the sale of $900 million pre-capitalized trust securities redeemable November 15, 2023 (the "P-Caps"). The Trust invested the proceeds from the sale of the P-Caps in a portfolio of principal and interest strips of U.S. Treasury securities (the "Eligible Treasury Assets"). Under the put option agreement, NRG has the right, from time to time, to issue to the Trust and to require the Trust to purchase from NRG, on one or more occasions (the "Issuance Right"), up to $900 million aggregate principal amount of NRG's 1.841% Senior Secured First Lien Notes due 2023 (the "P-Caps Secured Notes") in exchange for all or a portion of the Eligible Treasury Assets corresponding to the portion of the Issuance Right. NRG will pay a semi-annual premium to the Trust at a rate of 1.65%.

The P-Caps are to be redeemed by the Trust on November 15, 2023 or earlier upon an early redemption of the P-Caps Secured Notes. Following any distribution of P-Caps Secured Notes to the holders of the P-Caps, NRG may similarly redeem such P-Caps Secured Notes, in whole or in part, at the redemption price described below, plus accrued but unpaid interest to, but excluding, the date of redemption. Any P-Caps Secured Notes outstanding and held by the Trust as a result of the exercise of the Issuance Right that remain outstanding will also mature on November 15, 2023.

The Issuance Right will be exercised automatically in full if (1) NRG fails to pay the facility fee when due or any amount due and owing under the trust expense reimbursement agreement or fails to purchase and pay for any Eligible Treasury Assets that are due and not paid on their payment date and such failure is not cured within 30 days, or (2) upon certain bankruptcy events of NRG.

NRG will be required to mandatorily exercise the Issuance Right if (1) an Acquisition Triggering Event has occurred, (2) NRG's consolidated stockholders' equity, determined in accordance with GAAP, but excluding accumulated other comprehensive income (or loss), equity of non-controlling interests attributable thereto and treasury stock at cost, has fallen below $2.0 billion, which amount may be adjusted from time to time upon the occurrence of certain specified events, (3) an event of default under the P-Caps Secured Notes Indenture (as defined below) has occurred or would have occurred had the P-Caps Secured Notes been outstanding, (4) NRG breaches its covenant to maintain sufficient capacity under other material agreements to permit the issuance of the P-Caps Secured Notes in full, (5) a Collateral Enforcement Event (as defined below) has occurred, (6) a change of control triggering event has occurred in respect of NRG or (7) certain events relating to the Trust's status as an "investment company" under the Investment Company Act of 1940, as amended (the "Investment Company Act"), have occurred. Upon the occurrence of any event described in clause (1), (2), (3), (4) or (7) of this paragraph, the Issuance Right will be exercised in full, and upon the occurrence of any event described in clause (5) or (6) of this paragraph, the Issuance Right will be exercised with respect to the applicable portion of the available amount of P-Caps Secured Notes specified in the Facility Agreement.

In connection with the issuance of the P-Caps, on December 2, 2020, NRG entered into a facility agreement for the issuance of letters of credit (the "LC Agreement") and Deutsche Bank Trust Company Americas as collateral agent (the "Collateral Agent") and administrative agent pursuant to which certain financial institutions (the "LC Issuers") are permitted to join with commitments to provide letters of credit in an aggregate amount not to exceed $874 million to support the operations of NRG and its subsidiaries and minority investments, including to replace certain currently outstanding letters of credit and other credit support issued for the account of entities being acquired pursuant to the Acquisition. In addition, on December 2, 2020, the Trust entered into a pledge and control agreement (the "Pledge Agreement"), among NRG, the Trust and the Collateral Agent for the LC Issuers, under which the Trust agreed to grant a pledge over the Eligible Treasury Assets in favor of the Collateral Agent for the benefit of the LC Issuers. Pursuant to the LC Agreement and the Pledge Agreement, the Collateral Agent is entitled to withdraw Eligible Treasury Assets from the Trust's pledged account, following notice to NRG, in the event NRG has failed to reimburse amounts drawn under any letter of credit issued pursuant to the LC Agreement, and the LC Issuers have the right to instruct the Collateral Agent to enforce the pledge over the Eligible Treasury Assets upon the occurrence of any event of default under the LC Agreement (a "Collateral Enforcement Event"). As of December 31, 2020 no letters of credit were issued under this agreement.

Agua Caliente Borrower 1

On January 22, 2019, the lenders of the Agua Borrower 1 notes notified Agua Caliente Borrower 1, a subsidiary of the Company, of certain defaults under the financing agreement as it relates to the bankruptcy filing made by PG&E on January 29, 2019. PG&E is the offtaker of the underlying contracts, which are material to the project. The financing was entered into along with Agua Caliente Borrower 2, LLC, a subsidiary of Clearway Energy Inc., which is joint and several to the parties. On

October 21, 2019, the Company repaid the outstanding amount on the notes at 102% plus accrued interest through the payment date of $83 million.

Note 15 — *Asset Retirement Obligations*

The Company's AROs are primarily related to the environmental obligations for nuclear decommissioning, mine reclamation, ash disposal, site closures, fuel storage facilities and future dismantlement of equipment on leased property. In addition, the Company has also identified conditional AROs for asbestos removal and disposal, which are specific to certain power generation operations.

See Note 7, *Nuclear Decommissioning Trust Fund,* for a further discussion of the Company's nuclear decommissioning obligations. Accretion for the nuclear decommissioning ARO and amortization of the related ARO asset are recorded to the Nuclear Decommissioning Trust Liability to the ratepayers and are not included in net income, consistent with treatment per ASC 980, *Regulated Operations*.

The following table represents the balance of ARO obligations as of December 31, 2020 and 2019, along with the additions, reductions and accretion related to the Company's ARO obligations for the year ended December 31, 2020:

(In millions)	Nuclear Decommission	Other[(a)]	Total
Balance as of December 31, 2019	$ 298	$ 430	$ 728
Revisions in estimates for current obligations	(12)	38	26
Additions	—	3	3
Spending for current obligations	—	(43)	(43)
Accretion	17	29	46
Balance as of December 31, 2020	$ 303	$ 457	$ 760

(a) Total accretion expense related to asset retirement obligations included in the consolidated statement of cash flows includes accretion and revisions in estimates for asset retirement liabilities on non-operating plants

Note 16 — *Benefit Plans and Other Postretirement Benefits*

NRG sponsors and operates defined benefit pension and other postretirement plans.

NRG pension benefits are available to eligible non-union and union employees through various defined benefit pension plans. These benefits are based on pay, service history and age at retirement. Most pension benefits are provided through tax-qualified plans. NRG also provides postretirement health and welfare benefits for certain groups of employees. Cost sharing provisions vary by the terms of any applicable collective bargaining agreements.

NRG maintains two separate qualified pension plans, the NRG Pension Plan for Bargained Employees and the NRG Pension Plan. Participation in the NRG Pension Plan for Bargained Employees depends upon whether an employee is covered by a bargaining agreement.

NRG expects to contribute $30 million to the Company's pension plans in 2021, of which $14 million relates to the GenOn plan.

NRG Defined Benefit Plans

The annual net periodic benefit cost/(credit) related to NRG's pension and other postretirement benefit plans include the following components:

	Year Ended December 31,		
	Pension Benefits		
(In millions)	2020	2019	2018
Service cost benefits earned	$ 10	$ 10	$ 23
Interest cost on benefit obligation	38	46	44
Expected return on plan assets	(61)	(59)	(62)
Amortization of unrecognized net loss	5	3	—
Settlement/curtailment expense	—	—	7
Net periodic benefit (credit)/cost	$ (8)	$ —	$ 12

	Year Ended December 31,		
	Other Postretirement Benefits		
(In millions)	2020	2019	2018
Service cost benefits earned	$ —	$ 1	$ 1
Interest cost on benefit obligation	3	3	4
Amortization of unrecognized prior service cost	(14)	(13)	(10)
Amortization of unrecognized net loss	1	—	—
Curtailment gain	—	—	(10)
Net periodic benefit credit	$ (10)	$ (9)	$ (15)

A comparison of the pension benefit obligation, other postretirement benefit obligations and related plan assets for NRG's plans on a combined basis is as follows:

	As of December 31,			
	Pension Benefits		Other Postretirement Benefits	
(In millions)	2020	2019	2020	2019
Benefit obligation at January 1	$ 1,397	$ 1,222	$ 93	$ 83
Service cost	10	10	—	1
Interest cost	38	46	3	3
Plan amendments	—	—	—	(2)
Actuarial loss	126	207	—	16
Employee and retiree contributions	—	—	3	4
Benefit payments	(82)	(88)	(9)	(12)
Benefit obligation at December 31	1,489	1,397	90	93
Fair value of plan assets at January 1	1,150	981	—	—
Actual return on plan assets	193	216	—	—
Employee and retiree contributions	—	—	3	4
Employer contributions	11	41	6	7
Benefit payments	(82)	(88)	(9)	(11)
Fair value of plan assets at December 31	1,272	1,150	—	—
Funded status at December 31 — excess of obligation over assets	$ (217)	$ (247)	$ (90)	$ (93)

During the year ended December 31, 2020, the actuarial loss of $126 million on pension benefits was driven by decreasing discount rates and demographic assumptions, partially offset by gains from life expectancy projection updates.

During the year ended December 31, 2019, the actuarial loss of $207 million on pension benefits was driven by decreasing discount rates, assumption changes to reflect current market conditions and actual experience different than assumed, partially offset by gains from life expectancy projection updates.

Amounts recognized in NRG's balance sheets were as follows:

	As of December 31,			
	Pension Benefits		Other Postretirement Benefits	
(In millions)	2020	2019	2020	2019
Other current liabilities	$ —	$ —	$ 5	$ 7
Other non-current liabilities	217	247	85	86

Amounts recognized in NRG's accumulated OCI that have not yet been recognized as components of net periodic benefit cost were as follows:

	As of December 31,			
	Pension Benefits		Other Postretirement Benefits	
(In millions)	2020	2019	2020	2019
Net loss	$ 127	$ 138	$ 6	$ 7
Prior service cost/(credit)	2	2	(29)	(43)
Total accumulated OCI	$ 129	$ 140	$ (23)	$ (36)

Other changes in plan assets and benefit obligations recognized in OCI were as follows:

	Year Ended December 31,			
	Pension Benefits		Other Postretirement Benefits	
(In millions)	2020	2019	2020	2019
Net actuarial (gain)/loss	$ (6)	$ 50	$ —	$ 16
Amortization of net actuarial (gain)	(5)	(3)	(1)	—
Prior service credit	—	—	—	(2)
Amortization of prior service cost	—	—	14	12
Total recognized in OCI	$ (11)	$ 47	$ 13	$ 26
Net periodic benefit credit	(8)	—	(10)	(9)
Net recognized in net periodic pension credit and OCI	$ (19)	$ 47	$ 3	$ 17

The following table presents the balances of significant components of NRG's pension plan:

	As of December 31,	
	Pension Benefits	
(In millions)	2020	2019
Projected benefit obligation	$ 1,489	$ 1,397
Accumulated benefit obligation	1,455	1,362
Fair value of plan assets	1,272	1,150

NRG's market-related value of its plan assets is the fair value of the assets. The fair values of the Company's pension plan assets by asset category and their level within the fair value hierarchy are as follows:

	Fair Value Measurements as of December 31, 2020		
(In millions)	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Total
Common/collective trust investment — U.S. equity	$ —	$ 284	$ 284
Common/collective trust investment — non-U.S. equity	—	113	113
Common/collective trust investment — non-core assets	—	151	151
Common/collective trust investment — fixed income	—	258	258
Short-term investment fund	13	—	13
Subtotal fair value	$ 13	$ 806	$ 819
Measured at net asset value practical expedient:			
Common/collective trust investment — non-U.S. equity			45
Common/collective trust investment — fixed income			289
Common/collective trust investment — non-core assets			84
Partnerships/joint ventures			35
Total fair value			$ 1,272

	Fair Value Measurements as of December 31, 2019		
(In millions)	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Total
Common/collective trust investment — U.S. equity	$ —	$ 233	$ 233
Common/collective trust investment — non-U.S. equity	—	73	73
Common/collective trust investment — non-core assets	—	143	143
Common/collective trust investment — fixed income	—	272	272
Short-term investment fund	12	—	12
Subtotal fair value	$ 12	$ 721	$ 733
Measured at net asset value practical expedient:			
Common/collective trust investment — non-U.S. equity			84
Common/collective trust investment — fixed income			279
Common/collective trust investment — non-core assets			24
Partnerships/joint ventures			30
Total fair value			$ 1,150

In accordance with ASC 820, the Company determines the level in the fair value hierarchy within which each fair value measurement in its entirety falls, based on the lowest level input that is significant to the fair value measurement in its entirety. The fair value of the common/collective trust investments is valued at fair value which is equal to the sum of the market value of all of the fund's underlying investments. Certain common/collective trust investments have readily determinable fair value as they publish daily net asset value, or NAV, per share and are categorized as Level 2. Certain other common/collective trust investments and partnerships/joint ventures use NAV per share, or its equivalent, as a practical expedient for valuation, and thus have been removed from the fair value hierarchy table.

