# Investor Presentation

Portland General Electric

January 2019



### **Cautionary statement**

#### Information current as of October 26, 2018

Except as expressly noted, the information in this presentation is current as of October 26, 2018 — the date on which PGE filed its quarterly report on Form 10-Q for the quarter ended September 30, 2018 — and should not be relied upon as being current as of any subsequent date. PGE undertakes no duty to update this presentation, except as may be required by law.

#### **Forward-looking statements**

Statements in this presentation that relate to future plans, objectives, expectations, performance, events and the like may constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements include statements regarding earnings guidance; statements regarding future load, hydro conditions and operating and maintenance costs; statements concerning implementation of the company's integrated resource plan; statements concerning future compliance with regulations limiting emissions from generation facilities and the costs to achieve such compliance; as well as other statements containing words such as "anticipates," "believes," "intends," "estimates," "promises," "expects," "should," "conditioned upon," and similar expressions. Investors are cautioned that any such forward-looking statements are subject to risks and uncertainties, including reductions in demand for electricity; the sale of excess energy during periods of low demand or low wholesale market prices; operational risks relating to the company's generation facilities, including hydro conditions, wind conditions, disruption of fuel supply, and unscheduled plant outages, which may result in unanticipated operating, maintenance and repair costs, as well as replacement power costs; failure to complete capital projects on schedule or within budget, or the abandonment of capital projects, which could result in the company's inability to recover project costs; the costs of compliance with environmental laws and regulations, including those that govern emissions from thermal power plants; changes in weather, hydroelectric and energy markets conditions, which could affect the availability and cost of purchased power and fuel; changes in capital market conditions, which could affect the availability and cost of capital and result in delay or cancellation of capital projects; the outcome of various legal and regulatory proceedings; and general economic and financial market conditions. As a result, actual results may differ materially from those projected in the forward-looking statements. All forward-looking statements included in this presentation are based on information available to the company on the date hereof and such statements speak only as of the date hereof. The company assumes no obligation to update any such forward-looking statement. Investors should also review the risks and uncertainties listed in the company's most recent annual report on form 10-K and the company's reports on forms 8-K and 10-Q filed with the United States Securities and Exchange Commission, including management's discussion and analysis of financial condition and results of operations and the risks described therein from time to time.

### **PGE value drivers**

# Clear focus: 100% regulated utility

High-growth service area

Investing in a reliable and clean energy future

Focusing on operational effectiveness and efficiency Delivering exceptional customer experiences

Building a smarter more resilient grid

# The Company

Strong platform for stakeholder value



# PGE at a glance

### Quick facts<sup>(1)</sup>

- Vertically-integrated energy company encompassing generation, transmission and distribution
- 885,000 customers
- Serves 46 percent of Oregonians, 51 incorporated cities
- Service area covers majority of Oregon's commercial and industrial activity

### Financial snapshot<sup>(2)</sup>

- Revenue: \$2.0 billion
- Non-GAAP earnings per share: \$2.29<sup>(3)</sup>
- Net utility plant assets: \$6.7 billion
- 1) As of 9/30/2018
- 2) Period of 1/1/2017 12/31/2017
- a) Diluted earnings per share, based on generally accepted accounting principles (GAAP), were \$2.10 per diluted share. When excluding the negative effects of the recent federal Tax Cuts and Jobs Act (TCJA), non-GAAP diluted earnings per share increased \$0.19 per diluted share to \$2.29 per diluted share. Management believes that excluding the effects of the TCJA provides a more meaningful representation of the company's comparative earnings. The Company has adjusted this amount to maintain comparability between periods.

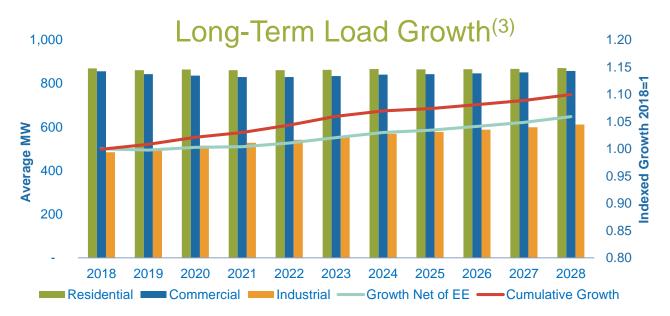
### 3,800+ MWs of generation



# Attractive, growing service area

- 1%+ average annual customer count growth
- Above-average population growth due to in-migration
- Oregon's annual GDP growth averaged 3.3% over the past two decades<sup>(1)</sup>

