

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, 2022

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:

(Title of class)
Common Stock, no par value

(Trading symbol)
POR

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

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

As of June 30, 2022, the aggregate market value of voting common stock held by non-affiliates of the Registrant was \$4,297,974,093. For purposes of this calculation, executive officers and directors are considered affiliates.

As of February 8, 2023, there were 89,312,765 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 21, 2023.

**PORTLAND GENERAL ELECTRIC COMPANY
FORM 10-K
FOR THE YEAR ENDED DECEMBER 31, 2022**

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DEFINITIONS

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

Abbreviation or Acronym	Definition
AFUDC	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
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
MWa	Average megawatts
MWh	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
PTC	Federal production tax credit
PW1	Port Westward Unit 1 natural gas-fired generating plant
PW2	Port Westward Unit 2 natural gas-fired flexible capacity generating plant
QF	Public Utility Regulatory Policies Act of 1978 (PURPA) qualifying facility
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
Wheatridge	Wheatridge Renewable Energy Facility

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 (State). 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 is committed to developing products and service offerings for the benefit of retail and wholesale customers. PGE, incorporated in 1930, is publicly-owned, with its common stock listed on the New York Stock Exchange (NYSE). 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. The Company owns unregulated, non-utility real estate comprised primarily of PGE's corporate headquarters.

PGE's State-approved service area allocation of four thousand square miles is located entirely within Oregon and includes 51 incorporated cities. During 2022, the Company added nine thousand customers, and as of December 31, 2022, served a total of 926 thousand retail customers.

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 regulation each have a significant influence on PGE's business operations. 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 those terms are 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 cybersecurity 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).

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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, terms, and conditions of service, as filed with, and approved by, the FERC.

Reliability and Cybersecurity 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 and physical 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, 20-inch diameter, 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, to the North Mist storage facility (owned and operated by a local natural gas distribution company), and to one additional local delivery point that serves a manufacturing concern. 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 and operator qualification standards in addition to public awareness requirements.

Hydroelectric Licensing—As required under the FPA, PGE holds FERC licenses for all Company-owned and operated 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. For additional information on the Company's Short-term Debt, see “*Short-term Debt*” in the Debt and Equity section of Liquidity and Capital Resources in Item 7.—“Management's Discussion and Analysis of Financial Condition and Results of Operations.”

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 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.

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

- *General Rate Cases.* PGE periodically evaluates the need to update 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.
- *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 in the consolidated statements of income as Revenues, net. 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 has a Renewable Portfolio Standard (RPS) that 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 retail customer prices, outside of a general rate case, of prudently incurred costs to comply with the RPS.
 - In 2016, the State also passed Oregon Senate Bill (SB) 1547, a law referred to as the Oregon Clean Electricity and Coal Transition Plan, which, among its provisions, increased the RPS percentages in certain future years and required the elimination of coal from Oregon utility customers' energy supply. For further information on SB 1547, see "*RPS standards and other laws*" in the Overview section of Item 7.—"Management's Discussion and Analysis of Financial Condition and Results of Operations."
 - During 2021, the State legislature passed House Bill (HB) 2021, which establishes clean energy targets and sets out a framework that includes, among other things, the development and submittal of clean energy plans for investor-owned utilities, including PGE, and electric service suppliers in the State. The targets are an 80% reduction in greenhouse gas (GHG) emissions by 2030, 90% by 2035, and 100% by 2040 and every year thereafter. For further information on HB 2021 and the baseline to which the target reductions apply, see "*HB 2021*" in the Laws and Regulations portion of 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 customers that choose to purchase their energy from an Electricity Service Supplier (ESS). Although the Company includes such Direct Access customers in its customer counts and energy delivered to such commercial and industrial customers in its total retail energy deliveries, retail revenues include only delivery charges and applicable transition adjustments for these Direct Access customers, as the customers purchase energy directly from the ESSs. The Company conducts retail electric operations within its State-approved service territory and competes with ESSs to supply certain commercial and industrial customer energy needs. In addition, PGE competes with the local natural gas distribution company for the energy needs of residential and commercial space heating, water heating, and appliances. Energy efficiency, conservation measures, and the advancement of distributed generation, including rooftop solar, and storage resources also have an influence on customer demand.

Retail Revenues

Retail customers are classified as residential, commercial, or industrial, with no single customer representing more than 8% of PGE’s total retail revenues or 13% 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,					
	2022		2021		2020	
Retail revenues ⁽¹⁾ (dollars in millions):						
Residential	\$ 1,158	52 %	\$ 1,118	54 %	\$ 1,030	53 %
Commercial	735	33	708	34	634	33
Industrial	312	14	279	13	246	13
Subtotal	<u>2,205</u>	<u>99</u>	<u>2,105</u>	<u>101</u>	<u>1,910</u>	<u>99</u>
Alternative revenue programs, net of amortization	11	1	(29)	(1)	(6)	—
Other accrued revenues, net ⁽²⁾	7	—	2	—	28	1
Total retail revenues	<u>\$ 2,223</u>	<u>100 %</u>	<u>\$ 2,078</u>	<u>100 %</u>	<u>\$ 1,932</u>	<u>100 %</u>
Retail energy deliveries ⁽³⁾ (MWh in thousands):						
Residential	8,088	38 %	7,978	39 %	7,756	40 %
Commercial	7,198	34	7,193	35	6,855	35
Industrial	5,945	28	5,361	26	4,932	25
Total retail energy deliveries	<u>21,231</u>	<u>100 %</u>	<u>20,532</u>	<u>100 %</u>	<u>19,543</u>	<u>100 %</u>
Average number of retail customers:						
Residential	809,573	88 %	800,372	88 %	791,119	88 %
Commercial	112,602	12	111,569	12	110,851	12
Industrial	269	—	268	—	267	—
Total	<u>922,444</u>	<u>100 %</u>	<u>912,209</u>	<u>100 %</u>	<u>902,237</u>	<u>100 %</u>

- (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.