The following table presents the significant assumptions used to calculate NRG's benefit obligations:

	As of December 31,			
	Pension Benefits		Other Postretirement Benefits	
Weighted-Average Assumptions	2020	2019	2020	2019
Discount rate	2.56 %	3.26 %	2.54 %	3.26 %
Interest crediting rate	3.12 %	—	1.62 %	—
Rate of compensation increase	3.00 %	3.00 %	— %	— %
Health care trend rate	—	—	7.2% grading to 4.5% in 2028	7.5% grading to 4.5% in 2028

The following table presents the significant assumptions used to calculate NRG's benefit expense:

	As of December 31,					
	Pension Benefits			Other Postretirement Benefits		
Weighted-Average Assumptions	2020	2019	2018	2020	2019	2018
Discount rate	3.26 %	4.38%/4.20%	3.71%/4.04%	3.26%	4.37%	3.71% /4.08%
Interest crediting rate	3.66 %	—	—	2.28 %	—	—
Expected return on plan assets	5.93 %	6.35 %	6.17 %	—	—	—
Rate of compensation increase	3.00 %	3.00 %	3.00 %	—	—	—
Health care trend rate	—	—	—	7.5% grading to 4.5% in 2028	7.8% grading to 4.5% in 2025	8.2% grading to 4.5% in 2025

NRG uses December 31 of each respective year as the measurement date for the Company's pension and other postretirement benefit plans. The Company sets the discount rate assumptions on an annual basis for each of NRG's defined benefit retirement plans as of December 31. The discount rate assumptions represent the current rate at which the associated liabilities could be effectively settled at December 31. The Company utilizes the Aon AA Above Median, or AA-AM, yield curve to select the appropriate discount rate assumption for each retirement plan. The AA-AM yield curve is a hypothetical AA yield curve represented by a series of annualized individual spot discount rates from 6 months to 99 years. Each bond issue used to build this yield curve must be non-callable, and have an average rating of AA when averaging available Moody's Investor Services, Standard & Poor's and Fitch ratings.

NRG employs a total return investment approach, whereby a mix of equities and fixed income investments are used to maximize the long-term return of plan assets for a prudent level of risk. Risk tolerance is established through careful consideration of plan liabilities, plan funded status, and corporate financial condition. The Investment Committee reviews the asset mix periodically and as the plan assets increase in future years, the Investment Committee may examine other asset classes such as real estate or private equity. NRG employs a building block approach to determining the long-term rate of return assumption for plan assets, with proper consideration given to diversification and rebalancing. Historical markets are studied and long-term historical relationships between equities and fixed income are preserved, consistent with the widely accepted capital market principle that assets with higher volatility generate a greater return over the long run. Current factors such as inflation and interest rates are evaluated before long-term capital market assumptions are determined. Peer data and historical returns are reviewed to check for reasonableness and appropriateness.

The target allocations of NRG's pension plan assets were as follows for the year ended December 31, 2020:

U.S. equity	20 %
Non-U.S. equity	13 %
Non-core assets	17 %
U.S. fixed income	50 %

Plan assets are currently invested in a diversified blend of equity and fixed-income investments. Furthermore, equity investments are diversified across U.S., non-U.S., global, and emerging market equities, as well as among growth, value, small and large capitalization stocks.

Investment risk and performance are monitored on an ongoing basis through quarterly portfolio reviews of each asset fund class to a related performance benchmark, if applicable, and annual pension liability measurements. Performance benchmarks are composed of the following indices:

Asset Class	Index
U.S. equities	Dow Jones U.S. Total Stock Market Index
Non-U.S. equities	MSCI All Country World Ex-U.S. IMI Index
Non-core assets[(a)]	Various (per underlying asset class)
Fixed income securities	Barclays Short, Intermediate and Long Credits/Barclays Strips 20+ Index

(a) Non-Core Assets are defined as diversifying asset classes approved by the Investment Committee that are intended to enhance returns and/or reduce volatility of the U.S. and non-U.S. equities. Asset classes considered Non-Core include, but may not be limited to: Emerging Market Equity, Emerging Market Debt, Non-US Developed Market Small Cap, High Yield Fixed Income, Real Estate, Bank Loans, Global Infrastructure and other Alternatives.

NRG's expected future benefit payments for each of the next five years, and in the aggregate for the five years thereafter, are as follows:

		Other Postretirement Benefit	
(In millions)	Pension Benefit Payments	Benefit Payments	Medicare Prescription Drug Reimbursements
2021	$ 90	$ 6	$ —
2022	89	6	—
2023	87	5	—
2024	85	5	—
2025	83	5	—
2026-2030	386	19	2

STP Defined Benefit Plans

NRG has a 44% undivided ownership interest in STP, as discussed further in Note 29, *Jointly Owned Plants*. STPNOC, which operates and maintains STP, provides its employees a defined benefit pension plan, as well as postretirement health and welfare benefits. Although NRG does not sponsor the STP plan, it reimburses STPNOC for 44% of the contributions made towards its retirement plan obligations.

During the third quarter of 2019, STPNOC announced that the defined benefit pension plan will be frozen for non-union employees on December 31, 2021, This resulted in the curtailment of benefits, thereby requiring a remeasurement, including an update to the discount rate used to determine benefit obligations. As a result, during 2019, NRG recognized a gain of $8 million related to the curtailment of benefits and an increase of $32 million to the pension liability was recorded to other comprehensive income. The Company measures the fair value of its pension assets in accordance with ASC 820, *Fair Value Measurements and Disclosures,* or ASC 820.

For the years ended December 31, 2020 and December 31, 2019, NRG reimbursed STPNOC $8 million and $24 million, respectively, for its contribution to the plans. In 2021, NRG expects to reimburse STPNOC $18 million for its contribution to the plan.

The Company has recognized the following in its statement of financial position, statement of operations and accumulated OCI related to its 44% interest in STP:

	As of December 31,			
	Pension Benefits		Other Postretirement Benefits	
(In millions)	2020	2019	2020	2019
Funded status — STPNOC benefit plans	$ (99)	$ (77)	$ (20)	$ (20)
Net periodic benefit cost/(credit)	7	9	(4)	(4)
Other changes in plan assets and benefit obligations recognized in other comprehensive income/(loss)	22	(13)	5	6

Defined Contribution Plans

NRG's employees are also eligible to participate in defined contribution 401(k) plans.

The Company's contributions to these plans were as follows:

	Year Ended December 31,		
(In millions)	2020	2019	2018
Company contributions to defined contribution plans	$ 22	$ 22	$ 28

Note 17 — *Capital Structure*

For the period from December 31, 2017 to December 31, 2020, the Company had 10,000,000 shares of preferred stock authorized and 500,000,000 shares of common stock authorized. The following table reflects the changes in NRG's common shares issued and outstanding for each period presented:

	Common		
	Issued	Treasury	Outstanding
Balance as of December 31, 2017	418,323,134	(101,580,045)	316,743,089
Shares issued under ESPP	—	175,862	175,862
Shares issued under LTIPs	1,965,752	—	1,965,752
Share repurchases	—	(35,234,664)	(35,234,664)
Balance as of December 31, 2018	420,288,886	(136,638,847)	283,650,039
Shares issued under ESPP	—	46,128	46,128
Shares issued under LTIPs	1,601,904	—	1,601,904
Share repurchases	—	(36,301,882)	(36,301,882)
Balance as of December 31, 2019	421,890,790	(172,894,601)	248,996,189
Shares issued under ESPP	—	131,469	131,469
Shares issued under LTIPs	1,167,058	—	1,167,058
Share repurchases	—	(6,062,783)	(6,062,783)
Balance as of December 31, 2020	423,057,848	(178,825,915)	244,231,933

Common Stock

As of December 31, 2020, NRG had 14,862,069 shares of common stock reserved for the maximum number of shares potentially issuable based on the conversion and redemption features of the long-term incentive plans.

Common stock dividends — The Company declared and paid $0.30, $0.03 and $0.03 quarterly dividend per common share, or $1.20, $0.12 and $0.12 per share on an annualized basis for 2020, 2019 and 2018 respectively.

In the first quarter of 2020, NRG increased the annual dividend to $1.20 from $0.12 per share, as part of a long-term capital allocation policy adopted in the fourth quarter of 2019, that targets allocating 50% of cash available for allocation generated each year to growth investments and 50% to be returned to shareholders. The return of capital to shareholders is expected to be completed through the increased dividend supplemented by share repurchases. The long-term capital allocation policy targets an annual dividend growth rate of 7-9% per share in years subsequent to 2020. In 2021 NRG increased the annual dividend to $1.30 per share, representing an 8% increase. The Company's common stock dividends are subject to available capital, market conditions, and compliance with associated laws, regulations and other contractual obligations.

On January 21, 2021, NRG declared a quarterly dividend on the Company's common stock of $0.325 per share, or $1.30 per share on an annualized basis, payable on February 16, 2021, to stockholders of record as of February 1, 2021.

Employee Stock Purchase Plan — In March 2019, the Company reopened participation in the ESPP, which allows eligible employees to elect to withhold between 1% and 10% of their eligible compensation to purchase shares of NRG common stock at the lesser of 95% of its market value on the offering date or 95% of the fair market value on the exercise date. An offering date will occur each April 1 and October 1. An exercise date will occur each September 30 and March 31. The ESPP, that was suspended in 2018, allowed eligible employees to elect to withhold up to 10% of their eligible compensation to purchase shares of NRG common stock at the lesser of 85% of its fair market value on the offering date or 85% of the fair market value on the exercise date. An offering date occurred each January 1 and July 1. An exercise date occurred each June 30 and December 31. As of December 31, 2020, there remained 2,753,591 shares of treasury stock reserved for issuance under the ESPP.

Share Repurchases — In 2018, the Company's board of directors authorized the Company to repurchase $1.5 billion of its common stock. The Company executed $1.25 billion of these share repurchases in 2018, with the remaining $0.25 billion completed in the first quarter of 2019. In 2019, the Company's board of directors authorized the Company to repurchase an additional $1.25 billion of its common stock. The Company executed $1.194 billion of these share repurchases in 2019 and completed the remaining $56 million under the 2019 authorization by February 27, 2020. The remaining repurchases in 2020 were made under the long-term capital allocation policy discussed above.

The following table summarizes the shares repurchases made during the years 2018, 2019 and 2020:

	Total number of shares and share equivalents purchased	Average price paid per share and share equivalent	Amounts paid for shares and share equivalents purchased (in millions)
2018 repurchases:			
Shares repurchased under May 24, 2018 Accelerated Repurchase Agreement	10,829,903		354
Shares repurchased under September 5, 2018 Accelerated Repurchase Agreement	13,307,130		500
Other repurchases	11,097,631		396
Total Share Repurchases during 2018	35,234,664	$ 35.48	$ 1,250
2019 repurchases:			
Repurchases under February 28, 2019 Accelerated Share Repurchase Agreement	9,438,671		400
Other repurchases	26,863,211		1,008
Equivalent shares purchased in lieu of tax withholdings on equity compensation issuances[(a)]	936,928		36
Total Share Repurchases during 2019	37,238,810	$ 38.79	$ 1,444
2020 repurchases:			
Repurchases	6,062,783		197
Equivalent shares purchased in lieu of tax withholdings on equity compensation issuances[(a)]	711,248		27
Total Share Repurchases during 2020	6,774,031	$ 33.05	$ 224

(a) NRG elected to pay cash for tax withholding on equity awards instead of issuing actual shares to management. The average price per equivalent shares withheld was $38.23 and $38.78 in 2020 and 2019, respectively. See Note 22, Stock-Based Compensation, for further discussion of the equity awards

Note 18 — *Investments Accounted for by the Equity Method and Variable Interest Entities*

Entities that are not Consolidated

NRG accounts for the Company's significant investments using the equity method of accounting. NRG's carrying value of equity investments can be impacted by a number of elements including impairments, unrealized gains and losses on derivatives and movements in foreign currency exchange rates.

The following table summarizes NRG's equity method investments as of December 31, 2020:

(In millions, except percentages)

Name	Economic Interest	Investment Balance[(a)]
Agua Caliente	35.0 %	$ 185
Gladstone	37.5 %	131
Ivanpah Master Holdings, LLC	54.5 %	17
Watson Cogeneration Company	49.0 %	14
Midway-Sunset Cogeneration Company	50.0 %	12
Petra Nova Parish Holdings, LLC[(b)]	50.0 %	(13)
Total equity investments in affiliates		$ 346

(a) As of December 31, 2020, the carry value of NRG's equity method investment was $343 million lower than the underlying net assets of the investees. The basis difference is being amortized into net income over the remaining estimated useful lives of the underlying net assets. The basis difference is primarily due to impairments booked on Petra Nova, but not booked at the project level, as well as differences related to the deconsolidations of Ivanpah and Agua Caliente in 2018 and the treatment of certain deferred tax assets.

