Portland General Electric Company

Keeping Portlandia Wired

Equities

Americas
Electric Utilities

12-month rating	**Buy**
	Prior: Not Rated
12m price target	**US$42.00**
	Prior: -
Price	**US$36.42**

RIC: POR.N **BBG:** POR US

Trading data and key metrics

52-wk range	US$40.79-32.42
Market cap.	US$3.23bn
Shares o/s	88.8m (ORD)
Free float	99%
Avg. daily volume ('000)	26
Avg. daily value (m)	US$0.9
Common s/h equity (12/15E)	US$2.26bn
P/BV (12/15E)	1.3x
Net debt / EBITDA (12/15E)	3.8x

EPS (UBS, diluted) (US$)

	12/15E			
	From	To	% ch	Cons.
Q1	-	0.61	-	0.62
Q2	-	0.43	-	0.44
Q3E	-	0.50	-	0.47
Q4E	-	0.59	-	0.58
12/15E	-	2.15	-	2.14
12/16E	-	2.46	-	2.36
12/17E	-	2.54	-	2.45

Julien Dumoulin-Smith
Analyst
julien.dumoulin-smith@ubs.com
+1-212-713 9848

Michael Weinstein
Associate Analyst
michael.weinstein@ubs.com
+1-212-713 3182

Paul Zimbardo
Associate Analyst
paul.zimbardo@ubs.com
+1-212-713 1033

Initiate coverage with Buy on best in class smid-cap utility stock

We are initiating coverage on Portland General with a Buy rating and a $42 price target as we see the company as a best in class smid-cap, with the company poised to revise estimates and long-term growth higher with its 2016 Integrated Resource Plan (IRP) filing. Our positive view of shares is framed around three themes: (1) a robust Oregon economic backdrop driven by strong industrial/commercial activity and above-average 1.0%-1.5% load growth (even with -1.5% energy efficiency); (2) a strong and improving ratebased growth profile driven by coal plant retirements, possible ratebased gas reserves, and potential acceleration of renewable standards to 50% (vs 25%) in OR; and (3) a discount valuation vs smid-cap peers, which have traded at a premium for the past year concurrent with smid-cap utility consolidation activity.

Utility benefits from all key elements of winning growth profile

Beyond just the above-average load growth given upward west-coast demographic trends, we project that POR's ratebase and earnings growth profile are set to improve materially in 2018+ from new ratebased generation at the Carty site to replace the Boardman coal plant as well as addition renewable wind and supporting gas generation. The IRP will lead to an RFP process in 2017 to firm up requirements, for which we assign a 75%+ probability. Beyond the IRP, we see a potential for a higher state RPS in OR to match peer west coast states at the 50% long-term mark (up from 25% today). We assign a 25% probability for future RPS upsizing opportunity, which we estimate could require as much as $3B-$5B of new investment through 2030.

Ratebased gas reserves also getting a hard look

POR is very interested in ratebasing reserves sufficient to support as much as 25% of current gas demand, which we estimate could lead to $100M-$200M of capital in the 2017-18 timeframe (we assign a 50% probability).

Valuation: Initiate at $42 PT and Buy rating; strengthening growth 2018+

We value POR at a 1.0x (6%) premium to the average 2017E smid-cap utility P/E (vs the current -4% discount), which we believe is appropriate given a 6.9% projected earnings CAGR with potential up to the mid-9s should all opportunities be fully realized. We also highlight a single-state jurisdiction and simple capital structure with no parent leverage.

Highlights (US$m)	12/12	12/13	12/14	12/15E	12/16E	12/17E	12/18E	12/19E
Revenues	1,805	1,810	1,900	1,906	1,971	1,994	2,017	2,052
EBIT (UBS)	312	226	332	318	359	371	395	448
Net earnings (UBS)	141	105	176	173	198	205	218	245
EPS (UBS, diluted) (US$)	1.86	1.34	2.18	2.15	2.46	2.54	2.64	2.89
DPS (US$)	1.07	1.10	1.12	1.18	1.24	1.30	1.36	1.43
Net (debt) / cash	-	-	(2,374)	(2,342)	(2,366)	(2,388)	(2,465)	(2,808)

Profitability/valuation	12/12	12/13	12/14	12/15E	12/16E	12/17E	12/18E	12/19E
EBIT margin %	17.3	12.5	17.4	16.7	18.2	18.6	19.6	21.8
ROIC (EBIT) %	-	-	-	6.8	7.3	7.4	7.6	7.9
EV/EBITDA (core) x	-	-	8.2	9.4	8.6	8.4	8.1	7.4
P/E (UBS, diluted) x	14.0	22.3	15.3	17.0	14.8	14.3	13.8	12.6
Equity FCF (UBS) yield %	-	-	(20.4)	(3.8)	2.4	2.6	(1.6)	(8.4)
Net dividend yield %	4.1	3.7	3.3	3.2	3.4	3.6	3.7	3.9

Source: Company accounts, Thomson Reuters, UBS estimates. Metrics marked as (UBS) have had analyst adjustments applied. Valuations: based on an average share price that year, (E): based on a share price of US$36.42 on 01 Oct 2015 19:37 EDT

www.ubs.com/investmentresearch

This report has been prepared by UBS Securities LLC. **ANALYST CERTIFICATION AND REQUIRED DISCLOSURES BEGIN ON PAGE 28.** UBS does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Investment Thesis

Portland General Electric Company

12-month rating **Buy**

12m price target **US$42.00**

Investment case

While POR's ratebase growth profile has slowed through 2018 after the completion of the Carty coal plant and Port Westward 2 gas-fired plant but we see a return to strong growth in 2018 once the next Integrated Resource Plan (IRP) is finalized and RFPs for new resources are initiated in 2017. Management continues to guide to 5%-7% DPS growth with no secondary equity until needed for large capital projects. POR also stands to benefit from a renewed interest this year in small-mid cap utilities with clean single-state jurisdictions, solid balance sheets, and a visible growth profile well into the 2020s.

Upside scenario

A major increase in the Oregon Renewable Portfolio Standard (RPS) that drives significant RFP wins for ratebased renewables could raise the growth profile considerably. We estimate that every 5% increase in the RPS requires an additional 300 MW, equivalent to the company's $530M Tucannon River Wind Farm. We could see an increase to $45/sh under a faster growth scenario that allows the company to grow EPS and the dividend above 7% annually.

Downside scenario

A failure to manage costs or win any RFPs for new resources would slow earnings and dividend growth. In this scenario we would estimate a valuation of $34.

Upcoming catalysts

Dec 2015	Approval of Ratecase Settlement
2016	Decn on PCAM reforms from PUC

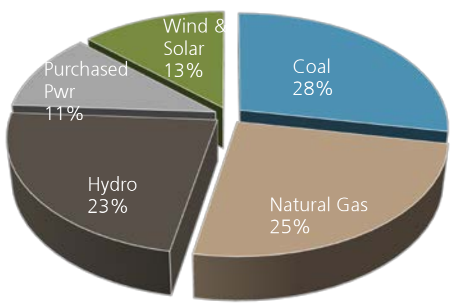
Business description

Portland General Electric Company (POR), incorporated in 1930, is a publicly-owned, vertically-integrated, regulated electric utility. POR is engaged in generation, transmission, distribution, and retail sales of electricity in the state of Oregon, serving 842,273 retail customers (as of Dec. 31, 2014). It is also involved in purchasing and selling electricity and natural gas in the wholesale market to obtain power for its retail customers.

Industry outlook

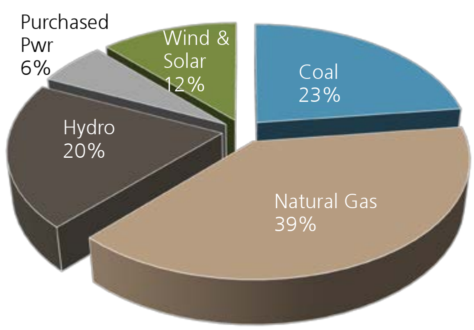
The electric utility industry is projected to experience weak or negative electric demand growth in coming years as a tepid economy and energy efficiency dampen demand. In the unregulated merchant power space, we see limited potential for a meaningful recovery from currently low power prices due to limited projected demand growth, growth of subsidized renewables, and potential for only modest further retirements. At regulated utilities, we believe rising interest rates and robust valuations are a challenge to the sector, particularly as earnings growth stalls once EPA-mandated growth capex slow mid-decade. We expect cost-cutting and strategic planning to be a key theme across both regulated and competitive companies, with M&A at modest (at best) premiums designed to extract cost synergies. We believe utilities with high parent leverage will disproportionately suffer, as they are unable to recoup from rising interest rates.

Fuel Mix as a Pct of Retail Load, 2015E (%)



Source: Company filings

Fuel Mix as a Pct of Retail Load, 2017E (%)



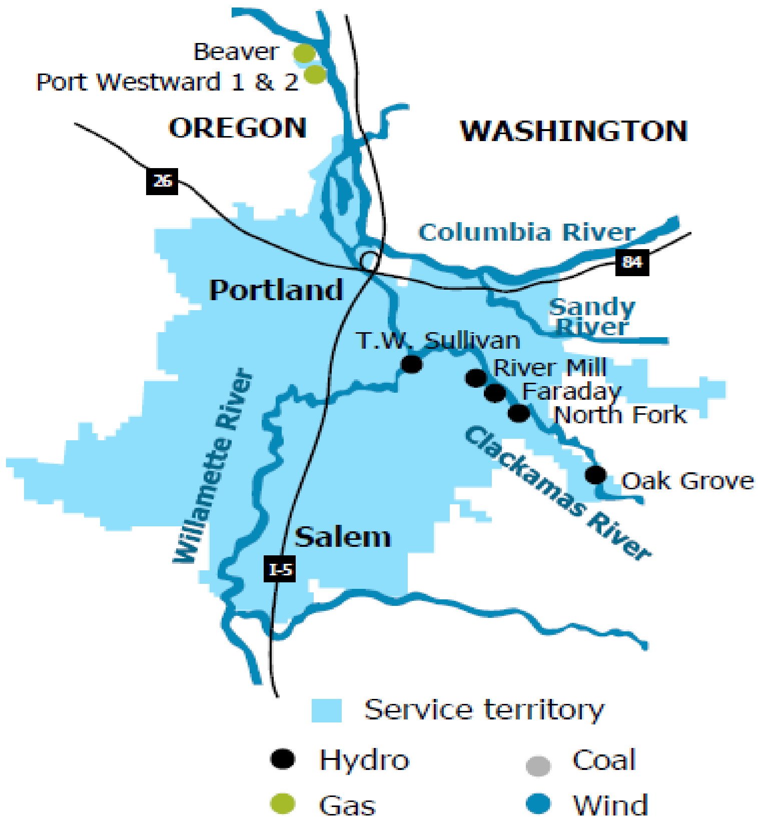
Source: Company filings

Julien Dumoulin-Smith, Analyst, julien.dumoulin-smith@ubs.com, +1-212-713 9848

Portland General Serves Portland and Salem, Oregon

POR is a simple, single-state electric utility (no holding company structure) providing Portland and Salem, Oregon with vertically integrated generation, transmission, and distribution service (entirely regulated). Its service territory includes 848,600 customers (46% of Oregon) and contains a majority of the state's commercial and industrial activity. Despite a -1.5% annual load impact from energy efficiency, estimated load growth for 2015E is +1.5%, driven mostly by robust industrial activity. In contrast, residential load has been mostly flattish. Going forward, we expect >1% annual load growth.

Figure 1: POR Service Territory



Source: Company presentation – Investor day September 2015

How quickly can POR grow? DPS growth of 5-7%

We estimate that should all the opportunities we've highlighted be realized, the long-term CAGR could increase from our currently projected 6.9% to as high as the mid-9s, raising our 2020 estimate to as much as $3.35 and valuation to $45.

While management has not committed to a specific EPS growth range, it has nevertheless been willing to commit to a broader 5-7% DPS growth factor through the foreseeable future (this guidance was established recently as of 1Q15). This is a notable acceleration vs a historical 3% CAGR trajectory since 2007. Management appears cautious and reluctant to commit to a narrow consistent EPS growth rate given fluctuations in earned ROEs through the rate case cycle (recent years emphasize this concern – see table below). Nevertheless, we project a 6.9% EPS CAGR from 2015-20E at assigned probabilities for major projects. In all, we estimate that should all the opportunities we've highlighted be realized, the long-term CAGR could increase to as high as the mid-9s, raising our 2020 estimate to as much as $3.35 and valuation to $45.

Figure 2: UBS Earnings Estimates, Dividend Payout and Growth Projections vs Management Guidance

	2013A	2014A	2015E	2016E	2017E	2018E	2019E	2020E
UBS EPS estimates	**$1.84**	**$2.18**	**$2.15**	**$2.46**	**$2.54**	**$2.64**	**$2.89**	**$3.00**
UBSe 2015-2020 EPS CAGR								**6.9%**
Street Consensus EPS (FactSet)			*$2.14*	*$2.35*	*$2.45*	*$2.55*	*$2.85*	*$2.95*
Management Guidance - EPS			*$2.05-$2.20*					
DPS	$1.10	$1.12	$1.18	$1.24	$1.30	$1.36	$1.43	$1.52
Management Guidance - Dividend			*$1.16*					
Dividend Payout Ratio (UBSe)	59%	51%	55%	50%	51%	51%	49%	51%
Management Guidance - Payout			*50-70%*					
DPS growth	2%	2%	5%	5%	5%	5%	5%	7%
Management Guidance - Dividend growth			*5-7%*					

Source: Company reports and UBS estimates

Despite a somewhat more muted growth profile through 2017, the company has latitude within its 50-70% payout ratio to keep DPS growth in-line with history (currently at the low end). Additionally, we see a significant pickup in ratebase and EPS growth in 2018+ as projected capex could significantly exceed D&A (~$300 Mn) in future years. As shown in the table below, we assume a second unit at Carty is added to ratebase in 2020 to replace Boardman. We also assume a 75% weighted probability of another ~300 MW wind unit to meet the 2020 RPS requirement as well as another unit at Port Westward to support renewables coming online in through 2020. While all of these units will be competitively bid through an RFP process, we assign relatively high probability for ratebasing as POR will have a major competitive advantage holding optimum siting with existing access to transmission and fuel pipelines. We also note that while the IPP sector is strongly interested in competing for utility PPA contracts, both falling power pricing and equity market trouble have left many developers in the region struggling while they hold expensive spots in the transmission queue that POR may choose to purchase at a competitive discount.

