Outlook: U.S. Public Power and Electric Cooperative Sector

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2018 Outlook: U.S. Public Power and Electric Cooperative Sector

Rating Outlook

STABLE (2017: Stable)

Sector Outlook

STABLE (2017: Stable)

Rating Outlooks



FitchRatings

Public Finance

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Fitch 2018 Outlook: U.S. Public Power and Electric Cooperative Sector

Outlook Report

Rating Outlook STABLE (2017: Stable)



End 2016

(2017: Stable)

precession levels Environmental compliance

burdens decline

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Electric affordability improves to

Declining capital investment

Source: Fitch.

Sector Outlook

STABLE

Rating and Sector Outlooks Stable: Fitch Ratings' 2018 outlook for the public power and electric cooperative sector is stable. Strong sector characteristics, including autonomous rate-setting authority, the essential nature of electric service and reliable cash flow, should allow the sector to retain a solid fiscal foundation. The outlook for ratings is also stable

Affordability Returns to Prerecession Levels: Strong growth in household income has





YTD 10/31/17

contributed to electric cost affordability that has returned to prerecession levels, easing rate pressures for most public power and cooperative issuers. Favorable operating conditions, a continued ability and willingness to increase electric rates to preserve margins, and modest economic growth should help sustain the sector's trend of improving financial metrics.

Regulations Uncertain: Actions by the Trump administration, including a proposed repeal of the Clean Power Plan (CPP) and withdrawal from the Paris climate agreement, make the future of environmental regulations aimed at reducing carbon dioxide (CO2) emissions uncertain at best. Revisions to the CPP and CO2 regulations would likely benefit coal-dominant utilities over the near term by easing or eliminating the burden of compliance

Carbon Pressures Remain: Despite the shifting regulatory landscape. Fitch expects that state-level renewable mandates as well as mounting pressure from consumers, local governments and investors will pressure public power utilities to reduce CO2 emissions over time. The proliferation of policies that reduce liquidity or force premature retirement could result in financial strain and downward rating pressure

Declining Rate of Capital Investment: Capital investment as a percentage of depreciation has steadily declined throughout the public power sector since 2010, driven by lower growth in electric consumption and ample access to alternative generating capacity. Lower spending ratios should continue during the near term as consumption and resource development trends limit sector-wide investment in generation. Lower funding requirements and redirection of cash flow toward reserves and debt reduction would be supportive of credit quality

Favorable Operating Environment: Low natural gas prices and interest rates should support financial performance through the outlook period, but future gains may be limited. Fitch expects natural gas prices to remain low by historical standards at \$3.00/per thousand cubic feet (mcf) for 2018. Long- and short-term interest rates are expected to rise steadily through 2018, but higher levels should not pose a material risk to issuers given the sector's concentration of fixed-rate debt and lower funding requirements.

Outlook Sensitivities

Stable Sector Outlook: The essential services provided by the sector, monopolistic business nature and autonomous rate-setting authority are key factors in the sector's historical performance stability. Given the sector's fundamentals and Fitch's expectation for modest economic growth nationally, a shift in the sector's stable outlook in 2018 is unlikely.

Unwillingness to Support Metrics: A widely observed unwillingness of public power and cooperative issuers to raise rates to support current and projected financial metrics in response to economic weakness, increased cost pressures or declining consumption, could change the sector rating outlook to negative.

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December 6 2017



Affordability Returns to Prerecession Levels

- Strong growth in household income has contributed to affordability that has returned to prerecession levels, easing rate pressure
- Real household income rose dramatically in 2015, and again in 2016; Modest improvements forecast in 2017-2018
- Affordability ratio of 2.34% in 2017 versus 2.75% in 2010
- Fitch's growth forecasts recently revised; 2017 GDP higher (2.3%); 2018 growth (2.5%) on upwardly revised outlook for private-sector investment and modest fiscal boost;
- Real incomes are expected to benefit from an increasingly tight labor market; Consumer spending growth remains solid; Consumer confidence readings at highest levels since November 2000.

