



# Investor Presentation August 2016



# Cautionary Statement



## **Information Current as of August 3, 2016**

Except as expressly noted, the information in this presentation is current as of August 3, 2016 — the date on which PGE filed its Quarterly Report on Form 10-Q for the quarter ended June 30, 2016 — and should not be relied upon as being current as of any subsequent date. PGE undertakes no duty to update the presentation, except as may be required by law.

## **Forward-Looking Statements**

Statements in this news release 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 the expected capital costs for the Carty Generating Station and the recovery of those costs; 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 news release 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. Prospective 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.

Clear focus: 100%  
regulated utility

Attractive service  
territory

Progressive  
environmental and  
renewable position

Focus on  
operational  
efficiency

Strong financial  
position

Generation and  
T&D investment  
opportunities

## The Company

## The Strengths

## The Execution



## Quick Facts:

- Vertically integrated generation, transmission and distribution
- 859,497 customers<sup>(1)</sup>
- 46% of Oregonians
- Majority of Oregon's commercial and industrial activity

## Financial Snapshot<sup>(2)</sup>:

Revenue: \$1.9 billion

Earnings per share: \$2.04

Net Utility Plant Assets: \$6.0 billion



(1) As of 6/30/2016

(2) As of 12/31/2015

**Mission:** To be a company our customers and communities can depend upon to provide electric service in a safe, sustainable and reliable manner, with excellent customer service, at a reasonable price.

## The path forward is guided by:

- Strong relationships with customers and community
- Empowering employees
- Opportunity to grow the business
- Delivering value to all stakeholders





## Load Growth<sup>(1)</sup>

- 2016E load growth of approximately 1%
- Driven by:
  - Residential customer growth
  - Strong industrial deliveries growth

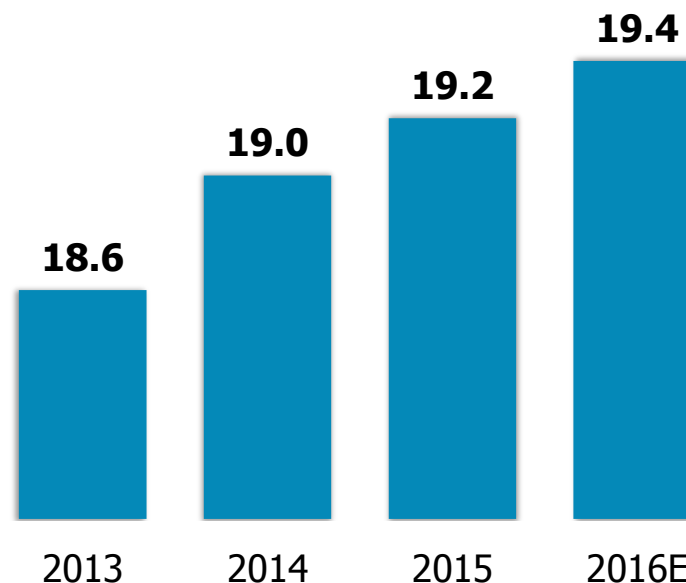
## Strong Economic Conditions<sup>(2)</sup>

- Oregon employment growth of approximately 3%
- Oregon population growth of 1.5%

## Energy Efficiency

- Incremental EE expected in 2016E is equivalent to approximately 1.5% in load growth

## Retail Load<sup>(1)</sup> (Million MWhs Rounded)



Long-term forecast ~1% annually  
through 2030

(1) On a cycle basis and adjusted for weather, excluding one large paper company, and net of energy efficiency

(2) Annualized growth in Nonfarm Payroll Employment from the State of Oregon Employment Department June 2016, Population growth estimates for 2015 from US Census Bureau

## Regulatory Construct

- Oregon Public Utility Commission
- 9.6% allowed return on equity
- 50% debt and 50% equity capital structure
- Forward test year
- Integrated Resource Planning (IRP)
- Renewable Portfolio Standard (RPS)

Governor-appointed three-member commission

Chair: Lisa Hardie [D]<sup>(1)</sup> May 2020

John Savage [D] Mar 2017

Stephen Bloom [R] Nov 2019

## Regulatory Mechanisms

- Net variable power cost recovery
  - Annual Power Cost Update Tariff (AUT)
  - Power Cost Adjustment Mechanism (PCAM)
- Decoupling through 2016<sup>(2)</sup>
- Renewable Adjustment Clause



(1) Newly appointed at the end of May 2016

(2) PGE filed for a three year extension of the decoupling mechanism on March 1, 2016. A settlement was reached in July and the final order is expected by mid-August

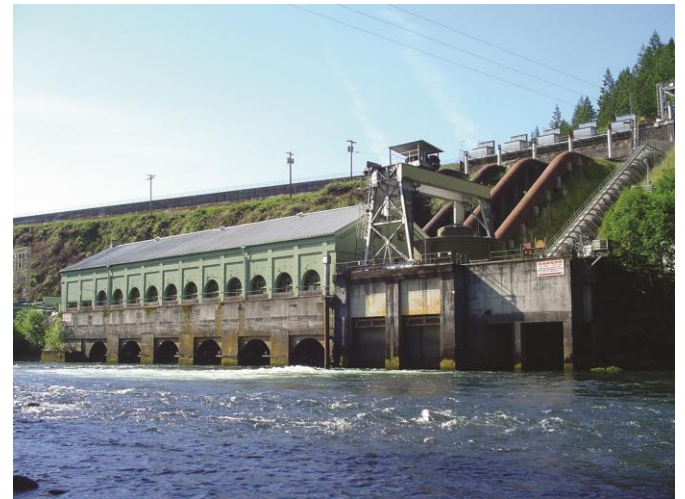


## The Company

## The Strengths

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## The Execution



- 1 High customer satisfaction
- 2 Diverse generation and customer base
- 3 High quality utility operations
- 4 Solid financial performance
- 5 Strong financial position

# 1. High Customer Satisfaction



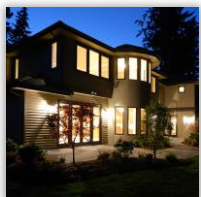
## Top Quartile System Reliability

Edison Electric Institute



## Top Quartile Customer Satisfaction

TQS Research, Inc.