Figure 3: Capex – Historical and Forecast

Capital Expenditure $MM	**UBSe**	**2013A**	**2014A**	**2015E**	**2016E**	**2017E**	**2018E**	**2019E**	**2020E**
Base Spending	Probability	$335	$342	$388	$354	$366	$298	$285	$285
Port Westward	embedded	$155	$118	$20					
Tucannon	within capex	$95	$380	$25					
Carty		$135	$108	$165	$42				
UBSe:									
Carty - Unit 2	100%						$225	$225	
Post Westward - Next Unit	75%							$118	$118
Next Generic Wind - for 2020 RPS	75%							$191	$191
Gas Reserves	50%					$38	$38		
RPS Renewable opps (if OR goes to 50% by 2030)	25%								$39
RPS CCGT opps (if OR goes to 50% by 2030)	25%								
Other Projects					$40	$40	$40	$40	$40
Total Capital Expenditure		**$720**	**$948**	**$598**	**$436**	**$444**	**$601**	**$859**	**$674**
Depreciation		$248	$301	$301	$317	$323	$329	$344	$371

Source: Company reports and UBS estimates

We also assume a 50% probability for $150M of investment in ratebased natural gas reserves in the 2017/18 timeframe (see below for details). We assign a 25% to additional longer-dated renewable and supporting gas generation after 2020 in the event the Oregon RPS standard is raised to 50%, as other states in the region have already done, notably California. In considering the potential size of this opportunity, we estimate each 5% increase in the renewable standard from the current 25% goal (2025) requires an additional~ 300 MW of wind, roughly equivalent to the $530M+ Tucannon River wind farm. This implies over $3B of

wind could be needed along with supporting gas generation. Even if just a fraction of this opportunity is realized by POR within a competitive RFP context, that would still boost POR long-term ratebae and earnings growth CAGR considerably.

Earned ROE history: We include tables below reconciling authorized ROE on allowed ratebase to earned ROE. Historically, the utility has experienced up to 100 bps of structural regulatory lag as a result of unrecovered expenses for items such as lobbying expenses and executive compensation. However, this effect is mitigated over time as ratebase grows vs essentially fixed under-recovered expenses. For 2015E, lag is expected to be only 80 bps with Tucannon and PW2 in ratebase. Once Carty enters ratebase in 2016, we expect lag to decline further to 65 bps. In the table below, we've modelled continue gradual declines in lag over time.

Once Carty enters ratebase in 2016, we expect regulatory lag to decline further to 65 bps.

Figure 4: Earned ROE History

Earned ROEs	
2010	8.00%
2011	9.00%
2012	8.30%
2013	7.90%
2014	9.40%

Source: Company filings

Figure 5: Rate Base, ROEs and Equity Structure

	2013A	2014A	2015E	2016E	2017E	2018E	2019E	2020E
Begining Rate Base			$3,130	$3,827	$4,446	$4,567	$4,838	$5,353
Add: Capex			$598	$436	$444	$601	$859	$674
Less: Depriciation			($301)	($317)	($323)	($329)	($344)	($371)
CWIP & Other			$400	$500				
Average Rate Base	**$3,100**	**$3,130**	**$3,827**	**$4,446**	**$4,567**	**$4,838**	**$5,353**	**$5,656**
CAGR % of 2013 base					10%	9%	10%	9%
Expected Rate Base from Rate Case Filings			***$3,800***	***$4,400***	***$4,500***			
Allowed ROE	**9.90%**	**9.75%**	**9.68%**	**9.60%**	9.60%	9.60%	9.60%	9.60%
Equity base	50%	50%	50%	50%	50%	50%	50%	50%
Debt	50%	50%	50%	50%	50%	50%	50%	50%
Equity Base	$1,550	$1,565	$1,914	$2,223	$2,283	$2,419	$2,677	$2,828
Structural regulatory lag		1.00%	**0.80%**	0.70%	0.65%	0.55%	0.50%	0.40%
Expected Earned ROE incl. Regulatory Lag			**8.88%**	**8.90%**	**8.95%**	**9.05%**	**9.10%**	**9.20%**
Earned ROE- UBSe	**7.90%**	**9.40%**	**9.03%**	**8.90%**	**8.96%**	**9.03%**	**9.16%**	**9.20%**

Source: Company reports and UBS estimates

Valuation: Initiate with $42 Price Target and Buy rating

We value POR at a 1.0x (10%) premium to the average 2017E small-mid cap peer utility P/E, which is appropriate given future growth prospects from additional renewables spending, the replacement of the Boardman coal plant, and the need to serve a fast growing industrial/commercial sector as purchased power and hydroelectric contracts expire or are reduced for native load. We are especially impressed with the opportunity to develop additional ratebased renewable wind under a possible increase in the Oregon Renewable Portfolio Standard to the same 50% as neighboring states, especially California.

Figure 6: POR Valuation

Business Segment	Valuation Metric	2017 EPS	Low Case Valuation Multiple	Low Case ($ MM) Value	Base Case Peer Multiple	Base Case Prem/(Disc) to Peer	Base Case Base Multiple	Base Case ($ MM) Value	High Case Valuation Multiple	High Case ($ MM) Value
Portland General Electric Company	P/E	$2.54	13.5x	$34	15.5x	1.0x	16.5x	$42	17.5x	$45

Source: UBS Estimates, FactSet

In the table of peer utility comparisons below, we illustrate our calculation of 15.5x average 2017E P/E for small-mid cap utilities, which is notably 4.2% higher than the large-cap regulated group and 7.1% higher than the commodity-exposed competitive integrated group. This premium has become more pronounced over the past year as a result of consolidation activity in the sector. See our 12/19/14 report " The 'SMID Bid': The Context for Regulated M&A" for additional context.

We also highlight POR's -4.1% discount relative to the smid-cap group, and particularly the -4.0% discount to close peer Avista Energy in Washington State. We view these discounts as unwarranted.

Figure 7: Utility Peer Comparison Set

UBS

Julien Dumoulin-Smith
Electric Utilities, Executive Director
212-713-9848
julien.dumoulin-smith@ubs.com

Michael Weinstein
Electric Utilities, Associate Director
212-713-3182
michael.weinstein@ubs.com

UBS does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

	Ticker	Rating	Market Cap. ($ in millions)	Price 10/1/2015	Price Target	Dividend Yield	P/E Multiple 2014E	2015E	2016E	2017E	2018E	Earnings Per Share 2015E	2016E	2017E	2018E	EV / EBITDA Multiple 2013E	2014E	2015E	2016E	2017E
COMPETITIVE INTEGRATED																				
American Electric Power, Inc.	AEP	Neutral	27,540	56.14	55.00	3.78%	16.3	15.7	14.7	14.3	13.8	3.57	3.83	3.93	4.06	7.9	8.1	9.0	8.8	8.7
Dominion Resources	D	Buy	41,103	69.16	75.00	3.74%	20.2	19.2	18.0	16.8	14.8	3.60	3.85	4.12	4.67	13.7	13.3	11.5	10.5	9.8
Entergy Corp.	ETR	Sell	11,563	64.41	59.00	5.15%	11.1	11.9	13.3	13.4	13.0	5.42	4.85	4.81	4.96	9.9	8.8	9.4	9.1	8.7
Exelon Corp.	EXC	Neutral	25,159	29.20	33.00	4.25%	12.2	12.0	11.8	11.1	11.1	2.43	2.47	2.64	2.62	8.2	8.1	8.1	7.9	7.3
FirstEnergy Corp.	FE	Sell	12,923	30.59	28.00	4.71%	12.1	11.7	10.6	12.7	12.0	2.61	2.87	2.41	2.55	8.5	9.8	7.4	7.2	7.6
NextEra Energy	NEE	Buy	44,458	96.55	106.00	3.19%	18.2	16.8	15.8	14.9	14.3	5.74	6.12	6.47	6.74	12.9	10.6	10.4	9.9	9.5
Public Service Enterprise Group	PEG	Neutral	20,913	41.34	42.00	3.77%	15.0	14.6	14.4	14.3	14.5	2.84	2.88	2.89	2.85	8.0	7.5	7.6	7.2	6.9
Sempra Energy	SRE	Buy	23,899	96.40	108.00	2.90%	20.7	20.1	19.1	18.0	15.0	4.80	5.04	5.36	6.41	11.7	11.5	10.2	9.6	8.9
Average						3.94%	15.7	15.3	14.7	14.4	13.6	*2.2%*	*3.0%*	*2.2%*	*6.8%*	10.1	9.7	9.2	8.8	8.4
REGULATED INTEGRATED UTILITIES																				
Large Cap																				
Ameren Corp.	AEE	Neutral	10,137	41.78	43.00	3.93%	17.4	16.6	15.2	14.2	13.4	2.51	2.74	2.95	3.12	7.4	7.4	7.6	7.2	7.1
Alliant Energy Corp.	LNT	Not Rated	6,523	57.59	NA	3.82%	16.6	15.9	15.0	14.3	13.6	3.63	3.83	4.03	4.25	na	na	na	na	na
CenterPoint Energy Inc.	CNP	Not Rated	7,646	17.77	NA	5.57%	15.2	16.9	15.8	14.8	14.4	1.05	1.12	1.20	1.23	8.9	9.6	7.6	7.5	7.1
CMS Energy Corporation	CMS	Buy	9,692	34.93	37.00	3.32%	19.7	18.5	17.3	16.2	14.8	1.89	2.02	2.16	2.36	7.8	8.1	9.6	9.1	8.7
Consolidated Edison	ED	Sell	19,221	65.63	58.00	3.96%	18.4	16.4	16.1	15.8	15.2	4.00	4.06	4.15	4.33	8.3	8.6	9.0	8.2	7.7
DTE Energy Co.	DTE	Buy	14,245	79.37	93.00	3.68%	17.2	16.6	15.9	14.7	13.7	4.78	5.00	5.40	5.80	8.0	7.3	8.8	8.4	8.3
Duke Energy	DUK	Neutral	48,644	70.67	74.00	4.67%	15.5	15.4	14.4	14.0	13.4	4.60	4.90	5.06	5.26	9.6	9.1	9.4	9.0	8.4
Edison International	EIX	Buy	20,259	62.18	66.00	2.69%	13.7	15.9	15.6	14.4	13.7	3.91	3.98	4.31	4.54	7.6	6.2	7.3	7.0	6.6
Eversource Energy	ES	Neutral	15,833	49.92	49.00	3.35%	18.1	17.5	16.7	15.6	14.6	2.85	3.00	3.21	3.42	10.0	10.1	10.0	9.9	8.1
PG&E Corporation	PCG	Neutral	25,344	52.58	54.00	3.46%	15.0	17.5	14.0	14.3	13.4	3.00	3.75	3.68	3.91	7.9	6.5	7.7	6.9	7.3
Pinnacle West Capital Co.	PNW	Buy	7,030	63.44	65.00	3.75%	17.7	16.4	15.8	15.0	14.1	3.86	4.01	4.24	4.51	7.1	7.6	8.6	7.9	7.3
PPL Corporation	PPL	Buy	21,841	32.60	33.00	4.63%	13.3	14.7	14.0	13.7	13.1	2.21	2.33	2.38	2.48	5.4	8.8	11.6	11.4	10.4
SCANA Corp.	SCG	Neutral	7,916	55.39	56.00	3.94%	14.6	15.0	14.1	13.5	13.1	3.69	3.93	4.10	4.23	8.6	8.3	8.7	8.3	9.2
Southern Company	SO	Sell	40,143	44.19	41.00	4.91%	15.8	15.2	14.8	14.6	14.1	2.90	2.99	3.03	3.13	9.2	8.8	9.1	8.7	7.5
WEC Energy Group Inc.	WEC	Neutral	16,441	52.08	48.00	3.26%	19.7	19.0	18.1	17.4	16.8	2.75	2.87	3.00	3.10	9.6	9.6	11.3	11.2	12.5
Xcel Energy Inc.	XEL	Neutral	17,757	35.01	34.00	3.66%	17.3	16.8	15.8	15.0	14.4	2.09	2.22	2.34	2.43	8.5	8.7	9.1	8.7	8.5
Average						3.91%	16.6	16.5	15.5	14.8	14.1	*0.2%*	*6.1%*	*4.7%*	*5.2%*	8.3	8.3	9.0	8.6	8.3
Small and Mid-Caps																				
Black Hills Corp.	BKH	Not Rated	1,870	41.71	NA	3.88%	14.4	14.3	13.6	13.1	na	2.92	3.07	3.18	na	6.4	8.8	8.8	8.5	8.2
Empire District Electric Company	EDE	Sell	944	21.58	21.00	4.82%	13.9	15.6	14.7	14.0	13.5	1.38	1.47	1.54	1.60	7.6	8.1	8.3	7.8	7.3
El Paso Electric Company	EE	Not Rated	1,467	36.28	NA	3.25%	16.0	18.3	14.2	13.7	13.2	1.98	2.56	2.66	2.75	na	na	10.9	9.5	9.1
Great Plains Energy	GXP	Not Rated	4,118	26.68	NA	3.67%	17.0	17.8	14.7	13.9	13.3	1.50	1.82	1.92	2.01	na	na	na	na	na
Hawaiian Electric Industries	HE	Not Rated	3,025	28.15	NA	4.40%	17.4	16.8	15.8	14.8	13.1	1.68	1.78	1.90	2.15	7.6	8.5	9.6	11.0	12.8
Idacorp, Inc.	IDA	Not Rated	3,210	63.77	NA	2.95%	17.0	16.5	16.5	16.4	15.8	3.86	3.87	3.90	4.03	na	na	na	na	na
InfraREIT Inc	HIFR	Not Rated	1,056	24.23	NA	3.72%	51.6	29.2	22.1	16.5	12.2	0.83	1.10	1.47	1.98	na	na	na	na	na
ITC Holdings Corp	ITC	Sell	4,992	31.97	32.00	2.35%	16.5	15.7	16.3	14.5	13.3	2.04	1.96	2.21	2.41	10.7	na	11.3	11.5	9.2
NorthWestern Corp	NWE	Not Rated	2,529	53.73	NA	3.57%	20.0	16.9	15.8	14.8	na	3.17	3.41	3.63	na	6.0	7.6	10.3	10.0	9.8
PEPCO Holdings Inc.	POM	Not Rated	6,182	24.39	NA	4.43%	20.0	18.8	19.4	17.9	na	1.30	1.26	1.36	na	7.0	9.8	9.2	8.7	8.1
PNM Resources Inc.	PNM	Not Rated	2,188	27.47	NA	2.91%	18.6	17.6	16.7	14.4	13.4	1.56	1.64	1.91	2.05	6.4	7.7	na	na	na
UIL Holdings Corp.	UIL	Not Rated	2,760	48.73	NA	3.55%	21.7	20.5	19.0	17.8	17.7	2.38	2.57	2.73	2.75	na	8.5	7.0	6.7	5.1
TECO Energy Inc.	TE	Neutral	6,189	26.31	22.00	3.42%	25.6	23.8	22.4	20.2	18.9	1.10	1.17	1.30	1.39	7.9	7.7	8.9	8.7	9.0
Westar Energy, Inc.	WR	Neutral	5,339	37.80	38.00	3.81%	15.7	16.7	15.6	15.0	14.4	2.26	2.42	2.52	2.63	8.0	8.1	9.5	8.7	7.4
Avista Corp	AVA	Neutral	2,047	32.86	31.00	4.02%	17.0	17.1	16.2	15.4	14.8	1.92	2.03	2.13	2.22	7.3	8.1	8.4	7.9	8.7
Portland General Electric Company	POR	Buy	3,233	36.42	41.00	3.29%	16.7	16.8	15.5	14.8	14.1	2.17	2.35	2.46	2.58	7.8	6.6	7.9	7.5	7.0
Average						3.63%	19.9	18.3	16.8	15.5	14.4	*2.6%*	*7.6%*	*6.8%*	*2.2%*	7.5	8.1	9.2	8.9	8.5

