U.S. Public Finance

10 Rated Utilities With The Highest Debt Balances

U.S. Public Power Retail Municipal Utilities

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Feb. 1, 2024

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This report does not constitute a rating action

By the numbers - Top 10 U.S. municipal retail electric and gas utilities

The data and analysis in this report are based on the top 10 U.S. municipal retail electric and gas utilities as measured by long-term debt balances.

$49 billion long-term outstanding debt as of fiscal year-end 2022.

$42 billion planned capital spending over the next five years.

Approximately **50%** expected to be debt-funded ($21 billion).

Approximately 50% of these utilities' five-year capital plans is focused on

Transmission and distribution (T&D)

T&D spending as a percentage of these utilities' capital programs is comparable with that for U.S. and Canadian investor-owned utilities.

212 rated utilites

Top 10 **50% less**

The average debt per customer for these utilities is 50% less than across our 212 rated municipal electric and gas utilities.

Electric sales have remained within a narrow band during the past decade, with an average annual growth rate between **-2% and +2%**

Top 10 utility reserves are robust, with average days cash of **233**

Source: S&P Global Ratings.

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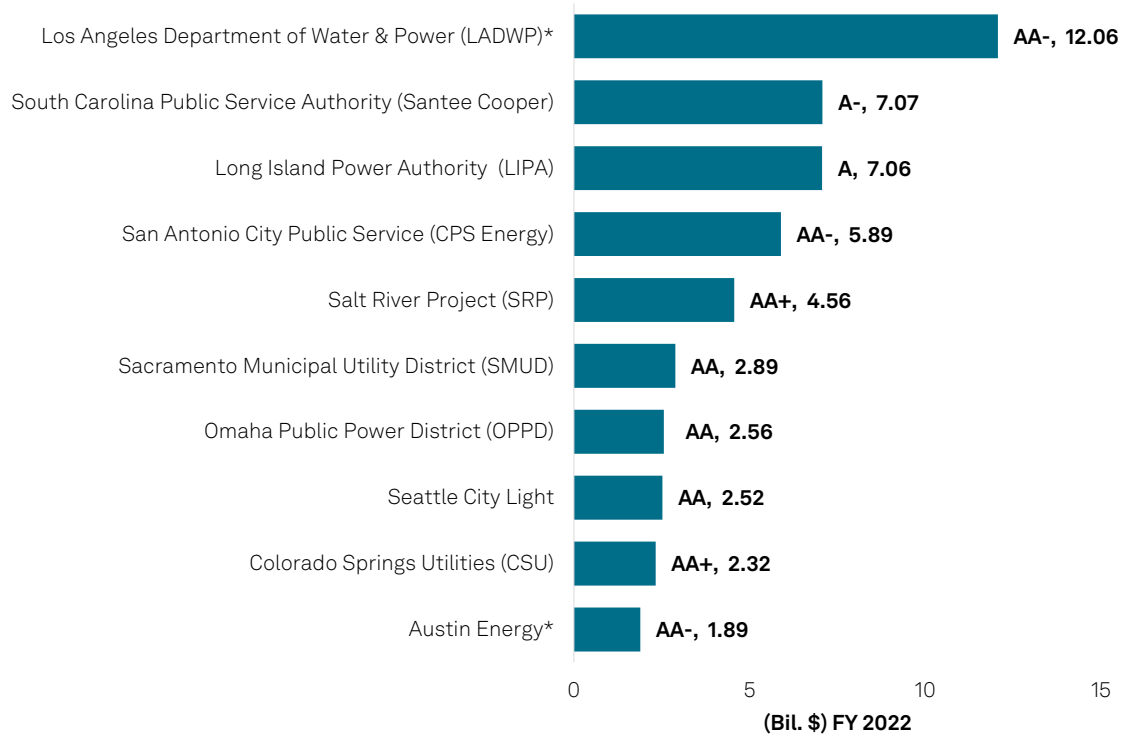
Top 10 Retail Municipal Utilities By Debt Outstanding

Top 10 U.S. public retail electric utilities by long-term debt outstanding



Data as of Nov. 17, 2023. *Electric lien only. FY—Fiscal year. Source: S&P Global Ratings.

Key Takeaways

- S&P Global Ratings maintains public ratings on 212 U.S. public power retail electric and gas utilities. Our analysis focuses on the 10 utilities with the most debt as of fiscal year-end 2022.
- High debt balances do not preclude these utilities from maintaining high-investment-grade ratings. This is because these utilities have strong forward-looking management teams that have set rates at levels that align revenue, expenses, and debt service, resulting in robust financial metrics.
- The 10 utilities' debt outstanding ranges from about $1.9 billion (Austin Energy) to $12.0 billion (LADWP).
- These utilities serve between 400,000 and 1.6 million customers, and they benefit from economies of scale because their significant capital costs cost can be spread among a greater level of energy sales, allowing them more financial flexibility.
- CSU, CPS Energy, and Santee Cooper are combined utilities and are rated under our U.S. Municipal Retail Electric And Gas Utilities Rating Methodology given that operating risk and net revenues from electric and gas operations are the principal source of payments to bondholders. It is important to note that their total outstanding debt includes debt issued to support various other operations.
    - CSU's operations include electric, gas, water, wastewater, and streetlight systems, and CPS Energy's operations include electric and gas.
    - Santee Cooper has water operations, which account for 1%-2% of revenue.
    - LADWP's water system bonds are separately secured and not included in our analysis.

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Historical Trends Of Long-Term Debt

The leading 10 utilities have a combined $49 billion of outstanding debt, and despite this high figure, their leverage ratios are manageable.