(b) Refer to Note 11, *Asset Impairments*, for discussion of NRG's investment in Petra Nova Parish Holdings, LLC

	As of December 31,	
(In millions)	**2020**	**2019**
Undistributed earnings from equity investments	$ 30	$ 42

PG&E Bankruptcy — The Agua Caliente project and two of the three Ivanpah units are party to PPAs with PG&E. Both projects have project financing with the U.S. DOE. On January 29, 2019, PG&E Corp. and primary operating subsidiary utility PG&E filed for Chapter 11 relief in the California Bankruptcy Court. As a result of the bankruptcy filing, Agua Caliente and the two Ivanpah units were issued notices of events of default under their respective loan agreements. On September 9, 2019, PG&E filed a plan of reorganization that would assume all power purchase agreements, including those held by Agua Caliente and the two Ivanpah units. The California Bankruptcy Court approved the PG&E plan and the Confirmation Order was entered on June 19, 2020. The plan went effective, and PG&E emerged from bankruptcy on July 1, 2020. In July 2020, the U.S. DOE agreed to waivers of the bankruptcy-related events of default with respect to the Agua Caliente and Ivanpah projects. Subsequent to PG&E's emergence from bankruptcy, the Agua Caliente and the Ivanpah projects were allowed to resume distributions, and as of December 31, 2020, NRG received $50 million. In November 2020, Clearway Energy Inc. agreed to buy NRG's 35% interest in Agua Caliente. The transaction closed on February 3, 2021.

Variable Interest Entities

NRG accounts for its interests in certain entities that are considered VIEs under ASC 810, *Consolidation*, for which NRG is not the primary beneficiary, under the equity method.

Through its consolidated subsidiary, NRG Solar Ivanpah LLC, NRG owns a 54.5% interest in Ivanpah Master Holdings, LLC, or Ivanpah, the owner of three solar electric generating projects located in the Mojave Desert with a total capacity of 393 MW. NRG considers this investment a VIE under ASC 810 and NRG is not considered the primary beneficiary. The Company accounts for its interest under the equity method of accounting.

The Ivanpah solar electric generating projects were funded in large part by loans guaranteed by the U.S. DOE and equity from the projects' partners. During the first quarter of 2018, all interested parties sought a restructuring of Ivanpah's debt in order to avoid a potential event of default with respect to the loans in connection with several recent events. Ensuing negotiations culminated in a settlement during the second quarter of 2018 between the parties which resulted in certain transactions, including the release of reserves totaling $95 million to fund equity distributions to the partners, which reduced the equity at risk, and the prepayment of certain of the debt balance outstanding, and the amendment of certain of Ivanpah's governing documents. The equity distributions and prepayment of debt were funded by the agreed upon release of reserve funds. These events were considered to be a reconsideration event in accordance with ASC 810. As a result, NRG determined that it is not the primary beneficiary and deconsolidated Ivanpah. NRG recognized a loss of $22 million on the deconsolidation and subsequent recognition of Ivanpah as an equity method investment. The deconsolidation of Ivanpah reduced the Company's assets by approximately $1.3 billion, which was primarily property, plant and equipment, and reduced the Company's liabilities by $1.2 billion, which was primarily long-term debt.

Other Equity Investments

Gladstone — Through a joint venture, NRG owns a 37.5% interest in Gladstone, a 1,613 MW coal-fueled power generation facility in Queensland, Australia. The power generation facility is managed by the joint venture participants and the facility is operated by NRG. Operating expenses incurred in connection with the operation of the facility are funded by each of the participants in proportion to their ownership interests. Coal is sourced from local mines in Queensland. NRG and the joint venture participants receive their respective share of revenues directly from the off takers in proportion to the ownership interests in the joint venture. Power generated by the facility is primarily sold to an adjacent aluminum smelter, with excess power sold to the Queensland Government-owned utility under long-term supply contracts. NRG's investment in Gladstone was $131 million as of December 31, 2020.

Entities that are Consolidated

The Company has a controlling financial interest in certain entities which have been identified as VIEs under ASC 810. These arrangements are related to the Receivables Facility, as further described in Note 13, *Receivables Securitization and Repurchase Facility,* and tax equity arrangements entered into with third-parties in order to finance the cost of solar energy systems under operating leases eligible for certain tax credits as further described in Note 2, *Summary of Significant Accounting Policies*. During the first quarter of 2020, the Company repurchased its partners' equity interest in one of the remaining partnerships. As the Company retains control of its interest in the entity, the repurchase was recorded to equity. During the fourth quarter of 2020, the Company completed the sale of its other remaining tax equity arrangement, as part of the sale of the Home Solar business for $66 million.

The summarized financial information for the Company's consolidated VIEs consisted of the following:

(In millions)	December 31, 2020	December 31, 2019
Accounts receivable	$ 647	$ 3
Other current assets	2	—
Net property, plant and equipment	—	71
Other long-term assets	—	27
Total assets	649	101
Current liabilities	78	4
Long-term debt	—	24
Other long-term liabilities	—	8
Total liabilities	78	36
Redeemable noncontrolling interests	—	20
Net assets less noncontrolling interests	$ 571	$ 45

Note 19 — *Earnings Per Share*

Basic income per common share is computed by dividing net income by the weighted average number of common shares outstanding. Shares issued and treasury shares repurchased during the year are weighted for the portion of the year that they were outstanding. Diluted income per share is computed in a manner consistent with that of basic income per share, while giving effect to all potentially dilutive common shares that were outstanding during the period.

Dilutive effect for equity compensation and other equity instruments — The outstanding non-qualified stock options, non-vested restricted stock units, and market stock units and relative performance stock units are not considered outstanding for purposes of computing basic income per share. However, these instruments are included in the denominator for purposes of computing diluted income per share under the treasury stock method. The 2048 Convertible Senior Notes are convertible, under certain circumstances, into the Company's common stock, cash or combination thereof (at NRG's option). There is no dilutive effect for the 2048 Convertible Senior Notes due to the Company's expectation to settle the liability in cash.

The reconciliation of NRG's basic income/(loss) per share to diluted income/(loss) per share is shown in the following table:

	Year Ended December 31,		
(In millions, except per share amounts)	2020	2019	2018
Basic income per share attributable to NRG, Inc;			
Net income attributable to NRG Energy, Inc. common stockholders	$ 510	$ 4,438	$ 268
Weighted average number of common shares outstanding-basic	245	262	304
Income per weighted average common share — basic	$ 2.08	$ 16.94	$ 0.88
Diluted income per share attributable to NRG, Inc;			
Net income attributable to NRG Energy, Inc. common stockholders	$ 510	$ 4,438	$ 268
Weighted average number of common shares outstanding-basic	245	262	304
Incremental shares attributable to the issuance of equity compensation (treasury stock method)	1	2	4
Weighted average number of common shares outstanding-diluted	246	264	308
Income per weighted average common share — diluted	$ 2.07	$ 16.81	$ 0.87

As of December 31, 2020 and 2019 and 2018 the Company had an insignificant number of outstanding equity instruments that are anti-dilutive and were not included in the computation of the Company's diluted income per share.

Note 20 — *Segment Reporting*

The Company began managing its integrated model based on the combined results of the retail and wholesale generation businesses with a geographical focus in 2020. As a result, the Company changed its business segments to Texas, East and West/Other beginning in the first quarter of 2020. The Company's updated segment structure reflects how management makes financial decisions and allocates resources. All affected disclosures presented herein have been recast to reflect these changes for all periods presented. For further discussion, refer to Note 1, *Nature of Business*.

NRG's chief operating decision maker, its chief executive officer, evaluates the performance of its segments based on operational measures including adjusted earnings before interest, taxes, depreciation and amortization, or Adjusted EBITDA, free cash flow and capital for allocation, as well as net income/(loss) and net income/(loss) attributable to NRG Energy, Inc.

In February 2019, the Company completed the sale and deconsolidation of the South Central Portfolio and Carlsbad. On August 31, 2018, NRG deconsolidated NRG Yield Inc., its Renewables Platform and Carlsbad for financial reporting purposes. In 2018, the financial information for historical periods was recast to reflect the presentation of discontinued operations within the corporate segment. Refer to Note 4, *Acquisitions, Discontinued Operations and Dispositions*, for further discussion.

The Company had no customer that comprised more than 10% of the Company's consolidated revenues during the years ended December 31, 2020 and 2019. The company had one customer in the Texas segment that comprised 11% of the Company's consolidated revenues during the year ended December 31, 2018.

Intersegment sales are accounted for at market.

(In millions)	For the Year Ended December 31, 2020 Texas	East	West/Other	Corporate[a]	Eliminations	Total
Operating revenues[a]	$ 6,309	$ 2,354	$ 434	$ —	$ (4)	$ 9,093
Operating expenses	5,246	1,828	346	57	(4)	7,473
Depreciation and amortization	227	142	32	34	—	435
Impairment losses	14	—	61	—	—	75
Development costs	4	3	1	—	—	8
Total operating cost and expenses	5,491	1,973	440	91	(4)	7,991
(Loss)/gain on sale of assets	—	—	(2)	5	—	3
Operating income/(loss)	818	381	(8)	(86)	—	1,105
Equity in (losses)/earnings of unconsolidated affiliates	(12)	—	29	—	—	17
Impairment losses on investments	(18)	—	—	—	—	(18)
Other income, net	11	7	8	41	—	67
Loss on debt extinguishment	—	(4)	(5)	—	—	(9)
Interest expense	—	(14)	(3)	(384)	—	(401)
Income/(loss) from continuing operations before income taxes	799	370	21	(429)	—	761
Income tax (benefit)/expense	—	(1)	2	250	—	251
Net income/(loss) attributable to NRG Energy, Inc.	$ 799	$ 371	$ 19	$ (679)	$ —	$ 510
Balance sheet						
Equity investments in affiliates	$ (13)	$ —	$ 359	$ —	$ —	$ 346
Capital expenditures	130	45	30	25	—	230
Goodwill[b]	325	254	—	—	—	579
Total assets	$ 7,641	$ 1,885	$ 1,584	$ 11,152	$ (7,360)	$ 14,902
(a) Inter-segment sales and inter-segment net derivative gains and losses included in operating revenues	$ 6	$ (6)	$ 4	$ —	$ —	$ 4

(b) Goodwill was allocated based on the regions in which the business operates and are expected to benefit using a relative fair value approach

(In millions)	For the Year Ended December 31, 2019 Texas	East	West/Other	Corporate[a]	Eliminations	Total
Operating revenues[a]	$ 7,069	$ 2,319	$ 440	$ —	$ (7)	$ 9,821
Operating expenses	5,818	1,895	397	50	(7)	8,153
Depreciation and amortization	188	121	33	31	—	373
Impairment losses	1	—	4	—	—	5
Development costs	3	3	1	—	—	7
Total operating cost and expenses	6,010	2,019	435	81	(7)	8,538
Gain on sale of assets	—	1	—	6	—	7
Operating income/(loss)	1,059	301	5	(75)	—	1,290
Equity in (losses)/earnings of unconsolidated affiliates	(4)	—	6	—	—	2
Impairment losses on investments	(103)	—	—	(5)	—	(108)
Other income, net	20	6	10	30	—	66
Loss on debt extinguishment	—	—	(3)	(48)	—	(51)
Interest expense	—	(18)	(10)	(385)	—	(413)
Income/(loss) from continuing operations before income taxes	972	289	8	(483)	—	786
Income tax expense/(benefit)	—	2	1	(3,337)	—	(3,334)
Net income from continuing operations	972	287	7	2,854	—	4,120
Gain from discontinued operations, net of income tax	—	—	—	321	—	321
Net Income	972	287	7	3,175	—	4,441
Less: Net income attributable to noncontrolling interests and redeemable noncontrolling interests	—	—	3	—	—	3
Net income attributable to NRG Energy, Inc.	$ 972	$ 287	$ 4	$ 3,175	$ —	$ 4,438
Balance sheet						
Equity investments in affiliates	$ 6	$ —	$ 382	$ —	$ —	$ 388
Capital expenditures	136	30	25	37	—	228
Goodwill[b]	325	254	—	—	—	579
Total assets	$ 5,711	$ 2,160	$ 1,190	$ 8,342	$ (4,872)	$ 12,531
(a) Inter-segment sales and inter-segment net derivative gains and losses included in operating revenues	$ 1	$ 8	$ (2)	$ —	$ —	$ 7

(b) Goodwill was allocated based on the regions in which the business operates and are expected to benefit using a relative fair value approach