## Most Trusted Brand

Market Strategies International



## Top Ranked Renewable Energy Program

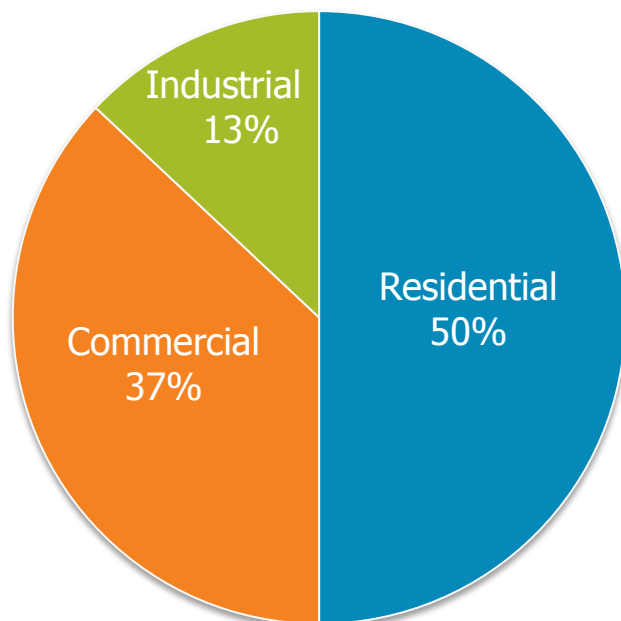
National Renewables Energy Laboratory

All customer satisfaction and reliability measures consistently top quartile

## 2. Diverse Generation and Customer Base

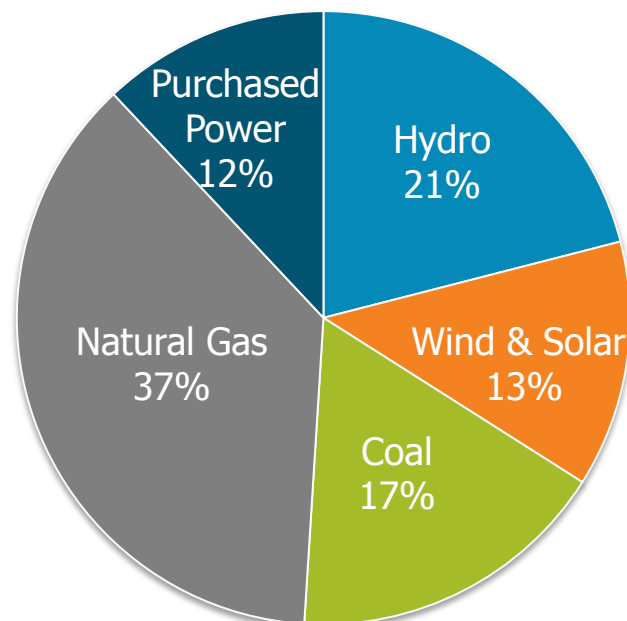
**Retail Revenues  
by Customer Class**  
(2015)

Total = \$1.78B



**Power Sources as a  
Percent of Retail Load**  
(2016 AUT)<sup>(1)</sup>

Total = 2,120 MWa



(1) Hydro and wind/solar include PGE owned and contracted resources; purchased power includes long-term contracts

### 3. High Quality Utility Operations

- Highly dependable PGE generation portfolio with five-year average availability of 92%<sup>(1)</sup>
- Strong power supply operations to stabilize and optimize power costs
- Progressive approach to reduce coal generation – Boardman 2020 Plan
- T&D investment to ensure high reliability and customer satisfaction
- Ongoing investment in technology to improve service and capture efficiencies

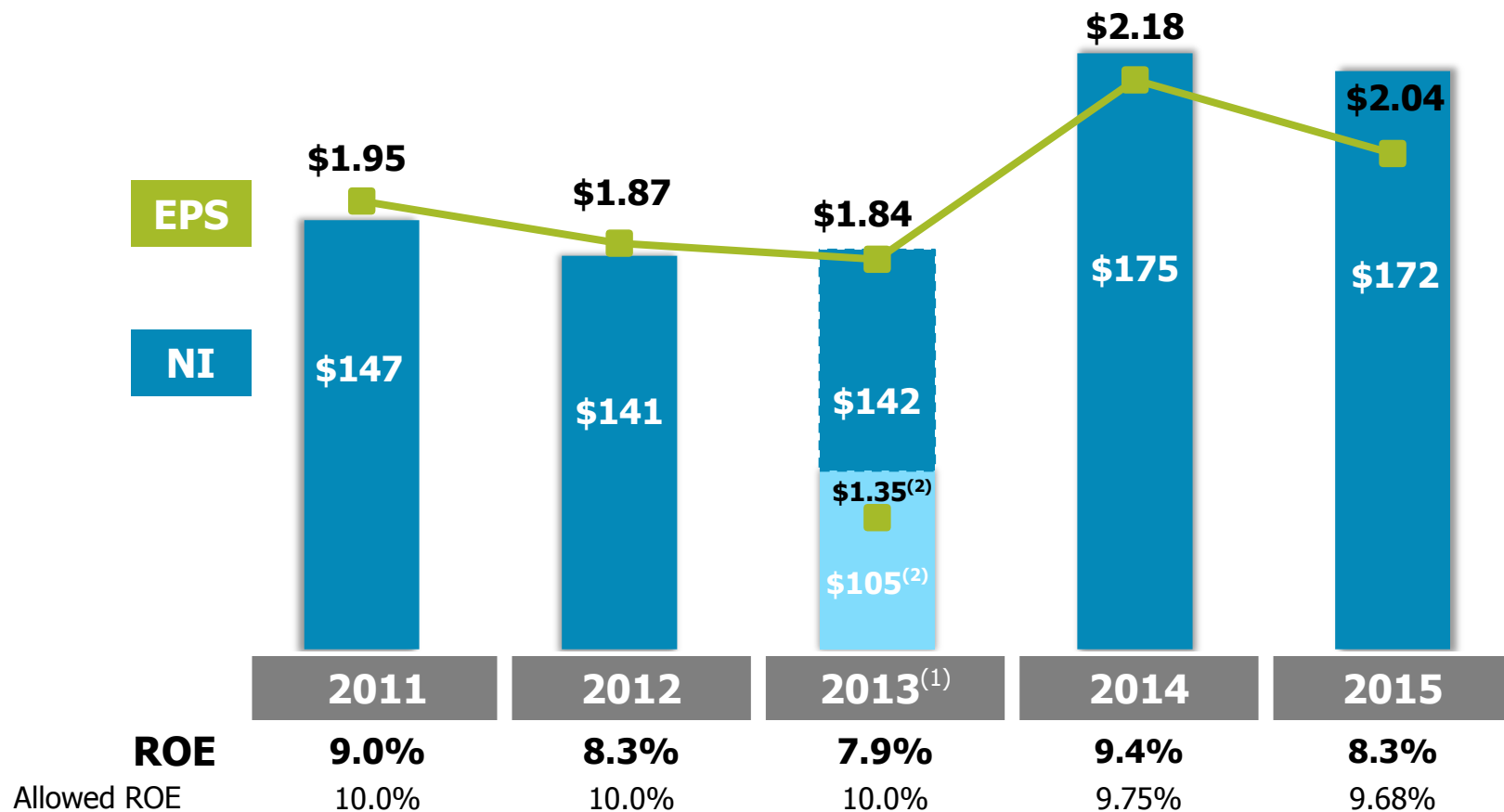


(1) Represents 2011 through 2015

## 4. Solid Financial Performance

### Net Income, Earnings per Share, and ROE 2011 – 2015

(NI in millions)

