

The Looney and the Huntsman

"No matter how good you are, you're going to lose one-third of your games. No matter how bad you are, you're going to win one-third of your games. It's the other third that makes the difference."

Tommy Lasorda

"I don't think leadership demands 'yes' or 'no' answers; I think leadership is providing the forum for making the right decision, which doesn't demand unanimity."

Arthur Ochs Sulzberger, Jr.

Accordion to a recent study, 7 out of 10 people don't notice when a word in a sentence is replaced by a musical instrument.

1 IMPORTANT NOTICE TO WPTF MEMBERS. ACTION REQUIRED: Beginning this October, the Friday Burrito will be accessible to WPTF members by subscription only. The monthly fee will depend on the number of readers and email addresses listed for each respective WPTF member. For information about the monthly fee, please contact me via email. In many cases WPTF members may have a more cost-effective option subscribing to the Friday Burrito through Energy GPS. Click here to request a quote or more information

Today is my grandson's birthday. I don't know his name yet. I haven't even seen his picture. I haven't heard him wail aloud. I haven't a clue how much he weighs. But I know today is the day because my daughter-in-law's OB-GYN doctor moved up the schedule so that the gestation length would be exactly 36 weeks. There were some complications over the last three weeks that caused worry and shudders, but as of this writing all is good; all is go. Mother and baby are doing fine. How appropriate that my first grandson would be born on a Friday when I am writing a Burrito. That kid has got good timing.

Speaking of Kid Stuff

I read that morning cereal consumption in the U.S. has been on the downside, declining by a percentage point per year

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except during the pandemic era. Then, more people stayed at home and it boosted demand ... especially by adults who tapped their childhood obsessions for a sugar rush. I grew up on breakfast cereal. The cartons in which the product came to our table, awaiting a splash of whole milk in my bowl provided must viewing and a source of daydreams. My earliest memory as a child was the Wheaties box with a drawing of Olympian pole vaulter Bob Richards preparing to launch himself over the bar. If Wheaties could do for me what it did for Bob Richards, then I was hooked. By the way, Bob Richards lived until February of this year and passed away at the ripe old age of 97. See what Wheaties did for him?

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Bring Back Palisades

The Palisades Nuclear Plant is back in the news as the current owner, Entergy, completed the sale of the asset to Holtec International, . [I wrote about the plant's political fate last year](#) and how the closure was being ignored by Michigan Governor Whitmer. A plan to fill the missing energy gap at Consumers Energy was absent. However, this week the utility analysts at BofA Securities (BofAS) detailed a possible reopening of the abandoned Palisades plant as follows; "*Holtec International (Private) announced that it has entered into a multi-decade power purchase agreement with Wolverine Power Cooperative for the 800MW Palisades nuclear power plant, which is currently not operational. Palisades was shut down in May 2022 and was sold by Entergy Corp (ETR) to Holtec as part of Entergy's wind-down of its merchant nuclear Entergy Wholesale Commodities. Wolverine will be buying up to 67% of the power and cooperative Hoosier Energy will purchase the remaining 33%.*" Private money moving into nuclear is noteworthy. The swell of support to rekindle this form of clean energy is the only reasonable way to meet otherwise unattainable climate goals.

Co-funding for the venture will be provided by both the State of Michigan and the DOE loan program. BofAS asked, "*Can other plants be restarted?*" They opined negative. "*For a variety of reasons, it is operationally and regulatorily challenging to restart a retired nuclear plant, and once decommissioning has begun, the retirement decision becomes even more costly to reverse. Diablo Canyon's planned retirement was cancelled, subject to NRC license extension, in 2022 due to resource adequacy concerns. ... We emphasize that canceling a planned retirement is very different from a restart.*" Point taken. But the news was a welcomed surprise and possibly a nuclear renaissance is either here or near.

