

VIEWPOINT

Headwinds Facing Golden State Utilities

NIKHIL CHOPRA | JULY 24, 2018

No Rings for this Golden State Team: Challenges to California Utilities

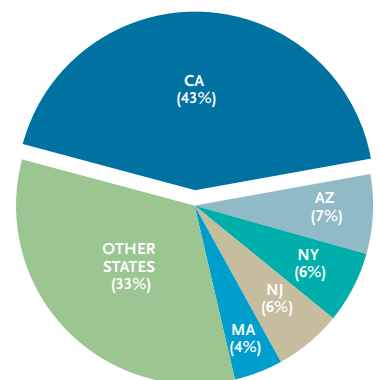
Unlike the Golden State Warriors who have won three out of the last four NBA championships, the Golden State electric utilities have been struggling to get an 'assist.' Due to the recent wildfires in California, issues such as inverse condemnation have come to the forefront while the other challenges linked to aggressive renewable energy policies and increasing customer choices without a well thought out plan have been building over time. The issues described below are of a different nature compared to the California energy crisis of 2000-2001 but there are some similarities such as regulation lagging policy objectives and the lack of recognition of external factors that utilities cannot control. The financial markets are showing a heightened sense of awareness around California electric utilities and the issues discussed below bear close watching.

Aggressive Renewable Policies Cause Cost Shifting

Recently, the California Energy Commission voted 5-0 to approve a mandate that residential buildings up to three stories require rooftop solar installations starting in 2020. The commission estimates that this would add \$40 to monthly customer mortgage bills but would save \$80 on monthly heating, cooling and lighting bills. The chart below shows California residential solar installations leading other states by a wide margin, a situation that is reflective of the progressive renewable energy policy goals in California.

California has one of the more aggressive energy Renewal Portfolio Standards (RPS) in the country, mandating 33% of retail electricity sales from renewable sources by 2020 and rising to 50% of retail sales by 2030. Approximately 30% of 2017 California retail electricity sales were renewables based, likely putting California load-serving entities ahead of schedule for meeting the 2020 RPS target. While regulators continue to drive a carbon free agenda, the utilities face a transition period where they must evolve their business models while meeting various state policy objectives. From a supply standpoint, more fossil fuel power plants will retire because of environmental rules and challenging

Residential Solar Installed Capacity Share by State



Source: EIA



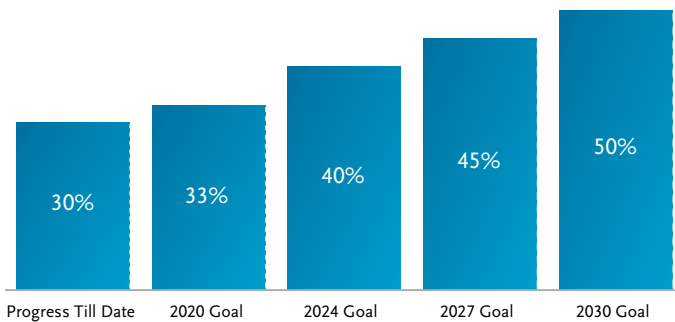
Nikhil Chopra
Senior Vice President
Fixed Income

Mr. Chopra joined the TCW Fixed Income group as a Credit Analyst in 2010. His research coverage universe focuses on the regulated utility and unregulated power generation sectors. Mr. Chopra earned his BS in Computer and Information Sciences from the University of Florida, and his MBA from the University of Wisconsin where he was a part of the Applied Security Analysis Program.

Headwinds Facing Golden State Utilities

economics. As these plants retire, the power grid would be more dependent upon intermittent renewable resources (when the sun doesn't shine or the wind doesn't blow) which could then lead to higher volatility in power prices and stress on the electric grid.

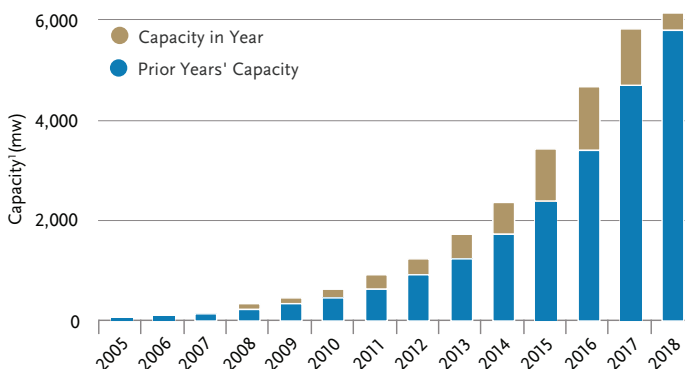
Progress Toward California Renewable Energy Goals



Source: California Energy Commission, December 2017

Rooftop solar highlights the 'cost shift' problem. As more customers install their own rooftop solar panels, the fixed long-term assets of the utility system (wires and poles) must still be maintained and paid for. Without proper cost allocation, customers who do not self-generate power with solar panels end up bearing more fixed costs of the system while the customers with solar panels have the optionality of staying connected to the grid. As rooftop solar penetration increases this will likely become a bigger problem and utilities will have to adjust their business model as they cannot continue to shift the cost burden to non-“solar rooftop” customers. In a nutshell, fewer customers are left to pay for the fixed costs of the system, and non-“solar rooftop” customers contribute more than their fair share of fixed system costs. The chart below shows the rapid growth in rooftop solar capacity in California.