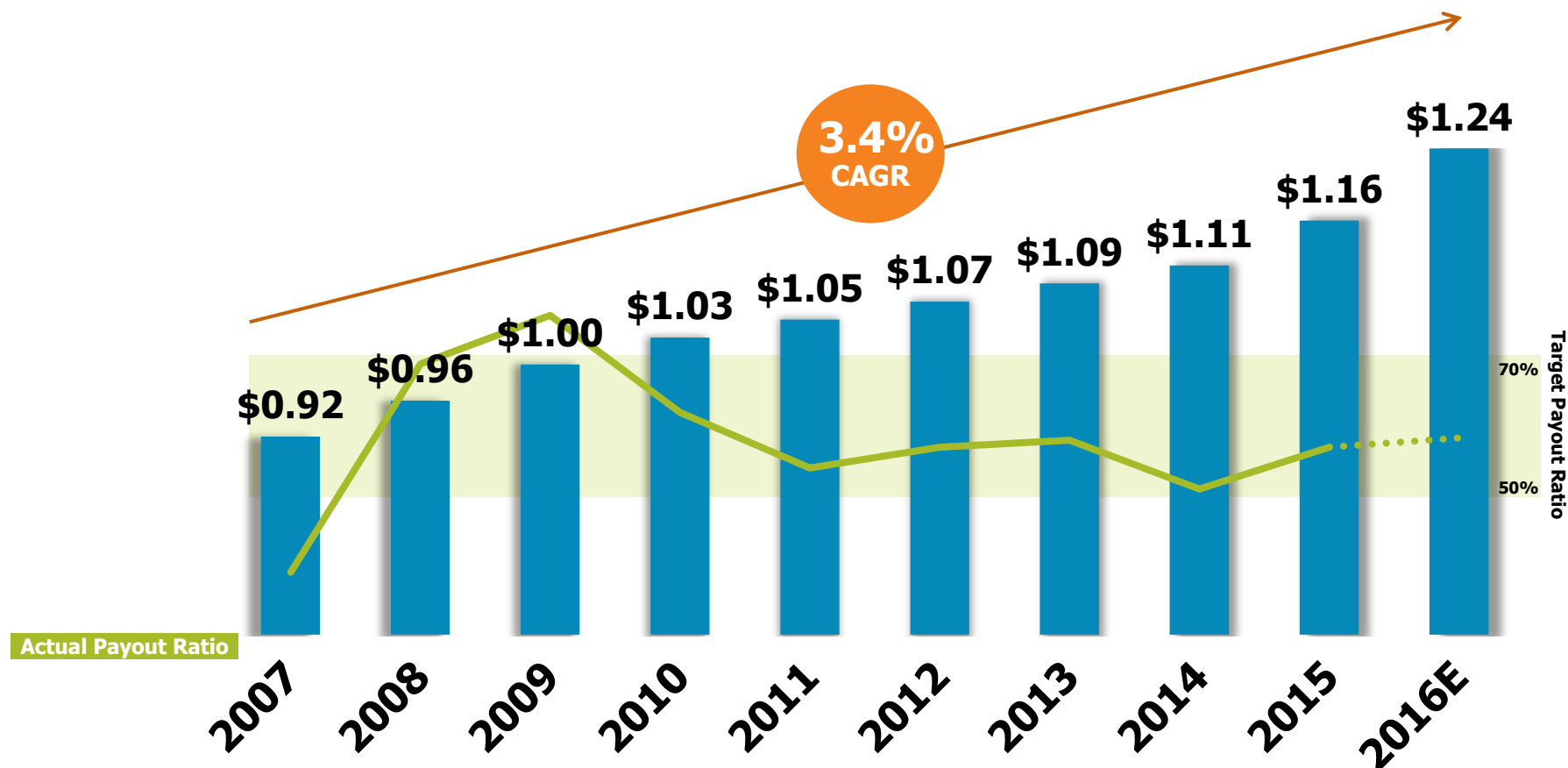


(1) 2013 displays full-year non-GAAP adjusted operating earnings, which excludes the negative impact of the Cascade Crossing expense (\$0.42 EPS) and the customer billing refund (\$0.07 EPS)

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



## 4. Consistent Dividend Growth



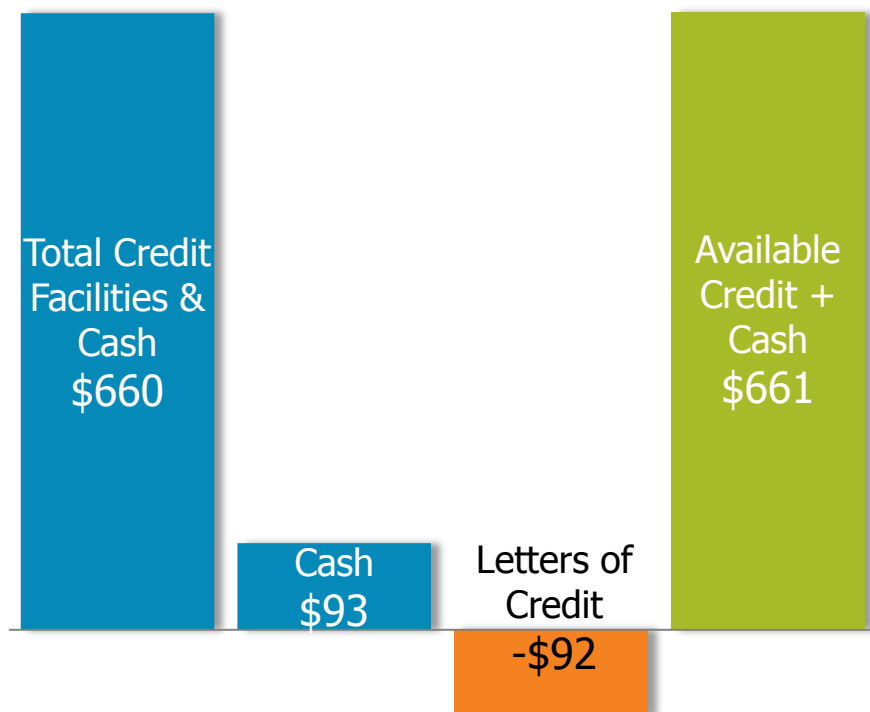
Note: Represents annual dividends paid

(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

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

## 5. Strong Liquidity Position for Growth

### Revolving Credit Facilities<sup>(1)</sup> (in millions)



### Financial Resources

- Investment grade credit ratings
- Manageable debt maturities
- Target capital structure of 50% debt and 50% equity

	S&P	Moody's
Senior Secured	A-	A1
Senior Unsecured	BBB	A3
Outlook	Stable	Stable

(1) All values as of 6/30/2016

## The Company

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## Carty Generating Station: Placed in-service on July 29, 2016