The Corporate Climate Pushback

I read with interest but without much surprise that BP fired its CEO for doing what the company once said it was all about ... becoming a mean green machine and investing in carbon-free fuels. Per the [announcement in the WSJ](#), Bernard Looney was ushered out and instead of pushing a green agenda, the company will continue to explore and produce fossil fuels. "*BP [may] continue investing selectively in wind and solar power, including in Europe to help power the company's refineries there. But ... BP also could grab the chance to shift further back to its traditional core focus of extracting and trading oil and gas, which currently produces overall higher returns than renewable projects.*" Key phrase: "overall higher returns". Just a coincidence that Looney's resignation was tied to the reopening of multiple undisclosed relationships with colleagues. This was a charge fully vetted last year and the BP Board assured the CEO back then that he didn't violate any corporate rules. Yeah. Those rules must have changed when BP's share price continued to sink.

Contrast Looney's fate with that of Peter Huntsman, CEO and chairman of the Texas-based Huntsman Corp., a multinational chemical manufacturing company. Even the two last names, Looney and Huntsman, evoke a parable. Mr. Huntsman runs counter to the usual CEO pablum that his or any other corporation is doing everything it can to reduce its carbon footprint ... and also continue to make profits. In a [WSJ Op Ed piece last month by Barton Swaim](#), based on an in-person interview, Huntsman's mantra was as follows: "*The only way to bring about the cleaner, greener, low-carbon world our educated elites claim to want, he argues, is to keep pursuing what those same elites' policies seem designed to frustrate: innovation ... today we're emitting roughly 6,500 million metric tons of CO₂ ... same thing we were emitting in 1970. And look how much more electricity we're using and look how many more transportation and miles we're driving. We've expanded the economy 30 times over, nearly, and core CO₂ has stayed flat. We should be celebrating this achievement, shouldn't we?*" That point is rarely stated, much less by CEOs.

Swaim summarizes for Huntsman as follows: "*Surely corporate leaders aren't stupid. Do they really fail to understand the basic point that taxing and regulating the American economy into some arbitrary compliance with climate goals is a fast*

Western States Playbook		
<i>CAISO YTD Renewables Curtailment:</i>		
As of 8/31/23:		2,267,205 MWh
As of 8/31/22		2,195,647 MWh
% of solar and wind output curtailed relative potential renewables production:		
	YTD as of Aug 2023	4.92%
	YTD as of Aug 2022	4.84%
CAISO Market Performance and Planning Forum. Wed 27-Sep-2023 09:00 AM - 02:00 PM. Discussion will include review of July summer performance items.		

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way to kill innovation and ensure we remain reliant on carbon-based energy for a long time to come? 'I think there's such



A Hardy Regional Outlook

[Click here to email Randy Hardy](#)

Policy Driven Transmission Development

I just returned from the annual meeting of the Northwest and Intermountain Power Producers Coalition (NIPPC), which featured its usual discussion of timely WECC-wide energy topics.

Conference focus on major needed transmission developments stood out. Of particular note was a panel on the "new business case for transmission." Here, Neil Millar of CAISO and Jeff Cook from BPA made several especially relevant observations about future approaches to transmission development given near term decarbonization requirements in California, Oregon, and Washington. Neil cited California's need to meet roughly 7 GW/year of load growth, from 2023 to 2045, and observed that CAISO could not simply wait for generation projects to develop and then build transmission to interconnect them to the grid. He also opined that overbuilding transmission in the near term was unlikely given anticipated load growth, requirements for carbon reduction and competition for specialized construction materials internationally and skilled labor domestically.

Neil's statements complemented those of Jeff Cook describing creation of a new, long range strategic transmission planning group, sponsored by the Western Power Pool (WPP), to identify projects, initially in the Northwest but probably interconnecting to other areas of WECC. Jeff indicated that work on identifying/developing such projects needed to start now instead of awaiting completion of all the eventually necessary design/construction specifics. In other words, don't let the perfect be the enemy of the good (my translation).

These observations followed an earlier announcement by BPA Administrator John Hairston supporting creation of the WPP-led long range transmission group and thereby recognizing that BPA must help identify such strategic transmission builds rather than relying solely on generation transmission access requests to determine future transmission requirements.