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- (2) Amount for the year ended December 31, 2020 is primarily comprised of \$24 million of amortization, including interest, related to the deferral recorded in 2018 for the 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 annual 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,		
	2022	2021	2020
Residential			
Revenue per customer (in dollars):	\$ 1,362	\$ 1,320	\$ 1,226
Usage per customer (in kilowatt hours):	9,991	9,968	9,804
Revenue per kilowatt hour (in cents):	13.63 ¢	13.24 ¢	12.50 ¢
Commercial			
Revenue per customer (in dollars):	\$ 6,491	\$ 6,303	\$ 5,684
Usage per customer (in kilowatt hours):	63,923	64,478	61,837
Revenue per kilowatt hour (in cents):	10.15 ¢	9.78 ¢	9.19 ¢
Industrial			
Revenue per customer (in dollars):	\$ 1,156,371	\$ 1,044,314	\$ 921,540
Usage per customer (in kilowatt hours):	22,097,472	20,002,246	18,472,161
Revenue per kilowatt hour (in cents):	5.23 ¢	5.22 ¢	4.99 ¢

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. For additional information on customer options, see “*Customer Choice Programs*” within this Customers and Revenues 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. The Company had seen its highest peak demand during the winter heating season although increased use of air conditioning in PGE’s service territory has caused the summer peaks to increase over time. In recent years, including 2022, summer peaks have exceeded winter peaks and long-term load forecasts expect that trend to continue. An extreme winter temperature event on December 22, 2022, caused a new winter peak for the first time since 1998. Economic conditions can also affect residential demand as job growth and population growth in PGE’s service territory have led to increased customer growth rates. The COVID-19 pandemic has introduced additional behavioral patterns as residential customers spend more time at home. Residential demand is also impacted by energy efficiency measures and increased rooftop solar penetration in the service territory; however, the Company’s decoupling mechanism was intended to mitigate the financial effects of such measures. For further information regarding the decoupling mechanism, see “*Decoupling*” among the *Regulatory Matters* in the Overview section of Item 7.—“Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

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 lead to changes in energy demand from commercial customers. Energy efficiency measures also impact commercial demand, as measures have focused in the commercial sector in recent years, although the Company’s decoupling mechanism was intended to partially mitigate the financial effects of such measures. For further information regarding the decoupling mechanism, see “*Decoupling*” among the *Regulatory*

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Matters in the Overview section of Item 7.—“Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

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.

Customer Choice Programs—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.

Pricing options other than cost-of-service are available to certain commercial and industrial customers 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 ESS.

PGE receives revenue from Direct Access customers only for the transmission and delivery of the volume of electricity delivered, along with fixed transition adjustments intended to mitigate 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 2020, the OPUC issued an order that required PGE to begin offering, to eligible customers, enrollment in the New Large Load Direct Access program, which is capped at 119 MWa in total, for unplanned, large, new loads and large load growth at existing sites.

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.”

PGE’s customers have a desire for purchasing clean energy, as over 234 thousand residential and small commercial customers voluntarily participate in PGE’s Green Future Program, the largest renewable power program by participation in the nation. Oregon’s most populous city, Portland, and most populous county, Multnomah, have 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 have set, or are considering, similar goals.

The Company implemented a new customer service option, the Green Future Impact Program, which allows for 100 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 2019, the program provides business customers access to bundled renewable attributes from those resources. In March 2021, the OPUC issued an order that expanded the program by 200 MW and provided for the possibility of PGE ownership of the underlying renewable resources under certain conditions. Through this voluntary program, the Company seeks to align sustainability goals, cost and risk management, and reliable integrated power while providing customer choice and a cleaner energy system. In December 2021, the OPUC issued an order, which approved a petition to increase capacity under the customer-provided renewable resources by 250 MW, which brings the total available capacity under the program to 750 MW. For more information on the Company’s power purchase agreements that currently serve the Green Future Impact Program, see “*Green Future Impact Program*” within *Purchased Power* in the Power Supply section of this Item 1.

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. PGE’s engagement in the wholesale electricity marketplace depends upon numerous factors, including the relative price and availability of power, hydro and wind conditions, and daily and seasonal retail demand. The Company 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 14% of total revenues in 2022, 11% in 2021, and 8% in 2020.

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 2% of total revenues in 2022, 3% in 2021, and 2% in 2020.

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 current 15-year averages for the most recent year provided by the National Weather Service, as measured at Portland International Airport:

	<u>Heating Degree-Days</u>	<u>Cooling Degree-Days</u>
2022	4,103	865
2021	3,828	838
2020	3,836	600
15-year average	4,103	569

In June 2021, PGE set a new all-time high net system load peak of 4,453 megawatts (MW), surpassing the previous all-time peak that occurred in December 1998 by more than 9%. While the Company’s previous summer peak of 3,976 MW had occurred in August 2017, that level has been exceeded now in each of the past two summers. In December 2022, a new winter peak of 4,113 MW occurred. 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 illustrated, although the average winter loads continue to exceed average summer loads, the Company has seen its highest annual peak loads during the summer months in recent years:

	<u>Winter Loads</u>			<u>Summer Loads</u>		
	<u>Average</u>	<u>Peak</u>	<u>Month</u>	<u>Average</u>	<u>Peak</u>	<u>Month</u>
2022	2,773	4,113	December	2,529	4,255	July
2021	2,659	3,629	December	2,492	4,453	June
2020	2,566	3,367	December	2,289	3,771	July

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, distributed generation including rooftop solar, transportation and building electrification, and demographic changes all play a

role in determining expected future customer demand and the resulting resources the Company may 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 and sale 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 performs portfolio management and wholesale market sales services for third parties in the region. The Company also encourages energy efficiency measures to help meet its energy requirements and promotes the use of various demand side management products to reduce load during peak time usage.

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

	As of December 31,			
	2022		2021	
	Capacity	%	Capacity	%
Generation:				
Thermal ⁽¹⁾ :				
Natural gas	1,842	32 %	1,842	35 %
Coal	296	4	296	5
Total thermal	2,138	37	2,138	40
Wind ⁽²⁾	817	15	817	16
Hydro ⁽³⁾	419	7	495	9
Total generation	3,374	59	3,450	65
Purchased power:				
Long-term contracts:				
Hydro ⁽³⁾	871	15	803	15
PURPA qualifying facilities ⁽⁴⁾	315	5	298	6
Dispatchable standby generation	130	2	130	2
Capacity	100	2	100	2
Wind ⁽²⁾	300	5	300	6
Solar ⁽⁵⁾	57	1	7	—
Biomass	10	—	10	—
Total long-term contracts	1,783	31	1,648	31
Short-term contracts	597	10	216	4
Total purchased power capacity	2,380	41	1,864	35
Total resource capacity	5,754	100 %	5,314	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 for power purchase agreements (PPAs) under the Public Utility Regulatory Policies Act of 1978 (PURPA).

