

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, 2019

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Transition period from _____ to _____

Commission File Number 001-05532-99

PORTLAND GENERAL ELECTRIC COMPANY

(Exact name of registrant as specified in its charter)

Oregon

(State or other jurisdiction of
incorporation or organization)

93-0256820

(I.R.S. Employer
Identification No.)

**121 S.W. Salmon Street
Portland, Oregon 97204
(503) 464-8000**

(Address of principal executive offices, including zip code,
and Registrant's telephone number, including area code)

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

<u>(Title of class)</u>	<u>(Trading symbol)</u>	<u>(Name of exchange on which registered)</u>
Common Stock, no par value	POR	New York Stock Exchange
9.31% Medium-Term Notes due 2021	POR 21	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 Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required 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 an emerging growth company. See 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	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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 is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

As of June 30, 2019, the aggregate market value of voting common stock held by non-affiliates of the Registrant was \$4,823,580,272. For purposes of this calculation, executive officers and directors are considered affiliates.

As of February 4, 2020, there were 89,391,379 shares of common stock outstanding.

Documents Incorporated by Reference

Part III, Items 10 - 14	Portions of Portland General Electric Company’s definitive proxy statement to be filed pursuant to Regulation 14A for the Annual Meeting of Shareholders to be held on April 22, 2020.
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PORTLAND GENERAL ELECTRIC COMPANY
FORM 10-K
FOR THE YEAR ENDED DECEMBER 31, 2019

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DEFINITIONS

The abbreviations or acronyms defined below are used throughout this Form 10-K:

Abbreviation or Acronym	Definition
AFDC	Allowance for funds used during construction
ARO	Asset retirement obligation
AUT	Annual Power Cost Update Tariff
Beaver	Beaver natural gas-fired generating plant
Biglow Canyon	Biglow Canyon Wind Farm
Boardman	Boardman coal-fired generating plant
BPA	Bonneville Power Administration
Carty	Carty natural gas-fired generating plant
Colstrip	Colstrip Units 3 and 4 coal-fired generating plant
Coyote Springs	Coyote Springs Unit 1 natural gas-fired generating plant
CPP	U.S. Environmental Protection Agency's Clean Power Plan
CWIP	Construction work-in-progress
Dth	Decatherm = 10 therms = 1,000 cubic feet of natural gas
EIM	Energy Imbalance Market
EPA	United States Environmental Protection Agency
ESS	Electricity Service Supplier
FERC	Federal Energy Regulatory Commission
FMB	First Mortgage Bond
FPA	Federal Power Act
GRC	General Rate Case for a specified test year
IRP	Integrated Resource Plan
ISFSI	Independent Spent Fuel Storage Installation
kV	Kilovolt = one thousand volts of electricity
Moody's	Moody's Investors Service
MW	Megawatts
MW_a	Average megawatts
MW_h	Megawatt hours
NRC	Nuclear Regulatory Commission
NVPC	Net Variable Power Costs
OATT	Open Access Transmission Tariff
OPUC	Public Utility Commission of Oregon
PCAM	Power Cost Adjustment Mechanism
PW1	Port Westward Unit 1 natural gas-fired generating plant
PW2	Port Westward Unit 2 natural gas-fired flexible capacity generating plant
RAC	Renewable Adjustment Clause
RPS	Renewable Portfolio Standard
S&P	S&P Global Ratings
SEC	United States Securities and Exchange Commission
Trojan	Trojan nuclear power plant
Tucannon River	Tucannon River Wind Farm
USDOE	United States Department of Energy

PART I

ITEM 1. BUSINESS.

General

Portland General Electric Company (PGE or the Company), a vertically-integrated electric utility with corporate headquarters located in Portland, Oregon, is engaged in the generation, wholesale purchase, transmission, distribution, and retail sale of electricity in the state of Oregon. The Company operates as a cost-based, regulated electric utility with revenue requirements and customer prices determined based on the forecasted cost to serve retail customers and a reasonable rate of return as determined by the Public Utility Commission of Oregon (OPUC). PGE meets its retail load requirement with both Company-owned generation and power purchased in the wholesale market. The Company participates in the wholesale market through the purchase and sale of electricity and natural gas in an effort to obtain reasonably-priced power to serve its retail customers. PGE, incorporated in 1930, is publicly-owned, with its common stock listed on the New York Stock Exchange. The Company operates as a single business segment, with revenues and costs related to its business activities maintained and analyzed on a total electric operations basis.

PGE's state-approved service area allocation of 4,000 square miles is located entirely within Oregon and includes 51 incorporated cities. During 2019, the Company added 10,000 customers, and as of December 31, 2019, served a total of 895,000 retail customers.

Employees

PGE had 2,949 employees as of December 31, 2019, with 775 employees covered under one of two separate agreements with Local Union No. 125 of the International Brotherhood of Electrical Workers. Such agreements cover 719 and 56 employees and expire March 2022 and August 2022, respectively.

Available Information

PGE's periodic and current reports, and amendments to those reports, are available and may be accessed free of charge through the Investors section of the Company's website at PortlandGeneral.com as soon as reasonably practicable after the reports are electronically filed with, or furnished to, the United States Securities and Exchange Commission (SEC). It is not intended that PGE's website and the information contained therein or connected thereto be incorporated into this Annual Report on Form 10-K.

Regulation

Federal and state of Oregon (State) regulation each have a significant impact on the operations of PGE. In addition to the agencies and activities discussed below, the Company is subject to regulation by certain environmental agencies, as described in the Environmental Matters section in this Item 1.

Federal Regulation

Several federal agencies, including the Federal Energy Regulatory Commission (FERC), the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA), and the Nuclear Regulatory Commission (NRC), have regulatory authority over certain of PGE's operations and activities, as described in the discussion that follows.

PGE is a "licensee," a "public utility," and a "user, owner, and operator of the bulk power system," as defined in the Federal Power Act (FPA). As such, the Company is subject to regulation by the FERC in matters related to wholesale energy activities, transmission services, reliability and cyber security standards, natural gas pipelines, hydroelectric projects, accounting policies and practices, short-term debt issuances, and certain other matters.

Wholesale Energy—PGE has authority under its FERC Market-Based Rates tariff to charge market-based rates for wholesale energy sales in all markets in which it sells electricity except in its own Balancing Authority Area (BAA). The BAA is the area in which PGE is responsible for balancing customer demand with electricity supply, in real time, and the tariff exception within PGE’s BAA does not have a material impact on the Company.

Transmission—PGE offers wholesale electricity transmission service pursuant to its Open Access Transmission Tariff (OATT), which contains rates and terms and conditions of service, as filed with, and approved by, the FERC.

Reliability and Cyber Security Standards—The FERC has adopted mandatory reliability standards for owners, users, and operators of the bulk power system. Such standards, which are applicable to PGE, were developed by the North American Electric Reliability Corporation (NERC) and the Western Electricity Coordinating Council (WECC), which have responsibility for compliance and enforcement of these standards, and are intended to help protect critical cyber assets used to support reliable operations.

Natural Gas Pipelines—The FERC has authority in matters related to the construction, operation, extension, enlargement, safety, and abandonment of jurisdictional interstate natural gas pipeline facilities, as well as transportation rates and accounting for interstate natural gas commerce. PGE is subject to such authority as the Company has a 79.5% ownership interest in the Kelso-Beaver (KB) Pipeline, a 17-mile interstate pipeline that provides natural gas to Port Westward Unit 1 (PW1), Port Westward Unit 2 (PW2), and Beaver, the Company’s natural gas-fired generating plants located near Clatskanie, Oregon. As the operator of record of the KB Pipeline, PGE is subject to the requirements and regulations enacted under the Pipeline Safety Laws administered by the PHMSA, which include safety standards, operator qualification standards, and public awareness requirements.

Hydroelectric Licensing—As required under the FPA, PGE holds FERC licenses for all Company-owned hydroelectric generating plants. The FERC license process includes an extensive public review process that involves the consideration of numerous natural resource issues and environmental conditions. For additional information, see the Environmental Matters section in this Item 1. and the Generating Facilities section in Item 2.—“Properties.”

Accounting Policies and Practices—PGE prepares periodic and current reports in accordance with accounting principles generally accepted in the United States of America (GAAP). In addition, the Company prepares, pursuant to applicable provisions of the FPA, financial statements in accordance with the accounting requirements of the FERC, as set forth in its applicable Uniform System of Accounts and published accounting releases. Such financial statements are included in annual and quarterly reports filed with the FERC.

Short-term Debt—Pursuant to applicable provisions of the FPA and FERC regulations, regulated public utilities are required to obtain FERC approval to issue certain securities.

Spent Fuel Storage—The NRC regulates the licensing and decommissioning of nuclear power plants, including PGE’s decommissioned Trojan nuclear power plant (Trojan), which was closed in 1993. For additional information on spent nuclear fuel storage activities, see Note 8, Asset Retirement Obligations in the Notes to Consolidated Financial Statements in Item 8.—“Financial Statements and Supplementary Data” and “*Hazardous Material*” in the Environmental Matters section of this Item 1.

State of Oregon Regulation

PGE is subject to the jurisdiction of the OPUC, which reviews and approves the Company’s retail prices and reviews the Company’s generation and transmission resource acquisition plans, pursuant to a biennial integrated resource planning process. The OPUC regulates the issuance of securities, prescribes accounting policies and practices, regulates the sale of utility assets, reviews transactions with affiliated companies, and has jurisdiction over the acquisition of, or exertion of substantial influence over, public utilities.

Customer prices are determined through formal proceedings that generally include testimony by participating parties, discovery, public hearings, and the issuance of a final order. Participants in such proceedings may include PGE, OPUC staff, and intervenors representing PGE customer groups, as well as other interested parties. The following are the more significant regulatory mechanisms and proceedings under which customer prices are determined:

- *General Rate Cases.* PGE periodically evaluates the need to change its retail electric price structure as part of a comprehensive general rate case process that reflects revenue requirements based on a forecasted test year. The OPUC authorizes the Company's debt-to-equity capital structure, return on equity, overall rate of return, and customer prices. For additional information regarding the Company's most recent general rate cases, see "General Rate Case" in the Overview section in Item 7.—"Management's Discussion and Analysis of Financial Condition and Results of Operations."
- *Annual Power Cost Updates.* The OPUC has approved an Annual Power Cost Update Tariff (AUT) by which PGE can adjust retail customer prices annually to reflect forecasted changes in the Company's net variable power costs (NVPC). NVPC consists of the cost of power purchased and fuel used to generate electricity, as well as the cost of settled electric and natural gas financial contracts (all classified as Purchased power and fuel expense in the Company's consolidated statements of income) and is net of wholesale revenues, which are classified as Revenues, net in the consolidated statements of income. The OPUC has also authorized a Power Cost Adjustment Mechanism (PCAM), under which PGE may share with customers a portion of actual cost variances associated with NVPC.
- *Renewable Energy.* The State maintains a Renewable Portfolio Standard (RPS) which requires PGE to serve a portion of its retail load with renewable resources. In conjunction with the RPS, the State established a renewable adjustment clause (RAC) mechanism that allows for the recovery in customer prices of prudently incurred costs to comply with the RPS. The State also passed a law referred to as the Oregon Clean Electricity and Coal Transition Plan (SB 1547), which, among its provisions, increased the RPS percentages in certain future years. For further information on SB 1547, see *Carbon Legislation* in the "Overview" section of Item 7.—Management's Discussion and Analysis of Financial Condition and Results of Operations.

Retail Customer Choice Program—Under cost of service pricing, residential and small commercial customers may select portfolio options from PGE that include time-of-use and renewable resource pricing.

All commercial and industrial customers are eligible for pricing options other than cost of service for a one-year period, including daily market index-based pricing, under which the Company provides the electricity, and Direct Access, whereby customers purchase electricity directly from an Electricity Service Supplier (ESS). PGE receives revenue from Direct Access customers only for the transmission and delivery of the volume of electricity provided along with fixed transition adjustments intended to prevent the shifting of excess charges to the Company's cost of service customers. Certain large commercial and industrial customers may elect a fixed three-year or a minimum five-year term, to be served either by an ESS, or by the Company under the daily market index-based price option. Participation in the fixed three-year and minimum five-year opt-out programs for existing and planned load is capped at 300 average megawatts (MWa) in aggregate.

In 2018, the OPUC created and approved rules for a New Large Load Direct Access program, capped at 119 MWa, for unplanned, large, new loads and large load growth at existing sites. In January 2020, the OPUC issued an order that will require PGE to begin serving customers under this program in early February 2020.

For further information regarding Direct Access deliveries, see "Customers and Demand" in the Overview section of Item 7.—"Management's Discussion and Analysis of Financial Condition and Results of Operations."

Regulatory Accounting

PGE prepares financial statements in accordance with GAAP and, as a regulated public utility, the effects of rate regulation are reflected in its financial statements. GAAP provides for the deferral, as regulatory assets, of certain

actual or estimated costs that would otherwise be charged to expense, based on expected recovery from customers in future prices. Likewise, certain actual or anticipated credits that would otherwise be recognized as revenue or reduce expense can be deferred as regulatory liabilities, based on expected future credits or refunds to customers. PGE records regulatory assets or liabilities if it is probable that they will be reflected in future prices, based on regulatory orders or other available evidence.

The Company periodically assesses the applicability of regulatory accounting to its business, considering both the current and anticipated future regulatory environment and related accounting guidance. For additional information, see “*Regulatory Assets and Liabilities*” in Note 2, Summary of Significant Accounting Policies, and Note 7, Regulatory Assets and Liabilities, in the Notes to Consolidated Financial Statements in Item 8.—“Financial Statements and Supplementary Data.”

Customers and Revenues

PGE generates revenue primarily through the sale and delivery of electricity to retail customers located exclusively in Oregon. In addition, the Company distributes power to commercial and industrial customers that choose to purchase their energy from an ESS. Although the Company includes such Direct Access customers in its customer counts and energy delivered to such customers in its total retail energy deliveries, retail revenues include only delivery charges and applicable transition adjustments for these Direct Access customers. The Company conducts retail electric operations within its service territory and competes with: i) the local natural gas distribution company for the energy needs of residential and commercial space heating, water heating, and appliances; and ii) ESSs. Energy efficiency, conservation measures and distributed solar generation also have an increasing influence on customer demand.

Retail Revenues

Retail customers are classified as residential, commercial, or industrial, with no single customer representing more than 7% of PGE’s total retail revenues or 11% of total retail deliveries.

PGE's Retail revenues, retail energy deliveries, and average number of retail customers consist of the following:

	Years Ended December 31,					
	2019		2018		2017	
Retail revenues⁽¹⁾ (dollars in millions):						
Residential	\$ 981	52%	\$ 948	53 %	\$ 969	52%
Commercial	654	35	665	37	669	36
Industrial	222	12	210	12	212	11
Subtotal	1,857	99	1,823	102	1,850	99
Alternative revenue programs, net of amortization	2	—	3	—	—	—
Other accrued (deferred) revenues, net ⁽²⁾	22	1	(45)	(2)	10	1
Total retail revenues	\$ 1,881	100%	\$ 1,781	100 %	\$ 1,860	100%
Retail energy deliveries⁽³⁾ (MWh in thousands):						
Residential	7,471	38%	7,416	39 %	7,880	40%
Commercial	7,318	38	7,430	39	7,555	38
Industrial	4,671	24	4,376	22	4,283	22
Total retail energy deliveries	19,460	100%	19,222	100 %	19,718	100%
Average number of retail customers:						
Residential	779,673	88%	772,389	88 %	762,211	88%
Commercial	110,084	12	109,107	12	107,855	12
Industrial	262	—	270	—	267	—
Total	890,019	100%	881,766	100 %	870,333	100%

- (1) Includes both revenues from customers who purchase their energy supplies from the Company and revenues from the delivery of energy to those commercial and industrial customers that purchase their energy from ESSs.
- (2) Amounts for the years ended December 31, 2019 and 2018 are primarily comprised of \$23 million of amortization and \$45 million of deferral, respectively, related to the 2018 net tax benefits due to the change in corporate tax rate under the United States Tax Cuts and Jobs Act of 2017 (TCJA).
- (3) Includes both energy sold to retail customers and energy deliveries to those commercial and industrial customers that purchase their energy from ESSs.

The following table presents additional averages for retail customers. Certain supplemental tariff collections are excluded from revenues as they are not considered a part of the Company's base retail prices for these calculations.

	Years Ended December 31,		
	2019	2018	2017
Residential			
Revenue per customer (in dollars):	\$ 1,177	\$ 1,153	\$ 1,181
Usage per customer (in kilowatt hours):	9,582	9,601	10,338
Revenue per kilowatt hour (in cents):	12.28¢	12.01¢	11.42¢
Commercial			
Revenue per customer (in dollars):	\$ 5,901	\$ 6,051	\$ 6,142
Usage per customer (in kilowatt hours):	66,481	68,096	70,046
Revenue per kilowatt hour (in cents):	8.88¢	8.89¢	8.77¢
Industrial			
Revenue per customer (in dollars):	\$ 847,079	\$ 776,245	\$ 792,466
Usage per customer (in kilowatt hours):	17,827,115	16,207,263	16,041,461
Revenue per kilowatt hour (in cents):	4.75¢	4.79¢	4.94¢

For additional information, see the Results of Operations section in Item 7.—“Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

In addition to standard cost of service pricing, the Company offers different pricing options including a daily market price option, various time-of-use options, and several renewable energy options, which are offered to residential and small commercial customers. For additional information on customer options, see “*Retail Customer Choice Program*” within the Regulation section of this Item 1.

Residential customers include single family housing, multiple family housing (such as apartments, duplexes, and town homes), mobile homes, and small farms. Residential demand is sensitive to the effects of weather, with demand historically highest during the winter heating season. Increased use of air conditioning in PGE’s service territory has caused the summer peaks to increase in recent years, while the historical winter peak has not increased in over 20 years. In the past few years, summer peaks have exceeded winter peaks and long-term load forecasts expect that trend to continue. Economic conditions can also affect residential demand as strong job growth and population growth in PGE’s service territory have led to increased customer growth rates. Residential demand is also impacted by energy efficiency measures; however, the Company’s decoupling mechanism is intended to mitigate the financial effects of such measures.

Commercial customers consist of non-residential customers who accept energy deliveries at voltages equivalent to those delivered to residential customers. This customer class includes most businesses, small industrial companies, and public street and highway lighting accounts. The Company’s commercial customer demand is somewhat less susceptible to weather conditions than residential customer demand. Economic conditions and fluctuations in total employment in the region can also lead to changes in energy demand from commercial customers. Energy efficiency measures also impact commercial demand, although the Company’s decoupling mechanism partially mitigates the financial effects of such measures.

Industrial customers consist of non-residential customers who accept delivery at higher voltages than commercial customers, with pricing based on the amount of electricity delivered under the applicable tariff. Demand from industrial customers is primarily driven by economic conditions, with weather having little impact on this customer class.

Wholesale Revenues

PGE participates in the wholesale electricity marketplace in order to balance its supply of power to meet the needs of its retail customers. Interconnected transmission systems in the western United States serve utilities with diverse load requirements and allow the Company to purchase and sell electricity, largely through bi-lateral agreements, within the region to serve retail demand, depending upon the relative price and availability of power, hydro and wind conditions, and daily and seasonal retail demand. PGE also participates in the California Independent System Operator’s western Energy Imbalance Market (western EIM), which allows for load balancing with other western EIM participants in five-minute intervals. Wholesale revenues represented 8% of total revenues in 2019 and 2018, and 5% in 2017.

Other Operating Revenues

Other operating revenues consist primarily of gains and losses on the sale of natural gas volumes purchased that exceeded what was needed to fuel the Company’s generating facilities, as well as revenues from transmission services, excess transmission capacity resales, pole attachment rentals, and other electric services provided to customers. Other operating revenues represented 3% of total revenues in 2019 and 2018, and 2% in 2017.

Seasonality

Demand for electricity by PGE’s residential and, to a lesser extent, commercial customers, is affected by seasonal weather conditions. The Company uses heating and cooling degree-days to determine the effect of weather on the

demand for electricity. Heating and cooling degree-days, determined by taking the difference between the average daily temperature and a baseline of 65 degrees, provide cumulative variances over a period of time, to indicate the extent to which customers are likely to have used electricity for heating or cooling. The higher the number of degree-days, the greater the expected demand for electricity.

The following table presents the heating and cooling degree-days for the most recent three-year period, along with 15-year averages for the most recent year provided by the National Weather Service, as measured at Portland International Airport:

	Heating Degree-Days	Cooling Degree-Days
2019	4,165	564
2018	3,702	692
2017	4,558	700
15-year average	4,140	531

PGE’s all-time high net system load peak of 4,073 megawatts (MW) occurred in December 1998. The Company’s all-time summer peak of 3,976 MW occurred in August 2017. The following table presents PGE’s average winter (defined as January, February, and December) and summer (defined as June through September) loads for the periods presented, along with the corresponding peak load (in MWs) and month in which such peak occurred. As the table below illustrates, although the average winter loads continue to run higher than average summer loads, the Company continues to experience its highest annual peak loads during the summer months:

	Winter Loads			Summer Loads		
	Average	Peak	Month	Average	Peak	Month
2019	2,609	3,422	February	2,263	3,765	June
2018	2,519	3,399	February	2,301	3,816	August
2017	2,698	3,727	January	2,335	3,976	August

The Company tracks and evaluates both load growth and peak load requirements for purposes of long-term load forecasting, integrated resource planning, and preparing general rate case assumptions. Behavior patterns, conservation, energy efficiency initiatives and measures, weather effects, economic conditions, and demographic changes all play a role in determining expected future customer demand and the resulting resources the Company will need to adequately meet those loads and maintain adequate capacity reserves.

Power Supply

PGE utilizes its generating resources, as well as wholesale power purchases from third parties to meet the needs of its retail customers. The volume of electricity the Company generates is dependent upon, among other factors, the capacity and availability of its generating resources and the price and availability of wholesale power and natural gas. As part of its power supply operations, the Company enters into short- and long-term power and fuel purchase agreements. PGE executes economic dispatch decisions concerning its own generation and participates in the wholesale market in an effort to obtain reasonably-priced power for its retail customers, manage risk, and administer its long-term wholesale contracts. The Company also promotes energy efficiency measures to meet its energy requirements.

PGE's resource and contracted capacity (in MW) was as follows:

	As of December 31,			
	2019		2018	
	Capacity	%	Capacity	%
Generation:				
Thermal ⁽¹⁾ :				
Natural gas	1,830	35%	1,830	36%
Coal	814	15	814	16
Total thermal	2,644	50	2,644	53
Wind ⁽²⁾	717	14	717	14
Hydro ⁽³⁾	495	9	495	10
Total generation	3,856	73	3,856	77
Purchased power:				
Long-term contracts:				
Hydro ⁽³⁾	462	9	522	10
PURPA qualifying facilities ⁽⁴⁾	133	3	61	1
Dispatchable standby generation	125	2	129	3
Capacity	100	2	100	2
Wind ⁽²⁾	100	2	100	2
Solar	7	—	13	—
Biomass	10	—	10	—
Total long-term contracts	937	18	935	18
Short-term contracts	471	9	273	5
Total purchased power	1,408	27	1,208	23
Total resource capacity	5,264	100%	5,064	100%

(1) Capacity represents the MW the plants are capable of generating under normal operating conditions, which is affected by ambient temperatures, net of electricity used in the operation of the plant.

(2) Capacity represents nameplate and differs from expected energy to be generated, which is expected to have a capacity factor range from 30 to 40%, dependent upon wind conditions.

(3) Capacity represents net capacity and differs from expected energy to be generated, which is expected to have a capacity factor range from 40 to 50%, dependent upon river flows.

(4) Capacity represents contracted capacity under the Public Utility Regulatory Policies Act of 1978 (PURPA).

For information regarding actual generating output and purchases for the years ended December 31, 2019 and 2018, see the Results of Operations section of Item 7.—“Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

Generation

PGE's generating resources consist of seven thermal plants (natural gas- and coal-fired), two wind farms, and seven hydroelectric facilities. The portion of PGE's retail load requirements generated by its plants varies from year to year and is determined by various factors, including planned and unplanned outages, availability and price of coal and natural gas, precipitation and snow-pack levels, the market price of electricity, and wind variability. For a complete listing of these facilities, see “*Generating Facilities*” in Item 2.—“Properties.”

Thermal The Company has five natural gas-fired generating facilities: PW1, PW2, Beaver, Coyote Springs Unit 1 (Coyote Springs), and Carty Generating Station (Carty).

The Company operates, and has a 90% ownership interest in, Boardman and has a 20% ownership interest in the Colstrip Units 3 and 4 coal-fired generating plant (Colstrip), which is operated by a

third party. Boardman is scheduled to cease coal-fired operations at the end of 2020 and, pursuant to SB 1547, PGE's portion of Colstrip is scheduled to be fully depreciated by 2030, with the potential to utilize the output of the facility, in Oregon, until 2035. For additional information on SB 1547, see "*Carbon Legislation*" in the Overview section in Item 7.—"Management's Discussion and Analysis of Financial Condition and Results of Operations."

Wind PGE owns and operates two wind farms, Biglow Canyon Wind Farm (Biglow Canyon) and Tucannon River Wind Farm (Tucannon River). Biglow Canyon, located in Sherman County, Oregon, is PGE's largest renewable energy resource consisting of 217 wind turbines with a total nameplate capacity of 450 MW. Tucannon River, located in southeastern Washington, consists of 116 wind turbines with a total nameplate capacity of 267 MW. PGE plans to add 300 MW of additional wind resource capacity from the construction of the Wheatridge Renewable Energy Facility (Wheatridge), of which PGE will own 100 MW. The wind component of the facility is expected to be operational in December 2020. For additional information on Wheatridge, see "*The Resource Planning Process*" in the Overview section in Item 7.—"Management's Discussion and Analysis of Financial Condition and Results of Operations."

Hydro The Company's FERC-licensed hydroelectric projects consist of Pelton/Round Butte on the Deschutes River near Madras, Oregon (discussed below), four plants on the Clackamas River, and one on the Willamette River.

PGE has a 66.67% ownership interest in the 455 MW Pelton/Round Butte hydroelectric project on the Deschutes River, with the remaining interest held by the Confederated Tribes of the Warm Springs Reservation of Oregon (CTWS). A 50-year joint license for the project, which is operated by PGE, was issued by the FERC in 2005. The CTWS has an option to purchase an additional undivided 16.66% interest in Pelton/Round Butte at their discretion on December 31, 2021. CTWS has a second option in 2036 to purchase an undivided 0.02% interest in Pelton/Round Butte. If both options are exercised, CTWS's ownership percentage would exceed 50%.

Fuel Supply—PGE contracts for natural gas and coal supplies required to fuel the Company's thermal generating plants, with certain plants also able to operate on fuel oil if needed. In addition, the Company uses forward, future, swap, and option contracts to manage its exposure to volatility in natural gas prices.

Natural Gas Physical supplies of natural gas are generally purchased up to 12 months in advance of delivery and based on anticipated operation of the plants. PGE manages the price risk of natural gas supply through the use of financial contracts up to 60 months in advance of expected need of energy.

PGE owns 79.5%, and is the operator of record, of the KB Pipeline, which directly connects PW1, PW2, and Beaver to the Northwest Pipeline, an interstate natural gas pipeline operating between British Columbia and New Mexico. Currently, PGE transports natural gas on the KB Pipeline for its own use under a firm transportation service agreement, with capacity offered to others on an interruptible basis to the extent not utilized by the Company. PGE has access to 114,000 Dth per day of firm natural gas transportation capacity to serve the three plants.

PGE has access to 4.1 billion cubic feet of natural gas storage in Mist, Oregon from which it can draw when economic factors favor its use or in the event that natural gas supplies are interrupted. The storage facility is owned and operated by a local natural gas company, NW Natural, and may be utilized to provide fuel to PW1, PW2, and Beaver.

To serve Coyote Springs and Carty, PGE has access to 120,000 Dth per day of firm natural gas transportation capacity on three pipeline systems accessing gas fields in Alberta, Canada.

Coal PGE has purchase agreements that, together with existing inventory, will provide coal sufficient for the anticipated operating needs for Boardman during 2020 until it ceases coal-fired operations. The

Colstrip co-owners obtain coal to fuel the plant via conveyor belt from a mine that lies adjacent to the facility and is the sole source of coal supply for the plant. PGE's coal supply contract with the owner of the mine is scheduled to expire at the end of 2025. The terms of contracts and the quality of coal are expected to be in alignment with required emissions limits.

Purchased Power

PGE supplements its own generation with power purchased in the wholesale market to meet its retail load requirements. The Company utilizes short- and long-term wholesale power purchase contracts in an effort to provide the most favorable economic mix on a variable cost basis.

PGE's medium-term power cost strategy helps mitigate the effect of price volatility on its customers due to changing energy market conditions. The strategy allows the Company to take positions in power and fuel markets up to five years in advance of physical delivery. By purchasing a portion of anticipated energy needs for future years over an extended period, PGE mitigates a portion of the potential future volatility in the average cost of purchased power and fuel.

The Company's major power purchase contracts consist of the following (also see the preceding table which summarizes the average resource capabilities related to these contracts):

Hydro—During 2019, the Company had the following agreements:

- *Mid-Columbia hydro*—PGE has long-term power purchase contracts with certain public utility districts in the state of Washington for a portion of the output of two hydroelectric projects on the mid-Columbia River; one contract representing 98 MW of capacity that expires in 2028 and one contract representing 165 MW of capacity that expires in 2052. Although the projects currently provide a total of 263 MW of capacity, actual energy received is dependent upon river flows and capacity amounts may decline over time.
- *CTWS*—PGE has a long-term agreement under which the Company purchases, at index prices, CTWS' interest in the output of the Pelton/Round Butte hydroelectric project. Although the agreement provides approximately 162 MW of net capacity, actual energy received is dependent upon river flows. The term of the agreement coincides with the term of the FERC license for this project, which expires in 2055. In 2014, PGE entered into an agreement with CTWS under which CTWS has agreed to sell, on modified payment terms, its share of the energy generated from the Pelton/Round Butte hydroelectric project exclusively to the Company through 2024.
- *Other*—PGE has one contract that provides for the purchase of power generated from a hydroelectric project with capacity of 37 MW and contract expiration in 2032.

PURPA qualifying facilities—PGE is required to purchase power from PURPA qualifying facilities (QFs), as mandated by federal law. QFs are generating facilities that fall within the following two categories: 1) qualifying generation facilities with a capacity of 80 MW or less and whose primary energy source is renewable (hydro, wind, solar, biomass, waste, or geothermal); or 2) qualifying cogeneration facilities that sequentially produce electricity and another form of useful thermal energy (e.g., heat, steam) in a way that is more efficient than the separate production of each form of energy. As of December 31, 2019, PGE had contracts with 31 on-line PURPA qualifying facilities, providing a total of 133 MW of capacity. As of December 31, 2019, PGE has 92 contracts with PURPA QFs representing 408 MW of capacity that are not yet operational. Fifty-seven of the QF power purchase agreements (PPAs) are in default because the QF has failed to complete construction and become operational by the date required by the PPA. The PPAs provide that the QF has one year to cure its default. PGE is permitted to immediately terminate the QF PPA upon expiration of the cure period. The term of a QF PPA generally ranges from 15 to 23 years, measured from the date of execution.

The expense and volume of purchases from these facilities for the years-ended December 31, 2019 and 2018 were as follows:

	2019	2018
PURPA contract expense (in millions)	\$ 6	\$ 5
MWh purchased under PURPA contracts (in thousands)	152	123
Average cost per MWh from PURPA contracts	\$ 38.69	\$ 43.22

Expenses incurred related to PURPA contracts are included in PGE’s AUT.

Dispatchable Standby Generation (DSG)—PGE has a DSG program under which the Company can start, operate, and monitor customer-owned diesel-fueled standby generators when needed to provide NERC-required operating reserves. As of December 31, 2019, there were 59 sites with a total DSG capacity of 125 MW. Additional DSG projects are being pursued with a total goal of 145 MW online by the end of 2020.

Capacity—PGE’s capacity contracts are primarily comprised of the following agreements to help meet peak loads:

- Seasonal peaking capacity up to 100MW during the summer and winter peak periods obtained from a natural gas-fired resource, which expires in 2024; and
- Starting in January 2021, an additional 200MW of annual capacity will be added, with a five-year term, primarily obtained from hydroelectric resources.

Wind—PGE has two contracts representing 100 MW of capacity to purchase power generated from renewable wind resources that extend to 2028 and 2035. The expected energy from these wind resources will vary from the nameplate capacity due to varying wind conditions.

Solar—PGE has three contracts representing 7 MW of capacity to purchase power generated from photovoltaic solar projects that extend to 2036 and 2037. The expected energy from these solar resources will vary from the nameplate capacity due to varying solar conditions.

Biomass—PGE has one contract to purchase biomass energy through 2020.

Short-term contracts—These contracts are for delivery periods of one month up to one year in length. They are entered into with various counterparties to provide additional firm energy to help meet the Company’s load requirements.

PGE also utilizes spot purchases of power in the open market to secure the energy required to serve its retail customers. Such purchases are made under contracts that range in duration from 15 minutes to less than one month. As of 2017, PGE is also a market participant in the western EIM, which allows certain of its generating plants to receive automated dispatch signals from the CAISO for load balancing with other western EIM participants in five-minute intervals.

For additional information regarding PGE’s power purchase contracts, see Note 16, Commitments and Guarantees, in the Notes to Consolidated Financial Statements in Item 8.—“Financial Statements and Supplementary Data.”

Future Energy Resource Strategy

PGE’s IRP outlines the Company’s plan to meet future customer demand and describes PGE’s future energy supply strategy. For a detailed discussion of the IRPs, see “*The Resource Planning Process*” within the Overview section of Item 7.—“Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

Transmission and Distribution

Transmission systems deliver energy from generating facilities to distribution systems for final delivery to customers. PGE schedules energy deliveries over its transmission system in accordance with FERC requirements and operates one balancing authority area (an electric system bounded by interchange metering) in its service territory. In 2019, PGE delivered approximately 24 million MWh in its balancing authority area through 1,264 circuit miles of transmission lines operating at or above 115 kilovolts (kV).

PGE's transmission system is part of the Western Interconnection, the regional grid in the western United States. The Western Interconnection includes the interconnected transmission systems of 11 western states, two Canadian provinces and parts of Mexico, and is subject to the reliability rules of the WECC and the NERC. PGE relies on transmission contracts with Bonneville Power Administration (BPA) to transmit a significant amount of the Company's generation to serve its distribution system. PGE's transmission system, together with contractual rights on other transmission systems, enables the Company to integrate and access generation resources to meet its customers' energy requirements. PGE's generation is managed on a coordinated basis to obtain maximum load-carrying capability and efficiency.

The Company's wholesale transmission activities are regulated by the FERC and are offered on a non-discriminatory basis, with all potential customers provided equal access to PGE's transmission system through PGE's OATT. In accordance with its OATT, PGE offers several transmission services to wholesale customers:

- Network integration transmission service, a service that integrates generating resources to serve retail loads;
- Short- and long-term firm point-to-point transmission service, a service with fixed delivery and receipt points; and
- Non-firm point-to-point service, an "as available" service with fixed delivery and receipt points.

For additional information regarding the Company's transmission and distribution facilities, see "*Transmission and Distribution*" in Item 2.—"Properties."

Environmental Matters

PGE's operations are subject to a wide range of environmental protection laws and regulations, which pertain to air and water quality, endangered species and wildlife protection, and hazardous material. Various state and federal agencies regulate environmental matters that relate to the siting, construction, and operation of generation, transmission, and substation facilities and the handling, accumulation, clean-up, and disposal of toxic and hazardous substances. In addition, certain of the Company's hydroelectric projects and transmission facilities are located on property under the jurisdiction of federal and state agencies, and/or tribal entities that have authority in environmental protection matters. The following discussion provides further information on certain regulations that affect the Company's operations and facilities.

Air Quality

Clean Air Act—PGE's operations, primarily its thermal generating plants, are subject to regulation under the federal Clean Air Act (CAA), which addresses particulate matter, hazardous air pollutants, and greenhouse gas emissions (GHGs), among other things. Oregon and Montana, the states in which PGE's thermal facilities are located, also implement and administer certain portions of the CAA and have set standards that are at least as stringent as federal standards. PGE manages its air emissions at its thermal generating plants by the use of low sulfur fuel, emissions and combustion controls and monitoring, and sulfur dioxide allowances awarded under the CAA.

Climate Change—In 2015, the United States Environmental Protection Agency (EPA) released the Clean Power Plan (CPP), under which each state would have to reduce carbon dioxide emissions from its power sector on a state-wide basis. In 2016, the United States Supreme Court halted implementation and enforcement of the CPP.

In August 2018, the EPA proposed the Affordable Clean Energy (ACE) rule, to replace the CPP. On July 8, 2019, the EPA finalized the ACE rule, which establishes guidelines for states to develop plans to address greenhouse gas emissions from existing coal-fired plants. With the finalization of the ACE rule, the Clean Power Plan (CPP) is also officially repealed.

As the ACE rule will only apply to coal-fired plants in operation once the state plan is submitted (anticipated to be July 2022), the ACE rule is not expected to impact Boardman, but will be applicable to Colstrip. There is significant ongoing litigation regarding the ACE rule; however, all litigation regarding the CPP has been dismissed. The Company will continue to monitor the development of the state plan in Montana and track ACE rule litigation.

Any laws that would impose emissions taxes or mandatory reductions in GHGs may have a material impact on PGE's operations, as the Company utilizes fossil fuels in its own power generation and other companies use such fuels to generate power that PGE purchases in the wholesale market. If incremental costs were incurred as a result of changes in the regulations regarding GHGs, the Company would seek recovery in customer prices.

PGE's carbon-emitting facilities provided 69% of the Company's net generating capacity at December 31, 2019.

For more information regarding GHGs and related environmental regulation, see *Carbon Legislation* in the "Overview" section of Item 7.—Management's Discussion and Analysis of Financial Condition and Results of Operations.

Water Quality

The federal Clean Water Act requires that any federal license or permit to conduct an activity that may result in a discharge to waters of the United States must first receive a water quality certification from the state in which the activity will occur. In Oregon, Montana, and Washington, the Departments of Environmental Quality are responsible for reviewing proposed projects under this requirement to ensure that federally approved activities will meet water quality standards and policies established by the respective state. PGE has obtained permits where required and has certificates of compliance for its hydroelectric operations under the FERC licenses. The Company is currently subject to litigation with regard to water quality conditions on the Deschutes River. For additional information on this litigation see "*Deschutes River Alliance Clean Water Act Claims*" in Note 19, Contingencies in the Notes to Consolidated Financial Statements in Item 8.—"Financial Statements and Supplementary Data."

Threatened and Endangered Species and Wildlife

Fish Protection—The federal Endangered Species Act (ESA) has granted protection to many populations of migratory fish species in the Pacific Northwest. Long-term recovery plans for these species continue to have operational impacts on many of the region's hydroelectric projects. PGE continues to implement fish protection measures at its hydroelectric projects that were prescribed by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service under their authority granted in the ESA and the FPA. Conditions required with the operating licenses are expected to result in a minor reduction in power production and continued capital spending to modify the facilities to enhance fish passage and survival.

Avian Protection—Various statutes, including the Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act, contain provisions for civil, criminal, and administrative penalties resulting from the unauthorized take of migratory birds and eagles. Because PGE operates facilities that can pose risks to a variety of such birds, the Company developed an avian protection plan to help address and reduce risks to bird species that may be affected by Company operations. PGE has implemented such a plan for its transmission, distribution, and thermal generation facilities and continues to finalize similar plans, for its wind generation facilities.

Hazardous Material

PGE has a comprehensive program to comply with requirements of both federal and state regulations related to the storage, handling, and disposal of hazardous materials. The handling and disposal of hazardous materials from Company facilities is subject to regulation under the federal Resource Conservation and Recovery Act (RCRA). In addition, the use, disposal, and clean-up of polychlorinated biphenyls, contained in certain electrical equipment, are regulated under the federal Toxic Substances Control Act.

PGE is also subject to regulation under the Comprehensive Environmental Response Compensation and Liability Act, commonly referred to as Superfund, which provides authority to the EPA to assert joint and several liability for investigation and remediation costs for designated Superfund sites.

An investigation by the EPA that began in 1997 of a segment of the Willamette River in Oregon known as Portland Harbor, revealed significant contamination of river sediments and prompted the EPA to designate Portland Harbor as a Superfund site. The EPA listed PGE among the more than one hundred Potentially Responsible Parties in this matter, as PGE historically owned or operated property near the river. For additional information regarding the EPA action on Portland Harbor, see Note 19, Contingencies, in the Notes to Consolidated Financial Statements in Item 8.—“Financial Statements and Supplementary Data.”

PGE is subject to regulation by the USDOE, which, under the Nuclear Waste Policy Act of 1982, is responsible for the permanent storage and disposal of spent nuclear fuel. PGE has contracted with the USDOE for permanent disposal of spent nuclear fuel from Trojan that is stored in the Independent Spent Fuel Storage Installation (ISFSI), an NRC-licensed interim dry storage facility that houses the fuel at the former plant site. The NRC approved the transfer of spent nuclear fuel from a spent fuel pool to the ISFSI where it is expected to remain until permanent off-site storage is available. Shipment of the spent nuclear fuel from the ISFSI to off-site storage is not expected to be completed prior to 2059. For additional information regarding this matter, see “Trojan decommissioning activities” in Note 8, Asset Retirement Obligations, in the Notes to Consolidated Financial Statements in Item 8.—“Financial Statements and Supplementary Data.”