These prospective CAISO/BPA/WPP actions bode well for near/midterm WECC transmission developments.

a vociferous branding cancellation attack that if you don't believe this orthodoxy—' He interrupts himself to ensure I understand he isn't 'saying we ought to be emitting endless amounts of CO₂. This company is in the business of reducing emissions more than perhaps anybody else is.' Then he offers a separate reason for the insouciance with which his counterparts in other large corporations accept the premises of climate catastrophism. 'Most CEOs I work with are so preoccupied doing their jobs. They're a few years away from retirement; they've got two or three years left to go, and they don't want to go out and cause a big ruckus that might get them fired, risk their pensions.'" Indeed, that is the most sensible explanation I've heard.

Is There an Innovation Drought?

Given the gobs of federal money raining down upon new ventures with promising clean-energy applications it is hard to know if Huntsman's claim, above, is accurate regarding the dearth of innovation. So, I decided to investigate one new [technology as described in a recent edition of a journal called Fast Company](#). The e-zine describes itself as, "The world's leading business media brand, with an editorial focus on innovation in technology, leadership, world changing ideas, creativity, and design."

The new product is the foundation of Antora Energy. Their goal is to demonstrate an affordable way to use renewable energy to heat carbon blocks that store the thermal charge and release it on demand for industrial processes. The idea is to replace gas boilers and furnaces that utilize fossil fuels and typically have efficiencies that waste a third of the energy input. The device is called a thermal battery. Per the article, here is how it works: "The thermal batteries are designed to store that energy inexpensively. Electricity from a solar or wind farm heats up large blocks made of carbon (aka graphite, the same material used in pencil lead). The blocks are already used in industry for other reasons, so they're widely available—and very cheap. Inside an insulated container, the

blocks reach ultra-hot temperatures, and then release the heat on demand to factory equipment."

In parallel, the company is developing another version of the technology that can turn the heat back into electricity to run other industrial processes.

Well, it's hard to poke a hole in the logic. The pilot test in California so far has heated carbon bricks to 3,200°F, making stored heat quite suitable for almost any industrial process.

Back to the Pushback

There is a growing malaise about corporate ambitions to launch climate goals that sound good but if acted upon are bad for business and consumers. [The WSJ provided an excellent overview this week](#) on the topic. There simply is not enough renewable or clean energy supply to support the objective of net-zero emissions for a wide array of products. *"The world's largest companies have committed to slashing their emissions to address climate change. Many of them have overpromised and underdelivered because of higher costs, slow advances in technology and political pressure. ... Companies are now backing off of these goals while maintaining they are committed to long-term targets. It is a sobering conclusion two years after the 2021 United Nations climate summit in Glasgow jump-started several climate initiatives."*

Long on promises but short on execution, many energy-intensive corporations are purchasing carbon offsets as the only viable way to meet self-established targets in the near term. Per the Journal: *"Renewables funding needs to be four times fossil-fuel financing to meet climate targets, analysts say. ... Renewable-power prices have also risen after years of declines, complicating companies' purchase plans. Supply-chain disruptions, higher interest rates and grid-connection delays have disrupted wind and solar markets."* Simply put, reality gets in the way.

However, tracking carbon emissions is a new attack on the issue. Europe and California (good nexus) are setting up mandatory reporting rules.

In California, the legislature last week sent Governor Newsroom a bill to make all companies of a certain minimum size doing business in the state file reports on global emissions. WPTF's legislative committee consultant, Jesus Arredondo, reported that, *"[SB 253](#) is a first-in-the-nation bill that would force large companies to disclose their annual emissions of greenhouse gases that contribute to climate change. If the bill becomes law, about 5,300 U.S. corporations earning more than \$1 billion and doing business in California would be required to annually report their global emissions of carbon. Any company that meets the revenue threshold and sells or produces goods or services in California would have to comply.*

"Businesses would have to report not only the tons of gases they emit globally from all of their own global operations and energy use, but also from less-direct sources, such as their supply chains, contractors and even consumers' use of their products.