Source: UBS estimates, FactSet consensus estimates for unrated companies, FactSet pricing data

Long-term ratebase growth - the turnaround is coming

Despite perceptions among some of limited ratebase and earnings growth for POR, we see several items driving a return to longer-term earnings growth in the ~2018 timeframe. We expect details on this – and corresponding EPS revisions could prove forthcoming through Spring 2016 as the new IRP is articulated. With $3.3B of capital spending planned from 2013 through 2018, management is projecting ratebase growth from $3.1B to $4.5B over that period, a 10.0% CAGR. The renewable portfolio standard (RPS) for Oregon increases to 20% in 2020 and 25% in 2025, presenting more opportunities for wind development, as well as possible grid-supporting gas-fired generation to handle increasing amounts of intermittent wind supplies. However, the company's substantial use of Renewable Energy Credits (RECs) to meet RPS requirements gives it some flexibility on building any new plant for 2020. Similar to some other utilities with a substantial wind portfolio in ratebase, POR pays less in both GAAP (20%-25% effective income tax rate for 2015) and cash taxes (roughly only a third of 2014 GAAP taxes) as a result of booking PTCs for its wind projects and has opted not to book any accelerated depreciation as a result.

With $3.3B of capital spending planned from 2013 through 2018, ratebase is expected to grow from $3.1B to $4.5B over that period, a 10.0% CAGR.

- **Integrated Resource Plan:** Management intends to file its next IRP in 2016, with an 'acknowledgement' from the Oregon commission in early 2017 indicating POR should move forward with the plan. While not an admission of prudence per se, the document does enable mgmt. to pursue corresponding RFPs to meet growth aspirations. RFP winners are based on a "least-cost, least-risk" standard, with purchased power competing on equal terms with potential ratebase projects. The IRP will principally focus on the Boardman coal plant. As discussed below, the plant is slated to close by 2020 as part of a settlement arrangement with various parties including the Sierra Club. The plant was among the first economic coal plants committed to be retired nationally.

- **Load growth remains robust in the service territory.** As an indicator of the state of Oregon's economic recovery, the company's long-term load growth forecast is >1% annually through 2030, which includes the effect of -1.5% annual load reduction from energy efficiency (EE) in 2014. This is still meaningfully better than peers with just ~0.5% nationally. Management appears to suggest that efficiency efforts may be approaching the end of their capital replacement cycle regionally, with load continuing to grow in an ideal urban location along the West coast driving meaningful demographic and commercial buildout. However, POR also notes that with decoupling for residential and small commercial customers and the lost load charge for large commercial, there is minimal impact to earnings from energy efficiency, net metering, solar, conservation, etc. (but not weather). Residential and Commercial load has been flat year-over-year in 2014 (excluding the loss of a large paper customer). Industrial growth is projected by management to be stronger, although some of this is a temporary effect for a few years as businesses move into the area, including two new $4B Intel chip factories. Nevertheless, POR expects continued strength from data centers, metals manufacturing, transportation equipment, and expansion at the Port of Portland.

- **Replacing Boardman:** Under a deal with regulators and the Sierra Club, the coal-fired Boardman plant will be closed by yearend 2020 and needs

to be replaced with new gas-fired generation. POR increased its ownership stake to 90% at yearend 2014 to a 518 MW share, with the other 10% owned by IDACORP. If it works, special legislation might qualify it for renewable targets. The $450M, 440-MW Carty baseload CCGT site in Eastern Oregon can take another unit (competitively bid through an RFP), which is POR's preferred solution. Presumably this would mirror the first unit under construction (expected completion in 2Q16) for another $450M, meaningfully shifting 2018/19 capex upwards. This second unit is already advantaged with the 24-mile 20" Transcanada lateral sized to address gas demand from both units. The contemplated in-service would seemingly correspond with a 2020-retirement – and drive capex in the 2018 and 2019 period if approved. While the capacity will need to be replaced with a gas-fired plant, POR is also considering (as an R&D project) a retrofit of the boiler to biomass, perhaps serving winter/summer peaks with lower cap factors in the 50% range.

- **Even further coal retirements to plan around too?** With its offtake arrangement with TransAlta's coal plant in Centralia, WA this too will add to the fuel mix considerations. Lastly, focus remains on its 14%, 296MW interest in the Colstrip plant in MT, units 3&4. While we don't necessarily believe the plant will retire these two units (opting only to shut Units 1&2 for now to address environmental considerations), this remains a further focus. There could well be a push to divest coal in the region as well, also driving additional generation needs.

- **Eventual RPS expansion in Oregon.** While mum remains the word on a further revision of the state RPS from 25% by 2025, preliminary indications suggest the state could yet evaluate a further hike in light of both further ambitions on hikes to meet its Clean Power Plan (CPP) goals as well as to keep up with the recently revised 50% RPS in California by 3030. Each 5% expansion in the RPS is roughly ~300MW, equal to another wind farm for the company.

- Additionally, mgmt. is **likely to propose another unit at Port Westward as a peaking station to firm up the renewable load** introduced. This is likely to take the form of another set of reciprocal gas engines- or other quick-start technology to address the wind variability in the grid. The latest Port Westward expansion is due in service in 4Q-2014. PW – 3 units.

- **Reinvestment in the grid:** Management appears particularly focused on reinvesting in the grid to address growing distributed resources. While details here appear nascent, this could well add to the existing projections to growth, bolstering perceptions that growth will prove 'just' at ratebase levels.

- **Could POR eventually acquire local IPP assets too?** A further avenue to address growth relates to the potential for management to eventually *acquire* adjacent IPP assets throughout the region in lieu of self-development in future periods. Calpine would be a keen seller of its Hermiston CCGT, however, but the margin profile garnered by sales into CAISO during 3Q could yet be an important driver of value to the story.

- **Other projects:** Over the next few years, the company is also expected to conduct a ~$100M replacement of its billing system, as well as a

~$200M PCB remediation program for its switchgear that could last as long as 10 years (rough est, not in the plan yet). There is also a plan to deal with failing underground cable that could provide ~$100M of investment opportunity as well (rough est not in plan). There are no significant transmission projects in the region (BPA and Pacificorp do most of this work). Port Westward 2 needs gas storage as well.

- **Ending the endless rate case cycle:** Following three consecutive years of rate cases to accommodate all of the recent self-build efforts, management appears poised to take a break from the constant rate case cycle in 2016. Ultimately, management anticipates filing a rate case *every other year.*

Acquisition opportunity?

More broadly, we see Portland as fitting our wider 'smid bid' thesis we articulated last December. We see a wider bias still for Western utilities, however, in this instance with less ratebase growth this could limit the appeal of the story. That said, with real demographic growth, and a resumption of growth (and inflection in spend) likely in the ~2018 timeframe, this is just temporal. We also note that Oregon requires utility M&A to show "net benefits" to customers, although the legislature has shown a more positive inclination toward M&A, with the statute loosened for the Telecom industry to a "no harm" standard in order to encourage activity.

However, there's a clear legacy issue here. We caution on the smid-bid thesis too much as the company was previously acquired in 1996 by Enron, with a divestment occurring in 2006 as part of the restructuring. This could well color the review of any takeover of the company, requiring stringent ring fencing provisions at a minimum.

Figure 8: Latest deal multiples – is there a common gas/renewables theme?

	Deal Announcement Date	Deal Equity Value ($mn)	2016 Earnings ($mn)	2017 Earnings ($mn)	Implied 2016 P/E	Implied 2017 P/E	Target State	State 2012 (lbs/MWh)	State RPS Target	% Reduction
EMA - TE	9/4/2015	6,474	276	306	23.5x	21.2x	Florida	1,238	919	-26%
IBE - UIL	2/26/2015	3,000	138	146	21.7x	20.5x	Connecticut / Western Massachusetts	844	786	-7%
EXC-POM	4/30/2014	6,800	358	405	19.0x	16.8x	Washington DC, Maryland, New Jersey	2,029	1,287	-37%
WEC-TEG	6/23/2014	5,715	328	361	17.4x	15.8x	City of Chicago, Michigan's U.P, Lower Michigan, Minnesota	2,189	1,245	-43%
NEE-HE	12/3/2014	3,500	160	170	21.9x	20.6x	Hawaii	1,783	na	na
Macq - CNL	10/20/2014	3,400	151.2	166	22.5x	20.4x	Louisiana	1,533	1,121	-27%
SO - AGL	8/24/2015	8,000	361	371	22.2x	21.6x	Illinois, Georgia, Virginia, New Jersey, Florida, Tennessee, Maryland	1,598	1,049	-34%
Average Implied Deal P/E Multiple -->					21.2x	19.6x				

Source: Company sources, UBS estimates, EPA

In comparison to Emera's recent proposed acquisition of TECO Energy, we note similar ratebase growth profiles, although POR has a stronger cash flow profile with a significantly lower dividend payout ratio and a stronger balance sheet as well at 50% debt. Furthermore, POR is a simple single-state utility without a holding company structure (or any attendant double leverage issues).

Figure 9: TECO vs. POR

Company	Target State	Geography	EPS CAGR	DPS CAGR	2017 Payout
TECO	Florida	Southeast	5-7%	~2%	72%
POR	Oregon	Northwest	~5%	~2%	53% (mgmt guidance: 50-70%)

Source: Company sources, UBS estimates

We also note that CEO James Piro is nearing retirement age at 62.

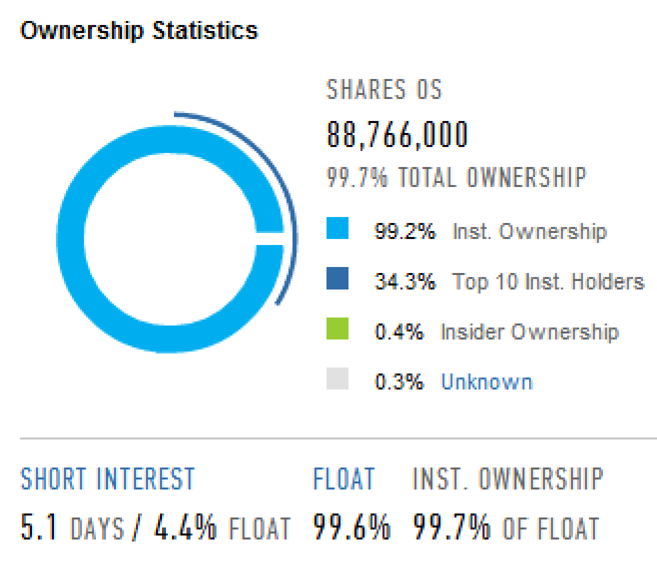
Figure 10: Name, Age, Position and Compensation of Executives

Name and Principal Position	Year	Salary	Stock Award	Non-Equity Incentive Plan Comp	Change in Pension Value and Non-Qualified Deferred Comp	All Other Comp	Totals
James J. Piro	2014	$ 789,028	$ 1,255,429	$ 730,622	$ 214,340	$ 108,421	$ 3,097,840
President and Chief Executive Officer	2013	744,450	1,075,477	366,588	42,026	126,015	2,354,556
Age - 62	2012	702,366	821,977	474,001	200,148	129,994	2,328,486
James F. Lobdell	2014	357,540	349,986	193,503	247,236	37,560	1,185,825
Senior Vice President, Finance, Chief Financial Officer and Treasurer	2013	318,491	243,986	95,299	25,181	40,880	723,837
Age -56	2012	295,958	195,981	131,624	198,466	41,954	863,983
Maria M. Pope	2014	451,076	429,997	269,552	67,259	57,839	1,275,723
Senior Vice President, Power Supply, Operations and Resource Strategy	2013	438,641	377,989	133,288	18,110	65,788	1,033,816
Age -50	2012	443,227	335,978	205,206	41,643	94,601	1,120,655
J. Jeffrey Dudley	2014	367,145	275,988	178,742	110,026	142,607	1,074,508
Vice President, General Counsel and Corporate Compliance Officer	2013	343,217	263,977	93,210	78,073	45,246	823,723
Age -66	2012	322,628	216,990	135,176	212,347	47,730	934,871
Stephen M. Quennoz	2014	322,036	209,998	167,779	101,532	57,932	859,277
Vice President Nuclear and Power Supply/Generation	2013	309,521	206,487	74,199	24,597	39,962	654,766
Age -67	2012	299,535	199,478	131,342	168,891	41,291	840,537

Source: Company reports

Company ownership: shifting over time Following its restructuring out of the post Enron era, management remains keenly focused on stepping up its retail ownership and resuming a more normal ownership profile.