Information about Our Executive Officers

The following are PGE’s current executive officers:

Name	Age	Current Position and Previous Experience	Year Appointed Officer
Larry N. Bekkedahl	59	Vice President, Grid Architecture, Integration and Systems Operations (January 2019 to present), Vice President Transmission and Distribution (August 2014 to January 2019). Senior Vice President of Transmission Services at Bonneville Power Administration (“BPA”) (June 2012 to August 2014), Vice President of Engineering and Technical Services at BPA (2008 to June 2012).	2014
Bradley Y. Jenkins	56	Vice President, Utility Operations (January 2019 to present), Vice President, Generation and Power Operations (October 2017 to January 2019), Vice President, Power Supply Generation (September 2015 to October 2017), General Manager, Diversified Plant Operations, (November 2013 to August 2015), Plant General Manager, Boardman Power Plant (September 2012 to November 2013), Operations Manager, Boardman Power Plant (March 2012 to September 2012).	2015
Lisa A. Kaner	59	Vice President, General Counsel and Corporate Compliance Officer (July 2017 to present), trial attorney and shareholder at Markowitz Herbold PC (1994 to June 2017).	2017

John T. Kochavatr	46	Vice President, Information Technology and Chief Information Officer (February 2018 to present). Senior Vice President and Chief Information Officer at SUEZ Water Technologies & Solutions (formerly General Electric Water and Process Technologies) (October 2017 to January 2018), Chief Information Officer and Chief Digital Officer at General Electric Water and Process Technologies (November 2012 to September 2017).	2018
James F. Lobdell	61	Senior Vice President, Finance, Chief Financial Officer and Treasurer (March 2013 to present), Vice President, Power Operations and Resource Strategy (August 2004 to March 2013), Vice President, Power Operations (September 2002 to August 2, 2004), Vice President, Risk Management Reporting, Controls and Credit (May 2001 until September 2002).	2001
John McFarland	39	Vice President, Customer Solutions and Chief Customer Officer (April 2019 to present). Director, Global Digital Experience at General Motors (February 2016 to March 2019), Chief Marketing Officer at OnStar (a subsidiary of General Motors, October 2012 to January 2016), Senior Manager of Strategy at General Motors (September 2010 to September 2012), Brand Management and Finance at Procter & Gamble (August 2002 to August 2010).	2019
Anne F. Mersereau	57	Vice President, Human Resources, Diversity and Inclusion (January 2016 to present), Employee Services Manager (January 2014 to January 2016), Change Management Consultant (January 2012 to January 2014), Human Resources Business Partner (July 2009 to December 2011).	2016
William O. Nicholson	61	Vice President, Utility Technical Services (January 2019 to December 2019), Senior Vice President, Transmission and Distribution, (July 2018 to January 2019), Senior Vice President, Customer Service, Transmission and Distribution (April 2011 to July 2018), Vice President, Distribution Operations (August 2009 to April 2011), Vice President, Customers and Economic Development (May 2007 to August 2009). General Manager, Distribution Western Region (April 2004 to May 2007), General Manager, Distribution Line Operations and Services (February 2002 to April 2004). Mr. Nicholson retired effective December 31, 2019.	2007
Maria M. Pope	55	President (October 2017 to present) and Chief Executive Officer (January 2018 to present), Senior Vice President, Power Supply, Operations and Resource Strategy (March 2013 to January 2018), Senior Vice President, Finance, Chief Financial Officer and Treasurer (January 2009 to February 2013). Board director (January 2006 to December 2008). Vice President and Chief Financial Officer for Mentor Graphics Corporation (July 2007 to December 2008).	2009
W. David Robertson	53	Vice President, Public Policy (August 2009 to present), Director of Government Affairs (June 2004 to August 2009).	2009
Kristin A. Stathis	56	Vice President, Operations Services (May 2019 to present), Vice President, Customer Solutions (January 2019 to May 2019), Vice President, Customer Service Operations (June 2011 to December 2018), General Manager of Revenue Operations (August 2009 to May 2011), Assistant Treasurer and Manager of Corporate Finance (October 2005 to July 2009), General Manager of Power Supply Risk Management (August 2003 to September 2005).	2011

ITEM 1A. RISK FACTORS.

Certain risks and uncertainties that could have a significant impact on PGE's business, financial condition, results of operations, or cash flows, or that may cause the Company's actual results to vary materially from the forward-looking statements contained in this Annual Report on Form 10-K, include those set forth below.

Recovery of PGE's costs is subject to regulatory review and approval, and the inability to recover costs may adversely affect the Company's results of operations.

The prices that PGE charges for its retail services, as authorized by the OPUC, are a major factor in determining the Company's operating income, financial position, liquidity, and credit ratings. As a general matter, PGE seeks to recover in customer prices most of the costs incurred in connection with the operation of its business, including, among other things, costs related to capital projects (such as the construction of new facilities or the modification of existing facilities), the costs of compliance with legislative and regulatory requirements, and the costs of damage from storms and other natural disasters. However, there can be no assurance that such recovery will be granted. The OPUC has the authority to disallow the recovery of any costs that it considers imprudently incurred. Although the OPUC is required to establish customer prices that are fair, just and reasonable, it has significant discretion in the interpretation of this standard.

PGE attempts to manage its costs at levels consistent with the OPUC approved prices. However, if the Company is unable to do so, or if such cost management results in increased operational risk, the Company's financial and operating results could be adversely affected.

Economic conditions that result in reduced demand for electricity and impair the financial stability of some of PGE's customers could affect the Company's results of operations.

Unfavorable economic conditions in Oregon may result in reduced demand for electricity. Such reductions in demand could adversely affect PGE's results of operations and cash flows. Economic conditions could also result in an increased level of uncollectible customer accounts and cause the Company's vendors and service providers to experience cash flow problems and be unable to perform under existing or future contracts.

Market prices for power and natural gas are subject to forces that are often not predictable and that can result in price volatility and general market disruption, adversely affecting PGE's costs and ability to manage its energy portfolio and procure required energy supply, which ultimately could have an adverse effect on the Company's liquidity and results of operations.

As part of its normal business operations, PGE purchases power and natural gas in the open market under short- and long-term contracts, which may specify variable prices or volumes. Market prices for power and natural gas are influenced primarily by factors related to supply and demand. These factors generally include the adequacy of generating capacity, scheduled and unscheduled outages of generating facilities, hydroelectric and wind generation levels, prices and availability of fuel sources for generation, disruptions or constraints to transmission facilities, weather conditions, economic growth, and changes in technology.

Volatility in these markets can affect the availability, price and demand for power and natural gas. Disruption in power and natural gas markets could result in a deterioration of market liquidity, increase the risk of counterparty default, affect regulatory and legislative processes in unpredictable ways, affect wholesale power prices, and impair PGE's ability to manage its energy portfolio. Changes in power and natural gas prices can also affect the fair value of derivative instruments and cash requirements to purchase power and natural gas. If power and natural gas prices decrease from those contained in the Company's existing purchased power and natural gas agreements, PGE may be required to provide increased collateral, which could adversely affect the Company's liquidity. Conversely, if power and natural gas prices rise, especially during periods when the Company requires greater-than-expected volumes that must be purchased at market or short-term prices, PGE could incur greater costs than originally estimated.

The risk of volatility in power costs is partially mitigated through the AUT and the PCAM. Application of the PCAM requires that PGE absorb certain power cost increases before the Company is allowed to recover any amount from customers. Accordingly, the PCAM is expected to only partially mitigate the potentially adverse financial impacts of forced generating plant outages, reduced hydro and wind availability, interruptions in fuel supplies, and volatile wholesale energy prices.

The effects of weather on electricity usage can adversely affect results of operations.

Weather conditions can adversely affect PGE's revenues and costs, impacting the Company's results of operations. Variations in temperatures can affect customer demand for electricity, with warmer-than-normal winter seasons or cooler-than-normal summer seasons reducing the demand for energy. Weather conditions are the dominant cause of usage variations from normal seasonal patterns, particularly for residential customers. Severe weather can also disrupt energy delivery and damage the Company's transmission and distribution system.

Rapid increases in load requirements resulting from unexpected adverse weather changes, particularly if coupled with transmission constraints, could adversely impact PGE's cost and ability to meet the energy needs of its customers. Conversely, rapid decreases in load requirements could result in the sale of excess energy at depressed market prices.

Forced outages at PGE's generating plants can increase the cost of power required to serve customers because the cost of replacement power purchased in the wholesale market generally exceeds the Company's cost of generation.

Forced outages at the Company's generating plants could result in power costs greater than those included in customer prices. As indicated above, application of the Company's PCAM could help mitigate adverse financial impacts of such outages; however, the cost sharing features of the mechanism do not provide full recovery in customer prices. Inability to recover such costs in future prices could have a negative impact on the Company's results of operations.

The construction of new facilities, or modifications to existing facilities, is subject to risks that could result in the disallowance of certain costs for recovery in customer prices or higher operating costs.

PGE supplements its own generation with wholesale power purchases to meet its retail load requirement. In addition, long-term increases in both the number of customers and demand for energy will require continued expansion and upgrade of PGE's generation, transmission, and distribution systems. Construction of new facilities and modifications to existing facilities could be affected by various factors, including unanticipated delays and cost increases and the failure to obtain, or delay in obtaining, necessary permits from state or federal agencies or tribal entities, which could result in failure to complete the projects and the disallowance of certain costs in the rate determination process. In addition, failure to complete construction projects according to specifications could result in reduced plant efficiency, equipment failure, and plant performance that falls below expected levels, which could increase operating costs.

Adverse changes in PGE's credit ratings could negatively affect its access to the capital markets and its cost of borrowed funds.

Access to capital markets is important to PGE's ability to operate its business and complete its capital projects. Credit rating agencies evaluate the Company's credit ratings on a periodic basis and when certain events occur. A ratings downgrade could increase fees on PGE's revolving credit facilities and letter of credit facilities, increasing the cost of funding day-to-day working capital requirements, and could also result in higher interest rates on future long-term debt. A ratings downgrade could also restrict the Company's access to the commercial paper market, a principal source of short-term financing, or result in higher interest costs.

In addition, if Moody's Investors Service (Moody's) and/or S&P Global Ratings (S&P) reduce their rating on PGE's unsecured debt to below investment grade, the Company could be subject to requests by certain wholesale counterparties to post additional performance assurance collateral, which could have an adverse effect on the Company's liquidity.

PGE is subject to various legal and regulatory proceedings, the outcome of which is uncertain, and resolution unfavorable to PGE could adversely affect the Company's results of operations, financial condition, or cash flows.

In the normal course of its business, PGE is subject to various regulatory proceedings, lawsuits, claims, and other matters, which could result in adverse judgments, settlements, fines, penalties, injunctions, or other relief. These matters are subject to many uncertainties, the ultimate outcome of which management cannot predict. The final resolution of certain matters in which PGE is involved could require that the Company incur expenditures over an extended period of time and in a range of amounts that could have an adverse effect on its cash flows and results of operations. Similarly, the terms of resolution could require the Company to change its business practices and procedures, which could also have an adverse effect on its cash flows, financial position, or results of operations.

There are certain pending legal and regulatory proceedings, such as the remediation efforts related to the Portland Harbor site, which may have an adverse effect on results of operations and cash flows for future reporting periods. For additional information, see Item 3.—“Legal Proceedings” and Note 19, Contingencies, in the Notes to Consolidated Financial Statements in Item 8.—“Financial Statements and Supplementary Data.”

Reduced river flows and unfavorable wind conditions can adversely affect generation from hydroelectric and wind generating resources. The Company could be required to replace energy expected from these sources with higher cost power from other facilities or with wholesale market purchases, which could have an adverse effect on results of operations.

PGE derives a significant portion of its power supply from its own hydroelectric facilities and through long-term purchase contracts with certain public utility districts in the state of Washington. Regional rainfall and snowpack levels affect river flows and the resulting amount of energy generated by these facilities. Shortfalls in energy expected from lower cost hydroelectric generating resources would require increased energy from the Company’s other generating resources and/or power purchases in the wholesale market, which could have an adverse effect on results of operations.

PGE also derives a portion of its power supply from wind generating resources, for which the output is dependent upon wind conditions. Unfavorable wind conditions could require increased reliance on power from the Company’s thermal generating resources or power purchases in the wholesale market, both of which could have an adverse effect on results of operations.

Although the application of the PCAM could help mitigate adverse financial effects from any decrease in power provided by hydroelectric and wind generating resources, full recovery of any increase in power costs is not assured. Inability to fully recover such costs in future prices could have a negative impact on the Company’s results of operations, as well as a reduction in renewable energy credits and loss of production tax credits (PTCs) related to wind generating resources.

Capital and credit market conditions could adversely affect the Company’s access to capital, cost of capital, and ability to execute its strategic plan as currently envisioned.

Access to capital and credit markets is important to PGE’s ability to operate. The Company expects to issue debt and equity securities, as necessary, to fund its future capital requirements. In addition, contractual commitments and regulatory requirements may limit the Company’s ability to delay or terminate certain projects.

If the capital and credit market conditions in the United States and other parts of the world deteriorate, the Company’s future cost of debt and equity capital, as well as access to capital markets, could be adversely affected. In addition, restrictions on PGE’s ability to access capital markets could affect its ability to execute its strategic plan.

Legislative or regulatory efforts to reduce GHG emissions could lead to increased capital and operating costs and have an adverse impact on the Company’s results of operations.

Future legislation or regulations could result in limitations on GHGs from the Company’s fossil fuel-fired generation facilities. Compliance with any GHG reduction requirements could require PGE to incur significant

expenditures, including those related to carbon capture and sequestration technology, purchase of emission allowances and offsets, fuel switching, and the replacement of high-emitting generation facilities with lower-emitting facilities.

The cost to comply with potential GHG reduction requirements is subject to significant uncertainties, including those related to: i) the timing of the implementation of emissions reduction rules; ii) required levels of emissions reductions; iii) requirements with respect to the allocation of emissions allowances; iv) the maturation, regulation, and commercialization of carbon capture and sequestration technology; and v) PGE's compliance alternatives. Although the Company cannot currently estimate the effect of future legislation or regulations on its results of operations, financial condition, or cash flows, the costs of compliance with such legislation or regulations could be material.

Changes in tax laws may have an adverse impact on the Company's financial position, results of operations, and cash flows.

PGE makes judgments and interpretations about the application of tax law when determining the provision for taxes. Such judgments include the timing and probability of recognition of income, deductions, and tax credits, which are subject to challenge by taxing authorities. Additionally, treatment of tax benefits and costs for ratemaking purposes could be different than what the Company anticipates or requests from the state regulatory commission, which could have a negative effect on the Company's financial condition and results of operations.

PGE owns and operates wind generating facilities, which generate PTCs that PGE uses to reduce its federal tax obligations. The amount of PTCs earned depends on the level of electricity output generated and the applicable tax credit rate. A variety of operating and economic parameters, including adverse weather conditions and equipment reliability, could significantly reduce the PTCs generated by the Company's wind facilities resulting in a material adverse impact on PGE's financial condition and results of operations. These PTCs generate tax credit carryforwards that the Company plans to utilize in the future to reduce income tax obligations. If PGE cannot generate enough taxable income in the future to utilize all of the tax credit carryforwards before the credits expire, the Company may incur material charges to earnings.

Under certain circumstances, banks participating in PGE's credit facilities could decline to fund advances requested by the Company or could withdraw from participation in the credit facilities.

PGE currently has a syndicated unsecured revolving credit facility with several banks for an aggregate amount of \$500 million. The revolving credit facility provides a primary source of liquidity and may be used to supplement operating cash flow and as backup for commercial paper borrowings. The revolving credit facility represents commitments by the participating banks to make loans and, in certain cases, to issue letters of credit. The Company is required to make certain representations to the banks each time it requests an advance under the credit facility. However, in the event certain circumstances occur that could result in a material adverse change in the business, financial condition, or results of operations of PGE, the Company may not be able to make such representations, in which case the banks would not be required to lend. PGE is also subject to the risk that one or more of the participating banks may default on their obligation to make loans under the credit facility.

Adverse capital market performance could result in reductions in the fair value of benefit plan assets and increase the Company's liabilities related to such plans. Sustained declines in the fair value of the plans' assets could result in significant increases in funding requirements, which could adversely affect PGE's liquidity and results of operations.

Performance of the capital markets affects the value of assets that are held in trust to satisfy future obligations under PGE's defined benefit pension and other postretirement plans. Sustained adverse market performance could result in lower rates of return for these assets than projected by the Company and could increase PGE's funding requirements related to the plans. Additionally, changes in interest rates affect PGE's liabilities under the plans. As interest rates decrease, the Company's liabilities increase, potentially requiring additional funding.

Performance of the capital markets also affects the fair value of assets that are held in trust to satisfy future obligations under the Company's non-qualified employee benefit plans, which include deferred compensation plans. As changes in the fair value of these assets are recorded in current earnings, decreases can adversely affect the Company's operating results. In addition, such decreases can require that PGE make additional payments to satisfy its obligations under these plans.

The inability to attract and retain a qualified workforce, including senior management talent, and to maintain satisfactory collective bargaining agreements without prolonged labor disruptions, may adversely affect PGE's results of operations.

PGE's workforce includes a diverse mix of skilled professional, managerial and technical employees, including employees represented under collective bargaining agreements. Workforce management risks include the risk of turnover due to demographic challenges as employees approach retirement age. PGE also faces competition from other employers for key skills and experience within the industry or local geography. The Company also faces the risk of labor disruption due to the outcomes of labor negotiations or the possibility that employees not currently subject to collective bargaining agreements may organize.

Development of alternative technologies may negatively impact the value of PGE's generation facilities.

A basic premise of PGE's business is that generating electricity at central generation facilities achieves economies of scale and produces electricity at a relatively low price. Many companies and organizations conduct research and development activities to seek improvements in alternative technologies and distributed generation. It is possible that advances in such technologies, or other current technologies, will reduce the cost of alternative methods of electricity production to a level that is equal to or below that of central thermal and wind generation facilities. Such a development could limit the Company's future growth opportunities and limit growth in demand for PGE's electric service.

Operational changes required to comply with both existing and new environmental laws related to fish and wildlife could adversely affect PGE's results of operations.

A portion of PGE's total energy requirement is supplied with power generated from hydroelectric and wind generating resources. Operation of these facilities is subject to regulation related to the protection of fish and wildlife. The listing of various plants and species of fish, birds, and other wildlife as threatened or endangered has resulted in significant operational changes to these projects. Salmon recovery plans could include further major operational changes to the region's hydroelectric projects, including those owned by PGE and those from which the Company purchases power under long-term contracts. In addition, laws relating to the protection of migratory birds and other wildlife could impact the development and operation of transmission and distribution lines and wind projects. Also, new interpretations of existing laws and regulations could be adopted or become applicable to such facilities, which could further increase required expenditures for salmon recovery and endangered species protection and reduce the availability of hydroelectric or wind generating resources to meet the Company's energy requirements.

PGE could be vulnerable to cyber security attacks, data security breaches, acts of terrorism, or other similar events that could disrupt its operations, require significant expenditures, or result in claims against the Company.

In the normal course of business, PGE collects, processes, and retains sensitive and confidential customer and employee information, as well as proprietary business information, and operates systems that directly impact the availability of electric power and the transmission of electric power in its service territory. Despite the security measures in place, the Company's systems, and those of third-party service providers, could be vulnerable to cyber security attacks, data security breaches, acts of terrorism, or other similar events that could disrupt operations or result in the release of sensitive or confidential information. Such events could cause a shutdown of service or expose PGE to liability. In addition, the Company may be required to expend significant capital and other resources

to protect against security breaches or to alleviate problems caused by security breaches. PGE maintains insurance coverage against some, but not all, potential losses resulting from these risks. However, insurance may not be adequate to protect the Company against liability in all cases. In addition, PGE is subject to the risk that insurers will dispute or be unable to perform their obligations to the Company.

Storms, earthquakes, wildfires, and other natural disasters could damage the Company’s facilities and disrupt delivery of electricity resulting in significant property loss, repair costs, and reduced customer satisfaction.

PGE has exposure to natural disasters that can cause significant damage to its generation, transmission, and distribution facilities. Such events can interrupt the delivery of electricity, increase repair and service restoration expenses, and reduce revenues. Such events, if repeated or prolonged, can also affect customer satisfaction and the level of regulatory oversight. As a regulated utility, the Company is required to provide service to all customers within its service territory and generally has been afforded liability protection against customer claims related to service failures beyond the Company’s reasonable control.

PGE is subject to extensive regulation that affects the Company’s operations and costs.

PGE is subject to regulation by the FERC, the OPUC, and by certain federal, state, and local authorities under environmental and other laws. Such regulation significantly influences the Company’s operating environment and can have an effect on many aspects of its business. Changes to regulations are ongoing, and the Company cannot predict with certainty the future course of such changes or the ultimate effect that they might have on its business. However, changes in regulations could delay or adversely affect business planning and transactions, and substantially increase the Company’s costs.

PGE business activities are concentrated in one region and future performance may be affected by events and factors unique to Oregon.

The Company’s industry and geographic concentrations may increase exposure to risks arising from regional regulation or legislation, such as legislative action related to carbon emissions. These concentrations may also increase exposure to credit and operational risks due to counterparties, suppliers and customer being similarly affected by changing conditions.

ITEM 1B. UNRESOLVED STAFF COMMENTS.

None.

ITEM 2. PROPERTIES.

PGE’s principal property, plant, and equipment are generally located on land owned by the Company or land under the control of the Company pursuant to existing leases, federal or state licenses, easements, or other agreements. In some cases, meters and transformers are located on customer property. The Indenture securing the Company’s First Mortgage Bonds (FMBs) constitutes a direct first mortgage lien on substantially all utility property and franchises, other than expressly excepted property.

Generating Facilities

The following are generating facilities owned by PGE as of December 31, 2019 (in MW):

Facility	Location	Net Capacity ⁽¹⁾
Wholly-owned:		
<i>Natural Gas or Oil:</i>		
Beaver	Clatskanie, Oregon	508
Carty	Boardman, Oregon	437
Port Westward Unit 1 (PW1)	Clatskanie, Oregon	411
Coyote Springs	Boardman, Oregon	249
Port Westward Unit 2 (PW2)	Clatskanie, Oregon	225
<i>Wind:</i>		
Biglow Canyon	Sherman County, Oregon	450
Tucannon River	Columbia County, Washington	267
<i>Hydro:</i>		
North Fork	Clackamas River	58
Faraday	Clackamas River	46
Oak Grove	Clackamas River	45
River Mill	Clackamas River	25
T.W. Sullivan	Willamette River	18
Jointly-owned ⁽²⁾:		
<i>Coal:</i>		
Boardman ⁽³⁾	Boardman, Oregon	518
Colstrip ⁽⁴⁾	Colstrip, Montana	296
<i>Hydro:</i>		
Round Butte ⁽⁵⁾	Deschutes River	230
Pelton ⁽⁵⁾	Deschutes River	73
Net capacity		<u>3,856</u>

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- (1) Represents net capacity of generating unit as demonstrated by actual operating or test experience, net of electricity used in the operation of a given facility. For wind-powered generating facilities, nameplate ratings are used in place of net capacity. A generator's nameplate rating is its full-load capacity under normal operating conditions as defined by the manufacturer.
 - (2) Net capacity reflects PGE's ownership share.
 - (3) PGE operates Boardman and has a 90% ownership interest.
 - (4) PGE has a 20% ownership interest in the facility, which is operated by Talen Montana, LLC.
 - (5) PGE operates Pelton and Round Butte and has a 66.67% ownership interest.

PGE's hydroelectric projects are operated pursuant to FERC licenses issued under the FPA. The licenses for the hydroelectric projects on the three different rivers expire as follows: Clackamas River, 2055; Willamette River, 2035; and Deschutes River, 2055.

Transmission and Distribution

PGE owns or has contractual rights associated with transmission lines that deliver electricity from its generation facilities to its distribution system in its service territory and also to the Western Interconnection. As of December 31, 2019, PGE-owned electric transmission system consisted of 1,264 circuit miles as follows: 287 circuit miles of 500 kV line; 423 circuit miles of 230 kV line; and 554 miles of 115 kV line. The Company also has 27,755 circuit miles of distribution lines that deliver electricity to its customers. The Company also has an ownership interest in, and capacity on, the following:

- 15% of the Colstrip Transmission facilities from Colstrip to BPA's transmission system; and
- 20% of the Pacific Northwest Intertie, a 4,800 MW transmission facility between the John Day Substation near the Columbia River in northern Oregon, and Malin, Oregon, near the California border. The Pacific Northwest Intertie is used primarily for the transmission of interstate purchases and sales of electricity among utilities, including PGE.

In addition, the Company has contractual rights to the following transmission capacity:

- 3,670 MW of firm BPA transmission on BPA's system to PGE's service territory in Oregon; and
- 150 MW of firm BPA transmission from the Mid-Columbia projects in Washington to the northern end of the Pacific Northwest AC Intertie, near John Day, Oregon, 5 MW to Tucannon River, and 5 MW to Biglow Canyon.

ITEM 3. LEGAL PROCEEDINGS.

See Note 19, Contingencies in the Notes to Consolidated Financial Statements in Item 8.—“Financial Statements and Supplementary Data,” for information regarding legal proceedings.

ITEM 4. MINE SAFETY DISCLOSURES.

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES.

PGE's common stock is traded on the NYSE under the ticker symbol “POR”. As of February 4, 2020, there were 684 holders of record of PGE's common stock.

While the Company expects to pay regular quarterly dividends on its common stock, the declaration of any dividends is at the discretion of the Company's Board of Directors. The amount of any dividend declaration will depend upon factors that the Board of Directors deems relevant and may include, but are not limited to, PGE's results of operations and financial condition, future capital expenditures and investments, and applicable regulatory and contractual restrictions.

For information with respect to securities authorized for issuance under equity compensation plans, see Note 14, Stock-Based Compensation in the Notes to Consolidated Financial Statements in Item 8.—“Financial Statements and Supplementary Data.”

ITEM 6. SELECTED FINANCIAL DATA.

The following consolidated selected financial data should be read in conjunction with Item 7.—“Management's Discussion and Analysis of Financial Condition and Results of Operations” and Item 8.—“Financial Statements and Supplementary Data.”

	Years Ended December 31,				
	2019	2018	2017	2016	2015
	(In millions, except per share amounts)				
Statement of Income Data:					
Total revenues	\$ 2,123	\$ 1,991	\$ 2,009	\$ 1,923	\$ 1,898
Income from operations	353	346	380	340	318
Net income	214	212	187	193	172
Earnings per share—basic	2.39	2.38	2.10	2.17	2.05
Earnings per share—diluted	2.39	2.37	2.10	2.16	2.04
Dividends declared per common share	1.5175	1.4275	1.34	1.26	1.18
Statement of Cash Flows Data:					
Capital expenditures	606	595	514	584	598

	As of December 31,				
	2019	2018	2017	2016	2015
	(Dollars in millions)				
Balance Sheet Data:					
Total assets	\$ 8,394	\$ 8,110	\$ 7,838	\$ 7,527	\$ 7,210
Total long-term debt	2,597	2,478	2,426	2,350	2,193
Total finance and operating lease obligations*	202	49	51	54	—
Total shareholders' equity	2,591	2,506	2,416	2,344	2,258
Common equity ratio	48.1%	49.8%	49.4%	49.4%	50.7%

* The balances as of December 31, 2018, 2017, 2016 and 2015 represent capital lease obligations under accounting standards codification (ASC) 840. The balance as of December 31, 2019 represents finance and operating lease obligations as a result of the adoption of ASU 2016-02, *Leases (Topic 842)*. For further information, see “Recently Adopted

ITEM 7. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

Forward-Looking Statements

The information in this report includes statements that are forward-looking within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements include, but are not limited to, statements that relate to expectations, beliefs, plans, assumptions and objectives concerning future results of operations, business prospects, future loads, the outcome of litigation and regulatory proceedings, future capital expenditures, market conditions, future events or performance and other matters. Words or phrases such as “anticipates,” “believes,” “estimates,” “expects,” “intends,” “plans,” “predicts,” “projects,” “will likely result,” “will continue,” “should,” or similar expressions are intended to identify such forward-looking statements.

Forward-looking statements are not guarantees of future performance and involve risks and uncertainties that could cause actual results or outcomes to differ materially from those expressed. PGE’s expectations, beliefs and projections are expressed in good faith and are believed by the Company to have a reasonable basis including, but not limited to, management’s examination of historical operating trends and data contained either in internal records or available from third parties, but there can be no assurance that PGE’s expectations, beliefs, or projections will be achieved or accomplished.

In addition to any assumptions and other factors and matters referred to specifically in connection with such forward-looking statements, factors that could cause actual results or outcomes for PGE to differ materially from those discussed in forward-looking statements include:

- governmental policies, legislative action, and regulatory audits, investigations and actions, including those of the FERC and OPUC with respect to allowed rates of return, financings, electricity pricing and price structures, acquisition and disposal of facilities and other assets, construction and operation of plant facilities, transmission of electricity, recovery of power costs and capital investments, and current or prospective wholesale and retail competition;
- economic conditions that result in decreased demand for electricity, reduced revenue from sales of excess energy during periods of low wholesale market prices, impaired financial stability of vendors and service providers and elevated levels of uncollectible customer accounts;
- changing customer expectations and choices that may reduce customer demand for our services which may impact PGE's ability to make and recover its investments through rates and earn its authorized return on equity, including the impact of growing distributed and renewable generation resources, changing customer demand for enhanced electric services, and an increasing risk that customers procure electricity from community choice aggregators;
- the outcome of legal and regulatory proceedings and issues including, but not limited to, the matters described in Note 19, Contingencies, in the Notes to Consolidated Financial Statements in Item 8.— "Financial Statements and Supplementary Data" of this Annual Report on Form 10-K;
- unseasonable or extreme weather and other natural phenomena, which could affect customers' demand for power and PGE's ability and cost to procure adequate power and fuel supplies to serve its customers, and could increase the Company's costs to maintain its generating facilities and transmission and distribution systems;
- operational factors affecting PGE's power generating facilities, including forced outages, hydro and wind conditions, and disruption of fuel supply, any of which may cause the Company to incur repair costs or purchase replacement power at increased costs;
- complications arising from PGE's jointly-owned generating facilities, including changes in ownership, adverse regulatory outcomes or operational failures that result in legal or environmental liabilities or unanticipated costs related to replacement power or repair costs
- the failure to complete capital projects on schedule and within budget or the abandonment of capital projects, either of which could result in the Company's inability to recover project costs;
- volatility in wholesale power and natural gas prices, which could require PGE to issue additional letters of credit or post additional cash as collateral with counterparties pursuant to power and natural gas purchase agreements;
- changes in the availability and price of wholesale power and fuels, including natural gas and coal, and the impact of such changes on the Company's power costs;
- capital market conditions, including availability of capital, volatility of interest rates, reductions in demand for investment-grade commercial paper, as well as changes in PGE's credit ratings, any of which could have an impact on the Company's cost of capital and its ability to access the capital markets to support requirements for working capital, construction of capital projects, and the repayments of maturing debt;
- future laws, regulations, and proceedings that could increase the Company's costs of operating its thermal generating plants, or affect the operations of such plants by imposing requirements for additional emissions controls or significant emissions fees or taxes, particularly with respect to coal-fired generating facilities, in order to mitigate carbon dioxide, mercury and other gas emissions;
- changes in, and compliance with, environmental laws and policies, including those related to threatened and endangered species, fish, and wildlife;

- the effects of climate change, including changes in the environment that may affect energy costs or consumption, increase the Company's costs, or adversely affect its operations;
- changes in residential, commercial, and industrial customer growth, and in demographic patterns, in PGE's service territory;
- the effectiveness of PGE's risk management policies and procedures;
- cyber security attacks, data security breaches, or other malicious acts that cause damage to the Company's generation and transmission facilities or information technology systems, or result in the release of confidential customer, employee, or Company information;
- employee workforce factors, including potential strikes, work stoppages, transitions in senior management, and the ability to recruit and retain appropriate talent;
- new federal, state, and local laws that could have adverse effects on operating results;
- political and economic conditions;
- natural disasters and other risks, such as earthquake, flood, drought, lightning, wind, and fire;
- changes in financial or regulatory accounting principles or policies imposed by governing bodies; and
- acts of war or terrorism.

Any forward-looking statement speaks only as of the date on which such statement is made, and, except as required by law, PGE undertakes no obligation to update any forward-looking statement to reflect events or circumstances after the date on which such statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time and it is not possible for management to predict all such factors or assess the impact of any such factor on the business or the extent to which any factor, or combination of factors, may cause results to differ materially from those contained in any forward-looking statement.

Overview

Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) is intended to provide an understanding of the business environment, results of operations, and financial condition of PGE. MD&A should be read in conjunction with the Company's consolidated financial statements contained in this report, and other periodic and current reports filed with the SEC.

PGE is a vertically-integrated electric utility engaged in the generation, transmission, distribution, and retail sale of electricity in the state of Oregon, as well as the wholesale purchase and sale of electricity and natural gas in order to meet the needs of its retail customers. The Company generates revenues and cash flows primarily from the sale and distribution of electricity to retail customers in its service territory. In addition, the Company participates in the wholesale market by purchasing and selling electricity and natural gas in an effort to obtain reasonably-priced power for its retail customers.

PGE is committed to continuing to achieve steady growth and returns as the Company transforms to meet the challenges of climate change and an ever-evolving energy grid. Customers, policy makers, and other stakeholders expect PGE to reduce greenhouse gas emissions, keep the power grid reliable and secure, and ensure prices are affordable, especially for the most vulnerable customers. The Company's strategy strives to balance these interests. PGE plans to:

- Decarbonize the power supply with a goal of more than 80% carbon reduction from 1990 levels by the year 2050;
- Electrify sectors of the economy like transportation and buildings that are also transforming to reduce greenhouse gas emissions; and

- Perform as a business, driving improvements to work efficiency, safety of our coworkers, and reliability of our systems and equipment all while adhering to the Company's earnings per diluted share growth guidance of 4-6% on average.

Decarbonize the power supply—PGE partners with customers and local and state governments to advance a clean energy future. PGE continues to leverage these partnerships to pursue emission reductions using a diverse portfolio of clean and renewable energy resources, and promote economy-wide emission reductions through electrification and smart energy use to help the state meet its greenhouse gas reduction goals.

PGE's framework for achieving a clean energy future is informed and enabled by: i) customer choice programs; ii) carbon legislation; iii) the resource planning process; and iv) the renewable cost recovery framework.

Customer Choice Programs—PGE's customers continue to express a commitment to purchasing clean energy, as over 225,000 customers voluntarily participate in PGE's Green Future Program, the largest renewable power program by participation in the nation. In 2017, Oregon's most populous city, Portland, and most populous county, Multnomah, each passed resolutions to achieve 100 percent clean and renewable electricity by 2035 and 100 percent economy-wide clean and renewable energy by 2050. Other jurisdictions in PGE's service area continue to consider similar goals.

In response, the Company has implemented a new customer product option, the Green Future Impact program, which allows for 100 megawatts (MW) of PGE-provided power purchase agreements for renewable resources and up to 200 MW of customer-provided renewable resources. Approved by the OPUC in the first quarter 2019, the program will provide business customers access to bundled renewable attributes from those resources. Through this voluntary program, the Company seeks to align sustainability goals, cost and risk management, reliable integrated power, and a cleaner energy system.

Pursuant to the OPUC order approving the Green Future Impact tariff, program subscribers remain cost of service customers, and pay both the cost of service tariff price and the price under the renewable energy option tariff. This structure is intended to avoid stranded costs and cost shifting.

Carbon Legislation—SB 1547 set a benchmark for how much electricity must come from renewable sources like wind and solar (50 percent by 2040) and requires the elimination of coal from Oregon utility customers' energy supply no later than 2030 (subject to an exception that allows extension of this date until 2035 for PGE's output from Colstrip).

Other future effects under the law include:

- An increase in RPS thresholds to 27% by 2025, 35% by 2030, 45% by 2035, and 50% by 2040;
- A limitation on the life of RECs generated from facilities that become operational after 2022 to five years, but continued unlimited lifespan for all existing RECs and allowance for the generation of additional unlimited RECs for a period of five years for projects online before December 31, 2022; and
- An allowance for energy storage costs related to renewable energy in the Company's Renewable Adjustment Clause (RAC) filings.

In response to SB 1547, the Company filed a tariff request in 2016 to accelerate recovery of PGE's investment in the Colstrip facility from 2042 to 2030. During 2019, the owners of Colstrip Units 1 and 2 announced that they would permanently close those two units and have retired them as of January 2020. Although PGE has no direct ownership interest in those two units, the Company does have a 20% ownership share in Colstrip Units 3 and 4, which utilize certain common facilities with Units 1 and 2.

Although PGE is currently scheduled to recover the costs of Colstrip by 2030, some co-owners of Units 3 and 4 have taken actions to recover their costs by 2025 and 2027. The Company continues to evaluate its ongoing investment in Colstrip.

Any reduction in generation from Colstrip has the potential to provide capacity on the Colstrip transmission line, which stretches from eastern Montana to near the western end of the state to serve markets in the Pacific Northwest and beyond. PGE has an ownership interest in, and capacity on, 15% of the Colstrip Transmission facilities. Renewable energy development in the state of Montana could benefit from any excess transmission capacity that may become available.

The Company continues with plans to cease coal-fired operation at its Boardman generating plant at the end of 2020.

During the 2019 State legislative session, House Bill (HB) 2020 was introduced, which would have authorized a comprehensive cap and trade package in the State and would have granted the OPUC direct authority to address climate change. Although HB 2020 was not enacted in 2019, an amended version has been reintroduced in the 35-day legislative session, which began on February 3, 2020. The new proposal, Senate Bill (SB) 1530, is also a cap and trade package that includes changes made to address concerns raised by various parties. Prior to the legislative session, the OPUC stated that it would continue to collaborate with the legislature and stakeholders to make progress on climate change, noting that their authority is limited to that of an economic regulator. The Company will continue to monitor this legislative effort.

The Resource Planning Process—PGE’s planning process includes working with customers, stakeholders, and regulators to chart the course toward a clean, affordable, and reliable energy future. This process includes consideration of customer expectations and legislative mandates to move away from fossil fuel generation and toward renewable sources of energy.

In May 2018 the Company issued a request for proposals seeking to procure approximately 100 average MW (MWa) of qualifying renewable resources. The prevailing bid, Wheatridge Renewable Energy Facility (Wheatridge), will be an energy facility in eastern Oregon that combines 300 MW of wind generation and 50 MW of solar generation with 30 MW of battery storage.

PGE will own 100 MW of the wind resource with an investment of approximately \$160 million. Subsidiaries of NextEra Energy Resources, LLC will own the balance of the 300 MW wind resource, along with the solar and battery components, and sell their portion of the output to PGE under 30-year power purchase agreements. PGE has the option to purchase the underlying assets of the power purchase agreements on the 12th anniversary of the commercial operation date of the wind facility. As of December 31, 2019, the Company has recorded \$17 million, including the allowance for funds used during construction (AFDC), in construction work-in-progress (CWIP) related to Wheatridge.

The wind component of the facility is expected to be operational by December 2020 and qualify for PTCs at the 100 percent level. Construction of the solar and battery components is planned for 2021 and is also expected to qualify for federal investment tax credits.

In July 2019, PGE submitted its 2019 Integrated Resource Plan (2019 IRP) to the OPUC. The initial plan and modifications proposed by PGE within the docket (LC 73) would set forth the following actions the Company would undertake over the next four years to acquire the resources identified:

- Customer actions—
 - cost-effective energy efficiency
 - reliance on demand response, and
 - dispatchable customer storage and standby generation.
- Renewable actions—a Renewable RFP seeking up to 150 MWa to come online by the end of 2024 and contribute to meeting capacity needs; and

- Capacity actions—a concurrent procurement process that will allow PGE to pursue cost-competitive agreements for existing capacity in the region and to conduct a non-emitting Capacity RFP seeking new dispatchable resources.

Through the renewable and capacity actions, PGE seeks up to approximately 150 MWa of additional non-emitting energy resources and up to approximately 700 MW of capacity contribution from a combination of renewables, existing resources, and new non-emitting dispatchable capacity resources, such as energy storage.

The regulatory schedule for the 2019 IRP would lead to an OPUC order in the first quarter of 2020.

Renewable Recovery Framework—As previously authorized by the OPUC, the RAC allows PGE to recover prudently incurred costs of renewable resources through filings made by April 1st each year. In the 2019 General Rate Case (2019 GRC) Order, the OPUC authorized the inclusion of prudent costs of energy storage projects associated with renewables in future RAC filings to be made to the OPUC, under certain conditions. Although no significant filings have been submitted under the RAC during 2018, the Company did submit a RAC filing for Wheatridge in the fourth quarter of 2019.

Electrify other sectors of the economy—PGE is working toward an equitable, safe, and clean energy future. Recent and future enhancements to the grid to enable a seamless platform include:

- The use of electricity in more applications such as electric vehicles and heat pumps;
- The integration of new, geographically-diverse energy markets;
- The deployment of new technologies like energy storage, communications networks, automation and control systems for flexible loads, and distributed generation;
- The development of connected neighborhood microgrids and smart communities; and
- The use of data and analytics to better predict demand and support energy saving customer programs.

In July 2019, PGE's Board approved plans to construct an Integrated Operations Center (IOC) as a key step to supporting this strategy, at an estimated total cost of \$200 million, excluding AFDC. The IOC will centralize mission-critical operations, including those that are planned as part of the integrated grid strategy. This secure, resilient facility will include infrastructure to support and enhance grid operations and co-locate primary support functions. As of December 31, 2019, the Company has recorded \$30 million, including AFDC, in CWIP related to the IOC.

The Company is also working to advance transportation electrification, with projects aimed at improving accessibility to electric vehicle charging stations and partnering with local mass transit agencies to transition to a greater use of electric vehicles. In June 2019, the Legislature enacted Senate Bill 1044, which establishes Oregon's zero emissions vehicle goals in statute at 250,000 vehicle sales by 2025 and 95% of all vehicle sales by 2035. In September 2019, PGE filed with the OPUC its first Transportation Electrification plan, which considers current and planned activities, along with both existing and potential system impacts, in relation to the State's carbon reduction goals.

In 2018, PGE filed an energy storage proposal that called for 39 MW of storage to be developed over the next several years at various locations across the grid. In August 2018, the OPUC issued an order that outlined an agreed approach to the development of five energy storage projects by PGE with an expected capital cost of approximately \$45 million.

Perform as a business—PGE focuses on providing reliable, clean power to customers at affordable prices while providing a fair return to investors. To achieve this goal the Company must execute effectively within its regulatory framework and maintain prudent management of key financial, regulatory, and environmental matters that may affect customer prices and investor returns. The following discussion provides detail on several such material matters:

General Rate Case—In 2018, PGE filed with the OPUC a general rate case based on a 2019 test year. The filing sought recovery of costs related to better serving customers and building a smarter, more resilient system and included the expectation of higher net variable power costs in 2019.

In December 2018, the OPUC issued an order that, when combined with customer credits and the effects of tax reform, would result in an overall annual increase in PGE's revenues of \$9 million, effective January 1, 2019. In addition, the OPUC approved a capital structure of 50% debt and 50% equity, a return on equity of 9.50%, a cost of capital of 7.30%, and rate base of \$4.75 billion.

The general rate case filings, as well as copies of the orders, direct testimony, exhibits, and stipulations are available on the OPUC website at www.oregon.gov/puc.

Power Costs—Pursuant to the AUT process, PGE annually files an estimate of power costs for the following year. As approved by the OPUC in December 2018, the 2019 GRC included a final projected increase in power costs for 2019, and a corresponding increase in annual revenue requirement, of \$25 million from 2018 levels, which was reflected in customer prices effective January 1, 2019. The filing for the 2020 AUT indicated that power costs are expected to rise in 2020 by \$27 million.

Under the PCAM for 2019, NVPC was within the limits of the deadband, thus no potential refund or collection was recorded. The OPUC will review the results of the PCAM for 2019 during the second half of 2020 with a decision expected in the fourth quarter 2020.