Residential Electric Cost to Median Household Income



Coverage of Full Obligations

Indicates the margin available to meet current debt service and other fixed obligations.



Affordability Returns to Prerecession Levels

- Lower electric costs tied more to declining consumption than lower electric prices; Residential consumption has declined approximately 4% since 2005; Real prices have risen nearly 9%
- Total residential consumption forecast unchanged for 2016, decline of 1.5% for 2017, increase of 3% in 2018; Per capita declines continue
- Real price decline of 2.0% for 2016; Increases in 2017 and 2018
- Improved affordability through 2017 should support rate setting strategies

Electricity use growth rate percent growth (three-year rolling average)









Affordability Returns to Prerecession Levels

Fitch Upgrades Alameda Municipal Power, CA's Bonds to 'AA-'; Outlook Stable

"DEMONSTRATED RATE FLEXIBILITY: A multiyear trend of **decreasing MWh sales**, driven by increased energy efficiency and distributed generation along with mild weather, has been largely offset financially by the board's **demonstrated willingness to increase** and restructure rates to include higher fixed charges. Ongoing development on the island may stabilize MWh sales over the medium term, although the rating reflects Fitch's expectation that the board will continue to manage any sales declines with rate increases."

Fitch Rates Lubbock Power & Light, TX's \$17.4MM Power System Rev Bonds 'A+'; Outlook Stable

"RECENT RATE INCREASES: Recent rate **increases were approved unanimously** by the city council, demonstrating political support for the utility despite **Fitch's view that the service area remains rate sensitive**. Planned rate increases include a 5% increase projected for fiscal 2018. Retail rates are expected to remain competitive following the projected increase."



Affordability Returns to Prerecession Levels

Fitch Places Santee Cooper (SC) Revenue Obligations on Rating Watch Negative

"Fitch's Rating Watch does not presume the outcome of the legal claim, but reflects what Fitch believes could be a degradation of Santee Cooper's financial flexibility in all of the potential outcomes, given the magnitude of Central's contribution to Santee Cooper's overall revenues. Fitch believes that while the litigation progresses, **Santee Cooper may experience rate pressure that could lower financial margins**, increase leverage and deplete liquidity more than was previously anticipated."



Lower Fuel Cost Broadly Positive

- Low fuel costs and energy prices should remain broadly positive through 2018
- Fitch 2018 base case (\$3.00/mcf) and long-term (\$3.25/mcf) natural gas prices are higher than a year ago; Storage levels have moved toward historical averages, mainly due to a relatively subdued summer injection season.
- AEO 2018 Reference Case forecasts increasing gas prices through 2030 driven by production expansion into more expensive-to-produce areas and increased export demand.
- Gas prices highly sensitive to domestic resource and technology assumptions; Low R&T case assumes higher costs for Alaska and Lower 48 reserves (Permian and Appalachian) and slower technology improvement.
- Given the sector's growing reliance on natural gas generation at ~32% in 2017, a sudden unexpected rise in cost remains a concern.

U.S. Average Cost of Delivered Fuel for Electric Generation and Interest Rates



MMBtu – Million British thermal units.

Source: U.S. Energy Information Administration, U.S. Federal Reserve.

Natural gas spot price at Henry Hub



2017 dollars per million British thermal units

Low Interest Rates Positive; Upward Pressure Mounts

- Low interest rates and robust access to the capital markets have been positive
- Replacement and refunding of debt has reduce revenue requirements; More than 70% of 2016-2017 electric power debt earmarked for refunding; Further gains from refunding could be limited, particularly following tax reform
- Fitch expects the Fed to raise rates another 100 basis points in 2018; US 10-year Treasury yield of 3.75% by the end of 2019
- Higher short-term rates should not pose a material risk to issuers; Low percentage of short-term debt and unhedged variable rate exposure (4.7%); Nearly 57% of issuers have no variable rate exposure
- Higher long-term rates may limit headroom created in recent years and could result in upward pressure on rates.

