6 August 2018
Americas/United States
Equity Research
Electric Utilities

Pinnacle West Capital Corp. (PNW)

Rating	**OUTPERFORM**
Price (03-Aug-18, US$)	80.32
Target price (US$)	87.00
52-week price range (US$)	91.81 - 73.56
Market cap(US$ m)	8,990
Enterprise value (US$ m) 1	14,423

Target price is for 12 months.

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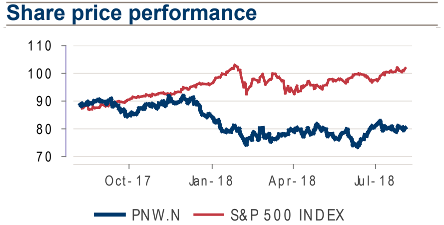
EARNINGS

Taking (on) the Initiative

- **Arizona constitutional voter initiative quantified: $10B of investment opportunity by 2030 (a portion could be ratebased). Possible stranded cost risk for Palo Verde and Four Corners: $1.9B and $1.3B, respectively. Customer bills: double by 2030.** With the Arizona Renewable Energy Standards Initiative currently under signature review through the end of August, we note that, publically, PNW has come out against the measure and is suing to prevent it from reaching the ballot in November, citing signature errors. However, we see PNW opposition driven by consumer protection; should it pass, it could generate significant new investor opportunity for a combination of PPA and ratebase renewables over the next decade. The initiative would allow voters to place a 50% renewable power requirement by 2030 into the state constitution without any financial guard rails to protect consumers. While investors have noted the possibility of an aggressive renewable mandate resulting in the stranding of the Palo Verde nuclear plant and Four Corners coal plant, we see the risk as only moderate given (a) the state has a history of stranded cost recovery; e.g., Chola Unit 2, and (b) Commissioner Olson recently indicated that he saw stranded cost recovery as important for reliable utility service via continued access to reasonably priced capital. We also think that regulators would seek to execute various mitigating legal and regulatory strategies if it passes.
- **Maintained 2018 guidance of $4.35-$4.55 with expectation of consolidated earned** ROE of at least 9.5% vs CS $4.45 and cons. $4.47. PNW reported 2Q18 earnings of $1.48 vs CS $1.51 and cons. $1.48. O&M year over year variance was higher than usual because 2017 outages were back-end loaded but 2018 outages were front-end loaded (a timing issue).
- **Valuation:** Our estimates are effectively unchanged and our TP stays at $87 now based on a 2020 sum-of-the-parts methodology using average peer P/E.

Share price performance



On 03-Aug-2018 the S&P 500 INDEX closed at 2840.35
Daily Aug04, 2017 - Aug03, 2018, 08/04/17 = US$88.06

Quarterly EPS	Q1	Q2	Q3	Q4
2017A	0.21	1.49	2.46	0.19
2018E	0.03	1.48	2.62	0.31
2019E	0.19	1.50	2.71	0.31

Financial and valuation metrics

Year	12/17A	12/18E	12/19E	12/20E
EPS (CS adj.) (US$)	4.35	4.45	4.71	4.90
Prev. EPS (US$)	-	-	4.70	-
P/E (x)	18.5	18.1	17.0	16.4
P/E rel. (%)	84.9	101.6	105.4	112.1
EBITDA (US$ m)	1,469	1,408	1,491	1,558
EV/EBITDA (current)	9.8	10.2	9.7	9.2
Net debt (US$ m)	4,953	5,432	5,674	5,943
FFO/Interest	2.8	2.5	2.5	2.5
FFO/Total Debt	0.11	0.10	0.10	0.10

Number of shares (m)	112	BV/Share (Next Qtr., US$)	47
Net debt (Next Qtr., US$ m)	5,338	Dividend (current, US$)	2.8
Net debt/tot eq (Next Qtr., %)	99.0	Dividend yield (%)	3.37

Source: Company data, Thomson Reuters, Credit Suisse estimates

Pinnacle West Capital Corp. (PNW)

Price (03 Aug 2018): **US$80.32**; Rating: **OUTPERFORM**; Target Price: **87.00**; Analyst: **Michael Weinstein**

Income Statement	**12/17A**	**12/18E**	**12/19E**	**12/20E**
Revenue (US$ m)	**3,730.9**	**3,804.7**	**3,947.8**	**4,069.0**
EBITDA (US$ m)	**1,469**	**1,408**	**1,491**	**1,558**
Depr. & amort.	(534)	(587)	(612)	(638)
EBIT (US$)	**964**	**872**	**929**	**971**
Net interest exp	(198)	(224)	(237)	(249)
PBT (US$)	**766**	**648**	**692**	**722**
Income taxes	(258)	(128)	(138)	(144)
Profit after tax	**508**	**520**	**554**	**578**
Minorities	(19)	(20)	(20)	(20)
Reported net income (US$)	**488**	**500**	**534**	**558**
Other NPAT adjustments	0	0	0	0
Adjusted net income	**488**	**500**	**534**	**558**