Figure 11: Ownership Statistics



Source: FactSet

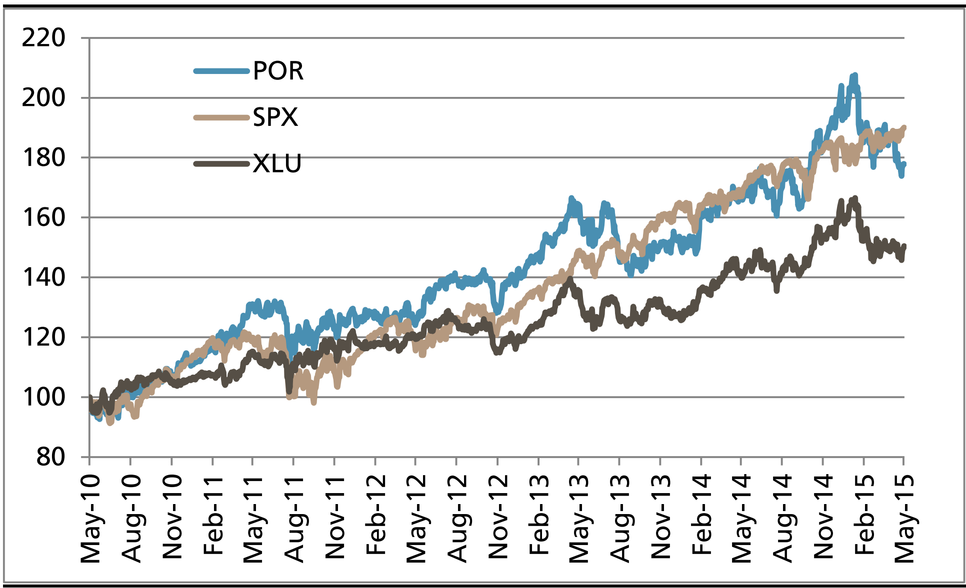
Figure 12: Top Holder List

Name	%OS	Position (Shs 000)	Position Chg (Shs 000) [6M]
The Vanguard Group, Inc.	6.5	5,770	-144
BlackRock Fund Advisors	4.4	3,895	-401
Lord, Abbett & Co. LLC	3.5	3,119	-279
JPMorgan Investment Management, Inc.	3.5	3,119	-180
Jennison Associates LLC	3.3	2,924	-253
T. Rowe Price Associates, Inc.	3.0	2,653	2,624
Goldman Sachs Asset Management LP	2.7	2,397	225
Columbia Management Investment Advisers LLC	2.6	2,278	-863
LSV Asset Management	2.4	2,169	40
Duff & Phelps Investment Management Co.	2.4	2,100	10
Franklin Advisers, Inc.	2.3	2,000	0
Lombardia Capital Partners LLC	2.1	1,875	87
Wellington Management Co. LLP	2.0	1,798	-170
Northern Trust Investments, Inc.	1.9	1,720	85
Thompson, Siegel & Walmsley LLC	1.8	1,601	1,601
SSgA Funds Management, Inc.	1.8	1,598	-65
Millennium Management LLC	1.7	1,518	834
Dimensional Fund Advisors LP	1.6	1,405	156
Norges Bank Investment Management	1.6	1,387	0
LMCG Investments LLC	1.5	1,309	-274
Allianz Global Investors GmbH	1.4	1,258	-344

Source: FactSet

Stock Price Performance: After underperformance vs regulated utility peers in late 2014, POR shares entered 2015 trading at a modest discount. However, following several small and mid-cap utility acquisitions this year, the stock has outperformed since June and now trades in-line with peers.

Figure 13: POR stock vs S&P 500 and XLU utilities index (Indexed to 100)



Source: Factset

Ratebased gas reserves being considered

Noting that NWN, NWE, NEE, and STR already ratebase reserves (and that ETR, XEL, BKH, and CNP are considering it as well), management is exploring the possibility of approaching regulators with the idea of purchasing enough gas reserves to supply up to 25% of requirements (similar to NW Natural's deal in the state). As illustrated in the table below, natural gas currently forms ~25% of the 2015E output mix, translating to approximately 4.7 TWhs of annual power generation from gas, or about 35 BCF/year at an average heat rate of ~8.3

For comparison, NWE has purchased 84.6 BCF of reserves (and associated gathering /transmission) that produce 6 BCF/year for a total ~$100M since 2010.

MMbtu/MWh (about 100 MMCF/d). Procuring gas for 25% of that would likely require enough reserves to supply about 8.6 BCF/year, or 170 BCF for 20 years. For comparison, NWE has purchased 84.6 BCF of reserves (and associated gathering /transmission) that produce 6 BCF/year for a total ~$100M since 2010. This would indicate a need for about $100M-$200M of initial investment, which is also in-line with management's thinking on the subject.

Figure 14: Portland General Electric Power Sources and 2015E Natural Gas Burn

Source	Location	Net MW Capacity	% of total MWs	Cap Factor (FF1 Data)	MWhs (2015E)	% of total MWhs (2015E)	Heat Rate (MMBTU /MWh; FF1 Data)	Annual Fuel Burn (BCFs)
Hydroelectric								
Faraday	Clackamas River	46		50%	201			
North Fork	Clackamas River	58		57%	291			
Oak Grove	Clackamas River	44		47%	180			
River Mill	Clackamas River	25		58%	127			
T.W. Sullivan	Willamette River	18		94%	149			
Pelton (storage) [1]	Deschutes River	73		44%	281			
Round Butte (storage) [1]	Deschutes River	230		35%	703			
Contracts					2,419			
	Total:	494	14%	101%	4,352	23%		
Natural Gas/Oil								
Beaver	Clatskanie, Ore.	516		4%	181		9.7	1.7
Coyote Spring	Boardman, Ore.	248		54%	1,165		7.8	8.9
Port Westward Unit 1	Clatskanie, Ore.	401		46%	1,611		7.2	11.4
Port Westward Unit 2	Clatskanie, Ore.	224		90%	1,774			12.6
	Total:	1,389	41%	39%	4,730	25%		34.6
Wind								
Biglow Canyon Wind Farm	Sherman Co.,	450		30%	1,183			
Tucannon River Wind Farm	Dayton, Wash.	267		38%	889			
Contracts					388			
	Total:	717	21%	39%	2,460	13%		
Coal								
Boardman[2]	Boardman, Ore.	518		50%	2,276			
Colstrip 3 & 4[3]	Colstrip, Mont.	296		71%	1,832			
	Total:	814	24%	74%	5,298	28%		
Total ratebased generation	Total:	3,414	100%		16,840			
Purchased Power					2,081	11%		
Total Retail Load (MWhs; UBSe)					**18,921**			
Peak system load (MWs) - February		**3,866**						

1 PGE operates Pelton and Round Butte and has a 66.67 percent ownership interest.
2 PGE operates Boardman and has a 65 percent ownership interest.
3 PPL Montana, LLC operates Colstrip 3 & 4; PGE has a 20 percent ownership interest.

Source: Company filings, FERC Form 1 Data, UBS Estimates

We understand the company would like to avoid a new ratecase to authorize the structure – with the benefits accruing through the fuel clause.

Any such plan would likely be included with the next IRP filing, expected in early 2016. We note that this is in contrast to AVA's recent statements on the subject, which had plans to ratebase gas in Washington years ago but the Commission Staff at the time had wanted to introduce a level of volatility into the mechanism that was unpalatable to management. Oregon too has had a mixed experience with NW Natural (see below).

Success in adjacent jurisdictions to ratebase gas has generally been constructive, however success in finding palatable dry-gas projects of late has appeared difficult for peers (with projects executed seemingly underwater of late as gas prices have

continued their decline). We emphasize these projects are particularly tricky to justify economically when the gas curve is in meaningful contango as it is today, with customers having to wait it out to realize the price benefits of the immediate acquisition of the gas reserves relative to the forward curve.

Additionally, we understand the company would like to avoid a new ratecase to authorize the structure – with the benefits accruing through the fuel clause.

Previous settlement places PW2 and Tucannon in ratebase

Although the statutory deadline in Oregon is 10 months to review a ratecase, most of Portland General Electric's (PGE) ratecases in recent years have been settled successfully. In December, Oregon regulators approved POR's settlement that raised revenues $44.3M (2.6%), although the customer impact after rate credits was only $17M (1%). The approved ROE is 9.68% on a 50%/50% capital structure, a slight downtick from the last outcome in 2013 of 9.75%. Earned ROE for 2014 is projected to be 9.1%-9.4% based on guidance of $2.10-$2.20/sh. POR's rate increase places the Port Westward 2 gas peaker and the Tucannon River Wind Farm in ratebase, with both plants now online together as of Jan 1, with a single combined rate increase rather than the multiple steps that had originally been contemplated. The increase was mitigated substantially by rate credits and a -$41M base business cost reduction.

Newest stipulation adds Carty to ratebase

Settling all items at an ROE of 9.60% (50% equity) on $4.4B of ratebase with a 12/31/16 test year. We expect regulatory approval by yearend.

Typically the company will file a ratecase in February in order for the 10-month procedural schedule to finish by Jan 1, although as noted above, most cases are settled early. POR filed its latest general ratecase (GRC) on Feb 12, 2015 on a 2016 forward test year and parties agreed to a stipulation on Aug 28, settling all items at an ROE of 9.60% (50% equity) on $4.4B of ratebase with a 12/31/16 test year. <u>We expect regulatory approval by yearend</u>. The primary purpose is to place the $450M, 440-MW Carty baseload CCGT into service, expected to be in service by 2Q16. A $73M rate increase (vs original request of $122M) would be implemented in two phases, with Phase 1 on Jan 1, 2016 and the remainder when Carty goes in-service, expected no later than July 31, 2016. Docket # UE-294.

Figure 15: Original GRC 2015 Procedural Schedule (Docket UE-294)

PGE 2015 General Ratecase Procedural Schedule Docket # UE-294	
PGE opening brief	Oct 5
Staff & Intervenors' reply briefs	Oct 20
PGE closing Brief	Nov 2
Oral argument before Commission (tentative)	Nov 12
Target date for Commission decision	Dec 14
Effective date	Jan 1

Source: Public Utility Commission of Oregon

Renewables enter ratebase through a tracker

In Oregon, POR remains eligible for tracked rates on renewable projects through the **Renewable Adjustment Clause (RAC)** until projects can be put into ratebase through a general ratecase. RAC filings are typically made in April with projects entering ratebase and rates on Jan 1. RAC projects basically go through a three-stage process to reach ratebase:

1. Filing in April followed by booking non-cash AFUDC on construction work in progress (CWIP)

2. If the project goes into service before Jan 1, then revenue deferrals into a regulatory asset account are booked. Once the project enters rates on Jan 1, this regulatory account is typically amortized and recovered in rates over a 1-year period.

3. On Jan 1, the project enters ratebase and rates (assuming it's in-service and used and useful).

Decoupling extension to be requested next year

Revenue decoupling currently goes through yearend 2016, but the company will ask for an extension (or permanence) in the next ratecase filing (likely early 2016), which is expected to be non-controversial. The current mechanism decouples for weather-normalized usage (not weather), with residential and commercial load (about 60% of the total) mostly decoupled while another 20% of load in the large commercial/small industrial is covered by the **Lost Revenue Recovery Adjustment (LRRA)** mechanism. The remaining 20% of large industrial load >1 MW is not decoupled at all. For the purposes of the mechanism, load reduction due to Energy Efficiency (EE) initiatives is measured by third party Energy Trust of Oregon. Generally speaking, Oregon is a left-leaning, green state and support for both EE and the LRRA remains strong. As described in the next section, power and fuel costs are recovered through a modified form of decoupling known as a Power Cost Adjustment Mechanism (PCAM).

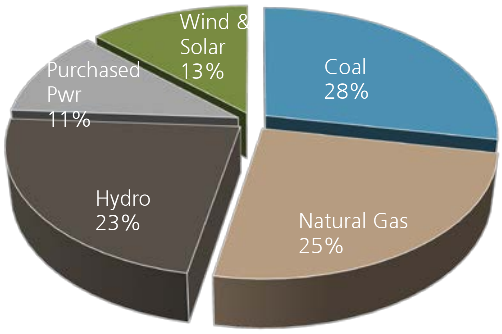
We also note that POR has no regulatory revenue trackers for either environmental or pension expenses, although pension is being considered in a separate statewide docket not specific to POR. Management has advocated for the ability to earn on pension prefunding.

Natural gas and renewables overtaking hydro and coal

Contracted hydro allows local authorities to reclaim output over time as their native load grows, leaving POR to pursue replacement power from natural gas and renewable sources.

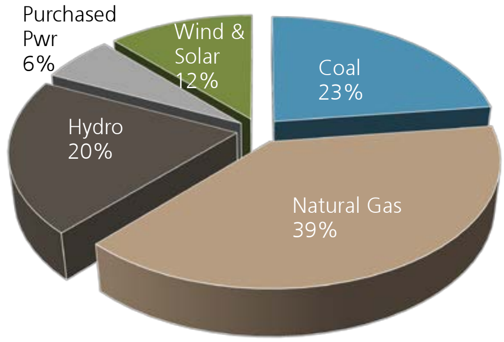
As illustrated in the charts below, 23% of power generated comes from hydro (as a percentage of retail load), with about half of that from contracts with county entities, PPAs, and long-term Mid-C contracts. The utility's own hydroelectric dams have all had their 30-50 year licences renewed in recent years, with little relicensing risk through the long term. We note that the $100M installation of "selective water withdrawal towers" over the years now assists in upstream fish migration, helps fish get upstream. While the assets themselves appear to be secure for the foreseeable future, we note that contracted hydro allows local authorities to reclaim output over time as their native load grows, leaving POR to pursue replacement power from natural gas and renewable sources. This has two beneficial effects for investors: (1) potential ratebased replacement opportunity through the IRP process and; (2) reduced hydro variability within the PCAM mechanism, as described in detail below.

Figure 16: Power Source Capacity (MW) as a Percent of Retail Load (2015 AUT)



Source: Company filings; Hydro and wind/solar include PGE owned and contracted resources; purchased power includes long-term contracts

Figure 17: Power Source Capacity (MW) as a Percent of Retail Load (PGE 2017E Forecast)



Source: Company filings; Based on estimated forecast, includes new generation from RFP projects: Port Westward Unit 2, Tucannon River Wind Farm, and Carty

Asymmetric fuel and purchased power recovery

POR effectively passes through most of its fuel and purchased power costs to customers through its **Annual Power Cost Update Tariff (AUT)** and **Power Cost Adjustment Mechanism (PCAM)**. The AUT is reset each year on Jan 1 after considering a 5-year forward load projection and a forecast of Net Variable Power Costs (NVPC). Naturally, this baseline is bound to be imprecise over the course of the following year, so revenue deficiencies and overcollections are handled through the PCAM. We also note that a purpose of the PCAM (rather than full decoupling) is to incentivize the company to produce an accurate AUT and to optimize its fleet with maximum efficiency.

