Board Meeting December 8, 2023 **Agenda Item 11a.**

STAFF REPORT

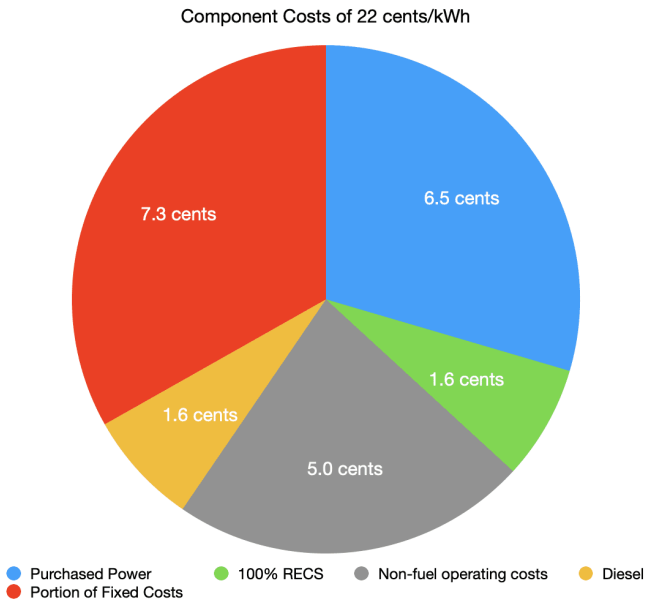
Proposed Changes to Electric Rates and Possible Adoption of Ordinance 23-02 Revising Electric Rates

Background:

For the years 2015-2017, the District hedged, or pre-purchased a portion of its electric load. The District's contract with Shell Energy N.A. hedged 80% of on-peak power and 50% of off-peak power. In June 2017, a comparison was completed comparing the cost of the hedge vs. the day-ahead market (DAM) cost. This comparison, based on cost of power only, showed that by hedging, the District had paid an average premium of $0.014/kWh over the DAM prices. In November 2017, the District went out to bid for Power Supply and selected Shell Energy N.A. to provide power from the DAM, with real time adjustments from the real time market. This strategy is called index pricing.

Since January 2018, index pricing has been used for all District power purchases. In 2021, the Board held numerous public hearings on and considered many variations to the electric rate structure. On June 28, 2021, the Board unanimously adopted Ordinance 21-02, which is the current electric rate structure.

Beginning August 1, 2021, the District established a price of 22 cents per kilowatt-hour (kWh) for electric usage. The price was based on historical data that KMPUD could purchase power at an average wholesale effective rate of 6.5 cents/kWh delivered to our customers. The wholesale market had, at the time, been stable for several years. The components of the 22 cents are:



Last Winter, due to huge price fluctuations such that the District paid 32 cents/kWh wholesale prices in December versus a budget of 6.5 cents. The net result was over $500,000 in losses that the District for Fiscal Year 2022/23. In order to meet our loan covenants with USDA for the Out Valley Project in response to these losses, the District had to allocate nearly twice the budgeted amount of property taxes to the electric fund. This meant that the District was unable to allocate those monies needed for the wastewater treatment improvement project as planned.

After the final Fiscal Year 2022/23 budget results were available, and the impact fully known, the Board asked staff to research numerous electric rate adjustment options that would allow the District to offset price fluctuations, such as those experienced in the last 12 months. In August, October, and November 2023 to protect against future market fluctuations, the Board held public meetings and received Staff and public input on a variety of options to mitigate future, similar impacts. These options included a pricing method, similar to propane, in which any exceedance of the budgeted $0.065/kWh would be billed in the subsequent month; an increase to the base rate to protect against fluctuations, and hedge pricing.

At the November meeting, the Board unanimously voted to direct Staff to notice a rate hearing on December 8, 2023; to obtain updated Shell hedge pricing; to prepare an amendment to Ordinance 21-02 to adjust the usage rate to reflect the new cost of goods sold reflective of this new pricing; and to use this hedge pricing through the June 30, 2026. The rationale for selecting hedge pricing over alternatives is cost predictability to District customers and reduced District administrative cost.

Updated Shell N.A. hedge indicative pricing will be provided during the meeting and the final proposal will be delivered to the District at 10:00 AM, Monday December 11, 2023 and must be executed by 10:30AM that same day.

Financial Impact:
Significant reduction of exposure to losses in electric for Cost of Goods Sold. The ability to apply property tax as required to projects including the wastewater treatment plant improvement.

CEQA:
The electric charges that are adopted and imposed by this ordinance are for the purposes of meeting operating expenses of the District's electric system, meeting the financial reserve needs, and obtaining funds for improvements that are necessary to maintain and enhance electricity within the existing District service area. The adoption and imposition of the electric charges therefore are exempt from environmental review under the California Environmental Quality Act ("CEQA"), pursuant to Public Resources Code section 21080, subdivision (b)(8), and CEQA Guideline section 15273.

Requested Action:

In order to accommodate hedge pricing, that the Board authorize Staff to increase the Usage Rate from $0.22/kWh to approximately $0.24/kWh, effective January 1, 2024 through June 30, 2026. The final pricing will be determined based on the actual Shell N.A. pricing proposal received.