(5) Capacity includes 50 MW from the solar component of Wheatridge. The Wheatridge facility also includes 30 MW related to the battery component which is not reflected in the table above.

For information regarding actual generating output and purchases for the years ended December 31, 2022 and 2021, 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 six thermal plants (natural gas- and coal-fired), three 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 operated, and continues to have a 90% ownership interest in the Boardman coal-fired generating plant (Boardman), which ceased coal-fired operations during the fourth quarter of 2020. The Company has begun decommissioning the facility. The Company also has a 20% ownership interest in the Colstrip Units 3 and 4 coal-fired generating plant (Colstrip), which is located in Colstrip, Montana and operated by a third party. For additional information on Colstrip as it relates to environmental laws and regulations in the State, see “*RPS standards and other laws*” in the Overview section in Item 7.—“Management’s Discussion and Analysis of Financial Condition and Results of Operations” and Note 19, Contingencies, in the Notes to Consolidated Financial Statements in Item 8.—“Financial Statements and Supplementary Data.”

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, consists of 217 turbines with a total nameplate capacity of 450 MW. Tucannon River, located in southeastern Washington, consists of 116 turbines with a total nameplate capacity of 267 MW. During 2020, the wind component of the Wheatridge Renewable Energy Facility (Wheatridge), located in Morrow County, Oregon, was placed into service. Although PGE does not operate Wheatridge, it owns 40 turbines with a total nameplate capacity of 100 MW and purchases the output of the remaining turbines, with a nameplate capacity of 200 MW through power purchase agreement. PGE and NextEra Energy Resources, LLC, a subsidiary of NextEra Energy, Inc. have entered into agreements to construct a 311 MW wind energy facility, which will be part of the larger Clearwater Wind development in Eastern Montana. This additional wind capacity is not reflected in the table above. For more information regarding the Clearwater Wind development, see “*The Resource Planning Process*” within the “*Overview*” section of 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.

As of December 31, 2021, PGE had 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 had an option to purchase an additional undivided 16.66% ownership interest in Pelton/Round Butte in 2021, and closed on the purchase of this incremental undivided ownership interest on January 1, 2022. As a result, PGE's ownership interest in the project is 50.01%. CTWS has a second option in

2036 to purchase an undivided 0.02% interest in Pelton/Round Butte. If the second option is exercised, CTWS's ownership percentage would exceed 50%. PGE purchases 100% of the CTWS's share of the project output. For more information see "CTWS" within *Purchased Power* in the Power Supply section of this Item 1.

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 twelve 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 111,805 Dth per day of firm natural gas transportation capacity on the Northwest Pipeline 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, owned and operated by NW Natural, 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 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. The coal supply contract with the owner of the mine is scheduled to expire at the end of 2025. The terms of the contract and the quality of coal are expected to allow the facility to operate within 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 2022, the Company had the following agreements:

- *Public Utility Districts*—PGE has long-term power purchase contracts with certain public utility districts (PUDs) in the state of Washington for a portion of the output of two hydroelectric projects on the mid-Columbia River. Although the projects currently provide PGE a total of 410 MW of capacity through contracts as shown below, actual energy received is dependent upon river flows and capacity amounts may decline over time:
 - 162 MW of capacity with Grant County PUD that expires in 2052;
 - 148 MW of capacity with Douglas County PUD that expires in 2028; and
 - 100 MW of capacity with Douglas County PUD that expires in 2025.
- *CTWS*—PGE has a long-term agreement under which the Company purchases output from CTWS' interest in the Pelton/Round Butte hydroelectric project. Although the agreement provides approximately 224 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. Under a separate PPA executed in 2014, PGE pays fixed capacity and energy charges to CTWS for 100% of its share of the project through 2024. On June 30, 2021 the CTWS notified PGE of their intent to exercise their option to purchase an additional undivided 16.66% ownership interest in Pelton/Round Butte and closed on the purchase on January 1, 2022. As a result of the sale, capacity from company-owned generation decreased by approximately 76 MW, and capacity from purchased power increased by a corresponding amount. Under the PPA, PGE purchases 100% of the CTWS's additional share of the project and payments under the PPA increase proportionately. In the fourth quarter of 2021, PGE and CTWS executed an additional 16-year PPA which begins on January 1, 2025, that effectively extends the term from 2024 to 2040 and increases the capacity payments in the extension period.
- *Other*—The remaining capacity is primarily comprised of two additional contracts that provide for the purchase of power generated from hydroelectric projects with capacity of 236 MW in total:
 - 200 MW of capacity with Bonneville Power Administration that expires in 2024; and
 - 36 MW of capacity with Portland Hydro that expires 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: i) 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 ii) 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, 2022, PGE had contracts with 67 online QFs, providing a total of 315 MW of capacity. As of December 31, 2022, PGE has six contracts with QFs representing 127 MW of capacity that are not yet operational, of which two of the QF 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. If the QF has failed to cure, 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.

The expense and volume of purchases from QFs for the years ended December 31, 2022 and 2021 were as follows:

	<u>2022</u>	<u>2021</u>
PURPA contract expense (in millions)	\$ 62	\$ 55
MWh purchased under PURPA contracts (in thousands)	750	683
Average cost per MWh from PURPA contracts	\$ 82.90	\$ 79.89

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 backup generators when needed to provide NERC-required operating reserves. As of December 31, 2022, there were 59 customer-owned sites with a total DSG capacity of 130 MW. PGE continues to pursue expansion of the program with the goal of having an additional 3 to 10 MW of customer-owned DSG projects online by the end of 2023.

Capacity—PGE has one capacity contract representing up to 100 MW of seasonal capacity during the summer and winter peak periods obtained from a natural gas-fired resource, which expires in 2024.