(In millions)	Texas	East	West/Other	Corporate[a]	Eliminations	Total
	For the Year Ended December 31, 2018					
Operating revenues[a]	$ 6,401	$ 2,371	$ 724	$ —	$ (18)	$ 9,478
Operating expenses	5,399	2,024	467	125	(18)	7,997
Depreciation and amortization	156	105	127	33	—	421
Impairment losses	5	82	12	—	—	99
Development costs	3	3	3	2	—	11
Total operating cost and expenses	5,563	2,214	609	160	(18)	8,528
Gain/(loss) on sale of assets	4	—	(2)	30	—	32
Operating income/(loss)	842	157	113	(130)	—	982
Equity in (losses)/earnings of unconsolidated affiliates	(3)	—	13	(1)	—	9
Impairment losses on investments	(15)	—	—	—	—	(15)
Other income/(loss), net	13	2	4	(1)	—	18
Loss on debt extinguishment	—	—	—	(44)	—	(44)
Interest expense	—	(22)	(39)	(422)	—	(483)
Income/(loss) from continuing operations before income taxes	837	137	91	(598)	—	467
Income tax expense	—	1	—	6	—	7
Net income/(loss) from continuing operations	837	136	91	(604)	—	460
Loss from discontinued operations, net of income tax	—	—	—	(192)	—	(192)
Net Income/(loss)	837	136	91	(796)	—	268
Less: Net income/(loss) attributable to noncontrolling interests and redeemable noncontrolling interests	—	—	5	(5)	—	—
Net income/(loss) attributable to NRG Energy, Inc.	$ 837	$ 136	$ 86	$ (791)	$ —	$ 268

(a) Inter-segment sales and inter-segment net derivative gains and losses included in operating revenues	$ 19	$ (5)	$ 4	$ —	$ —	$ 18

(b) Goodwill was allocated based on the regions in which the business operates and are expected to benefit using a relative fair value approach

Note 21 — *Income Taxes*

The income tax provision from continuing operations consisted of the following amounts:

(In millions, except effective income tax rate)	2020	2019	2018
	Year Ended December 31,		
Current			
State	$ 22	$ 2	$ 6
Foreign	4	4	—
Total — current	26	6	6
Deferred			
U.S. Federal	168	(3,000)	(16)
State	60	(340)	16
Foreign	(3)	—	1
Total — deferred	225	(3,340)	1
Total income tax expense/(benefit)	$ 251	$ (3,334)	$ 7
Effective income tax rate	33.0 %	(424.2)%	1.5 %

During the year ended December 31, 2019, NRG released the majority of its valuation allowance against its U.S. federal and state deferred tax assets, resulting in a non-cash benefit to income tax expense of approximately $3.5 billion. In making the determination to release the majority of the valuation allowance as of December 31, 2019, the Company evaluated a number of factors, including its recent history of pre-tax earnings, utilization of $593 million of NOLs in 2019, as well as its forecasted future pre-tax earnings. Based on this evaluation, the Company determined that the majority of its future tax benefits are more-likely-than-not to be realized. Given the Company's current level of pre-tax earnings and forecasted future pre-tax earnings, the Company expects to generate income before taxes in the U.S. in future periods at a level that would fully utilize its U.S. federal NOL carryforwards and the majority of its state NOL carryforwards prior to their expiration.

On March 27, 2020, the Senate passed the CARES Act to provide emergency relief related to the COVID-19 pandemic. The CARES Act contains federal income tax provisions which, among other things: (i) increases the amount of interest expense that businesses are allowed to deduct by increasing the adjusted taxable income limitation from 30% to 50% for tax years that begin in 2019 and 2020; (ii) permits businesses to carry back to each of the five tax years NOLs arising from tax years beginning after December 31, 2017 and before January 1, 2020; and (iii) temporarily removes the 80% limitation on NOLs until tax years beginning after 2020. The CARES Act provisions did not have a material impact on the tax positions of the Company.

The following represented the domestic and foreign components of income from continuing operations before income taxes:

(In millions)	2020	2019	2018
	Year Ended December 31,		
U.S.	$ 749	$ 771	$ 468
Foreign	12	15	(1)
Total	$ 761	$ 786	$ 467

Reconciliations of the U.S. federal statutory tax rate to NRG's effective tax rate were as follows:

(In millions, except effective income tax rate)	2020	2019	2018
	Year Ended December 31,		
Income from continuing operations before income taxes	$ 761	$ 786	$ 467
Tax at federal statutory tax rate	160	165	98
State taxes	18	13	18
Permanent differences	8	(9)	7
Changes in valuation allowance	24	(3,492)	(106)
Deferred impact of state tax rate changes	2	12	—
Production tax credits ("PTC")	—	—	(7)
Recognition of uncertain tax benefits	3	(10)	1
Return to provision adjustments	36	—	—
Alternative minimum tax ("AMT") refundable credit	—	—	(4)
Other	—	(13)	—
Income tax expense/(benefit)	$ 251	$ (3,334)	$ 7
Effective income tax rate	33.0 %	(424.2)%	1.5 %

For the year ended December 31, 2020, NRG's effective income tax rate was higher than the federal statutory tax rate of 21% primarily due to state tax expense, the recognition of state valuation allowance on NOLs, and return to provision adjustments.

For the year ended December 31, 2019, NRG's effective income tax rate was lower than the federal statutory tax rate of 21% primarily due to the tax benefit from the release of the valuation allowance.

For the year ended December 31, 2018, NRG's effective income tax rate was lower than the federal statutory tax rate of 21% primarily due to a tax benefit for the change in valuation allowance, the generation of PTCs from various wind facilities and establishment of the previously sequestered AMT credit receivable, partially offset by current state tax expense.

The temporary differences, which gave rise to the Company's deferred tax assets and liabilities consisted of the following:

(In millions)	As of December 31, 2020	2019
Deferred tax assets:		
Deferred compensation, accrued vacation and other reserves	$ 79	$ 81
Difference between book and tax basis of property	357	548
Pension and other postretirement benefits	86	86
Equity compensation	10	11
Bad debt reserve	16	13
Derivatives, net	11	—
U.S. Federal net operating loss carryforwards	2,117	2,116
Foreign net operating loss carryforwards	102	105
State net operating loss carryforwards	351	360
Federal and state tax credit carryforwards	384	384
Federal benefit on state uncertain tax positions	4	4
Interest disallowance carryforward per §163(j) of the Tax Act	4	82
Inventory obsolescence	6	7
Other	10	3
Total deferred tax assets	3,537	3,800
Deferred tax liabilities:		
Emissions allowances	21	19
Derivatives, net	—	27
Goodwill	29	8
Intangibles amortization (excluding goodwill)	2	15
Equity method investments	156	201
Convertible Debt	16	19
Total deferred tax liabilities	224	289
Total deferred tax assets less deferred tax liabilities	3,313	3,511
Valuation allowance	(266)	(242)
Total net deferred tax assets, net of valuation allowance	$ 3,047	$ 3,269

The following table summarizes NRG's net deferred tax position as presented in the consolidated balance sheets:

(In millions)	As of December 31, 2020	2019
Deferred tax asset	$ 3,066	$ 3,286
Deferred tax liability	(19)	(17)
Net deferred tax asset	$ 3,047	$ 3,269

The primary drivers for the decrease in the net deferred tax asset from $3.3 billion as of December 31, 2019 to $3.0 billion as of December 31, 2020 are a decrease in the tax basis of property and the utilization of previously disallowed interest, partially offset by a change in equity method investments.

Deferred tax assets and valuation allowance

Net deferred tax balance — As of December 31, 2020 and 2019, NRG recorded a net deferred tax asset, excluding valuation allowance, of $3.3 billion and $3.5 billion, respectively. The Company believes certain state net operating losses may not be realizable under the more-likely-than-not measurement and as such, a valuation allowance was recorded as of December 31, 2020 as discussed below.

NOL carryforwards — As of December 31, 2020, the Company had tax-effected cumulative U.S. NOLs consisting of carryforwards for federal and state income tax purposes of $2.1 billion and $351 million, respectively. The Company estimates it will need to generate future taxable income to fully realize the net federal deferred tax asset before the expiration of certain carryforwards commences in 2031. In addition, NRG has tax-effected cumulative foreign NOL carryforwards of $102 million with no expiration date.

Valuation allowance — As of December 31, 2020, the Company's tax-effected valuation allowance was $266 million, consisting of state NOL carryforwards and foreign NOL carryforwards. The valuation allowance was recorded based on the assessment of cumulative and forecasted pre-tax book earnings and the future reversal of existing taxable temporary differences.

Taxes Receivable and Payable

As of December 31, 2020, NRG recorded a current tax payable of $12 million that represents a tax liability due for state income taxes that is primarily comprised of Texas margin tax. NRG has a tax receivable of $1 million, comprised of refunds due from state income tax estimated payments and return filings.

Uncertain tax benefits

NRG has identified uncertain tax benefits with after-tax value of $15 million as of December 31, 2020 and 2019, for which NRG has recorded a non-current tax liability of $18 million and $17 million, respectively. The Company recognizes interest and penalties related to uncertain tax benefits in income tax expense. The Company recognized expense of $1 million related to interest in each of the years ended December 31, 2020, 2019 and 2018. As of December 31, 2020 and 2019, NRG had cumulative interest and penalties related to these uncertain tax benefits of $3 million and $2 million, respectively.

Tax jurisdictions — NRG is subject to examination by taxing authorities for income tax returns filed in the U.S. federal jurisdiction and various state and foreign jurisdictions including operations located in Australia and Canada.

The Company is no longer subject to U.S. federal income tax examinations for years prior to 2017. With few exceptions, state and local income tax examinations are no longer open for years before 2012.

The following table summarizes uncertain tax benefits activity:

(In millions)	As of December 31, 2020	2019
Balance as of January 1	$ 15	$ 26
Increase due to current year positions	3	2
Settlements, payments and statute closure	(3)	(13)
Uncertain tax benefits as of December 31	$ 15	$ 15

Note 22 — *Stock-Based Compensation*

NRG Energy, Inc. Long-Term Incentive Plan

On April 27, 2017, the NRG LTIP was amended to increase the number of shares available for issuance by 3,000,000. As of December 31, 2020 and 2019, a total of 25,000,000 shares of NRG common stock were authorized for issuance under the NRG LTIP. There were 9,385,730 and 9,935,750 shares of common stock remaining available for grants under the NRG LTIP as of December 31, 2020 and 2019, respectively. The NRG LTIP is subject to adjustments in the event of reorganization, recapitalization, stock split, reverse stock split, stock dividend, and a combination of shares, merger or similar change in NRG's structure or outstanding shares of common stock.

Upon adoption of the amended NRG LTIP effective April 27, 2017, no shares of NRG common stock remain available for future issuance under the NRG GenOn LTIP. As of December 31, 2020 and 2019, there were 78,903 and 319,264 shares of common stock remaining available for grants under the NRG GenOn LTIP, respectively.

Restricted Stock Units

As of December 31, 2020, RSUs granted under the Company's LTIPs typically have three-year graded vesting schedules beginning on the grant date. Fair value of the RSUs granted during 2020 is derived from the closing price of NRG common stock on the grant date. The following table summarizes the Company's non-vested RSU awards and changes during the year:

	Units	Weighted Average Grant Date Fair Value per Unit
Non-vested at December 31, 2019	717,239	$ 25.56
Granted	271,718	38.05
Forfeited	(16,750)	35.86
Vested	(452,693)	20.73
Non-vested at December 31, 2020	519,514	35.87

The total fair value of RSUs vested during the years ended December 31, 2020, 2019 and 2018 was $17 million, $36 million and $42 million, respectively. The weighted average grant date fair value of RSUs granted during the years ended December 31, 2020, 2019 and 2018 was $38.05, $37.37 and $28.90, respectively.

Deferred Stock Units

DSUs represent the right of a participant to be paid one share of NRG common stock at the end of a deferral period established under the terms of the award. DSUs granted under the Company's LTIPs are fully vested at the date of issuance. Fair value of the DSUs, which is based on the closing price of NRG common stock on the date of grant, is recorded as compensation expense in the period of grant.

The following table summarizes the Company's outstanding DSU awards and changes during the year:

	Units	Weighted Average Grant Date Fair Value per Unit
Outstanding at December 31, 2019	331,223	$ 23.98
Granted	58,861	35.59
Converted to Common Stock	(47,378)	26.87
Outstanding at December 31, 2020	342,706	25.37

The aggregate intrinsic values for DSUs outstanding as of December 31, 2020, 2019 and 2018 were approximately $13 million each year. The aggregate intrinsic values for DSUs converted to common stock for the years ended December 31, 2020, 2019 and 2018 were $2 million, $2 million and $6 million, respectively. The weighted average grant date fair value of DSUs granted during the years ended December 31, 2020, 2019 and 2018 was $35.59, $34.84 and $33.43, respectively.

Performance Stock Units

PSUs entitle the recipient to stock upon vesting. The amount of the award is subject to the Company's achievement of certain performance measures over the vesting period. PSUs include RPSUs and MSUs. As of December 31, 2020, non-vested PSUs consist primarily of RPSUs.