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

Capital costs, including AFDC, approved in 2016 GRC:	\$514M
Total estimated cost, including AFDC, for completion:	\$640-\$660M <sup>(1)</sup>
Carty CWIP balance as of 6/30/2016:	\$587M <sup>(2)</sup>

(1) Total estimated cost does not reflect any amounts that may be received from sureties under the performance bond, the original contractor, or contractor's parent company

(2) Includes \$59 million of AFDC

## Tucannon River Wind Farm

Capacity: 267 MW

In-service date: Dec. 2014

Project cost: \$525 M



On time  
On budget



## Port Westward Unit 2

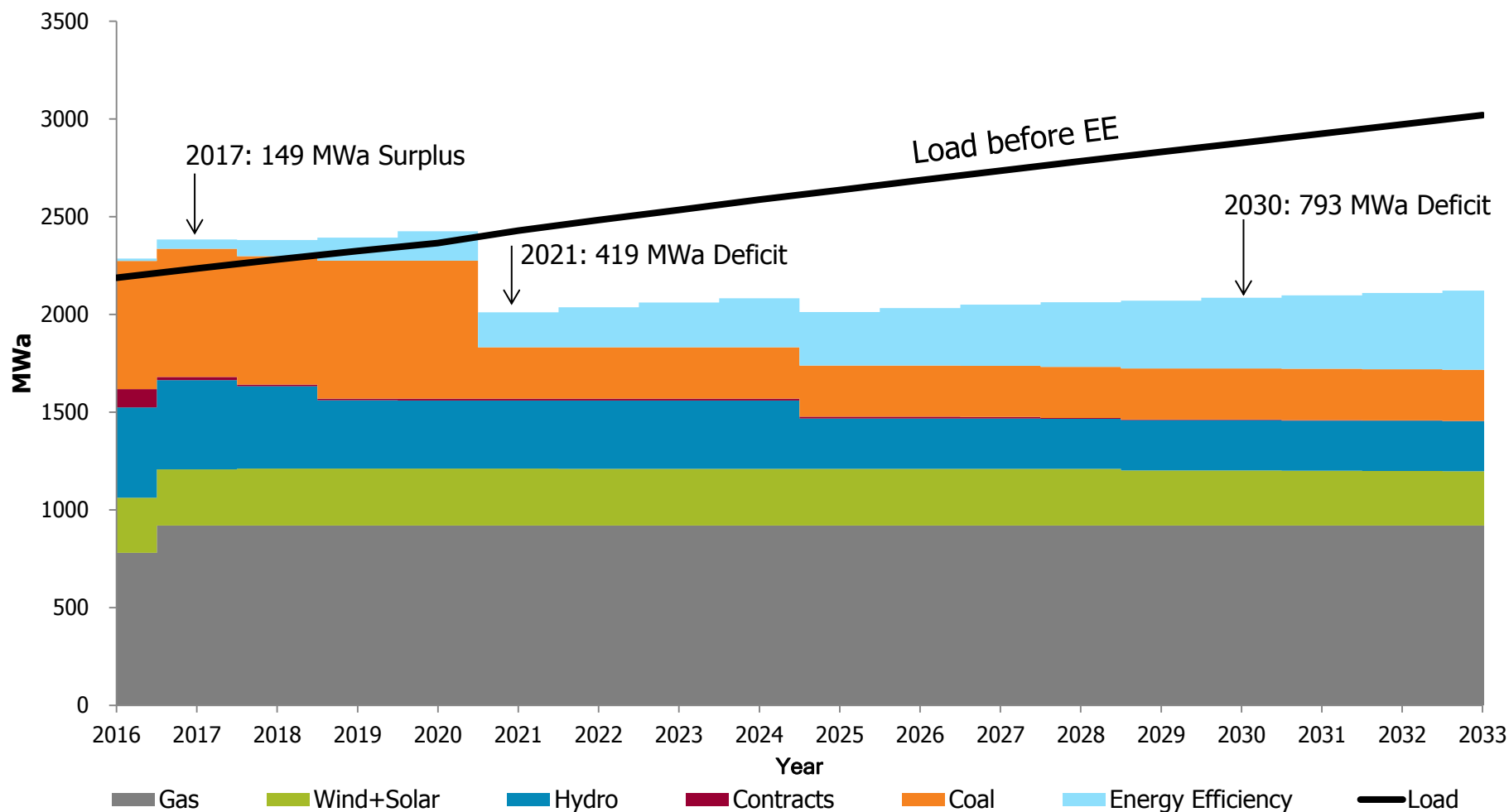
Capacity: 220 MW

Fuel: Natural Gas  
Reciprocating Engines

In-service date: Dec. 2014

Project cost: \$311 M

## Projected Annual Average Energy Load-Resource Balance<sup>(1)</sup>



(1) Load-resource forecast as included in the 2013 IRP update filed in December 2015; assumes normal hydro conditions

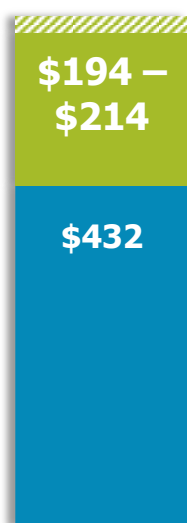


# Forecasted Capital Expenditures

\$ millions

Additional capital investments are being reviewed by management to improve system safety and reliability, reduce risk exposures and modernize systems to meet customer expectations.

**\$626 - \$646**



2016

2017

2018

2019

2020

■ Base Capital Spending<sup>(1)</sup>

■ Carty Generating Station<sup>(2)</sup>

## Outlook

In April the Board of Directors approved spending for the Field Voice Communications project.

Management identified an opportunity for investment in a natural gas project.<sup>(3)</sup>

Note: Amounts do not include AFDC

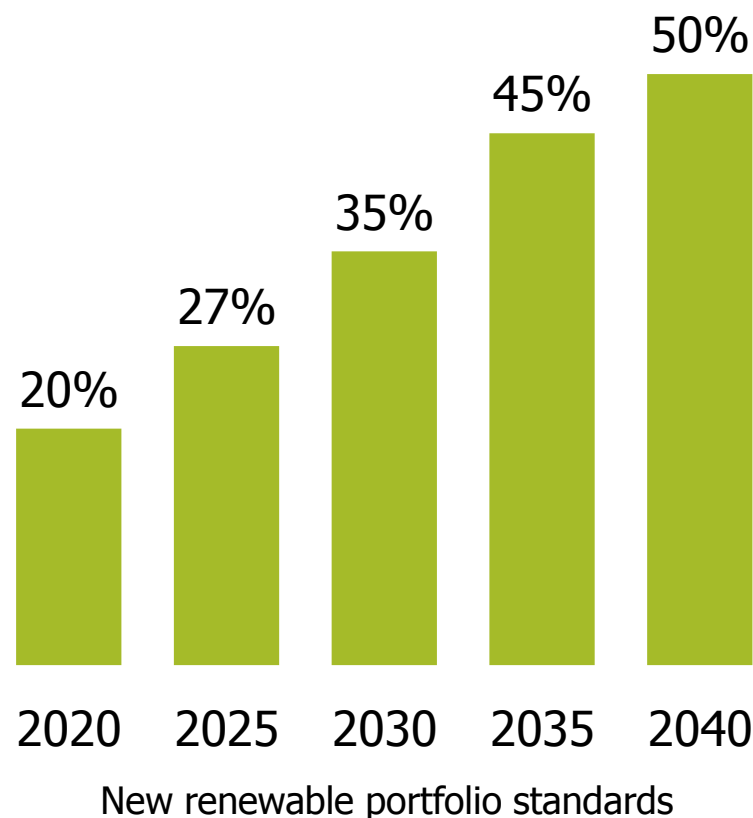
(1) Consists of board-approved ongoing Cap Ex and hydro relicensing per the Form 10-Q filed on August 3, 2016