The PCAM is first gated by an ROE test.

Operationally, the PCAM is first gated by an ROE test, whereby the mechanism is only applied when earned ROE including actual power cost falls more than +/- 100 bps of the authorized ROE (now at 9.68%). When within this 200 bps threshold, no surcharges or refunds are implemented. We note that 100 bps is equivalent to ~$19M of earnings. If the earned ROE does fall outside these limits, then an asymmetric "deadbanded" recovery mechanism is employed whereby the first $30M of unrecovered power costs must be absorbed before surcharges kick in for 90% of the deficiency but only $15M of overcollections are tolerated before refunds kick in (also 90% of the excess amount). Note that the PCAM also applies to wholesale sales as well as retail sales, with no embedded assumption for minimum wholesale sales in the revenue requirement and no separate sharing mechanism for wholesale margins.

Pushing for changes in docket UM-1662.

Management has been pursuing a few changes to PCAM over the years in an effort to limit the amount of uncompensated risk currently being assumed by shareholders. These include narrowing the deadband (eliminating it would completely decouple power and fuel costs) and making it more symmetric with equal 90%/10% sharing thresholds on both the surcharge and refund sides. Another problem (described in detail below) is the treatment of wind resources, which produce a highly volatile power output that may push net power costs around significantly within the deadband, exacerbating the effects of the asymmetry.

Wind carve out desired

Doing wind in ratebase = PTC recaptured by customers. POR management does not anticipate paying cash taxes for the foreseeable future due to the meaningful production tax credit (PTC) generated by wind projects. However, this benefit is flowed through to benefit customers in the form of a revenue offset in authorized rates.

Ideally, management would like to carve out and decouple the variable revenues and production tax credits (PTCs) of the wind portfolio from the rest of the PCAM so that the mechanism can serve its original purpose of incentivizing the efficient optimization of resources. Both POR and Pacificorp have filed these requested changes within Docket UM-1662, with reply briefs due Sept 1 and a possible decision by yearend or early 2016.

Could wind dispatch improve? Cold Winter = More Wind. With management exposed to big dispatch variations via its [267 MW Tucannon River and 450 MW Biglow project] wind projects, totalling 717 MW, the forecast for this winter calls for colder weather in the Pacific NW driving additional wind resource. This could prove particularly attractive seeing relatively weak comps YoY. Historically, management has captured a 35-38% capacity factor on renewables developed in the region; we suspect this will continue to trend upwards with installation of more efficient wind turbines, able to capture lower wind speeds more effectively with longer-blades.

Capital structure and dividend

The equity ratio now sits at 50% after the remaining 10.4M shares were drawn down on their 11.1M equity forward sale in 1H15 (plus a 1.7M greenshoe issued in 2013). The company believes this should take care of equity needs through the construction of Carty. The dividend payout ratio was 51% in 2014 vs management's target of 50%-70%. However, under the equity forward sale stipulations, POR can't raise the dividend more than the usual $0.02 historical increase, so any increase above that has to wait until the forward sale is settled. We expect $450M-$500M 2015 cash flow from operations (minus working capital).

EIM: Portland and Idaho add to the growing momentum for Western imbalance market

Both Portland General and Idaho Power have seemingly indicated their preference for the Western Energy Imbalance Market (EIM), seemingly forgoing the merits of a separate and distinct effort to create a comparable Northwest regime excluding California. We see this trend as generally tackling grid efficiency, with the real aim poised to address prospective renewable penetration not just in California, but across the Western Interconnect through greater grid coordination. Gating items to full deployment (POR for instance isn't fully conclusive on moving forward), as issues around EIM governance (as it effectively managed by CAISO) remain key concerns for non-California participants. Further, questions of compensation for ancillary products to backstop the increasingly volatile California grid remain important. The near-term through process on implementation revolves around mostly addressing the grid fluctuations from ever larger renewable deployment across California, effectively allowing the state to export its cheap solar power to adjacent states to 'soak up' excess generation. The key question remains how the federally managed Bonneville Power Authority (BPA) in the Northwest will

ultimately maneuver around these moves. This follows PNW's own efforts in Arizona to join the EIM earlier this year; we see this as adding to the likelihood of a bid for the company. Recall, MidAmerican had seemingly predicated its bid for NV Energy on the ability to join the EIM, given the market access to California provided by the integration.

The Regulatory Picture: A Fair Shake in Oregon

The Oregon Public Utility Commission (PUC) states on its own website that it "ensures consumers receive utility service at fair and reasonable rates, while allowing regulated companies the opportunity to earn an adequate return on their investment." Commissioners are appointed by the Governor and serve 4 year staggered terms, although the Chairperson's term is indefinite. By statute, no more than two commissioners may serve from the same political party (usually two Democrats). Historically, Oregon has been known to investors as a relatively tough jurisdiction, with below-average ROEs, although the mid-to-high 9's granted in recent POR, AVA, and PacifiCorp cases has been more in-line as ROEs around the country have more generally declined since the 2008 recession.

Figure 18: Oregon PUC Commissioners

Name	Designation	Term Ends	Political Affiliation
Susan Ackerman	Chairman	Mar-16	Democrat
John Savage	Commissioner	Mar-17	Democrat
Stephen Bloom	Commissioner	Nov-15	Republican

Source: Oregon PUC

Susan Ackerman, Chair, Oregon Public Utility Commission

Susan Ackerman is an attorney and was appointed to the Oregon Public Utility Commission in March 2010 by Gov. Kulongoski. Prior to her service on the OPUC, she was in the private practice of law representing a variety of clients in electricity and natural gas regulatory matters, including electric and natural gas rate cases, pipeline and wholesale power rate cases, transmission matters and contracts, wholesale power sales and contracts, natural gas contracting, competitive procurement, and integrated resource planning, among others. Her clients included public preference customers of a federal power marketing agency, independent power producers, a local natural gas distributor, and the Bonneville Power Administration. She has represented clients before the OPUC, the Washington Utilities and Transportation Commission, the Federal Energy Regulatory Commission, and the National Energy Board of Canada. She currently serves on the EPRI Advisory Council, Executive Committee to EPRI Advisory Council, Co-chair of Residential Retrofit Working Group of SEE Action.

John Savage, Commissioner

Professional background:

- Director, Utility Program, Public Utility Commission 2003
- Director, Oregon Dept. of Energy 1993-2003
- Administrator, Policy and Planning Div., Oregon Dept. of Energy 1987-1993

Stephen Bloom, Commissioner

Professional background:

- General Counsel, Everpower Wind Holdings, Inc. 2007-2011
- ABA/CEELI Rule of Law Liaison, Judicial Reform 2006-2007
- Peace Corps Volunteer 2005-2006
- U.S. Magistrate Judge for Eastern Oregon 1988-2005
- Law Partner, Kottkamp & O'Rourke, LLP 1981-2005

We met with Chairperson Ackerman and discussed a wide range of topics, including several directly applicable to the regulation of POR.

- **The Oregon Renewable Portfolio Standard (RPS)** is 15% for 2015, stepping up to 20% in 2020 and 25% in 2025. Heading toward 2025, the state expects to continue to meet growing requirements through a substantial use of Renewable Energy Credits (RECs), even as additional assets are considered in coming Integrated Resource Plans (IRPs). The current bank and use of RECs is also expected to provide some flexibility in meeting deadlines. In addition to wind, solar, and demand response resources, Commissioner Ackerman also expects IRPs to show some supporting (e.g., gas fired) generation to help manage grid stability and provide necessary capacity given the larger proportion of renewables on the system going forward.

- **Most larger policy questions in the state are determined by the legislature** rather than regulators, with the Commission taking on more of an executory role. While Oregon is generally left-of-center and green politically, it was noted that the "Coal to Clean" bill was recently defeated in the legislature. The bill would have prohibited the import of power from Coalstrip in Montana and the Commissioner clearly believes that its defeat was in the best interest of the state and ratepayers. Beefing up and "rebuilding" the Staff is a high policy priority, with Ackerman pushing for higher salaries and for more personnel to move from Portland to Salem, closer to the office and seat of Government.

- **Not a fan of rooftop solar.** While the Commissioner is supportive of utility-scale solar, she sees little financial sense in distributed rooftop solar at this time.

- **Limited support for ratebased reserves.** While there is plenty of precedent for placing natural gas reserves in ratebase, at least for a gas utility (NW Natural), the state's experience with it has been mixed and support for it is probably limited. With lower gas prices in recent years, NW Natural's price paid doesn't appear as attractive as it once did, and the company's proposal to increase reserves to up to 25% of requirements is probably going to face significant hurdles. We note that POR is considering a request to ratebase up to 10%-20% of needs for electric generation within its 2016 IRP filing.

- **Natural gas pipeline capacity adequate for now.** New incremental demand is expected to come from electric utilities rather than the gas utilities. Most natural gas is piped into load centers through two routes: (1) from Canada to the north and; (2) from the Rockies westward through the

Columbia River Gorge. While new capacity would always be welcomed, it would likely be cost prohibitive at this time.

- **Supportive of efforts to boost the regional Energy Imbalance Market (EIM).** The EIM "finally" represents the creation of an organized power market as an alternative to the Bonneville Power Administration (BPA), which controls much of the Pacific Northwest bulk transmission system. The BPA is generally opposed to the EIM as it is federally controlled through the Federal Energy Regulatory Commission; FERC. Some utilities have been supportive of it for the same reason, although traditional suspicion of federal control remains, especially among the state's localized public power entities, some of which may believe that the EIM could end up ceding too much control to the California ISO. In fact, Pacificorp is currently considering Cal ISO membership.

- **No drought impact in Oregon.** The effects of the drought system that has been plaguing an arc from Northern California down to Antarctica seems to stop near the Oregon border, with river flows close to 90% of normal.

- **LNG export facilities** are likely to have their own generators "behind the fence" and unregulated by the PUC.

- **Among the more "creative" utilities in the state: AVA, POR, IDA.** Creative in solving power requirements with new technologies, such as smart grid, demand response, energy efficiency, etc… Noted that Pacificorp has tended to rely more heavily on large new generation projects and that there are anecdotal reports of "rate fatigue" in their territory, especially amongst the large commercial and industrial classes.

- **Culture of settlement.** Virtually all ratecases in the state have been settled in recent years and this is encouraged by the Commission, as long as the settlement is based on an adequate evidentiary record. The recent rejection (and subsequent approval) of AVA's gas settlement was based on a request for a more thorough record, especially on major policy issues.

- **Acknowledgment that the utilities have the upper hand** vs IPPs in competitive solicitations. The Commissioner noted that the utilities have generally possessed the most desirable sites for generators and already own much of the supporting infrastructure, rendering them usually more competitive in Requests for Proposals (RFPs). Utilities are required to issue competitive RFPs for projects greater than 100 MW or contracts longer than 5 years.

- **Oregon requires that M&A transactions "serve the public utility's customers in the public interest"**. The Commissioner noted that this "net benefits" standard for the state's energy companies has been around for decades and is not a negative reaction to recent M&A activity (as is the case in Washington State). Furthermore, she noted that the statute was bifurcated and loosened for telecom companies to a "no harm" standard specifically to reduce hurdles for M&A in that industry.

- **Power Cost Adjustment Mechanism (PCAM).** The Commissioner was not able to speak on this high-interest investor topic as both POR and Pacificorp have filed for changes within Docket UM-1662 (reply briefs due Sept 1 and a possible decision by yearend or early 2016).

Credit metrics are solid

At S&P, ratings are A- for Secured and BBB for Unsecured while Moody's stands at A1 and A3, respectively. We don't see any potential for slippage here, seeing a desire to remain in IG territory with some margin.

Figure 19: Moody's Key Metrics

Moody's Rating	2013A	2014A	2015E
Outlook			Stable
Issuer Rating			A3
First Mortgage Bonds			A1
Senior Secured			A1
Commercial Paper			P-2
Key Metrics			
CFO pre-WC + Interest / Interest	5.0x	5.1x	
CFO pre-WC / Debt	22.40%	18.70%	
CFO pre-WC - Dividends / Debt	18.50%	15.60%	
Debt / Capitalization	46.90%	52.70%	
Forward View (3 - year average)			
CFO pre-WC + Interest / Interest			**4x-5x**
CFO pre-WC / Debt			**16%-20%**
CFO pre-WC - Dividends / Debt			**13%-18%**
Debt / Capitalization			**45%-55%**

Source: Moody's

Figure 20: S&P Key Metrics

S&P	2015E
Corporate Credit Rating	BBB/Stable/A-2
Key Metrics	
FFO/Total Debt	17.60%
Debt/EBITDA	4.3x
OCF/Total Debt	17.50%
Forecasted View	
Forecasted FFO	$540
Equity Forward Proceeds	$270
Credit Facility availability	$700

Source: S&P

Figure 21: Key Metrics – UBS estimates

UBSe	2013A	2014A	2015E	2016E	2017E	2018E	2019E	2020E
FFO/Total Debt	18.4%	19.0%	18.4%	19.8%	20.2%	20.3%	19.4%	19.9%
Debt/EBITDA	4.0x	4.0x	4.2x	3.9x	3.8x	3.8x	4.1x	4.0x
OCF/Total Debt	28.4%	20.7%	18.3%	20.4%	20.8%	20.5%	18.2%	18.8%
CFO pre-WC + Interest / Interest	5.7x	6.6x	5.4x	5.8x	5.9x	5.9x	5.5x	5.5x
CFO pre-WC / Debt	26%	23%	20%	22%	22%	22%	19%	20%
CFO pre-WC - Dividends / Debt	22%	19%	16%	18%	18%	17%	15%	16%
Debt / Capitalization	51%	57%	52%	52%	51%	49%	51%	50%
FFO	$352	$476	$457	$498	$511	$531	$572	$614
Total Debt	$1,916	$2,501	$2,483	$2,510	$2,533	$2,610	$2,950	$3,080
Net Debt	$1,809	$2,374	$2,352	$2,377	$2,400	$2,476	$2,816	$2,943
Equity	$1,820	$1,911	$2,260	$2,358	$2,459	$2,665	$2,889	$3,118
CFO-pre - w/c	$476	$537	$474	$515	$528	$536	$539	$582
Interest	$101	$96	$107	$107	$108	$110	$119	$129
EBITDA	$454	$594	$597	$651	$669	$688	$717	$779

Source: UBS estimates

Balance Sheet Projections

We see a healthy balance sheet, with no holdco structure or parent obligations beyond the 50% authorized capital structure in rates. We see the company as relatively less levered vs. peers.