Relative Performance Stock Units — RPSUs are restricted grants where the quantity of shares increases and decreases alongside the Company's Total Shareholder Return, or TSR, relative to the TSR of the Company's current proxy peer group and the total returns of select indexes, or Peer Group. Each RPSU represents the potential to receive NRG common stock after the completion of the performance period, typically three years of service from the date of grant. The number of shares of NRG common stock to be paid (if any) as of the vesting date for each RPSU will depend on the Company’s percentile rank within the Peer Group. The number of shares of common stock to be paid as of the vesting date for each RPSU is linearly interpolated for TSR performance between the following points: (i) 0% if ranked below the 25th percentile; (ii) 25% if ranked at the 25th percentile; (iii) 100% if ranked at the 55th percentile (or the 65th percentile if the Company's absolute TSR is less than negative 15%); and (iv) 200% if ranked at the 75th percentile or above. The value of the common stock on the date of grant is based on the closing price of NRG common stock on the date of grant.

Market Stock Units — MSUs are restricted grants where the quantity of shares increases and decreases alongside the Company's TSR. Each MSU represents the potential to receive NRG common stock after the completion of the performance period, typically three years of service from the date of grant. The number of shares of common stock to be paid as of the vesting date for each MSU is : (i) zero shares, if the TSR has decreased by more than 25% over the performance period, (ii) three-quarters of one share, if the TSR has decreased by 25% over the performance period; (iii) interpolated between three-quarters of one share and one share, if the TSR has decreased less than 25% over the performance period; (iv) one share, if there is no change in TSR over the performance period; (v) interpolated between one share and two shares, if TSR increases less than 100% during the performance period; and (vi) two shares, if the TSR increases 100% over the performance period. The value of the common stock on the date of grant was based on the closing price of NRG common stock on the date of grant. The Company last granted MSUs during the year ended December 31, 2016. As of March 1, 2021 all MSUs were vested.

The following table summarizes the Company's non-vested PSU awards and changes during the year:

	Units	Weighted Average Grant-Date Fair Value per Unit
Non-vested at December 31, 2019	1,200,541	$ 26.65
Granted[(a)]	928,215	23.75
Forfeited	(5,142)	35.77
Vested[(b)]	(1,330,053)	15.91
Non-vested at December 31, 2020[(c)]	793,561	41.69

(a) The weighted average grant date fair value per unit includes RPSUs that were granted during 2020 with grant date fair value of $45.60. It also includes RPSUs with 2017 grant date fair value of $15.91 and MSUs with 2016 grant date fair value of $15.28, that due to vesting at 200%, were considered additional grants in 2020

(b) MSUs granted during 2016 and RPSUs granted during 2017 vested during 2020 at 200%

(c) Non-vested units as of December 31, 2020 includes 4,260 MSUs which were vested as of March 1, 2021

The weighted average grant date fair value of PSUs granted during the years ended December 31, 2020, 2019 and 2018, was $23.75, $22.50 and $35.36, respectively.

The fair value of PSUs is estimated on the date of grant using a Monte Carlo simulation model and expensed over the service period, which equals the vesting period. Significant assumptions used in the fair value model with respect to the Company's PSUs are summarized below:

	2020 RPSUs	2019 RPSUs	2018 RPSUs	2017 RPSUs	2016 MSUs
Expected volatility	30.15 %	40.72 %	47.52 %	43.96 %	34.33 %
Expected term (in years)	3	3	3	3	3
Risk free rate	1.58 %	2.45 %	2.01 %	1.5 %	1.31 %

For the years ended December 31, 2020 and 2019, expected volatility is calculated based on NRG's historical stock price volatility data over the period commensurate with the expected term of the PSU, which equals the vesting period.

Non-Qualified Stock Options

All NQSOs granted under the Company's LTIP were fully vested as of December 31, 2020, 2019 and 2018. No NQSOs were granted in 2020, 2019 or 2018. NRG recognized compensation costs for NQSOs over the requisite service period for the entire award. No compensation expense was recognized during 2020, 2019 or 2018 as it was fully recognized in prior years. The maximum contractual term is 10 years for NRG's outstanding NQSOs.

The following table summarizes the Company's NQSO activity and changes during the year:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Outstanding at December 31, 2019	134,398	$ 25.31	1	$ 2
Expired	(9,083)	37.44		
Exercised	(48,268)	23.33		
Outstanding at December 31, 2020	77,047	25.13	0.5	1
Exercisable at December 31, 2020	77,047	25.13	0.5	1

The following table summarizes the total intrinsic value of options exercised and the cash received from the exercises of options:

	Year Ended December 31,		
(In millions)	**2020**	**2019**	**2018**
Total intrinsic value of options exercised	$ 1	$ 2	$ 10
Cash received from options exercised	1	3	24

Supplemental Information

The following table summarizes NRG's total compensation expense recognized for the years presented, as well as total non-vested compensation costs not yet recognized and the period over which this expense is expected to be recognized as of December 31, 2020, for each of the types of awards issued under the LTIPs. Minimum tax withholdings of $27 million, $36 million, and $19 million for the years ended December 31, 2020, 2019, and 2018, respectively, are reflected as a reduction to additional paid-in capital on the Company's consolidated balance sheets.

(In millions, except weighted average data)	Compensation Expense			Non-vested Compensation Cost: Unrecognized Total Cost	Non-vested Compensation Cost: Weighted Average Recognition Period Remaining (In years)
	Year Ended December 31,			As of December 31,	
Award	2020	2019	2018	2020	2020
RSUs	$ 9	$ 9	$ 12	$ 7	1.15
DSUs	2	2	2	—	0.00
MSUs	—	—	4	—	0.01
RPSUs	10	10	7	10	0.95
PRSUs[(a)]	6	11	16	6	1.24
Total	$ 27	$ 32	$ 41	$ 23	
Tax detriment recognized	$ (9)	$ (12)	$ (4)		

(a) Phantom Restricted Stock Units, PRSUs, are liability-classified time-based awards that typically vest ratably over a three-year period. The amount to be paid upon vesting is based on NRG's closing stock price for the period

Note 23 — *Related Party Transactions*

NRG provides services to some of its equity method investments under operations and maintenance agreements. Fees for the services under these agreements include recovery of NRG's costs of operating the plants. Certain agreements also include fees for administrative service, a base monthly fee, profit margin and/or annual incentive bonus.

The following table summarizes NRG's material related party transactions with third party affiliates:

(In millions)	Year Ended December 31, 2020	2019	2018
Revenues from Related Parties Included in Operating Revenues			
Gladstone	$ 4	$ 4	$ 3
GenConn[(a)]	—	—	4
Ivanpah[(b)]	43	35	20
Midway-Sunset	5	5	5
Total	$ 52	$ 44	$ 32

(a) As of August 31, 2018, NRG no longer had an ownership interest in GenConn as a result of the sale of its ownership interests in NRG Yield, Inc. and its Renewables Platform

(b) Includes fees under project management agreements with each project company. Ivanpah became a related party to NRG upon deconsolidation in the second quarter of 2018

Services Agreement and Transition Services Agreement with GenOn

The Company provided GenOn with various management, personnel and other services, which included human resources, regulatory and public affairs, accounting, tax, legal, information systems, treasury, risk management, commercial operations, and asset management, as set forth in the services agreement with GenOn, or the Services Agreement. In December 2017, in conjunction with the confirmation of the GenOn Entities' plan of reorganization, the Services Agreement was terminated and replaced by the transition services agreement. Under the transition services agreement, NRG provided the shared services and other separation services. For the year ended December 31, 2018, NRG recorded approximately $53 million, under the transition services agreement against selling, general and administrative costs post-Chapter 11 Filing.

Note 24 — *Commitments and Contingencies*

Coal, Gas and Transportation Commitments

NRG has entered into long-term contractual arrangements to procure fuel and transportation services for the Company's generation assets.

As of December 31, 2020, the Company's minimum commitments under such outstanding agreements are estimated as follows:

Period	(In millions)
2021	$ 146
2022	98
2023	69
2024	67
2025	65
Thereafter	80
Total[(a)]	$ 525

(a) Actual coal, gas and transportation purchases are significantly higher than these estimated minimum unconditional long-term firm commitments

For the years ended December 31, 2020, 2019 and 2018, the Company purchased $0.8 billion, $1.2 billion and $1.2 billion, respectively, under coal, gas and transportation arrangements.

Purchased Power Commitments

NRG has purchased power contracts of various quantities and durations, including renewable purchased power agreements under PPAs with third-party project developers, which are accounted for as NPNS. These contracts are not included in the consolidated balance sheet as of December 31, 2020. Minimum purchase commitment obligations are as follows as of December 31, 2020:

Period	(In millions)
2021	$ 48
2022	62
2023	50
2024	50
2025	49
Thereafter	316
Total[(a)]	$ 575

(a) Actual power purchases are significantly higher than these estimated minimum unconditional long-term firm commitments

For the years ended December 31, 2020, 2019 and 2018, the Company purchased $142 million, $183 million and $138 million, respectively, under purchased power arrangements.

First Lien Structure

NRG has granted first liens to certain counterparties on a substantial portion of property and assets owned by NRG and the guarantors of its senior debt. NRG uses the first lien structure to reduce the amount of cash collateral and letters of credit that it would otherwise be required to post from time to time to support its obligations under out-of-the-money hedges. To the extent that the underlying hedge positions for a counterparty are out-of-the-money to NRG, the counterparty would have a claim under the first lien program. As of December 31, 2020, hedges under the first lien were in-the-money for NRG on a counterparty aggregate basis.

Nuclear Insurance

STP maintains required insurance coverage for liability claims arising from nuclear incidents pursuant to the Price-Anderson Act. The current liability limit per incident is $13.8 billion, subject to change to account for the effects of inflation and the number of licensed reactors. An inflation adjustment must be made at least once every five years with the next adjustment expected to be effective no later than November 1, 2023. Under the Price-Anderson Act, owners of nuclear power plants in the U.S. are required to purchase primary insurance limits of $450 million for each operating site. In addition, the Price-Anderson Act requires an additional layer of protection through mandatory participation in a retrospective rating plan for power reactors resulting in an additional $13.3 billion in funds available for public liability claims. The current maximum assessment per incident, per reactor, is approximately $138 million, taking into account a 5% adjustment for administrative fees, payable at approximately $21 million per year, per reactor. NRG would be responsible for 44% of the maximum assessment, or $9 million per year, per reactor, and a maximum of $61 million per incident, per reactor. In addition, the U.S. Congress retains the ability to impose additional financial requirements on the nuclear industry to pay liability claims that exceed $13.8 billion for a single incident. The liabilities of the co-owners of STP with respect to the retrospective premium assessments for nuclear liability insurance are joint and several.

STP purchases insurance for property damage and site decontamination cleanup costs from Nuclear Electric Insurance Limited, or NEIL, and European Mutual Association for Nuclear Insurance, or EMANI, both of which are industry mutual insurance companies, of which STP is a member. STP has purchased $2.8 billion in limits for nuclear events and $1.0 billion in limits for non-nuclear events. The nuclear event limit remains the maximum available from NEIL. The upper $1.3 billion in nuclear events limits (excess of the first $1.5 billion in nuclear events limits) is a single limit blanket policy shared with two Diablo Canyon nuclear reactors, which have no affiliation with the Company. This shared limit is not subject to automatic reinstatement in the event of a loss. The NEIL primary policy covers both nuclear and non-nuclear property damage events, and a NEIL companion policy provides Accidental Outage coverage for the co-owners of STP's lost revenue following a property damage event, at a weekly indemnity limit of $3 million per unit up to a maximum of $274 million nuclear per unit and $184 million non-nuclear per unit, and is subject to an eight-week waiting period. NRG also purchases an Accidental Outage policy from NEIL, which provides protection for lost revenue due to an insurable event. This coverage allows for reimbursement up to $2 million per week per unit up to a maximum of $216 million nuclear and $144 million non-nuclear, and is subject to an eight-week waiting period. Accidental Outage coverage amounts decrease in the event more than one unit at a station is out of service due to a common accident. Under the terms of the NEIL and EMANI policies, member companies may be assessed up to ten and six times their annual premiums respectively if the NEIL or EMANI Board of Directors determines their surplus has been depleted due to the payment of property losses at any of the licensed reactors in a single policy year. NEIL and EMANI require that their members maintain an investment grade credit rating or ensure their annual retrospective obligation by providing a financial guarantee, letter of credit, deposit premium, or an insurance policy. NRG has purchased an insurance policy from NEIL and EMANI to guarantee the Company's obligation; however note the NEIL aspect of this insurance will only respond to retrospective premium adjustments assessed within twenty-four months after the policy term, whereas NEIL's Board of Directors can make such an adjustment up to 6 years after the policy expires. All insurance coverage is subject to various sub limits and significant deductibles.