- Industrial segment growth driven by high tech and data centers
- Unemployment in our service area remains stable at 3.3%, lower than the U.S. and Oregon rate of 3.8%<sup>(2)</sup>



- 1) U.S. Bureau of Economic Analysis
- 2) Oregon Office of Economic Analysis
- 3) Sector load growth shown is net of energy efficiency

# **Constructive regulatory environment**

### **Regulatory construct**

- Oregon Public Utility Commission
- Forward test year
- Integrated Resource Planning (IRP)
- Renewable Portfolio Standard (RPS)
- Proven track record of achieving reasonable settlements



### Regulatory mechanisms

- Net variable power cost recovery
  - Annual Power Cost Update Tariff (AUT)
  - Power Cost Adjustment Mechanism (PCAM)
- Decoupling through 2019
- Renewable Adjustment Clause (RAC)

### Regulatory body

 Governor-appointed three member commission serving four-year terms

### **Term Expiration**

- Megan Decker [D] (Chair) Stephen Bloom [R] Letha Tawney [D]
- March 2021 Nov 2019 May 2020

### **General Rate Case – 2019 Test Year**

Final Order received December 2018

Key Items:

- Approved price increase: 0.47%
- Return on equity (ROE): 9.5%
- Cost of long-term debt: 5.1%
- Capital structure: 50% debt, 50% equity
- Rate base: \$4.75 billion\*

### Requests Approved by the Commission:

- Energy storage projects associated with renewables can be included in future Renewable Adjustment Clause (RAC) filings for cost recovery pursuant to a showing of prudence and an appropriate nexus of the storage facility with renewables.
- Use of trended weather method in the load forecast for price setting purposes
- Decoupling using the Sales Normalization Adjustment Mechanism including Customers with demands of up to 200 kW. Decoupling was extended through 2022

1) Approved rate base prior to the 2019 Test Year rate case was \$4.51 billion

## Tax Reform & Senate Bill 978

### Tax reform

On December 29, 2017 PGE filed a deferral application with the OPUC

- Defer 2017 and 2018 tax impacts
- 2019 Impacts of the Tax Cuts and Jobs Act were addressed in the 2019 test year General Rate Case
- Pursuant to an Order received December 4, 2018, PGE will refund \$45 million to customers over a two-year period beginning January 1, 2019

Company cash flow and credit metrics remain strong

### Senate Bill 978

The Oregon Legislative Assembly passed SB 978 in 2017. The bill required the OPUC to establish a public process to investigate how developing industry trends, technologies, and policy drivers may impact the existing electricity regulatory system.

- The OPUC issued a final report on September 14, 2018 looking to build upon the success of the existing regulatory system and market structures based upon stakeholder feedback.
- The OPUC's recommendations fall into six categories:
  - Climate change and greenhouse gas mitigation
  - Affordability, equity, and environmental justice
  - Retail customer options
  - Utility incentive alignment
  - Regional market development
  - Participation