"The bill gives companies until 2030 before fines for inaccurately reporting emissions from those less-direct sources would kick in. The companies will still have to report emissions from their operations (Scope 1 emissions) and their energy use (Scope 2 emissions) beginning in 2026. But the reports of

What we believe...

1. Competition yields lower electricity rates.
2. Stable and transparent rules and regulations promote private investment.
3. Private investors, rather than utilities, will spend money on new power plants and transmission facilities if they can earn a return that is balanced with the risks.
4. Private sector investment results in lower average prices without risking consumers' money.
5. However, when IOUs do the investing, the risks to them are minimal or non-existent because ratepayers cover all the costs.
6. Overcapacity lowers electricity spot market prices; yet retail rates can increase in this case due to full cost-of-service regulation.
- 7) Markets work best when there are many buyers and sellers.
- 8) At-risk money will be put to investment where markets exist that are well regulated and yield credible prices.

emissions from suppliers and consumers (Scope 3 emissions) wouldn't begin until 2027 — and the companies won't be penalized for inaccurate reports for the first few years.

"Under the bill, the emissions disclosures would have to be independently verified by an outside consultant."

Presidential-hopeful Newsom said he will sign the bill but may ask the legislature for some changes when it meets again in January. It's nuts to think there will be an army of state employees reviewing thousands of "independent third-party" reports checking for accuracy. This bill will be legally challenged and maybe some sanity will prevail.

Impact of Pending Regulation on Diesel Trucks at CA Ports

California will soon issue a rule requiring that trucks purchased after next January 1st and serving the state's freight ports be zero-emission vehicles. Truckers are no fools and the noted boost in sales of new diesel-based motorized trucks is hardly a surprise. There are insufficient charging stations to refuel the EV trucks doing business with the ports and the high initial cost of an EV relative to a diesel truck is sending jitters through the industry. By 2035, about 30,000 diesel rigs serving the ports of Long Beach, Los Angeles, and Oakland will be illegal. Me thinks this plan will fail ... or at least be extended beyond its current target date.

The [WSJ reported on Wednesday](#) that, "California has tried to soften the blow for operators by providing grants for truckers buying zero-emission trucks. But production of the vehicles is so limited and the cost and complexity of running the trucks so high that there are **fewer than 150 zero-emission trucks in service** at the Southern California ports today."

... and, what we should do:

1. Believe in ourselves.
2. Encourage creation of independent, multi-state regional transmission organizations that coordinate policies with respective state utility commissions.
3. Support rules for resource adequacy that applies uniformly among all load-serving entities.
4. Enforce competitive solicitations by utilities for purchasing either thermal or renewable power.
5. Support choice among retail electricity customers.
6. Lobby for core/non-core split of retail customers.
7. Advocate against policies that limit, through bid mitigation, merchant returns on investment that are utility-like returns.

I added the bold lettering. Time for a convoy of several thousand diesel trucks to drive to the Capital in Sacramento and protest the rule. Maybe tie up traffic for a few hours and then peacefully leave town. The ban on diesel trucking is completely out of sync with common sense.

Pulsed Chicken Salad with Chef [Laura Manz](#)

"I was in disbelief when I discovered chicken salad could be made in a food processor. So, I set about preparing ingredients and with trepidation gave it a whirl. The adventure began with poaching a chicken breast to avoid a dry result. Put the ingredients in a food processor, then mix into a delightful chicken salad."

Prepare two hard-cooked eggs: Steam for 12 minutes. Plunge into ice water for two minutes and peel, then chop. Prepare poached chicken: Season a pot of water with your choices of herbs, spices, citrus, but do not add salt or oil that could change the poaching liquid temperature. I used tarragon, garlic cloves, a bay leaf, and a sliced orange. Bring the pot of water to a boil, add approximately 1.5 lb. of chicken breast that has been cut into wide strips to the pot. Bring the water back to a boil, then remove from the heat, cover, and rest for at least 30 minutes but no more than an hour. Make the chicken salad: Pulse two celery stalks in a food processor into large pieces. Add the cooked chicken and pulse until shredded but not pureed. Transfer to a large bowl and add 1/3 cup sweet pickle relish, 1 tsp. of salt, 1/2 tsp. of pepper, a pinch of garlic powder and 3/4 cup mayonnaise.