Wind—PGE has three contracts representing 300 MW of capacity to purchase power generated from renewable wind resources that extend to 2028, 2035, and 2051. The expected energy from these wind resources will vary from the nameplate capacity due to varying wind conditions. PGE and NextEra Energy Resources, LLC, a subsidiary of NextEra Energy, Inc. have entered into agreements to construct a 311 MW wind energy facility, which will be part of the larger Clearwater Wind development in Eastern Montana. This additional wind capacity is not reflected in the table above. For more information regarding the Clearwater Wind development, see “*The Resource Planning Process*” within the “*Overview*” section of Item 7—“Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

Solar—PGE has four contracts representing 57 MW of capacity to purchase power generated from photovoltaic solar projects. Two of these projects extend to 2036 while the other two extend to 2037 and 2042. The expected energy from these solar resources will vary from the nameplate capacity due to varying solar conditions. Construction on the solar and battery components of Wheatridge was completed in 2022. The solar component of Wheatridge supplies the Company with 50 MW of capacity. The facility also includes 30 MW related to the battery component which is not reflected in the table above. Subsidiaries of NextEra Energy Resources, LLC own the solar and battery components, and sell their portion of the output to PGE.

Biomass—PGE has one contract to purchase biomass energy that is set to expire in June 2023.

Green Future Impact Program—PGE has three contracts representing 360 MW of capacity to purchase power generated from renewable resources to support the Green Future Impact Program:

- a 15-year contract with Avangrid Renewables representing 162 MW from a renewable solar facility in Gilliam County, Oregon that was placed in service in January 2023. This additional capacity is not reflected in the table above; and
- a 15-year contract with Avangrid Renewables representing 138 MW from a renewable solar facility in Wasco County, Oregon that is expected to be placed in service in December 2023. This additional capacity is not reflected in the table above.
- a 15-year contract with Avangrid Renewables representing 60 MW from a renewable solar facility in Wasco County, Oregon that is expected to be placed in service in December 2023. This additional

capacity is not reflected in the table above.

For additional information on the Green Future Impact Program, see “*Customer Choice Programs*” within the Customers and Revenues section of this Item 1.

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. PGE is a market participant in the western EIM, which allows certain of the Company’s generating plants to receive automated dispatch signals from the California Independent System Operator (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 and Note 17, Leases, in the Notes to Consolidated Financial Statements in Item 8.—“Financial Statements and Supplementary Data.”

Future Energy Resource Strategy

PGE’s Integrated Resource Plan (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 “*Investing in a Clean Energy Future*” 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 BAA in its service territory. In 2022, PGE delivered approximately 27 million megawatt hours (MWh) through 1,255 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. PGE has announced its intention to join the Western Power Pool and a binding resource adequacy program for the region known as the Western Resource Adequacy Program (WRAP). For further information, see “*Operating Activities*” within the Overview section of Item 7.—“Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

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, including:

- 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 also 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 environmental 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 GHG emissions, 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 overall 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 2018, the EPA proposed the more narrowly focused Affordable Clean Energy (ACE) rule, to repeal and replace the CPP and, in 2019, finalized the ACE rule, which established guidelines for states to develop plans to address GHG emissions from individual, existing coal-fired plants, such as Colstrip in the case of PGE. With the finalization of the ACE rule, the CPP was repealed. However, on January 19, 2021, the U.S. Court of Appeals for the D.C. Circuit vacated the ACE rule and remanded it, in full, back to the EPA. Notwithstanding objections that the EPA intended to issue a new rule that took recent changes in the electricity sector into account, on October 29, 2021, the U.S. Supreme Court agreed to hear an appeal of the D.C. Circuit decision. The Supreme Court, in a February 28, 2022 decision, determined that the broad approach in the CPP regulating emissions exceeded the powers granted to EPA by Congress. The Court did not expressly determine whether EPA can regulate power sector GHG emissions through its other regulatory authority and the EPA has indicated it intends to issue a proposed successor rule to the CPP in March 2023.

PGE will continue to assess the Supreme Court's decision, as well as any further EPA response, for impacts on Colstrip and the Company's existing natural gas fleet.

House Bill (HB) 2021—In June 2021, the Oregon Legislature passed HB 2021, which requires retail electricity providers to reduce GHG emissions associated with serving Oregon retail electricity consumers 80% by 2030, 90% by 2035, and 100% by 2040, compared to their baseline emissions levels. The baseline levels for PGE are the average annual emissions for the years 2010, 2011, and 2012 associated with the electricity sold to its retail electricity consumers as reported to the Oregon Department of Environmental Quality (ODEQ). See "*HB 2021*" in the *Laws and Regulations* section of the Overview for additional information.

Any laws that would impose taxes or mandatory reductions in GHG emissions 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 GHG emissions, the Company would seek recovery in customer prices.

For more information regarding GHG emissions and related environmental regulation, including Oregon’s RPS and the Company’s goals in this area, see “*Renewable Energy*” under *State Regulation* in the Regulation section of this Item 1. and “*Company Strategy*” 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 or permit from the state in which the activity will occur. In Oregon, Montana, and Washington, the Department of Environmental Quality and Department of Ecology of each state are responsible for reviewing proposed projects under such requirements to ensure that federally approved activities will meet water quality standards and policies established by the respective state. PGE has obtained permits or certificates of compliance for its hydroelectric operations under the FERC licenses and continues to monitor and update equipment to meet federal and state standards.

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 and eagles, the Company developed an Avian Protection Plan to help address and reduce risks to avian species that may be affected by Company operations. PGE has implemented such a plan for its transmission, distribution, and thermal generation facilities and additional, specific 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. 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 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 has listed PGE among the more than one hundred Potentially Responsible Parties (PRPs) 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 United States Department of Energy (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. 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.”

Human Capital Management

PGE’s talent and culture are vital to its ability to execute its business strategy and realize continued success. Accordingly, the Company seeks to attract and retain a talented, motivated, and diverse workforce and maintain a culture that reflects PGE’s Guiding Behaviors, drive for performance, and commitment to acting with the highest levels of honesty, integrity, compliance, and safety.

Employees and Collective Bargaining Agreements—PGE had 2,873 employees in its workforce as of December 31, 2022, with 673 employees covered under one of two separate agreements with Local Union No. 125 of the International Brotherhood of Electrical Workers (IBEW). One agreement covers 610 employees, which expires March 2025, and the other covers 63 employees, which expires August 2027. The partnership with IBEW is key to a holistic labor relations approach. In addition, PGE utilizes independent contractors and temporary personnel to supplement its workforce.

Competitive Pay and Benefits—PGE is committed to pay equity among its employees and offers a wide range of market-competitive benefits, including comprehensive health and welfare benefits and a 401(k) retirement plan, designed to support the physical, mental, and financial well-being of its employees.