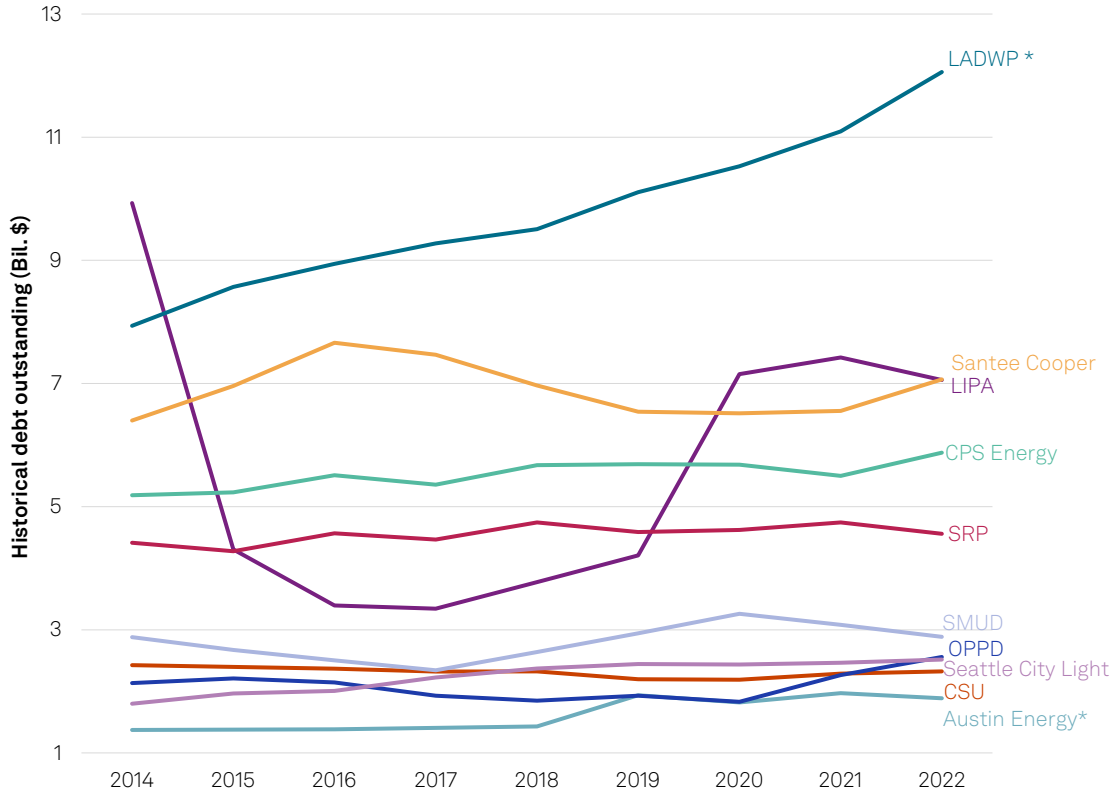
Drivers of debt

- LADWP's high debt is due to several factors, including investments in reliability and renewable energy projects, ongoing infrastructure replacement, and rehabilitation and facilities upgrades.
- LIPA's high debt burden in 2014 primarily resulted from legacy debt from the Shoreham nuclear plant. LIPA's long-term debt burden dropped by about 66% between 2014 and 2017 due to the securitization of nearly 30% of LIPA's outstanding debt. The off-balance-sheet securitized debt is excluded from our analysis given that the debt has a separate security. The rise in debt from 2019 to 2020 was due to the issuance of debt for storm hardening in the aftermath of severe weather events.
- Santee Cooper's high debt is related to the $4.5 billion nonperforming investment in the abandoned VC Summer nuclear units Nos. 2 and 3.

A few are also in states with the highest debt

- LADWP, LIPA, Seattle City Light, and SMUD are also located in states with the highest amount of tax-supported debt (California, New York, and Washington). See "U.S. State Debt: Lower For Now," published July 10, 2023, on RatingsDirect.

Top 10 utilities' long-term debt outstanding (2014 - 2022)



Data as of Nov. 17, 2023. *Electric lien only. Source: S&P Global Ratings.

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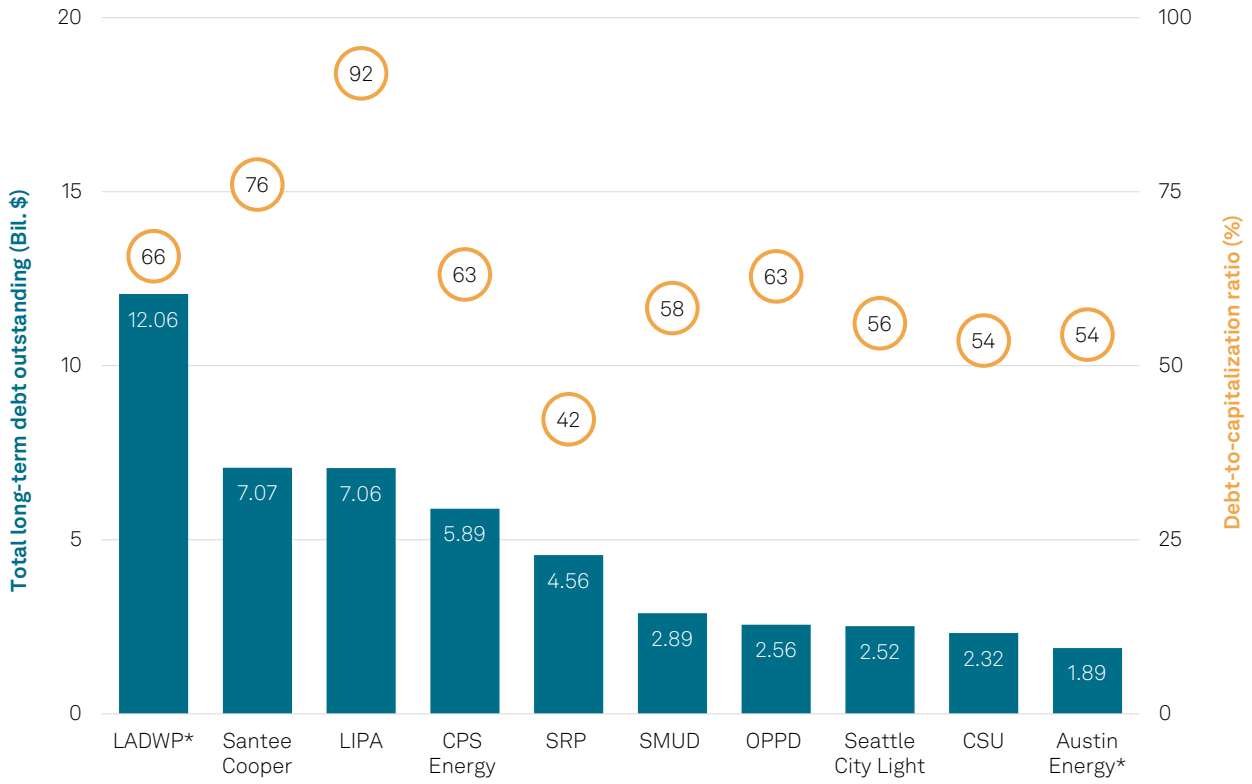
Leverage Ratios Remain High But Are Manageable

Long-term debt outstanding and total debt-to-capitalization ratio



Data as of Nov. 17, 2023. *Electric lien only. Source: S&P Global Ratings.