Cash Flow	**12/17A**	**12/18E**	**12/19E**	**12/20E**
EBIT	964	872	929	971
Net interest	(198)	(224)	(237)	(249)
Change in working capital	(106)	(89)	0	0
CAPEX	(1,409)	(1,181)	(1,153)	(1,211)
Free cashflow to the firm	**(291)**	**(87)**	**127**	**118**
Acquisitions	0	0	0	0
Divestments	0	0	0	0
Cash flow from investments	**(1,429)**	**(1,180)**	**(1,153)**	**(1,211)**
Changes in Net Cash/Debt	**(638)**	**(479)**	**(242)**	**(269)**

Balance Sheet (US$)	**12/17A**	**12/18E**	**12/19E**	**12/20E**
Assets				
Cash & cash equivalents	14	4	4	4
Total current assets	**1,016**	**1,138**	**1,184**	**1,230**
Total assets	**17,019**	**17,676**	**18,183**	**18,722**
Liabilities				
Total current liabilities	**1,198**	**2,239**	**2,239**	**2,239**
Total liabilities	**11,883**	**12,311**	**12,553**	**12,822**
Total liabilities and equity	**17,019**	**17,676**	**18,183**	**18,722**
Net debt	4,953	5,432	5,674	5,943

Per share	**12/17A**	**12/18E**	**12/19E**	**12/20E**
No. of shares (wtd avg)	112	113	113	114
CS adj. EPS	4.35	4.45	4.71	4.90
Prev. EPS (US$)	-	-	4.70	-
Dividend (US$)	2.62	2.77	2.90	3.05
Free cash flow per share	(2.59)	(0.78)	1.12	1.04

Earnings	**12/17A**	**12/18E**	**12/19E**	**12/20E**
Sales growth (%)	6.6	2.0	3.8	3.1
EBIT growth (%)	9.1	(9.5)	6.5	4.5
Net profit growth (%)	10.5	2.5	6.6	4.5
EPS growth (%)	10.2	2.3	6.0	3.9
EBITDA margin (%)	39.4	37.0	37.8	38.3
EBIT margin (%)	25.8	22.9	23.5	23.9
Pretax margin (%)	20.5	17.0	17.5	17.7
Net margin (%)	13.1	13.2	13.5	13.7

Valuation	**12/17A**	**12/18E**	**12/19E**	**12/20E**
EV/Sales (x)	3.74	3.79	3.71	3.67
EV/EBITDA (x)	9.8	10.2	9.7	9.2
EV/EBIT (x)	14.5	16.5	15.8	15.4
P/E (x)	18.5	18.1	17.0	16.4
Price to book (x)	1.8	1.7	1.7	1.6
Asset turnover	0.2	0.2	0.2	0.2

Returns	**12/17A**	**12/18E**	**12/19E**	**12/20E**
ROE stated-return on (%)	10.0	9.8	9.9	9.9
ROIC (%)	6.3	6.5	6.6	6.6

Gearing	**12/17A**	**12/18E**	**12/19E**	**12/20E**
Net debt/equity (%)	96.4	101.3	100.8	100.7
Interest coverage ratio (X)	4.9	3.9	3.9	3.9

Quarterly EPS	**Q1**	**Q2**	**Q3**	**Q4**
2017A	0.21	1.49	2.46	0.19
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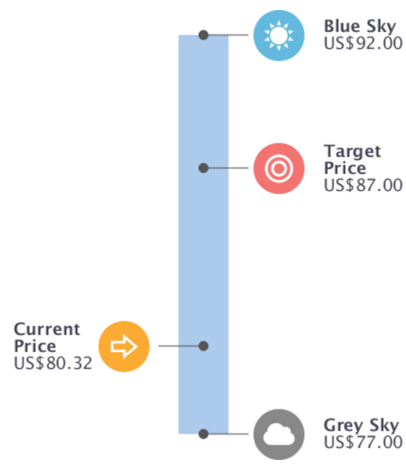
Source: Company data, Thomson Reuters, Credit Suisse estimates

Company Background

Pinnacle West Capital Corporation is an investor-owned electric utility holding company based in Phoenix, Arizona, operating through its wholly-owned subsidiary, Arizona Public Service, a vertically-integrated electric utility.

Blue/Grey Sky Scenario



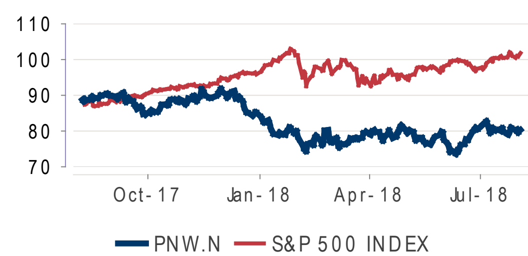
Our Blue Sky Scenario (US$) 92.00

An improvement in the current AZ regulatory environment combined with favorable regulatory outcomes and better-than-expected load growth will provide some upsides for PNW and justify a 2.0x premium over the peer multiple. Under this scenario, PNW's share will be worth $92.