Figure 22: Historical and Projected Balance Sheet

Balance Sheet ($mn)	2014A	2015E	2016E	2017E	2018E	2019E	2020E
Cash & Equivalents	$127	$131	$133	$133	$134	$135	$137
Restricted Cash							
Accounts Receivables - Total	$149	$152	$158	$159	$161	$164	$170
Accrued Revenue	$93	$93	$93	$93	$93	$93	$93
Inventories	$82	$95	$99	$100	$101	$103	$106
Other current assets	$248	$248	$248	$248	$248	$248	$248
Total Current Assets	**$699**	**$720**	**$730**	**$733**	**$737**	**$743**	**$755**
Gross PPE	$8,578	$9,176	$9,596	$10,033	$10,628	$11,473	$12,119
Accumulated Depriciation	$2,899	$3,200	$3,501	$3,818	$4,141	$4,470	$4,814
PP&E, net	$5,262	$5,576	$5,595	$6,216	$6,487	$7,002	$7,305
Construction in progress	$417	$400	$500	$0	$0	$0	$0
Other non-current assets	$664	$664	$664	$664	$675	$725	$774
Total Assets	**$7,042**	**$7,360**	**$7,489**	**$7,613**	**$7,899**	**$8,470**	**$8,834**
Accounts Payable	$156	$152	$158	$159	$161	$164	$170
	$375	$0	$0	$0	$0	$0	$0
Accrued & Deferred items	$236	$236	$236	$236	$236	$236	$236
Other current liabilities	$106	$106	$106	$106	$106	$106	$106
Total Current Liabilities	**$873**	**$494**	**$500**	**$501**	**$503**	**$506**	**$512**
Total Interest Bearing Debt	$2,126	$2,473	$2,499	$2,521	$2,599	$2,942	$3,072
Capital & Finance Leases							
Regulatory Liabilities	$906	$906	$906	$906	$906	$906	$906
Postretirement Benefit	$237	$237	$237	$237	$237	$237	$237
Asset Retirement Obligations	$116	$116	$116	$116	$116	$116	$116
Deferred items	$625	$625	$625	$625	$625	$625	$625
Other non-current liabilities	$248	$248	$248	$248	$248	$248	$248
Long-term liabilities Liabilities	**$4,258**	**$4,605**	**$4,631**	**$4,653**	**$4,731**	**$5,074**	**$5,204**
Share capital	$918	$1,189	$1,189	$1,189	$1,289	$1,389	$1,489
Accumulated other comprehensive loss	($7)	($7)	($7)	($7)	($7)	($7)	($7)
Retained earnings/(Loss)	$1,000	$1,078	$1,176	$1,277	$1,383	$1,507	$1,636
Total Shareholder's Equity	**$1,911**	**$2,260**	**$2,358**	**$2,459**	**$2,665**	**$2,889**	**$3,118**
Non Controlling Interest	$0	$0	$0	$0	$0	$0	$0
Total Equity	$1,911	$2,260	$2,358	$2,459	$2,665	$2,889	$3,118
Total Liabilities & Shareholder's Equity	**$7,042**	**$7,360**	**$7,489**	**$7,613**	**$7,899**	**$8,470**	**$8,834**

Source: UBS Estimates

Management Bios

James J. Piro, President and Chief Executive Officer, age 62

Appointed President and Co-Chief Executive Officer on January 1, 2009 and appointed President and Chief Executive Officer on March 1, 2009. Served as Executive Vice President, Chief Financial Officer and Treasurer from July 2002 to December 2008. Served as Senior Vice President Finance, Chief Financial Officer and Treasurer from May 2001 until July 2002. Served as Vice President, Chief Financial Officer and Treasurer from November 2000 until May 2001. Served as Vice President, Business Development from February 1998 until November 2000.

James F. Lobdell, Senior Vice President, Finance, Chief Financial Officer and Treasurer, age 56

Appointed to current position on March 1, 2013. Served as Vice President, Power Operations and Resource Strategy from August 2, 2004 until appointed to current position. Served as Vice President, Power Operations from September 2002 until

August 2, 2004. Served as Vice President, Risk Management Reporting, Controls and Credit from May 2001 until September 2002.

William O. Nicholson, Senior Vice President, Customer Service, Transmission and Distribution, age 56

Appointed to current position on April 18, 2011. Served as Vice President, Distribution Operations from August 2009 until appointed to current position. Served as Vice President, Customers and Economic Development from May 2007 until August 2009. Served as General Manager, Distribution Western Region from April 2004 until May 2007. Served as General Manager, Distribution Line Operations and Services from February 2002 until April 2004.

Maria M. Pope, Senior Vice President, Power Supply, Operations and Resource Strategy, age 50

Appointed to current position on March 1, 2013. Served as Senior Vice President, Finance, Chief Financial Officer and Treasurer from January 1, 2009 until appointed to current position. Previously served as a director of the company from January 2006 to December 2008. Served as Vice President and Chief Financial Officer of Mentor Graphics Corporation, a software company based in Wilsonville, Oregon, from July 2007 to December 2008. Prior to joining Mentor Graphics, served as Vice President and General Manager, Wood Products Division of Pope & Talbot, Inc., a pulp and wood products company, from December 2003 to April 2007. Pope & Talbot, Inc. filed a voluntary petition under Chapter 11 of the federal bankruptcy laws on November 19, 2007.

Arleen N. Barnett, Vice President, Human Resources, Diversity, Inclusion and Administration, age 63

Appointed to current position on August 2, 2004. Served as Vice President, Human Resources and Information Technology and as Corporate Compliance Officer from May 2001 until appointed to current position.

Larry N. Bekkedahl, Vice President, Transmission and Distribution, age 53

Appointed to current position on August 25, 2014. Served as Senior Vice President of Transmission Services at Bonneville Power Administration from June 2012 to August 2014, and Vice President of Engineering and Technical Services from April 2008 to June 2012. Prior to joining Bonneville Power Administration, served as Director of Engineering and Technical Services for Clark Public Utilities from 2001 to 2008.

Carol A. Dillin, Vice President, Customer Strategies and Business Development, age 57

Appointed to current position on August 1, 2009. Served as Vice President, Public Policy from February 2004 until appointed to current position.

J. Jeffrey Dudley, Vice President, General Counsel and Corporate Compliance Officer, age 66

Appointed to current position on August 10, 2007. Served as Associate General Counsel from May 2001 until appointed to current position and was the lead regulatory attorney on state and federal matters.

Campbell A. Henderson, Vice President, Information Technology and Chief Information Officer, age 61

Appointed to current position on August 1, 2006. Served as Chief Information Officer and General Manager, Information Technology from August 2005 until appointed to current position.

Stephen M. Quennoz, Vice President, Nuclear and Power Supply/Generation, age 67

Appointed to current position on July 25, 2002. Served as Vice President, Generation from January 2001 until appointed to current position.

W. David Robertson, Vice President, Public Policy, age 47

Appointed to current position on August 1, 2009. Served as Director of Government Affairs from June 2004 until appointed to current position.

Kristin A. Stathis, Vice President, Customer Service Operations, age 51

Appointed to current position on June 1, 2011. Served as general manager of Revenue Operations from August 2009 until May 2011. Served as assistant treasurer and manager of Corporate Finance from October 2005 until July 2009. Served as general manager of Power Supply Risk Management from August 2003 until September 2005.

Portland General Electric Company (POR.N)

Income statement (US$m)	12/12	12/13	12/14	12/15E	% ch	12/16E	% ch	12/17E	12/18E	12/19E
Revenues	**1,805**	**1,810**	**1,900**	**1,906**	*0.3*	**1,971**	*3.4*	**1,994**	**2,017**	**2,052**
Gross profit	868	828	930	936	*0.7*	1,001	*7.0*	1,024	1,047	1,082
EBITDA (UBS)	**560**	**474**	**633**	**619**	*-2.1*	**676**	*9.2*	**694**	**725**	**792**
Depreciation & amortisation	(248)	(248)	(301)	(301)	*0.0*	(317)	*5.2*	(323)	(329)	(344)
EBIT (UBS)	**312**	**226**	**332**	**318**	*-4.0*	**359**	*12.9*	**371**	**395**	**448**
Associates & investment income	0	0	0	0	-	0	-	0	0	0
Other non-operating income	0	0	0	0	-	0	-	0	0	0
Net interest	(108)	(101)	(96)	(107)	*-11.9*	(107)	*-0.1*	(108)	(110)	(119)
Exceptionals (incl goodwill)	0	0	0	0	-	0	-	0	0	0
Profit before tax	**204**	**125**	**236**	**211**	*-10.6*	**252**	*19.4*	**263**	**285**	**329**
Tax	(64)	(21)	(61)	(39)	*36.4*	(55)	*-41.1*	(59)	(68)	(85)
Profit after tax	**140**	**104**	**175**	**172**	*-1.5*	**197**	*14.5*	**204**	**217**	**244**
Preference dividends	0	0	0	0	-	0	-	0	0	0
Minorities	1	1	1	1	*0.0*	1	*0.0*	1	1	1
Extraordinary items	0	0	0	0	-	0	-	0	0	0
Net earnings (local GAAP)	**141**	**105**	**176**	**173**	*-1.5*	**198**	*14.4*	**205**	**218**	**245**
Net earnings (UBS)	**141**	**105**	**176**	**173**	*-1.5*	**198**	*14.4*	**205**	**218**	**245**
Tax rate (%)	31.4	16.8	25.9	18.4	*-28.9*	21.8	*18.1*	22.5	23.8	25.8

Per share (US$)	12/12	12/13	12/14	12/15E	% ch	12/16E	% ch	12/17E	12/18E	12/19E
EPS (UBS, diluted)	1.86	1.34	2.18	2.15	*-1.5*	2.46	*14.4*	2.54	2.64	2.89
EPS (local GAAP, diluted)	1.86	1.34	2.18	2.15	*-1.5*	2.46	*14.4*	2.54	2.64	2.89
EPS (UBS, basic)	1.87	1.34	2.25	2.15	*-4.5*	2.46	*14.4*	2.54	2.64	2.89
Net DPS (US$)	1.07	1.10	1.12	1.18	*5.4*	1.24	*5.3*	1.30	1.36	1.43
Cash EPS (UBS, diluted)[1]	5.14	4.51	5.92	5.89	*-0.6*	6.39	*8.6*	6.56	6.63	6.95
Book value per share	-	-	24.48	28.08	*14.7*	29.30	*4.3*	30.55	32.25	34.11
Average shares (diluted)	75.65	78.33	80.49	80.49	*0.0*	80.49	*0.0*	80.49	82.65	84.71

Balance sheet (US$m)	12/12	12/13	12/14	12/15E	% ch	12/16E	% ch	12/17E	12/18E	12/19E
Cash and equivalents	-	-	127	131	*2.9*	133	*1.4*	133	134	135
Other current assets	-	-	572	589	*2.9*	597	*1.4*	600	603	608
Total current assets	**-**	**-**	**699**	**720**	*2.9*	**730**	*1.4*	**733**	**737**	**743**
Net tangible fixed assets	-	-	5,679	5,976	*5.2*	6,095	*2.0*	6,216	6,487	7,002
Net intangible fixed assets	-	-	664	664	*0.0*	664	*0.0*	664	675	725
Investments / other assets	0	0	0	0	-	0	-	0	0	0
Total assets	**-**	**-**	**7,042**	**7,360**	*4.5*	**7,489**	*1.8*	**7,613**	**7,899**	**8,470**
Trade payables & other ST liabilities	-	-	498	494	*-0.7*	500	*1.1*	501	503	506
Short term debt	-	-	375	0	-	0	-	0	0	0
Total current liabilities	**-**	**-**	**873**	**494**	*-43.4*	**500**	*1.1*	**501**	**503**	**506**
Long term debt	-	-	2,126	2,473	*16.3*	2,499	*1.1*	2,521	2,599	2,942
Other long term liabilities	-	-	2,132	2,132	*0.0*	2,132	*0.0*	2,132	2,132	2,132
Preferred shares	-	-	0	0	-	0	-	0	0	0
Total liabilities (incl pref shares)	**-**	**-**	**5,131**	**5,099**	*-0.6*	**5,131**	*0.6*	**5,154**	**5,234**	**5,581**
Common s/h equity	-	-	1,911	2,260	*18.3*	2,358	*4.3*	2,459	2,665	2,889
Minority interests	-	-	0	0	-	0	-	0	0	0
Total liabilities & equity	**-**	**-**	**7,042**	**7,360**	*4.5*	**7,489**	*1.8*	**7,613**	**7,899**	**8,470**

Cash flow (US$m)	12/12	12/13	12/14	12/15E	% ch	12/16E	% ch	12/17E	12/18E	12/19E
Net income (before pref divs)	141	105	176	173	*-1.5*	198	*14.4*	205	218	245
Depreciation & amortisation	248	248	301	301	*0.0*	317	*5.2*	323	329	344
Net change in working capital	-	-	0	0	-	0	-	0	0	0
Other operating	-	-	0	0	-	0	-	0	0	0
Operating cash flow	**-**	**-**	**477**	**474**	*-0.6*	**515**	*8.6*	**528**	**548**	**589**
Tangible capital expenditure	-	-	(1,007)	(598)	*40.6*	(436)	*27.1*	(443)	(600)	(859)
Intangible capital expenditure	-	-	0	0	-	0	-	0	0	0
Net (acquisitions) / disposals	-	-	0	0	-	0	-	0	0	0
Other investing	-	-	13	0	-	0	-	0	0	0
Investing cash flow	**-**	**-**	**(994)**	**(598)**	*39.8*	**(436)**	*27.1*	**(443)**	**(600)**	**(859)**
Equity dividends paid	-	-	(87)	(95)	*-8.7*	(100)	*-5.3*	(104)	(112)	(121)
Share issues / (buybacks)	-	-	0	0	-	0	-	0	0	0
Other financing	-	-	(2)	0	-	0	-	0	0	0
Change in debt & pref shares	-	-	585	347	*-40.72*	26	*-92.43*	22	78	344
Financing cash flow	**-**	**-**	**496**	**252**	*-49.2*	**(73)**	-	**(83)**	**(34)**	**223**
Cash flow inc/(dec) in cash	**-**	**-**	**(21)**	**128**	-	**5**	*-96.0*	**2**	**(87)**	**(48)**
FX / non cash items	-	-	-	(124)	-	(3)	*97.4*	(1)	87	49
Balance sheet inc/(dec) in cash	**-**	**-**	**-**	**4**	-	**2**	*-49.5*	**1**	**1**	**1**

Source: Company accounts, UBS estimates. (UBS) metrics use reported figures which have been adjusted by UBS analysts.[1]Cash EPS (UBS, diluted) is calculated using UBS net income adding back depreciation and amortization.