Portland Harbor Environmental Remediation Account (PHERA) Mechanism—The EPA has listed PGE as one of over one hundred PRPs related to the remediation of the Portland Harbor Superfund site. As of December 31, 2019, significant uncertainties still remain concerning the precise boundaries for clean-up, the assignment of responsibility for clean-up costs, the final selection of a proposed remedy by the EPA, and the method of allocation of costs amongst PRPs. It is probable that PGE will share in a portion of these costs. In a Record of Decision issued in 2017, the EPA outlined its selected remediation plan for clean-up of the Portland Harbor site, which had an estimated total cost of \$1.7 billion. However, the Company does not currently have sufficient information to reasonably estimate the amount, or range, of its potential costs for investigation or remediation of Portland Harbor, although such costs could be material to PGE's financial position. The impact of such costs to the Company's results of operations is mitigated by the PHERA mechanism. As approved by the OPUC, the Company's environmental recovery mechanism allows the Company to defer and recover incurred environmental expenditures related to the Portland Harbor Superfund Site through a combination of third-party proceeds, such as insurance recoveries, and customer prices, as necessary. The mechanism established annual prudency reviews of environmental expenditures and third-party proceeds, and annual expenditures in excess of \$6 million, excluding contingent liabilities, are subject to an annual earnings test. PGE's results of operations may be impacted to the extent such expenditures are deemed imprudent by the OPUC or disallowed per the prescribed earnings test. For further information regarding the PHERA mechanism, see "EPA Investigation of Portland Harbor" in Note 19, Contingencies in the Notes to Consolidated Financial Statements in Item 8.—"Financial Statements and Supplementary Data."

City of Portland Audit—In 2019, the city of Portland (the "City"), which is the largest city within PGE's service territory, completed its audit of PGE's and the City's mutual License Fees agreement for the 2012 through 2015 periods. The preliminary claim by the City is that PGE improperly excluded certain items from the calculation of gross revenues, which resulted in underpayment of franchise taxes of \$7 million, including interest and penalties. PGE believes the City's preliminary findings are not consistent with previous audit conclusions, which found that the Company appropriately calculated gross revenues in determining franchise fees. PGE believes it has good standing for maintaining the historical approach to determining License Fees and has not recorded a liability for the City's assertion. The City has not provided its Final Letter of Determination, which is an initial step in an ongoing resolution process.

Capital Project Deferral—In the second quarter of 2018, PGE placed into service a new customer information system at a total cost of \$152 million. In accordance with agreements reached with stakeholders in the Company's

2019 GRC, the Company's capital cost of the asset is included in rate base and customer prices as of January 1, 2019.

Consistent with past regulatory precedent, in May 2018, the Company submitted an application to the OPUC to defer the revenue requirement associated with this new customer information system from the time the system went into service through the end of 2018. As a result, PGE began deferring its incurred expenses, primarily related to depreciation and amortization, of the new customer information system once it was placed in service.

In 2017, the OPUC opened docket UM 1909 to conduct an investigation of the scope of its authority under Oregon law to allow the deferral of costs related to capital investments for later inclusion in customer prices. In October 2018, the OPUC issued Order 18-423 (Order) concluding that the OPUC lacks authority under Oregon law to allow deferrals of any costs related to capital investments. In the Order, the OPUC acknowledged that this decision is contrary to its past limited practice of allowing deferrals related to capital investments and will require adjustments to its regulatory practices. The OPUC directed its Staff to meet with the utilities and stakeholders to address the full implications of this decision, and to propose recommendations needed to implement this decision consistent with the OPUC's legal authority and the public interest.

In response to the Order, PGE and other utilities filed a motion for reconsideration and clarification, which was denied. On April 19, 2019, PGE and the other utilities filed a petition for judicial review of the OPUC Order with the Oregon Court of Appeals. While procedural steps pursuant to this petition continue, PGE believes that the costs incurred to date associated with the customer information system were prudently incurred and has not withdrawn its deferral application to recover the revenue requirement of this capital project.

During 2018, PGE deferred a total of \$12 million of expenses related to the customer information system. However, the Order has impacted the probability of recovery of deferred expenses and, as such, the Company has recorded a reserve for the full amount of the costs related to the customer information system. The reserve was established with an offsetting charge to the results of operations in 2018. Any amounts that may ultimately be approved by the OPUC in subsequent proceedings would be recognized in earnings in the period of such approval; however, there is no assurance that such recovery would be granted by the OPUC.

Decoupling—The decoupling mechanism, authorized by the OPUC through 2022, is intended to provide for recovery of margin lost as a result of a reduction in electricity sales attributable to energy efficiency, customer-owned generation, and conservation efforts by residential and certain commercial customers. The mechanism provides for collection from (or refund to) customers if weather-adjusted use per customer is less (or more) than that projected in the Company's most recent general rate case.

The Company recorded an estimated collection of \$14 million attributed to the year ended December 31, 2019, which resulted from variances between actual weather-adjusted use per customer and that projected in the 2019 GRC. Collections under the decoupling mechanism are subject to an annual limitation of 2% of the applicable tariff schedule. For 2019, this limitation would have been, in total, \$27 million for residential and commercial customers now subject to the decoupling mechanism. Any collection from customers for the 2019 year is expected to occur over a one-year period, which would begin January 1, 2021.

The Company recorded a deferral for an estimated collection of \$2 million during the year ended December 31, 2018, as a result of variances from amounts established in the 2018 GRC. Collection for the 2018 year is expected to occur over a one-year period, which began January 1, 2020.

Storm Restoration Costs—Beginning in 2011, the OPUC authorized the Company to collect \$2 million annually from retail customers to cover incremental expenses related to major storm damages, and to defer any amount not utilized in the current year. Under the 2019 GRC, the annual collection amount increased to \$4 million beginning in 2019. Due to a series of storm events in the first half of 2017, the Company exhausted the storm collection authorized for 2017. Consequently, PGE was exposed to the incremental costs related to such major storm events, which totaled \$9 million, net of the amount collected in 2017.

As a result of the additional costs incurred, PGE filed an application with the OPUC requesting authorization to defer incremental storm related restoration costs from the date of the application, in the first quarter of 2017, through the end of 2017. In the third quarter of 2019, the OPUC issued an order that denied the Company's application for deferral. Although PGE had deferred the incremental expense in 2017, an offsetting reserve was also recorded at that time, thus the OPUC decision had no impact to the Company's current results of operations.

Corporate Activity Tax—In 2019, the State enacted HB 3427, which imposes a new gross receipts tax on companies with annual revenues in excess of \$1 million and will apply to tax years beginning on or after January 1, 2020. The legislation defines that the tax will apply to commercial activities sourced in Oregon, less a deduction for 35% of the greater of “cost inputs” or “labor costs.” The resulting amount will be taxed at 0.57%.

In anticipation of the incremental annual expense as a result of this new tax, PGE submitted a tariff filing with the OPUC in the fourth quarter 2019 to establish a balancing account and provide for an estimated recovery of \$7 million in customer prices in 2020. The Company expects to revisit the expected tax consequences annually and revise the annual tariff accordingly. On January 29, 2020, the OPUC issued an order approving the tariff and the associated deferral, balancing account, and automatic adjustment clause, with the provision that it be included in base rates at a future date to be agreed upon by the parties.

The discussion that follows in this MD&A provides additional information related to the Company's operating activities, legal, regulatory, and environmental matters, results of operations, and liquidity and financing activities.

Operating Activities—As an electric utility, PGE closely follows and plans for customer demand in its service territory as it strives to meet the needs and expectations of its retail customers through the generation of power from its own facilities or purchase of power in the wholesale market.

Customers and Demand—The impact of seasonal weather conditions on demand for electricity can cause the Company's revenues, cash flows, and income from operations to fluctuate from period to period. See the *Seasonality* section of “Customers and Revenues” within Item 1. Business for further information regarding seasonal fluctuations.

In 2019, retail energy deliveries increased 1.2% from 2018 as industrial deliveries continued to grow. Residential customer deliveries, which are most sensitive to fluctuations in weather, also increased slightly, as 2019 saw cooler temperatures during the heating season partially offset by fewer cooling degree-days during the summer cooling season, while commercial customer deliveries decreased. For 2019 and 2018, the average number of retail customers and deliveries, by customer type, were as follows:

	2019		2018		Increase/ (Decrease) in Energy Deliveries
	Average Number of Customers	Energy Deliveries *	Average Number of Customers	Energy Deliveries *	
Residential	779,673	7,471	772,389	7,416	0.7 %
Commercial (PGE sales only)	109,521	6,653	108,570	6,783	(1.9)%
Direct Access	563	665	537	647	2.8 %
Total Commercial	110,084	7,318	109,107	7,430	(1.5)%
Industrial (PGE sales only)	193	3,181	203	2,987	6.5 %
Direct Access	69	1,490	67	1,389	7.3 %
Total Industrial	262	4,671	270	4,376	6.7 %
Total (PGE sales only)	889,387	17,305	881,162	17,186	0.7 %
Total Direct Access	632	2,155	604	2,036	5.8 %
Total	890,019	19,460	881,766	19,222	1.2 %

* In thousands of MWh.

In 2019, heating degree-days, an indication of electricity use for heating, were 1% above the 15-year average and 13% higher than 2018. Cooling degree-days, a similar indication of the extent to which customers are likely to have used electricity for cooling, although 6% above the 15-year moving average, were 18% below the 2018 levels.

Residential energy deliveries were 0.7% higher in 2019 than 2018, driven by a 0.9% increase in the average number of customers. Weather impacted residential deliveries as it served to increase comparable deliveries during the heating season and reduce comparable deliveries during the summer season. See “Revenues” in the 2019 Compared to 2018 section of Results of Operations within this Item 7, for further information on heating and cooling degree days.

Commercial energy deliveries declined in several sectors including food and merchandise stores and government and education. Irrigation deliveries were also lower in 2019, which saw a relatively mild summer, than 2018, which had an unusually hot and dry summer irrigation season.

The 6.7% increase in industrial energy deliveries is due to continued strength in the high-tech manufacturing sector as well as the reopening in 2019 of a large paper facility that had closed in late 2017.

On a weather-adjusted basis, total retail deliveries increased 0.1% from 2018. The increase was driven by 6.8% growth in industrial energy deliveries which were largely offset by decreases in residential and commercial energy deliveries of 1.9% and 1.6% respectively. Average usage per customer for smaller energy users continues to decline, driven by ongoing market and program-based energy efficiency gains. PGE projects that retail energy deliveries for 2020 will be approximately 0.5% - 1.5% above 2019 weather-adjusted levels, reflecting strength in industrial deliveries, partially offset by continued energy efficiency and conservation efforts.

ESSs supplied Direct Access customers with energy representing 11% of the Company’s total retail energy deliveries during 2019 and 2018. The maximum retail load allowed to be supplied under the fixed three-year and minimum five-year opt-out programs represent 14% of the Company’s total retail energy deliveries for 2019, and 2018. With the adoption of the New Large Load Direct Access program, the percentage of the Company’s energy deliveries supplied by ESSs is expected to increase by as much as 6%.

Energy efficiency and conservation efforts by retail customers influence demand, although the financial effects of such efforts by residential and certain commercial customers are mitigated by the decoupling mechanism, which is intended to provide for recovery of margin lost as a result of a reduction in electricity sales attributable to energy efficiency and conservation efforts. The mechanism provides for collection from (or refund to) customers if weather-adjusted use per customer is less (or more) than the projected baseline set in the Company’s most recent approved general rate case. See “Decoupling” in this Overview section of Item 7, for further information on the decoupling mechanism.

Power Operations—PGE utilizes a combination of its own generating resources and wholesale market transactions to meet the energy needs of its retail customers. Based on numerous factors, including plant availability, customer demand, river flows, wind conditions, and current wholesale prices, the Company continuously makes economic dispatch decisions in an effort to obtain reasonably-priced power for its retail customers. PGE also purchases wholesale natural gas in the United States and Canada to fuel its generating portfolio and sells excess gas back into the wholesale market. As a result, the amount of power generated and purchased in the wholesale market to meet the Company’s retail load requirement can vary from period to period and impacts NVPC and income from operations.

	Plant availability ⁽¹⁾		Actual energy provided compared to projected levels ⁽²⁾		Actual energy provided as a percentage of total retail load	
	2019	2018	2019	2018	2019	2018
Generation:						
Thermal:						
Natural gas	92%	92%	86%	89%	45%	41%
Coal ⁽³⁾	87	94	104	69	24	17
Wind	96	92	90	95	9	10
Hydro	93	93	81	96	8	8

(1) Plant availability represents the percentage of the year the plant was available for operations, which is impacted by planned maintenance and forced, or unplanned, outages.

(2) Projected levels of energy are included as part of PGE’s AUT. Such projections establish the power cost component of retail prices for the following calendar year. Any shortfall is generally replaced with power from higher cost sources, while any excess generally displaces power from higher cost sources.

(3) Plant availability excludes Colstrip, which PGE does not operate. Colstrip availability was 85% in 2019, compared with 82% in 2018.

Energy received from PGE-owned and jointly-owned thermal plants increased 20% in 2019 compared to 2018, primarily as a result of increased economic dispatch at Boardman. Energy expected to be received from thermal resources is projected annually in the AUT based on forecast market prices, variable costs to run the plant, and the constraints of the plant. PGE’s thermal generating plants require varying levels of annual maintenance, which is generally performed during the second quarter of the year.

Energy received from PGE-owned hydroelectric plants and under contracts from mid-Columbia hydroelectric projects decreased 20% in 2019 compared to 2018, due to less favorable hydro conditions in 2019. Energy expected to be received from hydroelectric resources is projected annually in the AUT based on a modified hydro study, which utilizes 80 years of historical stream flow data. See “*Purchased power and fuel*” section of Results of Operations in this Item 7, for further detail on regional hydro results.

Energy received from PGE-owned wind resources and under contracts decreased 8% in 2019 compared to 2018, due to less favorable wind conditions in 2019. Energy expected to be received from wind generating resources (Biglow Canyon and Tucannon River) is projected annually in the AUT based on historical generation. Wind generation forecasts are developed using a 5-year rolling average of historical wind levels or forecast studies when historical data is not available. As a result of the generation shortfalls, PTCs have not materialized to the extent contemplated in the Company’s prices.

Under the PCAM, PGE may share with customers a portion of cost variances associated with NVPC. Subject to a regulated earnings test, customer prices can be adjusted annually to absorb a portion of the difference between the forecasted NVPC included in customer prices (baseline NVPC) and actual NVPC for the year, if such differences exceed a prescribed “deadband” limit, which ranges from \$15 million below to \$30 million above baseline NVPC. The following is a summary of the results of the Company’s PCAM as calculated for regulatory purposes for 2019, and 2018:

- For 2019, actual NVPC was above baseline NVPC by \$5 million, which was within the established deadband range. Accordingly, no estimated collection from customers was recorded as of December 31, 2019. A final determination regarding the 2019 PCAM results will be made by the OPUC through a public filing and review in 2020.
- For 2018, actual NVPC was below baseline NVPC by \$3 million, which was within the established deadband range. Accordingly, no estimated refund to customers was recorded as of December 31, 2018. A final determination regarding the 2018 PCAM results was made by the OPUC through a public filing and review in 2019, which confirmed no refund to customers pursuant to the PCAM for 2018.

Results of Operations

The following tables provide financial and operational information to be considered in conjunction with management's discussion and analysis of results of operations.

PGE defines Gross margin as Total revenues less Purchased power and fuel. Gross margin is considered a non-GAAP measure as it excludes depreciation and amortization and other operation and maintenance expenses. The presentation of Gross margin is intended to supplement an understanding of PGE's operating performance in relation to changes in customer prices, fuel costs, impacts of weather, customer counts and usage patterns, and impact from regulatory mechanisms such as decoupling. The Company's definition of Gross margin may be different from similar terms used by other companies and may not be comparable to their measures.

The results of operations are as follows for the years presented (dollars in millions):

	Years Ended December 31,					
	2019		2018		2017	
	Amount	As % of Rev	Amount	As % of Rev	Amount	As % of Rev
Total revenues ⁽¹⁾	\$ 2,123	100 %	\$ 1,991	100 %	\$ 2,009	100%
Purchased power and fuel ⁽¹⁾	614	29	571	30	592	30
Gross margin	1,509	71	1,420	70	1,417	70
Other operating expenses:						
Generation, transmission and distribution	323	15	292	15	309	16
Administrative and other	290	14	271	13	260	13
Depreciation and amortization	409	19	382	19	345	17
Taxes other than income taxes	134	6	129	6	123	6
Total other operating expenses	1,156	54	1,074	53	1,037	52
Income from operations	353	17	346	17	380	18
Interest expense, net ⁽²⁾	128	6	124	6	120	6
Other income:						
Allowance for equity funds used during construction	10	—	11	1	12	1
Miscellaneous income (expense), net	6	—	(4)	—	1	—
Other income, net	16	—	7	1	13	1
Income before income taxes	241	11	229	12	273	13
Income tax expense	27	1	17	1	86	4
Net income	\$ 214	10 %	\$ 212	11 %	\$ 187	9%

(1) As reported on PGE's Consolidated Statements of Income.

(2) Includes an allowance for borrowed funds used during construction of \$5 million in 2019 and \$6 million in 2018 and 2017.

Revenues, energy deliveries (presented in MWh), and average number of retail customers consist of the following for the years presented:

	Years Ended December 31,					
	2019		2018		2017	
Revenues⁽¹⁾ (dollars in millions):						
Retail:						
Residential	\$ 981	46%	\$ 948	48 %	\$ 969	48%
Commercial	636	30	647	32	652	32
Industrial	196	9	185	9	192	10
Direct Access	44	2	43	2	37	2
Subtotal	1,857	87	1,823	91	1,850	92
Alternative revenue programs, net of amortization	2	—	3	—	—	—
Other accrued (deferred) revenues, net ⁽²⁾	22	2	(45)	(2)	10	1
Total retail revenues	1,881	89	1,781	89	1,860	93
Wholesale revenues	170	8	159	8	105	5
Other operating revenues	72	3	51	3	44	2
Total revenues	\$ 2,123	100%	\$ 1,991	100 %	\$ 2,009	100%
Energy deliveries (MWh in thousands):						
Retail:						
Residential	7,471	31%	7,416	31 %	7,880	34%
Commercial	6,653	28	6,783	29	6,932	30
Industrial	3,181	13	2,987	13	2,943	13
Subtotal	17,305	72	17,186	73	17,755	77
Direct access:						
Commercial	665	3	647	3	623	3
Industrial	1,490	6	1,389	6	1,340	6
Subtotal	2,155	9	2,036	9	1,963	9
Total retail energy deliveries	19,460	81	19,222	82	19,718	86
Wholesale energy deliveries	4,669	19	4,290	18	3,193	14
Total energy deliveries	24,129	100%	23,512	100 %	22,911	100%
Average number of retail customers:						
Residential	779,673	88%	772,389	88 %	762,211	88%
Commercial	109,521	12	108,570	12	107,364	12
Industrial	193	—	203	—	199	—
Direct access	632	—	604	—	559	—
Total	890,019	100%	881,766	100 %	870,333	100%

(1) Includes both revenues from customers who purchase their energy supplies from the Company and revenues from the delivery of energy to those customers that purchase their energy from ESSs. Commercial revenues from ESS customers were \$18 million for 2019 and 2018, and \$17 million for 2017. Industrial revenues from ESS customers were \$26 million, \$25 million, and \$20 million for 2019, 2018, and 2017, respectively.

(2) Amounts for the years ended December 31, 2019 and 2018 are primarily comprised of \$23 million of amortization and \$45 million of deferral, respectively, related to the 2018 net tax benefits due to the change in corporate tax rate under the United States Tax Cuts and Jobs Act of 2017 (TCJA).

PGE's sources of energy, total system load, and retail load requirement for the years presented are as follows:

	Years Ended December 31,					
	2019		2018		2017	
Sources of energy (MWh in thousands):						
Generation:						
Thermal:						
Natural gas	8,342	36%	7,515	33%	6,228	28%
Coal	4,416	19%	3,106	14	3,344	15
Total thermal	12,758	55	10,621	47	9,572	43
Hydro	1,407	6	1,474	7	1,774	8
Wind	1,706	8	1,875	8	1,641	8
Total generation	15,871	69	13,970	62	12,987	59
Purchased power:						
Term	5,882	25	6,714	30	7,192	33
Hydro	1,048	5	1,603	7	1,648	7
Wind	284	1	286	1	264	1
Total purchased power	7,214	31	8,603	38	9,104	41
Total system load	23,085	100%	22,573	100%	22,091	100%
Less: wholesale sales	(4,669)		(4,290)		(3,193)	
Retail load requirement	18,416		18,283		18,898	

Net income for the year ended December 31, 2019 was \$214 million, or \$2.39 per diluted share, compared with \$212 million, or \$2.37 per diluted share, for the year ended December 31, 2018. Among the factors that led to the \$2 million, or 1%, increase in net income was Gross margin, which increased \$89 million primarily due to a \$132 million increase in revenues, driven by higher retail prices as a result of the 2019 GRC and other supplemental tariffs. Partially offsetting the revenue increase was a \$43 million increase in Purchased power and fuel expense, as a result of a \$46 million increase in the cost of purchased power. Although purchased power volumes were lower due to economic dispatch decisions, the resulting savings were diminished by the increased expenses associated with higher utilization of Company-owned generation. Largely offsetting the increase in Gross margin were Operating expense increases of \$82 million, which included \$27 million higher depreciation and amortization expense resulting from capital additions, a \$13 million increase in distribution expenses due to higher vegetation management and wildfire mitigation efforts, \$13 million higher labor and benefit expenses, a \$10 million gain from the cash settlement of Carty litigation in 2018 that did not recur, and a \$10 million increase in income tax expense.

2019 Compared to 2018

Total revenues increased \$132 million, or 6.6%, in 2019 compared with 2018 as a result of the items discussed below.

Total retail revenues increased \$100 million, or 5.6%, in 2019 compared with 2018, primarily due to the net effect of:

- \$66 million as a result of customer price changes in the 2019 GRC, the AUT, and the amortization in prices of the decoupling mechanism;
- \$23 million that resulted from the 1.2% overall increase in retail energy deliveries consisting of a 0.7% increase in residential deliveries, and a 6.7% increase in industrial deliveries, partially offset by a 1.5% decrease in commercial deliveries. The effects of weather on electricity demand is reflected predominantly in the Residential revenue line in the table above. The table below shows that 2019 had more heating degree days than 2018 during the heating season, although the effect was partially offset by the relative lack of cooling degree-days during the summer months in 2019. For further information on customer demand, see "Customers and Demand" in the Overview section of this Item 7; and
- \$12 million resulting from the combination of various supplemental tariffs and adjustments, the largest of which pertain to the demand response pilot program and a major maintenance expense deferral, which was offset in Generation, transmission and distribution expense.

Total heating degree-days in 2019 were slightly above the 15-year average and up considerably from total heating degree-days in 2018. Total cooling degree-days in 2019 exceeded the 15-year average by 6% although were 18% below the 2018 total. The following table presents the number of heating and cooling degree-days in 2019 and 2018, along with the 15-year averages, reflecting that weather had a considerable influence on comparative energy deliveries:

	Heating Degree-Days			Cooling Degree-Days		
	2019	2018	15-Year Average	2019	2018	15-Year Average
1st quarter	1,992	1,766	1,830	—	—	—
2nd quarter	467	471	653	102	116	88
3rd quarter	83	69	75	462	575	440
4th quarter	1,623	1,396	1,582	—	1	3
Total	4,165	3,702	4,140	564	692	531
Increase (decrease) from the 15-year average	1%	(11)%		6%	30%	

Wholesale revenues result from sales of electricity to utilities and power marketers made in the Company's efforts to secure reasonably priced power for its retail customers, manage risk, and administer its current long-term wholesale contracts. Such sales can vary significantly from year to year as a result of economic conditions, power and fuel prices, hydro and wind availability, and customer demand.

In 2019, an \$11 million, or 7%, increase in wholesale revenues over 2018 resulted from \$14 million related to a 9% increase in wholesale sales volume partially offset by \$3 million from a 1% decrease in average prices received when the Company sold power into the wholesale market.

Other operating revenues increased \$21 million, or 41%, in 2019 from 2018, primarily as a result of an \$8 million increase attributable to the sale of excess natural gas not used to fuel the Company's generating facilities. Other contributors to the increase included \$4 million related to a customer project that is offset with corresponding expense increases in Generation, transmission and distribution expense and \$3 million as a result of higher revenue

from joint pole usage. In addition, \$6 million of incremental revenues resulted from a combination of late fees, transmission resale, storm deferrals, and a variety of smaller miscellaneous items.

Purchased power and fuel expense includes the cost of power purchased and fuel used to generate electricity to meet PGE’s retail load requirements, as well as the cost of settled electric and natural gas financial contracts. In 2019, Purchased power and fuel expense increased \$43 million, or 8%, from 2018, which was driven by a \$61 million increase that resulted from a higher average variable power cost per MWh, offset by a \$18 million decrease related to total system load.

The \$61 million increase related to average variable power cost is due to an increase in cost per MWh from \$25.31 in 2018 to \$26.62 per MWh in 2019. The price increase was driven primarily by a 24% increase in the average variable power cost per MWh for purchased power as the Company, on average, purchased power at higher market prices. The average variable cost per MWh for PGE generating resources remained relatively flat from 2018 to 2019.

Although total system load is up 2% from 2018, the \$18 million decrease due to total system load was largely due to PGE effectively dispatching its lowest-cost resources in a challenged market, resulting in a 14% increase in energy generated by PGE resource.

In 2019, energy received from Biglow Canyon and Tucannon River decreased 9% from 2018 due to less favorable wind conditions and provided 9% of the Company’s retail load requirement in 2019 compared with 10% in 2018.

As a result of the less favorable hydro conditions in the region for 2019, energy received from PGE-owned hydroelectric projects in combination with mid-Columbia projects was 20% below 2018 levels and represented 13% of the Company’s retail load requirement for 2019 compared with 17% for 2018.

The following table presents the actual April-to-September 2019 and 2018 runoff at particular points of major rivers relevant to PGE’s hydro resources:

<u>Location</u>	<u>Runoff as a Percent of 30-year Average</u>	
	<u>2019 Actual</u>	<u>2018 Actual</u>
Columbia River at The Dalles, Oregon	94%	98%
Mid-Columbia River at Grand Coulee, Washington	87	99
Clackamas River at Estacada, Oregon	114	97
Deschutes River at Moody, Oregon	111	96

Actual NVPC, which consists of Purchased power and fuel expense net of Wholesale revenues, increased \$32 million in 2019 compared with 2018. The increase attributable to changes in Purchased power and fuel expense was the result of a 5% increase in the average variable power cost per MWh and a 2% increase in total system load. This was partially offset by a 9% increase in the volume of wholesale energy deliveries, that were sold, on average, at 1% lower average price per MWh.

For 2019, actual NVPC, as calculated for regulatory purposes under the PCAM, was \$5 million above the 2019 baseline NVPC. In 2018, NVPC was \$3 million below the anticipated baseline. For further information regarding NVPC, see “*Power Operations*” in the Overview section of this Item 7.

Generation, transmission, and distribution expense increased \$31 million, or 11%, in 2019 compared with 2018. The increase was driven by \$13 million higher distribution expenses for vegetation management, wildfire mitigation and preventative maintenance, \$6 million higher expenses at the Company’s generation facilities, \$3 million higher transmission expenses and \$9 million miscellaneous expenses.

Administrative and other expense increased \$19 million, or 7%, in 2019 compared with 2018, primarily due to \$13 million higher overall labor and employee benefit expenses, a \$10 million benefit from the Carty cash settlement that occurred in 2018 that did not recur in 2019, \$5 million higher costs related to the new customer billing system (ongoing support in 2019 and 2018 deferral of costs, offset by collection in 2019), \$6 million miscellaneous expenses, offset by an \$11 million net year over year impact due to the change in retail customer collection experience following the implementation of the customer information system, and \$4 million lower legal expenses attributable to the conclusion of the Carty litigation.

Depreciation and amortization expense in 2019 increased \$27 million, or 7%, compared with 2018. The increase was primarily driven by a \$19 million increase in depreciation and amortization expense resulting from capital additions, an \$8 million increase related to net regulatory deferrals and amortization activity (which is offset in revenues), a \$4 million increase due to the new lease standard reflecting the amortization of Finance lease right of use assets, partially offset by a \$4 million increase to non-utility AROs in 2018 that did not recur in 2019.

Taxes other than income taxes expense increased \$5 million, or 4%, in 2019 compared with 2018, primarily due to higher Oregon property taxes.

Interest expense increased \$4 million, or 3%, in 2019 compared with 2018 as a \$6 million increase was due to the new lease standard reflecting interest associated with Finance lease obligations, which are offset in Revenues, net as costs are being recovered in the AUT. In addition, a \$1 million increase resulted from higher interest on net regulatory liabilities and a \$1 million increase from lower AFUDC as the result of lower construction work-in-progress balances. A \$4 million decrease resulted from the maturity of \$300 million and the early redemption of \$50 million of FMBs that were replaced with lower rate debt, reducing the Company’s weighted average cost of debt.

Other income, net increased \$9 million compared to 2018, with the difference due to gains of \$5 million related to the non-qualified employee benefit trust assets, a \$2 million curtailment gain recognized in 2019 due to changes in retiree medical plans and \$2 million lower pension costs due to changes in actuarial assumptions.

Income tax expense increased \$10 million, or 59%, in 2019 compared to 2018 primarily due to a decrease in PTCs and higher pre-tax income.

2018 Compared to 2017

For a comparison of the Company’s results of operations for the fiscal year ended December 31, 2018 to the year ended December 31, 2017, see Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations in the Company’s Annual report on Form 10-K for the year ended December 31, 2018, filed with the SEC on February 15, 2019.

Liquidity and Capital Resources

Discussions, forward-looking statements, and projections in this section, and similar statements in other parts of this Annual Report on Form 10-K, are subject to PGE’s assumptions regarding the availability and cost of capital. See “*Capital and credit market conditions could adversely affect the Company’s access to capital*,”

cost of capital, and ability to execute its strategic plan as currently envisioned.” in Item 1A.—Risk Factors, for further information.

Capital Requirements

The following table presents actual capital expenditures and debt maturities for 2019 and projected capital expenditures and future debt maturities for 2020 through 2024 (in millions, excluding AFDC):

	Years Ending December 31,					
	2019	2020	2021	2022	2023	2024
Ongoing capital expenditures*	\$ 572	\$ 675	\$ 500	\$ 500	\$ 500	\$ 500
Integrated Operations Center	27	95	80	—	—	—
Wheatridge Renewable Energy Facility	17	120	15	—	—	—
Total capital expenditures	<u>\$ 616</u>	<u>\$ 890</u>	<u>\$ 595</u>	<u>\$ 500</u>	<u>\$ 500</u>	<u>\$ 500</u>
Long-term debt maturities	<u>\$ 350</u>	<u>\$ —</u>	<u>\$ 160</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 80</u>

* Consists primarily of upgrades to, and replacement of, generation, transmission, and distribution infrastructure, as well as new customer connects. Includes preliminary engineering and removal costs.

During 2019, PGE funded its capital requirements through a combination of cash from operations in the amount of \$546 million and proceeds from the issuance of FMBs in the amount of \$470 million. Capital requirements in 2020 are expected to be \$890 million. PGE plans to fund the 2020 capital requirements with cash from operations during 2020, which is expected to range from \$625 million to \$675 million, the issuance of debt securities of up to \$400 million, and the issuance of commercial paper, as needed. The actual timing and amount of any other issuances of debt or commercial paper will be dependent upon the timing and amount of capital expenditures. For a discussion concerning PGE’s ability to fund its future capital requirements, see “*Debt and Equity Financings*” in this Item 7.

Liquidity

PGE’s access to short-term debt markets, including revolving credit from banks, helps provide necessary liquidity to support the Company’s current operating activities, including the purchase of power and fuel. Long-term capital requirements are driven largely by capital expenditures for distribution, transmission, and generation facilities to support both new and existing customers, information technology systems, and debt refinancing activities. PGE’s liquidity and capital requirements can also be significantly affected by other working capital needs, including margin deposit requirements related to wholesale market activities, which can vary depending upon the Company’s forward positions and the corresponding price curves.

The following summarizes PGE’s cash flows for the periods presented (in millions):

	Years Ended December 31,	
	2019	2018
Cash and cash equivalents, beginning of year	\$ 119	\$ 39
Net cash provided by (used in):		
Operating activities	546	630
Investing activities	(604)	(471)
Financing activities	(31)	(79)
Net change in cash and cash equivalents	(89)	80
Cash and cash equivalents, end of year	\$ 30	\$ 119

2019 Compared to 2018

Cash Flows from Operating Activities—Cash flows from operating activities are generally determined by the amount and timing of cash received from customers and payments made to vendors, as well as the nature and amount of non-cash items, including depreciation and amortization, deferred income taxes, and pension and other postretirement benefit costs included in net income during a given period. The \$84 million decrease in cash flows from operating activities in 2019 compared to 2018 is due to:

- \$68 million decrease relating to TCJA as a deferral occurred in 2018 with amortization recorded in 2019;
- \$67 million decrease for Accounts payable and other accrued liabilities partially due to decreased fuel costs from lower gas prices in the fourth quarter 2019 compared to the fourth quarter 2018;
- \$53 million decrease for an additional contribution to pension and other postretirement benefits; partially offset by
- \$59 million decrease as a result of changes in Accounts receivable and Unbilled revenue balances;
- \$27 million increase in Depreciation and amortization primarily due to higher average plant balances;
- \$23 million increase in Deferred income taxes primarily due to increased contributions to pension and other postretirement benefits.

Cash provided by operations includes the recovery in customer prices of non-cash charges for depreciation and amortization. The Company estimates that such charges in 2020 will range from \$415 million to \$435 million. Combined with all other sources, cash provided by operations in 2020 is estimated to range from \$625 million to \$675 million.

Cash Flows from Investing Activities—Cash flows used in investing activities consist primarily of capital expenditures related to new construction and improvements to PGE’s distribution, transmission, and generation facilities. The \$133 million increase in net cash used in investing activities in 2019 compared with 2018 is primarily due to the \$120 million cash inflow as a result of the Carty litigation settlement that occurred in 2018 that did not recur in 2019.

The Company plans for \$890 million of capital expenditures in 2020 related to upgrades to and replacement of generation, transmission, and distribution infrastructure. PGE plans to fund the 2020 capital expenditures with cash from operations during 2020, as discussed above, as well as with the issuance of short- and long-term debt securities. For additional information, see “*Capital Requirements*” and “*Debt and Equity Financings*” in the Liquidity and Capital Resources section of this Item 7.

Cash Flows from Financing Activities—Financing activities provide supplemental cash for both day-to-day operations and capital requirements as needed. During 2019, cash used in financing activities consisted primarily of the issuance of \$470 million of long-term debt, less the repayment \$350 million of FMBs and payment of dividends in the amount of \$134 million.

2018 Compared to 2017

For a comparison of liquidity and capital resources and the Company's cash flow activities for the fiscal year ended December 31, 2018 and 2017, see Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations in the Company's Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the SEC on February 15, 2019.

Credit Ratings and Debt Covenants

PGE's secured and unsecured debt is rated investment grade by Moody's and S&P, with current credit ratings and outlook as follows:

	Moody's	S&P
First Mortgage Bonds	A1	A
Senior unsecured debt	A3	BBB+
Commercial paper	P-2	A-2
Outlook	Stable	Positive

In the event Moody's and/or S&P reduce their credit rating on PGE's unsecured debt below investment grade, the Company could be subject to requests by certain of its wholesale, commodity, and transmission counterparties to post additional performance assurance collateral in connection with its price risk management activities. The performance assurance collateral can be in the form of cash deposits or letters of credit, depending on the terms of the underlying agreements, and are based on the contract terms and commodity prices and can vary from period to period. Cash deposits provided as collateral are classified as Margin deposits in PGE's consolidated balance sheets, while any letters of credit issued are not reflected in the Company's consolidated balance sheets.

As of December 31, 2019, PGE had posted \$31 million of collateral with these counterparties, consisting of \$16 million in cash and \$15 million in bank letters of credit. Based on the Company's energy portfolio, estimates of energy market prices, and the level of collateral outstanding as of December 31, 2019, the amount of additional collateral that could be requested upon a single agency downgrade to below investment grade is \$51 million and decreases to \$4 million by December 31, 2020 and none by December 31, 2021. The amount of additional collateral that could be requested upon a dual agency downgrade to below investment grade is \$132 million and decreases to \$78 million by December 31, 2020 and \$68 million by December 31, 2021.

PGE's financing arrangements do not contain ratings triggers that would result in the acceleration of required interest and principal payments in the event of a ratings downgrade. However, the cost of borrowing and issuing letters of credit under the credit facilities would increase.

The Indenture securing PGE's outstanding FMBs constitutes a direct first mortgage lien on substantially all regulated utility property, other than expressly excepted property. Interest is payable semi-annually on FMBs. The issuance of FMBs requires that PGE meet earnings coverage and security provisions set forth in the Indenture of Mortgage and Deed of Trust securing the bonds. PGE estimates that on December 31, 2019, under the most restrictive issuance test in the Indenture of Mortgage and Deed of Trust, the Company could have issued up to \$937 million of additional FMBs. Any issuances of FMBs would be subject to market conditions and amounts could be further limited by regulatory authorizations or by covenants and tests contained in other financing agreements. PGE also has the ability to release property from the lien of the Indenture of Mortgage and Deed of Trust under certain circumstances, including bond credits, deposits of cash, or certain sales, exchanges, or other dispositions of property.

PGE's credit facilities contain customary covenants and credit provisions, including a requirement that limits consolidated indebtedness, as defined in the credit agreements, to 65% of total capitalization (debt to total capital

ratio). As of December 31, 2019, the Company's debt to total capital ratio, as calculated under the credit agreements, was 51.9%.

Debt and Equity Financings

PGE's ability to secure sufficient long-term capital at a reasonable cost is determined by its financial performance and outlook, its credit ratings, its capital expenditure requirements, alternatives available to investors, market conditions, and other factors. Management believes that the availability of revolving credit facilities, the expected ability to issue long-term debt and equity securities, and cash expected to be generated from operations provide sufficient cash flow and liquidity to meet the Company's anticipated capital and operating requirements for the foreseeable future.

Short-term Debt—Pursuant to an order issued by the FERC on January 16, 2020, PGE has authorization to issue short-term debt up to a total of \$900 million through February 7, 2022.

As of December 31, 2019, PGE had a \$500 million revolving credit facility scheduled to expire in November 2023. The facility allows for unlimited extension requests, provided that lenders with a pro-rata share of more than 50%, approve the extension request. The revolving credit facility supplements operating cash flows and provides a primary source of liquidity. Pursuant to the terms of the agreement, the revolving credit facility may be used as backup for commercial paper borrowings, to permit the issuance of standby letters of credit, and for general corporate purposes. PGE may borrow for one, two, three, or six months at a fixed interest rate established at the time of the borrowing, or at a variable interest rate for any period up to the then remaining term of the applicable credit facility.

The Company has a commercial paper program under which it may issue commercial paper for terms of up to 270 days, limited to the unused amount of credit under the revolving credit facility.

PGE classifies any borrowings under the revolving credit facility and outstanding commercial paper as Short-term debt in the consolidated balance sheets.

Under the revolving credit facility, as of December 31, 2019, PGE had no borrowings or commercial paper outstanding, and no letters of credit issued. As a result, as of December 31, 2019, the aggregate unused available credit capacity under the revolving credit facility was \$500 million.

In addition, PGE has four letter of credit facilities under which the Company can request letters of credit for original terms not to exceed one year. These facilities provide for a total capacity of \$220 million. The issuance of such letters of credit is subject to the approval of the issuing institution. Under these facilities, letters of credit for a total of \$55 million were outstanding as of December 31, 2019.

Long-term Debt—During 2019, PGE issued a total of \$470 million of FMBs with \$200 million issued in April at an interest rate of 4.3% maturing in 2049 and \$270 million at an interest rate of 3.34% issued in two tranches. The first tranche, \$110 million with a maturity in 2049, was issued in October 2019 and the second tranche, \$160 million with a maturity in 2050, was issued in November 2019. A portion of the proceeds were used to repay a total of \$350 million in FMBs in 2019.

As of December 31, 2019, total long-term debt outstanding, net of \$11 million of unamortized debt expense, was \$2,597 million, of which none is scheduled to mature in 2020.

Capital Structure—PGE’s financial objectives include maintaining a common equity ratio (common equity to total consolidated capitalization, including current debt maturities) of approximately 50% over time. Achievement of this objective helps the Company maintain investment grade debt ratings and provides access to long-term capital at favorable interest rates. The Company’s common equity ratio was 48.1% and 49.8% as of December 31, 2019 and 2018, respectively.

Contractual Obligations and Commercial Commitments

The following table presents PGE’s contractual obligations as of December 31, 2019 (in millions):

	2020	2021	2022	2023	2024	There-after	Total
Long-term debt	\$ —	\$ 160	\$ —	\$ —	\$ 80	\$ 2,368	\$ 2,608
Interest on long-term debt ⁽¹⁾	119	117	115	115	115	1,887	2,468
Capital and other purchase commitments	393	130	14	4	1	56	598
Purchased power and fuel:							
Electricity purchases	193	189	220	219	215	2,327	3,363
Capacity contracts	—	9	9	9	9	9	45
Public Utility Districts	16	15	13	13	12	50	119
Natural gas	59	45	40	38	42	603	827
Coal and transportation	27	27	27	27	27	27	162
Pension Plan Contributions ⁽²⁾	—	—	9	27	30	—	66
Finance and operating lease obligations	24	24	24	22	21	281	396
Total	\$ 831	\$ 716	\$ 471	\$ 474	\$ 552	\$ 7,608	\$ 10,652

(1) Future interest on long-term debt is calculated based on the assumption that all debt remains outstanding until maturity. For debt instruments with variable rates, interest is calculated for all future periods using the rates in effect as of December 31, 2019.

(2) Contributions beyond 2024 are not estimated due to significant uncertainty in financial market and demographic outcomes.

Other Financial Obligations

PGE has long-term power purchase agreements in place with certain public utility districts in the state of Washington.

The Company has acquired a percentage of the output of the Priest Rapids and Wanapum hydroelectric projects under an agreement that requires PGE to pay its proportionate share of the operating and debt service costs of the projects, whether or not they are operable. The agreements further provide that, should any other purchaser of output default on payments as a result of bankruptcy or insolvency, PGE would be allocated a pro-rata share of both the output and the operating and debt service costs of the defaulting purchaser.

Under an agreement for output of the Wells project, PGE receives a share of the production in return for a fixed payment. If any other purchaser of output were to default, PGE would receive a pro-rata portion of the defaulting purchaser’s share of the project output and associated costs, with no limitation, regardless of the reason for the default. The share of the project output is expected to decline over time as the public utility district load grows and output is needed to serve that growth.

For additional information on these long-term power purchase agreements, see “Public utility districts” in Note 16, Commitments and Guarantees, in the Notes to Consolidated Financial Statements in Item 8.—“Financial Statements and Supplementary Data.”