Our Grey Sky Scenario (US$) 77.00

A deterioration in the AZ regulatory environment together with unfavorable regulatory outcomes and lower-than-expected load growth will limit EPS growth and M&A opportunities, leaving the stock trading at 1.0x discount to the group. Under this scenario, PNW's stock will be worth $77.

Share price performance



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- **2018 guidance unchanged at higher effective tax rate expectation**. While management continues to expect 2018 EPS to be in the range of $4.35-$4.55, the company now sees overall effective tax rate at 20% vs prior expectation of 18%. Recall that with its 4Q17 earnings release, PNW raised the 2018 guidance range by a dime to $4.35-$4.55, driven by incremental construction work in progress (CWIP), higher AFUDC, and improved electric gross margins and O&M. Positive drivers of 2018 earnings include revenue increases from the 2017 ratecase settlement, load growth, and adjustment mechanisms, primarily the Transmission Cost Adjustor (TCA) and the Lost Fixed Cost Recovery (LFCR). Negative drivers include higher D&A due to plant additions; increased O&M driven by higher planned fossil outages, and higher interest.
    - **2019 and 2020 estimates still look better.** Management sees improved ratebase growth with reduced deferred taxes and bonus depreciation. The forecast for $10.9B ratebase in 2020 represents a 7.3% CAGR off a 2016 base of $8.2B (formal guidance remains unchanged at 6%-7% average annual growth rate through 2020). This is 130 bps higher than the prior forecast for $10.0B in 2019 from a 6.1% CAGR off a 2015 base of $7.9B, helped by grid capital spending and tax reforms. We continue to be positive on 2019/20 with a $0.16 improvement from the step increases for Four Corners (AFUDC falls off in 2018 as SCRs go in-service) followed by another $0.02 from Ocotillo in 2020 after the next ratecase. The IRP calls for 1.3GW of flexible generation by 2025, with the self-build moratorium ending in 2021, allowing for new generation in-service after 2021 such as CCGT peaker plants. Additionally, ratebased battery storage and a 315-MW need from the closure of Navajo are opportunities that are not included in the capex forecast or IRP filing.
- **2Q Impacts: Healthy customer growth and sales offset by 1x extra solar and energy efficiency.** PNW saw decent customer growth of 1.6% in the quarter while weather-adjusted sales declined -1.1%. Saw larger 1x suppressive impact from solar in 2Q18 because of a ramp-up in DG installations to beat the May installation deadline to qualify for more generous net energy metering (NEM) rules. Recall a spike in applications last year before the Sept 1 deadline to be grandfathered into old NEM. This is a non-repeating effect that won't be present next year.
- **Rate filing could be pushed into 2020 to avoid election year impacts.** The current settlement prohibits a filing prior to June 2019 and we expect the filing to include ~$500M of deferred Ocotillo capex (in service in mid-2019). Management states that any filing delay would only be implemented if it could be accomplished with minimal financial impact.
- **Equity ahead of the rate filing?** APS is currently authorized a 55.8% equity ratio and we expect some ATM and/or DRiP equity to be issued ahead of the case if needed. However, management indicates no need for block equity
- **AZ Bills and ballot initiatives would significantly boost renewables and help limit utility risk.** The AZ RPS is currently 15% by 2025 (already met), but a pending voter initiative seeks to raise the renewable portfolio standard (RPS) to 50% by 2030 and required 225,963 signatures by Jul 5th to be placed on the Nov. ballot. While over 480,000 signatures were reportedly filed, the Arizona Secretary of State's office has 20 *business* days to verify and process the petition before sending it over to the County Recorder offices for further random sample verification (another 15 business days). Once that is finished, the Secretary of State has another three business days to declare the petition qualified to be placed on the ballot, with an accompanying information pamphlet for the public. The upshot is that we don't expect a final word on whether the initiative will make the ballot until the final week of August. Meanwhile, on April 5th, the Arizona Senate passed a separate RPS amendment bill to achieve the same 50% by 2030 - but under an "off ramp" condition that reliability and rates are not impacted. However, this amendment bill did not pass the legislature. Nevertheless, on

Mar. 23rd, Gov. Ducey (R) signed PNW-supported HB 2005 to limit the possible financial penalties on utilities for failing to meet the state's RPS after concern over potential customer bill impact from the voter-initiative. If the voter initiative were passed, HB 2005 would mitigate it by giving the Arizona Corporation Commission (ACC) the authority to review and determine if meeting the RPS is too harmful to rates or reliability. Under HB 2005, utilities will only have to pay civil penalties for failing to meet regulation specifying the type of electric generation required, with a penalty range of $100 to $5,000 per offense. Continuous violations count as one offense under the law. The new legislation does not impact our solar demand estimate from RPS, which is based on their existing target.