Prepared By:

Erik M. Christeson, P.E.

ORDINANCE NO. 23-02

AN ORDINANCE OF THE BOARD OF DIRECTORS OF THE KIRKWOOD MEADOWS PUBLIC UTILITY DISTRICT REVISING ELECTRIC RATE STRUCTURE

Section 1. Purpose and Authority. The purpose of this ordinance is to amend Ordinance 21-02, Exhibit A for customers that receive electric service from Kirkwood Meadows Public Utility District ("District"). The District Board of Directors adopts this ordinance pursuant to Government Code section 66018, Public Utilities Code sections 16461 and 16467 through 16472, and other applicable laws.

Section 2. Findings. The District Board of Directors finds as follows:

A) In 2007, the Alpine County Local Agency Formation Commission authorized the District to provide electric service within its service area. In 2009, the District Board of Directors adopted Ordinance No. 09-02 authorizing the acquisition of Mountain Utilities' ("MU") electric and propane gas systems and approving an Asset Purchase Agreement with MU. The District adopted Ordinances 11-01, 13-01, 14-04, 14-06, 16-01, 21-02, 22-01, and 23-01 which each successively revised electric rates and rate structures.

B) Per Ordinance 21-02, the Usage Rates adopted are not reflective nor adaptive to recent electric market fluctuations and volatility and expose the District to significant financial losses.

The Board has determined that it is desirable to amend the Usage Rate to reflect updated, hedge market pricing through June 30, 2026.

Section 3. Ordinance 21-02 Shall be Amended to Read as Follows:

Exhibit A, Usage Rate row:

	FY 2020/21	FY 2021/22	FY 2022/23	7/1/23 - 12/31/23	1/1/24 - 6/30/24	FY 2024/25	FY 2025/26
Usage Rate (per kWh)	$ 0.656	$ 0.220	$ 0.220	$ 0.220	$ 0.240	$ 0.240	$ 0.240

Section 4. California Environmental Quality Act. The District Board of Directors finds that the electric charges that are adopted and imposed by this ordinance are for the purposes of meeting operating expenses of the District's electric system, meeting the financial reserve needs, and obtaining funds for improvements that are necessary to maintain and enhance electricity within the existing District service area. The adoption and imposition of the electric charges therefore are exempt from environmental review under the California Environmental Quality Act ("CEQA"), pursuant to Public Resources Code section 21080, subdivision (b)(8), and CEQA Guideline section 15273.

Section 5. Effective Date. The changes set forth above shall take effect January 1, 2024.

Section 6. Posting. Within 23 days after the date of passage of this ordinance, the Secretary of the Board of Directors shall post a copy of this ordinance in at least three public places in the District.

Section 7. Superseder. This ordinance supersedes the Usage Rate row of Exhibit A in Ordinance 21-02.

PASSED AND ADOPTED by the Board of Directors of the Kirkwood Meadows Public Utility District on the 8th day of December, 2023 by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

_____
President, Board of Directors

Attest:

_____
Secretary, Board of Directors

Erik Christeson

From: KMPUD <info@kmpud.com>
Sent: Wednesday, November 15, 2023 10:40 AM
To: Erik Christeson
Subject: KMPUD Notice of Public Hearing

KIRKWOOD MEADOWS PUBLIC UTILITY DISTRICT

Community

KIRKWOOD MEADOWS PUBLIC UTILITY DISTRICT
NOTICE OF PUBLIC HEARING
ON PROPOSED CHANGES IN ELECTRIC RATES TO PROTECT AGAINST MARKET FLUCTUATIONS

NOTICE IS HEREBY GIVEN that on Friday, December 8, 2023 at 2:30 pm (or as soon thereafter as the matter may be heard), the Board of Directors of the Kirkwood Meadows Public Utility District will hold a Public Hearing to receive input on the proposed changes to electric rates.

The District's Board wants Community feedback and to answer any questions that may arise. To that end they have called for a:

PUBLIC HEARING
2:30 pm on Friday, December 8, 2023
In Person: 33540 Loop Road, Kirkwood CA 95646
Videoconference on Zoom: https://us02web.zoom.us/j/87406468432
Teleconference on Zoom: (669) 900-6833 and enter the Webinar ID# 874 0646 8432

If you would like to ask a question or make a comment during the Public Hearing, use the Raise Your Hand function on Zoom and your question or comment shall become part of the record. The video recording of the Public Hearing will be available for viewing after the Public Hearing on www.kmpud.com.

When speaking, please identify yourself and keep your comments to 3 minutes or less.

If you have questions regarding the proposed changes or if you would like to submit comments before the Public Hearing, please contact the District at the below address or by email to bmorris@kmpud.com.