Off-Balance Sheet Arrangements

Other than the items listed below, PGE has no off-balance sheet arrangements that have, or are reasonably likely to have, a material current or future effect on its consolidated financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures, or capital resources:

- PGE has four letter of credit facilities that provide capacity up to a total of \$220 million under which the Company can request letters of credit for original terms not to exceed one year. The issuance of such letters

of credit is subject to the approval of the issuing institution. Under these facilities, \$55 million has been issued as of December 31, 2019; and

- As a co-owner of Colstrip, PGE has provided surety bonds of \$18 million as of December 31, 2019 on behalf of the operator to ensure the operation and maintenance of remedial and closure actions are carried out related to the Administrative Order on Consent Regarding Impacts Related to Wastewater Facilities Comprising the Closed-Loop System at Colstrip Steam Electric Station, Colstrip Montana (the AOC) as required by the Montana Department of Environmental Quality. It is currently anticipated that each co-owner of Colstrip will be required, at some future point, to post additional financial assurance to support further performance by the operator of closure and remediation actions under the AOC.

Critical Accounting Policies

The preparation of consolidated financial statements in conformity with GAAP requires that management apply accounting policies and make estimates and assumptions that affect amounts reported in the statements. The following accounting policies represent those that management believes are particularly important to the consolidated financial statements and that require the use of estimates, assumptions, and judgments to determine matters that are inherently uncertain.

Regulatory Accounting

As a rate-regulated enterprise, PGE applies regulatory accounting, which includes the recognition of regulatory assets and liabilities on the Company's consolidated balance sheets. Regulatory assets represent probable future revenue associated with certain incurred costs that are expected to be recovered from customers through the ratemaking process. Regulatory liabilities represent probable future reductions in revenues associated with amounts that are expected to be credited or refunded to customers through the ratemaking process. Regulatory accounting is appropriate as long as prices are established or subject to approval by independent third-party regulators, prices are designed to recover the specific enterprise's cost of service, and, in view of demand for service, it is reasonable to assume that prices set at levels that will recover costs can be charged to and collected from customers. Amortization of regulatory assets and liabilities is reflected in the statement of income over the period in which they are included in customer prices.

If future recovery of regulatory assets is not probable, PGE would expense such items in the period such determination is made. Further, if PGE determines that all or a portion of its utility operations no longer meet the criteria for continued application of regulatory accounting, the Company would be required to write off those regulatory assets and liabilities related to operations that no longer meet requirements for regulatory accounting. Discontinued application of regulatory accounting would have a material impact on the Company's results of operations and financial position.

Asset Retirement Obligations

PGE recognizes AROs for legal obligations related to dismantlement and restoration costs associated with the future retirement of tangible long-lived assets. Upon initial recognition of AROs that are measurable, the probability-weighted future cash flows for the associated retirement costs, discounted using a credit-adjusted risk-free rate, are recognized as both a liability and as an increase in the capitalized carrying amount of the related long-lived assets. Due to the long lead time involved, a market-risk premium cannot be determined for inclusion in future cash flows. In estimating the liability, management must utilize significant judgment and assumptions in determining whether a legal obligation exists to remove assets. Other estimates may be related to lease provisions, ownership agreements, licensing issues, cost estimates, inflation, and certain legal requirements. Changes that may arise over time with regard to these assumptions and determinations can change future amounts recorded for AROs.

Capitalized asset retirement costs related to electric utility plant are depreciated over the estimated life of the related asset and included in Depreciation and amortization expense in the consolidated statements of income. Accretion of the ARO liability is classified as a Depreciation and amortization expense in the consolidated statements of income.

Accumulated asset retirement removal costs that do not qualify as AROs have been reclassified from accumulated depreciation to regulatory liabilities in the consolidated balance sheets.

Contingencies

PGE has various unresolved legal and regulatory matters about which there is inherent uncertainty, with the ultimate outcome contingent upon several factors. Such contingencies are evaluated using the best information available. A loss contingency is accrued, and disclosed if material, when it is probable that an asset has been impaired, or a liability incurred, and the amount of the loss can be reasonably estimated. If a range of probable loss is established, the minimum amount in the range is accrued, unless some other amount within the range appears to be a better estimate. If the probable loss cannot be reasonably estimated, no accrual is recorded, but the loss contingency and the reasons to the effect that it cannot be reasonably estimated are disclosed. Material loss contingencies are disclosed when it is reasonably possible that an asset has been impaired, or a liability incurred. Established accruals reflect management's assessment of inherent risks, credit worthiness, and complexities involved in the process. There can be no assurance as to the ultimate outcome of any particular contingency.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

PGE is exposed to various forms of market risk, consisting primarily of fluctuations in commodity prices, foreign currency exchange rates, and interest rates, as well as credit risk. Any variations in the Company's market risk or credit risk may affect its future financial position, results of operations, or cash flows, as discussed below.

Risk Management Committee

PGE has a Risk Management Committee (RMC), which is responsible for providing oversight of the adequacy and effectiveness of corporate policies, guidelines, and procedures for market and credit risk management related to the Company's energy portfolio management activities. The RMC consists of officers and Company representatives with responsibility for risk management, finance and accounting, information technology, utility operations, legal, and rates and regulatory affairs. The RMC reviews and approves adoption of policies and procedures, and monitors compliance with policies, procedures, and limits on a regular basis through reports and meetings. The RMC also reviews and recommends risk limits that are subject to approval by PGE's Board of Directors.

Commodity Price Risk

PGE is exposed to commodity price risk as its primary business is to provide electricity to its retail customers. The Company engages in price risk management activities to manage exposure to volatility in net power costs for its retail customers. The Company uses power purchase contracts to supplement its own generation and to respond to fluctuations in the demand for electricity and variability in generating plant operations. The Company also enters into contracts for the purchase of fuel for the Company's natural gas- and coal-fired generating plants. These contracts for the purchase of power and fuel expose the Company to market risk. The Company uses instruments such as: i) forward contracts, which may involve physical delivery of an energy commodity; ii) financial swap and futures agreements, which may require payments to, or receipt of payments from, counterparties based on the differential between a fixed and variable price for the commodity; and iii) option contracts to mitigate risk that arises from market fluctuations of commodity prices. PGE does not engage in trading activities for non-retail purposes.

The following table presents energy commodity derivative fair values as a net liability as of December 31, 2019 that are expected to settle in each respective year (in millions):

	2020	2021	2022	2023	2024	Thereafter	Total
Commodity contracts:							
Electricity	\$ 5	\$ 1	\$ 7	\$ 7	\$ 7	\$ 76	\$ 103
Natural gas	(7)	(2)	(1)	—	—	—	(10)
	<u>\$ (2)</u>	<u>\$ (1)</u>	<u>\$ 6</u>	<u>\$ 7</u>	<u>\$ 7</u>	<u>\$ 76</u>	<u>\$ 93</u>

PGE reports energy commodity derivative fair values as a net asset or liability, which combines purchases and sales expected to settle in the years noted above. Energy commodity fair values exposed to commodity price risk are primarily related to purchase contracts, which are slightly offset by sales.

PGE's energy portfolio activities are subject to regulation, with related costs included in retail prices approved by the OPUC. The timing differences between the recognition of gains and losses on certain derivative instruments and their realization and subsequent recovery in prices are deferred as regulatory assets and regulatory liabilities to reflect the effects of regulation, significantly mitigating commodity price risk for the Company. As contracts are settled, these deferrals reverse and are recognized as Purchased power and fuel in the statements of income and included in the PCAM. PGE remains subject to cash flow risk in the form of collateral requirements based on the value of open positions and regulatory risk if recovery is disallowed by the OPUC. PGE attempts to mitigate both types of risks through prudent energy procurement practices.

Foreign Currency Exchange Rate Risk

PGE is exposed to foreign currency risk associated with natural gas forward and swap contracts denominated in Canadian dollars. Foreign currency risk is the risk of changes in value of pending financial obligations in foreign currencies that could occur prior to the settlement of the obligation due to a change in the value of that foreign currency in relation to the U.S. dollar. PGE mitigates its exposure to fluctuations in the Canadian exchange rate with an appropriate hedging strategy.

As of December 31, 2019, a 10% change in the value of the Canadian dollar would result in an immaterial change in exposure for transactions that will settle over the next twelve months.

Interest Rate Risk

To meet short-term cash requirements, PGE has the ability to issue commercial paper for terms of up to 270 days and has a revolving credit facility that permits same day borrowings. Although any borrowings under the commercial paper program or the revolving credit facility carry a fixed rate during their respective terms, the short-term nature of such borrowings subjects the Company to fluctuations in interest rates that result from changes in

market conditions. As of December 31, 2019, PGE had no borrowings outstanding under its revolving credit facility and no commercial paper or other short-term debt outstanding.

In 2018 PGE entered into two forward starting interest rate swap lock agreements to hedge a portion of its interest rate risk associated with anticipated issuances of fixed-rate, long-term debt securities. These derivatives were designated as cash flow hedges, protecting against the risk of changes in future interest payments resulting from changes in benchmark U.S. Treasury rates between the date of hedge inception and the date of the debt issuance.

As of December 31, 2018, the fair value of the interest rate swaps was a \$4 million liability, which was recorded in Liabilities from price risk management activities - current on the Company's consolidated balance sheets. The swaps settled at a \$5 million loss in January 2019, which was recorded in Regulatory assets - noncurrent on the consolidated balance sheets, and are subsequently being amortized as a component of interest expense over the life of the associated debt. Such amounts are also included as a component of cost of debt for ratemaking purposes. As of December 31, 2019, the Company had no outstanding interest rate swaps.

As of December 31, 2019, the total fair value and carrying amounts, excluding unamortized debt expense, by maturity date of PGE's long-term debt are as follows (in millions):

	Total Fair Value	Carrying Amounts by Maturity Date					There- after
		Total	2020	2021	2022	2023	
First Mortgage Bonds	\$ 2,938	\$ 2,510	\$ —	\$ 160	\$ —	\$ —	\$ 2,350
Pollution Control Revenue Bonds	101	98	—	—	—	—	98
Total	\$ 3,039	\$ 2,608	\$ —	\$ 160	\$ —	\$ —	\$ 2,448

As of December 31, 2019, PGE had no long-term debt instruments subject to interest rate risk exposures.

Credit Risk

PGE is exposed to credit risk in its commodity price risk management activities related to potential nonperformance by counterparties. The Company manages the risk of counterparty default according to its credit policies by performing financial credit reviews, setting limits and monitoring exposures, and requiring collateral (in the form of cash, letters of credit, and guarantees) when needed. PGE also uses standardized enabling agreements and, in certain cases, master netting agreements, which allow for the netting of positive and negative exposures under multiple agreements with counterparties. Despite such mitigation efforts, defaults by counterparties may periodically occur. Based upon periodic review and evaluation, allowances are recorded as needed to reflect credit risk related to wholesale accounts receivable.

The large number and diversified base of residential, commercial, and industrial customers, combined with the Company's ability to discontinue service, contribute to reduce credit risk with respect to trade accounts receivable from retail sales. Estimated provisions for uncollectible accounts receivable related to retail sales are provided for such risk.

As of December 31, 2019, PGE's credit risk exposure is \$47 million for commodity activities, of which \$36 million is with externally-rated investment grade counterparties. The underlying transactions that make up the exposure will mature during 2023. The exposure is included in accounts receivable and price risk management assets, offset by related accounts payable and price risk management liabilities.

Investment grade counterparties include those with a minimum credit rating on senior unsecured debt of Baa3 (as assigned by Moody's) or BBB- (as assigned by S&P), and also those counterparties whose obligations are guaranteed or secured by an investment grade entity. The credit exposure includes activity for electricity and natural gas forward, swap, and option contracts. Posted collateral may be in the form of cash or letters of credit, and may represent prepayment or credit exposure assurance.

Omitted from the market risk exposures discussed above are long-term power purchase contracts with certain public utility districts in the state of Washington. These contracts currently provide PGE with a percentage share of hydro facility output in exchange for an equivalent percentage share of operating and debt service costs. These contracts expire at varying dates through 2052. For additional information, see “*Public utility districts*” in Note 16, Commitments and Guarantees, in the Notes to Consolidated Financial Statements in Item 8.—“Financial Statements and Supplementary Data.” Management believes that circumstances that could result in the nonperformance by these counterparties are remote.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

The following financial statements and report are included in Item 8:

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Consolidated Statements of Income for the years ended December 31, 2019, 2018, and 2017	54
Consolidated Statements of Comprehensive Income for the years ended December 31, 2019, 2018, and 2017	55
Consolidated Balance Sheets as of December 31, 2019 and 2018	56
Consolidated Statements of Shareholders’ Equity for the years ended December 31, 2019, 2018, and 2017	58
Consolidated Statements of Cash Flows for the years ended December 31, 2019, 2018, and 2017	59
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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of Portland General Electric Company

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Portland General Electric Company and subsidiaries (the “Company”) as of December 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, shareholders’ equity, and cash flows for each of the three years in the period ended December 31, 2019, and the related notes (collectively referred to as the “financial statements”). We also have audited the Company’s internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

Basis for Opinions

The Company's management is responsible for these financial statements, 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 Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on these financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (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 audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the financial statements included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures to respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the 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 financial statements. 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 audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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.

Critical Audit Matters

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

Contingencies - EPA Investigation of Portland Harbor- Refer to Note 19 to the financial statements

Critical Audit Matter Description

The Company is an identified Potentially Responsible Party (PRP) related to the United States Environmental Protection Agency's (EPA's) investigation of Portland Harbor, for which total undiscounted clean-up costs are estimated to be \$1.7 billion based on the selected remediation plan in the Record of Decision issued by the EPA in January 2017. In accounting for environmental obligations, management should record a liability associated with the Company's environmental obligations when such a loss becomes both probable and reasonably estimable, the determination of which requires significant judgment by management. Management has concluded that a loss is probable, but the amount of such loss cannot be reasonably estimated, and therefore no liability has been recorded as of December 31, 2019.

Given the level of management judgment involved in determining whether sufficient information exists to reasonably estimate the amount, or range, of the Company's potential liability, auditing management's determination involved a high degree of auditor judgment.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to management's assessment of the ability to reasonably estimate the Company's potential liability related to the Portland Harbor site included the following, among others:

- We evaluated the design, and tested the operating effectiveness, of controls over management's evaluation as to whether a loss related to the Portland Harbor site is probable and is reasonably estimable.
- We read management's analysis of the EPA investigation of Portland Harbor and evaluated whether management had appropriately applied the relevant accounting guidance based on the facts identified in the analysis.
- With the assistance of our environmental specialists, we performed a public domain search specifically tailored to identify relevant information from the EPA, United States Department of Justice, local news reports and other relevant sources to identify items that may represent triggering events that could potentially impact management's assertion that any loss associated with Portland Harbor is not reasonably estimable. We compared this information to the information included in management's analysis and evaluated whether management had omitted any relevant evidence, including evidence that may be contradictory to management's assertion.
- We compared the Company's disclosures associated with the matter to those of other PRP's.

Regulatory Accounting - Refer to Notes 2 and 7 to the financial statements

Critical Audit Matter Description

The Company is subject to rate regulation by the Public Utility Commission of Oregon (the OPUC), which has jurisdiction with respect to the rates for retail electricity in the state of Oregon. Management has determined it meets the requirements under accounting principles generally accepted in the United States of America to prepare its financial statements applying the specialized rules to account for the effects of cost-based rate regulation. Accounting for the economics of rate regulation impacts multiple financial statement line items and disclosures, such as property, plant, and equipment; regulatory assets and liabilities; operating revenues; operation and maintenance expense; income taxes; and depreciation expense.

The Company's rates for retail customers are determined and approved in regulatory proceedings based on an analysis of the Company's costs. The OPUC has the authority to disallow the recovery of any costs that it considers imprudently incurred. Although the OPUC is required to establish customer prices that are fair, just and reasonable, it has significant discretion in the interpretation of this standard.

We identified the impact of rate regulation as a critical audit matter due to the significant judgments made by

management to support its assertions about impacted account balances and disclosures and the degree of subjectivity involved in assessing the impact of future regulatory proceedings on the financial statements. Management judgments include assessing the likelihood of recovery in future rates of incurred costs and refunds to customers. Given that management's accounting judgments are based on assumptions about the outcome of future decisions by the OPUC, auditing these judgments required specialized knowledge of accounting for rate regulation and the rate setting process due to its inherent complexities.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the uncertainty of future decisions by the OPUC included the following, among others:

- We tested the effectiveness of management's controls over the evaluation of the likelihood of (1) the recovery in future rates of costs deferred as regulatory assets, and (2) a refund or a future reduction in rates that should be reported as regulatory liabilities. We also tested the effectiveness of management's controls over regulatory developments that may affect the likelihood of recovering costs in future rates or of a refund or future reduction in rates.
- We evaluated the Company's disclosures related to the impacts of rate regulation, including the balances recorded and regulatory developments.
- We read relevant regulatory orders issued by the OPUC for the Company, regulatory statutes, and other publicly available information to assess the likelihood of recovery in future rates or of a refund or future reduction in rates based on precedence of the OPUC's treatment of similar costs under similar circumstances.
- For selected regulatory assets and liabilities, we evaluated whether management had determined such amounts in accordance with the regulatory orders.

/s/ Deloitte & Touche LLP

Portland, Oregon
February 13, 2020

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

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME
(Dollars in millions, except per share amounts)

	Years Ended December 31,		
	2019	2018	2017
Revenues:			
Revenues, net	\$ 2,121	\$ 1,988	\$ 2,009
Alternative revenue programs, net of amortization	2	3	—
Total Revenues	2,123	1,991	2,009
Operating expenses:			
Purchased power and fuel	614	571	592
Generation, transmission and distribution	323	292	309
Administrative and other	290	271	260
Depreciation and amortization	409	382	345
Taxes other than income taxes	134	129	123
Total operating expenses	1,770	1,645	1,629
Income from operations	353	346	380
Interest expense, net	128	124	120
Other income:			
Allowance for equity funds used during construction	10	11	12
Miscellaneous income (expense), net	6	(4)	1
Other income, net	16	7	13
Income before income taxes	241	229	273
Income tax expense	27	17	86
Net income	\$ 214	\$ 212	\$ 187
Weighted-average shares outstanding (in thousands):			
Basic	89,353	89,215	89,056
Diluted	89,559	89,347	89,176
Earnings per share:			
Basic	\$ 2.39	\$ 2.38	\$ 2.10
Diluted	\$ 2.39	\$ 2.37	\$ 2.10

See accompanying notes to consolidated financial statements.

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In millions)

	Years Ended December 31,		
	2019	2018	2017
Net income	\$ 214	\$ 212	\$ 187
Other comprehensive income (loss)—Change in compensation retirement benefits liability and amortization, net of taxes of an immaterial amount in 2019, 2018, and 2017	(1)	1	(1)
Comprehensive income	<u>\$ 213</u>	<u>\$ 213</u>	<u>\$ 186</u>

See accompanying notes to consolidated financial statements.

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(In millions)

	As of December 31,	
	2019	2018
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 30	\$ 119
Accounts receivable, net	167	193
Unbilled revenues	86	96
Inventories, at average cost:		
Materials and supplies	56	53
Fuel	40	31
Regulatory assets—current	17	61
Other current assets	104	90
Total current assets	500	643
Electric utility plant:		
In service	10,928	10,344
Accumulated depreciation and amortization	(4,095)	(3,803)
In service, net	6,833	6,541
Construction work-in-progress	328	346
Electric utility plant, net	7,161	6,887
Regulatory assets—noncurrent	483	401
Nuclear decommissioning trust	46	42
Non-qualified benefit plan trust	38	36
Other noncurrent assets	166	101
Total assets	\$ 8,394	\$ 8,110

See accompanying notes to consolidated financial statements.

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS, continued
(In millions, except share amounts)

	As of December 31,	
	2019	2018
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 165	\$ 168
Liabilities from price risk management activities—current	23	55
Current portion of long-term debt	—	300
Current portion of finance lease obligations	16	—
Accrued expenses and other current liabilities	315	268
Total current liabilities	519	791
Long-term debt, net of current portion	2,597	2,178
Regulatory liabilities—noncurrent	1,377	1,355
Deferred income taxes	378	369
Unfunded status of pension and postretirement plans	247	307
Liabilities from price risk management activities—noncurrent	108	101
Asset retirement obligations	263	197
Non-qualified benefit plan liabilities	103	103
Finance lease obligations, net of current portion	135	—
Other noncurrent liabilities	76	203
Total liabilities	5,803	5,604
Commitments and contingencies (see notes)		
Shareholders' equity:		
Preferred stock, no par value, 30,000,000 shares authorized; none issued and outstanding	—	—
Common stock, no par value, 160,000,000 shares authorized; 89,387,124 and 89,267,959 shares issued and outstanding as of December 31, 2019 and 2018, respectively	1,220	1,212
Accumulated other comprehensive loss	(10)	(7)
Retained earnings	1,381	1,301
Total shareholders' equity	2,591	2,506
Total liabilities and shareholders' equity	\$ 8,394	\$ 8,110

See accompanying notes to consolidated financial statements.

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

(In millions, except share and per share amounts)

	Common Stock		Accumulated Other Comprehensive Loss	Retained Earnings	Total
	Shares	Amount			
Balance as of December 31, 2016	88,946,704	\$ 1,201	\$ (7)	\$ 1,150	\$ 2,344
Shares issued pursuant to equity-based plans	167,561	2	—	—	2
Stock-based compensation	—	4	—	—	4
Dividends declared (\$1.34 per share)	—	—	—	(120)	(120)
Net income	—	—	—	187	187
Other comprehensive (loss)	—	—	(1)	—	(1)
Balance as of December 31, 2017	89,114,265	1,207	(8)	1,217	2,416
Shares issued pursuant to equity-based plans	153,694	1	—	—	1
Stock-based compensation	—	4	—	—	4
Dividends declared (\$1.4275 per share)	—	—	—	(128)	(128)
Net income	—	—	—	212	212
Other comprehensive income	—	—	1	—	1
Balance as of December 31, 2018	89,267,959	1,212	(7)	1,301	2,506
Shares issued pursuant to equity-based plans	119,165	1	—	—	1
Stock-based compensation	—	7	—	—	7
Dividends declared (\$1.5175 per share)	—	—	—	(136)	(136)
Net income	—	—	—	214	214
Reclassification of stranded tax effects due to Tax Reform	—	—	(2)	2	—
Other comprehensive (loss)	—	—	(1)	—	(1)
Balance as of December 31, 2019	89,387,124	\$ 1,220	\$ (10)	\$ 1,381	\$ 2,591

See accompanying notes to consolidated financial statements.

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In millions)

	Years Ended December 31,		
	2019	2018	2017
Cash flows from operating activities:			
Net income	\$ 214	\$ 212	\$ 187
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	409	382	345
Deferred income taxes	6	(17)	70
Allowance for equity funds used during construction	(10)	(11)	(12)
Pension and other postretirement benefits	21	30	24
Decoupling mechanism deferrals, net of amortization	(2)	(2)	(22)
(Amortization) Deferral of net benefits due to Tax Reform	(23)	45	—
Stock-based compensation	9	5	7
Other non-cash income and expenses, net	34	16	24
Changes in working capital:			
Decrease (increase) in receivables and unbilled revenues	30	(29)	(3)
(Increase) in margin deposits	—	(5)	(3)
(Decrease) increase in payables and accrued liabilities	(16)	51	5
Other working capital items, net	(12)	(11)	1
Contribution to non-qualified employee benefit trust	(11)	(11)	(8)
Contribution to pension and other postretirement plans	(65)	(12)	(5)
Other, net	(38)	(13)	(13)
Net cash provided by operating activities	546	630	597
Cash flows from investing activities:			
Capital expenditures	(606)	(595)	(514)
Purchases of nuclear decommissioning trust securities	(8)	(12)	(18)
Sales of nuclear decommissioning trust securities	13	15	21
Proceeds from Carty Settlement	—	120	—
Other, net	(3)	1	(3)
Net cash used in investing activities	(604)	(471)	(514)

See accompanying notes to consolidated financial statements.

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS, continued
(In millions)

	Years Ended December 31,		
	2019	2018	2017
Cash flows from financing activities:			
Proceeds from issuance of long-term debt	\$ 470	\$ 75	\$ 225
Payments on long-term debt	(350)	(24)	(150)
Debt extinguishment costs	(9)	—	—
Dividends paid	(134)	(125)	(118)
Other	(8)	(5)	(7)
Net cash used in financing activities	(31)	(79)	(50)
(Decrease) increase in cash and cash equivalents	(89)	80	33
Cash and cash equivalents, beginning of year	119	39	6
Cash and cash equivalents, end of year	\$ 30	\$ 119	\$ 39
Supplemental disclosures of cash flow information:			
Cash paid for:			
Interest, net of amounts capitalized	\$ 116	\$ 117	\$ 110
Income taxes	33	25	18
Non-cash investing and financing activities:			
Accrued capital additions	76	61	53
Accrued dividends payable	36	34	31
Assets obtained under leasing arrangements	210	24	87

See accompanying notes to consolidated financial statements.

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

NOTE 1: BASIS OF PRESENTATION

Nature of Operations

Portland General Electric Company (PGE or the Company) is a single, vertically-integrated electric utility engaged in the generation, purchase, transmission, distribution, and retail sale of electricity in the state of Oregon. The Company also participates in the wholesale market by purchasing and selling electricity and natural gas in an effort to obtain reasonably-priced power for its retail customers. PGE operates as a single segment, with revenues and costs related to its business activities maintained and analyzed on a total electric operations basis. The Company's corporate headquarters is located in Portland, Oregon and its approximately 4,000 square mile, state-approved service area is located entirely within the state of Oregon. PGE's allocated service area includes 51 incorporated cities. As of December 31, 2019, PGE served approximately 895,000 thousand retail customers with a service area population of approximately 1.9 million.

As of December 31, 2019, PGE had 2,949 employees, with 775 employees covered under one of two separate agreements with Local Union No. 125 of the International Brotherhood of Electrical Workers. Such agreements cover 719 and 56 employees and expire March 2022 and August 2022, respectively.

PGE is subject to the jurisdiction of the Public Utility Commission of Oregon (OPUC) with respect to retail prices, utility services, accounting policies and practices, issuances of securities, and certain other matters. Retail prices are based on the Company's cost to serve customers, including an opportunity to earn a reasonable rate of return, as determined by the OPUC. The Company is also subject to regulation by the Federal Energy Regulatory Commission (FERC) in matters related to wholesale energy transactions, transmission services, reliability standards, natural gas pipelines, hydroelectric project licensing, accounting policies and practices, short-term debt issuances, and certain other matters.

Consolidation Principles

The consolidated financial statements include the accounts of PGE and its wholly-owned subsidiaries. The Company's ownership share of direct expenses and costs related to jointly-owned generating plants are also included in its consolidated financial statements. For further information on PGE's jointly-owned plant, see Note 18, Jointly-Owned Plant. Intercompany balances and transactions have been eliminated.

Use of Estimates

The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, and disclosures of gain or loss contingencies, as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ materially from those estimates.

Reclassifications

To conform with the 2019 presentation, PGE has condensed the functional asset class presentation for Electric utility plant on the consolidated balance sheets for 2018, which is now presented within Note 4, Balance Sheet Components. PGE also reclassified Stock-based compensation expense of \$5 million in 2018 and \$7 million in 2017 from Other non-cash income and expense, net to its own line item within the operations section of the consolidated statements of cash flows.

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

NOTE 2: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Cash and Cash Equivalents

Highly liquid investments with maturities of three months or less at the date of acquisition are classified as cash equivalents, of which PGE had \$26 million as of December 31, 2019 and \$112 million as of December 31, 2018 included within Cash and cash equivalents in the consolidated balance sheets.

Accounts Receivable

Accounts receivable are recorded at invoiced amounts based on prices that are subject to federal (FERC) and state (OPUC) regulations. Balances do not bear interest; however, late fees are assessed beginning eight business days after the invoice due date. Accounts that are inactivated due to nonpayment are charged-off in the period in which the receivable is deemed uncollectible, but no sooner than 45 business days after the due date of the final invoice.

Provisions for uncollectible accounts receivable related to retail sales are charged to Administrative and other expense and are recorded in the same period as the related revenues, with an offsetting credit to the allowance for uncollectible accounts. Such estimates are based on management's assessment of the probability of collection, aging of accounts receivable, bad debt write-offs, actual customer billings, and other factors.

Provisions for uncollectible accounts receivable related to wholesale sales are charged to Purchased power and fuel expense and are recorded periodically based on a review of counterparty non-performance risk and contractual right of offset when applicable. There have been no material write-offs of accounts receivable related to wholesale sales in 2019, 2018, or 2017.

Price Risk Management

PGE engages in price risk management activities, utilizing financial instruments such as forward, future, swap, and option contracts for electricity, natural gas, and foreign currency. These instruments are measured at fair value and recorded on the consolidated balance sheets as assets or liabilities from price risk management activities. Changes in fair value are recognized in the consolidated statements of income, offset by the effects of regulatory accounting. Certain electricity forward contracts that were entered into in anticipation of serving the Company's regulated retail load may meet the requirements for treatment under the normal purchases and normal sales scope exception. Such contracts are not recorded at fair value and are recognized under accrual accounting.

Price risk management activities are utilized as economic hedges to protect against variability in expected future cash flows due to associated price risk and to manage exposure to volatility in net variable power costs (NVPC).

In accordance with ratemaking and cost recovery processes authorized by the OPUC, PGE recognizes a regulatory asset or liability to defer unrealized losses or gains, respectively, on derivative instruments until settlement. At the time of settlement, the Company recognizes a realized gain or loss on the derivative instrument.

Physically settled electricity and natural gas sale and purchase transactions are recorded in Revenues, net and Purchased power and fuel expense, respectively, upon settlement, while transactions that are not physically settled (financial transactions) are recorded on a net basis in Purchased power and fuel expense upon financial settlement.

Pursuant to transactions entered into in connection with PGE's price risk management activities, the Company may be required to provide collateral to certain counterparties. The collateral requirements are based on the contract terms and commodity prices and can vary period to period. Cash deposits provided as collateral are included within Other current assets in the consolidated balance sheets and were \$16 million as of December 31, 2019 and 2018. Letters of credit provided as collateral are not recorded on the Company's consolidated balance sheets and were \$15 million and \$48 million as of December 31, 2019 and 2018, respectively.

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

Inventories

PGE's inventories, which are recorded at average cost, consist primarily of materials and supplies for use in operations, maintenance, and capital activities, as well as fuel, which includes natural gas, coal, and oil for use in the Company's generating plants. Periodically, the Company assesses inventory for purposes of determining that inventories are recorded at the lower of average cost or net realizable value.

Electric Utility Plant

Capitalization Policy

Electric utility plant is capitalized at original cost, which includes direct labor, materials and supplies, and contractor costs, as well as indirect costs such as engineering, supervision, employee benefits, and an allowance for funds used during construction (AFDC). Plant replacements are capitalized, with minor items charged to expense as incurred. Periodic major maintenance inspections and overhauls at PGE's generating plants are charged to expense as incurred, subject to regulatory accounting as applicable. Costs to purchase or develop software applications for internal use only are capitalized and amortized over the estimated useful life of the software. Costs of obtaining FERC licenses for the Company's hydroelectric projects are capitalized and amortized over the related license period.

During the period of construction, costs expected to be included in the final value of the constructed asset, and depreciated once the asset is complete and placed in service, are classified as Construction work-in-progress (CWIP) in Electric utility plant on the consolidated balance sheets. If the project becomes probable of being abandoned, such costs are expensed in the period such determination is made. If any costs are expensed, PGE may seek recovery of such costs in customer prices, although there can be no guarantee such recovery would be granted. Costs disallowed for recovery in customer prices, if any, are charged to expense at the time such disallowance becomes probable.

PGE records AFDC, which is intended to represent the Company's cost of funds used for construction purposes, based on the rate granted in the latest general rate case for equity funds and the cost of actual borrowings for debt funds. AFDC is capitalized as part of the cost of plant and credited to the consolidated statements of income. The average rate used by PGE was 7.1% in 2019, and 7.3% in 2018 and 2017. AFDC from borrowed funds was \$5 million in 2019 and \$6 million in 2018 and 2017 and is reflected as a reduction to Interest expense, net. AFDC from equity funds, included in Other income, net, was \$10 million in 2019, \$11 million in 2018, and \$12 million in 2017.

On December 31, 2019, the FERC approved PGE's request to reclassify the functional asset classification of certain 115kV facilities from Distribution to Transmission to align classification with the primary function of these assets. As a result, on December 31, 2019, PGE reclassified \$223 million of Electric utility plant in service assets from Distribution to Transmission. Accumulated depreciation and amortization related to these facilities is \$113 million as of December 31, 2019. Additions to such assets, or construction of similar types of assets, will be classified as Transmission going forward.

Depreciation and Amortization

Depreciation is computed using the straight-line method, based upon original cost, and includes an estimate for cost of removal and expected salvage. Depreciation expense as a percent of the related average depreciable plant in service was 3.6% in 2019, 2018 and 2017. A component of depreciation expense includes estimated asset retirement removal costs allowed in customer prices.

Periodic studies are conducted to update depreciation parameters (i.e. retirement dispersion patterns, average service lives, and net salvage rates), including estimates of asset retirement obligations (AROs) and asset retirement

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

removal costs. The studies are conducted at a minimum of every five years and are filed with the OPUC for approval and inclusion in a future rate proceeding. The most recent depreciation study was completed based on 2015 data, with an order received from the OPUC in September 2017 authorizing new depreciation rates effective January 1, 2018. This study was incorporated into the Company's 2018 general rate case filed with the OPUC in 2017.

Thermal generation plants are depreciated using a life-span methodology which ensures that plant investment is recovered by the estimated retirement dates, which range from 2020 to 2059. Depreciation is provided on PGE's other classes of plant in service over their estimated average service lives, which are as follows (in years):

Generation, excluding thermal:	
Hydro	98
Wind	30
Transmission	59
Distribution	46
General	12

When property is retired and removed from service, the original cost of the depreciable property units, net of any related salvage value, is charged to accumulated depreciation. Cost of removal expenditures are recorded against AROs or to accumulated asset retirement removal costs, if applicable, and included in Regulatory liabilities.

Intangible plant consists primarily of computer software development costs, which are amortized over either five or ten years, and hydro licensing costs, which are amortized over the applicable license term, which range from 30 to 50 years. Accumulated amortization was \$366 million and \$302 million as of December 31, 2019 and 2018, respectively, with amortization expense of \$64 million in 2019, \$59 million in 2018, and \$46 million in 2017. Future estimated amortization expense as of December 31, 2019 is as follows: \$60 million in 2020; \$52 million in 2021; \$46 million in 2022; \$37 million in 2023; and \$32 million in 2024.

Marketable Securities

Nuclear decommissioning trust

Reflects assets held in trust to cover general decommissioning costs and operation of the Independent Spent Fuel Storage Installation (ISFSI) at the decommissioned Trojan nuclear power plant (Trojan), which was closed in 1993. The Nuclear decommissioning trust (NDT) includes amounts collected from customers, less qualified expenditures, plus any realized and unrealized gains and losses on the investments held therein.

Non-qualified benefit plan trust

Reflects assets held in trust to cover the obligations of PGE's non-qualified benefit plans (NQBP) and represents contributions made by the Company, less qualified expenditures, plus any realized and unrealized gains and losses on the investments held therein.

All of PGE's investments in marketable securities included in NDT and NQBP trust on the consolidated balance sheets, are classified as equity or trading debt securities. These securities are classified as noncurrent because they are not available for use in operations. Such securities are stated at fair value based on quoted market prices. Realized and unrealized gains and losses on the NQBP trust assets are included in Other income, net. Realized and unrealized gains and losses on the NDT fund assets are recorded as regulatory liabilities or assets, respectively, for future ratemaking treatment. The cost of securities sold is based on the average cost method.

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

Regulatory Accounting

Regulatory Assets and Liabilities

As a rate-regulated enterprise, PGE applies regulatory accounting, which results in the creation of regulatory assets and regulatory liabilities. Regulatory assets represent: i) probable future revenue associated with certain actual or estimated costs that are expected to be recovered from customers through the ratemaking process; or ii) probable future collections from customers resulting from revenue accrued for completed alternative revenue programs, provided certain criteria are met. Regulatory liabilities represent probable future reductions in revenue associated with amounts that are expected to be credited to customers through the ratemaking process. Regulatory accounting is appropriate as long as: i) prices are established by, or subject to, approval by independent third-party regulators; ii) prices are designed to recover the specific enterprise's cost of service; and iii) in view of demand for service, it is reasonable to assume that prices set at levels that will recover costs can be charged to and collected from customers. Once the regulatory asset or liability is reflected in prices, the respective regulatory asset or liability is amortized to the appropriate line item in the consolidated statement of income over the period in which it is included in prices.

Circumstances that could result in the discontinuance of regulatory accounting include: i) increased competition that restricts PGE's ability to establish prices to recover specific costs; and ii) a significant change in the manner in which prices are set by regulators from cost-based regulation to another form of regulation. The Company periodically reviews the criteria of regulatory accounting to ensure that its continued application is appropriate. Based on a current evaluation of the various factors and conditions, management believes that recovery of PGE's regulatory assets is probable.

For additional information concerning the Company's regulatory assets and liabilities, see Note 7, Regulatory Assets and Liabilities.

Power Cost Adjustment Mechanism

PGE is subject to a power cost adjustment mechanism (PCAM), as approved by the OPUC. Pursuant to the PCAM, future customer prices can be adjusted to reflect a portion of the difference between: i) NVPC forecast each year and included in customer prices (baseline NVPC); and ii) actual NVPC for the year. NVPC consists of the cost of power purchased and fuel used to generate electricity to meet PGE's retail load requirements, as well as the cost of settled electric and natural gas financial contracts, all of which is classified as Purchased power and fuel in the Company's consolidated statements of income, and is net of wholesale sales, which are classified as Revenues, net in the consolidated statements of income.

The Company is subject to a portion of the business risk or benefit associated with the difference between actual and baseline NVPC by application of an asymmetrical deadband, which ranges from \$15 million below to \$30 million above baseline NVPC.

To the extent actual NVPC, subject to certain adjustments, is outside the deadband range, the PCAM provides for 90% of the excess variance to be collected from, or refunded to, customers. Pursuant to a regulated earnings test, a refund will occur only to the extent that it results in PGE's actual regulated return on equity (ROE) for the given year being no less than 1% above the Company's latest authorized ROE, while a collection will occur only to the extent that it results in PGE's actual regulated ROE for that year being no greater than 1% below the Company's authorized ROE. PGE's authorized ROE was 9.5% for 2019 and 2018, and 9.6% for 2017.

Any estimated refund to customers pursuant to the PCAM is recorded as a reduction in Revenues, net in PGE's consolidated statements of income, while any estimated collection from customers is recorded as a reduction in Purchased power and fuel expense. A final determination of any customer refund or collection is made in the following year by the OPUC through a public filing and review. The PCAM has resulted in no collection from, or refund to, customers since 2011.

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Asset Retirement Obligations

Legal obligations related to the future retirement of tangible long-lived assets are classified as AROs on PGE's consolidated balance sheets. An ARO is recognized in the period in which the legal obligation is incurred, and when the fair value of the liability can be reasonably estimated. Due to the long lead time involved until decommissioning activities occur, the Company uses present value techniques because quoted market prices and market-risk premiums are not available. The present value of estimated future decommissioning costs is capitalized and included in Electric utility plant, net on the consolidated balance sheets with a corresponding offset to ARO. For revisions to AROs in which the related asset is no longer in service, the corresponding offset is recorded as a Regulatory asset on the consolidated balance sheets, except for those AROs related to non-utility assets which is charged to Depreciation and amortization on the consolidated statements of income. Such estimates are revised periodically, with actual settlements charged to the ARO as incurred.

The estimated capitalized costs of AROs are depreciated over the estimated life of the related asset, with such depreciation included in Depreciation and amortization in the consolidated statements of income. Changes in the ARO resulting from the passage of time (accretion) is based on the original discount rate and recognized as an increase in the carrying amount of the liability and as a charge to accretion expense, which is included in Depreciation and amortization expense in the Company's consolidated statements of income.

For additional information concerning the Company's AROs, see Note 8, Asset Retirement Obligations.

The difference between the timing of the recognition of ARO depreciation and accretion expenses and the amount included in customers' prices is recorded as a regulatory asset or liability in the Company's consolidated balance sheets. As of December 31, 2019, PGE had a net regulatory liability related to Utility plant AROs in the amount of \$54 million and a net regulatory asset related to Trojan decommissioning ARO activities of \$91 million. As of December 31, 2018, PGE had a net regulatory liability related to Utility plant AROs in the amount of \$53 million and a net regulatory asset related to Trojan decommissioning ARO activities of \$25 million. For additional information concerning the Company's regulatory assets and liabilities related to AROs, see Note 7, Regulatory Assets and Liabilities.

Contingencies

Contingencies are evaluated using the best information available at the time the consolidated financial statements are prepared. Legal costs incurred in connection with loss contingencies are expensed as incurred. Loss contingencies, including environmental contingencies, are accrued, and disclosed if material, when it is probable that an asset has been impaired, or a liability incurred, as of the financial statement date and the amount of the loss can be reasonably estimated. If a reasonable estimate of probable loss cannot be determined, a range of loss may be established, in which case the minimum amount in the range is accrued, unless some other amount within the range appears to be a better estimate.

A loss contingency will also be disclosed when it is reasonably possible that an asset has been impaired, or a liability, incurred if the estimate or range of potential loss is material. If a probable or reasonably possible loss cannot be determined, then the Company: i) discloses an estimate of such loss or the range of such loss, if the Company is able to determine such an estimate; or ii) discloses that an estimate cannot be made and the reasons why the estimate cannot be made.

If an asset has been impaired or a liability incurred after the financial statement date, but prior to the issuance of the financial statements, the loss contingency is disclosed, if material, and the amount of any estimated loss is recorded in either the current or the subsequent reporting period, depending on the nature of the underlying event.

Gain contingencies are recognized when realized and are disclosed when material.

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For additional information concerning the Company's contingencies, see Note 19, Contingencies.

Accumulated Other Comprehensive Loss

Accumulated other comprehensive loss (AOCL) presented on the consolidated balance sheets is comprised of the difference between the non-qualified benefit plans' obligations recognized in net income and the unfunded position.

Revenue Recognition

Revenue is recognized when obligations under the terms of a contract with customers are satisfied. Generally, this satisfaction of performance obligations and transfer of control occurs and revenues are recognized as electricity is delivered to customers, including any services provided. The prices charged, and amount of consideration PGE receives in exchange for its services provided, are regulated by the OPUC or the FERC. PGE recognizes revenue through the following steps: i) identifying the contract with the customer; ii) identifying the performance obligations in the contract; iii) determining the transaction price; iv) allocating the transaction price to the performance obligations; and v) recognizing revenue when or as each performance obligation is satisfied.

Franchise taxes, which are collected from customers and remitted to taxing authorities, are recorded on a gross basis in PGE's consolidated statements of income. Amounts collected from customers are included in Revenues, net and amounts due to taxing authorities are included in Taxes other than income taxes and totaled \$45 million in 2019 and 2018, and \$43 million in 2017.

Retail revenue is billed based on monthly meter readings taken at various cycle dates throughout the month. At the end of each month, PGE estimates the revenue earned from energy deliveries that remained unbilled to customers. The estimate, which is classified as Unbilled revenues in the Company's consolidated balance sheets, is calculated based on actual net retail system load each month, the number of days from the last meter read date through the last day of the month, and current customer prices.