Great stuff, Laura. Thanks. I wonder if there is an Asian chopped chicken salad recipe that follows the same preparation steps but uses different seasonings?

Things in the People's Republic of California

CAISO Issues July Performance Report

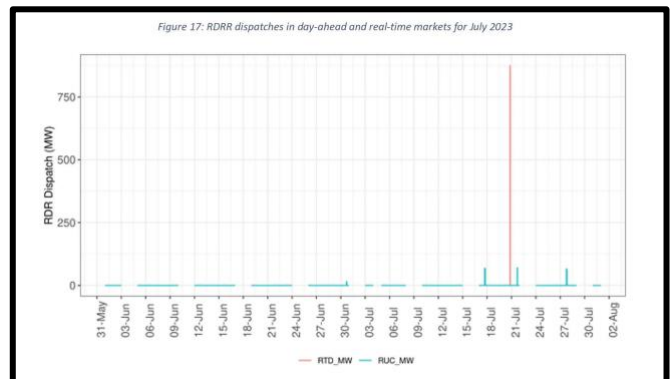
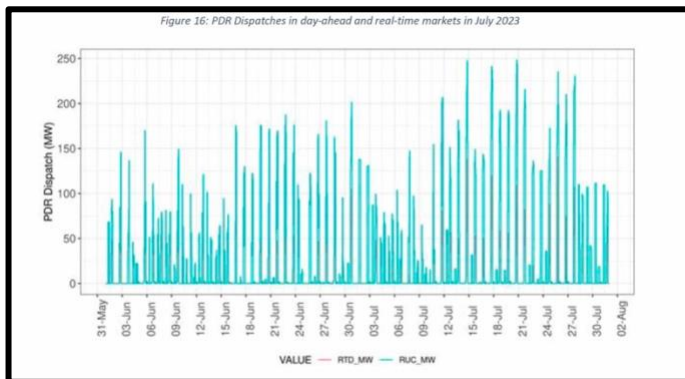
Last Monday, the CAISO released its long-awaited summer performance report for July. Looking back, it seems that the summer, and July in particular, exhibited small bumps in the road for the electric grid. Armchair quarterbacks such as me tried to analyze the available data soon after the July emergency alerts were sounded on three occasions. Yet, reviewing the [165-page report from the CAISO](#) showed that there wasn't a singular root cause for these limited twists, but instead a host of coincident items that triggered concern, operator action, and ultimately successful resolution.

The three July grid-event days were on the 20th, the 25th, and the 26th. The most severe was the first one on the 20th. I'm not going to repeat the sequence of incidents for each of the three days because those are thoroughly described in the CAISO document. I will point out, however, that on the 20th as the net-peak hour approached, the real-time situation unfolded differently than anticipated, based on the outcomes of both the hour-ahead scheduling process (HASP), and the 15-minute market (FMM). Here's an example taken directly from the report for July 20th: "*In the real time, the combination of moderate loads but a substantial volume of exports cleared in the market driven by elevated demand in the West, mainly from the Desert Southwest ... The results of the ... HASP for HE20 first saw sufficient bids ... and did not indicate supply shortages. ... After the HASP cleared, the ISO found itself operating during real time with narrower supply margins than expected, compounded by load changes within both the ISO and other areas of the WEIM. As the system approached net load peak, the anticipated supply did not fully materialize. The reasons for the unrealized supply include lower forecast of renewable resources, import reductions due to potential fire impacts, resources deviating from instructions, resources not dispatched up due to congestion, management of storage resources providing other services, and resource outages and derates.*" Take your pick as to which of the reasons listed was the most important. I wasn't sure before reading the report and didn't have a better clue after. That's why I settled on believing there was a confluence of factors that set the stage.