Debt and liabilities ratio

- Our debt and liabilities assessment measures the extent to which existing and proposed liabilities may affect a utility's ability to service debt. It can also be tied to the retail utility's rates and capacity for additional debt, which incorporates the analysis of the capital improvement plan.

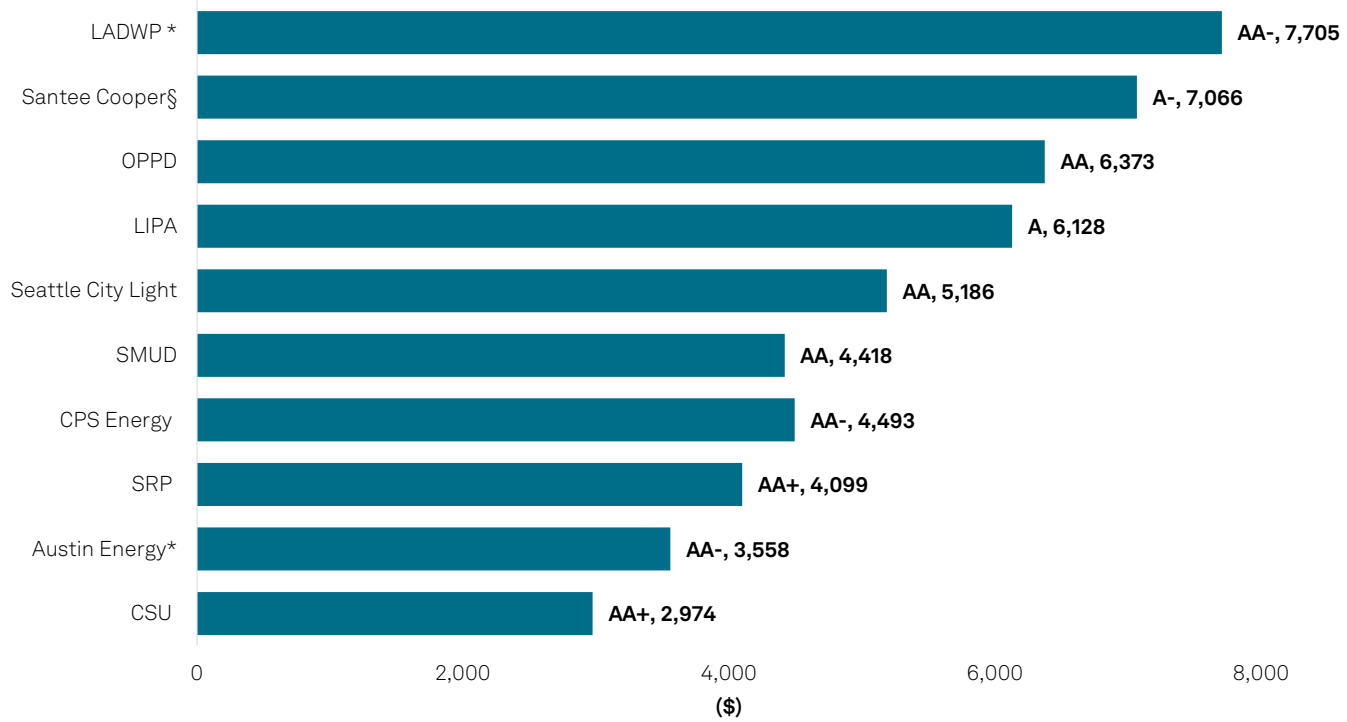
Most of our municipal retail electric utilities have manageable debt outstanding compared to their equity position

- Despite the significant amount of total outstanding debt, our analysis of these utilities' debt-to-capitalization ratios indicates they have capacity to issue additional debt.
- These leverage ratios also reflect public power utilities' inability to access equity capital as an additional funding source for capital needs.
- LIPA is highly leveraged and has about $7 billion of unsecuritized long-term debt. A component of LIPA's debt profile is its lease obligations (about a quarter of long-term debt) under a contract with National Grid that expires in 2028.
- LADWP is also highly leveraged and has a $13.5 billion capital plan during the next five years, about half of which will be debt-funded, although as debt amortizes, we expect the debt-to-capitalization ratio will stay between 60% and 70%. In our opinion, this is manageable for a vertically integrated utility.

Top 10 Retail Municipal Utilities By Debt Outstanding

The average debt per customer for our top 10 utilities is lower than the average across all of our rated retail electric utilities given economies of scale

Total debt per customer (FY 2022)



Data as of Nov. 17, 2023. *Electric lien only. FY—Fiscal year. §Santee Cooper's debt per customer includes both direct and indirect customers, and the indirect customers are via Central Electric Cooperative through a coordination agreement.
Source: S&P Global Ratings.

- The average utility debt per customer from our leading 10 utilities is approximately $5,200, which is below the roughly $8,100 average across our 212 rated retail electric and gas utilities.
- Economies of scale and the ability to spread costs among a greater amount of energy sales reduce the overall debt per customer as the utility can spread out these costs.
- High debt per customer could result in less competitive retail electric rates, leading to a rise in delinquent payments and less stable cash flow, depending on the service area economics.
- Utilities with high debt per customer could face rate resistance needed to fund higher operating costs or future capital projects.

Stable Energy Sales Expected To Rise

Electric demand is historically stable.

- During the past decade, public power utilities' electric demand has remained within a narrow band even through economic and various weather factors.
- Electric sales have remained stable due to energy efficiencies around equipment, appliances, insulation, and energy efficiency programs.

Various independent analyses point to higher projected energy demand through 2050 due to economic growth, electrification, and decarbonization.

- The Energy Information Administration's (EIA) 2023 Annual Energy Outlook projects a rise in electric demand across various scenarios that include a combination of assumptions such as macroeconomic growth, increasing energy consumption, and declining cost of zero-carbon generation technologies.
  - The significant costs, inflation, and capital costs resulting from electrification could pressure electricity demand growth.
- The EIA projects that energy consumption growth will vary by sector, with residential rising between 14% and 22% by 2050 and transportation by between 892% and 2,038%, and with industrial increasing by 3% in low-growth assumptions and 38% in high-growth economic growth cases.
- From a global perspective, the McKinsey & Co. Global Energy Perspective from 2022 projects more significant growth, with power consumption tripling by 2050, given continued electrification and growth in living standards.