- **Plan B: The ACC is also separately considering a proposal by Commissioner Tobin for an 80% clean energy** (renewables and nuclear) mandate by 2050, including 3GW of energy storage. As of year-end 2017, more than 50% of PNW's generation mix would fall under clean energy as defined in Commissioner Tobin's proposal, primarily due to the Palo Verde Nuclear Plant. We don't expect the ACC to take up serious consideration of this initiative until after the November election (probably 1H19).
    - ***From our 2/2 weekly:*** **Energy Modernization Proposal in AZ – 80% clean energy with 3GW of batteries.** On Jan. 30th, Arizona Corporation Commission (ACC) Commissioner Tobin (R) announced his "energy modernization plan" proposing the expansion of AZ's renewable energy standard and tariff (REST) policy to reflect a broader focus on cleaner energy, energy storage, and energy efficiency. The expanded clean resource energy standard and tariff (CREST) policy would establish an 80% clean energy (renewables and nuclear) mandate by 2050 (current 15% renewable energy mandate). Additionally, the proposal calls for the deployment of 3GW of energy storage by 2030, setting of a "Clean Peak Standard", and investment in EV charging infrastructure. The "Clean Peak Standard" would require electric utilities to deliver an increasing portion of renewable energy during peak demand hours, with an incremental increase from the baseline by 1.5% per year through 2030, to incentivize increased storage deployment. Tobin views that the 3GW of energy storage accompanied by the "Clean Peak Standard" as a solution for rising peak demand, allowing for increased storage of midday storage exported from CA through the Western Energy Imbalance Market (EIM). The proposal would also direct the ACC to reform the utility IRP process to include more scenarios and integrate the goals of the Modernization Plan.

The following is commentary we published after our meeting with Commissioner Olson at this year's NARUC Summer Policy Conference:

- **Voter education effort expected soon.** With the Arizona Renewable Energy Standards Initiative now likely to appear before voters in November, Commissioner Olson expects a privately funded education initiative to begin across the state. Olson has been consistently opposed to this initiative, which has been funded by Tom Steyer and would set a 50% renewable energy target by 2030 without any financial off-ramps or safety valves to protect the state's economy. Olson's early estimate is that the average residential customer bill could increase as much as $1,000/year as the cost of a vast rampup of renewable infrastructure works its way into purchased power costs and utility rates.
- **Compliance may be more complicated than voters imagine, possibly mitigating impacts.** Olson noted that if the initiative passes, there would be many bridges to cross toward compliance, and that the commission would be obligated to review all

legal and regulatory alternatives to bridge the gap. We see these points as potentially mitigating the possible economic fallout from the initiative if it passes.

- **Recovery of stranded costs seen as important to maintain quality of service.** As we've noted previously, investors have been concerned that a rapid and vast rollout of mandated renewables could end up stranding PNW's prior investment in the Palo Verde nuclear facility, the nation's largest. On this issue, Olson said he doesn't want to prejudge the outcome of either the initiative's chances of passage or the regulatory response. Nevertheless, he also noted that Arizona would have a tougher time attracting future infrastructure and utility investment if investors were asked to shoulder stranded costs, with quality of utility service likely to suffer as well.
- **Ethics in the forefront of this year's election campaigns.** Unlike many other states, Arizona's commissioners are elected (so are Georgia's), and Commissioner Olson noted that ethical issues are front and center in the wake of corruption charges (bribery) against former commissioner Pierce. Olson voted in favor of several proposed amendments this year that would have adopted a new code of ethics and a rule against accepting campaign contributions from regulated companies, but these were rejected. Instead, the commission adopted rules requiring disclosure of such relationships with the reading of related statements into the record.
- **Could the voter initiative have down-ballot effects?** We see the possibility that Steyer's renewable ballot initiative may have the effect of drawing out additional Democratic voters this season, such that regardless of whether the initiative passes, there may be a secondary effect of boosting Democratic candidates for Commission seats this year. This, in combination with a focus on Pierce's bribery case, may create some incremental political and regulatory uncertainty into the election. However, we continue to note that with only two seats up for election this year, the Republican majority of the ACC is not in question, nor do we expect a major upheaval of state policies supporting both Arizona Public Service and increased renewable standards While defeat of both Forese and Olson by Democrats could lead to uncertainty for PNW given the continued presence of Robert Burns on the commission, we see the chances of this as unlikely given that solar advocates agreed to remain silent for the duration of APS's last rate settlement, despite the efforts of Mr. Steyer. The ACC includes five sitting commissioners, all currently Republicans who are elected for a four year term. The chairperson is chosen by fellow commissioners and keeps that role for two years. These currently include Chairman Tom Forese (term ends Jan 2019), Robert Burns (Jan 2021), Andy Tobin (Jan 2021), Boyd Dunn (Jan 2021), and Justin Olson (Jan 2019).