Talent Development—PGE provides a variety of training and development programs for employees, as well as tuition reimbursement for job-related coursework. PGE offers a mentorship program for all regular, non-represented PGE employees to help support their growth and development. The PGE Board of Directors oversees executive talent development with the assistance of the Nominating, Governance, and Sustainability Committee and the Compensation, Culture and Talent Committee in an effort to maximize the pool of internal candidates. At least annually, the Board conducts reviews of succession plans for senior management, which includes a review of the qualifications and development plans of potential internal candidates and diversity of the succession pipeline. The Compensation, Culture and Talent Committee regularly conducts more in-depth reviews of development plans for promising management talent. PGE conducts employee engagement surveys periodically to give employees the opportunity to share their perspectives and provide feedback. Survey results are shared with PGE management so that managers can take action towards improving the employee experience.

Health and Safety—PGE is committed to providing a safe and healthy place of business for employees, customers, and the public. Management has established an Executive Safety Council that has oversight of the Company’s efforts to create a safe workplace. In addition, PGE provides various safety resources to its employees, such as safety manuals, trainings, and incident reporting tools that are all designed to incorporate safe practices into all daily activities and promote in all employees a sense of personal commitment, responsibility, and obligation regarding safety. PGE also has an Employee Assistance Program that provides free and confidential wellness counseling to all employees and their families.

Diversity, Equity, and Inclusion—PGE promotes an inclusive workforce through pay equity practices, racial equity training, and development opportunities for women and people of color to advance into management. Black, Indigenous, and People of Color comprise over 26% of its employees and nearly 26% of management. One third of its

employees and management, including its CEO, are female. PGE also promotes diversity and economic development through its suppliers. The Company's supplier diversity program provides an opportunity in all competitive bid events for qualified minority-owned, women-owned, disabled veteran-owned, and emerging small business suppliers.

COVID-19—Since the beginning of the COVID-19 pandemic, PGE has taken steps to protect employees. The Company continues to prioritize the health and safety of its employees and be informed by federal, state and local officials to align its efforts with current information.

Information about Executive Officers

The following are PGE’s current executive officers:

<u>Name</u>	<u>Age</u>	<u>Current Position and Previous Experience</u>	<u>Year Appointed Officer</u>
James A. Ajello	69	Senior Vice President, Finance, Chief Financial Officer, Treasurer and Corporate Compliance Officer (January 2021 to present), Senior Advisor (November 2020 to December 2020), Executive Vice President and Chief Financial Officer at Hawaiian Electric Industries (January 2009 to April 2017 - retired), Senior Vice President, Business Development at Reliant Energy (January 2000 to January 2009), Managing Director, UBS Securities (January 1984 to August 1998).	2021
Larry N. Bekkedahl	61	Senior Vice President, Advanced Energy Delivery (July 2021 to present), Vice President, Grid Architecture, Integration and Systems Operations (January 2019 to July 2021), Vice President Transmission and Distribution (August 2014 to January 2019). Senior Vice President of Transmission Services at BPA (June 2012 to August 2014), Vice President of Engineering and Technical Services at BPA (2008 to June 2012).	2014
Nicholas G. Blosser	52	Vice President Public Affairs (August 2022 to present), Chief of Staff and Deputy Cabinet Secretary and Special Assistant to the President, Office of Cabinet Affairs at The White House (March 2021 to July 2022), Intergovernmental Affairs and State Lead, Biden-Harris Transition Team (November 2020-January 2021), Chief of Staff for Oregon Governor Kate Brown (February 2017 to November 2020), Co-Founder and CEO of Celilo Group Media, Inc. (January 2000 to February 2017)	2022
M. Angelica Espinosa	45	Vice President, General Counsel (March 2022 to present), Deputy General Counsel and Corporate Secretary (June 2021 to March 2022), Chief Risk Officer and Vice President of Safety and Compliance at Southern California Gas Company (January 2019 to June 2021), Vice President, Compliance & Governance and Corporate Secretary at Sempra Energy (November 2016 to January 2019)	2022
Bradley Y. Jenkins	59	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 (September 2012 to November 2013), Operations Manager, Boardman (March 2012 to September 2012).	2015
John T. Kochavatr	49	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

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Anne F. Mersereau	60	Vice President, Human Resources, Diversity, Equity 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
Maria M. Pope	57	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 December 2017), 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
Brett M. Sims	54	Vice President, Strategy, Regulation and Energy Supply (October 2020 to present), Senior Director of Strategy, Commercial and Regulatory Affairs (September 2017 to October 2020), Director of Origination, Structuring & Resource Strategy (May 2001 to September 2017).	2020

ITEM 1A. RISK FACTORS.

When evaluating PGE and any investment in its securities, investors should consider carefully the following risk factors and all other information contained in this Annual Report on Form 10-K and in the other documents that the Company files from time to time with the SEC. The events described in the risk factors could have material effects on PGE's business, financial condition, results of operations, or cash flows, or that materially adversely affect PGE's results and cause such results to differ materially from projected results. Risk and uncertainties not currently known to the Company or that are currently deemed to be immaterial may also harm PGE. If any of these risks occur, PGE's business, financial condition, results of operations, and/or cash flows could be materially adversely affected, and the trading prices of the Company's securities could substantially decline.

BUSINESS AND OPERATIONAL RISKS

The effects of unseasonable or severe weather and other natural phenomena can adversely affect the Company's financial condition and results of operations, and the effects of climate change could result in more intense, frequent, and extreme weather events.

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. Rapid increases in load requirements resulting from unexpected 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.

Changes in the global and local climate could result in more intense, frequent, and extreme weather events such as ice and snowstorms, high wind, flooding, changes in regional rainfall and snowpack levels, high heat events, drought conditions, and increased risk of wildfires. These events may disrupt energy delivery, cause power outages, and damage the Company's facilities and transmission and distribution system. Such events could result in a reduction in revenue and an increase in additional costs to restore service, repair facilities, purchase power and fuel to serve PGE load, and procure insurance related to such impacts. In response to more intense, frequent, and severe weather events, PGE may need to make additional investments in generation, transmission, and distribution assets to enhance reliability and

resiliency. Severe weather may also require increased PGE personnel availability, which could result in increased operating expenses as well increased safety risk. In certain instances, PGE relies on mutual aid support to assist in the recovery from severe weather. Lack of availability of mutual aid support could result in increased time to restore services to customers as well as increased costs and decreased customer satisfaction.