Kirkwood Meadows Public Utility District
Re: Electric Rate Study
P.O. Box 247
Kirkwood, CA 95646

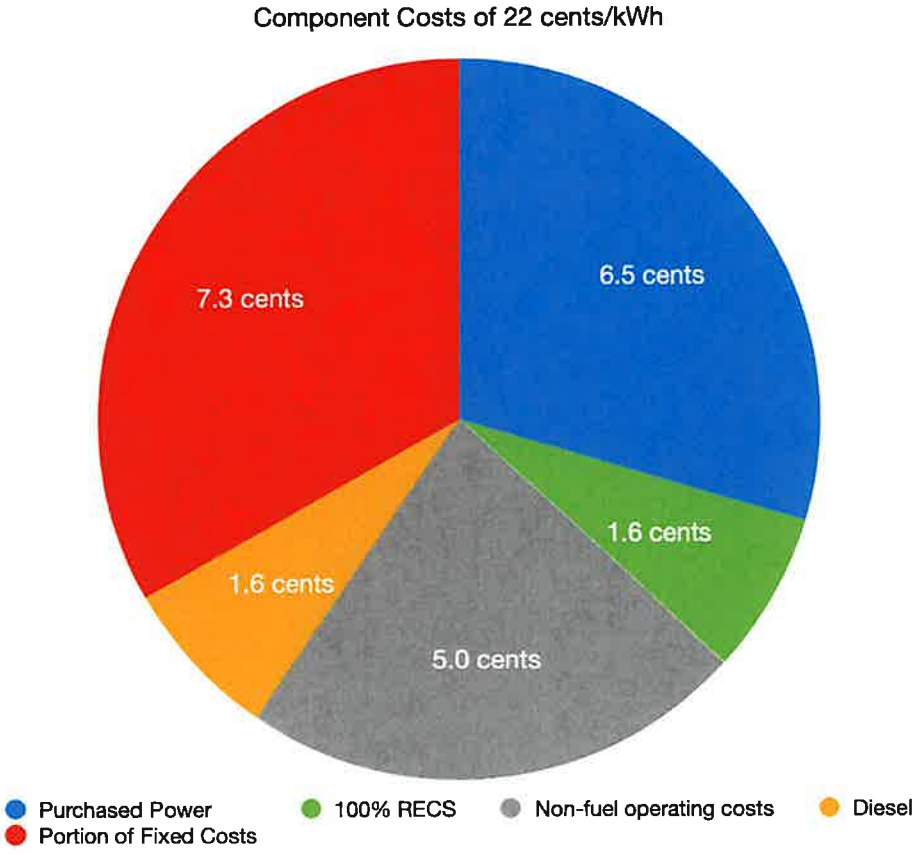
The Board will consider options to protect customers against unexpected and significant electricity wholesale price increases in the market such as occurred in Winter 2022-2023.

The District currently purchases power based on the day-ahead market ("DAM"), meaning the price will vary based on the daily demand and available generation. The District will consider "hedging" by committing to advance purchases of power at a known price.

Background

Beginning August 1, 2021, the District established a price of 22 cents per kilowatt-hour (kWh) for electric usage. The price was based

on historical data that KMPUD could purchase power at an average wholesale effective rate of 6.5 cents/kWh delivered to our customers. The wholesale market had, at the time, been stable for several years. The components of the 22 cents, as determined in the Electric Rate Study approved on July 10, 2021 are:



Last Winter, there were huge price fluctuations such that we paid 32 cents/kWh wholesale prices in December versus a budget of 6.5 cents. The net result was over $500,000 in losses that the District covered through property taxes and a reprieve on our loan covenants by the USDA Rural Utility Services.

Proposed Changes

Rather than continuing to purchase all power from the DAM, KMPUD could choose to hedge, or pre-purchase a portion of the power at a known price. This strategy was used during our first three years of operation (2015-2017), and the net effect was paying an average of 1.4 cents/kWh higher than the DAM price.

At the November 10th KMPUD Board meeting, Staff presented a comparison, based on pricing from Shell Energy North America, showing what might have happened in the last year if there had been a hedge in place. It showed that the average rate would have been close to 8 cents/kWh as opposed to what we actually paid which averaged closer to 18 cents/kWh. Note that pricing proposals are only good for 5 days and a new one will be obtained prior to the December 8, 2023 meeting.

If there were significant price fluctuations in the future, KMPUD would have to pass the cost on to our customers because a significant portion of property taxes are needed to cover commitments made in the 2020 Water/Wastewater Rate Study (which includes the repair/rehabilitation wastewater treatment plant project), as well as funds needed for parks, fire, and non-utility government funds.

KMPUD has requested a proposal for hedge pricing from our electric schedule coordinator, Shell. The Board will consider the tradeoffs of adding the cost of hedging into the electricity rates to protect against large price increases in DAM pricing.

Further, the 2021 rate study, utilizing historic pricing, concluded that purchasing 100% renewable energy credits ("RECs") could be accomplished at 1 cent/kWh, while the reality has been closer to 1.5 cents/kWh. The Board will also consider this change to the rates to reduce or eliminate continued losses for RECs.

Thank you,

Kirkwood Meadows Public Utility District
P.O. Box 247, 33540 Loop Road
Kirkwood, CA 95646

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ENERGY INSTITUTE AT HAAS

ENERGY INSTITUTE BLOG

A Very Expensive Winter

Wholesale electricity prices in California this winter were the highest in a decade.