Prior commentary (no major changes):

- **Tax reform impact, net positive with rate headroom.** The ACC approved APS to reduce revenues by $119M to reflect tax benefits, reflected in current rates. Recall that APS filed for the reduction through the implementation of its tax expense adjustor mechanism (TEAM), which was authorized with the approval of its ratecase in Aug 2017. A second TEAM filing will be made later in 2018 to return excess deferred income tax to customers. PNW expects higher incremental ratebase of $150M in 2018 and 2019, continued interest deductibility with the majority of holdco debt allocable to the utility, and minimal cash tax payments through 2018 due to existing $85M in tax credit carryforwards. Given PNW's minimal holdco debt, management does not expect a material impact from the lower tax shield on parent interest. PNW does not expect stress on credit metrics as a result of tax reform.
- **Credit ratings intact, some 2018 debt.** As expected, no credit rating stress (currently A- or better at all S&P, Moody's, and Fitch) from tax reforms and no equity expected through at least 2020. Management continues to expect the issuance of $600M of long-term debt at APS in 2018.

- **Capex plan extended to 2020 with more distribution spending.** The capital plan was extended to 2020 on the 1Q call, with higher capex of $1,211M driven primarily by higher distribution spend such as grid mod and reliability investments. 2018 capex plan remains at $1,181M. 2019 capex plan is increased by $144M to $1,153M driven mostly by higher spending in transmission and distribution. The three-year capital plan from 2018 to 2020 totals ~$3.55B over the three years. As we've previously discussed, falling generation capex in 2018 has essentially been replaced with more grid spending in 2020 and the rolled 3-year capital plan is virtually unchanged vs. 2017-2019. We see the potential for battery storage additions and incremental renewables through RFPs are not currently included in the capital plan through 2020 (see below).
- **Load growth could improve too.** If approved, the utility's new energy efficiency program would optimize peak load reductions that materially reduce both "duck curve" ramping and the ~90-100 bps electric load lag behind customer growth that has resulted from previous energy efficiency programs (another ~50 bps of lag comes from distributed gen). We expect commission consideration of the program in concert with consideration of Commissioner Tobin's proposals through the remainder of 2018.
- **Solar-plus-storage by PNW-plus-FSLR coming to AZ.** On Feb. 12th, Pinnacle West (PNW) subsidiary, Arizona Public Service Co. (APS) announced a partnership with First Solar (FSLR) for the construction of a 50MW/135MWh solar-fueled battery paired with a 65MW solar field, developed in response to its 2017 RFP for capacity resources during peak demand. FSLR will build and operate the solar-plus-storage facility, selling the power to APS under a 15-year purchase power agreement (PPA). The project is expected to be in-service by 2021. APS plans to increase adoption of battery storage to more than 500MW over the next 15 years.
- **APS issued an RFP on April 12, 2017 seeking proposals for 400 to 800 MWs of peaking capacity beginning in 2021**, primarily to backfill a 480-megawatt seasonal exchange agreement which expires in 2020 and replace PPAs that are expiring in the next 8 years. Management highlights that the FSLR solar-plus-storage bid won as the most economic resource for the need that was being filled.
- **Biomass RFP**. On May 7, 2018, APS issued an RFP for biomass projects in high-risk forest areas in Northern Arizona that begin delivery 2020 or later.
- **Notably, the early retirement of the Navajo plant (see below) was not contemplated** in the planning for this latest RFP, which opens up the possibility for an incremental 300 MW baseload need that APS may participate in either through exceptions to the self-build moratorium or for capacity after 2022. APS previously issued an All-Source RFP in March 2016, selecting a gas tolling agreement with 565-MW Arlington Valley, LLC covering the six-year period 2020-2025 from June to September only.
- **IRP filing remanded.** On Mar. 13th, the Arizona Corporation Commission (ACC) remanded the proposed integrated resource plan (IRP) filings of Arizona Public Service Co. (APS). Note that the commission does not approve or reject these plans, they simply "acknowledge" them (or not), while specific requests for prudency and cost recovery are made through ratecase filings. In a 3-2 vote, the ACC approved Commissioner Burns' "Amendment No. 1" stating that the commission would not acknowledge any plans that did not comply with all the requirements of established IRP rules. In particular, the ACC ordered APS to provide more accurate load forecasts, stating that APS' forecasts were "too aggressive" and unrealistically overstated future growth to result in plans for additional generation resources. The ACC concluded that APS did not adequately account for flat load growth as a result of energy efficiency, energy storage, smart grid improvements, and new technologies. Additionally, the ACC approved another amendment placing a moratorium on new gas plants 150MW or larger through the end of the year, requiring utilities to consider energy storage and renewable options first. We don't expect PNW to file its next IRP as long as Commissioner Tobin's Energy Modernization proposal remains pending. As such, the