Contingencies

The Company's material legal proceedings are described below. The Company believes that it has valid defenses to these legal proceedings and intends to defend them vigorously. NRG records accruals for estimated losses from contingencies when information available indicates that a loss is probable and the amount of the loss, or range of loss, can be reasonably estimated. As applicable, the Company has established an adequate accrual for the applicable legal matters, including regulatory and environmental matters as further discussed in Note 25, *Regulatory Matters*, and Note 26, *Environmental Matters*. In addition, legal costs are expensed as incurred. Management has assessed each of the following matters based on current information and made a judgment concerning its potential outcome, considering the nature of the claim, the amount and nature of damages sought, and the probability of success. Unless specified below, the Company is unable to predict the outcome of these legal proceedings or reasonably estimate the scope or amount of any associated costs and potential liabilities. As additional information becomes available, management adjusts its assessment and estimates of such contingencies accordingly. Because litigation is subject to inherent uncertainties and unfavorable rulings or developments, it is possible that the ultimate resolution of the Company's liabilities and contingencies could be at amounts that are different from its currently recorded accruals and that such difference could be material.

In addition to the legal proceedings noted below, NRG and its subsidiaries are party to other litigation or legal proceedings arising in the ordinary course of business. In management's opinion, the disposition of these ordinary course matters will not materially adversely affect NRG's consolidated financial position, results of operations, or cash flows.

Washington-St. Tammany and Claiborne Electric Cooperative v. LaGen — On June 28, 2017, plaintiffs Washington-St. Tammany Electric Cooperative, Inc. and Claiborne Electric Cooperative, Inc. filed a lawsuit against LaGen in the United States District Court for the Middle District of Louisiana. The plaintiffs claim breach of contract against LaGen for allegedly improperly charging the plaintiffs for costs related to the installation and maintenance of certain pollution control technology. Plaintiffs sought damages for the alleged improper charges and a declaration as to which charges were proper under the contract. In February 2020, the court dismissed this lawsuit without prejudice for lack of subject matter jurisdiction. On March 17, 2020, plaintiffs filed a lawsuit in the Nineteenth Judicial District Court for the Parish of East Baton Rouge in Louisiana alleging substantially the same matters. On February 4, 2019, NRG sold the South Central Portfolio, including the entities subject to this litigation. However, NRG has agreed to indemnify the purchaser for certain losses suffered in connection therewith.

Sierra club et al. v. Midwest Generation LLC — In 2012, several environmental groups filed a complaint against Midwest Generation with the Illinois Pollution Control Board ("IPCB") alleging violations of environmental law resulting in groundwater contamination. In June 2019, the IPCB found that Midwest Generation violated the law because it had improperly handled coal ash at four facilities in Illinois and caused or allowed coal ash constituents to impact groundwater. On September 9, 2019, Midwest Generation filed a Motion to Reconsider numerous issues, which the court granted in part and denied in part on February 6, 2020. The IPCB will hold hearings to determine the appropriate relief. Midwest Generation has been working with the Illinois EPA to address the groundwater issues since 2010.

XOOM Energy Litigation — XOOM has been a defendant in two purported class action lawsuits in Maryland and New York. The plaintiffs generally claim that they did not receive the savings they were promised in their natural gas and electricity bills. In the Maryland lawsuit, the district court denied plaintiff's' bid to certify the case as a class action on August 18, 2020. The matter has been dismissed. In the New York case, XOOM filed a motion to dismiss, which the court granted on September 21, 2018, later entering judgment in XOOM's favor on September 24, 2018. The plaintiffs in the New York case appealed to the U.S. Court of Appeals for the Second Circuit. On July 26, 2019, the Second Circuit reversed the judgment of the district court and remanded to the district court with instructions that plaintiffs be permitted to proceed on their proposed amended complaint. The New York case is in the discovery phase. This matter was known and accrued for at the time of the acquisition.

Note 25 — *Regulatory Matters*

NRG operates in a highly regulated industry and is subject to regulation by various federal and state agencies. As such, NRG is affected by regulatory developments at both the federal and state levels and in the regions in which NRG operates. In addition, NRG is subject to the market rules, procedures, and protocols of the various ISO and RTO markets in which NRG participates. These power markets are subject to ongoing legislative and regulatory changes that may impact NRG's wholesale and retail operations.

In addition to the regulatory proceedings noted below, NRG and its subsidiaries are parties to other regulatory proceedings arising in the ordinary course of business or have other regulatory exposure. In management's opinion, the disposition of these ordinary course matters will not materially adversely affect NRG's consolidated financial position, results of operations, or cash flows.

California Station Power — As the result of unfavorable final and non-appealable litigation, the Company accrued a liability associated with consumption of station power at the Company's Encina power plant facility in California after August 30, 2010. The Company has established an appropriate accrual pending potential regulatory action by SDG&E regarding the Company's Encina facility.

South Central — On August 4, 2016, NRG received a document hold notice from FERC regarding conduct in the MISO and PJM markets. FERC Office of Enforcement Staff investigated potential violations of MISO rules involving bidding for the Big Cajun 2 facility, as well as other aspects of NRG's operations in MISO. On August 18, 2020, FERC Office of Enforcement presented NRG with its preliminary findings. NRG responded to the preliminary findings on January 15, 2021. FERC has the authority to require disgorgement of profits and to impose penalties and NRG retains any liability following the sale of the South Central Portfolio.

ISO-NE — On January 8, 2021, the Commission approved a settlement agreement the Company entered into to resolve FERC Enforcement Staff's investigation of offers submitted during the qualification period for the ISO-NE Forward Capacity Auction in 2016. The settlement was approved in a 2-1 vote. The Commission Chairman dissented on the basis that the investigation should have been terminated because the Company should not be penalized for reflecting a different expectation from that of the ISO-NE Internal Market Monitor in its forecast of future events submitted for independent review in the tariff-prescribed bid review process. Under the settlement, the Company agreed to pay a civil penalty of $85 thousand and is subject to compliance monitoring.

Note 26 — *Environmental Matters*

NRG is subject to a wide range of environmental laws in the development, construction, ownership and operation of power plants. These laws generally require that governmental permits and approvals be obtained before construction and maintained during operation of power plants. The electric generation industry has been facing increasingly stringent requirements regarding air quality, GHG emissions, combustion byproducts, water discharge and use, and threatened and endangered species. In general, future laws are expected to require the addition of emissions controls or other environmental controls or to impose additional restrictions on the operations of the Company's facilities, which could have a material effect on the Company's consolidated financial position, results of operations, or cash flows. The Company has elected to use a $1 million disclosure threshold, as permitted, for environmental proceedings to which the government is a party.

Air

On July 8, 2019, the EPA promulgated the ACE rule, which rescinded the CPP, which had sought to broadly regulate CO_2 emissions from the power sector. The ACE rule required states that have coal-fired EGUs to develop plans to seek heat rate improvements from coal-fired EGUs. On January 19, 2021, the D.C. Circuit vacated the ACE rule (but on February 22, 2021, at the EPA's request, stayed the issuance of the portion of the mandate that would vacate the repeal of the CPP). Accordingly, we expect the EPA to promulgate a new rule to regulate GHG emissions from power plants.

Water

Effluent Limitations Guidelines — In November 2015, the EPA revised the Effluent Limitations Guidelines for Steam Electric Generating Facilities, which imposed more stringent requirements (as individual permits were renewed) for wastewater streams from FGD, fly ash, bottom ash, and flue gas mercury control. On September 18, 2017, the EPA promulgated a final rule that, among other things, postponed the compliance dates to preserve the status quo for FGD wastewater and bottom ash transport water by two years to November 2020 until the EPA amended the rule. On October 13, 2020, the EPA amended the 2015 ELG rule by: (i) altering the stringency of certain limits for FGD wastewater; (ii) relaxing the zero-discharge requirement for bottom ash transport water; and (iii) changing several deadlines. The Company is in the process of estimating the environmental capital expenditures that will be required to comply. The capital expenditures required to comply will depend on elections regarding future operations of each coal-fired unit. NRG expects to make these elections for each unit in Q4 2021 at which time the EPA will be notified as required. Accordingly, we do not expect to provide estimates of ELG compliance costs until early 2022.

Byproducts, Wastes, Hazardous Materials and Contamination

In April 2015, the EPA finalized the rule regulating byproducts of coal combustion (e.g., ash and gypsum) as solid wastes under the RCRA. In September 2017, the EPA agreed to reconsider the rule. On July 30, 2018, the EPA promulgated a rule that amended the existing ash rule by extending some of the deadlines and providing more flexibility for compliance. On August 21, 2018, the D.C. Circuit found, among other things, that the EPA had not adequately regulated unlined ponds and legacy ponds. In 2019 and 2020, the EPA proposed several changes to this rule. On August 28, 2020, the EPA finalized "A Holistic Approach to Close Part A: Deadline to Initiate Closure," which amended the April 2015 Rule to address the August 2018 D.C. Circuit decision and extend some of the deadlines. On November 12, 2020, the EPA finalized "A Holistic Approach to Closure Part B," which further amended the April 2015 Rule to, among other things, provide procedures for requesting approval to operate existing impoundments with an alternative liner. The Company has updated its estimates of required environmental capital expenditures.

Note 27 — *Cash Flow Information*

Detail of supplemental disclosures of cash flow and non-cash investing and financing information was:

(In millions)	Year Ended December 31, 2020	2019	2018
Interest paid, net of amount capitalized	$ 340	$ 372	$ 436
Income taxes paid, net of refunds	24	8	9
Non-cash investing activities:			
(Decreases)/additions to fixed assets for accrued capital expenditures	(6)	1	20

Note 28 — *Guarantees*

NRG and its subsidiaries enter into various contracts that include indemnification and guarantee provisions as a routine part of the Company's business activities. Examples of these contracts include asset purchases and sale agreements, commodity sale and purchase agreements, retail contracts, joint venture agreements, EPC agreements, operation and maintenance agreements, service agreements, settlement agreements, and other types of contractual agreements with vendors and other third parties, as well as affiliates. These contracts generally indemnify the counterparty for tax, environmental liability, litigation and other matters, as well as breaches of representations, warranties and covenants set forth in these agreements. The Company is obligated with respect to customer deposits associated with the Company's retail operations. In some cases, NRG's maximum potential liability cannot be estimated, since the underlying agreements contain no limits on potential liability.

The following table summarizes the maximum potential exposures that can be estimated for NRG's guarantees, indemnities, and other contingent liabilities by maturity:

(In millions)	By Remaining Maturity at December 31, 2020					
Guarantees	Under 1 Year	1-3 Years	3-5 Years	Over 5 Years	Total	2019 Total
Letters of credit and surety bonds	$ 1,049	$ 73	$ 31	$ —	$ 1,153	$ 1,024
Asset sales guarantee obligations	86	282	26	112	506	698
Other guarantees	—	—	—	87	87	288
Total guarantees	$ 1,135	$ 355	$ 57	$ 199	$ 1,746	$ 2,010

Letters of credit and surety bonds — As of December 31, 2020, NRG and its consolidated subsidiaries were contingently obligated for a total of $1.2 billion under letters of credit and surety bonds. Most of these letters of credit and surety bonds are issued in support of the Company's obligations to perform under commodity agreements and obligations associated with future closure and maintenance of ash sites, as well as for financing or other arrangements. A majority of these letters of credit and surety bonds expire within one year of issuance, and it is typical for the Company to renew them on similar terms.

The material indemnities, within the scope of ASC 460, are as follows:

Asset sales — The purchase and sale agreements which govern NRG's asset or share investments and divestitures customarily contain guarantees and indemnifications of the transaction to third parties. The contracts indemnify the parties for liabilities incurred as a result of a breach of a representation or warranty by the indemnifying party, or as a result of a change in tax laws. These obligations generally have a discrete term and are intended to protect the parties against risks that are difficult to predict or estimate at the time of the transaction. In several cases, the contract limits the liability of the indemnifier. NRG has no reason to believe that the Company currently has any material liability relating to such routine indemnification obligations, except for the California property tax indemnity for estimated increases in California property taxes of certain solar properties that the Company agreed to indemnify NRG Yield for, as part of the agreement to sell NRG Yield and the Renewables Platform. The California property tax indemnity is estimated to be $176 million as of December 31, 2020 and is included in the above table under asset sales guarantee obligations.

Other guarantees — NRG has issued other guarantees of obligations including payments under certain agreements with respect to certain of its unconsolidated subsidiaries, payment or performance by fuel providers and payment or reimbursement of credit support and deposits. The Company does not believe that it will be required to perform under these guarantees.

Other indemnities — Other indemnifications NRG has provided cover operational, tax, litigation and breaches of representations, warranties and covenants. NRG has also indemnified, on a routine basis in the ordinary course of business, consultants or other vendors who have provided services to the Company. NRG's maximum potential exposure under these indemnifications can range from a specified dollar amount to an indeterminate amount, depending on the nature of the transaction. Total maximum potential exposure under these indemnifications is not estimable due to uncertainty as to whether claims will be made or how they will be resolved. NRG does not have any reason to believe that the Company will be required to make any material payments under these indemnity provisions.