FitchRatings



Source: The Bond Buyer, Fitch

United States - Forecast Summary

Ann. Av.2012-16	2016	2017f	2018f	2019f
2.2	1.5	2.3	2.5	2.2
2.4	2.7	2.7	2.2	1.9
5.1	0.7	3.7	3.8	3.6
-0.1	-0.2	-0.1	-0.1	-0.1
1.3	2.1	2.1	2.2	2.2
0.31	0.75	1.50	2.50	3.25
0.82	0.95	0.87	0.87	0.87
	2.2 2.4 5.1 -0.1 1.3 0.31	2.2 1.5 2.4 2.7 5.1 0.7 -0.1 -0.2 1.3 2.1 0.31 0.75	2.2 1.5 2.3 2.4 2.7 2.7 5.1 0.7 3.7 -0.1 -0.2 -0.1 1.3 2.1 2.1 0.31 0.75 1.50	2.2 1.5 2.3 2.5 2.4 2.7 2.7 2.2 5.1 0.7 3.7 3.8 -0.1 -0.2 -0.1 -0.1 1.3 2.1 2.1 2.2 0.31 0.75 1.50 2.50





Higher RPS Compliance and Transmission Costs Offset Other Gains

- RPS compliance costs totaled 3.0 billion in 2015, up from \$2.4 billion in 2014; 1.6% of average retail electricity bills; as high as 12% in California;
- Over 24,000 miles of new transmission lines built in 2011-2015, twice the number of miles added in 2006-2010
- \$102 billion invested in new transmission to strengthen the grid and connect new generation



Note: RTOs are regional transmission organizations.



FitchRatings

Total RPS Compliance Costs



Source: Lawrence Berkeley National Laboratory





Lower Fuel Cost and Interest Rates Positive

Fitch Rates Concord, NC's \$58.0MM Utilities Systems Revs 'AA'; Stable Outlook

"HIGHER OPERATING RISK: The City of Concord entered into a full requirements power sales agreement with NTE Carolinas, LLC, (NTE) in 2015, which will replace the existing Duke Energy Carolina, LLC agreement expiring in 2018. While **the new power supply agreement is projected to result in lower purchased power costs**, NTE is an unrated, new power developer, with five power projects under development but not yet operable, which adds operating and counterparty risk for Concord."

Fitch Affirms PPGA's Whelan Energy Center, NE's Unit 2 Rev Bonds 'A-'; Outlook Stable

"INCREASING COST OF POWER: The project's cost of power has fluctuated since coming online in 2011, and reached \$77.20/MWh in 2017. Despite this relatively high cost, Fitch believes the project's modest capital needs and emission-control technology should keep rates manageable to the project participants over the longer-term.

Operation of the unit has been curtailed due to the continuation of low natural gas prices and availability of low cost energy. In 2017, the project's equivalent availability factor and net capacity factor was about 76.7% and 42.1%, respectively."



Lower Fuel Cost and Interest Rates Positive

Fitch Rates Energy Northwest, WA's Electric Rev Bonds 'AA'; Outlook Negative

COMPETITIVE PRESSURES ON POWER BUSINESS LINE

"Bonneville sells energy produced from 31 hydroelectric plants owned and operated by the U.S. Army Corps of Engineers or the U.S. Bureau of Reclamation. Bonneville has direct-funding agreements with both agencies to pay operating and capex. The direct funding of capital improvements allows Bonneville to direct decision making and prioritization of reinvestment in the hydroelectric fleet. Bonneville also markets energy from nonfederal projects, the largest of which is CGS. CGS is a 1,174 MW nuclear plant (approximately 10% of Bonneville's total power supply)."

"In recent years the competitive margin between Bonneville's power rates and market alternatives has compressed due to very low natural gas prices, increased generation from renewables, declining energy demands in the region and increasing costs at Bonneville. Bonneville's current power supply contracts expire in 2028."

Environmental Regulations Uncertain....