## **Key Strengths**

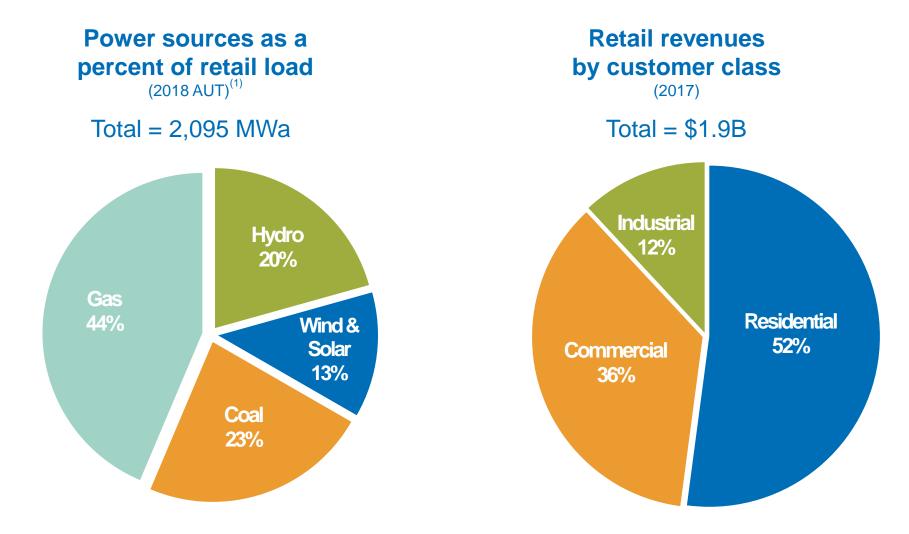
Strong platform for stakeholder value



### **Focus on customers**



### **Diverse generation and customer base**



1) Hydro and wind/solar include PGE-owned and contracted resources

# **High-quality utility operations**

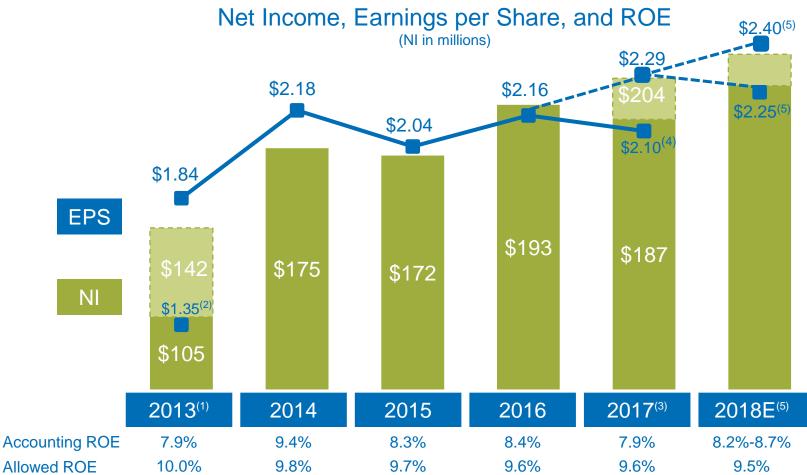
- Highly dependable generation fleet with sixyear average availability of 92%<sup>(1)</sup>
- Strong power supply portfolio management and western EIM integration to enhance reliability and optimize resources
- Progressive approach to reduce coal generation – Boardman 2020 Plan and Colstrip 2030 Plan
- Investment plans to provide safer and more reliable service to our customers, as well as new customer information system and technology
- Smart grid opportunities to incorporate more renewables, decarbonize, electrify the transportation network and integrate demand side resources

### Western EIM



1) Represents 2012 through 2017

### **Solid financial performance**



1) 2013 displays full-year non-GAAP adjusted earnings, which excludes the negative impact of the Cascade Crossing expense (\$0.42 EPS) and the customer billing refund (\$0.07 EPS)

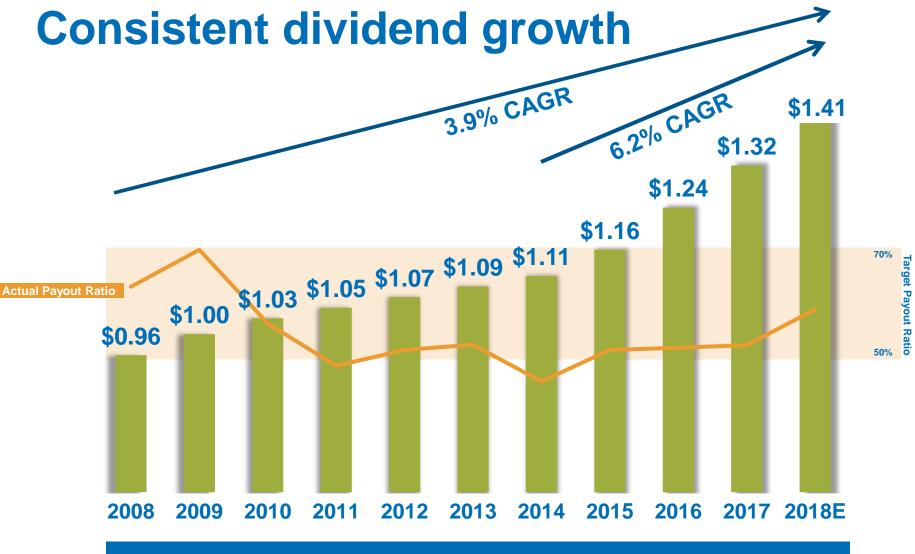
2) GAAP earnings for year-end 2013 were \$105 million or \$1.35 per diluted share

3) 2017 displays full-year non-GAAP adjusted earnings, which excludes the negative impact of the Tax Cuts and Jobs Act expense (\$0.19 EPS)

4) GAAP earnings for year-end 2017 were \$187 million or \$2.10 per diluted share

5) Based on earnings guidance provided on October 26, 2018

Note: This graph contains adjusted earnings that are not determined in accordance with generally accepted accounting principles (GAAP). Management uses non-GAAP financials to communicate the company's expectations regarding its past and future earnings and assist with the analysis of the company's financial performance.