We normally think of summer, not winter, as the most challenging time for the California electricity market. After all, **annual peak demand** (https://www.caiso.com/Documents/CaliforniaISOPeakLoadHistory.pdf) always happens in the summer. Last year was a good example, with an **all-time peak of 52GW** (https://energyathaas.wordpress.com/2022/09/12/how-high-did-californias-electricity-prices-get/) reached on September 6th – remember that **text message** (https://www.theverge.com/2022/9/7/23340821/california-electricity-grid-power-outage-text-phone-alert)?

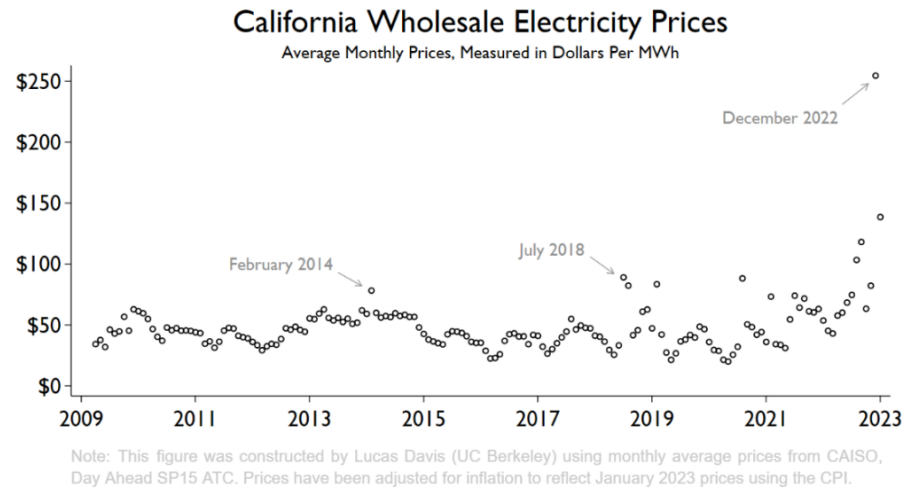
But, of course, supply matters too, and over a short period of time, there is nothing that can shift the supply curve for electricity more than natural gas prices. Although now **less than 40%** (https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2021-total-system-electric-generation) of California's total power mix, natural gas is usually the marginal generation source so as natural gas prices go, so do wholesale electricity prices.

For today's post, I want to look at the last couple of months. I've been looking a lot at the **CAISO price map** (http://www.caiso.com/TodaysOutlook/Pages/prices.html) and seeing a lot of purple, so I know that wholesale electricity prices have been high. But how high? And how long did the high prices last? When you put it all together, how does this winter compare to high price periods in previous years?

Highest Prices in Over a Decade

I knew that prices had been high. **Reduced natural gas pipeline and storage capacity** (https://www.eia.gov/todayinenergy/detail.php?id=55279#) caused natural gas prices across the West Coast to spike at the beginning of December to **at least three times higher** (https://energyathaas.wordpress.com/2023/01/30/the-west-coasts-bleak-energy-winter/) than elsewhere in the United States, thus tripling in turn the marginal cost of natural gas generation.

But, nonetheless, I was surprised to see just how high this pushed prices. It turns out that December 2022 was by far the highest price month in over a decade for the California electricity market.The figure below plots monthly average prices since 2009. It shows that December 2022 is an extreme outlier, almost twice as high as any other month.



(https://energyathaas.files.wordpress.com/2023/07/fig1-1.png)

This isn't because of inflation. The prices above have been adjusted to January 2023 dollars. Over this 14-year period, the average price in the California wholesale electricity market was $49 per MWh. For December 2022 it was $255.

There were notable previous spikes, for example, in February 2014 and July 2018, but between 2009 and 2021 the monthly average price never exceeded $100.

Top Ten List

Not only is December 2022 an extreme outlier, almost twice as high as the second highest month, but it turns out that the second highest month is actually the following month, January 2023. By January natural gas prices had come down considerably from their highest levels, but were still much higher than the historical average.

California Wholesale Electricity Prices ($/MWh)Top Ten Months Since 2009	
December 2022	**$255**
January 2023	**$139**

September 2022	**$118**
August 2022	**$103**
July 2018	**$89**
August 2020	**$88**
February 2019	**$84**
August 2018	**$82**
November 2022	**$82**
February 2014	**$78**

Note: This table was constructed by Lucas Davis (UC Berkeley) using monthly average prices from CAISO, Day Ahead SP15 ATC. Prices have been adjusted for inflation to January 2023 dollars using the CPI.