Rooftop Solar Capacity in California

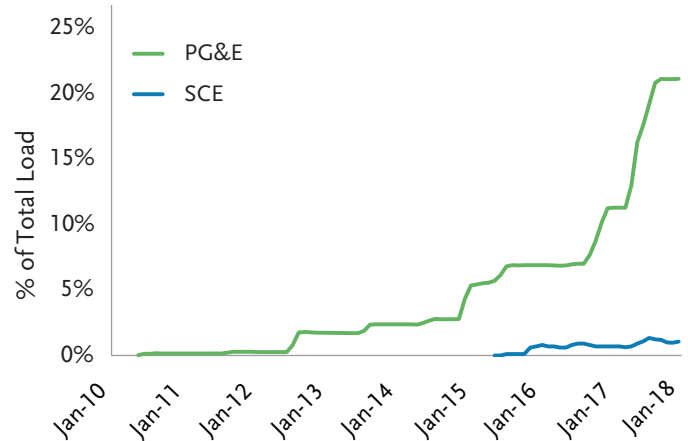


Source: California Distributed Generation Statistics

Community Choice Aggregators (CCA): More Customer Choices, Cost Shifting, and Unclear Credit Worthiness

Community Choice Aggregation (CCA) in California allows for cities and towns to join together to purchase electricity for their residents and provides an alternative to the incumbent electric utility. The purpose of a CCA is to provide customers with more renewable energy choices and reduce electricity costs. They provide electricity to customers while still using the poles and wires of the incumbent utility (for example PG&E customers who switch to a CCA will continue using PG&E's transmission and distribution lines but will switch to buying electricity from the CCA). The first CCA was created in 2010 and there were nine active CCAs in 2017. As more customers defect to CCAs from utilities, the utilities are left with some stranded costs on the higher-cost, older electricity contracts. The stranded costs are then paid for by the remaining non-CCA customers, a cost burden shift similar to the one created by rooftop solar. CCA's are growing at a rapid pace, but utilities still must act as the provider of last resort.

Percentage of Load Served by CCAs



Source: California Public Utilities Commission, Company Data

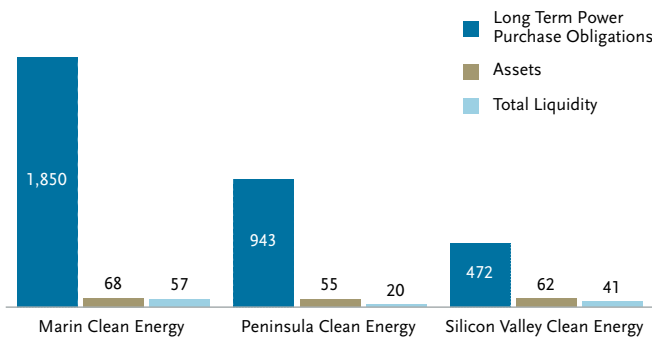
Several potential problems exist with the CCA model as we see it. The electricity demand could be higher than expected in which case the CCA would need to step in to buy electricity at market prices, presumably higher. Additionally, if electricity prices go up then the CCA constituents (cities etc.) could just switch back to the incumbent utility leaving the CCA with a stranded cost liability because the CCA may not be able to charge sufficient exit fees. The flip side would occur if electricity demand is lower than expected leading to a scenario where the CCA may have to sell electricity into a weaker market, causing losses for the CCA. All these scenarios

Headwinds Facing Golden State Utilities

would test the creditworthiness of the CCA, a potential issue given generally weak CCA capitalization and liquidity compared to the size of their long-term power purchase obligations. There also seems to be lack of central planning around how these customer migrations between electric utilities and CCAs, and any potential issues would be handled.

Since California utilities will likely be required to act as a backstop electricity provider if CCAs have issues, any pressure on the CCAs would be felt by the California utilities and ultimately may become problematic from a customer and regulatory standpoint. In essence, the CCAs creditworthiness hasn't been tested in a volatile power price environment which could stress their liquidity and cause solvency issues; if this unfolds, it would ultimately pressure the California utilities.