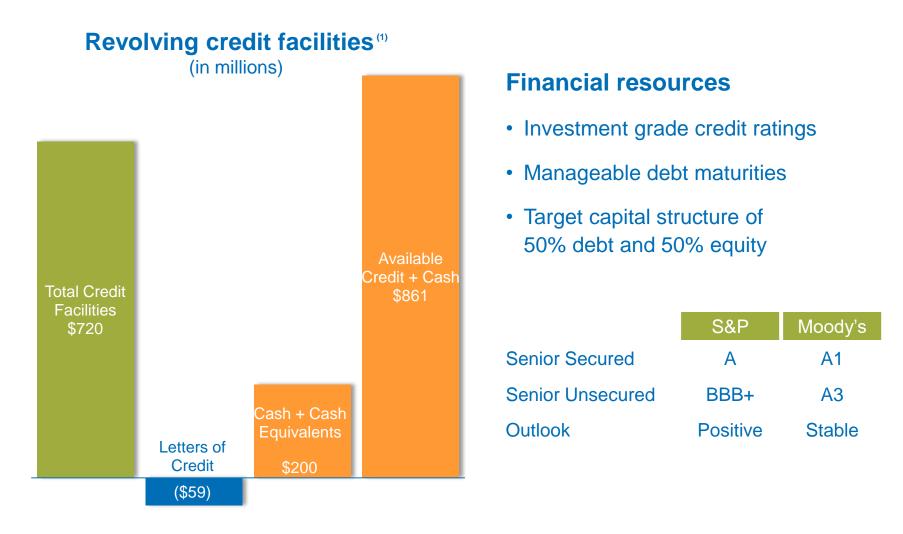


Future dividend increases expected to be in the 5-7% range<sup>(1)</sup>

Note: Represents annual dividends paid

1) Based on the company achieving earnings and cash flow estimates and other factors influencing dividends and subject to approval of the Board of Directors

# **Strong liquidity position for growth**



1) All values as of 9/30/2018

# **Carty Generating Station update**

- On July 16, 2018, PGE entered into a settlement with the bonding companies, the contractor and its parent corporation to resolve all claims relating to Carty construction
- The settlement contributes 12 cents per share to the 2018 EPS



Carty Generating Station, a 440 MW natural gas baseload plant near Boardman, OR

Cost to Construct	\$640M
Approved Rate Base	\$514M
Incremental Capital Cost	\$126M
Accumulated Depreciation	(\$6M)
Net Book Value of Incremental Capital Costs	\$120M
Settlement Cash Proceeds	(\$130M)
Remaining Proceeds - Reflected in A&G	(\$10M)

# **Looking Forward**

Strong platform for stakeholder value



# **Clean and reliable energy future**

### Key elements

- Transition Oregon off coal-fired generation by 2030
- Production Tax Credits included in annual power cost filings beginning with 2017
- Pursue transportation electrification



### Long-term strategy

- Layered approach balances near-term and long-term risks and benefits for customers
- Incremental renewable actions by 2021 reduces near-term carbon emissions and puts PGE on track to meet Oregon's carbon reduction goal



## **2016 Integrated Resource Plan**

A flexible, balanced plan that reflects our commitment to a low-carbon future and pursuant to the Oregon Clean Electricity Plan

#### **Renewable procurement**

- Procurement of renewables (100 MWa) to meet Oregon Clean Electricity Plan
- Potential benchmark resource identified
- Timeline:
  - May 2018: Final RFP issued
  - June 2018: RFP proposals received
  - October 2018: RFP proposal reviews completed
  - December 2018: Final Shortlist acknowledged by the OPUC
  - Q1 2019<sup>1</sup>: Completion of RFP process, issue Notice To Proceed