As a rate-regulated utility, PGE, in certain situations, recognizes revenue to be billed to customers in future periods or defers the recognition of certain revenues to the period in which the related costs are incurred or approved by the OPUC for amortization. For additional information, see "*Regulatory Assets and Liabilities*" in this Note 2.

Alternative Revenue Programs

Revenues related to PGE's decoupling mechanism is considered earned under alternative revenue programs, as this amount represent a contract with the regulator and not with customers. Such revenues are presented separately from revenues from contracts with customers and classified as Alternative revenue programs, net of amortization on the consolidated statements of income. The activity within this line item is comprised of current period deferral adjustments, which can either be a collection from or a refund to customers, and is net of any related amortization. When amounts related to alternative revenue programs are ultimately included in prices and customer bills, the amounts are included within Revenues, net, with an equal and offsetting amount of amortization recorded on the Alternative revenue programs, net of amortization line item.

Stock-Based Compensation

The measurement and recognition of compensation expense for all share-based payment awards, including restricted stock units, is based on the estimated fair value of the awards. The fair value of the portion of the award that is ultimately expected to vest is recognized as expense over the requisite vesting period. PGE attributes the value of stock-based compensation to expense on a straight-line basis. For additional information concerning the Company's Stock-Based Compensation, see Note 14, Stock-Based Compensation Expense.

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Income Taxes

Income taxes are accounted for under the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of temporary differences between financial statement carrying amounts and tax bases of assets and liabilities. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in current and future periods that includes the enactment date. Any valuation allowance would be established to reduce deferred tax assets to the “more likely than not” amount expected to be realized in future tax returns.

Because PGE is a rate-regulated enterprise, changes in certain deferred tax assets and liabilities are required to be passed on to customers through future prices and are charged or credited directly to a regulatory asset or regulatory liability. Such amounts were recognized as net regulatory liabilities of \$260 million and \$267 million as of December 31, 2019 and 2018, respectively, and will primarily be amortized using the average rate assumption method to account for the refund to customers as the temporary differences reverse.

Unrecognized tax benefits represent management’s expected treatment of a tax position taken in a filed tax return or planned to be taken in a future tax return, that has not been reflected in measuring income tax expense for financial reporting purposes. Until such positions are no longer considered uncertain, PGE would not recognize the tax benefits resulting from such positions and would report the tax effect as a liability in the Company’s consolidated balance sheets.

PGE records any interest and penalties related to income tax deficiencies in Interest expense and Other income, net, respectively, in the consolidated statements of income.

Recent Accounting Pronouncements

In August 2018, the FASB issued ASU 2018-13 *Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement*. ASU 2018-13 amends Topic 820 to add, remove, and clarify disclosure requirements related to fair value measurement disclosures. For calendar year-end entities, the update will be effective for annual periods beginning January 1, 2020, and interim periods within those fiscal years. Early adoption of the amendments is permitted, including adoption in any interim period. As the standard relates only to disclosures, PGE does not expect the adoption to have a material impact on the consolidated financial statements and does not plan to early adopt.

In August 2018, the FASB issued ASU 2018-15 *Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer’s Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*, to provide guidance on implementation costs incurred in a cloud computing arrangement that is a service contract. ASU 2018-15 aligns the accounting for such costs with the guidance on capitalizing costs associated with developing or obtaining internal-use software. For calendar year-end entities, the update will be effective for annual periods beginning on January 1, 2020. Early adoption is permitted, including adoption in an interim period. The amendments in this update may be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption. PGE does not expect the adoption to have a material impact on the consolidated financial statements and does not plan to early adopt.

In August 2018, the FASB issued ASU 2018-14 *Compensation—Retirement Benefits—Defined Benefit Plans—General (Subtopic 715-20): Disclosure Framework—Changes to the Disclosure Requirements for Defined Benefit Plans*. ASU 2018-14 amends Topic 715 to add, remove, and clarify disclosure requirements related to defined benefit pension and other postretirement plans. For calendar year-end entities, the update will be effective for annual periods beginning on January 1, 2021. Early adoption is permitted. As the standard relates only to disclosures, PGE

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does not expect the adoption to have a material impact on the consolidated financial statements and is still evaluating whether it will early adopt.

Recently Adopted Accounting Pronouncements

On January 1, 2019, PGE adopted ASU 2016-02, *Leases* (Topic 842), which supersedes the previous lease accounting requirements for lessees and lessors within Topic 840, *Leases*. The Company elected the practical expedient provided under ASU 2018-11, *Leases (Topic 842) Targeted Improvements*, which amended ASU 2016-02 to provide entities an optional transition practical expedient to adopt the new standard with a cumulative effect adjustment as of the beginning of the year of adoption with prior year comparative financial information and disclosures remaining as previously reported. As a result, no adjustments were made to the balance sheet prior to January 1, 2019 and amounts are reported in accordance with historical accounting under Topic 840, while the balance sheet as of December 31, 2019 is presented under Topic 842. The Company also elected the practical expedient provided under ASU 2018-01, *Leases (Topic 842) Land Easement Practical Expedient for Transition to Topic 842*, which amended ASU 2016-02 to provide entities an optional transition practical expedient to not evaluate under Topic 842, existing or expired land easements that were not previously accounted for as leases under the previous leases guidance in Topic 840. Effective January 1, 2019, PGE evaluates new or modified land easements under Topic 842.

PGE's transition to the new lease standard did not result in a material adjustment to beginning retained earnings and the Company expects the adoption of the new standard to have an immaterial impact to its results of operations on an ongoing basis. Upon transition, PGE elected to reassess all arrangements that may contain a lease and their resulting lease classification which resulted in the following balance sheet adjustments as of January 1, 2019: i) the recognition of right-of-use assets and liabilities from operating and finance leases of \$44 million pursuant to the new standard; ii) the derecognition of existing build-to-suit assets and liabilities of \$131 million that were no longer considered to meet build-to-suit criteria under Topic 842 and were not recognized on the Company's balance sheet until commencement, which occurred in the second quarter of 2019; and iii) the derecognition of \$49 million in lease assets and liabilities related to an existing gas pipeline lateral capital lease that no longer met the definition of a lease under the new standard. The following table illustrates the adjustments made upon adoption of Topic 842 and the corresponding line items affected on the Company's consolidated balance sheets (in millions):

January 1, 2019 Topic 842 Adoption Adjustments

	Increase due to existing operating and finance leases	Decrease due to build- to-suit reassessment	Decrease due to capital lease reassessment	Total Increase/(Decrease)
Assets				
Electric utility plant, net	\$ 2	\$ (131)	\$ (49)	\$ (178)
Other noncurrent assets	42	—	—	42
Liabilities				
Accrued expenses and other current liabilities	5	—	(2)	3
Other noncurrent liabilities	39	(131)	(47)	(139)

For new required disclosures and further information see Note 17, Leases. The transition to the new standard did not have a material impact on the Company's financial position.

On January 1, 2019 PGE adopted ASU 2018-02 *Income Statement—Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income* (ASU 2018-02). ASU 2018-02 allows for a reclassification from accumulated other comprehensive income to retained earnings for the

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stranded tax effects resulting from the United States Tax Cuts and Jobs Act of 2017 (TCJA). The amendments only relate to the reclassification of the income tax effects of the TCJA, and therefore the underlying guidance that requires that the effect of a change in tax laws or rates be included in income from continuing operations is not affected. As a result, PGE reclassified \$2 million from Accumulated other compressive loss to Retained earnings during the period of adoption rather than applying the standard retrospectively. The implementation did not result in a material impact to the results of operation, financial position or statements of cash flows.

NOTE 3: REVENUE RECOGNITION

Disaggregated Revenue

The following table presents PGE's revenue, disaggregated by customer type (in millions):

	Year Ended December 31,	
	2019	2018
Retail:		
Residential	\$ 981	\$ 948
Commercial	636	647
Industrial	196	185
Direct access customers	44	43
Subtotal	1,857	1,823
Alternative revenue programs, net of amortization	2	3
Other accrued (deferred) revenues, net ⁽¹⁾	22	(45)
Total retail revenues	1,881	1,781
Wholesale revenues ⁽²⁾	170	159
Other operating revenues	72	51
Total revenues	\$ 2,123	\$ 1,991

(1) Amounts for the year ended December 31, 2019 and 2018 is primarily comprised of \$23 million of amortization and \$45 million of deferral, respectively, related to the 2018 net tax benefits due to the change in corporate tax rate under the TCJA. For further information, see Note 12, Income Taxes.

(2) Wholesale revenues include \$50 million and \$42 million related to electricity commodity contract derivative settlements for the year ended December 31, 2019 and 2018, respectively. Price risk management derivative activities are included within Total revenues but do not represent revenues from contracts with customers as defined by GAAP, pursuant to Topic 606. For further information, see Note 6, Risk Management.

Retail Revenues

The Company's primary revenue source is the sale of electricity to customers at regulated tariff-based prices. Retail customers are classified as residential, commercial, or industrial. Residential customers include single family housing, multiple family housing (such as apartments, duplexes, and town homes), manufactured homes, and small farms. Residential demand is sensitive to the effects of weather, with demand highest during the winter heating and summer cooling seasons. Commercial customers consist of non-residential customers who accept energy deliveries at voltages equivalent to those delivered to residential customers. Commercial customers include most businesses, small industrial companies, and public street and highway lighting accounts. Industrial customers consist of non-residential customers who accept delivery at higher voltages than commercial customers. Demand from industrial customers is primarily driven by economic conditions, with weather having little impact on energy use by this customer class.

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In accordance with state regulations, PGE's retail customer prices are based on the Company's cost of service and are determined through general rate case proceedings and various tariff filings with the OPUC. Additionally, the Company offers pricing options that include a daily market price option, various time-of-use options, and several renewable energy options.

PGE's obligation to sell electricity to retail customers generally represents a single performance obligation representing a series of distinct services that are substantially the same and have the same pattern of transfer to the customer that is satisfied over time as customers simultaneously receive and consume the benefits provided. PGE applies the invoice method to measure its progress towards satisfactorily completing its performance obligations.

Pursuant to regulation by the OPUC, PGE is mandated to maintain several tariff schedules to collect funds from customers associated with activities for the benefit of the general public, such as conservation, low-income housing, energy efficiency, renewable energy programs, and privilege taxes. For such programs, PGE generally collects the funds and remits the amounts to third party agencies that administer the programs. In these arrangements, PGE is considered to be an agent, as PGE's performance obligation is to facilitate a transaction between customers and the administrators of these programs. Therefore, such amounts are presented on a net basis and do not appear in Revenues, net within the consolidated statements of income.

Wholesale Revenues

PGE participates in the wholesale electricity marketplace in order to balance its supply of power to meet the needs of its retail customers. Interconnected transmission systems in the western United States serve utilities with diverse load requirements and allow the Company to purchase and sell electricity within the region depending upon the relative price and availability of power, hydro, solar, and wind conditions, and daily and seasonal retail demand.

PGE's Wholesale revenues are primarily short-term electricity sales to utilities and power marketers that consist of single performance obligations that are satisfied as energy is transferred to the counterparty. The Company may choose to net certain purchase and sale transactions in which it would simultaneously receive and deliver physical power with the same counterparty; in such cases, only the net amount of those purchases or sales required to meet retail and wholesale obligations will be physically settled and recorded in Wholesale revenues.

Other Operating Revenues

Other operating revenues consist primarily of gains and losses on the sale of natural gas volumes purchased that exceeded what was needed to fuel the Company's generating facilities, as well as revenues from transmission services, excess transmission capacity resale, excess fuel sales, utility pole attachment revenues, and other electric services provided to customers.

NOTE 4: BALANCE SHEET COMPONENTS

Accounts Receivable, Net

Accounts receivable is net of an allowance for uncollectible accounts of \$5 million as of December 31, 2019 and \$15 million as of December 31, 2018. The following is the activity in the allowance for uncollectible accounts (in millions):

	Years Ended December 31,		
	2019	2018	2017
Balance as of beginning of year	\$ 15	\$ 6	\$ 6
Increase in provision	2	14	6
Amounts written off, less recoveries	(12)	(5)	(6)
Balance as of end of year	<u>\$ 5</u>	<u>\$ 15</u>	<u>\$ 6</u>

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Other Current Assets and Accrued Expenses and Other Current Liabilities

Other current assets and Accrued expenses and other current liabilities consist of the following (in millions):

	As of December 31,	
	2019	2018
Other current assets:		
Prepaid expenses	\$ 63	\$ 54
Margin deposits	16	16
Assets from price risk management activities	25	20
	<u>\$ 104</u>	<u>\$ 90</u>
Accrued expenses and other current liabilities:		
Regulatory liabilities—current	\$ 44	\$ 36
Accrued employee compensation and benefits	74	66
Accrued dividends payable	36	34
Accrued interest payable	25	27
Accrued taxes payable	33	34
Other	103	71
	<u>\$ 315</u>	<u>\$ 268</u>

Electric Utility Plant, Net

Electric utility plant, net consist of the following (in millions):

	As of December 31,	
	2019	2018
Electric utility plant:		
Generation	\$ 4,749	\$ 4,600
Transmission	848	580
Distribution	3,917	3,838
General	656	611
Intangible	758	715
Total in service	<u>10,928</u>	<u>10,344</u>
Accumulated depreciation and amortization	(4,095)	(3,803)
Total in service, net	<u>6,833</u>	<u>6,541</u>
Construction work-in-progress	328	346
Electric utility plant, net	<u>\$ 7,161</u>	<u>\$ 6,887</u>

NOTE 5: FAIR VALUE OF FINANCIAL INSTRUMENTS

PGE determines the fair value of financial instruments, both assets and liabilities recognized and not recognized in the Company's consolidated balance sheets, for which it is practicable to estimate fair value as of December 31, 2019 and 2018. The Company then classifies these financial assets and liabilities based on a fair value hierarchy that is applied to prioritize the inputs to the valuation techniques used to measure fair value. The three levels of the fair value hierarchy and application to the Company are discussed below.

Level 1 Quoted prices are available in active markets for identical assets or liabilities as of the measurement date.

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Level 2 Pricing inputs include those that are directly or indirectly observable in the marketplace as of the measurement date.

Level 3 Pricing inputs include significant inputs that are unobservable for the asset or liability.

Financial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The Company's assessment of the significance of a particular input to the fair value measurement requires judgment and may affect the valuation of fair value assets and liabilities and their placement within the fair value hierarchy. Assets measured at fair value using net asset value (NAV) as a practical expedient are not categorized in the fair value hierarchy. These assets are listed in the totals of the fair value hierarchy to permit the reconciliation to amounts presented in the financial statements.

PGE recognizes transfers between levels in the fair value hierarchy as of the end of the reporting period for all of its financial instruments. Changes to market liquidity conditions, the availability of observable inputs, or changes in the economic structure of a security marketplace may require transfer of the securities between levels. There were no significant transfers between levels during the years ended December 31, 2019 and 2018, except those presented in this note.

The Company's financial assets and liabilities whose values were recognized at fair value are as follows by level within the fair value hierarchy (in millions):

	As of December 31, 2019				
	Level 1	Level 2	Level 3	Other⁽²⁾	Total
Assets:					
Cash equivalents	\$ 26	\$ —	\$ —	\$ —	\$ 26
Nuclear decommissioning trust: ⁽¹⁾					
Debt securities:					
Domestic government	8	16	—	—	24
Corporate credit	—	9	—	—	9
Money market funds measured at NAV ⁽²⁾	—	—	—	13	13
Non-qualified benefit plan trust: ⁽³⁾					
Money market funds	1	—	—	—	1
Equity securities—domestic	7	—	—	—	7
Debt securities—domestic government	1	—	—	—	1
Price risk management activities: ⁽¹⁾⁽⁴⁾					
Electricity	—	9	7	—	16
Natural gas	—	21	1	—	22
	<u>\$ 43</u>	<u>\$ 55</u>	<u>\$ 8</u>	<u>\$ 13</u>	<u>\$ 119</u>
Liabilities:					
Price risk management activities: ⁽¹⁾⁽⁴⁾					
Electricity	\$ —	\$ 14	\$ 105	\$ —	\$ 119
Natural gas	—	12	—	—	12
	<u>\$ —</u>	<u>\$ 26</u>	<u>\$ 105</u>	<u>\$ —</u>	<u>\$ 131</u>

(1) Activities are subject to regulation, with gains and losses deferred pursuant to regulatory accounting and included in regulatory assets or regulatory liabilities as appropriate.

(2) Assets are measured at NAV as a practical expedient and not subject to hierarchy level classification disclosure.

(3) Excludes insurance policies of \$29 million, which are recorded at cash surrender value.

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(4) For further information regarding price risk management derivatives, see Note 6, Risk Management.

	As of December 31, 2018				
	Level 1	Level 2	Level 3	Other ⁽²⁾	Total
Assets:					
Cash equivalents	\$ 112	\$ —	\$ —	\$ —	\$ 112
Nuclear decommissioning trust: ⁽¹⁾					
Debt securities:					
Domestic government	7	18	—	—	25
Corporate credit	—	10	—	—	10
Money market funds measured at NAV ⁽²⁾	—	—	—	7	7
Non-qualified benefit plan trust: ⁽³⁾					
Money market funds	2	—	—	—	2
Equity securities—domestic	6	—	—	—	6
Debt securities—domestic government	1	—	—	—	1
Price risk management activities: ⁽¹⁾⁽⁴⁾					
Electricity	—	9	3	—	12
Natural gas	—	8	—	—	8
	<u>\$ 128</u>	<u>\$ 45</u>	<u>\$ 3</u>	<u>\$ 7</u>	<u>\$ 183</u>
Liabilities:					
Interest rate swap derivatives	\$ —	\$ 4	\$ —	\$ —	4
Price risk management activities: ⁽¹⁾⁽⁴⁾					
Electricity	—	10	84	—	94
Natural gas	—	51	7	—	58
	<u>\$ —</u>	<u>\$ 65</u>	<u>\$ 91</u>	<u>\$ —</u>	<u>\$ 156</u>

(1) Activities are subject to regulation, with certain gains and losses deferred pursuant to regulatory accounting and included in regulatory assets or regulatory liabilities as appropriate.

(2) Assets are measured at NAV as a practical expedient and not subject to hierarchy level classification disclosure.

(3) Excludes insurance policies of \$27 million, which are recorded at cash surrender value.

(4) For further information regarding price risk management derivatives, see Note 6, Risk Management.

Cash equivalents are highly liquid investments with maturities of three months or less at the date of acquisition and primarily consist of money market funds. Such funds seek to maintain a stable net asset value and are comprised of short-term, government funds. Policies of such funds require that the weighted-average maturity of securities held by the funds do not exceed 90 days and investors have the ability to redeem shares daily at the net asset value of the respective fund. These cash equivalents are classified as Level 1 in the fair value hierarchy due to the availability of quoted prices for identical assets in an active market as of the measurement date. Principal markets for money market fund prices include published exchanges such as National Association of Securities Dealers Automated Quotations (NASDAQ) and the New York Stock Exchange (NYSE).

Assets held in the NDT and NQBP trusts are recorded at fair value in PGE's consolidated balance sheets and invested in securities that are exposed to interest rate, credit, and market volatility risks. These assets are classified within Level 1, 2, or 3 based on the following factors:

Debt securities—PGE invests in highly-liquid United States Treasury securities to support the investment objectives of the trusts. These domestic government securities are classified as Level 1 in the fair value

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hierarchy due to the availability of quoted prices for identical assets in an active market as of the measurement date.

Assets classified as Level 2 in the fair value hierarchy include domestic government debt securities, such as municipal debt, and corporate credit securities. Prices are determined by evaluating pricing data such as broker quotes for similar securities and adjusted for observable differences. Significant inputs used in valuation models generally include benchmark yield and issuer spreads. The external credit rating, coupon rate, and maturity of each security are considered in the valuation, as applicable.

Equity securities—Equity mutual fund and common stock securities are classified as Level 1 in the fair value hierarchy due to the availability of quoted prices for identical assets in an active market as of the measurement date. Principal markets for equity prices include published exchanges such as NASDAQ and the NYSE.

Money market funds—PGE invests in money market funds that seek to maintain a stable net asset value. These funds invest in high-quality, short-term, diversified money market instruments, short-term treasury bills, federal agency securities, certificates of deposits, and commercial paper. The Company believes the redemption value of these funds is likely to be the fair value, which is represented by the net asset value. Redemption is permitted daily without written notice.

The NQBP trust is invested in exchange traded government money market funds and is classified as Level 1 in the fair value hierarchy due to the availability of quoted prices in published exchanges such as NASDAQ and the NYSE. The money market fund in the NDT is valued at NAV as a practical expedient and is not included in the fair value hierarchy.

Liabilities from interest rate swap derivatives are recorded at fair value in PGE's consolidated balance sheets and consist of forward starting interest rate swap lock agreements to hedge a portion of its interest rate risk associated with anticipated issuances of fixed-rate, long-term debt securities. To establish fair values for interest rate swap derivatives, the Company uses forward market curves for interest rates for the term of the swaps and discounts the cash flows back to present value using an appropriate discount rate. The discount rate is calculated by third party brokers according to the terms of the swap derivatives and evaluated by the Company for reasonableness. Future cash flows of the interest rate swap derivatives are equal to the fixed interest rate in the swap compared to the floating market interest rate multiplied by the notional amount for each period.

Assets and liabilities from price risk management activities are recorded at fair value in PGE's consolidated balance sheets and consist of derivative instruments entered into by the Company to manage its exposure to commodity price risk and foreign currency exchange rate risk and to reduce volatility in NVPC. For additional information regarding these assets and liabilities, see Note 6, Risk Management.

For those assets and liabilities from price risk management activities classified as Level 2, fair value is derived using present value formulas that utilize inputs such as forward commodity prices and interest rates. Substantially all of these inputs are observable in the marketplace throughout the full term of the instrument, can be derived from observable data, or are supported by observable levels at which transactions are executed in the marketplace. Instruments in this category include commodity forwards, futures, and swaps.

Assets and liabilities from price risk management activities classified as Level 3 consist of instruments for which fair value is derived using one or more significant inputs that are not observable for the entire term of the instrument. These instruments consist of longer-term commodity forwards, futures, and swaps.

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Quantitative information regarding the significant, unobservable inputs used in the measurement of Level 3 assets and liabilities from price risk management activities is presented below:

Commodity Contracts	Fair Value		Valuation Technique	Significant Unobservable Input	Price per Unit		Weighted Average
	Assets	Liabilities			Low	High	
(in millions)							
As of December 31, 2019:							
Electricity physical forward	\$ —	\$ 104	Discounted cash flow	Electricity forward price (per MWh)	\$ 12.53	\$ 59.00	\$ 36.92
Natural gas financial swaps	1	—	Discounted cash flow	Natural gas forward price (per Dth)	1.39	3.73	1.90
Electricity financial futures	7	1	Discounted cash flow	Electricity forward price (per MWh)	10.57	66.32	45.11
	<u>\$ 8</u>	<u>\$ 105</u>					
As of December 31, 2018:							
Electricity physical forward	\$ 3	\$ 84	Discounted cash flow	Electricity forward price (per MWh)	\$ 14.60	\$ 69.00	\$ 45.00
Natural gas financial swaps	—	7	Discounted cash flow	Natural gas forward price (per Dth)	0.95	4.64	1.82
Electricity financial futures	—	—	Discounted cash flow	Electricity forward price (per MWh)	20.75	35.46	28.63
	<u>\$ 3</u>	<u>\$ 91</u>					

The significant unobservable inputs used in the Company's fair value measurement of price risk management assets and liabilities are long-term forward prices for commodity derivatives. For shorter-term contracts, PGE employs the mid-point of the bid-ask spread of the market and these inputs are derived using observed transactions in active markets, as well as historical experience as a participant in those markets. These price inputs are validated against independent market data from multiple sources. For certain long-term contracts, observable, liquid market transactions are not available for the duration of the delivery period. In such instances, the Company uses internally-developed price curves, which derive longer-term prices and utilize observable data when available. When not available, regression techniques are used to estimate unobservable future prices. In addition, changes in the fair value measurement of price risk management assets and liabilities are analyzed and reviewed on a quarterly basis by the Company.

The Company's Level 3 assets and liabilities from price risk management activities are sensitive to market price changes in the respective underlying commodities. The significance of the impact is dependent upon the magnitude of the price change and the Company's position as either the buyer or seller of the contract. Sensitivity of the fair value measurements to changes in the significant unobservable inputs is as follows:

Significant Unobservable Input	Position	Change to Input	Impact on Fair Value Measurement
Market price	Buy	Increase (decrease)	Gain (loss)
Market price	Sell	Increase (decrease)	Loss (gain)

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Changes in the fair value of net liabilities from price risk management activities (net of assets from price risk management activities) classified as Level 3 in the fair value hierarchy were as follows (in millions):

	Years Ended December 31,	
	2019	2018
Net liabilities from price risk management activities as of beginning of year	\$ 88	\$ 139
Net realized and unrealized losses/(gains) *	10	(40)
Net transfers out of Level 3 to Level 2	(1)	(11)
Net liabilities from price risk management activities as of end of year	\$ 97	\$ 88
Level 3 net unrealized losses/(gains) that have been fully offset by the effect of regulatory accounting	\$ 16	\$ (32)

* Includes \$6 million in net realized gains in 2019 and \$8 million in 2018.

Transfers into Level 3 occur when significant inputs used to value the Company's derivative instruments become less observable, such as a delivery location becoming significantly less liquid. During the years ended December 31, 2019 and 2018, there were no transfers into Level 3 from Level 2. Transfers out of Level 3 occur when the significant inputs become more observable, such as when the time between the valuation date and the delivery term of a transaction becomes shorter. PGE records transfers in and transfers out of Level 3 at the end of the reporting period for all of its derivative instruments.

Transfers from Level 2 to Level 1 for the Company's price risk management assets and liabilities do not occur as quoted prices are not available for identical instruments. As such, the Company's assets and liabilities from price risk management activities mature and settle as Level 2 fair value measurements.

Long-term debt is recorded at amortized cost in PGE's consolidated balance sheets. The fair value of the Company's First Mortgage Bonds (FMBs) and Pollution Control Revenue Bonds (PCRBs) is classified as a Level 2 fair value measurement.

As of December 31, 2019, the carrying amount of PGE's long-term debt was \$2,597 million, net of \$11 million of unamortized debt expense, and its estimated aggregate fair value was \$3,039 million. As of December 31, 2018, the carrying amount of PGE's long-term debt was \$2,478 million, net of \$10 million of unamortized debt expense, with an estimated aggregate fair value of \$2,760 million.

For fair value information concerning the Company's pension plan assets, see Note 11, Employee Benefits.

NOTE 6: RISK MANAGEMENT

Price Risk Management

PGE participates in the wholesale marketplace to balance its supply of power, which consists of its own generation combined with wholesale market transactions, to meet the needs of its retail customers, manage risk, and administer the Company's long-term wholesale contracts. Wholesale market transactions include purchases and sales of both power and fuel resulting from economic dispatch decisions with respect to Company-owned generating resources. As a result of this ongoing business activity, PGE is exposed to commodity price risk and foreign currency exchange rate risk, from which changes in prices and/or rates may affect the Company's financial position, results of operations, or cash flow.

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PGE utilizes derivative instruments to manage its exposure to commodity price risk and foreign exchange rate risk in order to manage volatility in NVPC for its retail customers. Such derivative instruments, recorded at fair value on the consolidated balance sheets, may include forward, futures, swap, and option contracts for electricity, natural gas, and foreign currency, with changes in fair value recorded in the consolidated statements of income. In accordance with ratemaking and cost recovery processes authorized by the OPUC, the Company recognizes a regulatory asset or liability to defer the gains and losses from derivative activity until settlement of the associated derivative instrument. PGE may designate certain derivative instruments as cash flow hedges or may use derivative instruments as economic hedges. The Company does not engage in trading activities for non-retail purposes.

PGE's Assets and Liabilities from price risk management activities consist of the following (in millions):

	As of December 31,	
	2019	2018
Current assets:		
Commodity contracts:		
Electricity	\$ 9	\$ 11
Natural gas	16	7
Total current derivative assets ⁽¹⁾	25	18
Noncurrent assets:		
Commodity contracts:		
Electricity	7	1
Natural gas	6	1
Total noncurrent derivative assets ⁽¹⁾	13	2
Total derivative assets ⁽²⁾	<u>\$ 38</u>	<u>\$ 20</u>
Current liabilities:		
Commodity contracts:		
Electricity	\$ 14	\$ 16
Natural gas	9	35
Total current derivative liabilities	23	51
Noncurrent liabilities:		
Commodity contracts:		
Electricity	105	78
Natural gas	3	23
Total noncurrent derivative liabilities	108	101
Total derivative liabilities ⁽²⁾	<u>\$ 131</u>	<u>\$ 152</u>

(1) Total current derivative assets is included in Other current assets, and Total noncurrent derivative assets is included in Other noncurrent assets on the consolidated balance sheets.

(2) As of December 31, 2019 and 2018, no commodity derivative assets or liabilities were designated as hedging instruments.

PGE's net volumes related to its Assets and Liabilities from price risk management activities resulting from its derivative transactions, which are expected to deliver or settle at various dates through 2035, were as follows (in millions):

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	As of December 31,			
	2019		2018	
Commodity contracts:				
Electricity	6	MWh	5	MWh
Natural gas	145	Dth	123	Dth
Foreign currency exchange	\$ 23	Canadian	\$ 18	Canadian

PGE has elected to report positive and negative exposures resulting from derivative instruments pursuant to agreements that meet the definition of a master netting arrangement at gross values on the consolidated balance sheet. In the case of default on, or termination of, any contract under the master netting arrangements, such agreements provide for the net settlement of all related contractual obligations with a given counterparty through a single payment. These types of transactions may include non-derivative instruments, derivatives qualifying for scope exceptions, receivables and payables arising from settled positions, and other forms of non-cash collateral, such as letters of credit. As of December 31, 2019, PGE had no material gross master netting arrangements. As of December 31, 2018, gross amounts included as Price risk management liabilities subject to master netting agreements were \$88 million, for which PGE posted collateral of \$11 million, which consisted entirely of letters of credit. Of the gross amounts recognized as of December 31, 2018, \$84 million was for electricity and \$4 million was for natural gas.

Net realized and unrealized losses (gains) on derivative transactions not designated as hedging instruments are classified in Purchased power and fuel in the consolidated statements of income and were as follows (in millions):

	Years Ended December 31,		
	2019	2018	2017
Commodity contracts:			
Electricity	\$ 20	\$ (34)	\$ 41
Natural Gas	(32)	21	85
Foreign currency exchange	(1)	1	(1)

Net unrealized and certain net realized losses (gains) presented in the table above are offset within the consolidated statements of income by the effects of regulatory accounting. Of the net amounts recognized in Net income, net gains of \$2 million, net gains of \$18 million, and net losses of \$82 million for the years ended December 31, 2019, 2018, and 2017, respectively, have been offset.

Assuming no changes in market prices and interest rates, the following table presents the years in which the net unrealized (gains)/losses recorded as of December 31, 2019 related to PGE's derivative activities would become realized as a result of the settlement of the underlying derivative instrument (in millions):

	2020	2021	2022	2023	2024	Thereafter	Total
Commodity contracts:							
Electricity	\$ 5	\$ 1	\$ 7	\$ 7	\$ 7	\$ 76	\$ 103
Natural gas	(7)	(2)	(1)	—	—	—	(10)
Net unrealized (gain)/loss	<u>\$ (2)</u>	<u>\$ (1)</u>	<u>\$ 6</u>	<u>\$ 7</u>	<u>\$ 7</u>	<u>\$ 76</u>	<u>\$ 93</u>

PGE's secured and unsecured debt is currently rated at investment grade by Moody's Investors Service (Moody's) and S&P Global Ratings (S&P). Should Moody's and/or S&P reduce their rating on the Company's unsecured debt to below investment grade, PGE could be subject to requests by certain wholesale counterparties to post additional performance assurance collateral, in the form of cash or letters of credit, based on total portfolio positions with each

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of those counterparties. Certain other counterparties would have the right to terminate their agreements with the Company.

The aggregate fair value of derivative instruments with credit-risk-related contingent features that were in a liability position as of December 31, 2019 was \$122 million, for which the Company has posted \$15 million in collateral, consisting entirely of letters of credit. If the credit-risk-related contingent features underlying these agreements were triggered as of December 31, 2019, the cash requirement to either post as collateral or settle the instruments immediately would have been \$114 million. As of December 31, 2019, PGE had no posted cash collateral for derivative instruments with no credit-risk-related contingent features. Cash collateral for derivative instruments is classified as Margin deposits included in Other current assets on the Company's consolidated balance sheet.

Counterparties representing 10% or more of Assets and Liabilities from price risk management activities were as follows:

	As of December 31,	
	2019	2018
Assets from price risk management activities:		
Counterparty A	35%	42%
Counterparty B	1	15
Counterparty C	13	5
Counterparty D	11	6
Counterparty E	11	9
	71%	77%
Liabilities from price risk management activities:		
Counterparty F	79%	56%

For additional information concerning the determination of fair value for the Company's Assets and Liabilities from price risk management activities, see Note 5, Fair Value of Financial Instruments.

Interest Rate Risk

In 2018 PGE entered into two forward starting interest rate swap lock agreements to hedge a portion of its interest rate risk associated with anticipated issuances of fixed-rate, long-term debt securities. These derivative instruments were designated as cash flow hedges, protecting against the risk of changes in future interest payments that could have resulted from changes in benchmark U.S. Treasury rates between the date of hedge inception and the date of the debt issuance.

As of December 31, 2018, the fair value of the interest rate swaps was a \$4 million liability, which was recorded in Liabilities from price risk management activities - current on the Company's consolidated balance sheets. The swaps settled at a \$5 million loss in January 2019, which was recorded in Regulatory assets - noncurrent on the consolidated balance sheets, and will be amortized as a component of interest expense over the life of the associated debt. Such amounts are also included as a component of cost of debt for ratemaking purposes. As of December 31, 2019, the Company had no outstanding interest rate swaps.

NOTE 7: REGULATORY ASSETS AND LIABILITIES

The majority of PGE's regulatory assets and liabilities are reflected in customer prices and are amortized over the period in which they are reflected in customer prices. Items not currently reflected in prices are pending before the regulatory body as discussed below.

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Regulatory assets and liabilities consist of the following (dollars in millions):

	Remaining Amortization Period	As of December 31,			
		2019			2018
		Earning a Return ⁽¹⁾	Not Earning a Return	Total	Total
Regulatory assets:					
Price risk management	2035	\$ —	\$ 95	\$ 95	\$ 131
Pension and other postretirement plans	⁽²⁾	—	213	213	222
Debt issuance costs	2049	—	26	26	16
Trojan decommissioning activities	2059	—	94	94	26
Other	Various	62	10	72	67
Total regulatory assets		<u>\$ 62</u>	<u>\$ 438</u>	<u>\$ 500</u>	<u>\$ 462</u>
Regulatory liabilities:					
Asset retirement removal costs	⁽³⁾	\$ 1,021	\$ —	\$ 1,021	\$ 979
Deferred income taxes	⁽⁴⁾	260	—	260	267
Asset retirement obligations	⁽³⁾	54	—	54	53
Tax reform deferral ⁽⁵⁾	2020	23	—	23	45
Other	Various	47	16	63	47
Total regulatory liabilities		<u>\$ 1,405</u>	<u>\$ 16</u>	<u>\$ 1,421</u>	<u>\$ 1,391</u>

(1) Earning a return includes either interest on the regulatory asset or liability, or inclusion of the regulatory asset or liability as an increase or decrease to rate base at the allowed rate of return.

(2) Recovery expected over the average service life of employees.

(3) Recovery or refund expected over the estimated lives of the underlying assets and treated as a reduction to rate base.

(4) Refund expected primarily through amortization using the average rate assumption method over the average life of the underlying assets and treated as a reduction to rate base.

(5) Refund related to the deferral of the 2018 net tax benefits due to the change in corporate tax rate under TCJA, including interest, over a two-year period that began in 2019.

Price risk management represents the difference between the net unrealized losses recognized on derivative instruments related to price risk management activities and their realization and subsequent recovery in customer prices. For further information regarding assets and liabilities from price risk management activities, see Note 6, Risk Management.

Pension and other postretirement plans represents unrecognized components of the benefit plans' funded status, which are recoverable in customer prices when recognized in net periodic pension and postretirement benefit costs. For further information, see Note 11, Employee Benefits.

Debt issuance costs represents unrecognized debt issuance costs related to debt instruments retired prior to the stipulated maturity date.

Trojan decommissioning activities represents the deferral of ongoing costs associated with monitoring spent nuclear fuel at Trojan, net of amortization of customer collections. In addition, proceeds received from the United States Department of Energy (USDOE) for the reimbursement of costs to monitor the ISFSI is deferred and subsequently refunded to customers.

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Asset retirement removal costs represents the costs that do not qualify as AROs and are a component of depreciation expense allowed in customer prices. Such costs are recorded as a regulatory liability as they are collected in prices, and are reduced by actual removal costs incurred.

Deferred income taxes represents income tax benefits primarily from property-related timing differences that will be refunded to customers when the temporary differences reverse. Substantially all of the amounts deferred are subject to tax normalization rules that require that the impact to the results of operations of amortizing the excess deferred income tax balance cannot occur more rapidly than over the book life of the related assets. The Company uses the average rate assumption method to account for the refund to customers. For further information, see Note 12, Income Taxes.

Asset retirement obligations represents the difference in the timing of recognition of: i) the amounts recognized for depreciation expense of the asset retirement costs and accretion of the ARO; and ii) the amount recovered in customer prices.

NOTE 8: ASSET RETIREMENT OBLIGATIONS

ARO consist of the following (in millions):

	As of December 31,	
	2019	2018
Trojan decommissioning activities	\$ 137	\$ 68
Utility plant	126	112
Non-utility property	16	17
Total asset retirement obligations	279	197
Less: current portion *	16	—
Noncurrent asset retirement obligations	\$ 263	\$ 197

* Current portion of AROs are classified within Accrued expenses and other current liabilities in the consolidated balance sheets.

Trojan decommissioning activities represents the present value of future decommissioning costs for PGE's 67.5% ownership interest in Trojan, which ceased operation in 1993. The remaining decommissioning activities primarily consist of the long-term operation and decommissioning of the ISFSI, an interim dry storage facility that is licensed by the Nuclear Regulatory Commission (NRC). The ISFSI will store the spent nuclear fuel at the former plant site until an off-site storage facility is available. Decommissioning of the ISFSI and final site restoration activities will begin once shipment of all the spent fuel to a USDOE facility is complete, which is not expected prior to 2059. In the third quarter of 2019, the NRC issued PGE a renewed license to operate the ISFSI through the first quarter of 2059. PGE updated its ARO to reflect the estimated costs through this date which increased the Trojan ARO by \$69 million as of December 31, 2019. The Company also recorded accretion of \$4 million and a reduction of \$4 million due to settled liabilities.

Under a settlement agreement reached with the USDOE, the Company receives annual reimbursement from the USDOE for certain costs related to monitoring the ISFSI. Pursuant to this process, the USDOE reimbursed the co-owners \$4 million in 2019 for costs incurred in 2018 and \$4 million in 2018 for costs incurred in 2017 resulting from USDOE delays in accepting spent nuclear fuel.

Utility plant represents AROs that have been recognized for the Company's thermal and wind generation sites, and distribution and transmission assets, the disposal of which is governed by environmental regulation. During 2019,

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the Company recorded an overall increase in utility AROs of \$14 million, with the change comprised of revisions in estimated cash flows of \$13 million, accretion of \$4 million, and a reduction of \$3 million due to settled liabilities.

In 2019, the Company recorded an \$11 million increase to its ARO related to Colstrip to revise the estimated cash flows associated with remediation of a number of settlement ponds that will require upgrading or closure to meet Montana Department of Environmental Quality regulatory requirements.

Non-utility property primarily represents AROs that have been recognized for portions of unregulated properties leased to third parties. Revisions to estimates for non-utility AROs are not subject to regulatory deferral. As such, additions in non-utility AROs are charged directly to the consolidated statement of income in the period in which the revisions are probable and reasonably estimable.

The following is a summary of the changes in the Company's AROs (in millions):

	Years Ended December 31,		
	2019	2018	2017
Balance as of beginning of year	\$ 197	\$ 167	\$ 161
Liabilities incurred	—	—	2
Liabilities settled	(9)	(5)	(3)
Accretion expense	9	8	7
Revisions in estimated cash flows	82	27	—
Balance as of end of year	<u>\$ 279</u>	<u>\$ 197</u>	<u>\$ 167</u>

Pursuant to regulation, the amortization of utility plant AROs is included in depreciation expense and in customer prices. Any differences in the timing of recognition of costs for financial reporting and ratemaking purposes are deferred as a regulatory asset or regulatory liability. Recovery of Trojan decommissioning costs is included in PGE's retail prices with an equal amount recorded in Depreciation and amortization expense.

PGE maintains a separate trust account, Nuclear decommissioning trust in the consolidated balance sheet, for funds collected from customers through prices to cover the cost of Trojan decommissioning activities.

The Oak Grove hydro facility and transmission and distribution plant located on public right-of-ways and on certain easements meet the requirements of a legal obligation and will require removal when the plant is no longer in service. An ARO liability is not currently measurable as management believes that these assets will be used in utility operations for the foreseeable future. Removal costs are charged to accumulated asset retirement removal costs, which is included in Regulatory liabilities on PGE's consolidated balance sheets.

NOTE 9: CREDIT FACILITIES

As of December 31, 2019, PGE had a \$500 million revolving credit facility scheduled to expire in November 2023. The credit facility allows for unlimited extension requests, provided that lenders with a pro-rata share of more than 50% approve the extension request.

Pursuant to the terms of the agreement, the revolving credit facility may be used for general corporate purposes, as backup for commercial paper borrowings, and to permit the issuance of standby letters of credit. PGE may borrow for one, two, three, or six at a fixed interest rate established at the time of the borrowing, or at a variable interest rate for any period up to the then remaining term of the applicable credit facility. The revolving credit facility contains a provision that requires annual fees based on PGE's unsecured credit ratings, and contains customary covenants and default provisions, including a requirement that limits consolidated indebtedness, as defined in the agreement, to

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65.0% of total capitalization. As of December 31, 2019, PGE was in compliance with this covenant with a 51.9% debt to total capital ratio.

The Company has a commercial paper program under which it may issue commercial paper for terms of up to 270 days, limited to the unused amount of credit under the revolving credit facility.

PGE classifies any borrowings under the revolving credit facility and outstanding commercial paper as Short-term debt in the consolidated balance sheets.

Under the revolving credit facility, as of December 31, 2019, PGE had no borrowings outstanding and there were no commercial paper or letters of credit issued. As a result, the aggregate unused available credit capacity under the revolving credit facility was \$500 million.

In addition, PGE has four letter of credit facilities that provide a total capacity of \$220 million under which the Company can request letters of credit for original terms not to exceed one year. The issuance of such letters of credit is subject to the approval of the issuing institution. Under these facilities, a total of \$55 million of letters of credit were outstanding as of December 31, 2019. Outstanding letters of credit are not reflected on the Company's consolidated balance sheets.