Because many of the guarantees and indemnities NRG issues to third parties and affiliates do not limit the amount or duration of its obligations to perform under them, there exists a risk that the Company may have obligations in excess of the amounts described above. For those guarantees and indemnities that do not limit the Company's liability exposure, it may not be able to estimate what the Company's liability would be, until a claim is made for payment or performance, due to the contingent nature of these contracts.

Note 29 — *Jointly Owned Plants*

Certain NRG subsidiaries own undivided interests in jointly-owned plants, as described below. These plants are maintained and operated pursuant to their joint ownership participation and operating agreements. NRG is responsible for its subsidiaries' share of operating costs and direct expenses and includes its proportionate share of the facilities and related revenues and direct expenses in these jointly-owned plants in the corresponding balance sheet and income statement captions of the Company's consolidated financial statements.

The following table summarizes NRG's proportionate ownership interest in the Company's jointly-owned facilities:

(In millions unless otherwise stated)

As of December 31, 2020	Ownership Interest	Property, Plant & Equipment	Accumulated Depreciation	Construction in Progress
South Texas Project Units 1 and 2, Bay City, TX	44.00 %	$ 428	$ (227)	$ 1
Cedar Bayou Unit 4, Baytown, TX	50.00 %	220	(101)	9

SCHEDULE II — VALUATION AND QUALIFYING ACCOUNTS

For the Years Ended December 31, 2020, 2019 and 2018

(In millions)	Balance at Beginning of Period	Charged to Costs and Expenses	Charged to Other Accounts	Deductions	Balance at End of Period
Allowance for credit losses, deducted from accounts receivable					
Year Ended December 31, 2020	$ 43	$ 108	$ —	$ (84) (a)	$ 67
Year Ended December 31, 2019	32	95	—	(84) (a)	43
Year Ended December 31, 2018	28	83	—	(79) (a)	32
Income tax valuation allowance, deducted from deferred tax assets					
Year Ended December 31, 2020	$ 242	$ 24	$ —	$ —	$ 266
Year Ended December 31, 2019	3,794	(3,543)	(9)	—	242
Year Ended December 31, 2018	1,863	1,934	(128)	125 (b)	3,794

(a) Represents principally net amounts charged as uncollectible
(b) Represents removal of NRG Yield, Inc. and its Renewables Platform due to their sale on August 31, 2018

EXHIBIT INDEX

Number	Description	Method of Filing
2.1	Third Amended Joint Plan of Reorganization of NRG Energy, Inc., NRG Power Marketing, Inc., NRG Capital LLC, NRG Finance Company I LLC, and NRGenerating Holdings (No. 23) B.V.	Incorporated herein by reference to Exhibit 99.1 to the Registrant's current report on Form 8-K filed on November 19, 2003.
2.2	First Amended Joint Plan of Reorganization of NRG Northeast Generating LLC (and certain of its subsidiaries), NRG South Central Generating (and certain of its subsidiaries) and Berrians I Gas Turbine Power LLC.	Incorporated herein by reference to Exhibit 99.2 to the Registrant's current report on Form 8-K filed on November 19, 2003.
2.3	Acquisition Agreement, dated as of September 30, 2005, by and among NRG Energy, Inc., Texas Genco LLC and the Direct and Indirect Owners of Texas Genco LLC.	Incorporated herein by reference to Exhibit 2.1 to the Registrant's current report on Form 8-K filed on October 3, 2005.
2.4	Asset Purchase Agreement, dated October 18, 2013, by and among NRG Energy, Inc., Edison Mission Energy and NRG Energy Holdings Inc.	Incorporated herein by reference to Exhibit 2.2 to Amendment No. 1 to the Registrant's current report on Form 8-K filed on October 21, 2013.
2.5	Third Amended Joint Plan of Reorganization of GenOn Energy, Inc. and its Debtor Affiliates.	Incorporated herein by reference to Exhibit 2.1 to the Registrant's current report on Form 8-K filed on December 18, 2017.
2.6†^	Purchase and Sale Agreement, dated as of February 6, 2018, by and among NRG Energy, Inc. and NRG Repowering Holdings LLC, and GIP III Zephyr Acquisition Partners, L.P.	Incorporated herein by reference to Exhibit 2.9 to the Registrant's annual report on Form 10-K filed on March 1, 2018.
2.7^	Purchase and Sale Agreement, dated as of February 6, 2018, by and between NRG Energy, Inc., NRG South Central Generating LLC, and Cleco Energy LLC.	Incorporated herein by reference to Exhibit 2.10 to the Registrant's annual report on Form 10-K filed on March 1, 2018.
3.1	Amended and Restated Certificate of Incorporation.	Incorporated herein by reference to Exhibit 3.1 to the Registrant's quarterly report on Form 10-Q filed on May 3, 2012.
3.2	Certificate of Amendment to Amended and Restated Certificate of Incorporation.	Incorporated herein by reference to Exhibit 3.1 to the Registrant's current report on Form 8-K filed on December 14, 2012.
3.3	Fourth Amended and Restated By-Laws.	Incorporated herein by reference to Exhibit 3.1 to the Registrant's current report on Form 8-K filed on February 13, 2017.
4.1	Specimen of Certificate representing common stock of NRG Energy, Inc.	Incorporated herein by reference to Exhibit 4.3 to the Registrant's quarterly report on Form 10-Q filed on August 4, 2006.
4.2	Indenture, dated May 23, 2016, between NRG Energy, Inc. and Law Debenture Trust Company of New York	Incorporated herein by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed on May 23, 2016.
4.3	Supplemental Indenture, dated May 23, 2016, among NRG Energy, Inc., the guarantors named therein and Law Debenture Trust Company of New York.	Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed on May 23, 2016.
4.4	Form of 7.250% Senior Notes due 2026	Incorporated herein by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed on May 23, 2016.
4.5	Registration Rights Agreement,dated May 23, 2016, among NRG Energy, Inc., the guarantors named therein and Deutsche Bank Securities Inc., as representative to the initial purchasers listed in Schedule I thereto	Incorporated herein by reference to Exhibit 4.4 to the Registrant's Current Report on Form 8-K, filed on May 23, 2016.
4.6	Second Supplemental Indenture, dated as of July 19, 2016, among NRG Energy, Inc., the guarantors named therein and Law Debenture Trust Company of New York.	Incorporated herein by reference to Exhibit 4.3 to the Registrant's Current Report on Form 8-K, filed on July 25, 2016.
4.7	Third Supplemental Indenture, dated August 2, 2016, among NRG Energy, Inc., the guarantors named therein and Law Debenture Trust Company of New York.	Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed on August 3, 2016.
4.8	Form of 6.625% Senior Note due 2027.	Incorporated herein by reference to Exhibit 4.3 to the Registrant's Current Report on Form 8-K, filed on August 3, 2016.
4.9	Registration Rights Agreement, dated August 2, 2016, among NRG Energy, Inc., the guarantors named therein and Morgan Stanley & Co. LLC, as representative to the initial purchasers listed in Schedule I thereto.	Incorporated herein by reference to Exhibit 4.4 to the Registrant's Current Report on Form 8-K, filed on August 3, 2016.
4.10	Fourth Supplemental Indenture, dated December 7, 2017, among NRG Energy, Inc., the guarantors named therein and Delaware Trust Company, as trustee.	Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed on December 8, 2017.

4.11	Form of 5.75% Senior Notes due 2028	Incorporated herein by reference to Exhibit 4.3 to the Registrant's Current Report on Form 8-K, filed on December 8, 2017.
4.12	Registration Rights Agreement, dated December 7, 2017, among NRG Energy, Inc., the guarantors named therein and Citigroup Global Markets, Inc., as representative to the initial purchasers listed in Schedule I thereto.	Incorporated herein by reference to Exhibit 4.4 to the Registrant's Current Report on Form 8-K, filed on December 8, 2017.
4.13	Indenture, dated May 24, 2018, among NRG Energy, Inc., the guarantors named therein and Delaware Trust Company, as trustee.	Incorporated herein by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed on May 25, 2018.
4.14	Form of 2.75% Convertible Senior Notes due 2048.	Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed on May 25, 2018.
4.15	Description of NRG Energy, Inc. securities registered pursuant to section 12 of the Securities Exchange Act of 1934	Incorporated herein by reference to Exhibit 4.15 to the Registrant's Annual Report on Form 10-K, filed on February 27, 2020.
4.16	Indenture, dated December 2, 2020, between NRG Energy, Inc. and Deutsche Bank Trust Company Americas, as trustee, pertaining to the Secured Notes.	Incorporated herein by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
4.17	Supplemental Indenture, dated December 2, 2020, among NRG Energy, Inc., the guarantors named therein and Deutsche Bank Trust Company Americas, as trustee, pertaining to the Secured Notes	Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
4.18	Form of 2.000% Senior Secured First Lien Notes due 2025	Incorporated herein by reference to Exhibit 4.3 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
4.19	Form of 2.450% Senior Secured First Lien Notes due 2027	Incorporated herein by reference to Exhibit 4.4 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
4.20	Indenture, dated December 2, 2020, between NRG Energy, Inc. and Deutsche Bank Trust Company Americas, as trustee, pertaining to the Unsecured Notes	Incorporated herein by reference to Exhibit 4.5 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
4.21	Supplemental Indenture, dated December 2, 2020, among NRG Energy, Inc., the guarantors named therein and Deutsche Bank Trust Company Americas, as trustee, pertaining to the Unsecured Notes	Incorporated herein by reference to Exhibit 4.6 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
4.22	Form of 3.375% Senior Notes due 2029 (incorporated by reference to Exhibit 4.6 filed herewith)	Incorporated herein by reference to Exhibit 4.7 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
4.23	Form of 3.625% Senior Notes due 2031 (incorporated by reference to Exhibit 4.6 filed herewith)	Incorporated herein by reference to Exhibit 4.8 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
4.24	Facility Agreement, dated December 2, 2020, among NRG Energy, Inc., the guarantors party thereto, Alexander Funding Trust and Deutsche Bank Trust Company Americas, as the notes trustee	Incorporated herein by reference to Exhibit 4.9 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
4.25	Letter of Credit Facility Agreement, dated December 2, 2020, among NRG Energy, Inc., the financial institutions from time to time party thereto as letter of credit issuers, and Deutsche Bank Trust Company Americas, as administrative agent and as collateral agent	Incorporated herein by reference to Exhibit 4.10 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
4.26	Amended and Restated Declaration of Trust of Alexander Funding Trust, dated December 2, 2020, among NRG Energy, Inc. as depositor and in its own capacity, Deutsche Bank Trust Company Americas, as trustee, and Deutsche Bank Trust Company Delaware, as Delaware trustee	Incorporated herein by reference to Exhibit 4.11 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
4.27	Indenture, dated December 2, 2020, between NRG Energy, Inc. and Deutsche Bank Trust Company Americas, as trustee, pertaining to the P-Caps Secured Notes	Incorporated herein by reference to Exhibit 4.12 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
4.28	Supplemental Indenture, dated December 2, 2020, among NRG Energy, Inc., the guarantors named therein and Deutsche Bank Trust Company Americas, as trustee, pertaining to the P-Caps Secured Notes	Incorporated herein by reference to Exhibit 4.13 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
4.29	Form of 1.841% Senior Secured First Lien Notes due 2023(incorporated by reference to Exhibit 4.31 filed herewith)	Incorporated herein by reference to Exhibit 4.14 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.