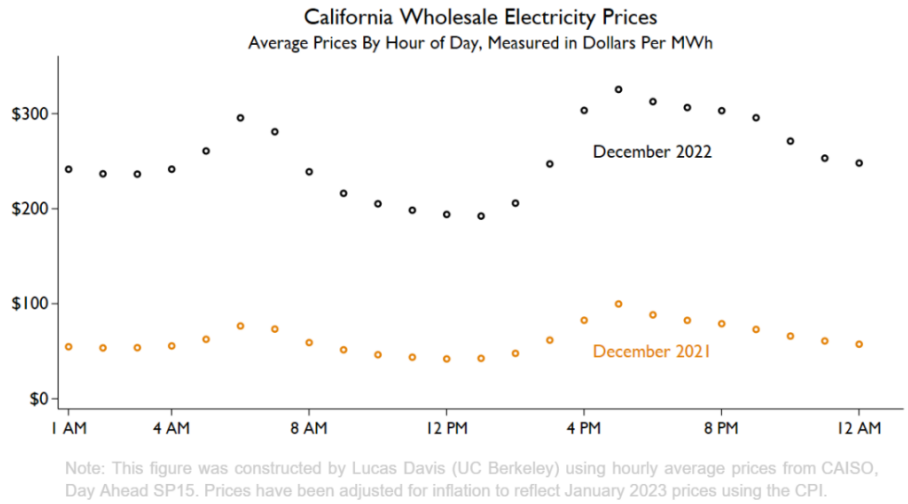
August 2022 and September 2022 are next on the list, but those high prices have a completely different explanation. Namely, a demand shock, in particular the record high levels of peak demand mentioned earlier that pushed generation capacity to its limit. Natural gas prices over the summer were higher than usual – near $10 per MMBTU – but not high compared to the $30 and $40 per MMBTU experienced this winter.

High Prices Across All Hours

One of the reasons that December 2022 tops the list is that electricity prices were high during all hours of the day. This is

quite different from September 2022, for example, which had higher peak prices but also much lower off-peak prices, with about a **6:1 ratio between peak and off-peak** (https://energyathaas.wordpress.com/2022/09/12/how-high-did-californias-electricity-prices-get/).

As the figure below illustrates, prices during December 2022 rose and fell almost exactly the same across hours as in December 2021. There is a clear daily pattern but with a ratio of only about 1.5:1 between peak and off-peak. It makes sense. Natural gas is the marginal generator in most hours, so prices shift up in all hours, and a bit more in higher demand hours when the specific generators that tend to be on the margin are relatively inefficient. But the overall level of demand is not terribly high, so prices are not spiking due to a scarcity of generation capacity.



(https://energyathaas.files.wordpress.com/2023/07/fig2-1.png)

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Winners and Losers

High natural gas (https://www.latimes.com/california/story/2023-02-15/california-natural-gas-bills-expensive-socalgas-pge-long-beach) and electricity prices have already spurred a **special meeting** (https://www.cpuc.ca.gov/news-and-updates/all-news/cpuc-to-hold-hearing-on-natural-gas-and-electricity-prices-2023) of the California Public Utilities Commission and

Governor Newsom has called for a Federal investigation (https://www.gov.ca.gov/2023/02/06/governor-newsom-calls-for-federal-investigation-of-high-natural-gas-prices-as-california-provides-relief/). It will be interesting to see what comes of this.

It is clear, however, that this was a very profitable six months to be a California electricity generator, if you weren't burning natural gas. Wind and solar generators, to the extent they sell electricity on the spot market, would have earned record profits, along with hydro, and geothermal, and all the rest.

Not so good for electricity consumers, however. These spikes in the wholesale market will have a much smaller effect on retail prices because so much of what goes into retail prices is **unrelated to wholesale costs** (https://energyathaas.wordpress.com/2022/09/26/equitable-decarbonization-requires-rate-reform/). Moreover, most utilities and community choice aggregators were likely able to partly avoid the full impact of these increases through long-term contracts and hedging strategies. Still, most electricity consumers in California are going to see at least some of this price increase in the form of higher rates, if they haven't already.

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Suggested citation: Davis, Lucas, "A Very Expensive Winter", *Energy Institute Blog*, UC Berkeley, February 21, 2023, **https://energyathaas.wordpress.com/2023/02/21/a-very-expensive-winter/** (https://energyathaas.wordpress.com/2023/02/21/a-very-expensive-winter/)

Lucas Davis VIEW ALL

Lucas Davis is the Jeffrey A. Jacobs Distinguished Professor in Business and Technology at the Haas School of Business at the University of California, Berkeley. He is a Faculty Affiliate at the Energy Institute at Haas, a coeditor at the American Economic Journal: Economic Policy, and a Research Associate at the National Bureau of Economic Research. He received a BA from Amherst College and a PhD in Economics from the University of Wisconsin. His research focuses on energy and environmental markets, and in particular, on electricity and natural gas regulation, pricing in competitive and non-competitive markets, and the economic and business impacts of environmental policy.

16 thoughts on "A Very Expensive Winter" »

Pingback: **Western States Build the Foundation of their Energy Future – Energy Institute Blog**

First, this statement is irrelevant:
"It is clear, however, that this was a very profitable six months to be a California electricity generator, if you weren't burning natural gas."
There are NO grid scale solar or wind projects that are selling into the CAISO without a long term PPA. There are probably wind QFs from the 1980s that are short run priced avoided cost (Standard Offers 1 and 2) that have prices influenced by CAISO prices, but those prices tend to move more slowly and they are usually computed by a contractually fixed heat rate times a gas price. Any new renewable PPAs since 2002 are basically fixed price contracts with an inflation escalator.