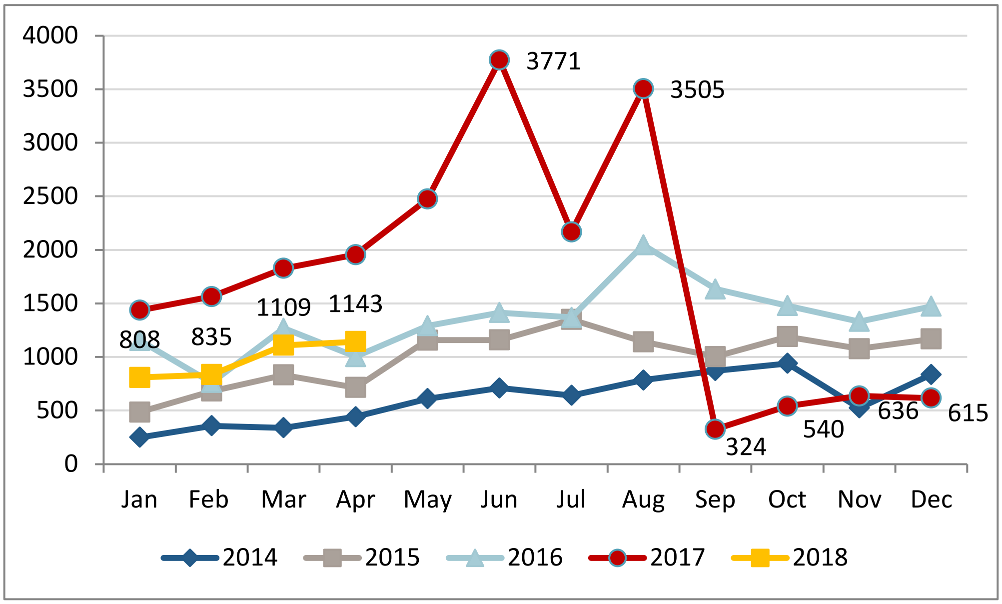
next opportunity for comprehensive discussion on these topics is the Clean Energy Forum, with a preliminary draft likely in 2019 and a final IRP filing scheduled for April 2020 after stakeholder and commission comments.

- **Getting (energy) efficient, awaiting ACC approval.** PNW's proposed demand-side management/ energy efficiency program has yet to be heard by the Arizona Corporation Commission (ACC), as it has been sidelined pending Commissioner Tobin's proposal. The program is expected to optimize energy efficiency more toward peak load reductions and the easing of "duck curve" ramping by encouraging energy usage during periods of negative pricing. Historically, energy efficiency has been a drag on sales due to "lost load", but management expects the program to lead to a material reduction of the ~90-100 bps electric load lag behind customer growth over the next few years. This is about 2/3 of the problem, with another ~50 bps lag from distributed generation. The load growth forecast from 2017-2019 remains for now about 0.5-1.5% after these customer conservation, energy efficiency and distributed renewable generation initiatives. The new program would be implemented in force in 2019, as PNW would need to test its pilot program first, which also included initiatives such as EV charging infrastructure and electrification of school buses.
- **Battery Storage development projects.** We see electric storage as a possible disruptive game-changer for the power industry, allowing deeper penetration of renewables further into the mid-merit and baseload portion of the generation stack. We continue to estimate commercial viability at scale in the early 2020s. Over the next several years, APS will implement a $2M annual battery storage incentive program for large commercial and industrial customers, paid through the DSM adjustment mechanism. This is in addition to batteries and capacitor technologies being tested through the "Solar Partner Program", which received regulatory approval in Dec 2014. In the first stage, APS installed 8 MW of residential rooftop solar on selected distribution feeders to maximize potential system benefits. In the second stage, APS added 2 MW of rooftop solar and energy storage, placing 2 MW energy storage systems at two different high solar penetration feeders to test potential grid operation improvements and system interoperability. Findings from this project may accelerate future battery storage development and utility-scale implementation.
    - **Punkin Center, Arizona:** 2 X 4MWh Li-ion battery storage systems to be installed in fall 2017 in place of rebuilding 20 miles of distribution lines
    - **Solar Innovation Study:** Residential battery installations for purpose of studying ability of solar-coupled systems to lower peak energy demand
    - **Solar Partner Program:** 2 X 2MWh Li-ion battery storage systems – 1 at substation, 1 mid-feeder, for purposes of researching battery effects on grid and learning most efficient manner to operate
- **O&M projection unchanged for now, but could be lower.** Management expects incremental improvements in electric gross margins and O&M from its previously issued guidance range of $860-$880M in 2018 (no change for now) due to continued cost control efforts. PNW expects 2018 O&M to be higher than 2017 ($833M) as a result of by higher planned fossil outages, particularly higher outages at gas/oil plants are expected as the number of starts has increased with more solar generation and the participation in the energy imbalance market. Beyond 2018, we expect normalized outage O&M of $40-$45M once Navajo closes (similar to pre-2016 levels).
    - **Navajo coal-sing down after 2019.** PNW expects the Navajo Generating Station, which it is a partial owner of, to close following the end of its lease in Dec 2019. In June 2017, the Navajo Generating Station co-owners and the Navajo Nation Council approved a replacement lease that will allow the plant to operate through Dec 2019, also setting guidelines for decommissioning after that. About $102M net book value remains based on an estimated end of life in 2026, which the