(2) Total estimated cost does not reflect any amounts that may be received from sureties under the performance bond, the original contractor, or contractor's parent company

(3) Estimated expenditures for project not reflected in chart because the project is subject to OPUC approval

## Key Elements of Plan

- Increase the renewable portfolio standard to 50 percent in 2040
- Transitions Oregon off coal-fired generation by 2035
- Includes PTCs in power costs, beginning with AUT filing for 2017
- Reaffirms state's commitment to energy-efficiency programs
- Encourages transportation electrification
- Increases access to solar energy for more Oregonians
- Flexibility to achieve goals while working with the Oregon Public Utility Commission



## Results of OPUC hearing

- At a special hearing on July 29, 2016, the OPUC adopted Staff's recommendation and took no action on PGE's request for approval of an accelerated RFP.
- PGE is conducting further process and analysis on the accelerated renewables RFP and will determine appropriate timing for seeking approval of a revised RFP schedule.



## Standard IRP Process Timeline:



## Areas of focus

- Energy efficiency and demand side actions
- 2020 Renewable Portfolio Standard requirement of 20 percent and impacts of the Oregon Clean Electricity Plan
- Boardman replacement
- Energy and capacity needs



- High quality utility operations



- Attractive service territory



- Strong financial position



- Progressive renewable position



- Generation and T&D investment opportunities



- New investments drive rate-base growth



**Strong Platform**  
executing  
**Sustained Long  
Term Growth**

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# Portland General Electric

## Appendices



## Resource Capacity

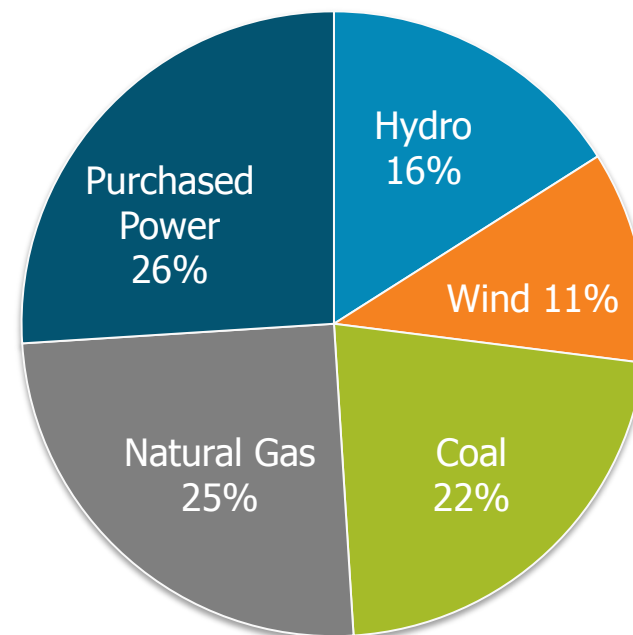
as of 12/31/15

	Capacity in MW	% of Total Capacity
<b>Hydro<sup>(1)</sup></b>		
Deschutes River Projects	303	7%
Clackamas/Willamette River Projects	192	4%
Hydro Contracts	592	13%
	<b>1,087</b>	<b>24%</b>
<b>Natural Gas/Oil<sup>(1)</sup></b>		
Beaver Units 1-8	508	11%
Coyote Springs	243	5%
Port Westward Unit 1	395	9%
Port Westward Unit 2	225	5%
	<b>1,371</b>	<b>30%</b>
<b>Coal<sup>(1)</sup></b>		
Boardman	518	11%
Colstrip	296	6%
	<b>814</b>	<b>18%</b>
<b>Wind</b>		
Biglow Canyon <sup>(2)</sup>	450	10%
Tucannon River <sup>(3)</sup>	267	6%
Wind and Solar Contracts	52	1%
	<b>769</b>	<b>17%</b>
<b>Purchased Power</b>	<b>568</b>	<b>12%</b>
<b>Total</b>	<b>4,609</b>	<b>100%</b>

## Power Sources as a Percent of Retail Load

(2015 Actuals)

Total = 18,831,000 MWh

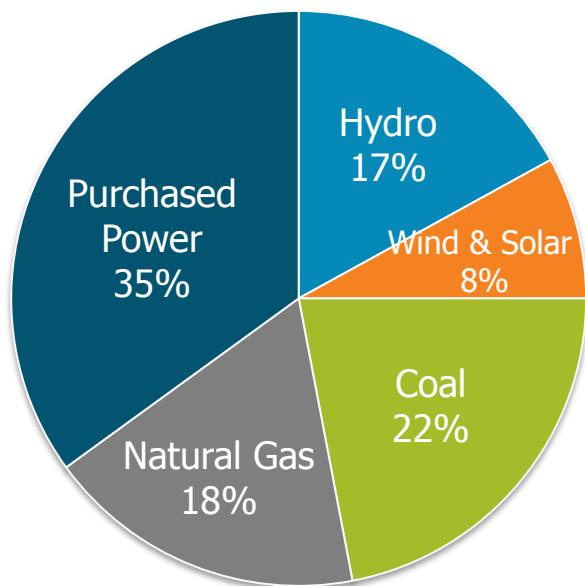


(1) Capacity of a given plant represents the megawatts the plant is capable of generating under normal operating conditions, net of electricity used in the operation of the plant.

(2) With respect to Biglow Canyon, capacity represents nameplate and differs from expected energy to be generated, which was a 26% capacity factor in 2015.