Wildfires of greater size and prevalence, such as those of a magnitude seen in Oregon in recent years, could negatively affect public safety, the resilience of the electric grid, customers' demand for power and PGE's ability and cost to procure adequate power and fuel supplies to serve its customers, PGE's ability to access the wholesale energy market, PGE's ability to operate its generating facilities and transmission and distribution systems, PGE's costs to maintain, repair, and replace such facilities and systems, and recovery of costs. PGE may be unable to effectively implement a public safety power shutoff (PSPS) and de-energize its system in the event of heightened wildfire risk, or the PSPS may not be able to prevent a wildfire, which could lead to potential liability if energized systems are determined to be the cause of wildfires that result in harm.

Capital investment and operating expenses related to this risk may not be recoverable through increases in customer prices.

Cybersecurity attacks, data security breaches, physical attacks and security breaches, acts of terrorism, or other similar events that could disrupt PGE's 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. PGE owns and operates generation, transmission, distribution, and other facilities that depend on information technology systems. A cyber-attack may cause large-scale disruption to the U.S. bulk power system or PGE operations and could target the Company's computer systems, software, or networks to achieve such disruption. Generation, transmission, and distribution facilities, in general, have been identified as potential targets of physical or cyber-attacks. In addition, physical attacks on transmission and distribution facilities have occurred in the United States. Despite the security measures in place, the Company's systems and assets, and those of third-party service providers, could be vulnerable to cybersecurity attacks, data security breaches, physical attacks and security breaches, acts of terrorism, or other similar events that could disrupt operations, cause damage to the Company's generation, transmission, or distribution facilities, impact reliability of the transmission and distribution system, information technology systems, inhibit the capability of equipment or systems to function as designed or expected, prevent service to customers or collection of revenues, or result in the release of sensitive or confidential customer, employee, or Company information. Such events could cause a shutdown of service, expose PGE to liability, or cause reputational damage. 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. A breach of certain business systems could impact PGE's ability to initiate, authorize, process, record, and report financial information. The cost of repairing damage to PGE's facilities and infrastructure caused by acts of terrorism, and the loss of revenue if such events prevent PGE from providing utility service to its customers, could adversely impact its financial condition and results of operations. PGE maintains insurance coverage against some, but not all, potential losses resulting from these risks. However, insurance is limited in scope and subject to exceptions, and may not be adequate to protect the Company against liability in all cases and insurers may dispute or be unable to perform their obligations to the Company, or may not be available at rates that are commercially reasonable.

Natural or human-caused disasters and other risks 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 and human-caused disasters and other risks, including, but not limited to, a pandemic such as COVID-19, earthquake, accidents, equipment failure, acts of terrorism, acts of vandalism, computer system outages and other events. Such events, which may be amplified by the fact that PGE's business activities are concentrated in one region, could disrupt PGE operations, damage PGE facilities and systems, interrupt the delivery of electricity,

increase repair and service restoration expenses, reduce revenues, cause the release of harmful materials, cause fires or flooding, and subject the Company to liability. Such events, if repeated or prolonged, can also affect customer satisfaction and the level of regulatory oversight.

Electric utility operations may pose risk to public and workers' safety.

The operation of electric generation, transmission, and distribution infrastructure involves inherent risks, including breakdown or failure of equipment, motor vehicle accidents, fires involving the utility's equipment, dam failure at company-owned hydroelectric facilities, public and worker safety, human contact with energized equipment, and operator error. A portion of the Company's operations relies on Company- or third party-owned natural gas transmission and distribution infrastructure and involves inherent risks, such as leaks, explosions, mechanical problems, and worker and public safety.

These risks could cause significant harm to workers and the public including loss of human life, significant damage to property, adverse impacts on the environment and impairment of PGE's operations, all of which could result in financial losses that would have a material adverse effect on the Company's results of operations and financial condition. PGE is also required to comply with new and changing regulatory standards involving safety compliance. The cost to comply with such requirements could be significant, and failure to meet these regulatory standards could result in substantial fines.

The inability to attract and retain a qualified workforce 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 retaining key employees, turnover due to demographic challenges as employees approach retirement age, and turnover due to macroeconomic trends such as the impacts of inflation on pensions and other retirement funding. PGE faces competition for employees within the industry and in local geographies. The Company 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. PGE relies on a contracted workforce for specific business purposes, and may experience increased costs or inability to find contracted workforce, which may result in a negative impact on operations as well as financial impact.

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

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 or replacements of existing facilities could be affected by factors such as unanticipated delays and cost increases, including supply chain disruption and cost inflation, availability of skilled workforce, increases in interest rates, failure of counterparties to perform under agreements, and the failure to obtain, or delay in obtaining, necessary permits from state or federal agencies or tribal entities. Delays and cost increases could result in failure to complete the projects or the abandonment of capital projects, which could eliminate or impair PGE's ability to recover related 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.

REGULATORY, LEGAL, AND COMPLIANCE RISKS

PGE is subject to extensive price regulation and relies on recovery of costs, the uncertainty of which affect the Company's operations and costs.

PGE is subject to ongoing regulation by the FERC, the OPUC and by certain federal, state, and local authorities under

environmental, permitting, and other laws. Such regulation significantly influences the Company's operating environment and affects many aspects of its business. The Company cannot predict with certainty the future course

of such changes or the ultimate effect that they might have on its business, and such changes could delay or adversely affect business planning and transactions and substantially increase the Company's costs.

OPUC regulates the prices that PGE charges, which is a major factor in determining the Company's operating income, financial position, liquidity, and credit ratings. As a general matter, PGE relies on customer prices to recover 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 (including environmental laws), and the costs of damage from storms and other natural disasters. Regulators may deny recovery of costs 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 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.

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

In the normal course of its business, PGE is subject to regulatory proceedings, lawsuits, claims, and other matters, which could result in adverse judgments, settlements, fines, penalties, injunctions, or other relief. Such matters 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, operating expenses, deferrals, timely recovery of costs and capital investments, and current or prospective wholesale and retail competition. 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 result in disallowance of operating expenses previously deferred or could require that the Company incur expenditures over an extended period 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. New laws, changes in legal precedent, or novel interpretations of existing regulations could also result in adverse effects on cash flows and results of operations.

There are certain pending legal and regulatory proceedings that may have an adverse effect on results of operations and cash flows for future reporting periods. For additional information, see Item 3.—“Legal Proceedings,” *Regulatory Matters* within the “Overview” of Item 7.—“Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and Note 19, Contingencies, in the Notes to Consolidated Financial Statements in Item 8.—“Financial Statements and Supplementary Data.”