Pursuant to an order issued by the FERC, the Company is authorized to issue short-term debt in an aggregate amount up to \$900 million through February 7, 2022.

Short-term borrowings under these credit facilities, and related interest rates, are reflected in the following table (dollars in millions).

	Year Ended December 31,	
	2019	
Average daily amount of short-term debt outstanding	\$	7
Weighted daily average interest rate *		2.6%
Maximum amount outstanding during the year	\$	46

* Excludes the effect of commitment fees, facility fees and other financing fees.

The Company had no short-term borrowings during 2018 or 2017.

NOTE 10: LONG-TERM DEBT

Long-term debt consists of the following (in millions):

	As of December 31,	
	2019	2018
First Mortgage Bonds , rates range from 2.51% to 9.31%, with a weighted average rate of 4.63% in 2019 and 5.01% in 2018, due at various dates through 2050	\$ 2,510	\$ 2,390
Pollution Control Revenue Bonds , rates at 5%, due 2033	119	119
Pollution Control Revenue Bonds held by PGE	(21)	(21)
Total long-term debt	2,608	2,488
Less: Unamortized debt expense	(11)	(10)
Less: Current portion of long-term debt	—	(300)
Long-term debt, net of current portion	\$ 2,597	\$ 2,178

First Mortgage Bonds—On April 12, 2019, PGE issued \$200 million of 4.30% Series FMBs due in 2049. Proceeds from the transaction were used to repay the \$300 million current portion of long-term debt on April 15, 2019.

On October 25, 2019, PGE entered into an agreement to issue \$270 million of privately placed FMBs in two tranches, both of which bear interest from their issue date at an annual rate of 3.34%. The first tranche, \$110 million, with a maturity in 2049, was issued on October 25, 2019, a portion of which was used to redeem \$50 million of 6.75% FMBs that had a maturity date in 2023. The second tranche, \$160 million, with a maturity in 2050, was issued and funded November 15, 2019.

The Indenture securing PGE's outstanding FMBs constitutes a direct first mortgage lien on substantially all regulated utility property, other than expressly excepted property. Interest is payable semi-annually on FMBs.

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Pollution Control Revenue Bonds—The Company has the option to remarket through 2033 the \$21 million PCRBs held by PGE as of December 31, 2019. At the time of any remarketing, the Company can choose a new interest rate period that could be daily, weekly, or a fixed term. The new interest rate would be based on market conditions at the time of remarketing. The PCRBs could be backed by FMBs or a bank letter of credit depending on market conditions. Interest is payable semi-annually on the PCRBs.

As of December 31, 2019, the future minimum principal payments on long-term debt are as follows (in millions):

Years ending December 31:	
2020	\$ —
2021	160
2022	—
2023	—
2024	80
Thereafter	2,368
	\$ 2,608

NOTE 11: EMPLOYEE BENEFITS

Pension and Other Postretirement Plans

Defined Benefit Pension Plan—PGE sponsors a non-contributory defined benefit pension plan, which has been closed to new employees since January 1, 2012. No changes were made to the benefits provided to existing participants when the plan was closed to new employees.

The assets of the pension plan are held in a trust and are comprised of equity and debt instruments, all of which are recorded at fair value. Pension plan calculations include several assumptions that are reviewed annually and updated as appropriate.

PGE contributed \$62 million to the pension plan in 2019 and \$9 million in 2018. PGE does not expect to contribute to the pension plan in 2020.

Other Postretirement Benefits—PGE offers non-contributory postretirement health and life insurance plans, and provides health reimbursement arrangements (HRAs) to its employees (collectively, “Other Postretirement Benefits” in the following tables). PGE’s obligation pursuant to the postretirement health plan is limited by establishing a maximum benefit per employee with any additional cost the responsibility of the employee. In the third quarter of 2019, PGE announced an amendment to its HRAs and defined dollar medical benefit for non-

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represented employees, resulting in a \$2 million curtailment gain, which has been recorded in Miscellaneous income (expense), net on the consolidated statement of income.

The assets of these plans are held in voluntary employees' beneficiary association trusts and are comprised of money market funds, equity securities, common and collective trust funds, partnerships/joint ventures, and registered investment companies, all of which are recorded at fair value. Postretirement health and life insurance benefit plan calculations include several assumptions that are reviewed annually by PGE and updated as appropriate, with measurement dates of December 31.

Non-Qualified Benefit Plan—The NQBP in the following tables include obligations for a Supplemental Executive Retirement Plan and a directors pension plan, both of which were closed to new participants in 1997. The NQBP also includes pension make-up benefits for employees that participate in the unfunded Management Deferred Compensation Plan (MDCP). Investments in the NQBP trust, consisting of trust-owned life insurance policies and marketable securities, provide funding for the future requirements of these plans. The assets of such trust are included in the accompanying tables for informational purposes only and are not considered segregated and restricted under current accounting standards. The investments in marketable securities, consisting of money market, bonds, and equity mutual funds, are classified as equity or trading debt securities and recorded at fair value. The measurement date for the NQBP is December 31. For further information regarding these trust investments, see Note 5, Fair Value of Financial Instruments.

Other NQBP—In addition to the NQBP discussed above, PGE provides certain employees and outside directors with deferred compensation plans, whereby participants may defer a portion of their earned compensation. PGE holds investments in a NQBP trust that are intended to be a funding source for these plans.

Trust assets and plan liabilities related to the NQBP included in PGE's consolidated balance sheets are as follows as of December 31 (in millions):

	2019			2018		
	NQBP	Other NQBP	Total	NQBP	Other NQBP	Total
Non-qualified benefit plan trust	\$ 17	\$ 21	\$ 38	\$ 16	\$ 20	\$ 36
Non-qualified benefit plan liabilities *	24	79	103	22	81	103

* For the NQBP, excludes the current portion of \$2 million in 2019 and 2018, which are classified in Accrued expenses and other current liabilities in the consolidated balance sheets.

Investment Policy and Asset Allocation—The Board of Directors of PGE appoints an Investment Committee, which is comprised of certain members of management from the Company, and establishes the Company's asset allocation. The Investment Committee is then responsible for the implementation of the asset allocation and oversight of the benefit plan investments. The Company's investment strategy for its pension and other postretirement plans is to balance risk and return through a diversified portfolio of equity securities, fixed income securities, and other alternative investments. Asset classes are regularly rebalanced to ensure asset allocations remain within prescribed parameters.

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The asset allocations for the plans, and the target allocation, are as follows:

	As of December 31,			
	2019		2018	
	Actual	Target *	Actual	Target *
Defined Benefit Pension Plan:				
Equity securities	64%	65%	65%	67%
Debt securities	36	35	35	33
Total	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>
Other Postretirement Benefit Plans:				
Equity securities	61%	59%	58%	59%
Debt securities	39	41	42	41
Total	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>
Non-Qualified Benefits Plans:				
Equity securities	17%	12%	16%	13%
Debt securities	7	12	10	13
Insurance contracts	76	76	74	74
Total	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>

* The target for the Defined Benefit Pension Plan represents the mid-point of the investment target range. Due to the nature of the investment vehicles in both the Other Postretirement Benefit Plans and the NQBP, these targets are the weighted average of the mid-point of the respective investment target ranges approved by the Investment Committee. Due to the method used to calculate the weighted average targets for the Other Postretirement Benefit Plans and NQBP, reported percentages are affected by the fair market values of the investments within the pools.

The Company's overall investment strategy is to meet the goals and objectives of the individual plans through a wide diversification of asset types, fund strategies, and fund managers.

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

The fair values of the Company's pension plan assets and other postretirement benefit plan assets by asset category are as follows (in millions):

	Level 1	Level 2	Level 3	Other *	Total
As of December 31, 2019:					
Defined Benefit Pension Plan assets:					
Equity securities—Domestic	\$ 49	\$ —	\$ —	\$ —	\$ 49
Investments measured at NAV:					
Money market funds	—	—	—	5	5
Collective trust funds	—	—	—	632	632
Private equity funds	—	—	—	9	9
	<u>\$ 49</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 646</u>	<u>\$ 695</u>
Other Postretirement Benefit Plans assets:					
Money market funds	\$ 4	\$ —	\$ —	\$ —	\$ 4
Equity securities:					
Domestic	—	3	—	—	3
International	9	—	—	—	9
Debt securities—Domestic	—	5	—	—	5
Investments measured at NAV:					
Money market funds	—	—	—	5	5
Collective trust funds	—	—	—	8	8
	<u>\$ 13</u>	<u>\$ 8</u>	<u>\$ —</u>	<u>\$ 13</u>	<u>\$ 34</u>
As of December 31, 2018:					
Defined Benefit Pension Plan assets:					
Equity securities—Domestic	\$ 67	\$ —	\$ —	\$ —	\$ 67
Investments measured at NAV:					
Money market funds	—	—	—	5	5
Collective trust funds	—	—	—	463	463
Private equity funds	—	—	—	11	11
	<u>\$ 67</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 479</u>	<u>\$ 546</u>
Other Postretirement Benefit Plans assets:					
Money market funds	\$ 3	\$ —	\$ —	\$ —	\$ 3
Equity securities:					
Domestic	—	3	—	—	3
International	8	—	—	—	8
Debt securities—Domestic government	—	5	—	—	5
Investments measured at NAV:					
Money market funds	—	—	—	4	4
Collective trust funds	—	—	—	7	7
	<u>\$ 11</u>	<u>\$ 8</u>	<u>\$ —</u>	<u>\$ 11</u>	<u>\$ 30</u>

* Assets are measured at NAV as a practical expedient and not subject to hierarchy level classification disclosure. These assets are listed in the totals of the fair value hierarchy to permit the reconciliation to amounts presented in the financial statements.

An overview of the identification of Level 1, 2, and 3 financial instruments is provided in Note 5, Fair Value of Financial Instruments. The following discussion provides information regarding the methods used in valuation of the various asset class investments held in the pension and other postretirement benefit plan trusts.

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

Money market funds—PGE invests in money market funds that seek to maintain a stable NAV. These funds invest in high-quality, short-term, diversified money market instruments, short-term treasury bills, federal agency securities, or certificates of deposit. Some of the money market funds held in the trusts are classified as Level 1 instruments as pricing inputs are based on unadjusted prices in an active market. The remaining money market funds are valued at NAV as a practical expedient and are not classified in the fair value hierarchy.

Equity securities—Equity mutual fund and common stock securities are classified as Level 1 securities as pricing inputs are based on unadjusted prices in an active market. Principal markets for equity prices include published exchanges such as NASDAQ and NYSE. Mutual fund assets included in separately managed accounts are classified as Level 2 securities due to pricing inputs that are directly or indirectly observable in the marketplace.

Debt Securities—Debt security investment funds are classified as Level 2 securities as pricing for underlying securities are determined by evaluating pricing data, such as broker quotes for similar securities, adjusted for observable differences. Significant inputs used in valuation models generally include benchmark yield and issuer spreads. The external credit rating, coupon rate, and maturity of each security are considered in the valuation, if applicable.

Collective trust funds—Domestic and international mutual fund assets and debt security assets, including municipal debt and corporate credit securities, mortgage-backed securities, and asset back securities assets, are included in commingled trusts or separately managed accounts. The Company believes the redemption value of the collective trust funds are likely to be the fair value, which is represent by the net asset value as a practical expedient. The funds are valued at NAV as a practical expedient and are not classified in the fair value hierarchy.

Private equity funds—PGE invests in a combination of primary and secondary fund-of-funds, which hold ownership positions in privately held companies across the major domestic and international private equity sectors, including but not limited to, partnerships, joint ventures, venture capital, buyout, and special situations. Private equity investments are valued at NAV as a practical expedient and are not classified in the fair value hierarchy.

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

The following tables provide certain information with respect to the Company's defined benefit pension plan, other postretirement benefits, and NQBP as of and for the years ended December 31, 2019 and 2018. Information related to the Other NQBP is not included in the following tables (dollars in millions):

	Defined Benefit Pension Plan		Other Postretirement Benefits		Non-Qualified Benefit Plans	
	2019	2018	2019	2018	2019	2018
Benefit obligation:						
As of January 1	\$ 811	\$ 869	\$ 72	\$ 78	\$ 24	\$ 27
Service cost	16	19	2	2	—	—
Interest cost	34	32	3	3	1	1
Participants' contributions	—	—	2	2	—	—
Actuarial loss (gain)	88	(67)	8	(7)	3	(1)
Benefit payments	(42)	(39)	(6)	(6)	(2)	(3)
Administrative expenses	(2)	(3)	—	—	—	—
Plan amendment	—	—	(9)	—	—	—
Curtailement gain	—	—	(1)	—	—	—
As of December 31	\$ 905	\$ 811	\$ 71	\$ 72	\$ 26	\$ 24
Fair value of plan assets:						
As of January 1	\$ 546	\$ 629	\$ 30	\$ 33	\$ 16	\$ 17
Actual return on plan assets	131	(50)	5	(2)	1	(1)
Company contributions	62	9	3	3	2	3
Participants' contributions	—	—	2	2	—	—
Benefit payments	(42)	(39)	(6)	(6)	(2)	(3)
Administrative expenses	(2)	(3)	—	—	—	—
As of December 31	\$ 695	\$ 546	\$ 34	\$ 30	\$ 17	\$ 16
Unfunded position as of December 31	\$ (210)	\$ (265)	\$ (37)	\$ (42)	\$ (9)	\$ (8)
Accumulated benefit plan obligation as of December 31	\$ 813	\$ 734	N/A	N/A	\$ 26	\$ 24
Classification in consolidated balance sheet:						
Noncurrent asset	\$ —	\$ —	\$ —	\$ —	\$ 17	\$ 16
Current liability	—	—	—	—	(2)	(2)
Noncurrent liability	(210)	(265)	(37)	(42)	(24)	(22)
Net liability	\$ (210)	\$ (265)	\$ (37)	\$ (42)	\$ (9)	\$ (8)
Amounts included in comprehensive income:						
Net actuarial loss (gain)	\$ (3)	\$ 25	\$ 5	\$ (4)	\$ 3	\$ (1)
Net prior service credit	—	—	(9)	—	—	—
Amortization of net actuarial loss	(10)	(17)	—	—	(1)	(1)
	\$ (13)	\$ 8	\$ (4)	\$ (4)	\$ 2	\$ (2)
Amounts included in AOCL:*						
Net actuarial loss (gain)	\$ 213	\$ 226	\$ 1	\$ (4)	\$ 13	\$ 11
Prior service cost	—	—	(9)	—	—	—
	\$ 213	\$ 226	\$ (8)	\$ (4)	\$ 13	\$ 11

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

* Amounts included in AOCL related to the Company's defined benefit pension plan and other postretirement benefits are transferred to Regulatory assets due to the future recoverability from retail customers. Accordingly, as of the balance sheet date, such amounts are included in Regulatory assets.

Net periodic benefit cost consists of the following for the years ended December 31 (in millions):

	Defined Benefit Pension Plan			Other Postretirement Benefits			Non-Qualified Benefit Plans		
	2019	2018	2017	2019	2018	2017	2019	2018	2017
Service cost	\$ 16	\$ 19	\$ 17	\$ 2	\$ 2	\$ 2	\$ —	\$ —	\$ —
Interest cost on benefit obligation	34	32	33	3	3	3	1	1	1
Expected return on plan assets	(40)	(42)	(42)	(2)	(1)	(2)	—	—	—
Amortization of net actuarial loss	10	17	13	—	—	—	1	1	1
Curtailment gain	—	—	—	(2)	—	—	—	—	—
Net periodic benefit cost	<u>\$ 20</u>	<u>\$ 26</u>	<u>\$ 21</u>	<u>\$ 1</u>	<u>\$ 4</u>	<u>\$ 3</u>	<u>\$ 2</u>	<u>\$ 2</u>	<u>\$ 2</u>

The portion of non-service costs attributable to expense related to the pension and other postretirement benefit plans, is classified as Miscellaneous income (expense), net within Other income on the Company's consolidated statements of income. PGE estimates that \$17 million will be amortized from AOCL into net periodic benefit cost in 2020, consisting of a net actuarial loss of \$17 million for pension benefits, a net actuarial gain and prior service credit of \$1 million for other postretirement benefits and a net actuarial loss of \$1 million for non-qualified benefits. Amounts related to the pension and other postretirement benefits are offset with the amortization of the corresponding regulatory asset.

The following assumptions were used in determining benefit obligations and net period benefit costs:

	Defined Benefit Pension Plan		Other Postretirement Benefits		Non-Qualified Benefit Plans	
	2019	2018	2019	2018	2019	2018
Assumptions used to determine benefit obligations:						
Discount rate	3.43%	4.25%	3.19% - 3.47%	4.10% - 4.26%	3.43%	4.25%
Weighted average rate of compensation increase	3.65%	3.65%	4.58%	4.58%	N/A	N/A
Assumptions used to determine net periodic benefit cost:						
Discount rate	4.25%	3.65%	3.11% - 4.26%	3.42% - 3.70%	3.43%	3.65%
Weighted average rate of compensation increase	3.65%	3.65%	4.58%	4.58%	N/A	N/A
Long-term rate of return on plan assets	7.00%	7.00%	5.88%	6.20%	N/A	N/A

As of December 31, 2019, there are no liabilities with sensitivity to health care cost trend rates.

Changes in actuarial assumptions can also have a material effect on net periodic pension expense. A 0.25% reduction in the expected long-term rate of return on plan assets, or reduction in the discount rate, would have the effect of increasing the 2019 net periodic pension expense by approximately \$2 million.

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

The following table summarizes the benefits expected to be paid to participants in each of the next five years and in the aggregate for the five years thereafter (in millions):

	Payments Due					
	2020	2021	2022	2023	2024	2025 - 2029
Defined benefit pension plan	\$ 44	\$ 44	\$ 45	\$ 46	\$ 46	\$ 239
Other postretirement benefits	5	5	5	5	6	20
Non-qualified benefit plans	2	2	2	2	2	11
Total	<u>\$ 51</u>	<u>\$ 51</u>	<u>\$ 52</u>	<u>\$ 53</u>	<u>\$ 54</u>	<u>\$ 270</u>

All of the plans develop expected long-term rates of return for the major asset classes using long-term historical returns, with adjustments based on current levels and forecasts of inflation, interest rates, and economic growth. Also included are incremental rates of return provided by investment managers whose returns are expected to be greater than the markets in which they invest.

401(k) Retirement Savings Plan

PGE sponsors a 401(k) Plan that covers substantially all employees. For eligible employees who are covered by PGE's defined benefit pension plan, the Company matches employee contributions to the 401(k) Plan up to 6% of the employee's base pay. For eligible employees who are not covered by PGE's defined benefit pension plan, the Company contributes 5% of the employee's base salary, whether or not the employee contributes to the 401(k) Plan, and also matches employee contributions up to 5% of the employee's base pay.

For the majority of bargaining employees who are subject to the International Brotherhood of Electrical Workers Local 125 agreements the Company contributes an additional 1% of the employee's base salary, whether or not the employee contributes to the 401(k) Plan.

All contributions are invested in accordance with employees' elections, limited to investment options available under the 401(k) Plan. PGE made contributions to employee accounts of \$25 million in 2019, \$23 million in 2018, and \$21 million in 2017.

NOTE 12: INCOME TAXES

On December 22, 2017, the TCJA was enacted and signed into law with substantially all of the provisions having an effective date of January 1, 2018. The most significant change to PGE's financial condition was the federal corporate tax rate decrease from 35% to 21%.

Income tax expense/(benefit) consists of the following (in millions):

	Years Ended December 31,		
	2019	2018	2017
Current:			
Federal	\$ 9	\$ 12	\$ 4
State and local	12	22	12
	<u>21</u>	<u>34</u>	<u>16</u>
Deferred:			
Federal	(2)	(15)	61
State and local	8	(2)	9
	<u>6</u>	<u>(17)</u>	<u>70</u>
Income tax expense	<u>\$ 27</u>	<u>\$ 17</u>	<u>\$ 86</u>

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

The significant differences between the U.S. federal statutory rate and PGE's effective tax rate for financial reporting purposes are as follows:

	Years Ended December 31,		
	2019	2018	2017
Federal statutory tax rate	21.0 %	21.0 %	35.0 %
Federal tax credits ⁽¹⁾	(13.4)	(16.7)	(14.0)
Change in federal tax law ⁽²⁾	—	—	6.1
State and local taxes, net of federal tax benefit	6.5	6.5	5.0
Flow through depreciation and cost basis differences	1.5	1.5	1.5
Excess deferred tax amortization ⁽³⁾	(3.7)	(4.1)	—
Other	(0.7)	(0.8)	(2.1)
Effective tax rate	<u>11.2 %</u>	<u>7.4 %</u>	<u>31.5 %</u>

(1) Federal tax credits consist primarily of production tax credits (PTCs) earned from Company-owned wind-powered generating facilities. The federal PTCs are earned based on a per-kilowatt hour rate, and as a result, the annual amount of PTCs earned will vary based on weather conditions and availability of the facilities. The PTCs are generated for 10 years from the corresponding facilities' in-service dates. PGE's PTC generation ended or will end at various dates between 2017 and 2024.

(2) For the year ended December 31, 2017, includes a \$17 million increase to Income tax expense related to the remeasurement of deferred income taxes as a result of the enacted tax rate change under the TCJA.

(3) The majority of excess deferred income taxes related to remeasurement under the TCJA is subject to IRS normalization rules and will be amortized over the remaining regulatory life of the assets using the average rate assumption method.

Deferred income tax assets and liabilities consist of the following (in millions):

	As of December 31,	
	2019	2018
Deferred income tax assets:		
Employee benefits	\$ 119	\$ 134
Price risk management	26	36
Regulatory liabilities	22	26
Tax credits	64	52
Other	—	9
Total deferred income tax assets	<u>231</u>	<u>257</u>
Deferred income tax liabilities:		
Depreciation and amortization	496	511
Regulatory assets	103	115
Other	10	—
Total deferred income tax liabilities	<u>609</u>	<u>626</u>
Deferred income tax liability, net	<u>\$ 378</u>	<u>\$ 369</u>

As of December 31, 2019, PGE has federal credit carryforwards of \$64 million, consisting of PTCs, which will expire at various dates through 2039. PGE believes that it is more likely than not that its deferred income tax assets as of December 31, 2019 and 2018 will be realized; accordingly, no valuation allowance has been recorded. As of December 31, 2019, and 2018, PGE had no material unrecognized tax benefits.

PGE and its subsidiaries file a consolidated federal income tax return. The Company also files income tax returns in the states of Oregon, California, and Montana, and in certain local jurisdictions. The Internal Revenue Service (IRS)

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

has completed its examination of all tax years through 2010 and all issues were resolved related to those years. The Company does not believe that any open tax years for federal or state income taxes could result in any adjustments that would be significant to the consolidated financial statements.

NOTE 13: EQUITY-BASED PLANS

Employee Stock Purchase Plan

PGE has an employee stock purchase plan (ESPP) under which a total of 625,000 shares of the Company's common stock may be issued. The ESPP permits all eligible employees to purchase shares of PGE common stock through regular payroll deductions, which are limited to 10% of base pay. Each year, employees may purchase up to a maximum of \$25,000 in common stock or 1,500 shares (based on fair value on the purchase date), whichever is less. Two six-month offering periods occur annually, January 1 through June 30 and July 1 through December 31, during which eligible employees may contribute toward the purchase of shares of PGE common stock. Purchases occur the last day of the offering period, at a price equal to 95% of the fair value of the stock on the purchase date. As of December 31, 2019, there were 278,098 shares available for future issuance pursuant to the ESPP.

Dividend Reinvestment and Direct Stock Purchase Plan

PGE has a Dividend Reinvestment and Direct Stock Purchase Plan (DRIP), under which a total of 2,500,000 shares of the Company's common stock may be issued. Under the DRIP, investors may elect to buy shares of the Company's common stock or elect to reinvest cash dividends in additional shares of the Company's common stock. As of December 31, 2019, there were 2,466,470 shares available for future issuance pursuant to the DRIP.

NOTE 14: STOCK-BASED COMPENSATION EXPENSE

Pursuant to the Portland General Electric Company Stock Incentive Plan as amended and restated effective February 13, 2018 (the Plan), the Company may grant a variety of equity-based awards, including restricted stock units (RSUs) with time-based vesting conditions (time-based RSUs) and performance-based vesting conditions (performance-based RSUs), to non-employee directors, officers, or certain key employees. RSU activity is summarized in the following table:

	Units	Weighted Average Grant Date Fair Value
Nonvested units as of December 31, 2016	458,792	\$ 34.68
Granted	202,145	41.96
Forfeited	(64,840)	39.57
Vested	(196,721)	31.78
Nonvested units as of December 31, 2017	399,376	37.98
Granted	198,864	37.99
Forfeited	(8,556)	39.73
Vested	(160,771)	36.77
Nonvested units of December 31, 2018	428,913	38.43
Granted	210,555	49.06
Forfeited	(9,041)	41.68
Vested	(167,037)	37.52
Nonvested units as of December 31, 2019	463,390	43.52

A total of 4,687,500 shares of common stock were registered for issuance under the Plan, of which 2,902,576 shares remain available for future issuance as of December 31, 2019.

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
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Outstanding RSUs provide for the payment of one Dividend Equivalent Right (DER) for each stock unit. Each DER represents an amount equal to dividends paid to shareholders on a share of PGE's common stock and vests on the same schedule as the related RSU. The DERs are settled in shares of PGE common stock valued either at the closing stock price on the vesting date (for performance-based RSUs) or dividend payment date (for all other grants).

Time-based RSUs generally vest over a period of up to three years from the grant date. The fair value of time-based RSUs is measured based on the closing price of PGE common stock on the date of grant and charged to compensation expense on a straight-line basis over the requisite service period for the entire award. The total value of time-based RSUs vested was \$1 million for the years ended December 31, 2019, 2018, and 2017.

Performance-based RSUs vest based on the extent to which performance goals are met at the end of a three-year performance period, subject to adjustment by the Compensation and Human Resources Committee of PGE's Board of Directors. The number of RSUs that may vest under grants awarded in 2018 and 2017 is based on two equally-weighted metrics: i) actual return on equity relative to allowed return on equity; and ii) a relative total shareholder return (TSR) of PGE's common stock as compared to an index of peer companies during the performance period. Based on the attainment of the goals, the number of RSUs that vest can range from zero to 175% of the RSUs granted. The number of RSUs that may vest under grants awarded in 2019 is based on three equally-weighted metrics: i) actual return on equity relative to allowed return on equity; ii) average EPS growth; and iii) power supply portfolio decarbonization—and relative TSR as a modifier to the total of the three equally-weighted metrics. Based on the attainment of the goals, the number of RSUs that vest can range from zero to 200% of the RSUs granted.

For return on equity, average EPS growth and power supply portfolio decarbonization metrics of the performance-based RSUs, fair value is measured based on the NYSE closing price of PGE common stock on the date of grant. For the TSR portion of the performance-based RSUs, fair value is determined using a Monte Carlo simulation with the following weighted average assumptions:

	2019		2018		2017	
Risk-free interest rate	2.5%		2.4%		1.5%	
Expected term (in years)	3.0		3.0		3.0	
Volatility	14.8%	- 74.5%	14.7%	- 21.8%	15.6%	- 22.9%

There is no expected dividend yield used in the valuation, as it is assumed that all dividends distributed during the performance period are reinvested in the Company's underlying stock. The fair value of performance-based RSUs is charged to compensation expense on a straight-line basis over the requisite service period for the entire award based on the number of shares expected to vest. Stock-based compensation expense was calculated assuming the attainment of performance goals that would allow the weighted average vesting of 123.0%, 86.6%, and 89.1% of awarded performance-based RSUs for the respective 2019, 2018, and 2017 grants, with an estimated 5% forfeiture rate.

The total value of performance-based RSUs vested was \$7 million for the year ended December 31, 2019, \$4 million for 2018, and \$6 million for 2017.

Stock-based compensation, included in Administrative and other expense in the consolidated statements of income, was \$9 million for the year ended December 31, 2019, \$5 million for 2018, and \$7 million in 2017. Such amounts differ from those reported in the consolidated statements of shareholders' equity for stock-based compensation due primarily to the impact from the income tax payments made on behalf of employees. The Company withholds a portion of the vested shares for the payment of income taxes on behalf of the employees. Not included in Administrative and other expenses in the consolidated statements of income, is the net impact from these income

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

tax payments, partially offset by the issuance of DERs, resulting in a charge to shareholders' equity of \$2 million in 2019, and \$2 million in 2018 and \$3 million in 2017.

As of December 31, 2019, unrecognized stock-based compensation expense was \$10 million, which is expected to be recognized over a weighted average period of one to three years. No stock-based compensation costs have been capitalized.

NOTE 15: EARNINGS PER SHARE

Basic earnings per share are computed based on the weighted average number of common shares outstanding during the year. Diluted earnings per share are computed using the weighted average number of common shares outstanding and the effect of dilutive potential common shares outstanding during the year using the treasury stock method. Potential common shares consist of employee stock purchase plan shares and contingently issuable time-based and performance-based RSUs, along with associated DERs.

Net income attributable to PGE common shareholders is the same for both the basic and diluted earnings per share computations. The reconciliations of the denominators of the basic and diluted earnings per share computations are as follows (in thousands):

	Years Ended December 31,		
	2019	2018	2017
Weighted average common shares outstanding—basic	89,353	89,215	89,056
Dilutive effect of potential common shares	206	132	120
Weighted average common shares outstanding—diluted	89,559	89,347	89,176

NOTE 16: COMMITMENTS AND GUARANTEES

Purchase Commitments

As of December 31, 2019, PGE's estimated future minimum payments pursuant to purchase obligations for the following five years and thereafter are as follows (in millions):

	Payments Due						
	2020	2021	2022	2023	2024	Thereafter	Total
Capital and other purchase commitments	\$ 393	\$ 130	\$ 14	\$ 4	\$ 1	\$ 56	\$ 598
Purchased power and fuel:							
Electricity purchases	193	189	220	219	215	2,327	3,363
Capacity contracts	—	9	9	9	9	9	45
Public utility districts	16	15	13	13	12	50	119
Natural gas	59	45	40	38	42	603	827
Coal and transportation	27	27	27	27	27	27	162
Total	\$ 688	\$ 415	\$ 323	\$ 310	\$ 306	\$ 3,072	\$ 5,114

Capital and other purchase commitments—Certain commitments have been made for 2020 and beyond that include those related to hydro licenses, upgrades to generation, distribution, and transmission facilities, information systems, and system maintenance work. Termination of these agreements could result in cancellation charges.

Electricity purchases and Capacity contracts—PGE has power purchase agreements with counterparties, which expire at varying dates through 2051, and power capacity contracts through 2025.

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

Public utility districts—PGE has long-term power purchase agreements with certain public utility districts (PUDs) in the state of Washington:

- Grant County PUD for the Priest Rapids and Wanapum projects, and
- Douglas County PUD for the Wells project.

Under the Grant County agreements, the Company is required to pay its proportionate share of the operating and debt service costs of the hydroelectric projects whether they are operable or not. Under the Douglas County agreement, the Company is required to make monthly payments for capacity that will not vary with annual project generation provided to PGE. The Company has estimated the capacity payments, which are subject to annual adjustments based on Douglas County's loads, and included the estimated amounts in the table above. The future minimum payments for the PUDs in the preceding table reflect the principal and capacity payments only and do not include interest, operation, or maintenance expenses.

Selected information regarding these projects is summarized as follows (dollars in millions):

	Capacity Charges and Revenue Bonds as of December 31, 2019	PGE's Average Share as of December 31, 2019		Contract Expiration	Total PGE Contract Costs		
		Output	Capacity (in MW)		2019	2018	2017
Priest Rapids and Wanapum	\$ 1,302	8.6%	163	2052	\$ 21	\$ 17	\$ 16
Wells	651	13.6	98	2028	16	11	11

The agreements for Priest Rapids, Wanapum, and Wells provide that, should any other purchaser of output default on payments as a result of bankruptcy or insolvency, PGE would be allocated a pro-rata share of the output and operating and debt service costs of the defaulting purchaser. For Wells, PGE would be responsible for a pro-rata portion of the defaulting purchaser's share with no limitation, regardless of the reason for any default. For Priest Rapids and Wanapum, PGE would be allocated up to a cumulative maximum that would not adversely affect the tax-exempt status of any of the public utility district's outstanding debt for the portion of the project that benefits tax-exempt purchasers.

Natural gas—PGE has contracts for the purchase and transportation of natural gas from domestic and Canadian sources for its natural gas-fired generating facilities.

Coal and transportation—PGE has coal and related rail transportation agreements with take-or-pay provisions related to Boardman that expire in December 2020. The Company also has a coal agreement with take-or-pay provisions related to Colstrip that expires in December 2025.

Guarantees

PGE enters into financial agreements and power and natural gas purchase and sale agreements that include indemnification provisions relating to certain claims or liabilities that may arise relating to the transactions contemplated by these agreements. Generally, a maximum obligation is not explicitly stated in the indemnification provisions and, therefore, the overall maximum amount of the obligation under such indemnifications cannot be reasonably estimated. PGE periodically evaluates the likelihood of incurring costs under such indemnities based on the Company's historical experience and the evaluation of the specific indemnities. As of December 31, 2019,

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

management believes the likelihood is remote that PGE would be required to perform under such indemnification provisions or otherwise incur any significant losses with respect to such indemnities. The Company has not recorded any liability on the consolidated balance sheets with respect to these indemnities.

NOTE 17: LEASES

PGE determines if an arrangement is a lease at inception and whether the arrangement is classified as an operating or finance lease. At commencement of the lease, PGE records a right-of-use (ROU) asset and lease liability in the consolidated balance sheets based on the present value of lease payments over the term of the arrangement. ROU assets represent the right to use an underlying asset for the lease term and lease liabilities represent PGE's obligation to make lease payments arising from the lease. If the implicit rate is not readily determinable in the contract, PGE uses its incremental borrowing rate based on the information available at commencement date in determining the present value of lease payments. Contract terms may include options to extend or terminate the lease, and, when the Company deems it is reasonably certain that PGE will exercise that option, it is included in the ROU asset and lease liability.

Operating leases reflect lease expense on a straight-line basis, while finance leases result in the separate presentation of interest expense on the lease liability and amortization expense of the ROU asset. Any material differences between expense recognition and timing of payments is deferred as a regulatory asset or liability in order to match what is being recovered in customer prices for ratemaking purposes.

PGE does not record leases with a term of 12-months or less in the consolidated balance sheets. Total short-term lease costs as of December 31, 2019 are immaterial. PGE has lease agreements with lease and non-lease components, which are accounted for separately.

The Company's leases relate primarily to the use of land, support facilities, gas storage, and power purchase agreements that rely on identified plant. Variable payments are generally related to gas storage and power purchase agreements for components dependent upon variable factors, such as energy production and property taxes, and are not included in the determination of the present value of lease payments.

The components of lease cost were as follows (in millions):

		2019
Operating lease cost	\$	7
Finance lease cost:		
Amortization of right-of-use assets	\$	3
Interest on lease liabilities		6
Total finance lease cost	\$	9
Variable lease cost	\$	19

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

Supplemental information related to amounts and presentation of leases in the consolidated balance sheets is presented below (in millions):

	Balance Sheet Classification	December 31, 2019
Operating Leases:		
Operating lease right-of-use assets	Other noncurrent assets	\$ 51
Current liabilities	Accrued expenses and other current liabilities	\$ 8
Noncurrent liabilities	Other noncurrent liabilities	43
Total operating lease liabilities		\$ 51
Finance Leases:		
Finance lease right-of-use assets	Electric utility plant, net	\$ 150
Current liabilities	Current portion of finance lease obligations	\$ 16
Noncurrent liabilities	Finance lease obligations, net of current portion	135
Total finance lease liabilities		\$ 151

Lease term and discount rates were as follows:

	December 31, 2019
Weighted Average Remaining Lease Term	
Operating leases	24 years
Finance leases	29 years
Weighted Average Discount Rate	
Operating leases	3.5%
Finance leases	7.3%

PGE's gas storage finance lease contains five 10-year renewal periods which have not been included in the finance lease obligation.

As of December 31, 2019, maturities of lease liabilities were as follows (in millions):

	Operating Leases	Finance Leases
2020	\$ 8	\$ 16
2021	8	16
2022	8	16
2023	8	14
2024	7	14
Thereafter	46	235
Total lease payments	85	311
Less imputed interest	(34)	(160)
Total	\$ 51	\$ 151

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

Supplemental cash flow information related to leases was as follows (in millions):

	December 31, 2019
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows from operating leases	\$ 7
Operating cash flows from finance leases	5
Financing cash flows from finance leases	4
Right-of-use assets obtained in leasing arrangements:	
Operating leases	\$ 56
Finance leases	154

2018 Lease Obligations

As of December 31, 2018, PGE's estimated future minimum lease payments pursuant to capital, build-to-suit, and operating leases for the following five years and thereafter are as follows (in millions):

	Future Minimum Lease Payments		
	Capital Leases	Build-to-Suit	Operating Leases
2019	\$ 6	\$ 11	\$ 4
2020	6	14	5
2021	6	13	5
2022	6	13	6
2023	5	13	7
Thereafter	67	225	97
Total minimum lease payments	96	\$ 289	\$ 124
Less imputed interest	(47)		
Present value of net minimum lease payments	49		
Less current portion	(2)		
Non-current portion	\$ 47		

Capital Leases—PGE entered into agreements to purchase natural gas transportation capacity via a 24-mile natural gas pipeline, Carty Lateral, that was constructed to serve the Carty natural gas-fired generating plant. The Company has entered into a 30-year agreement to purchase the entire capacity of Carty Lateral, which is approximately 175 thousand decatherms per day. At the end of the initial contract term, the Company has the option to renew the agreement in continuous three-year increments with at least 24 months prior written notice

As of December 31, 2018, a capital lease asset of \$57 million was reflected within Electric utility plant and accumulated amortization of such assets of \$8 million was reflected within Accumulated depreciation and amortization in the consolidated balance sheets. The present value of the future minimum lease payments due under the agreement included \$2 million within Accrued expenses and other current liabilities and \$47 million in Other noncurrent liabilities on the consolidated balance sheets. For ratemaking purposes capital leases are treated as operating leases; therefore, in accordance with the accounting rules for regulated operations, the amortization of the leased asset is based on the rental payments recovered from customers. Amortization of the leased asset of \$3 million and interest expense of \$4 million was recorded to Purchased power and fuel expense in the consolidated statements of income through December 31, 2018. Pursuant to the adoption of the new lease accounting standard, Topic 842, PGE derecognized the capital lease obligation and related capital lease asset as it no longer met the definition of a lease.

Build-to-suit—PGE entered into a 30-year lease agreement with a local natural gas company, NW Natural, to expand their natural gas storage facilities, including the development of an underground storage reservoir and

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

construction of a new compressor station and 13-miles of pipeline, which are collectively designed to provide no-notice storage and transportation services to PW1, PW2, and Beaver. Construction of the expansion project was completed in the second quarter of 2019 at a cost of \$149 million. Due to the level of PGE's involvement during the construction period, the Company was deemed to be the owner of the assets for accounting purposes during the construction period. As a result, PGE recorded \$131 million to Construction work-in-progress within Electric utility plant, net and a corresponding liability for the same amount to Other noncurrent liabilities in the consolidated balance sheets as of December 31, 2018. Pursuant to the adoption of the new lease accounting standard, Topic 842, PGE derecognized the build-to-suit assets and liabilities as they are no longer considered to meet the build-to-suit criteria under the new standard. For additional information regarding the new lease accounting standard, see Note 2, Summary of Significant Accounting Policies.

The table above reflects PGE's estimated future minimum lease payments pursuant to the agreement based on estimated costs.

Operating leases—PGE has various operating leases associated with leases of land, support facilities, and power purchase agreements that rely on identified plant that expire in various years, extending through 2096. Rent expense was \$7 million in 2018. Contingent rents related to power purchase agreements was \$14 million in 2018. Sublease income was \$4 million in 2018.

NOTE 18: JOINTLY-OWNED PLANT

As of December 31, 2019, PGE had the following investments in jointly-owned plant (dollars in millions):

	PGE Share	In-service Date	Plant In-service	Accumulated Depreciation*	Construction Work In Progress
Boardman	90.00%	1980	\$ 517	\$ 478	—
Colstrip	20.00	1986	550	375	14
Pelton/Round Butte	66.67	1958 / 1964	265	78	6
Total			<u>\$ 1,332</u>	<u>\$ 931</u>	<u>\$ 20</u>

* Excludes AROs and accumulated asset retirement removal costs.

Under the respective joint operating agreements for the generating facilities, each participating owner is responsible for financing its share of capital and operating expenses. PGE's proportionate share of direct operating and maintenance expenses of the facilities is included in the corresponding operating and maintenance expense categories in the consolidated statements of income.

NOTE 19: CONTINGENCIES

PGE is subject to legal, regulatory, and environmental proceedings, investigations, and claims that arise from time to time in the ordinary course of its business. Contingencies are evaluated using the best information available at the time the consolidated financial statements are prepared. Legal costs incurred in connection with loss contingencies are expensed as incurred. The Company may seek regulatory recovery of certain costs that are incurred in connection with such matters, although there can be no assurance that such recovery would be granted.

Loss contingencies are accrued, and disclosed if material, when it is probable that an asset has been impaired, or a liability incurred, as of the financial statement date and the amount of the loss can be reasonably estimated. If a reasonable estimate of probable loss cannot be determined, a range of loss may be established, in which case the minimum amount in the range is accrued, unless some other amount within the range appears to be a better estimate.

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

A loss contingency will also be disclosed when it is reasonably possible that an asset has been impaired, or a liability incurred, if the estimate or range of potential loss is material. If a probable or reasonably possible loss cannot be reasonably estimated, then the Company: i) discloses an estimate of such loss or the range of such loss, if the Company is able to determine such an estimate; or ii) discloses that an estimate cannot be made and the reasons.

If an asset has been impaired or a liability incurred after the financial statement date, but prior to the issuance of the financial statements, the loss contingency is disclosed, if material, and the amount of any estimated loss is recorded in the subsequent reporting period.

PGE evaluates, on a quarterly basis, developments in such matters that could affect the amount of any accrual, as well as the likelihood of developments that would make a loss contingency both probable and reasonably estimable. The assessment as to whether a loss is probable or reasonably possible, and as to whether such loss or a range of such loss is estimable, often involves a series of complex judgments about future events. Management is often unable to estimate a reasonably possible loss, or a range of loss, particularly in cases in which: i) the damages sought are indeterminate or the basis for the damages claimed is not clear; ii) the proceedings are in the early stages; iii) discovery is not complete; iv) the matters involve novel or unsettled legal theories; v) significant facts are in dispute; vi) a large number of parties are represented (including circumstances in which it is uncertain how liability, if any, would be shared among multiple defendants); or vii) a wide range of potential outcomes exist. In such cases, there is considerable uncertainty regarding the timing or ultimate resolution, including any possible loss, fine, penalty, or business impact.