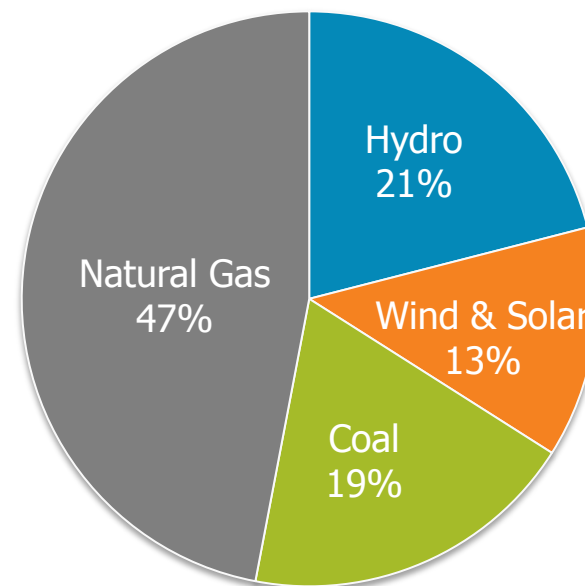
(3) With respect to Tucannon River Wind Farm, capacity represents nameplate and differs from expected energy to be generated, which was a 32% capacity factor in 2015.

**2013 Power Sources as a Percent of Retail Load**  
(2013 Actuals)



4 years later

**2017 Power Sources as a Percent of Retail Load**  
(2017 Estimate)<sup>(1)</sup>



## Changes driven by:

- New generation: Port Westward Unit 2 (natural gas, Q4 2014), Tucannon River (wind, Q4 2014), and Carty Generating Station (natural gas, July 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

(1) Based on an estimated forecast which includes new generation from Carty Generating Station  
Note: For both charts, hydro and wind/solar include PGE owned and contracted resources

## Equity Issuances

	Date	Shares	Net Proceeds
Equity Forward Sale Agreement	June 2013	11.1 million	--
Draw pursuant to forward	August 2013	0.7 million	\$20 million
Draw pursuant to forward	June 2015	10.4 million	\$271 million
Net remaining shares available for issuance:		0	
Equity Over-Allotment	June 2013	1.7 million	\$46 million

## Long-term Debt (\$ in millions)

### Issued:

Amount	Issuance Date	Coupon	Maturity
\$100	8/15/14	4.39%	2045
\$100	10/15/14	4.44%	2046
\$80	11/17/14	3.51%	2024
\$75	1/15/15	3.55%	2030
\$70	5/19/15	3.50%	2035
\$140	1/6/16	2.51%	2021
\$50	5/4/16	~1.1%	Nov 2017
\$75	6/15/16	~1.1%	Nov 2017

### Matured/Redeemed:

Amount	Date
\$70	Matured – Jan 2015
\$67	Redeemed – May 2015
\$75	Redeemed – Jan 2016
\$58	Redeemed – Jan 2016

- **Track record of high availability**

	2011	2012	2013	2014	2015
PGE Thermal Plants	90%	92%	84%	89%	89%
PGE Hydro Plants	100%	99%	100%	100%	99%
PGE Wind Farm	97%	98%	98%	94%	97%
<b>PGE Wtd. Average</b>	<b>93%</b>	<b>94%</b>	<b>89%</b>	<b>92%</b>	<b>93%</b>
Colstrip Unit 3 & 4	84%	93%	66%	83%	93%

- **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
  - Internal training on technical skills, including inspection, welding and metallurgy – supporting both RCM and RCA efforts

- **2013 IRP was acknowledged by the OPUC on 12/2/14 and PGE received written confirmation on stipulations to incorporate into the 2016 IRP development**
- **PGE filed a 2013 IRP update in December 2015**

## **Action Plan Resource Additions through 2017**

- No new long-term supply side resources proposed in this IRP
- Hydro contract renewals
- Proceed with demand side resource procurement
- Energy Efficiency: 124 MWa by 2017
- Dispatchable Standby Generation (DSG): additional 23 MW (total of 116 MW)
- Demand Response (DR): additional 25 MW (total of 45 MW)
- Short and mid-term market purchases & sales to balance portfolio

## **Action Plan Studies and Initiatives to Inform 2016 IRP**

- Operational flexibility assessment
- Third party load forecast methodology assessment/study
- Assessment of emerging EE, in conjunction with Energy Trust of Oregon (ETO)
- Dynamic dispatch requirement / capabilities assessment, and review of new analytical tools for optimizing portfolio commitment and dispatch
- Distributed generation evaluation
- Boardman biomass technical & economic assessments (continuation of current plan)
- Assessment of longer-term gas supply alternatives to address price volatility

## **Transmission Requirements**

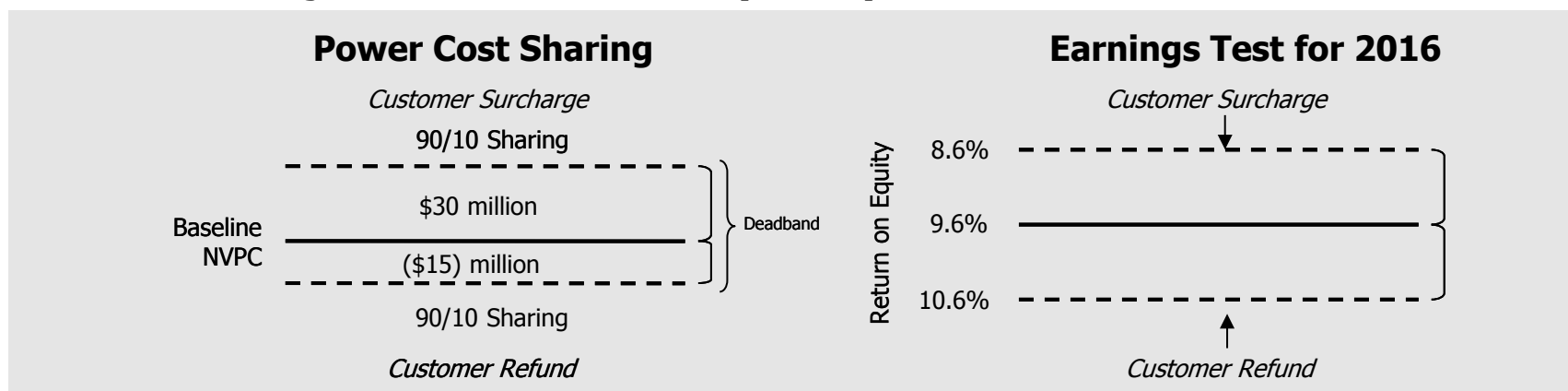
- Retain and/or acquire required service under Bonneville Transmission Administration's Open Access Transmission Tariff



## 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 prudence 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 to the extent it results in PGE's actual regulated ROE being no greater than 8.6%; customer refund occurs to the extent it results in PGE's actual regulated ROE being no less than 10.6%

## Oregon Public Utility Commission Order

- Overall increase in customer prices: 0.7%
- Return on Equity: 9.6%
- Capital Structure: 50% debt, 50% equity
- Cost of Capital: 7.51%
- Rate Base: \$4.4 billion<sup>(1)</sup>
- Annual revenue requirement increase: \$12 million

## Customer Prices

- Base Business: January 1, 2016
- Carty: August 1, 2016

Customer price changes:

- Base business reduction of 2.5%
- Carty increase of 2.5%

(1) Includes Carty at \$514 million

## Additional Renewable Resources

- PGE's 2009 Integrated Resource Plan addressed procurement of renewable resources to meet the 2015 requirement of Oregon's Renewable Portfolio Standard (RPS). To help meet this standard PGE built Tucannon River Wind Farm, a 267 megawatt, 116 turbine wind resource located in southeastern Washington.