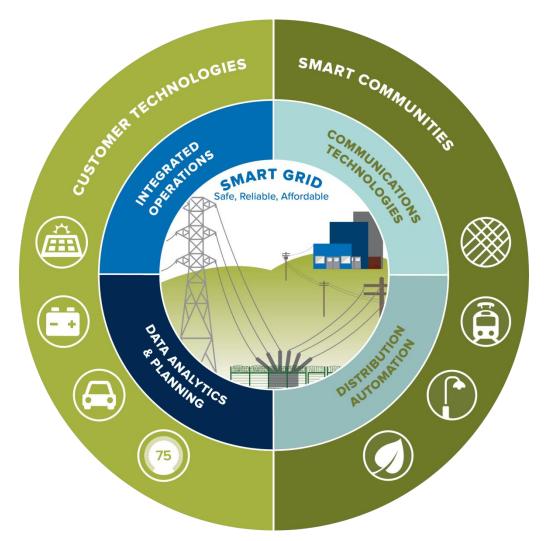
#### **Capacity need**

Executed contracts for 300 MWs through bilateral procurement processes:

- 200 MW of annual-capacity with five-year terms beginning 2021
- 100 MW of seasonal peak capacity during summer and winter periods with a five-year term beginning 2019

<sup>1)</sup> PGE had expected to finalize negotiation(s) with bidder(s) by the end of 2018. Constructive negotiation(s) are ongoing and PGE is expects to announce the winning bid(s) in the first quarter of 2019.

# **Smart grid strategies**

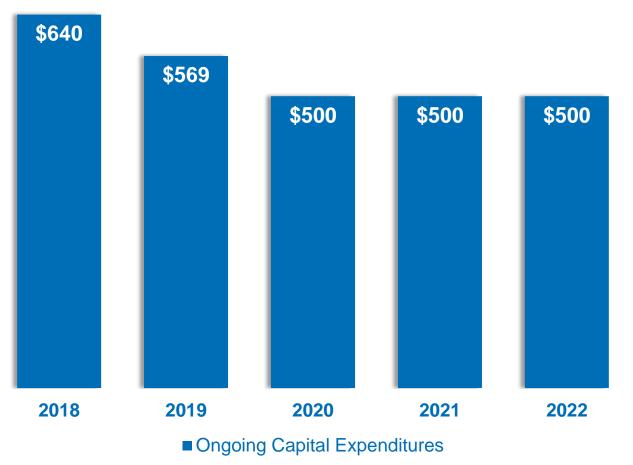


# Building a smarter more resilient grid:

- New communication systems
- Distributed automation systems
- Data analytics
- Integrate customers' energy resources
- Utility-scale battery storage
- New customer information
   system

### **Forecasted capital expenditures**

#### in millions<sup>(1)</sup>



### Outlook

- Support for continued customer growth
- Upgrades and replacement of aging generation, transmission and distribution equipment
- Strengthening the grid for natural disasters, cyber and physical security
- Building a smarter, more flexible grid to enable seamless integration of new technologies

1) Does not include any capital related to the 2016 Renewable RFP

### **PGE investor relations team**

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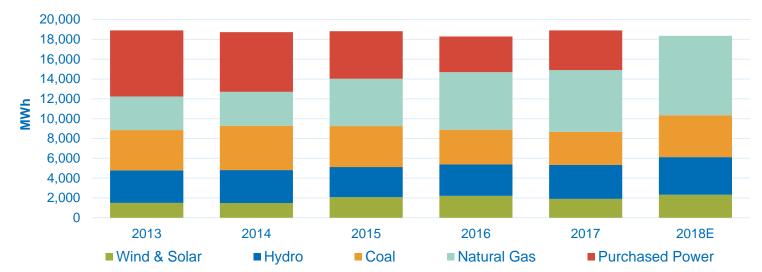


# Portland General Electric Appendices

PGE

# **Changing generation portfolio**

PGE's evolving generation portfolio now enables PGE to meet 100% of its customers' energy needs



### Sources of Power<sup>(1)</sup>

### Changes driven by:

- New generation: Port Westward Unit 2 (natural gas, Q4 2014), Tucannon River (wind, Q4 2014), and Carty (natural gas, Q3 2016)
- Next requirements under Oregon's RPS (requiring a portion of PGE's retail load to be serviced by renewable resources): 20% by 2020, 27% by 2025, 35% by 2030, 45% by 2035 and 50% by 2040

Note: Hydro and wind/solar include PGE owned and contracted resources 1) Based on forecasts in PGE's Annual Update Tariff filing.