EPA Investigation of Portland Harbor

An investigation by the United States Environmental Protection Agency (EPA) of a segment of the Willamette River known as Portland Harbor that began in 1997 revealed significant contamination of river sediments. The EPA subsequently included Portland Harbor on the National Priority List pursuant to the federal Comprehensive Environmental Response, Compensation, and Liability Act as a federal Superfund site. PGE was included among the Potentially Responsible Parties (PRPs) as it has historically owned or operated property near the river.

In 2008, the EPA requested information from various parties, including PGE, concerning additional properties in or near the original segment of the river under investigation, as well as several miles beyond. Subsequently, the EPA has listed additional PRPs, which now number over one hundred.

The Portland Harbor site remedial investigation had been completed pursuant to an agreement between the EPA and several PRPs known as the Lower Willamette Group (LWG), which did not include PGE. The LWG funded the remedial investigation and feasibility study and stated that it had incurred \$115 million in investigation-related costs. The Company anticipates that such costs will ultimately be allocated to PRPs as a part of the allocation process for remediation costs of the EPA's preferred remedy.

The EPA finalized the feasibility study, along with the remedial investigation, and the results provided the framework for the EPA to determine a clean-up remedy for Portland Harbor that was documented in a Record of Decision (ROD) issued in 2017. The ROD outlined the EPA's selected remediation plan for clean-up of the Portland Harbor site, which has an undiscounted estimated total cost of \$1.7 billion, comprised of \$1.2 billion related to remediation construction costs and \$0.5 billion related to long-term operation and maintenance costs. Remediation construction costs were estimated to be incurred over a 13-year period, with long-term operation and maintenance costs estimated to be incurred over a 30-year period from the start of construction. The EPA acknowledged the estimated costs are based on data that was outdated and that pre-remedial design sampling was necessary to gather updated baseline data to better refine the remedial design and estimated cost. A small group of PRPs performed pre-remedial design sampling to update baseline data and submitted the data in an updated evaluation report to the EPA for review. The evaluation report concluded that the conditions of the Portland Harbor Superfund site have improved substantially over the past ten years. In response, the EPA indicated that while it would use the data to

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

inform implementation of the ROD, the EPA's conclusions remained materially unchanged. EPA is currently seeking parties to sign up to perform remedial design.

PGE continues to participate in a voluntary process to determine an appropriate allocation of costs amongst the PRPs. Significant uncertainties remain surrounding facts and circumstances that are integral to the determination of such an allocation percentage, remedial design, a final allocation methodology, and data with regard to property specific activities and history of ownership of sites within Portland Harbor that will inform the precise boundaries for clean-up. It is probable that PGE will share in a portion of the costs related to Portland Harbor. However, based on the above facts and remaining uncertainties, PGE does not currently have sufficient information to reasonably estimate the amount, or range, of its potential liability or determine an allocation percentage that represents PGE's portion of the liability to clean-up Portland Harbor, although such costs could be material to PGE's financial position.

In cases in which injuries to natural resources have occurred as a result of releases of hazardous substances, federal and state natural resource trustees may seek to recover for damages at such sites, which are referred to as Natural Resource Damages (NRD). The EPA does not manage NRD assessment activities but does provide claims information and coordination support to the NRD trustees. NRD assessment activities are typically conducted by a Council made up of the trustee entities for the site. The Portland Harbor NRD trustees consist of the National Oceanic and Atmospheric Administration, the U.S. Fish and Wildlife Service, the state of Oregon, the Confederated Tribes of the Grand Ronde Community of Oregon, the Confederated Tribes of Siletz Indians, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs Reservation of Oregon (CTWS), and the Nez Perce Tribe.

The NRD trustees may seek to negotiate legal settlements or take other legal actions against the parties responsible for the damages. Funds from such settlements must be used to restore injured resources and may also compensate the trustees for costs incurred in assessing the damages. The Company believes that PGE's portion of NRD liabilities related to Portland Harbor will not have a material impact on its results of operations, financial position, or cash flows.

The impact of such costs to the Company's results of operations is mitigated by the Portland Harbor Environmental Remediation Account (PHERA) mechanism. As approved by the OPUC in 2017, the PHERA allows the Company to defer and recover incurred environmental expenditures related to the Portland Harbor Superfund Site through a combination of third-party proceeds, such as insurance recoveries, and if necessary, through customer prices. The mechanism established annual prudency reviews of environmental expenditures and third-party proceeds. Annual expenditures in excess of \$6 million, excluding expenses related to contingent liabilities, are subject to an annual earnings test and would be ineligible for recovery to the extent PGE's actual regulated return on equity exceeds its return on equity as authorized by the OPUC in PGE's most recent general rate case. PGE's results of operations may be impacted to the extent such expenditures are deemed imprudent by the OPUC or ineligible per the prescribed earnings test. The Company plans to seek recovery of any costs resulting from EPA's determination of liability for Portland Harbor through application of the PHERA. At this time, PGE is not recovering any Portland Harbor cost from the PHERA through customer prices.

Trojan Investment Recovery Class Actions

In 1993, PGE closed the Trojan nuclear power plant (Trojan) and sought full recovery of, and a rate of return on, its Trojan costs in a general rate case filing with the OPUC. In 1995, the OPUC issued a general rate order that granted the Company recovery of, and a rate of return on, 87% of its remaining investment in Trojan.

Numerous challenges and appeals were subsequently filed in various state courts on the issue of the OPUC's authority under Oregon law to grant recovery of, and a return on, the Trojan investment. In 2007, following several appeals by various parties, the Oregon Court of Appeals issued an opinion that remanded the matter to the OPUC for reconsideration.

PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued

In 2003, in two separate proceedings, lawsuits were filed against PGE on behalf of two classes of electric service customers: i) Dreyer, Gearhart and Kafoury Bros., LLC v. Portland General Electric Company, Marion County Circuit Court (Circuit Court); and ii) Morgan v. Portland General Electric Company, Marion County Circuit Court. The class action lawsuits seek damages totaling \$260 million, plus interest, as a result of the Company's inclusion, in prices charged to customers, of a return on its investment in Trojan.

In 2006, the Oregon Supreme Court (OSC) issued a ruling ordering the abatement of the class action proceedings. The OSC concluded that the OPUC had primary jurisdiction to determine what, if any, remedy could be offered to PGE customers, through price reductions or refunds, for any amount of return on the Trojan investment that the Company collected in prices.

In 2008, the OPUC issued an order (2008 Order) that required PGE to provide refunds, including interest, which were completed in 2010. Following appeals, the 2008 Order was upheld by the Oregon Court of Appeals in 2013 and by the OSC in 2014.

In 2015, based on a motion filed by PGE, the Marion County Circuit Court lifted the abatement on the class action proceedings and heard oral argument on the Company's motion for Summary Judgment. In 2016, the Circuit Court entered a general judgment that granted the Company's motion for Summary Judgment and dismissed all claims by the plaintiffs. The plaintiffs subsequently appealed the Circuit Court dismissal to the Court of Appeals for the state of Oregon.

In November 2019, the Court of Appeals issued an opinion that affirmed the Circuit Court dismissal. On December 30, 2019, the plaintiffs filed a motion for reconsideration, which the Court of Appeals denied on February 4, 2020.

PGE believes that the 2014 OSC decision, the decisions of the Circuit Court and the Court of Appeals that followed have reduced the risk of any loss to the Company beyond the amounts previously recorded and refunds discussed above. However, because the class actions remain subject to a potential petition for review to the OSC, management believes that it is reasonably possible that such a loss to the Company could result. As these matters involve unsettled legal theories and have a broad range of potential outcomes, sufficient information is currently not available to determine the amount of any such loss.

Deschutes River Alliance Clean Water Act Claims

In August 2016, the Deschutes River Alliance (DRA) filed a lawsuit against the Company (Deschutes River Alliance v. Portland General Electric Company, U.S. District Court of the District of Oregon) that sought injunctive and declaratory relief against PGE under the Clean Water Act (CWA) related to alleged past and continuing violations of the CWA. Specifically, DRA claimed PGE had violated certain conditions contained in PGE's Water Quality Certification for the Pelton/Round Butte Hydroelectric Project (Project) related to dissolved oxygen, temperature, and measures of acidity or alkalinity of the water. DRA alleged the violations are related to PGE's operation of the Selective Water Withdrawal (SWW) facility at the Project.

The SWW, located above Round Butte Dam on the Deschutes River in central Oregon, is, among other things, designed to blend water from the surface of the reservoir with water near the bottom of the reservoir and was constructed and placed into service in 2010, as part of the FERC license requirements for the purpose of restoration and enhancement of native salmon and steelhead fisheries above the Project. DRA has alleged that PGE's operation of the SWW has caused the above-referenced violations of the CWA, which in turn have degraded the fish and wildlife habitat of the Deschutes River below the Project and harmed the economic and personal interests of DRA's members and supporters.

**PORTLAND GENERAL ELECTRIC COMPANY AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS, continued**

In March and April 2018, DRA and PGE filed cross-motions for summary judgment and PGE and CTWS, which co-own the Project, filed separate motions to dismiss. CTWS initially appeared as a friend of the court, but subsequently was found to be a necessary party to the lawsuit and joined as a defendant.

In August 2018, the U.S. District Court of the District of Oregon (District Court) denied DRA's motions for partial summary judgment and granted PGE's and CTWS's cross-motions for summary judgment, ruling in favor of PGE and CTWS. The District Court found that DRA had not shown a genuine dispute of material fact sufficient to support its contention that PGE and CTWS were operating the Project in violation of the CWA, and accordingly dismissed the case.

In October 2018, DRA filed an appeal, and PGE and CTWS filed cross-appeals, to the Ninth Circuit Court of Appeals. In December 2019, the Court of Appeals closed the case and vacated the briefing schedule, pending ongoing discussions among the parties.

The Company cannot predict the outcome of this matter or determine the likelihood of whether the outcome of this matter will result in a material loss.

Other Matters

PGE is subject to other regulatory, environmental, and legal proceedings, investigations, and claims that arise from time to time in the ordinary course of business, which may result in judgments against the Company. Although management currently believes that resolution of such matters, individually and in the aggregate, will not have a material impact on its financial position, results of operations, or cash flows, these matters are subject to inherent uncertainties, and management's view of these matters may change in the future.

QUARTERLY FINANCIAL DATA

(Unaudited)

	Quarter Ended			
	March 31	June 30	September 30	December 31
(In millions, except per share amounts)				
2019				
Total revenues	\$ 573	\$ 460	\$ 542	\$ 548
Income from operations	111	57	88	97
Net income	73	25	55	61
Earnings per share:*				
Basic	0.82	0.28	0.61	0.68
Diluted	0.82	0.28	0.61	0.68
2018				
Total revenues	\$ 493	\$ 449	\$ 525	\$ 524
Income from operations	100	80	91	75
Net income	64	46	53	49
Earnings per share:*				
Basic	0.72	0.51	0.59	0.55
Diluted	0.72	0.51	0.59	0.55

* Earnings per share are calculated independently for each period presented. Accordingly, the sum of the quarterly earnings per share amounts may not equal the total for the year.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.

None.

ITEM 9A. CONTROLS AND PROCEDURES.

(a) Disclosure Controls and Procedures

Management of the Company, under the supervision and with the participation of the Chief Executive Officer and the Chief Financial Officer, has evaluated the effectiveness of the Company's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) as of the end of the period covered by this report pursuant to Rule 13a-15(b) under the Exchange Act. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer have concluded that, as of the end of such period, the Company's disclosure controls and procedures are effective.

(b) Management's Annual Report on Internal Control over Financial Reporting

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act). The Company's internal control over financial reporting is a process designed by, or under the supervision of, the Chief Executive Officer and Chief Financial Officer to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the Company's financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America.

Management of the Company, under the supervision and with the participation of the Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of the Company's internal control over financial reporting as of the end of the period covered by this report pursuant to Rule 13a-15(c) under the Exchange Act. Management's assessment was based on the framework established in *Internal Control-Integrated Framework*

(2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management has concluded that, as of December 31, 2019, the Company's internal control over financial reporting is effective.

The Company's internal control over financial reporting, as of December 31, 2019, has been audited by Deloitte & Touche LLP, the independent registered public accounting firm who audits the Company's consolidated financial statements, as stated in their report included in Item 8.—“Financial Statements and Supplementary Data,” which expresses an unqualified opinion on the effectiveness of the Company's internal control over financial reporting, as of December 31, 2019.

(c) Changes in Internal Control over Financial Reporting

There have not been any changes in the Company's internal control over financial reporting during the fourth quarter of 2019 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

ITEM 9B. OTHER INFORMATION.

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE.

Certain information required by Item 10 is incorporated herein by reference to the relevant information under the captions “Delinquent Section 16(a) Reports,” “Corporate Governance,” and “Item 1: Election of Directors” in the Company's definitive proxy statement to be filed pursuant to Regulation 14A with the SEC in connection with the Annual Meeting of Shareholders scheduled to be held on April 22, 2020. Information regarding executive officers of Portland General Electric Company may be found in Part I, Item 1. Business of this Annual Report on Form 10-K.

ITEM 11. EXECUTIVE COMPENSATION.

The information required by Item 11 is incorporated herein by reference to the relevant information under the captions “Corporate Governance—Director Compensation,” “Corporate Governance—Compensation Committee Interlocks,” “Compensation and Human Resources Committee Report,” “Compensation Discussion and Analysis,” and “Executive Compensation Tables” in the Company's definitive proxy statement to be filed pursuant to Regulation 14A with the SEC in connection with the Annual Meeting of Shareholders scheduled to be held on April 22, 2020.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS.

The information required by Item 12 is incorporated herein by reference to the relevant information under the captions “Security Ownership of Certain Beneficial Owners, Directors and Executive Officers,” in the Company's definitive proxy statement to be filed pursuant to Regulation 14A with the SEC in connection with the Annual Meeting of Shareholders scheduled to be held on April 22, 2020.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE.

The information required by Item 13 is incorporated herein by reference to the relevant information under the caption “Corporate Governance” in the Company’s definitive proxy statement to be filed pursuant to Regulation 14A with the SEC in connection with the Annual Meeting of Shareholders scheduled to be held on April 22, 2020.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES.

The information required by Item 14 is incorporated herein by reference to the relevant information under the captions “Principal Accountant Fees and Services” and “Pre-Approval Policy for Independent Auditor Services” in the Company’s definitive proxy statement to be filed pursuant to Regulation 14A with the SEC in connection with the Annual Meeting of Shareholders scheduled to be held on April 22, 2020.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES.

(a) Financial Statements and Schedules

The financial statements are set forth under Item 8 of this Annual Report on Form 10-K. Financial statement schedules have been omitted since they are either not required, not applicable, or the information is otherwise included.

(b) Exhibit Listing

Exhibit Number	Description
(3)	Articles of Incorporation and Bylaws
3.1*	Third Amended and Restated Articles of Incorporation of Portland General Electric Company (Form 8-K filed May 9, 2014, Exhibit 3.1).
3.2*	Eleventh Amended and Restated Bylaws of Portland General Electric Company (Form 10-K filed February 15, 2019, Exhibit 3.2).
(4)	Instruments defining the rights of security holders, including indentures
4.1*	Portland General Electric Company Indenture of Mortgage and Deed of Trust dated July 1, 1945 (Form 8, Amendment No. 1 dated June 14, 1965) (File No. 001-05532-99).
4.2*	Fortieth Supplemental Indenture dated October 1, 1990 (Form 10-K for the year ended December 31, 1990, Exhibit 4) (File No. 001-05532-99).
4.3*	Sixty-second Supplemental Indenture dated April 1, 2009 (Form 8-K filed April 16, 2009, Exhibit 4.1) (File No. 001-05532-99).
4.4*	Seventy-third Supplemental Indenture dated August 1, 2017, between the Company and Wells Fargo Bank, National Association, as Trustee (Form 8-K filed August 3, 2017, Exhibit 4.1).
4.5*	Seventy-fifth Supplemental Indenture, dated April 1, 2019, between the Company and Wells Fargo Bank, National Association, as trustee (Form 8-K filed April 15, 2019, Exhibit 4.1).
4.6	Description of Securities
(10)	Material Contracts
10.1*	Amended and Restated Credit Agreement dated March 6, 2015 between Portland General Electric Company and Wells Fargo Bank, National Association, as Administrative Agent, Bank of America, N.A., Barclays Bank PLC, JPMorgan Chase Bank, N.A. and U.S. Bank National Association (Form 10-Q filed April 27, 2015, Exhibit 10.1).
10.2*	First Amendment to Credit Agreement, dated February 21, 2017 among Portland General Electric Company, Lenders, and Wells Fargo Bank, National Association, as administrative agent for the Lenders (Form 10-K filed February 16, 2018, Exhibit 10.2).
10.3*	Second Amendment to Credit Agreement, dated as of January 16, 2019 among Portland General Electric Company, Lenders, and Wells Fargo Bank, National Association, as administrative agent for the Lenders (Form 10-K filed February 15, 2019, Exhibit 10.3).
10.4*	Consent Agreement, dated December 6, 2017 among Portland General Electric Company, Lenders, and Wells Fargo Bank, National Association, as administrative agent for the Lenders (Form 10-K filed February 16, 2018, Exhibit 10.3).
10.5*	Portland General Electric Company Severance Pay Plan for Executive Employees, as amended and restated effective February 14, 2017 (Form 10-K filed February 17, 2017, Exhibit 10.2). +
10.6*	Portland General Electric Company Outplacement Assistance Plan dated June 15, 2005 (Form 8-K filed June 20, 2005, Exhibit 10.2) (File No. 001-05532-99). +
10.7*	Portland General Electric Company 2005 Management Deferred Compensation Plan dated January 1, 2005 (Form 10-K filed March 11, 2005, Exhibit 10.18) (File No. 001-05532-99). +
10.8*	Portland General Electric Company Management Deferred Compensation Plan dated March 12, 2003 (Form 10-Q filed May 15, 2003, Exhibit 10.1) (File No. 001-05532-99). +

Exhibit Number	Description
10.9*	Portland General Electric Company Supplemental Executive Retirement Plan dated March 12, 2003 (Form 10-Q filed May 15, 2003, Exhibit 10.2)(File No. 001-05532-99). +
10.10*	Portland General Electric Company Senior Officers' Life Insurance Benefit Plan dated March 12, 2003 (Form 10-Q filed May 15, 2003, Exhibit 10.3)(File No. 001-05532-99). +
10.11*	Portland General Electric Company Umbrella Trust for Management dated March 12, 2003 (Form 10-Q filed May 15, 2003, Exhibit 10.4)(File No. 001-05532-99). +
10.12*	Portland General Electric Company Stock Incentive Plan, As Amended and Restated Effective February 13, 2018. (Form 10-Q filed April 27, 2018, Exhibit 10.1)(File No. 001-055532-99). +
10.13*	Portland General Electric Company 2006 Annual Cash Incentive Master Plan (Form 8-K filed March 17, 2006, Exhibit 10.1)(File No. 001-05532-99). +
10.14*	Portland General Electric Company 2006 Outside Directors' Deferred Compensation Plan (Form 8-K filed May 17, 2006, Exhibit 10.1)(File No. 001-05532-99). +
10.15*	Portland General Electric Company 2008 Annual Cash Incentive Master Plan for Executive Officers (Form 8-K filed February 26, 2008, Exhibit 10.1)(File No. 001-05532-99). +
10.16*	Form of Portland General Electric Company Agreement Concerning Indemnification and Related Matters (Form 8-K filed December 24, 2009, Exhibit 10.1)(File No. 001-05532-99). +
10.17*	Form of Portland General Electric Company Agreement Concerning Indemnification and Related Matters for Officers and Key Employees (Form 8-K filed February 19, 2010, Exhibit 10.1)(File No. 001-05532-99). +
10.18	Form of Directors' Restricted Stock Unit Agreement +
10.19	Form of Officers' and Key Employees' Performance Stock Unit Agreement +
10.20	Form of Officers' and Key Employees' Restricted Stock Unit Agreement +
10.21	Separation Agreement dated September 27, 2019 by and between William Nicholson and Portland General Electric Company. +
(23)	Consents of Experts and Counsel
23.1	Consent of Independent Registered Public Accounting Firm Deloitte & Touche LLP.
(31)	Rule 13a-14(a)/15d-14(a) Certifications
31.1	Certification of Chief Executive Officer.
31.2	Certification of Chief Financial Officer.
(32)	Section 1350 Certifications
32.1	Certifications of Chief Executive Officer and Chief Financial Officer.
(101)	Interactive Data File
101.INS	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	XBRL Taxonomy Extension Schema Document.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.
104	Cover page information from Portland General Electric Company's Annual Report on Form 10-K filed February 14, 2020, formatted in iXBRL (Inline Extensible Business Reporting Language).

* Incorporated by reference as indicated.

+ Indicates a management contract or compensatory plan or arrangement.

Certain instruments defining the rights of holders of other long-term debt of PGE are omitted pursuant to Item 601(b)(4)(iii)(A) of Regulation S-K because the total amount of securities authorized under each such omitted

instrument does not exceed 10% of the total consolidated assets of the Company and its subsidiaries. PGE hereby agrees to furnish a copy of any such instrument to the SEC upon request.

Upon written request to Investor Relations, Portland General Electric Company, 121 S.W. Salmon Street, Portland, Oregon 97204, the Company will furnish shareholders with a copy of any Exhibit upon payment of reasonable fees for reproduction costs incurred in furnishing requested Exhibits.

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 on February 13, 2020.

PORTLAND GENERAL ELECTRIC COMPANY

By: _____ /s/ MARIA M. POPE

Maria M. Pope
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities indicated on February 13, 2020.

Signature	Title
<hr/> <i>/s/ MARIA M. POPE</i> <hr/> Maria M. Pope	<i>President, Chief Executive Officer, and Director (principal executive officer)</i>
<hr/> <i>/s/ JAMES F. LOBDELL</i> <hr/> James F. Lobdell	<i>Senior Vice President of Finance, Chief Financial Officer, and Treasurer (principal financial and accounting officer)</i>
<hr/> <i>/s/ JOHN W. BALLANTINE</i> <hr/> John W. Ballantine	<i>Director</i>
<hr/> <i>/s/ RODNEY L. BROWN, JR.</i> <hr/> Rodney L. Brown, Jr.	<i>Director</i>
<hr/> <i>/s/ JACK E. DAVIS</i> <hr/> Jack E. Davis	<i>Director</i>
<hr/> <i>/s/ KIRBY A. DYESS</i> <hr/> Kirby A. Dyess	<i>Director</i>
<hr/> <i>/s/ MARK B. GANZ</i> <hr/> Mark B. Ganz	<i>Director</i>
<hr/> <i>/s/ MARIE OH HUBER</i> <hr/> Marie Oh Huber	<i>Director</i>
<hr/> <i>/s/ KATHRYN J. JACKSON</i> <hr/> Kathryn J. Jackson	<i>Director</i>
<hr/> <i>/s/ MICHAEL H. MILLEGAN</i> <hr/> Michael H. Millegan	<i>Director</i>
<hr/> <i>/s/ NEIL J. NELSON</i> <hr/> Neil J. Nelson	<i>Director</i>
<hr/> <i>/s/ M. LEE PELTON</i> <hr/> M. Lee Pelton	<i>Director</i>
<hr/> <i>/s/ CHARLES W. SHIVERY</i> <hr/> Charles W. Shivery	<i>Director</i>

DESCRIPTION OF SECURITIES

As of February 13, 2020, Portland General Electric Company (the “Company”) has two classes of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended: (1) our common stock, and (2) our first mortgage bonds.

DESCRIPTION OF COMMON STOCK

The following description of our common stock is a summary and is subject to our Third Amended and Restated Articles of Incorporation (“Articles of Incorporation”) and our Eleventh Amended and Restated Bylaws (“Bylaws”) and to the applicable provisions of Oregon corporate law. You should refer to our Articles of Incorporation and our Bylaws and to Oregon corporate law for a complete understanding of the terms and rights of our common stock.

Authorized and Outstanding Capital Shares

Our Articles of Incorporation provide that we have authority to issue up to 160,000,000 shares of common stock, no par value, and 30,000,000 shares of preferred stock, no par value. The outstanding shares of our common stock are fully paid and nonassessable. As of February 4, 2020 there were 89,391,379 shares of the Company’s common stock and no shares of preferred stock outstanding.

Listing

Our common stock is listed and traded on the New York Stock Exchange under the ticker symbol “POR.” The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company.

Voting Rights

Except as otherwise provided by law or our Articles of Incorporation, and subject to the rights of holders of any outstanding shares of our preferred stock, all of the voting power of our shareholders is vested in the holders of our common stock, and each holder of common stock has one vote for each share on all matters voted upon by our shareholders. Our Articles of Incorporation do not provide for cumulative voting for the election of directors.

Dividend Rights

Except as otherwise provided by law, regulatory restriction or the Articles of Incorporation, and subject to the rights of holders of any outstanding shares of our preferred stock, holders of our common stock are entitled to receive dividends when and as declared by the Board of Directors out of any funds legally available for the payment of dividends.

Other Rights

Holders of our common stock do not have any preemptive or other rights to subscribe for, purchase or receive any proportionate or other amount of our common stock or any securities of the company convertible into our common stock upon the issuance of our common stock or any such convertible securities. There are also no redemption or sinking fund provisions applicable to our common stock.

Liquidation Rights

If we were voluntarily or involuntarily liquidated, dissolved or wound up, the holders of our outstanding shares of common stock would be entitled to share in the distribution of all assets remaining after payment of all of our liabilities and after satisfaction of prior distribution rights and payment of any distributions owing to holders of any outstanding shares of our preferred stock.

Liability for Calls and Assessments

The outstanding shares of our common stock are validly issued, fully paid and non-assessable.

Shareholder Action

Except as otherwise required by law, a majority of the shares of our common stock entitled to be voted at a meeting constitutes a quorum for the transaction of business at a meeting. Except as otherwise required by law, each matter, other than the election of directors, is decided by a majority of votes cast. Directors are elected annually by a majority of votes cast by the shares entitled to vote in an election at a meeting at which a quorum is present, except in the case of a contested election. In the case of a contested election, directors are elected by a plurality of votes cast by the shares entitled to vote in an election at a meeting at which a quorum is present. Special meetings of our shareholders may be called by our Chairman of the Board, our Chief Executive Officer, our President or by our Board of Directors.

Except as otherwise provided by law or in our Articles of Incorporation, and subject to restrictions on the taking of shareholder action without a meeting under applicable law or the rules of a national securities association or exchange, action required or permitted by law to be taken at a shareholders' meeting may be taken without a meeting if the action is taken by shareholders having not less than the minimum number of votes that would be required to take such action at a meeting at which all shareholders entitled to vote on the action were present and voted.

Vacancies and Removal of Directors

Any vacancy, including a vacancy resulting from an increase in the number of directors, occurring on our Board of Directors may be filled by our shareholders, the Board of Directors or the affirmative vote of a majority of the remaining directors if less than a quorum of the Board of Directors or by a sole remaining director. A vacancy that will occur at a specific later date, by reason of a resignation or otherwise, may be filled before the vacancy occurs, and the new director shall take office when the vacancy occurs.

Shareholders may remove one or more directors with or without cause at a meeting called expressly for that purpose. A director may be removed only if the number of votes cast to remove a director exceeds the number cast not to remove the director. If a director is elected by a voting group of shareholders, only those shareholders may participate in the vote to remove the director.

Provisions with Possible Anti-Takeover Effects

An Oregon company may provide in its articles of incorporation or bylaws that certain control share and business combination provisions in the Oregon Business Corporation Act do not apply to its shares. We have not opted out of these provisions.

Oregon Control Share Act. We are subject to Sections 60.801 through 60.816 of the Oregon Business Corporation Act, known as the “Oregon Control Share Act.” The Oregon Control Share Act generally provides that a person who acquires voting stock of an Oregon corporation, in a transaction that results in the acquiror holding more than 20%, 33 ¹/₃% or 50% of the total voting power of the corporation, cannot vote the shares it acquires in the acquisition. An acquiror is broadly defined to include companies or persons acting as a group to acquire the shares of the Oregon corporation. This restriction does not apply if voting rights are given to the control shares by:

- a majority of the outstanding voting shares, including shares held by the company’s officers and employee directors; and
- a majority of the outstanding voting shares, excluding the control shares held by the acquiror and shares held by the company’s officers and employee directors.

In order to retain the voting rights attached to acquired shares, this vote would be required when an acquiror’s holdings exceed 20% of the total voting power, and again at the time the acquiror’s holdings exceed 33 ¹/₃% and 50%, respectively.

The acquiror may, but is not required to, submit to the target company an “acquiring person statement” that includes specific information about the acquiror and its plans for the company. The acquiring person statement may also request that the company call a special meeting of shareholders to determine whether the control shares will be allowed to have voting rights. If the acquiror requests a special meeting and undertakes to pay the target company’s expenses of the meeting, the directors of the target company must, within 10 days after receiving the acquiring person statement, call a special meeting for the purpose of considering the voting rights of the control shares. If the acquiror does not request a special meeting of shareholders, the issue of voting rights of control shares will be considered at the next annual or special meeting of shareholders that is held more than 60 days after the date of the acquisition of control shares. If the acquiror’s control shares are allowed to have voting rights and represent a majority or more of all voting power, shareholders who do not vote in favor of voting rights for the control shares will have the right to receive the appraised fair value of their shares, which may not be less than the highest price paid per share by the acquiror for the control shares.

Shares are not deemed to be acquired in a control share acquisition if, among other things, they are acquired from the issuing corporation, or are issued pursuant to a plan of merger or exchange effected in compliance with the Oregon Business Corporation Act and the issuing corporation is a party to the merger or exchange agreement.

Oregon Business Combination Act. We are also subject to Sections 60.825 through 60.845 of the Oregon Business Corporation Act, known as the “Oregon Business Combination Act.” The Oregon Business Combination Act governs business combinations between Oregon corporations and a person or entity that acquires 15% or more of

the outstanding voting stock of the corporation, thereby becoming an “interested shareholder.” The Oregon Business Combination Act generally provides that the corporation and the interested shareholder, or any affiliated entity of the interested shareholder, may not engage in business combination transactions for three years following the date the person acquired the shares. Business combination transactions for this purpose include:

- a merger or plan of exchange;
- any sale, lease, mortgage or other disposition of the assets of the corporation where the assets have an aggregate market value equal to 10% or more of the aggregate market value of the corporation’s assets or outstanding capital stock; and
- transactions that result in the issuance or transfer of capital stock of the corporation to the interested shareholder.

These business combination restrictions do not apply if:

- the board of directors approves the business combination or the transaction that resulted in the shareholder acquiring the shares before the acquiring shareholder acquires 15% or more of the corporation’s voting stock;
- as a result of the transaction in which the person acquired the shares, the acquiring shareholder became an interested shareholder and owner of at least 85% of the outstanding voting stock of the corporation, disregarding shares owned by employee directors and shares owned by certain employee benefits plans; or
- the board of directors and the holders of at least two-thirds of the outstanding voting stock of the corporation at an annual or special meeting of shareholders, disregarding shares owned by the interested shareholder, approve the business combination after the acquiring shareholder acquires 15% or more of the corporation’s voting stock.

DESCRIPTION OF FIRST MORTGAGE BONDS

We have issued and may issue in the future first mortgage bonds under our Indenture of Mortgage and Deed of Trust dated July 1, 1945, between us and Wells Fargo Bank, National Association as trustee (the “Trustee”), as supplemented and amended. The original mortgage, as so supplemented and amended, is referred to as the “Mortgage.” First mortgage bonds issued under the Mortgage are hereinafter referred to as the “bonds.”

We currently have an effective registration statement on Form S-3 (File No.: 333-232976), which was filed with the Securities and Exchange Commission (the “SEC”) on August 2, 2019 (the “**Current Registration Statement**”) and covers future issuances of bonds. As of February 13, 2020, no bonds have been issued pursuant to the Current Registration Statement.

The following issued and outstanding bonds have been registered with the SEC: Medium-Term Notes (A Series of First Mortgage Bonds), due August 11, 2021 and bearing interest at the rate of 9.31% per annum, issued pursuant to the Fortieth Supplemental Indenture dated October 1, 1990, in the aggregate principal amount of \$20,000,000 (the “Notes”). The Notes were registered with the SEC under a registration statement on Form S-3 filed with the SEC

on August 13, 1990 (File No. 33-36332). The Notes are traded on The New York Stock Exchange under the bond trading symbol of “POR21.”

The following description of the Mortgage and the bonds (including the Notes) is not complete. This description is subject to, and is qualified in its entirety by reference to, all of the provisions of the Mortgage, including the defined terms contained therein. We have filed the original mortgage and certain of the supplemental indentures amending the mortgage, including the Fortieth Supplemental Indenture pursuant to which the Notes were issued, as exhibits to previous filings with the SEC, as described on the Exhibit Listing included in Item 15(b) of this Annual Report on Form 10-K.

Issuance of Additional Bonds

Subject to the issuance restrictions described below, we may issue an unlimited amount of bonds under the Mortgage. Bonds may be issued from time to time on the basis of, and in an aggregate principal amount not exceeding, the following: (i) 60% of the amount of available additions; (ii) an amount of cash deposited with the Trustee; and/or (iii) the aggregate principal amount of available retirements of bonds.

With certain exceptions in the case of (iii) above, the issuance of bonds is subject to the amount of net earnings available for interest for 12 consecutive months within the preceding 15 months being at least twice the annual interest requirements on all bonds to be outstanding and all prior lien indebtedness. Cash deposited with the Trustee pursuant to (ii) above may be (a) withdrawn in an amount equal to 60% of available additions, (b) withdrawn in an amount equal to the aggregate principal amount of available retirements of bonds, or (c) applied to the purchase or redemption of bonds.

Available additions are determined, at any time, by deducting from the aggregate amount of property additions since March 31, 1945, (i) the greater of the aggregate amount of retirements of bondable public utility property not subject to a prior lien, or the aggregate amount of the minimum provision for depreciation upon bondable public utility property not subject to a prior lien since March 31, 1945, and (ii) the aggregate amount of available additions theretofore made the basis for action or credit under the Mortgage. Property additions taken as a credit against the replacement fund requirement are not deemed to be “made the basis for action or credit.”

Secured Obligations

The bonds are senior secured obligations secured equally and ratably with all other bonds now outstanding or hereafter issued under the Mortgage, by a first lien on substantially all of our now owned or hereafter acquired tangible utility property (except cash, securities, accounts receivable, motor vehicles, materials and supplies, fuel, certain minerals and mineral rights, property located outside of the states of Oregon, Washington, California, Arizona, New Mexico, Idaho, Montana, Wyoming, Utah, Nevada and Alaska, and certain other property specified in the Mortgage), subject, however, to certain permitted encumbrances and various exceptions, reservations, limitations, and minor irregularities and deficiencies in title which will not interfere with the proper operation and development of the mortgaged property. We refer to this collateral security as “bondable public utility property.”

The term “permitted encumbrances” means as of any particular time any of the following:

- liens for taxes, assessments, or governmental charges for the then current year and taxes, assessments, or governmental charges not then delinquent; and liens for taxes, assessments, or governmental charges already delinquent, but whose validity is being contested at the time by us in good faith by appropriate proceedings;
- liens and charges incidental to construction or current operation which have not at such time been filed or asserted or the payment of which has been adequately secured or which, in the opinion of counsel, are insignificant in amount;
- liens, securing obligations neither assumed by us nor on account of which we customarily pay interest directly or indirectly, existing, either at July 1, 1945, or as to property thereafter acquired, at the time of acquisition by us, upon real estate or rights in or relating to real estate acquired by us for substation, measuring station, regulating station, or transmission, distribution, or other right-of-way purposes;
- any right which any municipal or governmental body or agency may have by virtue of any franchise, license, contract, or statute to purchase, or designate a purchaser of, or order the sale of, any of our property upon payment of reasonable compensation therefor or to terminate any franchise, license, or other rights or to regulate our property and business;
- the lien of judgments covered by insurance or if not so covered, not exceeding at any one time \$100,000 in aggregate amount;
- easements or reservations in respect of any of our property for the purpose of rights-of-way and similar purposes, reservations, restrictions, covenants, party wall agreements, conditions of record, and other encumbrances (other than to secure the payment of money) and minor irregularities or deficiencies in the record evidence of title, which in the opinion of counsel (at the time of the acquisition of the property affected or subsequently) will not interfere with the proper operation and development of the property affected thereby;
- any lien or encumbrance, moneys sufficient for the discharge of which have been deposited in trust with the Trustee or with the trustee or mortgagee under the instrument evidencing such lien or encumbrance, with irrevocable authority to the Trustee or to such other trustee or mortgagee to apply such moneys to the discharge of such lien or encumbrance to the extent required for such purposes; and
- the lien reserved for rent and for compliance with the terms of the lease in the case of leasehold estates.

The Mortgage permits the acquisition of property subject to prior liens. However, no property subject to prior liens (other than purchase money liens) may be acquired (i) if at the date the property is acquired, the principal amount of indebtedness secured by prior liens, together with all of our other prior lien indebtedness, is greater than 10% of the aggregate principal amount of debt securities outstanding under the Mortgage, (ii) if at the date the property is acquired, the principal amount of indebtedness secured by prior liens is greater than 60% of the cost of such property to us, or (iii) in certain cases if the property had been used by another entity in a business similar to ours, unless the net earnings of such property meet certain tests.

We have covenanted, among other things,

- to not issue debt securities under the Mortgage in any manner other than in accordance with the Mortgage;
- except as permitted by the Mortgage, to keep the Mortgage a first priority lien on the property subject to it;
- except as permitted by the Mortgage, to not suffer any act or thing whereby all of the properties subject to it might or could be impaired; and
- in the event that we are no longer required to file reports with the SEC, and so long as the bonds are outstanding, to furnish to the Trustee the financial and other information that would be required to be contained in the reports filed with the SEC on Forms 10-Q, 10-K, and 8-K if we were required to file such reports.

Redemption and Purchase of Bonds

Provisions for the redemption or purchase of any particular series of bonds are set forth the supplemental indenture pursuant to which such bonds are issued. Cash deposited under any provision of the Mortgage (with certain exceptions) may be applied to the purchase of the bonds.

The Notes are not redeemable at the option of the Company prior to maturity otherwise than through the application of proceeds of the sale of substantially all of the Company's electric property at Portland, Oregon, in which event the Notes are redeemable upon payment of the principal amount together with interest thereon payable to the date of redemption.

Defeasance

We may effect defeasance of the bonds by:

- (1) depositing with the Trustee at or before maturity sufficient cash to pay the principal of and interest to maturity on outstanding bonds, or
- (2) depositing with the Trustee cash sufficient to redeem outstanding bonds, together with proof of notice of redemption, authorization to give notice of redemption, or evidence that notice of redemption will be given or waived; and
- (3) payment to the Trustee of all other sums due and payable by the Company under the Mortgage.

Upon satisfaction of the foregoing conditions, we may elect to have the entire trust estate revert to the Company and (1) the holders of bonds will no longer be entitled to the lien, benefit or security of the Mortgage, except the right to receive the funds deposited with the Trustee, and (2) the bonds will be deemed not to be outstanding.

Sinking Fund Provisions

We may establish a sinking fund for the benefit of a particular series of bonds. If a sinking fund is established, we will be required to deposit with the Trustee at certain specified times sufficient cash to redeem a percentage of the series or the whole series. The supplemental indenture pursuant to which that series is issued will state the price or prices at which, and the terms and conditions upon which, the bonds will be redeemed. Such supplemental indenture will also set forth the percentage of securities of the series to be redeemed.

Replacement Fund

If the amount of the minimum provision for depreciation upon bondable public utility property (as defined above) exceeds the balance of property additions credits available in any year, we will pay the excess to the Trustee on May 1 of the following year by either payments in cash or by delivery of bonds. The balance of property additions available for credit is the net of the aggregate property additions acquired or constructed by us from March 31, 1945, to the end of the calendar year for which the payment is due, less property additions that (i) have been previously made the basis for action or credit under the Mortgage or (ii) have been used as a credit on all previous replacement fund certificates. We may, at our election, credit against any deficiency in the replacement fund amount (i) available retirements of bonds, (ii) certain expenditures on bondable public utility property subject to prior lien, and (iii) certain retirements of prior lien indebtedness. If those credits at any time exceed the replacement fund requirement, we may withdraw cash or bonds held by the Trustee in the replacement fund. We may also reinstate available retirements of bonds that we previously took as credit against any replacement fund requirement. Cash deposited in the replacement fund may, at our option, be applied to the redemption or purchase of bonds or, in certain circumstances, to the redemption or purchase of other bonds. The redemptions of the bonds would be at the then applicable regular redemption prices.

Minimum Provision for Depreciation

Under the Mortgage, there is a “minimum provision for depreciation” of bondable public utility property. The aggregate amount of the minimum provision for depreciation of bondable public utility property for any period after March 31, 1945, is \$35,023,487.50 plus an amount for each calendar year or fraction of a year after December 31, 1966, equal to the greater of (i) 2% of depreciable bondable public utility property, as shown by our books as of January 1 of that year, as to which we were required to make appropriations to a reserve for depreciation or obsolescence or (ii) the amount we actually appropriated in respect of the depreciable bondable public utility property to a reserve for depreciation or obsolescence, in either case less an amount equal to the aggregate of (a) the amount of any property additions which we made as the basis for a sinking fund credit during the calendar year, and (b) 166 2/3% of the principal amount of any bonds of any series which we credited against any sinking fund payment or which we redeemed in anticipation of, or out of moneys paid to the Trustee on account of, any sinking fund payment due during the calendar year. The property additions and bonds referred to in (a) and (b) above become disqualified from being made the basis of the authentication and delivery of bonds or any other further action or credit under the Mortgage. In addition, the minimum provision for depreciation shall also include (1) the amount of any property additions referred to in (a) above which after December 31, 1966, were made the basis for a sinking fund credit pursuant to the provisions of a sinking fund for bonds of any series, and thereafter became “available additions” as a result of the fact that all bonds of such series ceased to be outstanding, and (2) 166 2/3% of the principal amount of bonds referred to in (b) above, which after December 31, 1966, were credited against any sinking fund payment, or were redeemed in anticipation of, or out of moneys paid to the Trustee on account of, any sinking fund payment for bonds of any series, and thereafter became available retirements of bonds as a result of the fact that all bonds of such series ceased to be outstanding.

Dividend Restrictions

So long as any of the bonds are outstanding, we will be subject to the following restrictions:

- we may not pay or declare dividends (other than stock dividends) or other distributions on our common stock, and
- we may not purchase any shares of our capital stock (other than in exchange for or from the proceeds of other shares of our capital stock),

in either case if the aggregate amount distributed or expended after December 31, 1944, would exceed the aggregate amount of our net income, as adjusted, available for dividends on our common stock accumulated after December 31, 1944.

Release and Substitution of Property

Property subject to the lien of the Mortgage may (subject to certain exceptions and limitations) be released only upon the substitution of cash, purchase money obligations, or certain other property or upon the basis of available additions or available retirements of bonds.