4.30	Amendment and Restatement Agreement, dated as of June 30, 2016, to the Amended and Restated Credit Agreement, the Second Amended and Restated Collateral Trust Agreement and the Amended and Restated Guarantee and Collateral Agreement.	Incorporated herein by reference to Exhibit 10.1 to the Registrant's quarterly report on Form 10-Q filed on August 9, 2016.
4.31	Second Amended and Restated Credit Agreement, dated as of June 30, 2016, by and among NRG Energy, Inc., the lenders party thereto, the joint lead arrangers and joint lead bookrunners party thereto, Citicorp North America, Inc., Commerzbank AG, New York Branch, Keybank Capital Markets Inc. and CIT Bank, N.A.	Incorporated herein by reference to Exhibit 10.2 to the Registrant's quarterly report on Form 10-Q filed on August 9, 2016.
4.32	First Amendment Agreement, dated as of January 24, 2017, dated as of January 24, 2017, by and among NRG Energy, Inc., the lenders from time to time parties thereto and Citicorp North America, Inc., as administrative agent and collateral agent.	Incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on January 24, 2017.
4.33	Second Amendment Agreement, dated as of March 21, 2018, by and among NRG Energy, Inc., the lenders from time to time parties thereto and Citicorp North America, Inc., as administrative agent and collateral agent.	Incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on March 22, 2018.
4.34	Third Amendment Agreement, dated as of May 7, 2018, by and among NRG Energy, Inc., its subsidiaries parties thereto, the lenders from time to time parties thereto and Citicorp North America, Inc., as administrative agent and collateral agent.	Incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on May 7, 2018.
4.35	Indenture, dated May 23, 2016, between NRG Energy, Inc. and Delaware Trust Company (as successor in interest to Law Debenture Trust Company of New York), as trustee.	Incorporated herein by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed on May 23, 2016.
4.36	Fifth Supplemental Indenture, dated May 14, 2019, among NRG Energy, Inc., the guarantors named therein and Delaware Trust Company, as trustee.	Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on May 16, 2019.
4.37	Form of 5.250% Senior Notes due 2029.	Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on May 14, 2019.
4.38	Indenture, dated May 28, 2019, between NRG Energy, Inc. and Delaware Trust Company, as trustee	Incorporated herein by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed on May 30, 2019.
4.39	Supplemental Indenture, dated May 28, 2019, among NRG Energy, Inc., the guarantors named therein and Delaware Trust Company, as trustee.	Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on May 30, 2019.
4.40	Form of 3.750% Senior Secured First Lien Notes due 2024	Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on May 30, 2019.
4.41	Form of 4.450% Senior Secured First Lien Notes due 2029	Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on May 30, 2019.
4.42	Fourth Amendment dated as of May 28, 2019 to the Second Amended and Restated Credit Agreement dated as of June 30, 2016, included as Annex A thereto a clean, conformed copy of the Second Amended and Restated Credit Agreement	Incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on November 7, 2019.
4.43	Fifth Amendment to Credit Agreement and Third Amendment to Collateral Trust Agreement, dated as of August 20, 2020, by and among NRG Energy, Inc., its subsidiaries parties thereto, the lenders party thereto, Citicorp North America, Inc., as administrative agent	Incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on August 21, 2020.
4.44	Receivables Sale Agreement, dated as of September 22, 2020, among the Originators from time to time parties thereto, NRG Retail LLC, as Servicer, and NRG Receivables LLC.	Incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on September 22, 2020.
4.45	Receivables Loan and Servicing Agreement, dated as of September 22, 2020, among NRG Receivables LLC, as Borrower, NRG Retail LLC, as Servicer, the persons from time to time party thereto as Conduit Lenders, the persons from time to time party thereto as	Incorporated herein by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed on September 22, 2020.
10.1*	Form of NRG Energy Inc. Long-Term Incentive Plan Deferred Stock Unit Agreement for Officers and Key Management.	Incorporated herein by reference to Exhibit 10.14 to the Registrant's annual report on Form 10-K filed on March 30, 2005.

10.2*	Form of NRG Energy, Inc. Long-Term Incentive Plan Deferred Stock Unit Agreement for Directors.	Incorporated herein by reference to Exhibit 10.15 to the Registrant's annual report on Form 10-K filed on March 30, 2005.
10.3*	Form of NRG Energy, Inc. Long-Term Incentive Plan Non-Qualified Stock Option Agreement.	Incorporated herein by reference to Exhibit 10.1 to the Registrant's quarterly report on Form 10-Q filed on November 9, 2004.
10.4*	Form of NRG Energy, Inc. Long-Term Incentive Plan Restricted Stock Unit Agreement for Officers.	Incorporated herein by reference to Exhibit 10.6 to the Registrant's annual report on Form 10-K filed on March 1, 2018.
10.5*	Form of NRG Energy, Inc. Long-Term Incentive Plan Restricted Stock Unit Agreement for Non-Officers.	Incorporated herein by reference to Exhibit 10.7 to the Registrant's annual report on Form 10-K filed on March 1, 2018.
10.6*	Form of NRG Energy, Inc. Long-Term Incentive Plan Performance Stock Unit Agreement.	Incorporated herein by reference to Exhibit 10.7 to the Registrant's annual report on Form 10-K filed on February 23, 2010.
10.7*	Second Amended and Restated Annual Incentive Plan for Designated Corporate Officers.	Incorporated herein by reference to Exhibit 10.1 to the Registrant's current report on Form 8-K filed on May 7, 2015.
10.8†	LLC Membership Interest Purchase Agreement between Reliant Energy, Inc. and NRG Retail LLC, dated as of February 28, 2009.	Incorporated herein by reference to Exhibit 10.1 to the Registrant's quarterly report on Form 10-Q filed on April 30, 2009.
10.9*	The NRG Energy, Inc. Amended and Restated Long-Term Incentive Plan.	Incorporated herein by reference to Exhibit 10.1 to the Registrant's current report on Form 8-K filed on April 28, 2017.
10.10*	NRG 2010 Stock Plan for GenOn Employees.	Incorporated herein by reference to Exhibit 10.49 to the Registrant's annual report on Form 10-K filed on February 27, 2013.
10.11*	NRG Energy, Inc. Long-Term Incentive Plan Market Stock Unit Agreement.	Incorporated herein by reference to Exhibit 10.53 to the Registrant's annual report on Form 10-K filed on February 28, 2014.
10.12*	NRG Energy, Inc. 2010 Stock Plan For GenOn Employees Market Stock Unit Agreement	Incorporated herein by reference to Exhibit 10.54 to the Registrant's annual report on Form 10-K filed on February 28, 2014.
10.13*	Amended and Restated Employee Stock Purchase Plan.	Incorporated herein by reference to Exhibit 10.2 to the Registrant's current report on Form 8-K filed on April 28, 2017.
10.14	Employment Agreement, dated December 21, 2015, by and between NRG Energy, Inc. and Mauricio Gutierrez.	Incorporated herein by reference to Exhibit 10.1 to the Registrant's current report on Form 8-K filed on December 24, 2015.
10.15	Settlement Agreement, dated as of December 14, 2017, by and between NRG Energy, Inc. on behalf of itself and the NRG Parties, GenOn Energy, Inc. on behalf of itself and the Debtors.	Incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on December 18, 2017.
10.16	Transition Services Agreement, dated as of December 14, 2017, by and between GenOn Energy, Inc. and NRG Energy, Inc.	Incorporated herein by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed on December 18, 2017.
10.17	Cooperation Agreement, dated as of December 14, 2017, by and between GenOn Energy, Inc. and NRG Energy, Inc.	Incorporated herein by reference to Exhibit 10.3 to the Registrant's Current Report on Form 8-K filed on December 18, 2017.
10.18	Pension Indemnity Agreement, dated as of December 14, 2017, by and between NRG Energy, Inc. and GenOn Energy, Inc.	Incorporated herein by reference to Exhibit 10.4 to the Registrant's Current Report on Form 8-K filed on December 18, 2017.
10.19	Employee Matters Agreement, dated as of December 14, 2017, by and between NRG Energy, Inc. and GenOn Energy, Inc.	Incorporated herein by reference to Exhibit 10.5 to the Registrant's Current Report on Form 8-K filed on December 18, 2017.
10.20	Tax Matters Agreement, initially dated as of December 14, 2017, by and between NRG Energy, Inc. and GenOn Energy, Inc. and by Reorganized GenOn upon the Effective Date.	Incorporated herein by reference to Exhibit 10.5 to the Registrant's Current Report on Form 8-K filed on December 18, 2017.
10.21*	Form of NRG Energy, Inc. Long-Term Incentive Plan Relative Performance Stock Unit Agreement for Officers.	Incorporated herein by reference to Exhibit 10.73 to the Registrant's annual report on Form 10-K filed on March 1, 2018.
10.22*	Form of NRG Energy, Inc. Long-Term Incentive Plan Relative Performance Stock Unit Agreement for Senior Vice Presidents.	Incorporated herein by reference to Exhibit 10.74 to the Registrant's annual report on Form 10-K filed on March 1, 2018.

10.23†	Consent and Indemnity Agreement, dated as of February 6, 2018, by and among NRG Energy, Inc., NRG Repowering Holdings LLC, NRG Yield, Inc., and GIP III Zephyr Acquisition Partners, L.P., and NRG Yield Operating LLC (solely with respect to Sections E.5, E.6 and G.12).	Incorporated herein by reference to Exhibit 10.34 to NRG Yield, Inc.'s Annual Report on Form 10-K filed on March 1, 2018.
10.24*	Amended and Restated Employee Stock Purchase Plan	Incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on May 7, 2018.
10.25*	NRG Energy, Inc. Amended and Restated Executive Change-in-Control and General Severance Plan for Tier IA and Tier IIA Executives (Amended and Restated Effective April 1, 2018).	Incorporated herein by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed on August 2, 2018.
21.1	Subsidiaries of NRG Energy, Inc.	Filed herewith.
22.1	List of Guarantor Subsidiaries	Filed herewith.
23.1	Consent of KPMG LLP.	Filed herewith.
31.1	Rule 13a-14(a)/15d-14(a) certification of Mauricio Gutierrez.	Filed herewith.
31.2	Rule 13a-14(a)/15d-14(a) certification of Gaëtan Frotté.	Filed herewith.
31.3	Rule 13a-14(a)/15d-14(a) certification of David Callen.	Filed herewith.
32	Section 1350 Certification.	Furnished herewith.
101 INS	Inline XBRL Instance Document.	The instance document does not appear in the interactive data file because its XBRL tags are embedded within the inline XBRL document.
101 SCH	Inline XBRL Taxonomy Extension Schema.	Filed herewith.
101 CAL	Inline XBRL Taxonomy Extension Calculation Linkbase.	Filed herewith.
101 DEF	Inline XBRL Taxonomy Extension Definition Linkbase.	Filed herewith.
101 LAB	Inline XBRL Taxonomy Extension Label Linkbase.	Filed herewith.
101 PRE	Inline XBRL Taxonomy Extension Presentation Linkbase.	Filed herewith.
104	Cover Page Interactive Data File (the cover page interactive data file does not appear in Exhibit 104 because it's Inline XBRL tags are embedded within the Inline XBRL document).	Filed herewith.

* Exhibit relates to compensation arrangements.

† Portions of this exhibit have been redacted and are subject to a confidential treatment request filed with the Secretary of the Securities and Exchange Commission pursuant to Rule 24b-2 under the Securities Exchange Act of 1934, as amended.

^ This filing excludes schedules pursuant to Item 601(b)(2) of Regulation S-K, which the registrant agrees to furnish supplementary to the Securities and Exchange Commission upon request by the Commission.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

NRG ENERGY, INC.
(Registrant)

By: /s/ MAURICIO GUTIERREZ

Mauricio Gutierrez
Chief Executive Officer

Date: March 1, 2021

POWER OF ATTORNEY

Each person whose signature appears below constitutes and appoints Brian E. Curci and Christine A. Zoino, each or any of them, such person's true and lawful attorney-in-fact and agent with full power of substitution and resubstitution for such person and in such person's name, place and stead, in any and all capacities, to sign any and all amendments to this report on Form 10-K, and to file the same with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing necessary or desirable to be done in and about the premises, as fully to all intents and purposes as such person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them or his or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

In accordance with the Exchange Act, this report has been signed by the following persons on behalf of the registrant in the capacities indicated on March 1, 2021.

Signature	Title	Date
/s/ MAURICIO GUTIERREZ Mauricio Gutierrez	President, Chief Executive Officer and Director (Principal Executive Officer)	March 1, 2021
/s/ GAËTAN FROTTÉ Gaëtan Frotté	Interim Chief Financial Officer (Principal Financial Officer)	March 1, 2021
/s/ DAVID CALLEN David Callen	Chief Accounting Officer (Principal Accounting Officer)	March 1, 2021
/s/ LAWRENCE S. COBEN Lawrence S. Coben	Chairman of the Board	March 1, 2021
/s/ E. SPENCER ABRAHAM E. Spencer Abraham	Director	March 1, 2021
/s/ ANTONIO CARRILLO Antonio Carrillo	Director	March 1, 2021
/s/ MATTHEW CARTER, JR. Matthew Carter, Jr.	Director	March 1, 2021
/s/ HEATHER COX Heather Cox	Director	March 1, 2021
/s/ ELISABETH B. DONOHUE Elisabeth B. Donohue	Director	March 1, 2021
/s/ PAUL W. HOBBY Paul W. Hobby	Director	March 1, 2021
/s/ ALEXANDRA PRUNER Alexandra Pruner	Director	March 1, 2021
/s/ ANNE C. SCHAUMBURG Anne C. Schaumburg	Director	March 1, 2021
/s/ THOMAS H. WEIDEMEYER Thomas H. Weidemeyer	Director	March 1, 2021

(This page intentionally left blank)

(This page intentionally left blank)

(This page intentionally left blank)

NRG Energy

804 Carnegie Center
Princeton, NJ
08540-6213

t: 609.524.4500
f: 609.524.4501

910 Louisiana St.
Houston, TX
77002-6929

t: 713.537.3000

nrg.com