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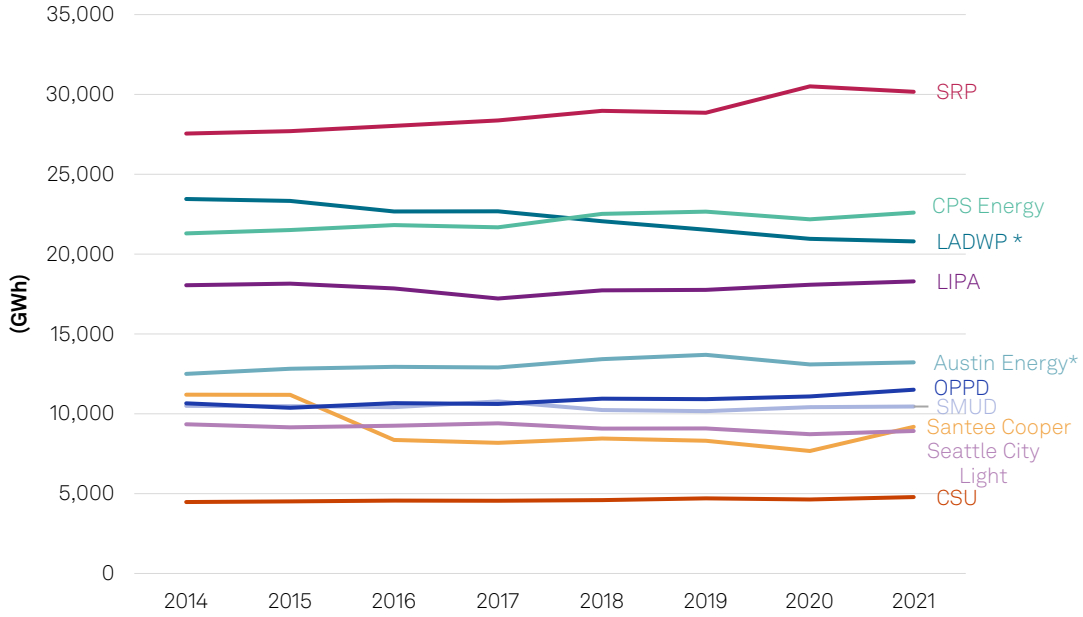
Details

- SRP's growth was due to a rise in industrial and commercial customers in Phoenix from out-migration from surrounding states and a continued rise in temperatures.
- LADWP's decline in electric sales was due to progress with energy efficiency and deployment of net-energy metered solar.
- Santee Cooper's electric sales declined in 2016 as Central Electric Cooperative, its largest customer, began purchasing a portion of its energy needs from Duke Carolinas.

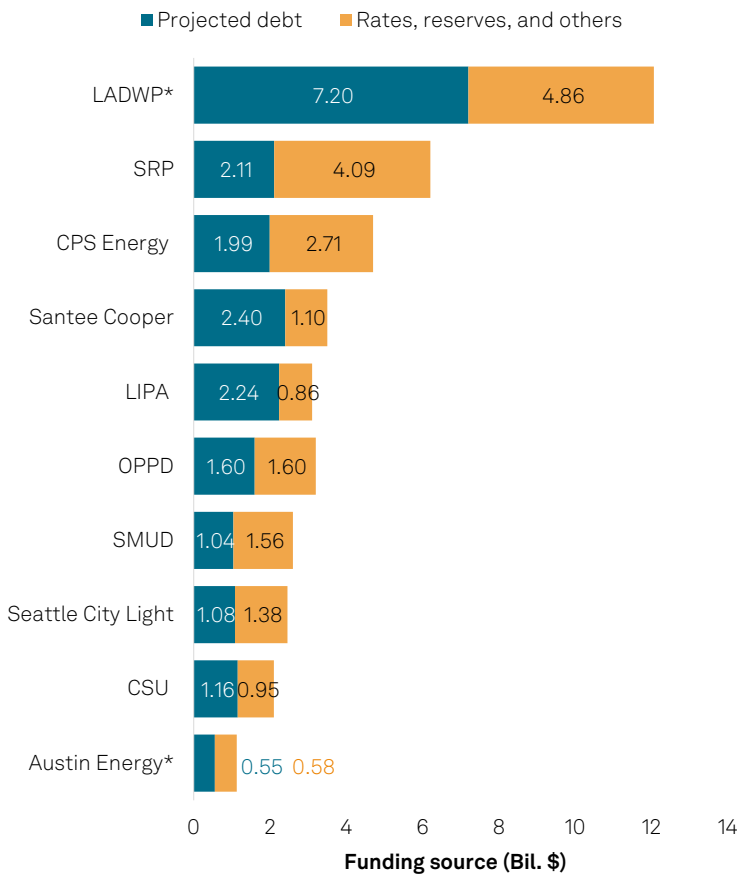
Top 10 utilities' electric sales (2014 - 2021)



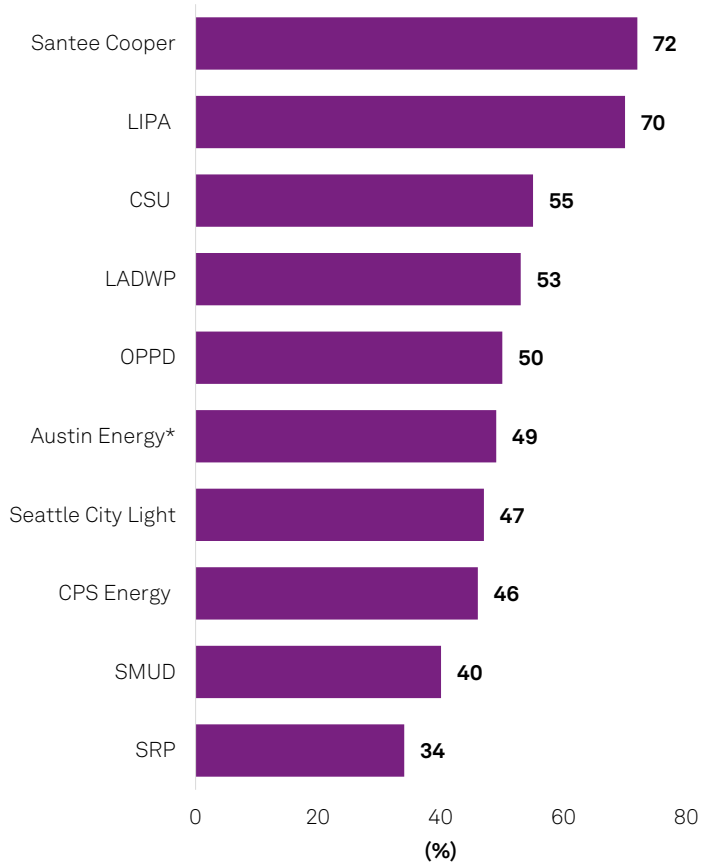
Data as of Nov. 17, 2023. *Electric lien only. GWh-Gigawatt-hour.
Sources: S&P Global Ratings and the U.S. Energy Information Administration.