- Actions by the Trump administration, including proposed withdrawal from the Clean Power Plan (CPP) and from the Paris climate agreement make the future of environmental regulation uncertain at best.
- Repeal of CPP could provide some flexibility and near-term benefit as issuers pursue economic dispatch..
- Coal-dominant utilities likely to benefit, particularly those in challenged by the CPP: Kansas, Missouri, Nebraska, Tennessee and West Virginia
- Any benefits of coal-fired generation are expected to be short-lived...

Net electricity generation from select fuels



U.S. Energy Information Administration

#AEO2018 www.eia.gov/aeo

...but Carbon Pressures Remain

- State level renewable mandates as well as mounting pressure from consumers, local governments and investors alike are expected to affect resource planning for years to come
- Nineteen states have adopted renewable standards or goal that apply to public power utilities.
- These initiatives, together with proposals and policies aimed at limiting investment in thermal coal, are likely to drive issuers toward strategies promoting reduced emissions.
- CA Insurance Commissioner proposal targets
 wider universe of issuers and activities
- Proliferation could significantly reduce liquidity or force consideration of premature retirement, resulting in financial strain and downward rating pressure

FitchRatings

FITCH: PARIS EXIT WILL NOT STOP US PUBLIC POWER CO2 REDUCTION



RPS Capacity Additions: 2000-2016

Source: Berkeley Lab Notes: States denoted "Non-RPS State" if an RPS did not exist at any point over the 2000-2016 period.



FITCH: EVOLVING POLICIES MAY CHALLENGE US PUBLIC POWER LIQUIDITY



Environmental Regulations Uncertain, but Carbon Pressure Remains

Fitch Affirms Marquette Board of Light & Power, MI Electric Revs at 'A'; Outlook Stable

"MARQUETTE ENERGY CENTER (MEC) COMPLETED: The MEC, a new primarily natural gas-fired generation (51 MW) facility, came online in the summer of 2017. **MEC was constructed to replace MBLP's older, less efficient coal-fired units.** The new plant is fully operational but not expected to be the primary generating asset for a few more months as the board winds down its remaining coal contract/reserves."

"HIGH RATES: Residential rates are high relative to statewide averages after a **30% rate** *increase in fiscal 2017 to fund MEC.* Sales were roughly flat in 2017 and additional rate increases do not appear necessary to fund MBLP's capital plan. In addition, the board doesn't face any direct competition within its service area and **support for the project and** *corresponding rate increases were strong*."



Environmental Regulations Uncertain, but Carbon Pressure Remains

Fitch Rates Grand River Dam Authority, (OK) 2017 Revs 'A+'; Outlook Stable

"DIVERSIFIED AND AMPLE POWER SUPPLY: GRDA's portfolio of resources, which includes a diverse fuel mix and is supplemented by purchases from the Southwest Power Pool (SPP), has enabled the utility to efficiently supply electricity to its customers. **The achievement of producing sellable power in July 2017 from the 495MW natural gas-fired facility offsets the closure of a coal-fired Grand River Energy Center (GREC) Unit 1 in April 2017**, and should provide GRDA with sufficient resources to meet future customer energy demand."

Fitch Rates Anaheim Public Utilities, CA's Electric Sys Rev Bonds 'AA-'; Outlook Stable

"REQUIRED POWER SUPPLY CONVERSION: The state's renewable mandate and greenhouse legislation requires APU to implement changes to its predominately coalbased power supply in favor of renewable generation to meet a 50% renewable portfolio supply by 2030. APU is on schedule to meet the state requirements, although similar to other southern California municipally owned utilities, the utility will need replacement energy and/or capacity after 2027."



Declining Rates of Capital Investing

- Rate of capital investment for public power issuers declined in 2016, continuing a trend begun earlier this decade.
- Since 2010, the median ratio of capital investment to depreciation has steadily declined from 166% to 121%.
- Over 60% of Fitch-rated issuers had lower capex in 2016 than 2010

Retail Electric Trends

Capex/Depreciation and Amortization

Indicates whether annual capital spending keeps pace with depreciation.



Source: Fitch Ratings.

Wholesale Electric Trends

Capex/Depreciation and Amortization

Indicates amount of capital spending relative to asset depreciation.



