

Rising Energy Prices Not Upending Long-Term Planning – Yet

BY JOHN EGAN, CONTRIBUTING WRITER

As 2023 begins, public power utilities and joint action agencies are facing tough scenarios for fuel and electricity prices. Russia's invasion of Ukraine in February 2022 triggered shock waves throughout the global energy ecosystem. As the world, particularly Europe, aimed to distance itself from Russian energy products, demand for liquefied natural gas shot up, bringing prices with it.

Natural gas has been the fuel of choice for electric generation in the U.S. for many years. But sharply higher prices did not lead to commensurately higher gas production, because drillers followed the gospel of "capital discipline" that Wall Street had been preaching for years: Rather than using surplus cash flow to expand drilling, most of the incremental cash generated by higher prices went to investors. All of that drove up electricity prices and injected an unwelcome level of volatility into public power planning.

The run-up in prices for electricity and natural gas is expected to continue, at least for the first part of 2023. According to the December 2022 Short-Term Energy Outlook produced by the U.S. Energy Information Administration, all U.S. regions are expected to see higher and more volatile wholesale electricity prices for December 2022–March 2023. Price increases are expected to be particularly acute in New England, New York, and the Mid-Atlantic, as those states and regions lack natural gas pipeline capacity, the EIA noted. Potentially making a difficult situation worse, the agency predicted that the October 2022–March 2023 period would be colder than the same period a year ago.

JAA leaders and public power utility executives are using a combination of supply-side and demand-side tools to manage price volatility, reduce disruption, and minimize the economic pain.

Managing Costs in a Volatile Market

"A 40% year-over-year price increase is the kind of thing that creates challenges for mayors and council members," commented Jacob Williams, general manager and chief executive officer of the Florida Municipal Power Agency. Florida relies on natural gas to generate about 80% of its

electricity, and Floridians use the most electricity, per capita, of any state in the country, he said.

FMPA was paying about \$70 per megawatt-hour of electricity in late 2021, but that increased to about \$120 per MWh in late 2022, he said. He expects prices to decline to about \$90 per MWh in mid-2023.

"When prices were low, we asked our members if they wanted to go with the market or lock in a set price," he recalled. "Back then, they preferred to go with the market. But when prices escalated, they quickly saw the value of stable and predictable prices."

"Customers don't like high prices," commented Dave Osburn, general manager of the Oklahoma Municipal Power Authority. "But they really don't like high prices and volatility."

OMPA has generating assets and buys energy from the Southwest Power Pool market. Osburn said the market prices have "skyrocketed" since April 2022, with the average load price exceeding \$100 per MWh in the summer. Over the past two years, excluding the spike from the winter storm in February 2021, the average cost has fluctuated from about \$20 per MWh to over \$60 per MWh.

Risk management tools, such as locking in the price of gas or electricity through futures contracts, have long been used by JAAs and public power utilities to gain some certainty over what price they will pay for natural gas or electricity in future months. Over the long term, well-executed hedging strategies reduce financial risks and assure availability.

In a futures contract, a buyer contracts with a seller to purchase a certain amount of electricity at a future date at a set price. Both parties give up something in order to minimize risks: The buyer pays to attain price certainty, and the seller gives up the potential for higher prices in the spot market to lock in a set price for some portion of future production. JAAs interviewed all used hedging strategies, including but not limited to the futures market, to lock in the majority — as much as 80% — of electricity or gas in 2022. And they expected that to continue in 2023.

Some JAAs, such as FMPA and OMPA, own most of their own electric generation. Those JAAs focus on locking in prices for natural gas. But other JAAs, such as Delaware Municipal Electric Corporation, which serves eight members across the Delmarva Peninsula, also rely on market purchases of electricity from a regional transmission organization in addition to owning diverse generation assets. In DEMEC's case, nearly 60% of its power is purchased through staggered contracts from the PJM Interconnection, the RTO providing wholesale electricity to an estimated 65 million people in parts of 13 states and the District of Columbia.

"The key is layering the hedges," said Kimberly Schlichting, DEMEC's

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president and chief executive, who acknowledged that “there’s always a chance of a world event that pulls the rug out from under your feet.”

“We were able to capture about \$860,000 in cost savings in a small 5-megawatt contract just before Russia invaded Ukraine,” she said.

Contracts don’t all work out that well, but she said “the key is to structure your hedging instruments so that you’re not locked into one price. You have to actively manage your portfolio.”

“In late 2021, our consultants projected that wholesale power prices in the MISO market would average \$42 per MWh in 2022,” recalled Dave Geschwind, executive director and CEO of the Southern Minnesota Municipal Power Agency, a JAA serving 18 members. “Our consultants told us there was only a 5% chance that prices would average more than \$42 per MWh. We ended up paying about \$85 per MWh for power in early 2022 — two times the upper bound of what our experts predicted.”

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Kimberly Schlichting, president and CEO, Delaware Municipal Electric Corporation

No Big Changes to Capital or Operating Budgets

Sharply higher energy prices have not, as yet, caused substantial changes to the capital budget plans of the public power providers interviewed for this article. Planned closures of generators are still going forward, and plans to secure new renewable generation continue to advance. Many providers continue to investigate the costs, benefits, and challenges of battery energy storage systems and to assess the need for building new transmission lines.