company has reclassified as a regulatory asset and will need to seek recovery of (and on) upon closure. Regulators, tribal representatives, the plant's coal supplier and the United States Department of the Interior have been seeking an alternative solution (i.e. without APS) through a separate regulatory docket (E-00000C-17-0039) that could permit continued operations beyond 2019. Regardless, PNW continues to expect an end to the current ownership structure of the Navajo Generating Station.

- **Recovering environmental costs at Four Corners.** On April 27th, PNW filed for a $67.5M step increase for cost recovery of the SCR installation at Four Corners, which it expects to be largely offset on customer bills by decreases in other adjustor mechanisms. PNW has requested the ACC approve the step increase by Jan 1, 2019.
- **Longer term forecast of 2%-3% retail customer growth rate, but electric load growth still reduced about -1.5% by customer conservation/EE and DG**: Recently, the Nikola Motor Co. announced a move of its headquarters along with a new $1B manufacturing facility in West Phoenix, expected to bring 2K jobs to the Metro area with construction set to commence 2018. This is expected to contribute to Arizona's already above-average population growth with .45% in 2016, with the Maricopa County ranking #1 in the U.S for population growth. In addition, Arizona – particularly Metro Phoenix – is experiencing above-average job growth in financial services, quicker-than-average recovery from the 2008 recession, and substantial annual increases in housing permits. With these modestly positive economic indicators, PNW continues to project annual retail customer growth to range around 2%-3% from 2018-2020. However, native load growth continues to be tamped down due to customer conservation/energy efficiency (EE) and distributed generation (DG) initiatives. Accounting for about -1.5% load suppression (about half from EE and half from DG), the weather-normalized retail electricity sales volume growth is currently projected to be 0.5%-1.5% from 2018-2020.
- **Solar applications spiked ahead of Sept 1 grandfathering deadline.** For 2Q18, we expect continued run rates around ~1,000 per month. In August 2017, APS received over 4,000 applications for rooftop solar interconnections, more than double the recent monthly average as customers rush to beat the lower feed-in rate implementation deadline on Sept 1 (see above). As of August, there had been more than 66,000 residential PV installations within APS territory, totaling 510 MWs. By yearend, this had increased to 74,000 installations totaling 581 MW (about 6% of the residential customer base). APS customers also receive solar from the utility-scale Solana Generating Station as well as from 10 AZ Sun program utility-scale solar plants. Typically, the combination of Energy Efficiency (EE) and Distributed Generation (DG) suppress load growth by about 1.5% (about half the impact from each).

Figure 1: APS Residential Photovoltaic Interconnect Applications



Source: Company data, www.arizonagoessolar.org

- **Switching over to TOU rates.** We note that following the August ratecase settlement, non-grandfathered customers were required to select TOU rates along with a either a new grid access charge or a demand component. With new rates, management is shifting from encouraging energy efficiency at all times to encouraging it at different times of the day, while even discouraging it at others through the TOU rates. Management expects to see effects in 2019, given carry-over from old rates in 2018. Currently, PNW highlights that customers have been voluntarily choosing to switch over to new TOU rates, though migration is to begin in Feb with full migration by May 1st, with the exception of grandfathered customers.
- **There could yet be more generation spending after 2019…** Capital spending in 2019 drops by about $300M vs 2017 as capex from Four Corners and Ocotillo rolls off. Nevertheless, the company may still avail itself of multiple exceptions to a moratorium on self-build generation through 2021 as agreed in the approved ratecase settlement (see below). As discussed further in the section on Integrated Resource Planning (IRP), APS will need to ensure adequate quick-ramping resources by the early 2020's in support of relatively high renewables penetration in the state. However, the latest all-source Request for Proposals (see below) was issued before PNW had certainty over the pending 2019 early retirement of the Navajo coal-fired generating station, a loss of almost 300 MW net capacity. Furthermore, planning for the 290-MW net increase in Ocotillo capacity expected by summer 2019 also did not contemplate the retirement of Navajo. As such, we see some additional need for both baseload and peaking resources after 2019 that may provide the company with (as yet) unplanned opportunities for participation in additional generation investment. Beyond this, any remaining power requirements are likely to be satisfied through PPAs and the Western Interconnect Energy Imbalance Market (EIM) that APS recently joined to import inexpensive (subsidized) renewable power from CA. See the IRP section in our 9/20 PNW initiation for more detail.
    - **Resource reductions** from 2017-2032 include 872 MW from Ocotillo steam unit retirements, Navajo contract expiration, and Cholla coal retirement, plus another 1,133 MW of expiring PPAs. Through the shorter term 2022, there are 472 MW of retirements and 509 MW of PPA expirations.