Subject to the terms and conditions contained in the Mortgage, we:

- may, at any time, without the consent of the Trustee, sell, exchange, or otherwise dispose of, free from the lien of the Mortgage, any property subject to the lien of the Mortgage, which has become worn out, unserviceable, undesirable, or unnecessary for use in the conduct of our business; upon replacing or modifying such property, such replacement or modified property shall without further action become subject to the lien of the Mortgage;
- may, at any time, sell, exchange, or dispose of any property (except cash, securities, or other personal property pledged or deposited with or required to be pledged or deposited with the Trustee), and the Trustee shall release such property from the operation and lien of the Mortgage upon receipt by the Trustee of certain documents and, subject to certain exceptions, cash in an amount equal to the fair value of such property;
- shall, in the event any property is taken by the exercise of the power of eminent domain or otherwise purchased or ordered to be sold by any governmental body, deposit with the Trustee the award for or proceeds of any property so taken, purchased or sold, and such property shall be released from the lien of the Mortgage;
- may, at any time, without the consent of the Trustee, sell, exchange, or otherwise dispose of any property (except cash, securities, or other personal property pledged or deposited with or required to be pledged or deposited with the Trustee) subject to the lien of the Mortgage which is no longer used or useful in the conduct of our business, provided the fair values of the property so sold, exchanged, or otherwise disposed of in any one calendar year shall not exceed \$50,000 and cash in an amount equal to the fair value of the property is deposited with the Trustee; and

- may, in lieu of depositing cash with the Trustee as required above, deliver to the Trustee purchase money obligations secured by a mortgage on the property to be released or disposed of, a certificate of the Trustee or other holder of a prior lien on any part of the property to be released stating that a specified amount of cash or purchase money obligations have been deposited with such Trustee or other holder, or certain other certificates from us.

Subject to certain conditions specified in the Mortgage, moneys deposited with the Trustee may be:

- withdrawn by us to the extent of available additions and available bond retirements;
- withdrawn by us in amount equal to the lower of cost or fair value of property additions acquired or constructed by us; and
- used to purchase or redeem bonds of any series.

Notwithstanding the foregoing, proceeds received by the Trustee from a sale or disposition of substantially all of our electric properties at Portland, Oregon, may be applied only to the retirement of bonds outstanding under the Mortgage.

Modification of the Mortgage

Under the Mortgage, our rights and obligations and the rights of the holders of the bonds may be modified with the consent of the holders of 75% in aggregate principal amount of the outstanding bonds, including the consent of holders of 60% in aggregate principal amount of the bonds of each series affected by the modification. No modification of the principal or interest payment terms, no modification permitting the creation of any lien not otherwise permitted under the Mortgage, and no modification reducing the percentage required for modifications, will be effective without the consent of the holders of all bonds then outstanding. The Mortgage may also be modified in various other respects not inconsistent with the Mortgage and which do not adversely affect the interests of the holders of bonds.

Consolidation, Merger, and Conveyance of Assets

The terms of the Mortgage do not preclude us from merging or consolidating with, or from transferring all of the trust estate substantially as an entirety to, a corporation lawfully entitled to acquire and operate our utility assets (a "successor corporation"), provided that the lien and security of the Mortgage and the rights and powers of the Trustee and the holders of the bonds continue unimpaired. Any such merger, consolidation, or transfer, if it involves a successor corporation owning property subject to existing liens, must comply with the requirements of the Mortgage relating to the acquisition of property subject to a prior lien, which requirements are described in the third paragraph under "Secured Obligations" above. At or before the time of any such merger, consolidation, or transfer permitted by the Mortgage, the successor corporation must execute and record a supplemental indenture with the Trustee pursuant to which the successor corporation assumes all of our obligations under the Mortgage and agrees to pay the bonds in accordance with their terms. Thereafter, the successor corporation will have the right to issue additional bonds under the Mortgage in accordance with its terms, and all such bonds shall have the same legal rank and security as the bonds and the other bonds issued under the Mortgage. Property acquired by the successor

corporation after a merger, consolidation, or transfer described above shall not be subject to the lien of the Mortgage unless expressly made a part of the trust estate pursuant to a supplemental indenture.

The Mortgage does not contain any provisions that afford holders of bonds special protection in the event that we consummate a highly leveraged transaction; however, the bonds would continue to be entitled to the benefit of a first priority lien on the property subject to the Mortgage (other than property acquired by us subject to a prior lien) as described above.

Defaults and Notice

Each of the following constitutes a default under the bonds:

- failure to pay the principal when due;
- failure to pay interest for 60 days after it is due;
- failure to deposit any sinking or replacement fund payment for 60 days after it is due;
- certain events in bankruptcy, insolvency, or reorganization of us; and
- failure to perform any other covenant in the Mortgage that continues for 60 days after being given written notice, including the failure to pay any of our other indebtedness.

The Trustee may withhold notice to the holders of bonds of any default (except in payment of principal, interest, or any sinking or purchase fund installment) if it in good faith determines that withholding notice is in the interest of the holders of the bonds issued under the Mortgage.

If an event of default occurs and continues, the Trustee or the holders of at least 25% in aggregate principal amount of the bonds may declare the entire principal and accrued interest due and payable immediately. If this happens, subject to certain conditions, the holders of a majority of the aggregate principal amount of the bonds can annul the declaration and its consequences.

No holder of bonds may enforce the lien of the Mortgage, unless (i) it has given the Trustee written notice of default, (ii) the holders of 25% of the bonds have requested the Trustee to act and have offered the Trustee reasonable indemnity, and (iii) the Trustee has failed to act within 60 days. The holders of a majority in principal amount of the bonds may direct the time, method, and place of conducting any proceeding or any remedy available to the Trustee, or exercising any power conferred upon the Trustee.

Evidence to be Furnished to the Trustee

Compliance with Mortgage provisions is evidenced by the written statements of our officers or persons we selected and paid. In certain cases, opinions of counsel and certificates of an engineer, accountant, appraiser, or other expert (who in some instances must be independent) must be furnished. Various certificates and other papers are required to be filed annually and upon the occurrence of certain events, including an annual certificate with respect to compliance with the terms of the Mortgage and the absence of defaults.

Interest and Payment

The supplemental indenture pursuant to which each series of bonds is issued sets forth:

- the interest rate or rates or the method of determination of the interest rate or rates of the bonds;
- the date or dates on which the interest is payable; and
- the office or agency in the Borough of Manhattan, City and State of New York at which interest is payable.

Each Note bears interest at the rate of 9.31% per annum until the principal amount thereof is paid or made available for payment. Interest is payable on the Notes on each April 15 and October 15, and at maturity. Interest on the Notes is computed on the basis of a 360-day year of twelve 30-day months. The maturity date of the Notes is August 11, 2021.

Concerning the Trustee

Wells Fargo Bank, National Association is the Trustee under the Mortgage. We maintain ordinary banking relationships and credit facilities with Wells Fargo Bank, National Association. The holders of a majority in principal amount of the outstanding bonds issued under the Mortgage may direct the time, method, and place of conducting any proceeding for exercising any remedy available to the Trustee, subject to certain exceptions. The Mortgage provides that if default occurs (and it is not cured), the Trustee will be required, in the exercise of its power, to use the degree of care of a prudent person in the conduct of such person's own affairs. Subject to these provisions, the Trustee will be under no obligation to exercise any of its rights or powers under the Mortgage at the request of any holder of securities issued under the Mortgage, unless that holder has offered to the Trustee security and indemnity satisfactory to it against any loss, liability, or expense, and then only to the extent required by the terms of the Mortgage. The Trustee may resign from its duties with respect to the Mortgage at any time or may be removed by us. If the Trustee resigns, is removed, or becomes incapable of acting as Trustee or a vacancy occurs in the office of the Trustee for any reason, a successor Trustee shall be appointed in accordance with the provisions of the Mortgage.

Governing Law

The Mortgage provides that it and any bonds issued thereunder are governed by, and construed in accordance with, the laws of the state of New York, except to the extent the Trust Indenture Act of 1939 otherwise applies.

DIRECTORS' RESTRICTED STOCK UNIT AGREEMENT**1. Award of Restricted Stock Units**

- (a) Portland General Electric Company (the "**Company**") hereby grants ____ restricted stock units (the "**Restricted Stock Units**") to _____ (the "**Grantee**"). A Restricted Stock Unit represents the right to receive a share of the Company's common stock (a "**Share**") at a future date in accordance with the terms of this Agreement.
- (b) The grant is effective as of _____ (the "**Grant Date**").
- (c) The grant is made under the Portland General Electric Company Stock Incentive Plan (the "**Plan**") and is subject to the terms and conditions of the Plan and this agreement (the "**Agreement**").
- (d) Capitalized terms used but not defined in this Agreement shall have the meanings set forth in the Plan unless the context clearly requires an alternative meaning.

2. Vesting

Provided that the Grantee remains a director of the Company, except as provided in Section 4, below, the Restricted Stock Units shall vest in equal quarterly installments on _____, _____, _____ and _____.

1. Settlement in Shares

As soon as practicable after a Restricted Stock Unit vests, the Company shall settle the Restricted Stock Unit by issuing a Share to the Grantee, but in no event later than the March 15th following the year in which the Restricted Stock Unit vests. Upon such settlement, the Grantee shall have no further rights under the Restricted Stock Unit.

2. Termination of Service

If the Grantee's service as a director of the Company terminates (a "**Termination**") due to death or disability before all the Restricted Stock Units have vested, the Restricted Stock Units that would have vested upon the end of the quarterly vesting in which the Termination occurs shall vest. The Grantee will forfeit any remaining unvested Restricted Stock Units. For purposes of this Section 4, disability shall be determined by the Committee in its sole discretion in accordance with the disability standard under the long-term disability program of the Company.

If the Grantee (i) experiences a Termination effective upon consummation of a Change in Control or (ii) experiences a Termination, following a Change in Control, for any reason other than for cause or resignation, then any Restricted Stock Units that have not previously vested shall immediately vest in full.

If the Grantee experiences a Termination for any other reason, the Grantee will forfeit any unvested Restricted Stock Units.

The Committee shall determine the date of any Termination.

1. Non-Transferability of Award

No portion of this award shall be transferable during the Grantee's lifetime. The Grantee may, from time to time, designate one or more beneficiary or beneficiaries (including contingently or successively) to whom any award under this Agreement shall be paid in case of the Grantee's death. Each such designation shall revoke all prior

designations by the Grantee, shall be in a form prescribed by the Company, and shall be effective only when filed by the Grantee in writing with the Company during the Grantee's lifetime. In the absence of any such designation, in the event of the Grantee's death, awards under this Agreement shall be transferable only by will or the laws of descent and distribution. The transferability of the Shares issued in settlement of the Restricted Stock Units may also be limited in accordance with any legend on the certificate(s) representing such Shares that restricts the transferability of the Shares.

2. **Shareholder Rights**

The Grantee will not have any shareholder rights with respect to the Restricted Stock Units, including the right to vote or receive dividends, until Shares are issued to the Grantee in settlement of the Restricted Stock Units.

3. **Dividend Equivalent Rights**

The Grantee shall be entitled to one Dividend Equivalent Right for each Restricted Stock Unit granted hereunder. A Dividend Equivalent Right entitles the Grantee to receive an amount equal to any dividends paid on a Share, which dividends have a record date between the Grant Date and the vesting date for the related Restricted Stock Unit. Dividend Equivalent Rights shall be distributed in cash to the Grantee on the date that the related Restricted Stock Unit vests.

4. **Amendments**

The Committee may from time to time amend the terms of this Agreement to the extent it deems appropriate to carry out the terms and provisions of the Plan. Notwithstanding the foregoing, any amendment materially adverse to the economic interests of the Grantee shall be effective only if consented to by the Grantee in writing.

5. **Withholding**

In the event that the Company is responsible for tax withholding on distributions to the Grantee, the provisions of this Section 9 shall apply. The Company's obligation to deliver the certificate(s) representing Shares issued to settle Restricted Stock Units or cash in respect of Dividend Equivalent Rights shall be subject to the satisfaction of applicable tax withholding requirements, including federal, state and local requirements. Unless, prior to the vesting date for the related Restricted Stock Units, the Grantee notifies the Company of the Grantee's intention to remit sufficient funds to the Company to satisfy all applicable withholding requirements prior to the date the Shares are to be delivered to the Grantee, then, subject to applicable law, the Company shall withhold Shares or cash otherwise deliverable to the Grantee with a Fair Market Value sufficient to satisfy the applicable withholding requirements.

6. **Incorporation of Plan Terms**

The terms and conditions of the Plan are incorporated into and made a part of this Agreement. In the event of any difference between the provisions of this Agreement and the terms of the Plan, the terms of the Plan will control.

7. **Interpretation of Agreement and Plan**

The Committee shall have sole power to interpret and construe any provisions of this Agreement or the Plan. Any such interpretation or construction made by the Committee shall be final and conclusive.

8. **Grant Not to Affect Service**

The Restricted Stock Units granted hereunder and Shares issued in settlement of the Restricted Stock Units shall not confer upon the Grantee any right to continue as a director of the Company.

9. **Severability**

The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement. Unless such an invalid or unenforceable provision can be appropriately reformed or modified, this Agreement shall be construed as if such provision were omitted.

10. **Miscellaneous**

The captions of this Agreement are not part of the provisions hereof and shall have no force or effect.

11. **Securities Laws**

The Committee may from time to time impose any conditions on the Restricted Stock Units or Shares issued in settlement of the Restricted Stock Units as it deems necessary or advisable to ensure that all rights granted under the Plan satisfy the requirements of applicable securities laws.

12. **Notices**

All notices or other communications given hereunder shall be in writing, and any notices or other communications required to be given hereunder shall be sent by registered or certified mail, return receipt requested, postage prepaid, or by hand delivery, or expedited delivery service, delivery charges prepaid and with acknowledged receipt of delivery. A notice or other communication shall be deemed given on the date of acceptance or refusal of acceptance shown on such receipt, and shall be addressed, as the case may be to the Grantee and to the Company at the following applicable address:

- (a) If to the Grantee, to the most recent address for Grantee that the Company or its subsidiaries have in their records.
- (b) If to the Company, to:

Portland General Electric Company
Attn Anne Mersereau
121 SW Salmon St
Portland OR 97204

Any party may, by notice given in compliance with this Section, change its address for all subsequent notices. Notice by either party shall be deemed sufficient if signed by such party's counsel and also, in the case of the Company, by any of the Company's officers, if otherwise given in compliance with this Section.

13. **Entire Agreement**

This Agreement (which incorporates the terms and conditions of the Plan) constitutes the entire agreement of the parties with respect to the subject matter hereof. This Agreement supersedes all prior discussions, negotiations, understandings, commitments and agreements with respect to such matters.

14. **Governing Law and Jurisdiction**

This Agreement shall be governed by and construed in accordance with the laws of the State of Oregon. With respect to any suit, action or proceedings relating to this Agreement (the "Proceedings"), each party irrevocably submits to the exclusive jurisdiction of the courts of the State of Oregon and the United States District Court located in Multnomah County, Oregon, and irrevocably waives any objection that it may have at any time to the laying of venue of any Proceedings brought in any such court, waives any claim that such Proceedings have been brought in an inconvenient forum and further waives the right to object, with respect to such Proceedings, that such court does not

have jurisdiction over such party. Nothing in this Agreement precludes either party from enforcing in any jurisdiction any judgment, order or award obtained in any such court.

15. **Grantee Acknowledgement**

Grantee acknowledges that he/she had sufficient time to consider this Agreement and to seek legal consultation, and has fully read and understands this Agreement.

[GRANTEE]

Date:

PORTLAND GENERAL ELECTRIC COMPANY

By: _____

Its: _____

Date: _____

**OFFICERS' AND KEY EMPLOYEES'
PERFORMANCE STOCK UNIT AGREEMENT**

1. **Award of Performance Stock Units**

- (a) Portland General Electric Company (the "**Company**") hereby grants _____ performance stock units ("**Performance Stock Units**") to _____ (the "**Grantee**") in accordance with the terms of this agreement (the "**Agreement**").
- (b) A Performance Stock Unit represents the right to receive a share of the Company's common stock ("**Share**") at a future date and time, subject to and in accordance with the vesting provisions provided herein.
- (c) The grant is effective as of _____ (the "**Grant Date**").
- (d) The three-year performance period applicable to this grant is _____ to _____ (the "**Performance Period**").
- (e) The grant is made under the Portland General Electric Company Stock Incentive Plan, as amended and restated (the "**Plan**") and is subject to the terms and conditions of the Plan and this Agreement.
- (f) Capitalized terms used but not defined in this Agreement shall have the meanings set forth in the Plan unless the context clearly requires an alternative meaning.

2. **Performance-Based Vesting**

Subject to Section 7 below, at the conclusion of the Performance Period, the Committee shall determine the number of Performance Stock Units that shall vest, if any, by multiplying the Performance Percentage (determined in accordance with the schedule attached as Appendix A) by the number of Performance Stock Units.

3. **Settlement in Shares**

The Company shall settle each vested Performance Stock Unit by issuing a Share to the Grantee. Vested Performance Stock Units will be settled as soon as possible following the conclusion of the Performance Period (or as otherwise provided in Section 7), but in no event later than the March 15th of the calendar year following the vesting date.

4. **Dividend Equivalent Rights**

The Grantee shall be entitled to a Dividend Equivalent Right for each vested Performance Stock Unit. A Dividend Equivalent Right entitles the Grantee to receive an amount equal to any dividends paid on a Share, which dividends have a record date between the Grant Date and the settlement date of the Performance Stock Unit. At the same time that vested Performance Stock Units are settled, the Company shall settle each Dividend Equivalent Right by issuing Shares to the Grantee. The amount payable with respect to a dividend under a Dividend Equivalent Right shall be paid in a number of Shares determined by using the Fair Market Value of Shares as of the date such dividend is paid to holders of Shares. Notwithstanding the foregoing, the number of Shares to be issued to the Grantee with respect to Dividend Equivalent Rights that vest on a given vesting date shall be determined by rounding to the nearest whole number.

5. **Shareholder Rights**

The Grantee will not have any shareholder rights with respect to the Performance Stock Units or Dividend Equivalent Rights, including the right to vote or receive dividends, until Shares are issued to the Grantee in settlement of the vested Performance Stock Units and Dividend Equivalent Rights.

6. **Termination of Employment**

- (a) If the Grantee's employment and service with the Company and its subsidiaries or Affiliates is terminated (a "**Termination**") before the expiration of the Performance Period the Grantee will forfeit all unvested Performance Stock Units, except as provided in Section 6(b), Section 6(c) and Section 7 below. The Committee shall determine the date of any Termination.
- (b) Subject to Section 6(c) and Section 7 below, if, before the expiration of the Performance Period, the Grantee experiences a Termination due to death, disability (as determined under the long-term disability program of the Company or its subsidiary or Affiliate covering the Grantee) or retirement (as determined under the Company's qualified defined benefit pension plan but other than for Cause as defined in Section 7 below), a percentage of the Performance Stock Units may vest at the end of the Performance Period. The number of Performance Stock Units that vest, if any, shall be determined by multiplying (a) the Performance Percentage (determined in accordance with the schedule attached as Appendix A) by (b) the number of Performance Stock Units by (c) the percentage of the Performance Period that the Grantee was actively employed. The Grantee will forfeit any remaining Performance Stock Units.
- (c) If, before the expiration of the Performance Period, the Grantee satisfies the Rule of 75 on the date of the Grantee's Termination for reasons other than Cause as defined in Section 7 below (including due to death or disability), a number of Performance Stock Units may vest, with the number vesting, if any, determined by multiplying (a) the Performance Percentage (determined in accordance with the schedule attached as Appendix A) by (b) the number of Performance Stock Units. For purposes of this Agreement, a Grantee satisfies the Rule of 75 at a certain date if, as of that date, (i) the Grantee is at least age 55, (ii) the Grantee has completed no less than five years of service for the Company and/or its subsidiaries or Affiliates, and (iii) the Grantee's age plus years of service for the Company and/or any of its Subsidiary Corporations or Affiliates is equal to no less than 75.

7. **Change in Control**

Notwithstanding the preceding provisions of this Agreement:

Any Performance Stock Units that have not previously vested shall be deemed vested at the target level of performance as of the date of any Termination within two years following a Change in Control (i) by the Company or any subsidiary or Affiliate or any successor entity for any reason other than for Cause or (ii) by the Grantee within 90 days after there is (a) a material adverse change in the nature of the Grantee's duties or responsibilities from those in effect immediately prior to the Change in Control, provided that merely ceasing to be an officer of a public company shall not, by itself, constitute a material adverse change for purposes of this provision, (b) a material reduction in the Grantee's base compensation or incentive compensation opportunities from those in effect immediately prior to the Change in Control or as they respectively may be increased thereafter from time to time or (c) a mandatory relocation of Grantee's principal place of work in excess of 50 miles.

Dividend Equivalent Rights shall be determined in accordance with Section 4 hereof as if the date of Termination were the end of the Performance Period.

Any Performance Stock Units that vest pursuant to this Section 7 shall be settled as soon as possible following the Termination but in no event later than 60 days following the date of the Termination.

For purposes of this Section 7, "Cause" means conduct involving one or more of the following: (i) the substantial and continuing failure of the Grantee to perform substantially all of his or her duties to the Company in accordance with the Grantee's obligations and position with the Company (other than any such failure resulting from incapacity due to physical or mental illness), after 30 days' notice from the Company, such notice setting forth in reasonable detail the nature of such failure, and in the event the Grantee fails to cure such breach or failure within 30 days of notice from the Company, if such breach or failure is capable of cure; (ii) the violation of a Company policy, which violation could reasonably be expected to result in Termination; (iii) dishonesty, gross negligence, breach of fiduciary duty; (iv) the commission by the Grantee of an act of fraud or embezzlement, as found by a court of competent jurisdiction; (v) the conviction of the Grantee of a felony; or (vi) a material breach of the terms of an agreement with the Company, provided that the Company provides the Grantee with adequate notice of such breach and the Grantee fails to cure such breach, if the breach is reasonably curable, within thirty (30) days after receipt of such notice.

8. **Nontransferability of Award**

No portion of this award shall be transferable during the Grantee's lifetime. The Grantee may, from time to time, designate one or more beneficiary or beneficiaries (including contingently or successively) to whom any award under this Agreement shall be paid in case of the Grantee's death. Each such designation shall revoke all prior designations by the Grantee, shall be in a form prescribed by the Company and shall be effective only when filed by the Grantee in writing with the Company during the Grantee's lifetime. In the absence of any such designation, in the event of the Grantee's death, awards under this Agreement shall be transferable only by will or the laws of descent and distribution. The transferability of the Shares issued in settlement of the Performance Stock Units and Dividend Equivalent Rights may also be limited in accordance with any legend on the certificate(s) representing such Shares that restricts the transferability of the Shares.

9. **Withholding**

The Company's obligation to deliver certificate(s) representing Shares issued to settle vested Performance Stock Units and Dividend Equivalent Rights shall be subject to the satisfaction of applicable tax withholding requirements, including federal, state and local requirements. Unless, prior to the end of the Performance Period (or, in the case of a Termination described in Section 7, settlement of the Performance Stock Units and any Dividend Equivalent Rights), the Grantee notifies the Company of the Grantee's intention to remit (and before the settlement date the Grantee does actually remit) sufficient funds to the Company or the Grantee's employer to satisfy all applicable withholding requirements prior to the date Shares are to be delivered to the Grantee, then, subject to applicable law, the Company or the Grantee's employer shall withhold Shares otherwise deliverable to the Grantee with a Fair Market Value sufficient to satisfy the applicable withholding requirements.

10. **Amendments**

The Committee may from time to time amend the terms of this Agreement to the extent it deems appropriate to carry out the terms and provisions of the Plan. Notwithstanding the foregoing, any amendment materially adverse to the economic interests of the Grantee shall be effective only if consented to by the Grantee in writing.

11. **Incorporation of Plan Terms**

The terms and conditions of the Plan are incorporated into and made a part of this Agreement. In the event of any difference between the provisions of this Agreement and the terms of the Plan, the terms of the Plan will control.

12. **Interpretation of Agreement and Plan**

The Committee shall have sole power to interpret and construe any provisions of this Agreement or the Plan. Any such interpretation or construction made by the Committee shall be final and conclusive.

13. **Grant Not to Affect Employment**

The Performance Stock Units and Dividend Equivalent Rights granted hereunder and Shares issued in settlement of the Performance Stock Units and Dividend Equivalent Rights shall not confer upon the Grantee any right to continue in the employment of the Company or its subsidiaries or Affiliates.

14. **Severability**

The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement. Unless such an invalid or unenforceable provision can be appropriately reformed or modified, this Agreement shall be construed as if such provision were omitted.

15. **Miscellaneous**

The captions of this Agreement are not part of the provisions hereof and shall have no force or effect.

16. **Securities Laws**

The Committee may from time to time impose any conditions on the Performance Stock Units, Dividend Equivalent Rights or Shares issued in settlement of the Performance Stock Units or Dividend Equivalent Rights as it deems necessary or advisable to ensure that all rights granted under the Plan satisfy the requirements of applicable securities laws. In addition, (i) Performance Stock Units and Dividend Equivalent Rights granted under this Agreement, (ii) shares issued in settlement of such Performance Stock Units and Dividend Equivalent Rights and (iii) proceeds from the sale of such shares, shall be subject to the Company's right to recover compensation under any clawback or similar policy that may be adopted by the Company from time to time.

17. **Notices**

All notices or other communications given hereunder shall be in writing, and any notices or other communications required to be given hereunder shall be sent by registered or certified mail, return receipt requested, postage prepaid, or by hand delivery, or expedited delivery service, delivery charges prepaid and with acknowledged receipt of delivery. A notice or other communication shall be deemed given on the date of acceptance or refusal of acceptance shown on such receipt, and shall be addressed, as the case may be, to the Grantee and to the Company at the following applicable address:

- (a) If to the Grantee, to the most recent address for Grantee that the Company or its subsidiaries have in their records.
- (b) If to the Company, to:

Portland General Electric Company
Attn: Vice President, Human Resources
121 SW Salmon St
Portland OR 97204

Any party may, by notice given in compliance with this Section, change its address for all subsequent notices. Notice by either party shall be deemed sufficient if signed by such party's counsel and also, in the case of the Company, by any of the Company's officers, if otherwise given in compliance with this Section.

18. **Entire Agreement**

This Agreement (which incorporates the terms and conditions of the Plan) constitutes the entire agreement of the parties with respect to the subject matter hereof. This Agreement supersedes all prior discussions, negotiations, understandings, commitments and agreements with respect to such matters.

19. **Governing Law and Jurisdiction**

This Agreement shall be governed by and construed in accordance with the laws of the State of Oregon. With respect to any suit, action or proceedings relating to this Agreement (the "Proceedings"), each party irrevocably submits to the exclusive jurisdiction of the courts of the State of Oregon and the United States District Court located in Multnomah County, Oregon, and irrevocably waives any objection that it may have at any time to the laying of venue of any Proceedings brought in any such court, waives any claim that such Proceedings have been brought in an inconvenient forum and further waives the right to object, with respect to such Proceedings, that such court does not have jurisdiction over such party. Nothing in this Agreement precludes either party from enforcing in any jurisdiction any judgment, order or award obtained in any such court.

20. **Grantee Acknowledgement**

Grantee acknowledges that he/she had sufficient time to consider this Agreement and to seek legal consultation and has fully read and understands this Agreement.

[GRANTEE]

Date: _____

PORTLAND GENERAL ELECTRIC COMPANY

By: _____

Its: _____

Date: _____

**Appendix A
Calculation of Performance Percentage**

**OFFICERS' AND KEY EMPLOYEES'
RESTRICTED STOCK UNIT AGREEMENT**

1. **Award of Restricted Stock Units**

- (a) Portland General Electric Company (the "**Company**") hereby grants _____ restricted stock units (the "**Restricted Stock Units**") to _____ (the "**Grantee**"). A Restricted Stock Unit represents the right to receive a share of the Company's common stock (a "**Share**") at a future date in accordance with and subject to the terms of this Agreement.
- (b) The grant is effective as of _____ (the "**Grant Date**").
- (c) The grant is made under the Portland General Electric Company Stock Incentive Plan (the "**Plan**"), and is subject to the terms and conditions of the Plan and this agreement (the "**Agreement**").
- (d) Capitalized terms used but not defined in this Agreement shall have the meanings set forth in the Plan unless the context clearly requires an alternative meaning.

2. **Vesting**

Provided that the Grantee remains in the employment or in the service of the Company or its subsidiaries or Affiliates, the Grantee shall become vested in the Restricted Stock Units on _____, ____ (the "**Normal Vesting Date**").

3. **Settlement in Shares**

As soon as practicable after a Restricted Stock Unit vests, the Company shall settle the Restricted Stock Unit by issuing a Share to the Grantee, but in no event later than the March 15th following the year in which the Restricted Stock Unit vests (and in no event later than the March 15th following the year in which the Grantee terminates due to death or disability, if such termination results in vesting). Upon such settlement, the Grantee shall have no further rights under the Restricted Stock Unit.

4. **Termination of Employment**

- (a) If the Grantee's employment and service with the Company and its subsidiaries or Affiliates is terminated (a "**Termination**") before the Normal Vesting Date, the Grantee will forfeit all unvested Restricted Stock Units, except as provided in Section 4(b), Section 4(c) and Section 5 below. The Committee shall determine the date of any Termination.
- (b) Subject to Section 5 and Section 4(c) below, if, before the Normal Vesting Date, the Grantee experiences a Termination due to death, disability (as determined under the long-term disability program of the Company or its subsidiary or Affiliate covering the Grantee) or retirement (as determined under the Company's qualified defined benefit pension plan but other than for Cause as defined in Section 5 below), a percentage of the Restricted Stock Units shall vest. The percentage of such Restricted Stock Units to vest shall be based on the percentage of the period beginning on the Grant Date and ending on the Normal Vesting Date that the Grantee was actively employed. The Grantee will forfeit any remaining unvested Restricted Stock Units.
- (c) If, before the Normal Vesting Date, the Grantee satisfies the Rule of 75 on the date of the Grantee's Termination for reasons other than Cause as defined in Section 5 below (including due to death or

disability), all of the Restricted Stock Units will vest. For purposes of this Agreement, a Grantee satisfies the Rule of 75 at a certain date if, as of that date, (i) the Grantee is at least age 55, (ii) the Grantee has completed no less than five years of service for the Company and/or its subsidiaries or Affiliates, and (iii) the Grantee's age plus years of service for the Company and/or any of its Subsidiary Corporations or Affiliates is equal to no less than 75.

5. **Change in Control**

Notwithstanding the preceding provisions of this Agreement:

Any Restricted Stock Units that have not previously vested shall be deemed vested as of the date of any Termination within two years following a Change in Control (i) by the Company or any subsidiary or Affiliate or any successor entity for any reason other than for Cause or (ii) by the Grantee within 90 days after there is (a) a material adverse change in the nature of the Grantee's duties or responsibilities from those in effect immediately prior to the Change in Control, provided that merely ceasing to be an officer of a public company shall not, by itself, constitute a material adverse change for purposes of this provision, (b) a material reduction in the Grantee's base compensation or incentive compensation opportunities from those in effect immediately prior to the Change in Control or as they respectively may be increased thereafter from time to time or (c) a mandatory relocation of Grantee's principal place of work in excess of 50 miles.

Dividend Equivalent Rights shall be determined in accordance with Section 8 hereof.

Any Restricted Stock Units that vest pursuant to this Section 5 shall be settled as soon as possible following the Termination but in no event later than 60 days following the date of the Termination.

For purposes of this Section 5, "Cause" means conduct involving one or more of the following: (i) the substantial and continuing failure of the Grantee to perform substantially all of his or her duties to the Company in accordance with the Grantee's obligations and position with the Company (other than any such failure resulting from incapacity due to physical or mental illness), after 30 days' notice from the Company, such notice setting forth in reasonable detail the nature of such failure, and in the event the Grantee fails to cure such breach or failure within 30 days of notice from the Company, if such breach or failure is capable of cure; (ii) the violation of a Company policy, which violation could reasonably be expected to result in Termination; (iii) dishonesty, gross negligence, breach of fiduciary duty; (iv) the commission by the Grantee of an act of fraud or embezzlement, as found by a court of competent jurisdiction; (v) the conviction of the Grantee of a felony; or (vi) a material breach of the terms of an agreement with the Company, provided that the Company provides the Grantee with adequate notice of such breach and the Grantee fails to cure such breach, if the breach is reasonably curable, within thirty (30) days after receipt of such notice.

6. **Nontransferability of Award**

No portion of this award shall be transferable during the Grantee's lifetime. The Grantee may, from time to time, designate one or more beneficiary or beneficiaries (including contingently or successively) to whom any award under this Agreement shall be paid in case of the Grantee's death. Each such designation shall revoke all prior designations by the Grantee, shall be in a form prescribed by the Company and shall be effective only when filed by the Grantee in writing with the Company during the Grantee's lifetime. In the absence of any such designation, in the event of the Grantee's death, awards under this Agreement shall be transferable only by will or the laws of descent and distribution. The transferability of the Shares issued in settlement of the Restricted Stock Units may also be limited in accordance with any legend on the certificate(s) representing such Shares that restricts the transferability of the Shares.

7. **Shareholder Rights**

The Grantee will not have any shareholder rights with respect to the Restricted Stock Units, including the right to vote or receive dividends, until Shares are issued to the Grantee in settlement of the Restricted Stock Units.

8. **Dividend Equivalent Rights**

The Grantee shall be entitled to one Dividend Equivalent Right for each Restricted Stock Unit granted hereunder. A Dividend Equivalent Right entitles the Grantee to receive an amount equal to any dividends paid on a Share, which dividends have a record date between the Grant Date and the vesting date for the related Restricted Stock Unit, except that in the event the final vesting date of the related Restricted Stock Unit falls between a dividend record date and the related payment date, the amount payable with respect to such dividend shall be paid in a number of Shares determined by using the Fair Market Value of the Shares on the last preceding trading day before the Restricted Stock Unit vesting date. The amount payable with respect to a dividend under a Dividend Equivalent Right shall be paid in a number of Shares determined by using the Fair Market Value of Shares as of the date such dividend is paid to holders of Shares. A Dividend Equivalent Right shall vest and become payable on the same terms as the related Restricted Stock Unit. Notwithstanding the foregoing, the number of Shares to be issued to the Grantee with respect to Dividend Equivalent Rights that vest on a given vesting date shall be determined by rounding to the nearest whole number.

9. **Withholding**

The Company's obligation to deliver the certificate(s) representing Shares issued to settle Restricted Stock Units and Dividend Equivalent Rights shall be subject to the satisfaction of applicable tax withholding requirements, including federal, state and local requirements. Unless, prior to the vesting date for the related Restricted Stock Units, the Grantee notifies the Company in writing of the Grantee's intention to remit sufficient funds to the Company or Grantee's employer to satisfy all applicable withholding requirements prior to the date Shares are to be delivered to the Grantee, then, subject to applicable law, the Company or Grantee's employer shall withhold Shares otherwise deliverable to the Grantee with a Fair Market Value sufficient to satisfy the applicable withholding requirements.

10. **Amendments**

The Committee may from time to time amend the terms of this Agreement to the extent it deems appropriate to carry out the terms and provisions of the Plan. Notwithstanding the foregoing, any amendment materially adverse to the economic interests of the Grantee shall be effective only if consented to by the Grantee in writing.

11. **Incorporation of Plan Terms**

The terms and conditions of the Plan are incorporated into and made a part of this Agreement. In the event of any difference between the provisions of this Agreement and the terms of the Plan, the terms of the Plan will control.

12. **Interpretation of Agreement and Plan**

The Committee shall have sole power to interpret and construe any provisions of this Agreement or the Plan. Any such interpretation or construction made by the Committee shall be final and conclusive.

13. **Grant Not to Affect Employment**

The Restricted Stock Units and Dividend Equivalent Rights granted hereunder and Shares issued in settlement of the Restricted Stock Units or Dividend Equivalent Rights shall not confer upon the Grantee any right to continue in the employment of the Company or its subsidiaries or Affiliates.

14. **Severability**

The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement. Unless such an invalid or unenforceable provision can be appropriately reformed or modified, this Agreement shall be construed as if such provision were omitted.

15. **Miscellaneous**

The captions of this Agreement are not part of the provisions hereof and shall have no force or effect.

16. **Securities Laws**

The Committee may from time to time impose any conditions on the Restricted Stock Units, Dividend Equivalent Rights or Shares issued in settlement of the Restricted Stock Units or Dividend Equivalent Rights as it deems necessary or advisable to ensure that all rights granted under the Plan satisfy the requirements of applicable securities laws.

17. **Notices**

All notices or other communications given hereunder shall be in writing, and any notices or other communications required to be given hereunder shall be sent by registered or certified mail, return receipt requested, postage prepaid, or by hand delivery, or expedited delivery service, delivery charges prepaid and with acknowledged receipt of delivery. A notice or other communication shall be deemed given on the date of acceptance or refusal of acceptance shown on such receipt and shall be addressed, as the case may be, to the Grantee and to the Company at the following applicable address:

(a) If to the Grantee, to the most recent address for Grantee that the Company or its subsidiaries have in their records.

(b) If to the Company, to:

Portland General Electric Company
Attn: Anne Mersereau
121 SW Salmon Street
Portland ,OR 97204

Any party may, by notice given in compliance with this Section, change its address for all subsequent notices. Notice by either party shall be deemed sufficient if signed by such party's counsel and also, in the case of the Company, by any of the Company's officers, if otherwise given in compliance with this Section.

18. **Entire Agreement**

This Agreement (which incorporates the terms and conditions of the Plan) constitutes the entire agreement of the parties with respect to the subject matter hereof. This Agreement supersedes all prior discussions, negotiations, understandings, commitments and agreements with respect to such matters.

19. **Governing Law and Jurisdiction**

This Agreement shall be governed by and construed in accordance with the laws of the State of Oregon. With respect to any suit, action or proceedings relating to this Agreement (the "Proceedings"), each party irrevocably submits to the exclusive jurisdiction of the courts of the State of Oregon and the United States District Court located in Multnomah County, Oregon, and irrevocably waives any objection that it may have at any time to the laying of venue of any Proceedings brought in any such court, waives any claim that such Proceedings have been brought in an inconvenient forum and further waives the right to object, with respect to such Proceedings, that such court does not have jurisdiction over such party. Nothing in this Agreement precludes either party from enforcing in any jurisdiction any judgment, order or award obtained in any such court.

20. **Grantee Acknowledgement**

Grantee acknowledges that he/she had sufficient time to consider this Agreement and to seek legal consultation and has fully read and understands this Agreement.

[GRANTEE]

Date: _____

PORTLAND GENERAL ELECTRIC COMPANY

By: _____

Its: _____

Date: _____

AGREEMENT

This Agreement (“**Agreement**”) dated September 27, 2019 by and between William Nicholson, an Oregon resident (“**Employee**”), and Portland General Electric Company, an Oregon corporation (the “**Company**”) with a business address of 121 SW Salmon St., Portland, Oregon 97204.

1. **Separation Benefits.** In exchange for the release described in paragraph 2 below, the Company agrees to provide Employee with the following in connection with his retirement from the Company effective December 31, 2019:

(a) **Modification of Performance Share Awards.** The two separate Officers’ and Key Employees’ Performance Stock Unit Agreements effective February 14, 2018 and February 13, 2019 (the “**Performance Share Agreements**”) pursuant to which Employee was granted restricted stock units with service-based and performance-based vesting conditions in accordance with and subject to the terms of the Portland General Electric Company Stock Incentive Plan (the “**Stock Incentive Plan**”) shall be and hereby are amended to provide that, notwithstanding the provisions of Section 6 of the Performance Share Agreements, Employee shall be deemed to have satisfied the applicable service-based vesting requirements thereunder.

(b) **Modification of Restricted Stock Unit Award.** Effective on the date of his retirement, Employee shall be fully vested in the restricted stock units with service-based vesting conditions granted to him in accordance with and subject to the terms of the Stock Incentive Plan and a Restricted Stock Unit Agreement effective February 13, 2019. The benefits provided under this Agreement are in addition to, and do not affect, any other benefits to which Employee is entitled under the Company’s benefit plans, including without limitation Employee’s 2019 Annual Cash Incentive award and 2017-2019 performance-based long-term incentive award.

2. **Release.** Employee hereby releases, acquits, and forever discharges the Company, its successors, or any entities which control, or are controlled by the Company, or any of their respective past, present, and future directors, officers, employees, agents, contractors, and insurers from any and all claims and liabilities of every nature and kind in any way related to or arising out of Employee’s employment, or any other matter which arose before the date that Employee signs this Agreement, or which might be asserted under local, state, or federal authorities. Nothing in this Agreement shall be construed to waive or release any rights that may not be released for public policy reasons.

3. **Choice of Law.** The validity, interpretation, construction and performance of this Agreement shall be governed by the laws of the State of Oregon, without regard to conflict-of-law principles.

EMPLOYEE

COMPANY

By: /s/ William Nicholson
William Nicholson

By: /s/ Anne Mersereau
Anne Mersereau
Vice President, Human Resources,
Diversity & Inclusion

Date: 10/30/19

Date: 10/30/19

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-232976 on Form S-3 and Registration Statements Nos. 333-135726, 333-142694, and 333-158059 on Forms S-8 of our report dated February 13, 2020, relating to the consolidated financial statements of Portland General Electric Company and subsidiaries, and the effectiveness of Portland General Electric Company's internal control over financial reporting, appearing in this Annual Report on Form 10-K of Portland General Electric Company for the year ended December 31, 2019.

/s/ Deloitte & Touche LLP

Portland, Oregon
February 13, 2020

CERTIFICATION

I, Maria M. Pope, certify that:

1. I have reviewed this Annual Report on Form 10-K of Portland General Electric Company;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 13, 2020

/s/ MARIA M. POPE

Maria M. Pope

President and

Chief Executive Officer

CERTIFICATION

I, James F. Lobdell, certify that:

1. I have reviewed this Annual Report on Form 10-K of Portland General Electric Company;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 13, 2020

/s/ JAMES F. LOBDELL

James F. Lobdell

Senior Vice President of Finance, Chief Financial
Officer, and Treasurer

**CERTIFICATIONS PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED
PURSUANT TO SECTION 906 OF THE
SARBANES-OXLEY ACT OF 2002**

We, Maria M. Pope, President and Chief Executive Officer, and James F. Lobdell, Senior Vice President of Finance, Chief Financial Officer and Treasurer, of Portland General Electric Company (the "Company"), hereby certify that the Company's Annual Report on Form 10-K for the year ended December 31, 2019, as filed with the Securities and Exchange Commission on February 14, 2020 pursuant to Section 13(a) of the Securities Exchange Act of 1934 (the "Report"), fully complies with the requirements of that section.

We further certify that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ MARIA M. POPE

Maria M. Pope
*President and
Chief Executive Officer*

Date: February 13, 2020

/s/ JAMES F. LOBDELL

James F. Lobdell
*Senior Vice President of Finance, Chief Financial
Officer and Treasurer*

Date: February 13, 2020