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

- Renewable Portfolio Standard qualifying resources supplied approximately 10% of PGE's retail load in 2012, 2013, & 2014, and 15% of retail load in 2015.

## Renewable Adjustment Clause (RAC)

- Renewable resources can be tracked into prices, through an automatic adjustment clause, without a general rate case. A filing must be made to the OPUC by the sooner of the online date or April 1 in order to be included in prices the following January 1. Costs are deferred from the online date until inclusion in prices and are then recovered through an amortization methodology.

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 (LRRRA), for large nonresidential customers (between 31 kW and 1 MWh).

- The SNA is based on the difference between actual, weather-adjusted usage per customer and that projected in PGE's 2015 general rate case. The SNA mechanism applies to approximately 61% of 2015 base revenues.
- The LRRRA is based on the difference between actual energy-efficiency savings (as reported by the ETO) and those incorporated in the applicable load forecast. The LRRRA mechanism applies to approximately 26% of 2015 base revenues.

In PGE's 2014 General Rate Case, PGE and parties stipulated to the extension of the decoupling mechanism for three years, through the end of 2016. In addition, the use-per-customer baseline was adjusted for new connects with lower energy usage. There were no changes or extensions to the decoupling mechanism in either the 2015 or 2016 General Rate Cases. PGE filed for another 3-year extension of the decoupling mechanism on March 1, 2016 under docket UE 306.

## Recent Decoupling Results

(in millions)	2014	2015	Q1 & Q2 2016
Sales Normalization Adjustment	\$(6.6)	\$(6.9)	\$2.8
Lost Revenue Recovery Adjustment	\$1.4	\$(1.9)	\$0.0
<b>Total adjustment</b>	<b>\$(5.2)</b>	<b>\$(8.8)</b>	<b>\$2.8</b>

Note: refund = (negative) / collection = positive

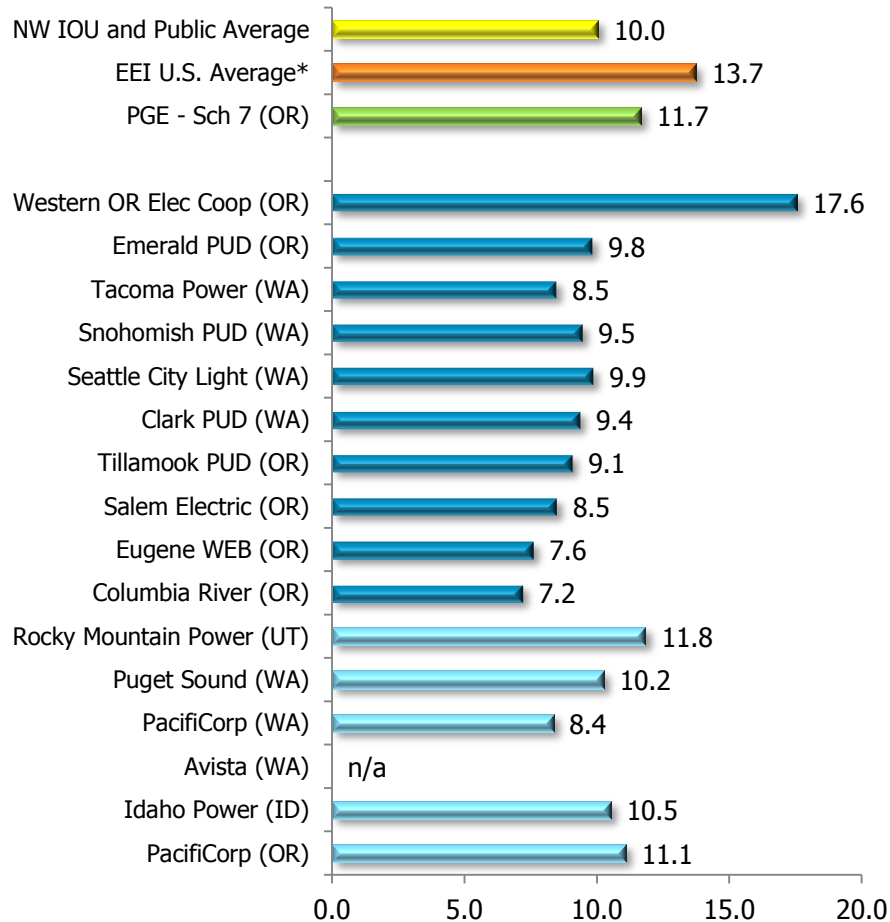
# Average Retail Price Comparison

## Residential and Commercial – Summer 2015



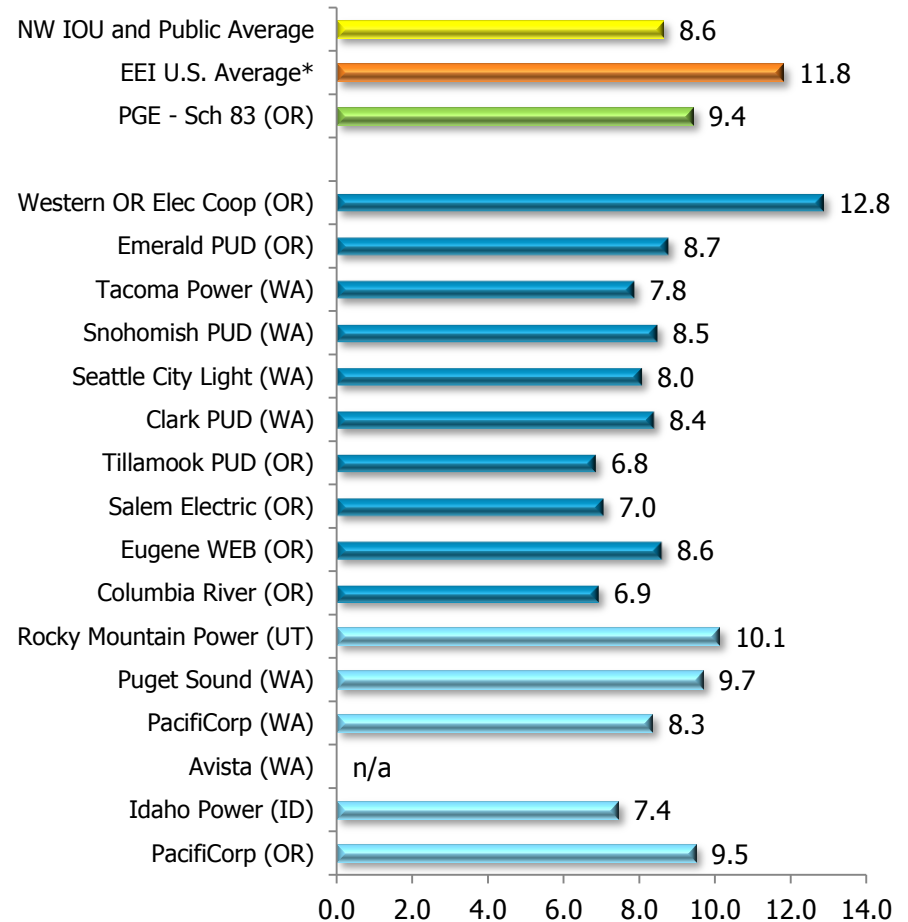
### Residential Electric Service Costs Northwestern Investor-Owned and Public Utilities