- **Planned resource additions** from 2017-2032 include 6,923 MW nat gas units, short-term market purchases, DSM, microgrids, rooftop solar, storage, and wind. Through the shorter term 2022, there is 2,704 MW of new generation planned.
- **Peak load growth** of 3.0% through 2032 is expected to result in a 62% increase overall. Through 2022, 3.4% growth is expected to result in a 20% cumulative increase.

Figure 2: 2017 IRP Proposed Peak Capacity Mix (MW)

2017 IRP Peak Capacity Mix (MW)	2017 Resources	PPA Expirations/Ocotillo Steamers	Coal Reductions	Resource Additions	2032 Resources
Nuclear	1,146				1,146
Coal	1,672		-702		970
Natural Gas	4,623	-1,297		5,387	8,713
Renewable Energy	529	-26		183	686
Incremental DSM (EE + DG)	116			979	1,095
Energy Storage	0			397	397
Total	**8,086**	**-1,323**	**-702**	**6,946**	**13,007**
Renewable Energy with Existing Rooftop (Nameplate)	1710	-27		3,315	4,998
Energy Storage (Nameplate)	4			503	507

Source: Company data, Credit Suisse estimates

- **No self-build until 2022, but with lots of exceptions.** The approved ratecase settlement this year includes a self-build Moratorium that prohibits APS from pursuing any new self-build generation having an in-service date prior to 2022. This restriction term is even longer for combined-cycle generating units – with an extended period to December 31, 2027. However, **several exceptions** for projects expressly authorized by the ACC include carve-outs for the following:
  - Renewables
  - The ongoing Ocotillo repowering/modernization
  - Any acquisition from third party
  - Reliability imperatives
  - Storage or dg less than 50 mw per location
  - Any microgrid regardless of size
  - Any uprates or repowering of existing plant
- **Upcoming expirations of several sizable PPAs** and the retirement of coal plants over the next 8 years will require replacement. Although the acquisition of ownership interest in existing natural gas power plant is still allowed, lower-priced PPAs may be sufficient to meet future capacity demand, especially oversupplied renewable power from California through the Western Interconnect Energy Imbalance Market (EIM), which APS joined in Oct 2016.

Companies Mentioned *(Price as of 03-Aug-2018)*
Pinnacle West Capital Corp. (PNW.N, $80.32, OUTPERFORM, TP $87.0)

Disclosure Appendix

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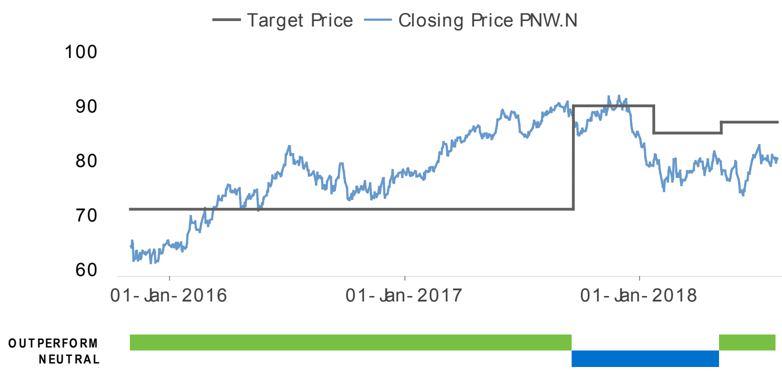
3-Year Price and Rating History for Pinnacle West Capital Corp. (PNW.N)

PNW.N	Closing Price	Target Price	
Date	(US$)	(US$)	Rating
01-Nov-15	63.51	71.00	O
20-Sep-17	87.30	90.00	N *
23-Jan-18	79.89	85.00	
08-May-18	78.30	87.00	O

** Asterisk signifies initiation or assumption of coverage.*



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Neutral (N) : The stock's total return is expected to be in line with the relevant benchmark* over the next 12 months.
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Target Price and Rating
Valuation Methodology and Risks: (12 months) for Pinnacle West Capital Corp. (PNW.N)

Method: We reach our $87 price target and Outperform rating on PNW based on average comparable group multiples of 16.2 x 2020 price-to-earnings. We use the CS estimated 2020 EPS for the comparables and get the average forward price-to-earnings using the current prices. We base our rating valuation on total return, which combines the implied yield and the upside/downside.

Risk: Risk to our $87 price target and the Outperform rating include (a) full approval of the settlement in the pending ratecase (b) better-than-expected load growth, and (c) secular increase of imported power prices.

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