Significant Five-Year Capital Improvement Plans

Capital budget plans by funding source



Estimated debt-financed portion of five-year CIP



Data as of Nov. 17, 2023. *Electric lien only. CIP- Capital improvement plan. Source: S&P Global Ratings.

Large capital plans could pressure debt metrics, fixed-charge coverage, cash, and/or rate competitiveness

- LADWP's capital plan and outstanding debt are high compared to those of the other leading utilities. LADWP has the highest outstanding debt at $12 billion, and the largest five-year capital budget, estimated at $13.5 billion of direct spending from 2024 to 2028.
- LADWP is followed by Salt River Project with a $6.2 billion budget projected for 2023 to 2026. SRP plans to fund only 34% with debt, which is less than all the other utilities' plans.
- Colorado Springs' $2.1 billion capital improvement plan includes electric, gas, water, and wastewater system improvements. The electric system accounted for 56.8% of the total 2023 capital budget.

Funding sources

- All of these utilities plan to finance a portion of their capital plans with debt.
- These 10 utilities have about $21 billion in debt planned for the next five years.

What Are They Spending Their Money On?

Transmission And Distribution

- LADWP projecting about $1.9 billion for its share of the Southern Transmission Project.
- SRP projects over a $1 billion investment in transmission and distribution.
- Seattle City Light projects to spend about 70% of its capital plan on distribution system projects.
- Over 70% of Austin Energy's long-term capital plan consists of transmission and distribution improvements.

Renewable Energy Generation And Decarbonization Goals

- LADWP's capital plan is projected to meet renewable portfolio standards.
- SMUD's capital plan is largely related to its 2030 zero-carbon plan, including its Solano wind project.
- LIPA's decarbonization plan centers on the addition of offshore wind, various solar projects, and energy storage.
- OPPD plans to add about 1,000 megawatts (MW) of wind and solar, 125 MW of battery storage, and 600-950 MW of gas-fired combustion turbines to meet the increasing demand and higher Southwest Power Pool reserve requirements, and to address its decarbonization goals in the near term.
- Santee Cooper has allocated approximately 40% of its capital plan for new generation, which it expects to include the addition of renewables and gas-fired generation. Santee Cooper also plans to retire its Winyah coal units to reduce carbon emissions.

Power Supply Reliability

- Forty percent of LADWP's power capital plan is for power system reliability projects.
- CPS Energy has a focus on reliability and resiliency to improve operational resiliency, controls, and communication during emergency situations.

High-Speed Internet

- CSU plans to spend approximately $400 million to build out its fiber-optic network, although we note that it will not be the internet service provider for the network, reducing its operational risk. For more information of our view of high-speed internet, see "Not-For-Profit Utilities' Broadband Investments Require Enhanced Risk Management," published April 17, 2023. CSU plans to cash-fund the fiber project.

Diverse Generation Fuel Supplies

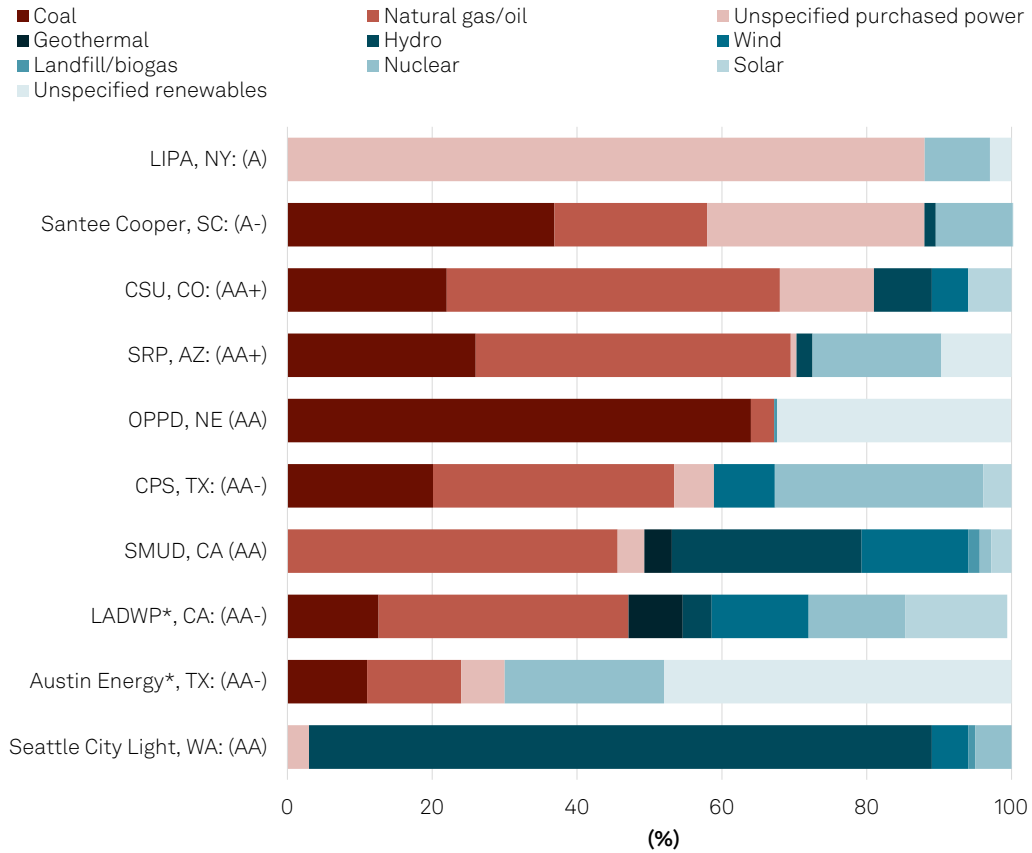
- Fuel sources vary by geographic location, availability of resources, and state decarbonization goals. Utilities operating in the West tend to be further along in their decarbonization efforts given more stringent state regulations.
- In our view, having a decarbonization strategy in place enables utilities to formulate long-term operational and financial plans that could mitigate the financial shock to retail customers from transition costs.
- Diversity of fuel supply is credit supportive given the variety of fuels faces less exposure to commodity price volatility, availability, and delivery disruption, as well as less exposure to environmental and operational regulation mandates.
- Our view of the favorable attributes of non-carbon-emitting resources such as hydroelectric and nuclear generation is tempered by variable hydrology conditions, fish mitigation measures, and spent nuclear fuel disposal issues.