By 7:30 p.m. on the 20th the regulation capacity was almost depleted and that triggered an Energy Emergency Alert Level 1 (EEA1). The CAISO response was twofold: 1) manually dispatch the reliability demand response program (850 MW), and 2) manually dispatch the emergency load reduction program. Those steps helped to remove the EEA conditions within an hour. Interesting, though, that although everything seemed tip-top as the grid entered the net-peak hour, the real-time situation was otherwise. Maybe not by a lot, but enough whereby the operating reserves were insufficient, and the CAISO called on behind-the-meter resources to alleviate the situation.

I set my sights on the data made available in the report regarding demand response (DR), and battery energy storage system (BESS) operations, both of which I discuss below.

In California under the jurisdiction of the Public Utilities Commission (CPUC), there are two major programs for demand response: economic (proxy demand response or PDRs) and reliability demand response resources (RDRRs). The former can



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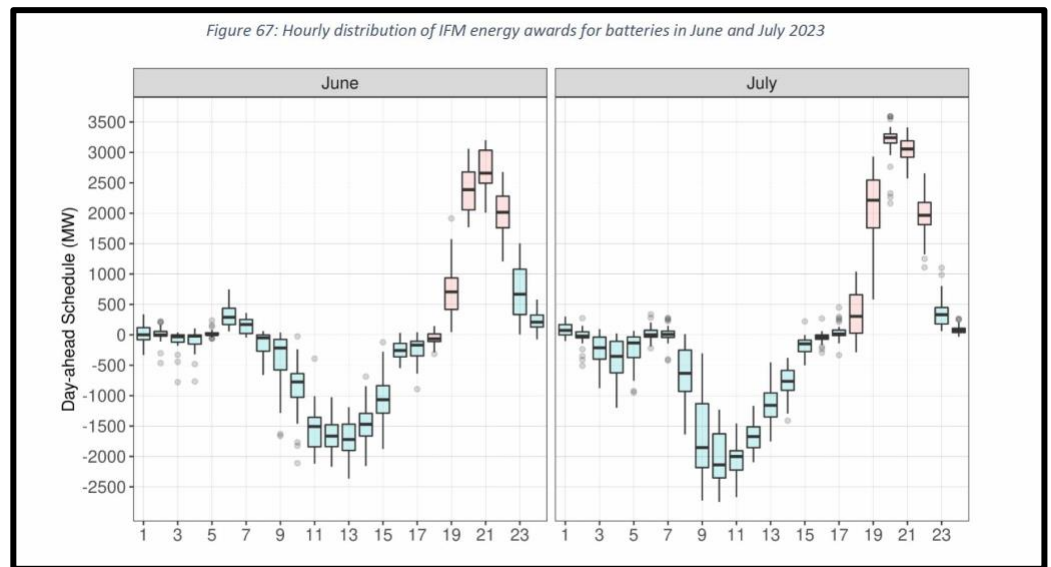
be bid into the CAISO market daily, and the latter is reserved for periods when there are either low operating reserves or clearing prices that approach the price cap. The two figures above show on the left the PDR awards for June and July by day, and on the right RDRR dispatched for the same timeframe. Together they demonstrate graphically what I averred above. The Proxy DR is in the game each day and the other on a highly selective basis. However, the total capacity of each is very different. The average daily PDR hovers in the mid-100 MW, whereas the RDRR slams out more than 800 MW, and I think there is an additional 400 MW of RDRR capacity available beyond what was used on July 20th.

So, here's my plaint. After all these many years of debate and rulemaking, why is the market-based DR so anemic? According to the CAISO: "The largest volume of PDR dispatches in day-ahead occurred on July 20 at about 248 MW whereas in real time market, it was a maximum of 140 MW of PDR dispatches on July 25." Those numbers do little to turn around an emergency situation, much less stave off a potential crisis. There is something wrong with this program, or maybe market-based DR isn't the sexy panacea long promised but is short on delivery.