Rafael, the testimony prepared by the California Parties submitted to FERC showed conclusively that the merchant generators were deliberately withholding capacity in December 2000/January 2001 to manipulate prices and it had almost nothing to do with actual maintenance. Case closed on that issue.

For a state that has policies to abolish fossil fuel consumption it is no surprise that the capacity to supply natural gas to California has been declining. Both natural gas production and effective pipeline capacity is lower today than a decade ago. So what happens when natural gas demand rises because of inadequate renewable electric generation and when below

average temperatures increase gas space-heating demand? Econ 101 has been answering that question forever.
Last week the EIA reported that in January 2023 California natural gas consumption increased 7%, natural gas use for power generation increased by 22%, and natural gas flows into California increased by 1% compared with January 2022.
See:
https://www.eia.gov/outlooks/steo/special/supplements/2023/2023_sp_01.pdf

> You clearly disagree with state policies that aim to phase out fossil-fuel consumption, which is of course your prerogative. But, as the EIA-linked data below show, total NG consumption in CA has declined since 2016 with some fluctuation, but never exceeding the 2016 level, and that also holds true for electric power consumption. Are you suggesting that CA should expand its NG capacity due to the "perfect
> storm" of the previous two months? Yes, it's been economically painful as Lucas has clearly shown. That notwithstanding, expanding NG capacity while the state is significantly increasing renewable energy use, and forecasts show a continuing decline in NG consumption, doesn't make much economic sense.
> .
> https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm

Henry Hub natural gas prices have fallen dramatically and haven't been very high anytime during the high gas and electricity price period here in California. California imports 90% of its natural gas via a limited number of pipelines. A key pipeline, El Paso Natural Gas Line 2000 blew out in Arizona and has been shut down since August 2021.

The Aliso Canyon natural gas storage facility in SoCal is the second largest in the US, the largest in the EIA Pacific Region and by far the largest in Southern California. Since its blowout,

regulators have restricted how much gas can be stored there. As a result of the pipeline outage, combined with the storage restrictions, natural gas in Pacific Region storage is almost 40% below the five year average. The rest of the country is awash with gas.
I'm betting that without gas in storage and gas coming into the state in short supply, California's utilities had no bargaining power and had to suck it up and pay whatever the pipelines with gas asked.

> The Aliso blowout happened in 2015, so any regulatory impacts should already be reflected in the 5 year average cited. It has to be a different reason why storage is low now compared to 2022 and the earlier 3 years. It's about storage management, not regulations.

> > The regulators have not allowed Aliso Canyon to be refilled to its capacity. It is still not allowed to refill to capacity.
>
> > The blowout of the El Paso Natural Gas Line 2000 pipeline probably did two things: (1) reduced the flow of gas that was in excess of need that could be put into storage, and (2) led SoCal gas to draw on storage to try to mitigate the price spike in November and December in the hope/belief that the pipeline would be back in operation soon. As of about a month ago, I checked on the status of the Line 2000 restart and there was no public estimate of when it would be operational again. For what it's worth, it restarted last Tuesday.
>
> > Before the blowout, Aliso Canyon's capacity was rated at 86 BCF. Here is a link to a story from 11/5/2021 explaining

that the regulators set capacity at 41 BCF, or 60% of the reduced storage capacity of 68.6 BCF.

https://abc7.com/aliso-canyon-gas-leak-porter-ranch-socalgas-california-public-utilities-commission/11200670/

The just reported weekly EIA data shows the Pacific Region gas in storage is now 42.2% below the five-year average and 38.6% below last year. Out of curiosity, I pulled the data for this week going back to before Aliso blew out (10/23/2015):

2/20/15 279 BCF (before Aliso blew out)
2/19/16 256
2/17/17 206
2/16/18 204
2/15/19 138
2/14/20 198
2/19/21 218

EPNG Line 2000 blew out 8/15/21
2/18/22 176
2/17/23 108

> So your analysis and data shows that the shortage is cause not by regulation as the 2021 storage was just as high as it was in 2017, but rather by a pipeline blowout—a physical event. Before that physical event, the region has had sufficient storage.

California gets a lot of power from other states and hydro. I'm betting the imported power has been more costly and in shorter supply than usual and, most importantly, the drought reduced the amount of available hydro power. Because these significant power supplies were low, California has been more than usually dependent of natural gas fired power. Several

weeks ago, I saw that we were getting over half our power from natural gas plants in the middle of the day. This is highly unusual for this time of year. I think the renewable power suppliers were putting so much power into batteries, it was being backfilled midday with natural gas fired power.
In any case, I think the answer to this is much higher natural gas prices — SoCal Gas was paying $3.45 a therm!! — combined with using a lot more to generate power than would be normal for this time of year.
This illustrates the advantage of having consumers own their own electricity supply. It's often better to "own" than to "rent" things that you use regularly.

That "ownership" can take many forms.