Portland General Electric Company (POR.N)

Valuation (x)	12/12	12/13	12/14	12/15E	12/16E	12/17E	12/18E	12/19E
P/E (local GAAP, diluted)	14.0	22.3	15.3	17.0	14.8	14.3	13.8	12.6
P/E (UBS, diluted)	14.0	22.3	15.3	17.0	14.8	14.3	13.8	12.6
P/CEPS	5.1	6.6	5.5	6.2	5.7	5.6	5.5	5.2
Equity FCF (UBS) yield %	-	-	(20.4)	(3.8)	2.4	2.6	(1.6)	(8.4)
Net dividend yield (%)	4.1	3.7	3.3	3.2	3.4	3.6	3.7	3.9
P/BV x	-	-	1.4	1.3	1.2	1.2	1.1	1.1
EV/revenues (core)	-	-	2.7	3.1	3.0	2.9	2.9	2.8
EV/EBITDA (core)	-	-	8.2	9.4	8.6	8.4	8.1	7.4
EV/EBIT (core)	-	-	15.7	18.4	16.3	15.8	14.8	13.0
EV/OpFCF (core)	-	-	8.3	9.5	8.7	8.4	8.1	7.4
EV/op. invested capital	-	-	-	1.2	1.2	1.2	1.1	1.0

Enterprise value (US$m)	12/12	12/13	12/14	12/15E	12/16E	12/17E	12/18E	12/19E
Market cap.	1,967	2,278	2,601	3,233	3,233	3,233	3,233	3,233
Net debt (cash)	-	-	2,374	2,374	2,374	2,374	2,374	2,374
Buy out of minorities	-	-	0	0	0	0	0	0
Pension provisions/other	-	-	237	237	237	237	237	237
Total enterprise value	**-**	**-**	**5,212**	**5,844**	**5,844**	**5,844**	**5,844**	**5,844**
Non core assets	-	-	0	0	0	0	0	0
Core enterprise value	**-**	**-**	**5,212**	**5,844**	**5,844**	**5,844**	**5,844**	**5,844**

Growth (%)	12/12	12/13	12/14	12/15E	12/16E	12/17E	12/18E	12/19E
Revenue	-	0.3	5.0	0.3	3.4	1.1	1.2	1.7
EBITDA (UBS)	-	-15.4	33.4	-2.1	9.2	2.7	4.4	9.3
EBIT (UBS)	-	-27.6	46.7	-4.0	12.9	3.3	6.5	13.3
EPS (UBS, diluted)	-	-28.1	62.6	-1.5	14.4	3.5	3.9	9.6
Net DPS	-	2.3	1.8	5.4	5.3	4.6	4.6	5.3

Margins & Profitability (%)	12/12	12/13	12/14	12/15E	12/16E	12/17E	12/18E	12/19E
Gross profit margin	48.1	45.7	48.9	49.1	50.8	51.3	51.9	52.7
EBITDA margin	31.0	26.2	33.3	32.5	34.3	34.8	35.9	38.6
EBIT margin	17.3	12.5	17.4	16.7	18.2	18.6	19.6	21.8
Net earnings (UBS) margin	7.8	5.8	9.2	9.1	10.0	10.3	10.8	11.9
ROIC (EBIT)	-	-	-	6.8	7.3	7.4	7.6	7.9
ROIC post tax	-	-	5.4	5.5	5.7	5.7	5.8	5.9
ROE (UBS)	-	-	9.2	8.3	8.6	8.5	8.5	8.8

Capital structure & Coverage (x)	12/12	12/13	12/14	12/15E	12/16E	12/17E	12/18E	12/19E
Net debt / EBITDA	-	-	3.8	3.8	3.5	3.4	3.4	3.5
Net debt / total equity %	-	-	124.2	103.6	100.3	97.1	92.5	97.2
Net debt / (net debt + total equity) %	-	-	55.4	50.9	50.1	49.3	48.0	49.3
Net debt/EV %	-	-	45.6	40.1	40.5	40.9	42.2	48.0
Capex / depreciation %	-	-	NM	198.7	137.7	137.3	182.3	NM
Capex / revenue %	-	-	NM	NM	22.1	22.2	29.8	NM
EBIT / net interest	2.9	2.2	3.5	3.0	3.3	3.4	3.6	3.8
Dividend cover (UBS)	1.7	1.2	2.0	1.8	2.0	2.0	1.9	2.0
Div. payout ratio (UBS) %	57.2	81.4	49.6	54.7	50.4	50.9	51.3	49.3

Revenues by division (US$m)	12/12	12/13	12/14	12/15E	12/16E	12/17E	12/18E	12/19E
Others	1,805	1,810	1,900	1,906	1,971	1,994	2,017	2,052
Total	**1,805**	**1,810**	**1,900**	**1,906**	**1,971**	**1,994**	**2,017**	**2,052**

EBIT (UBS) by division (US$m)	12/12	12/13	12/14	12/15E	12/16E	12/17E	12/18E	12/19E
Others	312	226	332	318	359	371	395	448
Total	**312**	**226**	**332**	**318**	**359**	**371**	**395**	**448**

Source: Company accounts, UBS estimates. (UBS) metrics use reported figures which have been adjusted by UBS analysts.

Forecast returns

Forecast price appreciation	+15.3%
Forecast dividend yield	3.4%
Forecast stock return	+18.7%
Market return assumption	5.6%
Forecast excess return	+13.1%

Statement of Risk

As a regulated utility, POR is exposed to potentially adverse state and federal regulatory decisions and environmental compliance mandates. Additionally, operations may be impacted by unfavorable weather which could depress retail electric and natural gas sales, increase the cost of power supply (hydro), and in extreme cases damage facilities and property. Macroeconomic risks such as lower than expected GDP growth and rising interest rates can also negatively affect results. Additional risks include: financing risk, counterparty credit risk, commodity prices, and cyber security.

Required Disclosures

This report has been prepared by UBS Securities LLC, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS.

For information on the ways in which UBS manages conflicts and maintains independence of its research product; historical performance information; and certain additional disclosures concerning UBS research recommendations, please visit www.ubs.com/disclosures. The figures contained in performance charts refer to the past; past performance is not a reliable indicator of future results. Additional information will be made available upon request. UBS Securities Co. Limited is licensed to conduct securities investment consultancy businesses by the China Securities Regulatory Commission.

Analyst Certification: Each research analyst primarily responsible for the content of this research report, in whole or in part, certifies that with respect to each security or issuer that the analyst covered in this report: (1) all of the views expressed accurately reflect his or her personal views about those securities or issuers and were prepared in an independent manner, including with respect to UBS, and (2) no part of his or her compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in the research report.

UBS Investment Research: Global Equity Rating Definitions

12-Month Rating	**Definition**	**Coverage**[1]	**IB Services**[2]
Buy	FSR is > 6% above the MRA.	45%	36%
Neutral	FSR is between -6% and 6% of the MRA.	42%	32%
Sell	FSR is > 6% below the MRA.	13%	20%
Short-Term Rating	**Definition**	**Coverage**[3]	**IB Services**[4]
Buy	Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.	less than 1%	less than 1%
Sell	Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.	less than 1%	less than 1%

Source: UBS. Rating allocations are as of 30 June 2015.
1:Percentage of companies under coverage globally within the 12-month rating category. 2:Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.
3:Percentage of companies under coverage globally within the Short-Term rating category. 4:Percentage of companies within the Short-Term rating category for which investment banking (IB) services were provided within the past 12 months.

KEY DEFINITIONS: Forecast Stock Return (FSR) is defined as expected percentage price appreciation plus gross dividend yield over the next 12 months. **Market Return Assumption (MRA)** is defined as the one-year local market interest rate plus 5% (a proxy for, and not a forecast of, the equity risk premium). **Under Review (UR)** Stocks may be flagged as UR by the analyst, indicating that the stock's price target and/or rating are subject to possible change in the near term, usually in response to an event that may affect the investment case or valuation. **Short-Term Ratings** reflect the expected near-term (up to three months) performance of the stock and do not reflect any change in the fundamental view or investment case. **Equity Price Targets** have an investment horizon of 12 months.

EXCEPTIONS AND SPECIAL CASES: UK and European Investment Fund ratings and definitions are: Buy: Positive on factors such as structure, management, performance record, discount; **Neutral:** Neutral on factors such as structure, management, performance record, discount; **Sell:** Negative on factors such as structure, management, performance record, discount. **Core Banding Exceptions (CBE):** Exceptions to the standard +/-6% bands may be granted by the Investment Review Committee (IRC). Factors considered by the IRC include the stock's volatility and the credit spread of the respective company's debt. As a result, stocks deemed to be very high or low risk may be subject to higher or lower bands as they relate to the rating. When such exceptions apply, they will be identified in the Company Disclosures table in the relevant research piece.

Research analysts contributing to this report who are employed by any non-US affiliate of UBS Securities LLC are not registered/qualified as research analysts with the NASD and NYSE and therefore are not subject to the restrictions contained in the NASD and NYSE rules on communications with a subject company, public appearances, and trading securities held by a research analyst account. The name of each affiliate and analyst employed by that affiliate contributing to this report, if any, follows.

UBS Securities LLC: Julien Dumoulin-Smith; Michael Weinstein; Paul Zimbardo.

Company Disclosures

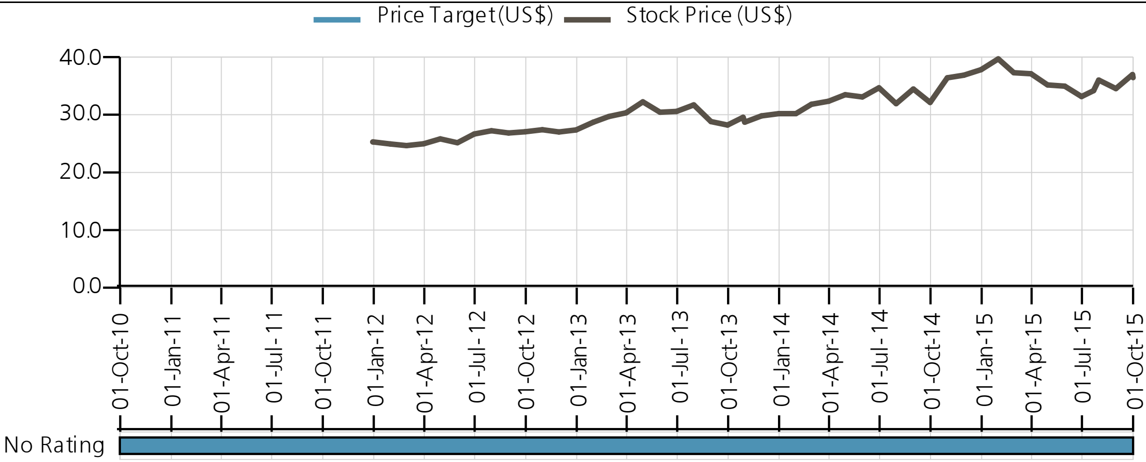
Company Name	Reuters	12-month rating	Short-term rating	Price	Price date
Portland General Electric Company[16]	POR.N	Buy	N/A	US$36.42	01 Oct 2015

Source: UBS. All prices as of local market close.
Ratings in this table are the most current published ratings prior to this report. They may be more recent than the stock pricing date

16. UBS Securities LLC makes a market in the securities and/or ADRs of this company.

Unless otherwise indicated, please refer to the Valuation and Risk sections within the body of this report.

Portland General Electric Company (US$)



Source: UBS; as of 01 Oct 2015

Global Disclaimer

This document has been prepared by UBS Securities LLC, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS.

Global Research is provided to our clients through UBS Neo, the UBS Client Portal and UBS.com (each a "System"). It may also be made available through third party vendors and distributed by UBS and/or third parties via e-mail or alternative electronic means. The level and types of services provided by Global Research to a client may vary depending upon various factors such as a client's individual preferences as to the frequency and manner of receiving communications, a client's risk profile and investment focus and perspective (e.g. market wide, sector specific, long-term, short-term, etc.), the size and scope of the overall client relationship with UBS and legal and regulatory constraints.

When you receive Global Research through a System, your access and/or use of such Global Research is subject to this Global Research Disclaimer and to the terms of use governing the applicable System.

When you receive Global Research via a third party vendor, e-mail or other electronic means, your use shall be subject to this Global Research Disclaimer and to UBS's Terms of Use/Disclaimer (http://www.ubs.com/global/en/legalinfo2/disclaimer.html). By accessing and/or using Global Research in this manner, you are indicating that you have read and agree to be bound by our Terms of Use/Disclaimer. In addition, you consent to UBS processing your personal data and using cookies in accordance with our Privacy Statement (http://www.ubs.com/global/en/legalinfo2/privacy.html) and cookie notice (http://www.ubs.com/global/en/homepage/cookies/cookie-management.html).

If you receive Global Research, whether through a System or by any other means, you agree that you shall not copy, revise, amend, create a derivative work, transfer to any third party, or in any way commercially exploit any UBS research provided via Global Research or otherwise, and that you shall not extract data from any research or estimates provided to you via Global Research or otherwise, without the prior written consent of UBS.

For access to all available Global Research on UBS Neo and the Client Portal, please contact your UBS sales representative.

This document is for distribution only as may be permitted by law. It is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or would subject UBS to any registration or licensing requirement within such jurisdiction. It is published solely for information purposes; it is not an advertisement nor is it a solicitation or an offer to buy or sell any financial instruments or to participate in any particular trading strategy. No representation or warranty, either expressed or implied, is provided in relation to the accuracy, completeness or reliability of the information contained in this document ('the Information'), except with respect to Information concerning UBS. The Information is not intended to be a complete statement or summary of the securities, markets or developments referred to in the document. UBS does not undertake to update or keep current the Information. Any opinions expressed in this document may change without notice and may differ or be contrary to opinions expressed by other business areas or groups of UBS. Any statements contained in this report attributed to a third party represent UBS's interpretation of the data, information and/or opinions provided by that third party either publicly or through a subscription service, and such use and interpretation have not been reviewed by the third party.