Compliance with environmental laws and regulations may result in capital expenditures, increased operating costs and various liabilities, and adverse impact on the Company's results of operations.

PGE is subject to various environmental laws, regulations, and other standards including federal, state and local environmental statutes, rules and regulations relating to air quality, water quality and usage, soil quality, emissions of greenhouse gases (GHG) such as carbon dioxide, waste management, hazardous wastes, fish, avian and other wildlife mortality and habitat protection, historical artifact preservation, natural resources, health, and safety. Compliance with such laws and regulations could, among other things, prevent or delay the development of power generation and transmission and distribution facilities, restrict output of facilities, limit the use of fuels required for power generation, require additional pollution control equipment, require investment in non-emitting resources, and otherwise increase costs and increase capital expenditures.

A portion of PGE's total system load 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. Changes to the listing of various plants and species of fish, birds, and other wildlife as threatened or endangered could result in increased mitigation activities, which could have a material impact on PGE's financial condition and results of

operations. 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.

Compliance with any new or additional GHG emissions 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 retirement or replacement of high-emitting generation facilities with non-emitting facilities. The cost to comply with potential GHG emissions reduction requirements is subject to significant uncertainties, including those related to: the timing of the implementation of emissions reduction rules; required levels of emissions reductions; requirements with respect to the allocation of emissions allowances; the maturation, regulation, and commercialization of carbon capture, sequestration, and storage technology; and PGE's compliance alternatives. Although the Company cannot currently estimate the effect of future laws and 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 renewable generating facilities, which generate federal production tax credits (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.

ECONOMIC, FINANCIAL, AND MARKET RISKS

A decrease in customer demand for electricity may negatively impact PGE's business.

Unfavorable economic conditions in Oregon, such as, for example, increased inflation, may result in reduced demand for electricity and impair the financial stability of PGE's customers. 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.

Customer demand could also be negatively impacted by PGE's ability to attract and retain customers, mandated energy efficiency measures, demand side management programs, potential formation of community choice aggregation programs, distributed generation resources, and economic and demographic conditions, such as population changes, job

and income growth, new construction, new business formation and the overall level of economic activity. Development, improvement, and adoption of technological advances could lead to declines in energy use per customer. Some or all of these factors could impact the demand for electricity.

The decline in revenues due to decreased customer demand for electricity may increase customer prices for remaining customers, as PGE's revenue requirement is designed to cover its fixed utility operating expenses. Increased customer prices could further reduce customer demand for electricity and strain PGE's ability to attract and retain customers. The loss of customers, the inability to replace those customers with new customers, and the decrease in demand for electricity could negatively impact PGE's financial condition and results of operations.

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

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. Volatility of interest rates could negatively impact PGE's cost of debt and results of operations. 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, sales or issuances of substantial amounts of PGE's common stock in the public market, including upon settlement of the forward sale agreements entered into in 2022, could cause the market price of PGE's common stock to decline. This could impair the Company's ability to raise additional capital through the sale of equity securities. Future sales or issuances of common stock or other equity-related securities could be dilutive to holders of common stock and could adversely affect their voting and other rights and economic interests.

PGE expects to raise additional capital in the future. PGE may raise additional funds through public or private equity or debt offerings or other financings, as well as additional borrowings under existing credit facilities.

Any new debt financing entered into may involve covenants that restrict operations more than PGE's current outstanding debt and credit facilities. These restrictive covenants could include limitations on additional borrowings, specific restrictions on the use of assets, and prohibitions or limitations on the Company's ability to create liens, pay dividends, receive distributions from subsidiaries, redeem or repurchase stock or make investments. These factors could hinder the Company's access to capital markets and limit or delay the ability to carry out the Company's capital expenditure plan or pursue other opportunities beyond the current capital expenditure plan.

The declaration of future dividends is at the discretion of the Board of Directors and is not guaranteed and, in some circumstances, the payment of dividends may be limited by the terms of PGE's debt instruments.

PGE has historically paid regular quarterly dividends on common stock. However, the declaration of dividends is at the discretion of PGE's Board of Directors and is not guaranteed. The amount of common stock dividends, if any, will depend upon results of operations and financial condition, future capital expenditures and investments, the rights of holders of any outstanding shares of preferred stock, and other factors that the Board of Directors considers relevant.

In addition, the terms of the Company's debt instruments may limit the payment of dividends. Under the Indenture of Mortgage and Deed of Trust, dated July 1, 1945, as amended and supplemented to date, between PGE and Wells Fargo Bank, National Association, so long as any of the first mortgage bonds are outstanding, the Company may not pay or declare dividends (other than stock dividends) on common stock or purchase or retire for a consideration (other than in exchange for other shares of PGE's capital stock or the proceeds from the sale of other shares of capital stock) any shares of capital stock of any class, if the aggregate amount distributed or expended after December 31, 1944 would exceed the aggregate amount of PGE's net income, as adjusted, available for dividends on common stock accumulated after December 31, 1944. At December 31, 2022, \$399 million of accumulated net income was available for payment of dividends under this provision.

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

Credit rating agencies routinely evaluate the Company, and their ratings of long-term and short-term debt are based on a number of factors, including the perceived supportiveness of the regulatory environment affecting the utility operations, the Company's cash generating capability, level of indebtedness, overall financial strength, the status of certain capital projects, as well as factors beyond PGE's control, such as tax reform, the state of the economy and industry generally. A ratings downgrade could increase fees on PGE's syndicated unsecured revolving credit facility, commercial paper program, 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 and ability to participate in the wholesale markets.

Under certain circumstances, banks participating in PGE's syndicated unsecured revolving credit facility could decline to fund advances requested by the Company or could withdraw from participation in the credit facility, which could adversely affect PGE's liquidity.

PGE currently has a syndicated unsecured revolving credit facility with several banks for an aggregate amount of \$650 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 of 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 volatility of market prices for power and natural gas could adversely affect PGE's costs and ability to manage its energy supply, which could negatively impact the Company's liquidity and results of operations.

As part of its normal business operations, PGE purchases and sells 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. PGE's contract positions are not fully hedged against commodity prices, and hedges or other risk mitigations may not protect against significant losses.

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.