The most obvious is to install solar with storage at your home or business. As predicted by Rocky Mountain Institute in a report nearly a decade ago, millions of homes and businesses around the world have done this, and thousands have entirely discontinued receiving utility grid service. Most are enjoying economic savings, and nearly all feel better about their electricity consumption. That psychic income is hard to measure, but is very important.
https://rmi.org/insight/economics-grid-defection/

But there are other options.

People can buy into a community solar array in many communities. Those give the customer an indirect ownership share of electricity generation. These larger systems benefit from economies of scale in construction and maintenance, but do not provide the same sort of distribution system benefits that on-site solar does.

Municipal electric utilities often own their own solar, wind, and other power plants (or have them under long-term fixed-price contracts). But a few go a step further: owning their own

gas supply. Southern California Public Power Authority (SCPPA) serves LADWP, Burbank, Glendale, Pasadena, and other Southern California municipal utilities. SCPPA owns several producing gas wells, and also has a "prepaid gas supply" contract, a long-term arrangement. This also allows for financing of these with tax-exempt municipal bonds, a much lower cost funding source than the debt and equity issued by gas producers. These municipal utilities get some of their gas without being exposed to spot market prices.

Utilities often hedge their gas supplies — that is, enter into long term purchase agreements with gas producers at fixed prices, or entering into a financial hedge through purchase of futures and options. This can greatly stabilize the cost of power to consumers.

But the simplest method is the best: invest in energy efficiency in your home or business. Better insulation, windows, lighting and appliances can reduce energy consumption by half or more. Better office equipment. Better heating and cooling equipment. Better attention to energy management.

Our house uses less electricity than the previous owner — despite having added an electric hot tub and and electric plug-in car. We made up for the new loads with better lighting and better appliances. Our new fridge uses one-fourth of the electricity of the fridge that was here when we moved in.
If you buy less of what they sell, you care a lot less about what they charge.
Good morning Lucas

Thanks for putting this together. Reminds me of the 2000-2001 period—when if memory is correct, Dec 2000 or Jan 2001 average wholesale price hit 31c/kWh – and this in 2023 $ is much higher than what you are reporting for this Winter.

What we saw in 2000-2001 was that generators had about 5x more power plants "under maintenance" and off-line than traditionally would happen during Winter months; presumably because these power plants had been run more during the previous Summer. Natural gas prices were high thanks to Enron's shenanigans and gas pipelines artificially being overbooked. Worse, regulators compounded the problem by not letting utilities pass on these higher prices to their consumers. The CPUC faced political pressure in San Diego, where SDG&E claimed they had paid off the stranded assets and thus could increase their prices beyond the frozen 5c/kWh. The Mayor of SDgo told his constituents to not pay the electric bills! CPUC then froze the price at 5 c/kWh and said they'd figure it out later. FERC of course was totally absent, given who constituted the majority of the Commissioners there and aligned with White House of Bush, who also was ignoring the manipulations of Enron. And eventually, CA sought retribution of about 9B of the 40B$ or so, that we overpaid for electricity; ignoring times of extreme prices, assuming those reflected market demand exceeding supply. In my view—it was exactly those hours of extreme prices (often more than 1$/kWh!) that were reflective of extreme market manipulations.

Bottomline—when we depend on the "Free Market" to determine prices, we run the risk of manipulation by private entities and insufficient and inefficient regulatory governance. We've seen this over and over and not just in electric markets.

Are we living through a similar period? Where suddenly natural gas prices are the reason for high generation costs? Most of the price increases of natural gas should have happened in Europe and Japan; not in the USA where exports are a small portion of total national supply.

Look forward to more analyses by your group and CA government, to see whether at least, we can learn once and for all how to avoid similar price spikes going forth and get prices that are more reflective of the actual costs of production.

Have a good week,
Rafael Friedmann

> Rafael:
>
> You're pretty much on the mark in broad brush on the 2000-01 period, which I assess in considerable detail in my forthcoming book: "Power Trip: The Topsy-Turvey Transformation of California's Energy Policy, 1996 – 2006." (I worked in the trenches for Gov. Davis during the crisis.)
>
> The best paper on withholding power and the aberrant percentage of power plant "maintenance" problems is still Borenstein, Bushnell and Wolak (2002). I had the good fortune of learning a lot about markets from these three experts, who also were signatories on this letter that Davis gave to President Bush when they met in LA on May 29, 2001: **http://gray-davis.com/ViewLibraryItem.aspx?ID=7343**
>
> You're certainly right about FERC, but I would note that the commissioners refused to act even under Clinton. In addition, Larry Summers and Alan Greenspan told Davis on December 26, 2000, that, to the extent that California's market was being manipulated, it was due to the state's poor market design and the retail rate freeze that shielded consumers from high wholesale costs. I should also note that this rate freeze was state law established in AB 1890 (1996). Yes, the PUC did raise rates in early January 2001,

but they did it on an emergency basis for 90 days. The enactment of Fred Keeley's AB 1 X1 a month later cleared the way for permanent increases and DWR's long-term contracts.