1,000 kWh per Month  
(cents per kWh)



### Commercial Electric Service Prices Northwestern Investor-Owned and Public Utilities

40 kW Demand - 14,000 kWh per Month  
(cents per kWh)



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

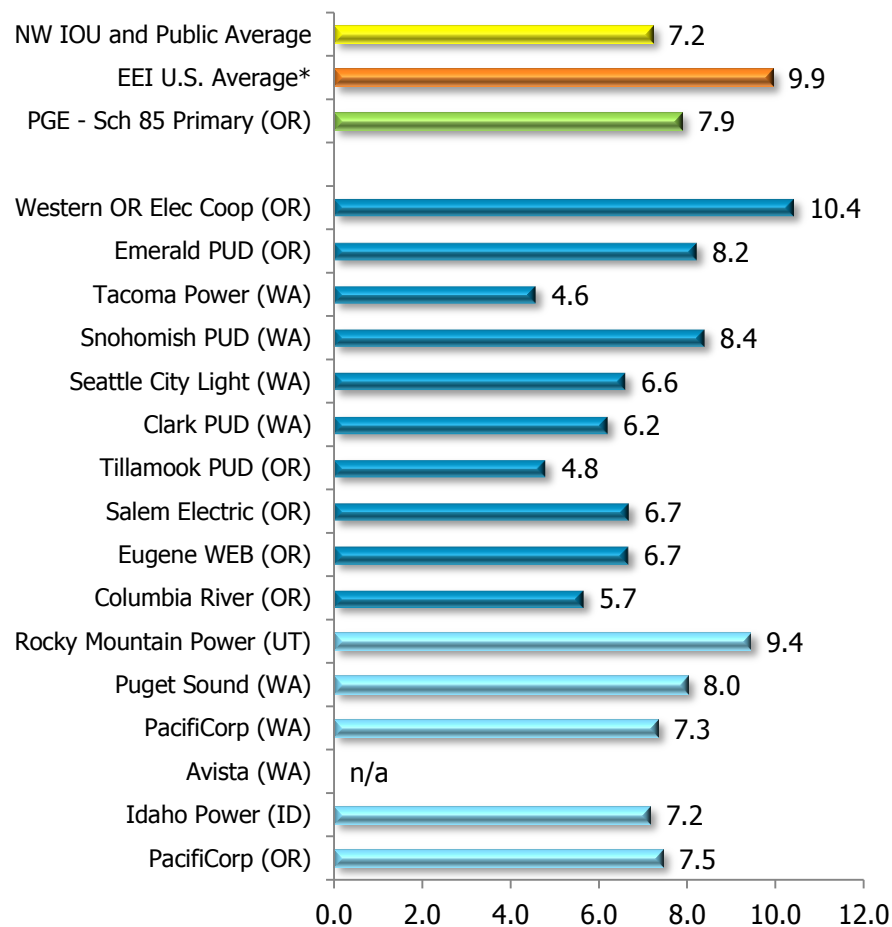
# Average Retail Price Comparison

## Small and Large Industrial – Summer 2015



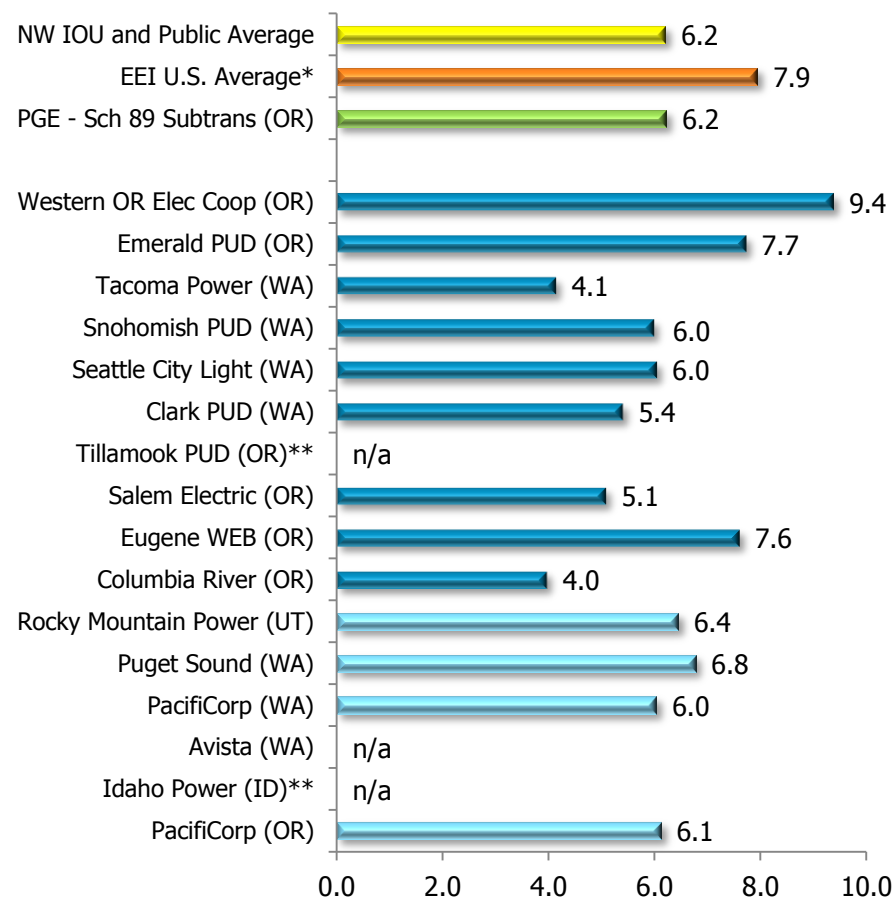
### Small Industrial Electric Service Prices Northwestern Investor-Owned and Public Utilities

1,000 kW Demand - 400,000 kWh per Month, Primary Voltage  
(cents per kWh)



### Large Industrial Electric Service Prices Northwestern Investor-Owned and Public Utilities

50,000 kW Demand - 32,500,000 kWh per Month, Subtransmission  
Voltage  
(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. Tillamook PUD does not offer a large general service tariff on their web site.