PGE has put in place risk management policies, procedures, and controls to identify, quantify, and manage risk, however, these systems, processes, tools, and controls may not prevent material losses. Risk management procedures may not always be followed as intended, may not operate as designed, or may not identify all potential risks, including, without limitation, severe weather or employee misconduct. There is no assurance that PGE's risk management procedures will be effective in preventing or mitigating losses, and could have a material adverse effect on the Company's results of operation and financial condition.

Reduced river flows, unfavorable wind conditions, and forced outages at generating and battery storage facilities can increase the cost of power required to serve customers. 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 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.

Forced outages at generating facilities and battery storage facilities, both PGE-owned or under purchased power agreements, could result in power costs greater than those included in customer prices, in addition to increased repair and maintenance costs.

Although the application of the PCAM could help mitigate adverse financial effects from any decrease in power supply, 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 PTCs related to wind generating resources.

The capacity provided by the Company's generating resources and third-party purchased power may not be sufficient to meet its customers' energy demand requirements.

PGE meets its customers' energy demand requirements based on capacity obtained from its generating facilities and third-party power purchase agreements. The Company continuously evaluates how much capacity it will need to meet reasonably expected demands of customers and provide reasonable reserves. PGE is also required to file Integrated Resource Plans with the OPUC that detail the Company's plan to meet the future energy and capacity needs of its customers through a least-cost, least-risk combination of energy generation and demand reduction, while also aggressively reducing GHG emissions from the power supply. If the capacity provided by the Company's generating facilities and purchased power is not adequate to meet customers' energy demands, PGE may be required to purchase more power from third parties, invest in acquiring additional generating or battery storage facilities, or invest in extending the operating life of existing generating assets. Any failure to obtain adequate capacity to meet customers' energy demand requirements could increase its costs and negatively impact PGE's customer satisfaction, all of which could have an adverse impact on PGE's business and results of operations.

Advances in energy technology could make PGE's business less competitive.

A basic premise of PGE's business as a vertically integrated utility is the ability to produce electricity at competitive prices due to economies of scale. Furthermore, a key component of PGE's growth is its ability to construct, own, and operate facilities. Many companies and organizations conduct research and development activities to seek improvements in alternative technologies and distributed generation. Advancements in and creation of new technologies could include fuel cells and micro turbines, wind turbines, photovoltaic solar cells, distributed generation, nuclear energy, hydrogen, ongoing customer energy efficiency, two-way grid enabling customer-owned generation, and advances in batteries or energy storage. It is possible that advances in such technologies, or other current technologies, will reduce the cost of alternative methods of electricity production or storage to a level that is equal to or below that of existing methods.

The electricity industry is undergoing significant change, including increased deployment of distributed energy resources, technological advancements as described above, and political and regulatory developments. Electric utilities are experiencing increasing deployment of distributed energy resources, such as solar generation, energy storage, energy efficiency and demand response technologies. The deployment of these technologies supports PGE's decarbonization goals. The growth of new technologies will require modernization of the electric distribution grid to, among other things, accommodate increasing two-way flows of electricity and increase the grid's capacity to interconnect these resources. A higher penetration of distributed energy resources may result in decreased customer demand, or may have impacts on grid reliability. Increased distributed energy resources and renewable energy resources will require new and sustained investments in grid modernization and transmission. If all such costs are not recoverable in rates, PGE could experience material increases in its commodity costs, which could impact PGE's results of operations, financial condition, or cash flows.

It is also possible that alternative generation or storage resources are mandated, subsidized, or encouraged through legislation or regulation or otherwise are economically competitive and added to the available generation supply. Competitors may not be subject to the same operating, regulatory and financial requirements that the Company is,

potentially causing a substantial competitive disadvantage for PGE. Changes in public policy, such as new tax incentives that PGE cannot take advantage of or efforts to deregulate the utility industry, could provide an advantage to competitors. Such alternative resources and regulatory or legislative actions could displace higher marginal cost generating units or make PGE less competitive in constructing, owning, and operating such facilities.

Such a development could limit the Company's future growth opportunities and limit growth in demand for PGE's electric service.

Changes in market conditions and environmental laws and regulations could negatively impact PGE's non-utility real estate investments.

PGE owns, through a wholly owned subsidiary, its corporate headquarters building located in Portland, Oregon. A significant change in real estate values could adversely affect PGE's results of operations.

PGE also owns unregulated properties that are currently or previously leased to third parties and located adjacent to PGE's T.W. Sullivan hydro generating facility. PGE has recorded a non-utility asset retirement obligation (ARO) for this site related to assets that are no longer in service. Significant changes in estimates for this non-utility ARO due to changes in environmental laws or regulations could adversely affect PGE's results of operations.

Rapidly changing stakeholder expectations and standards with respect to PGE's environmental, social, and governance (ESG) programs could result in increased costs and exposure to incremental risk.

Investors, lenders, rating agencies, customers, regulators, employees, and other stakeholders are increasing their focus on evaluating companies as corporate citizens based on their ESG programs and metrics. Based on PGE's ESG profile, investors and lenders may elect to increase their required returns on capital offered to the Company, reallocate capital, or not commit capital as a result of their assessment of the Company's ESG profile. Such actions by investors and lenders could increase PGE's cost of, or access to, capital and financing.

PGE is committed to the success of its ESG programs; however, if the Company fails to adapt or execute on its ESG strategies, or is perceived to have failed in addressing stakeholder ESG expectations or standards, which continue to evolve, PGE may suffer reputational damage, which could have a material adverse effect on its business, results of operations, and financial condition. Additionally, the cost of implementing and complying with such ESG programs could be material.

Actions of activist shareholders could have a negative impact on PGE's business.

Actions of activist shareholders, which can take many forms and arise in a variety of situations, could include engaging in proxy solicitations, advancing shareholder proposals, or otherwise attempting to effect changes and assert influence on the Company's board of directors and management. Dealing with such actions could result in substantial costs and divert management's and the Company's board's attention and resources from PGE's business and execution of its strategy.

Such shareholder activism could give rise to perceived uncertainties regarding PGE's future, adversely affecting PGE's business opportunities, ability to access capital markets, relationships with its customers and employees, and make it more difficult to attract and retain a qualified workforce. Any such actions could have a material adverse effect on the Company's financial condition and results of operations and could cause significant fluctuations in the trading prices of its common stock based on market perceptions or other factors.

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

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 customers being similarly affected by changing