Nothing in this document constitutes a representation that any investment strategy or recommendation is suitable or appropriate to an investor's individual circumstances or otherwise constitutes a personal recommendation. Investments involve risks, and investors should exercise prudence and their own judgement in making their investment decisions. The financial instruments described in the document may not be eligible for sale in all jurisdictions or to certain categories of investors. Options, derivative products and futures are not suitable for all investors, and trading in these instruments is considered risky. Mortgage and asset-backed securities may involve a high degree of risk and may be highly volatile in response to fluctuations in interest rates or other market conditions. Foreign currency rates of exchange may adversely affect the value, price or income of any security or related instrument referred to in the document. For investment advice, trade execution or other enquiries, clients should contact their local sales representative.

The value of any investment or income may go down as well as up, and investors may not get back the full (or any) amount invested. Past performance is not necessarily a guide to future performance. Neither UBS nor any of its directors, employees or agents accepts any liability for any loss (including investment loss) or damage arising out of the use of all or any of the Information.

Any prices stated in this document are for information purposes only and do not represent valuations for individual securities or other financial instruments. There is no representation that any transaction can or could have been effected at those prices, and any prices do not necessarily reflect UBS's internal books and records or theoretical model-based valuations and may be based on certain assumptions. Different assumptions by UBS or any other source may yield substantially different results.

This document and the Information are produced by UBS as part of its research function and are provided to you solely for general background information. UBS has no regard to the specific investment objectives, financial situation or particular needs of any specific recipient. In no circumstances may this document or any of the Information be used for any of the following purposes:

(i) valuation or accounting purposes;

(ii) to determine the amounts due or payable, the price or the value of any financial instrument or financial contract; or

(iii) to measure the performance of any financial instrument.

By receiving this document and the Information you will be deemed to represent and warrant to UBS that you will not use this document or any of the Information for any of the above purposes or otherwise rely upon this document or any of the Information.

Research will initiate, update and cease coverage solely at the discretion of UBS Investment Bank Research Management. The analysis contained in this document is based on numerous assumptions. Different assumptions could result in materially different results. The analyst(s) responsible for the preparation of this document may interact with trading desk personnel, sales personnel and other parties for the purpose of gathering, applying and interpreting market information. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS into other areas, units, groups or affiliates of UBS. The compensation of the analyst who prepared this document is determined exclusively by research management and senior management (not including investment banking). Analyst compensation is not based on investment banking revenues; however, compensation may relate to the revenues of UBS Investment Bank as a whole, of which investment banking, sales and trading are a part.

For financial instruments admitted to trading on an EU regulated market: UBS AG, its affiliates or subsidiaries (excluding UBS Securities LLC) acts as a market maker or liquidity provider (in accordance with the interpretation of these terms in the UK) in the financial instruments of the issuer save that where the activity of liquidity provider is carried out in accordance with the definition given to it by the laws and regulations of any other EU jurisdictions, such information is separately disclosed in this document. For financial instruments admitted to trading on a non-EU regulated market: UBS may act as a market maker save that where this activity is carried out in the US in accordance with the definition given to it by the relevant laws and regulations, such activity will be specifically disclosed in this document. UBS may have issued a warrant the value of which is based on one or more of the financial instruments referred to in the document. UBS and its affiliates and employees may have long or short positions, trade as principal and buy and sell in instruments or derivatives identified herein; such transactions or positions may be inconsistent with the opinions expressed in this document.

United Kingdom and the rest of Europe: Except as otherwise specified herein, this material is distributed by UBS Limited to persons who are eligible counterparties or professional clients. UBS Limited is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. **France:** Prepared by UBS Limited and distributed by UBS Limited and UBS Securities France S.A. UBS Securities France S.A. is regulated by the ACPR (Autorité de Contrôle Prudentiel et de Résolution) and the Autorité des Marchés Financiers (AMF). Where an analyst of UBS Securities France S.A. has contributed to this document, the document is also deemed to have been prepared by UBS Securities France S.A. **Germany:** Prepared by UBS Limited and distributed by UBS Limited and UBS Deutschland AG. UBS Deutschland AG is regulated by the Bundesanstalt fur Finanzdienstleistungsaufsicht (BaFin). **Spain:** Prepared by UBS Limited and distributed by UBS Limited and UBS Securities España SV, SA. UBS Securities España SV, SA is regulated by the Comisión Nacional del Mercado de Valores (CNMV). **Turkey:** Distributed by UBS Limited. No information in this document is provided for the purpose of offering, marketing and sale by any means of any capital market instruments and services in the Republic of Turkey. Therefore, this document may not be considered as an offer made or to be made to residents of the Republic of Turkey. UBS AG is not licensed by the Turkish Capital Market Board under the provisions of the Capital Market Law (Law No. 6362). Accordingly, neither this document nor any other offering material related to the instruments/services may be utilized in connection with providing any capital market services to persons within the Republic of Turkey without the prior approval of the Capital Market Board. However, according to article 15 (d) (ii) of the Decree No. 32, there is no restriction on the purchase or sale of the securities abroad by residents of the Republic of Turkey. **Poland:** Distributed by UBS Limited (spolka z ograniczona odpowiedzialnoscia) Oddzial w Polsce regulated by the Polish Financial Supervision Authority. Where an analyst of UBS Limited (spolka z ograniczona odpowiedzialnoscia) Oddzial w Polsce has contributed to this

document, the document is also deemed to have been prepared by UBS Limited (spolka z ograniczona odpowiedzialnoscia) Oddzial w Polsce. **Russia:** Prepared and distributed by UBS Bank (OOO). **Switzerland:** Distributed by UBS AG to persons who are institutional investors only. UBS AG is regulated by the Swiss Financial Market Supervisory Authority (FINMA). **Italy:** Prepared by UBS Limited and distributed by UBS Limited and UBS Italia Sim S.p.A. UBS Italia Sim S.p.A. is regulated by the Bank of Italy and by the Commissione Nazionale per le Società e la Borsa (CONSOB). Where an analyst of UBS Italia Sim S.p.A. has contributed to this document, the document is also deemed to have been prepared by UBS Italia Sim S.p.A. **South Africa:** Distributed by UBS South Africa (Pty) Limited (Registration No. 1995/011140/07), an authorised user of the JSE and an authorised Financial Services Provider (FSP 7328). **Israel:** This material is distributed by UBS Limited. UBS Limited is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. UBS Securities Israel Ltd is a licensed Investment Marketer that is supervised by the Israel Securities Authority (ISA). UBS Limited and its affiliates incorporated outside Israel are not licensed under the Israeli Advisory Law. UBS Limited is not covered by insurance as required from a licensee under the Israeli Advisory Law. UBS may engage among others in issuance of Financial Assets or in distribution of Financial Assets of other issuers for fees or other benefits. UBS Limited and its affiliates may prefer various Financial Assets to which they have or may have Affiliation (as such term is defined under the Israeli Advisory Law). Nothing in this Material should be considered as investment advice under the Israeli Advisory Law. This Material is being issued only to and/or is directed only at persons who are Eligible Clients within the meaning of the Israeli Advisory Law, and this material must not be relied on or acted upon by any other persons. **Saudi Arabia:** This document has been issued by UBS AG (and/or any of its subsidiaries, branches or affiliates), a public company limited by shares, incorporated in Switzerland with its registered offices at Aeschenvorstadt 1, CH-4051 Basel and Bahnhofstrasse 45, CH-8001 Zurich. This publication has been approved by UBS Saudi Arabia (a subsidiary of UBS AG), a Saudi closed joint stock company incorporated in the Kingdom of Saudi Arabia under commercial register number 1010257812 having its registered office at Tatweer Towers, P.O. Box 75724, Riyadh 11588, Kingdom of Saudi Arabia. UBS Saudi Arabia is authorized and regulated by the Capital Market Authority to conduct securities business under license number 08113-37. **Dubai:** The information distributed by UBS AG Dubai Branch is intended for Professional Clients only and is not for further distribution within the United Arab Emirates. **United States:** Distributed to US persons by either UBS Securities LLC or by UBS Financial Services Inc., subsidiaries of UBS AG; or by a group, subsidiary or affiliate of UBS AG that is not registered as a US broker-dealer (a **'non-US affiliate'**) to major US institutional investors only. UBS Securities LLC or UBS Financial Services Inc. accepts responsibility for the content of a document prepared by another non-US affiliate when distributed to US persons by UBS Securities LLC or UBS Financial Services Inc. All transactions by a US person in the securities mentioned in this document must be effected through UBS Securities LLC or UBS Financial Services Inc., and not through a non-US affiliate. UBS Securities LLC is not acting as a municipal advisor to any municipal entity or obligated person within the meaning of Section 15B of the Securities Exchange Act (the "Municipal Advisor Rule"), and the opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of the Municipal Advisor Rule. **Canada:** Distributed by UBS Securities Canada Inc., a registered investment dealer in Canada and a Member-Canadian Investor Protection Fund, or by another affiliate of UBS AG that is registered to conduct business in Canada or is otherwise exempt from registration. **Brazil:** Except as otherwise specified herein, this material is prepared by UBS Brasil CCTVM S.A. to persons who are eligible investors residing in Brazil, which are considered to be: (i) financial institutions, (ii) insurance firms and investment capital companies, (iii) supplementary pension entities, (iv) entities that hold financial investments higher than R$300,000.00 and that confirm the status of qualified investors in written, (v) investment funds, (vi) securities portfolio managers and securities consultants duly authorized by Comissão de Valores Mobiliários (CVM), regarding their own investments, and (vii) social security systems created by the Federal Government, States, and Municipalities. **Hong Kong:** Distributed by UBS Securities Asia Limited and/or UBS AG, Hong Kong Branch. **Singapore:** Distributed by UBS Securities Pte. Ltd. [MCI (P) 018/09/2015 and Co. Reg. No.: 198500648C] or UBS AG, Singapore Branch. Please contact UBS Securities Pte. Ltd., an exempt financial adviser under the Singapore Financial Advisers Act (Cap. 110); or UBS AG, Singapore Branch, an exempt financial adviser under the Singapore Financial Advisers Act (Cap. 110) and a wholesale bank licensed under the Singapore Banking Act (Cap. 19) regulated by the Monetary Authority of Singapore, in respect of any matters arising from, or in connection with, the analysis or document. The recipients of this document represent and warrant that they are accredited and institutional investors as defined in the Securities and Futures Act (Cap. 289). **Japan:** Distributed by UBS Securities Japan Co., Ltd. to professional investors (except as otherwise permitted). Where this document has been prepared by UBS Securities Japan Co., Ltd., UBS Securities Japan Co., Ltd. is the author, publisher and distributor of the document. Distributed by UBS AG, Tokyo Branch to Professional Investors (except as otherwise permitted) in relation to foreign exchange and other banking businesses when relevant. **Australia:** Clients of UBS AG: Distributed by UBS AG (Holder of Australian Financial Services License No. 231087). Clients of UBS Securities Australia Ltd: Distributed by UBS Securities Australia Ltd (Holder of Australian Financial Services License No. 231098). Clients of UBS Wealth Management Australia Ltd: Distributed by UBS Wealth Management Australia Ltd (Holder of Australian Financial Services Licence No. 231127). This Document contains general information and/or general advice only and does not constitute personal financial product advice. As such, the Information in this document has been prepared without taking into account any investor's objectives, financial situation or needs, and investors should, before acting on the Information, consider the appropriateness of the Information, having regard to their objectives, financial situation and needs. If the Information contained in this document relates to the acquisition, or potential acquisition of a particular financial product by a 'Retail' client as defined by section 761G of the Corporations Act 2001 where a Product Disclosure Statement would be required, the retail client should obtain and consider the Product Disclosure Statement relating to the product before making any decision about whether to acquire the product. The UBS Securities Australia Limited Financial Services Guide is available at: www.ubs.com/ecs-research-fsg. **New Zealand:** Distributed by UBS New Zealand Ltd. The information and recommendations in this publication are provided for general information purposes only. To the extent that any such information or recommendations constitute financial advice, they do not take into account any person's particular financial situation or goals. We recommend that recipients seek advice specific to their circumstances from their financial advisor. **Korea:** Distributed in Korea by UBS Securities Pte. Ltd., Seoul Branch. This document may have been edited or contributed to from time to time by affiliates of UBS Securities Pte. Ltd., Seoul Branch. **Malaysia:** This material is authorized to be distributed in Malaysia by UBS Securities Malaysia Sdn. Bhd (Capital Markets Services License No.: CMSL/A0063/2007). This material is intended for professional/institutional clients only and not for distribution to any retail clients. **India:** Prepared by UBS Securities India Private Ltd. (Corporate Identity Number U67120MH1996PTC097299) 2/F, 2 North Avenue, Maker Maxity, Bandra Kurla Complex, Bandra (East), Mumbai (India) 400051. Phone: +912261556000. It provides brokerage services bearing SEBI Registration Numbers: NSE (Capital Market Segment): INB230951431, NSE (F&O Segment) INF230951431, NSE (Currency Derivatives Segment) INE230951431, BSE (Capital Market Segment) INB010951437; merchant banking services bearing SEBI Registration Number: INM000010809 and Research Analyst services bearing SEBI Registration Number: INH000001204. UBS AG, its affiliates or subsidiaries may have debt holdings or positions in the subject Indian company/companies. Within the past 12 months, UBS AG, its affiliates or subsidiaries may have received compensation for non-investment banking securities-related services and/or non-securities services from the subject Indian company/companies. The subject company/companies may have been a client/clients of UBS AG, its affiliates or subsidiaries during the 12 months preceding the date of distribution of the research report with respect to investment banking and/or non-investment banking securities-related services and/or non-securities services. With regard to information on associates, please refer to the Annual Report at: http://www.ubs.com/global/en/about_ubs/investor_relations/annualreporting.html

The disclosures contained in research documents produced by UBS Limited shall be governed by and construed in accordance with English law.

UBS specifically prohibits the redistribution of this document in whole or in part without the written permission of UBS and UBS accepts no liability whatsoever for the actions of third parties in this respect. Images may depict objects or elements that are protected by third party copyright, trademarks and other intellectual property rights. © UBS 2015. The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.

UBS