Declining Rates of Capital Investing

- Low growth in electric consumption, particularly for residential users, has obviated the need for new generation build;
- Investment throughout the broader utility sector has continued, driven in part by tax credits and other incentives, offsetting retirements of coal and natural gas capacity
- Renewal and replacement investment remains steady for public power utilities, and investment in transmission has grown;





Figure 3.5. Operating Generation Capacity, Additions, Retirements, and Announced Retirements by Region for All Generation Types, January 2002–December 2022²⁸



Declining Rates of Capital Investing

- Fitch expects the rate of investment to remain depressed over the near term.
- EIA forecasts electric power generating net capacity will decline by 2.9% during 2017–2021
- New capacity additions of wind and solar resources will exceed 52 GW or 64% of new additions;
- Tax credits and incentives will continue to make renewable resource purchase agreements attractive for not-for-profit utilities further limiting investment.
- Virtually no additional coal or nuclear resources are anticipated.
- Regional excess capacity should remain robust; All NERC regions expected to maintain reserve margins above resource adequacy targets.

Annual electricity generating capacity additions and retirements (Reference case) gigawatts



SERC.Nº

ec.

0.00%

egions have reserve margins above resource adequacy targets.

Source: EIA; DOE

Declining Rates of Capital Investing

- Lower capital spending should support sector credit quality;
- Systems debt-funding capex should clearly benefit from lower debt levels.
- The effect on credit quality will depend on alternative use of excess cash.
- Credit effect for systems funding capex with funds from operations will depend on alternative use of cash.
- Using funds to bolster reserves and reduce outstanding debt would be viewed as more supportive of credit quality than if funds are returned to end users through a reduction in rates

Days Cash on Hand

Indicates financial flexibility, specifically cash and cash equivalents, relative to expenses.



Source: Fitch Ratings.

Debt/FADS

Indicates the size of debt compared with the margin available for debt service.





Declining Rates of Capital Investment

Fitch Rates Redding, CA's Electric System Ref Rev Bonds 'AA-'; Outlook Stable

DECLINING LEVERAGE; MANAGEABLE CAPITAL NEEDS

"REU's leverage profile continues to improve with the growth in FADS and lack of new money debt issuances over the past several **years...Fitch expects the utility's deleveraging trend to continue with no debt issuances expected over the medium term**....REU's capital plan through fiscal 2023 includes modest spending of approximately \$40 million. ...Management plans on meeting the system's capital needs primarily through operating revenues and cash reserves."

Fitch Upgrades Silicon Valley Power (Santa Clara) Electric Revs to 'AA-'; Outlook to Stable

DELEVERAGING TREND TO CONTINUE

"SVP's multiyear deleveraging trend is projected to continue over the medium term with no additional debt issuances forecast over the next five years. Capital needs from fiscal 2018 through fiscal 2023 total \$218.2 million and will be funded with operating cashflow, accumulated reserves, connection fees, and other internal funds. **Positively, system expansion due to load growth and redevelopment is largely funded by new customers**."



Declining Rates of Capital Investment

Fitch Affirms Lakeland, FL's Energy System Rev & Rfdg Bonds at 'AA-'; Outlook Revised to Positive

MANAGABLE CAPITAL NEEDS

"Planned spending over the five-year, fiscal 2018-2022 period is estimated at \$200.9 million and will be funded entirely from excess cash flow. Expenditures appear manageable, as they are driven by ongoing maintenance, distribution system renewal and replacement, perfunctory regulatory compliance measures, and decisions related to the operations at the coal-fired McIntosh Unit 3...depending on future regulations, the city could ultimately be compelled to either decommission its coal-fired Unit 3, or make an additional capital investment to maintain compliance."

DECLINING LEVERAGE

"Debt levels have steadily improved as capex continues to be funded from current resources. Leverage ratios approximate Fitch's 'AA' rating category medians, and should further improve given the system's lack of additional borrowing needs and scheduled debt amortization."