Most of these 10 utilities have identified a clear path toward decarbonization--but some are facing obstacles.

- Santee Cooper's coal-fired generation in 2022 was relatively low by historical standards, at 37% of energy, because disrupted coal deliveries contributed to a greater reliance on power purchases and the higher dispatch of the authority's gas units. Management expects coal-fired generation will increase to 65% of energy by 2025. We note that Santee Cooper plans to add renewables and close the Winyah coal units to reduce carbon emissions. The authority projects that its natural gas units will account for 38% of its energy needs by 2040, followed by sustainable resources (28%) and coal (23%).
- Moving LIPA toward a zero-emissions electric system in compliance with the New York State Climate Leadership Community Protection Act will mean both adding new clean energy sources and replacing contracted thermal units with clean resources. We believe these actions introduce energy transition risk, although we note other New York utilities also face this risk.

See more about our view of renewable energy: Managing Renewables Risk Is Increasingly Integral to U.S. Power Utilities Credit Quality, Oct. 9, 2023

Fuel mix by utility



Data as of Nov. 17, 2023. *Electric lien only. Source: S&P Global Ratings.

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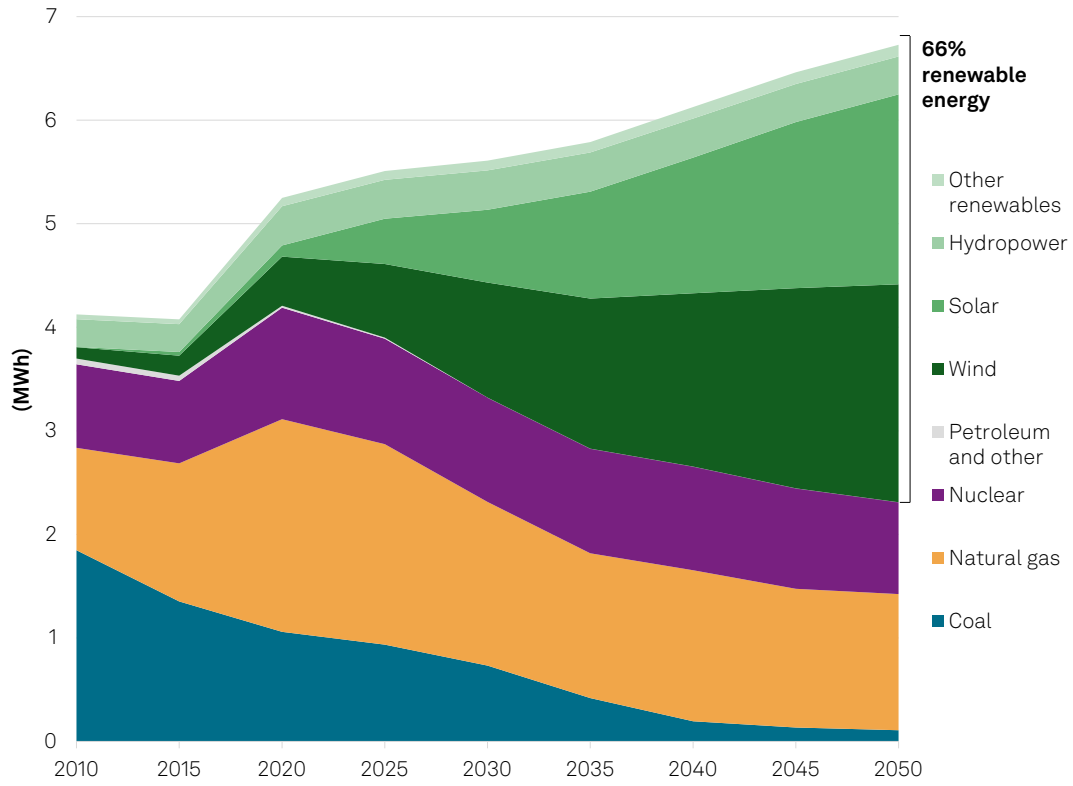
Leading 10 Utilities' Decarbonization Goals

Utility	Current coal and natural gas % of energy	Future goal	State goal
LADWP, CA	47	100% carbon-free resources by 2035	60% renewables by 2030, 100% carbon-free by 2045
Santee Cooper, SC	58	Net zero carbon emission goal by 2050	2% renewable resources by 2021
CPS Energy, TX	53	The city of San Antonio is following the San Antonio Climate Action Plan to meet net zero carbon emissions by 2050. CPS Energy is working toward the goal of a 41% reduction in carbon emissions by 2030 and a 71% reduction in carbon emissions compared to the 2016 baseline year.	10,000 MW of renewable resources by 2025
LIPA, NY	0.0 (largely purchased power from unspecified resources)	LIPA plans to have a carbon-free grid by 2040 to meet the guidelines in New York State's Climate Leadership and Community Protection Act.	70% from renewable by 2030; 100% carbon-free by 2040
SRP, AZ	70	SRP has established a sustainability goal of reducing generation of carbon emissions per megawatt-hour by 65% by 2035 and by 90% by 2050, compared with 2005 levels.	15% renewable resources by 2025
SMUD, CA	46	100% carbon-free by 2030	60% renewables by 2030, 100% carbon-free by 2045
Seattle City Light, WA	0	Seattle City Light follows the city of Seattle's goal of being carbon neutral (zero net emissions of greenhouse gases) by 2050.	100% renewable and carbon-free by 2045
CSU, CO	68	CSU has self-imposed carbon reduction goals of 80% by 2030 and 90% by 2050.	30% renewable resources by 2020
OPPD, NE	67	Net zero carbon emissions from generation resources by 2050	100% carbon-free by 2050
Austin Energy (Electric), TX	24	Austin Energy continues to make progress toward its renewable energy goal of 65% of consumption by 2027, with renewable energy accounting for 48% of consumption in 2023. The system's carbon-reduction goals call for 88% of its electricity generation to be carbon-free by year-end 2027, and all generation resources be carbon-free by 2035.	10,000 MW of renewable resources by 2025

U.S. Electricity Is Shifting To Renewables

U.S. generation transformation (2010 – 2050)



Data as of November 2021. MWh—Megawatt hours. Source: S&P Global Platts.