“Investment decisions need to be made in the 2023 time frame for new transmission lines that will come into service in 2029 or 2030,” commented Geschwind.

Nor have higher prices caused leaders at the utilities and JAAs interviewed to cut staff or significantly reduce other operating expenses, though Geschwind acknowledged holding off on filling a few open positions. Many said there was little fat to trim on the operating side. That may not be surprising: Staffing costs typically are a small fraction of fuel or purchased-power costs.

FMPA’s Williams said his organization is investigating efficiency upgrades at natural gas combined-cycle plants. “Power plant efficiency is a lot more important when you’re burning \$9 gas compared to burning \$3 gas,” he commented.

Those that own generation can benefit from high electric prices. DEMEC’s Schlichting said that, for it, high prices provided rate stabilization through selling generation into the market, creating revenue that could be used to mitigate wholesale power increases to its members.

“Our Warren F. Beasley Power Plant has been our best insurance during periods of high prices,” she said. When electric prices in PJM reached \$2,400 per MWh, DEMEC sold excess generation from Beasley, which had a significantly lower production cost.

Helping Customers

In addition to using supply-side options to manage high and volatile prices, public power utilities and JAAs also are ramping up efforts on the demand side — including educating customers on how high usage contributes to the increased cost for electricity. Westfield Gas & Electric, a combination utility that serves about 18,000 customers in Massachusetts, is increasing its promotion of no-cost, walk-through energy audits for residential customers.

At the end of 2022, WG&E also boosted its residential heat pump incentive to \$4,000 from \$2,500. That program seeks to convert homes that heat with fuel oil or propane to electric heat pumps. A typical residential heat pump installation costs about \$10,000 in WG&E’s market. Reducing residential use of fuel oil and propane is part of the utility’s plan to comply with Massachusetts’ clean energy requirements. But Tom Flaherty, WG&E’s general manager, is concerned about where the non-emitting electricity will come from.

“Among the public,” he said, “the tide is turning against gas pipelines, transmission lines and onshore wind turbines.” Offshore wind “has a great potential in New England,” but permitting delays have pushed back the start of construction of several offshore wind farms.

WG&E also is part of a group seeking to import hydropower from Quebec, but that project has been delayed over routing litigation. It had investigated constructing a 2-MW solar and 2-MWh battery storage project, but high prices forced the utility to shelve that. It may revisit solar plus storage in partnership with a local military base.

The utility has a diverse energy portfolio, which includes nuclear, solar, hydro, and wind generation. A portion of Westfield’s power needs come from the daily market mix operated by New England Independent System Operator. Roughly 30% of ISO-NE’s power comes from nuclear and 50% from natural gas.

The utility has increased its annual retail electric prices by about 15% in 2022. It had not been forced to tap its \$40 million in electric and gas stabilization funds so far, but Flaherty said, “We may have to look at getting into those piggy banks this winter,” if the polar vortex makes a return visit or if prices for natural gas and power remain high.

“There are huge unknowns that we can’t control, which may have a significant impact on our customers,” he said, speaking about both electricity and natural gas.

In Oklahoma, OMPA is working with its members to introduce several new customer programs in 2023, including demand response coupled with smart thermostats, utility voltage reduction and time-of-use pricing. In addition, the JAA will be working with its members to assess community solar in 2023, said Jennifer Smith, OMPA’s director of member services.

“We’re trying to help our members assess various resources, both on the demand side as well as locally sited solar generation,” she said. There’s not a lot of rooftop solar in Oklahoma right now, largely because utility costs have been relatively low, but Smith said rising prices could spark an uptick in that option.

Roughly half of the JAA’s 45 members have deployed advanced metering infrastructure, and the JAA is helping other members assess the costs and benefits of AMI. OMPA is hoping to capture some funding from the federal Infrastructure Investment and Jobs Act to expedite deployment of advanced meters among its members.

Communication Critical to Managing Expectations

High and volatile energy prices highlight the importance of frequent and effective communications to maintain customer and member satisfaction. Because energy issues have become global, it’s more important than ever to keep stakeholders informed about changes that could affect them while also highlighting steps they could take to gain more control over their energy usage and bills.

“Higher energy prices made the news media more interested in covering energy issues and energy efficiency,” commented WG&E’s Flaherty. “We’re trying to capitalize on that by being more proactive with information and providing it in various forms, like press releases, videos on our website, and social media posts.”

Schlichting said DEMEC had an outside subject matter expert discuss natural gas prices at board meetings, so its board members were made aware of why prices were rising. “When the cost of everything is going up, from gasoline to food, cars and airline tickets, it’s easier for people to understand why electricity prices are rising,” she said. DEMEC plans to increase prices by only 2% this year.

“We’ve spent a lot of time talking with our members about energy prices and energy issues,” said SMMPA’s Geschwind.

“As prices rose, we ramped up communications,” added OMPA’s Osburn. “We’re trying to keep members, and through them consumers, more informed. We plan to take it to another level in 2023, because we’re going to be in this period of price volatility for a while.”

“In mid-2022, we started sending our members information and graphics they could use in their social media posts about energy prices,” added Smith. “In communicating with our members, we highlighted tools they could use to help customers.”