## **Generation plant operations**

#### Track record of high availability

	2012	2013	2014	2015	2016	2017
PGE Thermal Plants	92%	84%	89%	89%	92%	88%
PGE Hydro Plants	99%	100%	100%	99%	99%	95%
PGE Wind Farms	98%	98%	94%	97%	95%	96%
PGE Wtd. Average	94%	89%	92%	93%	93%	90%
Colstrip Unit 3 & 4	93%	66%	83%	93%	85%	86%

#### **Generation Reliability and Maintenance Excellence Program**

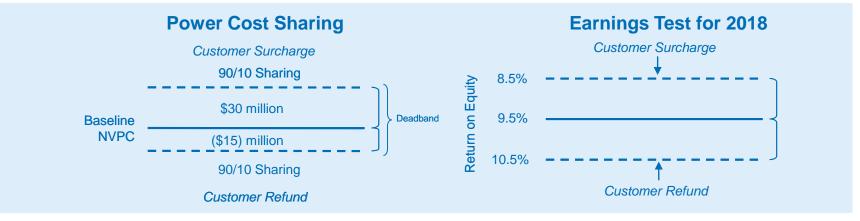
- Corporate strategy started in 2007 to increase availability of PGE's generation plants and increase predictability of plant dispatch costs for power operations
- Key Elements:
  - Reliability Centered Maintenance (RCM) modeling for PGE's generating plants and incorporation of models into PGE's maintenance management system (Maximo)
  - Root Cause Analysis (RCA) for unplanned generation outages, which expedites communication across PGE's fleet on both resolution and prevention actions

### **Recovery of power costs**

### Annual power cost update tariff

- Annual reset of prices based on forecast of net variable power costs (NVPC) for the coming year
- Subject to OPUC prudency review and approval, new prices go into effect on or around January 1
  of the following year

#### **Power Cost Adjustment Mechanism (PCAM)**



- PGE absorbs 100% of the costs/benefits within the deadband, and amounts outside the deadband are shared 90% with customers and 10% with PGE
- An annual earnings test is applied, using the regulated ROE as a threshold
- Customer surcharge occurs if PGE's actual regulated ROE is below 8.5%; ROE will not exceed 8.5% with surcharge
- Customer refund occurs if PGE's actual regulated return is above 10.5%; regulated return will not decrease below 10.5% with refund

### **Renewable portfolio standard**

#### Additional renewable resources

• As of 2017, PGE had the following qualifying renewable resources:

Type of Resource	% of Retail Load
Wind	9.4%
Low-Impact Hydro	2.5%
Solar & Other	0.7%

#### **Renewable Portfolio Standard:**

2011	2015	2020	2025	2030	2035	2040
5%	15%	20%	27%	35%	45%	50%

 Renewable Portfolio Standard qualifying resources and Renewable Energy Certificates (RECs) supplied approximately 10% of PGE's retail load in 2012, 2013, & 2014, and approximately 15% of retail load in 2015, 2016 and 2017

#### **Renewable Adjustment Clause (RAC)**

• Renewable resource can be tracked into prices, through an automatic adjustment clause, without a general rate case. Using Schedule 122, prices go into effect on the resource's in-service date and are updated annually. Upon agreement of the subsequent general rate case the renewable resource is include in base prices and Schedule 122 goes back to zero.

## **Decoupling mechanism**

The decoupling mechanism is intended to allow recovery of margin lost due to a reduction in sales of electricity resulting from customers' energy efficiency and conservation efforts.

This includes a Sales Normalization Adjustment (SNA) mechanism for residential and small nonresidential customers ( $\leq$  30 kW) and a Lost Revenue Recovery Adjustment (LRRA), for large nonresidential customers (between 31 kW and 1 MWa). In PGE's 2019 general rate case, the Commission approved<sup>1</sup> the inclusion of nonresidential customers with demands of up to 200 kW in the SNA mechanism beginning in 2019.