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Rise in renewable resources through 2050

- S&P Global Platts projects that by 2050, 66% of generation will be from renewable resources. See the North American Regulated Utilities slide deck published June 14, 2023, on RatingsDirect.
- We believe that transitioning to cleaner resources will entail substantial and costly replacements of much of today's generation fleet. Therefore, our analytics focus on assessing how well utilities can migrate from carbon-intensive thermal generation while maintaining operational reliability and affordability.
- In the near term, costs of contracting or constructing renewable resources and the cost of recovering investments of the premature retirement of thermal resources could reduce rate affordability and rate-making flexibility for U.S. public power utilities.
- We will continue to assess each utility's resources to meet projected load, including from storage, base-load, and contracts, to mitigate intermittency related to wind and solar generation and how the federal government- or state-adopted goals could affect financial and operational performance.
- The Inflation Reduction Act will provide additional incentives for U.S. public power and regulated utilities, accelerating the decline in thermal generation.

Rising borrowing costs, component inflation, and supply chain disruptions could slow generation transformation for some renewable resources

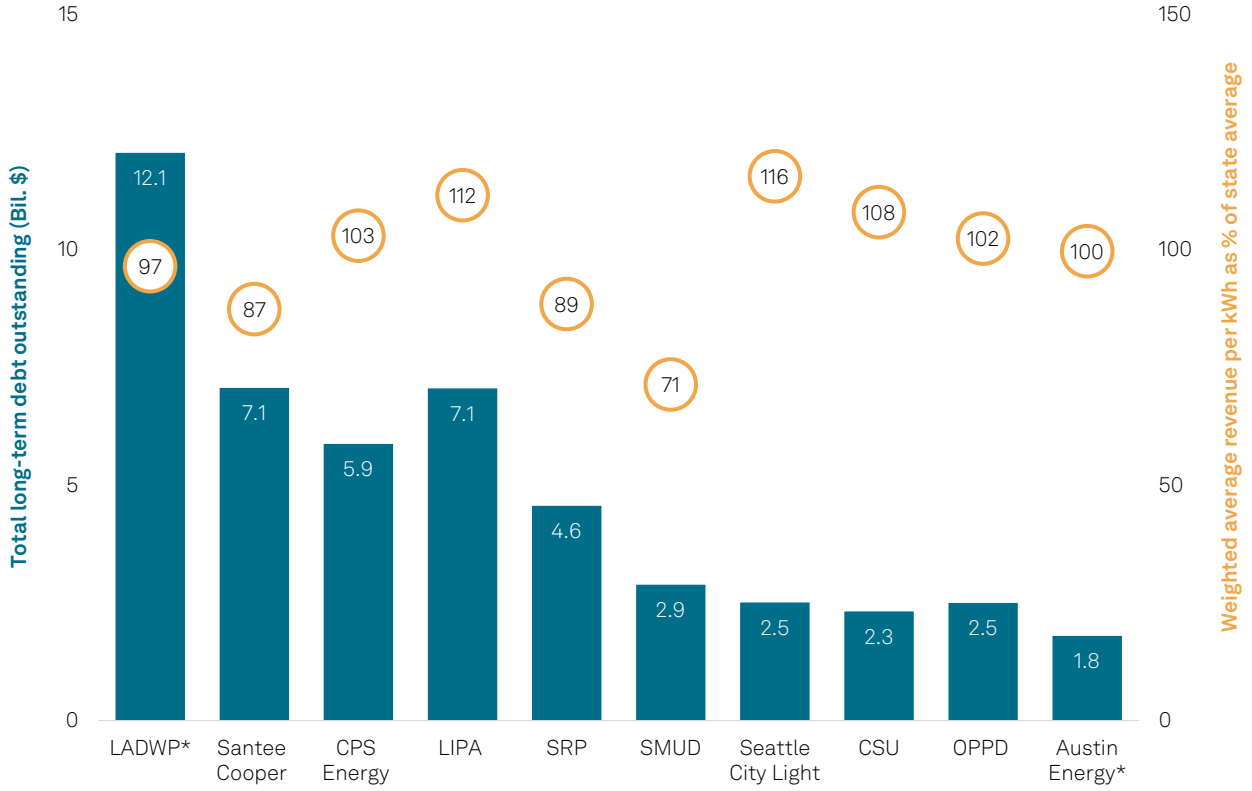
Although the costs of renewables have declined significantly over the past decade and further technological advancements are expected to reduce costs over the next few decades, a rapid rise in borrowing costs, component cost inflation, and supply chain disruptions significantly increased the cost of zero-carbon-emitting resource projects over the past year.

In some cases, this has slowed down energy transition despite decarbonization goals.

- For example, Utah Associated Municipal Power Systems and NuScale Power Systems Corp. terminated their small modular reactor project due to insufficient subscriptions driven by rapidly escalating costs.
- European energy firms Equinor, BP, and Orsted, canceled wind project agreements with U.S. entities because the projects were no longer economical.

Electric Rates Are Comparatively Competitive For Now

Electric rate competitiveness



Data as of Nov. 17, 2023. Note: For retail electric utilities, our assessment of competitiveness utilizes weighted average revenue per kilowatt -hour as a percentage of the state average revenue per kilowatt-hour for all retail sales, which gives effect to customer-class-by-customer-class competitiveness (with weighting based on relative contribution to the revenue stream), and we evaluate this as a percentage of the average for all utilities within the state. We use data for the most recent year of available comparative information, as supplied by the U.S. Dept. of Energy's Energy Information Administration (EIA), but other information sources may inform our views as well. *Electric lien only. Source: S&P Global Ratings.