Growing Challenges to Traditional Utility Model

- Customers are increasingly demanding more options to buy renewable energy; tax subsidies, falling costs and customer preferences are driving increased distributed generation
- Distributed PV competes against higher retail electricity prices, which do not necessarily reflect time-of-day or seasonal variation in cost.
- Not a key rating driver in the near term, given a low base, but a worrisome long-term trend for utilities.
- Development of affordable storage solution could spark customer defections over the longer term further upending the traditional utility model.
- Trend requires rate design solutions to minimize revenue loss and cross subsidization; Constructive net metering supportive.



Levelized cost projections by technology, 2022



U.S. Energy Information Administration

#AEO2018 www.eia.gov/aeo

FitchRatings

Projected capacity



Multiple Issues and Considerations

Fitch Rates Oglethorpe Power Corp., GA 'A-' & Removes Negative Watch; Outlook Stable

"VOGTLE NUCLEAR CONSTRUCTION COST RISK: **Ongoing construction cost risk** will persist at Vogtle Units 3&4 through the revised completion dates in 2021 and 2022. OPC's revised total cost estimate for its 30% (660 MW) share of Vogtle Units 3&4 is \$7.0 billion (above the original \$4.2 billion estimate), including financing costs, contingency reserves and net of the Toshiba settlement funds."

"COMPETITIVE WHOLESALE RATES; UPWARD TRAJECTORY: OPC's wholesale rates are competitive with other regional providers, **but will increase significantly in 2021 and 2022 when the full costs of Vogtle Units 3&4 begin to be included in rates**. Project costs, including financing, are largely being capitalized by OPC at this time and are not currently included in rates. Although similar rate movement is expected at the project's other participants...competitiveness could become strained."

"HIGH LEVERAGE: Nuclear construction has resulted in high leverage, which Fitch believes reduces OPC's financial flexibility. Total debt is expected to grow to approximately \$11 billion by fiscal 2022, resulting in increasing leverage until sizable rate increases assumed to occur in 2022 and 2023...."



Multiple Issues and Considerations

Fitch Rates JEA, FL's Electric System Rev Bonds 'AA'; Outlook Stable

"DIVERSIFYING RESOURCE PORTFOLIO: JEA's varied mix of generating assets provides a diverse portfolio of capacity split between natural gas-fired and coal and other solid fuels. The anticipated **retirement of the St. Johns River Power Park's (SJRPP) 626 MW of coal-fired capacity** (two units) will better align capacity with demand, reduce carbon emissions and lower operating costs."

"CONTINUED DEBT REDUCTION: Leverage metrics have moderated in recent years, but remain somewhat elevated for the rating. Continued improvement is expected given plans to **redeem bonds early over the next several years and fund capital needs entirely from excess operating cash flow and existing reserves.**"

"NUCLEAR CONSTRUCTION CHALLENGES: Costs to complete the new nuclear units at Vogtle have risen once again, and the most recent update from the owners on the expected completion of the units is now projected in 2021 and 2022. However, the project will only account for an estimated 6.5% of JEA's total capacity and 13% of forecast energy supply upon completion. In anticipation of the higher fixed costs, JEA has been actively redeeming debt early and has built manageable rate increases into the out-years of its financial forecast."



Multiple Issues and Considerations

Fitch Rates Colorado Springs, CO's Ser 2017A Utilities Refunding Revs 'AA'; Outlook Stable

"MODERATE PROJECTED RATE INCREASES: Following a **period of rapid rate increases** to support the construction of major projects, CSU expects future rate adjustments to be more moderate. City council has been supportive of rate adjustments, approving the most recent electric and water base rate increases in January 2017. Utility rates remain competitive with surrounding providers."

"ECONOMIC GROWTH: The economy of Colorado Springs has experienced slow growth since the last recession. However, in the past two years, the city is showing signs of **stronger growth**, with employment gains exceeding that of the state and the nation. Income and unemployment figures are sound, outpacing U.S. levels. CSU maintains **conservative customer growth forecast of about 1.0% per annum**."

"LEVERAGE REDUCTION: Failure to reduce leverage or implement rate increases as needed to maintain financial position could put negative pressure on the rating."

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