"Are we living through a similar period?" Well, consider this: During the crisis, Gov. Davis and others demonized fossil-fuel based electricity corporations in California—which dominated the market —as "energy pirates" and created a new narrative in which diversifying energy resources emerged as the best choice for Californians. The power pendulum began to swing to the green energy advocates who had been largely trampled by the ill-fated deregulation stampede in the mid 1990s. That resulted in the enactment of the state's Renewable Portfolio Standard in 2002 (Sher, SB 1078), the most ambitious state RPS at that time. According to the CA Energy Commission, "34.5 percent of the state's retail electricity sales were served by RPS-eligible sources such as solar and wind" in 2020. (February 20, 2022.) That percentage was a single digit in 2002.

I don't know that avoiding price spikes "once and for all" is a near-term prospect, but greater mitigation of those spikes is as we continue to ramp up non-fossil fuel resources. A big breakthrough in large-capacity and long-duration storage would be a big help, but as many experts have noted, getting to a fully—or close to fully—sustainable, reliable, and cost-effective grid will take many different technologies—and more sound investment in R&D!

> Looking forward to reading the book.
>
> I fully concur with "A big breakthrough in large-capacity and long duration storage would be a big help". The

> former affordability metric went out the window with the failure of Cresent Dunes to perform.
> Mark Miller

Our community choice aggregator, Sonoma Clean Power, employs an array of renewable resources, including local geothermal from The Geysers. But they still require gas peaker power when demand spikes. What's their solution? They're already planning to develop two new 24/7 base load Enhanced Geothermal power plants strategically located in Sonoma & Mendocino Counties. We're probably going to soon see more of this throughout western US, and even in West Virginia.

In the next 5 years, I'd like to see many more solar parking lot canopies with integrated stationary storage batteries & Vehicle-to-Grid chargers on all large parking lots. That's the recent French strategy that's also been proposed here in California by State Senator Josh Becker. This is the quickest way to build the essential, reliable matrix of networked neighborhood micro grids.

> My sister-in-law shared a picture of snow on the Sonoma hills with us yesterday. Winter in the Sierra foothills looked like that every year we lived in the foothills. I decided against signing up with a CCA in Northeast Ohio. It seems the CCA- NOPEC- contracted out to NRG to provide energy to their customers. NRG's sourcing strategy left a lot to be desired for NOPEC'S customers (1).
>
> In a few years we may find out if anyone associated with the contracts were able to ..."front-run the market and set an early example of taking advantage of state regulations)." (2)
>
> 1) **https://fox8.com/news/explainer-why-are-electric-bills-so-high-and-what-is-nopec/**

2) Public policy, amidships – by Michalis Trepas (substack.com)

Mark Miller

Brittnie Morris

From: Adam Petersen <kadampetersen@gmail.com>
Sent: Tuesday, November 21, 2023 1:28 PM
To: Brittnie Morris
Subject: 12/8/23 KMPUD Public Hearing - Electric Rate Increases

To Whom It May Concern:
I oppose an increase in electric rates being considered at the December 8, 2023 KMPUD meeting. The KMPUD's "Background" discussion and pie chart emailed with the Public Hearing Notice does not define "non fuel operating costs" nor "portion of fixed costs." Accordingly, there is insufficient information to make a decision on the proposed rate changes. Each customer is already charged a significant "Base Rate" (we pay $84.93/month plus a "meter charge" of $3.93/month). Therefore, an increase in electric rates should not be supported.
Sincerely,
Adam Petersen
Kirkwood Meadows PUD is an equal opportunity provider and employer.

Brittnie Morris

From: Larry Parker <parkerslo@sbcglobal.net>
Sent: Sunday, November 19, 2023 2:39 PM
To: Brittnie Morris
Subject: Question On Proposed Changes in Electrical Rates

KMPUD

I appreciate the Background provided in the recent KMPUD Newsletter. I find the wholesale market volatility relatively understandable, but pie chart introduces several terms that seem to overlap or could be synonyms. Could you please include the definition of the following terms used in the graphic and our monthly bill:

- Portion of Fixed Costs
- Non-fuel operating costs
- Meter charge
- Base Rate

I assume others have similar questions and perhaps the hearing is already planning to address these questions. If so, no response is necessary as I plan to tune in on December 8th.
Thank you,

Larry Parker
33809 Fremont Road
Kirkwood Meadows PUD is an equal opportunity provider and employer.

Brittnie Morris

From: Peter K <kirst.peter@gmail.com>
Sent: Wednesday, November 15, 2023 3:03 PM
To: Brittnie Morris
Subject: Public Hearing Comments - LC#9

Hi Brittnie,

In the latest KMPUD Notice of Public Hearing, I read the following,

> *"Last Winter, there were huge price fluctuations such that we paid 32 cents/kWh wholesale prices in December versus a budget of 6.5 cents. The net result was over $500,000 in losses that the District covered through property taxes and a reprieve on our loan covenants by the USDA Rural Utility Services."*

What are the main factors impacting the wholesale price? Was this weather related or what specific market dynamic influences the price? 6.5 cents budget versus 32 cents is approximately a 500% increase and feels out of place (perhaps one off and to rarely happen again, hence why hedge)

Thank you for listening and allowing me to contact you directly.

Take care,
Peter
Kirkwood Meadows PUD is an equal opportunity provider and employer.