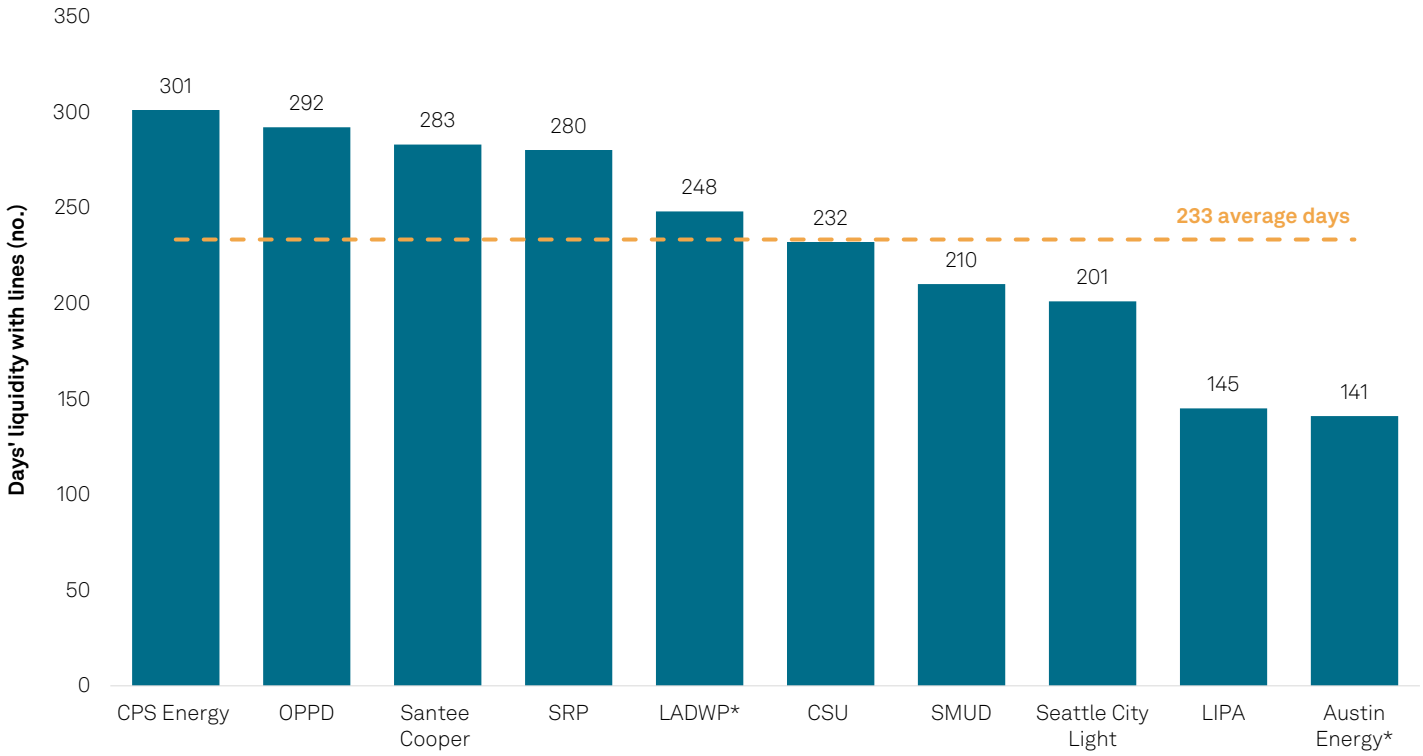
Our leading 10 utilities have the capacity to absorb higher costs through rate increases to a degree, but persistent high inflation could result in a rise in delinquencies, which can disrupt utilities' cash flows

- Half of our top 10 utilities have rates at or below the state's average system rate, and robust service area income indicators provide rate-raising flexibility and cushion for customers to withstand slightly higher rates.
- Nevertheless, the combination of the pandemic and now high inflation has frustrated certain customers' ability to pay, as demonstrated by a rise in delinquencies, collections, and customers on payment plans. We will continue to monitor delinquency rates and accounts receivable balances for our rated utilities.
- Although Santee Cooper's rates are currently competitive, they have been frozen since 2020. We anticipate significant rate increases beginning in 2025, after the rate freeze expires.
- LIPA's weighted-average retail rates were 12% above the state average in 2022, but income levels temper the social risks associated with the relatively high rates.
- Seattle's weighted-average rate is above the state average, somewhat reducing rate-raising flexibility. However, the service area's above-average incomes and the nominally low electric rates, averaging only 12.12 cents per kilowatt-hour for residential customers, mitigate this risk.

Robust Reserves Remain A Credit Strength

Robust reserves support capital funding needs, ongoing operations, and a cushion for unforeseen environmental or other exogenous shocks

Total days' liquidity with undrawn lines (FY 2022)



Data as of Nov. 17, 2023. *Electric lien only. Source: S&P Global Ratings.

- The liquidity and reserves assessment measures the retail utility's flexibility to address fluctuations in cash flow and volatility in operation expenses (such as fuel and power costs) and, in some cases, to fund capital needs.
- Our assessment examines total days' balance sheet cash and cash equivalents and available reserves. Liquidity includes committed lines of credit, capital reserves, contingency funds, and rate stabilization funds.
- The average days' liquidity on hand for these utilities is approximately 233, or seven and a half months, which in our opinion is robust.
- Robust liquidity can help partially offset spikes in energy costs, unforeseen service interruptions, exogenous shock events, or severe weather events. It can also provide a cushion against unbudgeted costs, fund a portion of capital needs, and help alleviate pressure on retail electric rates.

Appendix

Related Research From The Municipal & Cooperative Power Team: U.S. Public Finance

- U.S. Public Power And Electric Cooperative Utilities 2024 Outlook: Mandates, Rising Costs, And Diminishing Affordability, Jan 23. 2024
- U.S. Not-For-Profit Retail Electric Sector Update And Medians: Despite Some Deterioration, Resilient Metrics Support Ratings, Dec. 13, 2023
- U.S. Not-For-Profit Natural Gas Utilities Medians Remained Stable In 2022 Amid Substantial Rise In Natural Gas Costs, Nov. 9, 2023
- Managing Renewables Risk Is Increasingly Integral To U.S. Power Utilities Credit Quality, Oct. 9, 2023
- Biannual Rating Actions For U.S. Municipal Retail Electric, Gas, And Wholesale Utilities, July 10, 2023
- Cyber Risk Insights: Ongoing Preparedness Is Key To U.S. Power Utilities Keeping Attackers In The Dark, May 11, 2023
- Not-For-Profit Utilities' Broadband Investments Require Enhanced Risk Management, April 17, 2023
- State Laws Shield Many Municipal Natural Gas Utilities From Energy Transition-Related Demand Erosion, March 14, 2023

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