- The SNA is based on the difference between actual usage per customer and that projected in PGE's 2019 general rate case. The SNA mechanism applies to approximately 77% of 2019 customer revenues
- The LRRA is based on the difference between actual energy-efficiency savings (as reported by the ETO) and those
  incorporated in the applicable load forecast. The LRRA mechanism applies to approximately 13% of 2019 customer
  revenues

#### **Recent Decoupling Results**

2014	2015	2016	2017
\$(6.6)	\$(8.8)	\$1.9	\$11.6
\$1.4	\$(0.5)	\$(0.8)	\$(0.4)
\$(5.2)	\$(9.3)	\$1.1	\$11.2
	\$(6.6) \$1.4	\$(6.6) \$(8.8) \$1.4 \$(0.5)	\$(6.6) \$(8.8) \$1.9 \$1.4 \$(0.5) \$(0.8)

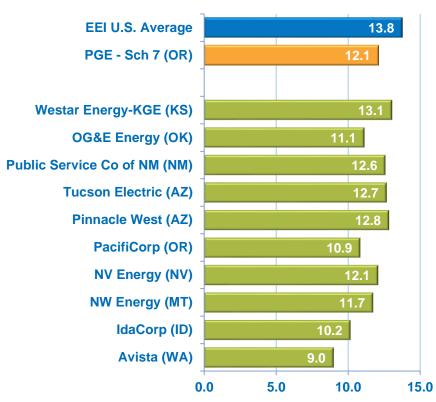
Note: refund = (negative) / collection = positive

1) Order No. 18-464 received December 14, 2018.

### Average retail price comparison Residential & Commercial - Winter 2018

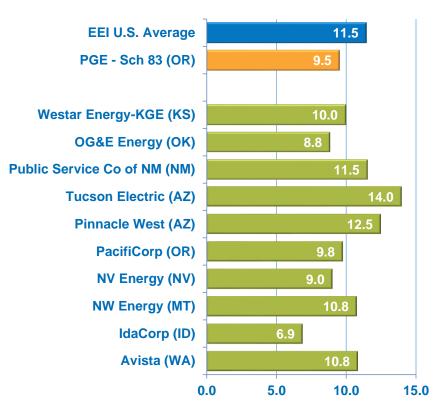
#### **Residential Electric Service Prices:**

1,000 kWh monthly consumption. (Prices in cents per kWh)



#### **Commercial Electric Service Prices:**

40 kW demand and 14,000 kWh monthly consumption. (Prices in cents per kWh)



\* This average is based on Investor-owned utilities only.

\*\* Idaho Power does not report a price to EEI for large industrial customers at this usage and demand level.

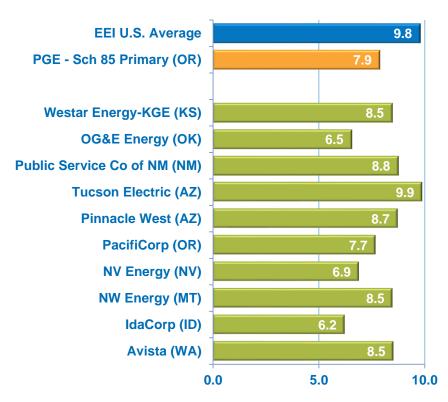
Source: EEI Typical Bills and Average Rates Report for Prices in effect January 1, 2018.

Note: EEI U.S. Average is based on Investor-owned utilities only.

### Average retail price comparison Small & Large Industrial – Winter 2018

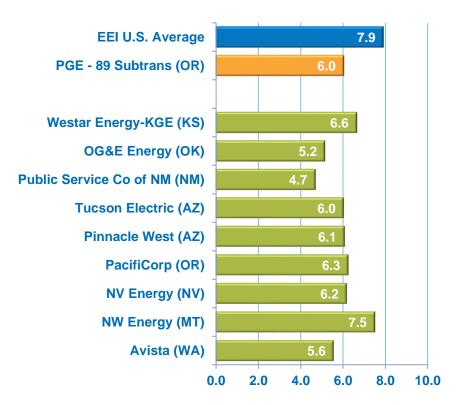
#### **Industrial Electric Service Prices**

1,000 kW peak demand and 400,000 kWh monthly consumption. (Prices in cents per kWh)



#### Large Industrial Electric Service Prices

50,000 kW peak demand and 32,500,000 kWh monthly consumption. (Prices in cents per kWh)



\* This average is based on Investor-owned utilities only.

\*\* Idaho Power does not report a price to EEI for large industrial customers at this usage and demand level.

Source: EEI Typical Bills and Average Rates Report for Prices in effect Jan. 1, 2018.

Note: EEI U.S. Average is based on Investor-owned utilities only.