Community Choice Aggregators Asset/Liability Mismatch (\$ Million)



Source: Company Reports

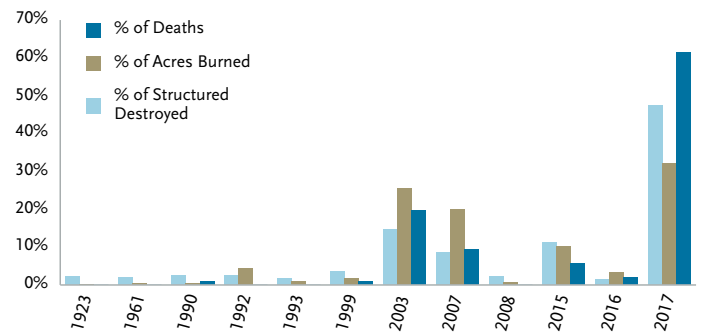
Recent Wildfires & Inverse Condemnation

Inverse condemnation presents yet another unique, if not the most acute risk for California utilities. Under the state's constitution, a utility has strict liability for claims related to events such as wildfires if its equipment is found to be a contributing cause of fire under the assumption that these costs can be socialized. However, the recovery of these costs from ratepayers may not be allowed by regulators even if the utility wasn't at fault.

Wildfire related damage and claims effectively create a liability, which the utility may not be able to recover from ratepayers, and therefore the utility's investors then act as the backstop. Wildfires have become increasingly common in California over the past few years. Recently Southern California Edison obtained \$300 million of wildfire insurance for 2018 at an annual premium of \$121 million, highlighting the very high

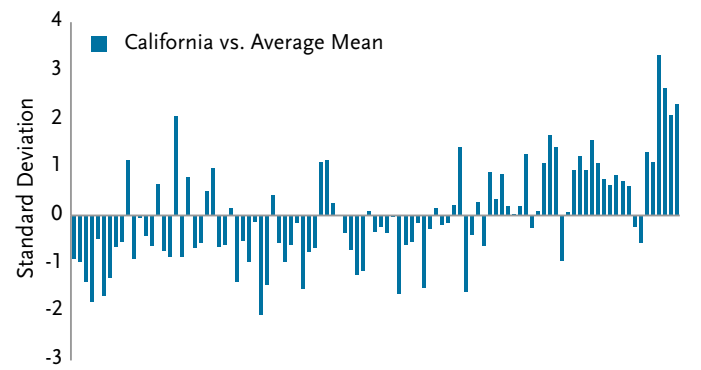
risk premium associated in underwriting California wildfires. The below charts show that a majority of the wildfire related destruction in California has happened over the past five years, and the increasingly warmer temperatures coupled with reduced precipitation may be playing a role in causing the wildfires. We have seen increasing instances of above average temperatures in California over the past couple of decades which implies that the wildfire related risk may be here to stay for California utilities.

Rising Wildfire Destruction



Source: California Department of Forestry & Fire Protection

California Annual Mean Temperatures vs. 100 Year Average



Source: Western Regional Climate Center

In most other states utility regulators provide extraordinary recovery mechanisms to utilities (passing through costs to customers) when they face extreme weather events like storms and fires. This may not be the case for California, which is a cause for concern for California utility investors. In October 2017 alone, 21 wildfires in Northern California (Pacific Gas & Electric territory)

Headwinds Facing Golden State Utilities

burned 245,000 acres, destroyed an estimated 8,900 structures and caused 44 fatalities. The December 2017 Thomas fire burned 280,000 acres, destroyed 1,063 structures, damaged 280 structures and caused two fatalities in Edison International's (EIX) territory. It is unclear if the utility will be able to recover from its ratepayers any wildfire-damage-related claims that it has to pay out. As a result, PG&E and EIX stock have declined significantly (loss of ~\$11B and \$3.5B respectively in market capitalization and shares down 33% and 14%, respectively, over the past year).

The question is whether California's lawmakers and utility regulators consider these as serious enough issues, and if they will proactively address them through balanced policies and regulation? While we see a long-term sunny future for utilities in the Golden State, there are some clouds on the horizon, and it would be up to the California lawmakers and regulators to provide an 'assist' in the form of balanced policies and regulation of the electric utilities in the state. In the long-term, this assist would likely be the best path forward for the customers and utilities alike. ■

Performance of California Utilities Equities vs. Utilities Index



Source: California Department of Forestry & Fire Protection

Policy objectives in California are currently focused on renewables and customer choice while potential cost-shift issues do not appear to be a high priority, creating risk for electric utility customers in California. If electricity prices go up, it may cause turmoil in the CCA market, which may ultimately impact the customers and the utilities. As rooftop solar continues to grow in California, the cost-shift problem likely grows with it. Lastly, if a utility cannot recover costs related to natural disasters the entire business model is put at risk. While the issue of wildfires and the associated liabilities has clearly weighed on investor minds, TCW's view is that CCAs could present a significant challenge as well. Electric utilities are responsible for safe and reliable grid operations, and irrespective of fault they will be dealing with any issues stemming from lack of well thought out policies and planning.

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