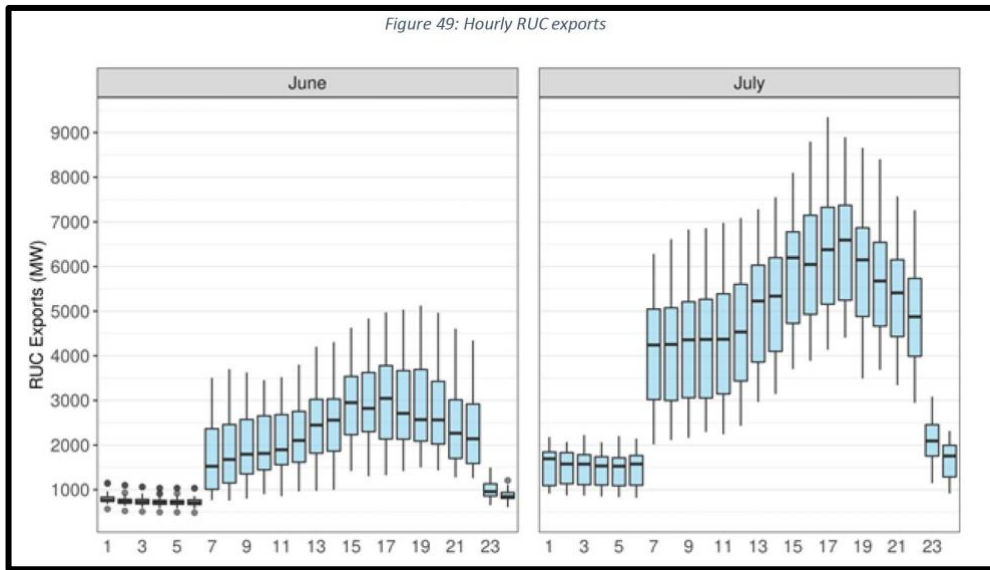
Regarding BESS performance, well, I'm always interested in knowing how these machines actually work in the CAISO markets. Sadly, monthly average net dispatch for each of 24 hours tells me too little, or should I say it encourages me to ask more questions than the data provided could possibly address.

However, the figure to the right confirmed at least one thing. That is, outside of ancillary services awards, BESS assets in the day-ahead market, and based on their economic bids, are either idle or charging in all the non-net-peak hours and discharging during the resource-adequacy availability hours. That's exactly the way you want the BESS fleet to behave.

In the real-time market the BESS discharge is a bit higher but the diurnal pattern is similar.



Hybrid BESS serves a different objective. There's about 700 MW of hybrid BESS in the CAISO and those assets are matched to on-site generation to provide firm schedules that can be bid into the CAISO markets.



Finally, the report provided a short summary about the net imports declining in July. This has been noted by many CAISO-watchers and the result has been attributed to greater gross exports arising from higher power prices in neighboring grids pulling on the CAISO renewable fleet. However, using "net" import data it hasn't been possible to observe gross exports until the instant report was published. The data I was searching for wasn't obvious, but I found it. The figure on the left is for June and July hourly RUC

exports ... and the name of the chart was exactly why I couldn't find the info flipping through the document. The term "RUC", as many of you know, stands for Residual Unit Commitment process and that application is run after the Day-Ahead market clears. It weaves the grid operators' adjustments for various uncertainties that the operators do not believe are adequately captured or covered in the awarded Day-Ahead bids. On weather-event days like were experienced in July, the RUC run might add sufficient volume of internal load that amps up the need for more internal resources and may also cause low-priority price-taking exports to be curtailed. Get it? This is markets plus (or minus) minor surgery.

Grand Phunk Salsa a la Energy GPS

Get AMPeD

Back in the late 1990s a creative trader wanted to get long the entire US power sector. He put out a request to the brokers for offers in all major power markets for what became known as the "Around the USA" trade. It was a bullish bet on the overall level of US power markets. I hadn't thought much about that trade in the ensuing years until a new Exchange Traded Fund (ETF) came across my radar over the summer. [An outfit called CNIC Funds](#) is behind this ETF, and they are working with ICE to bring the opportunity to buy the entire US electricity commodity sector to retail investors. The ETF launched in May 2023, its ticker is AMPD, and you can log into your brokerage account and buy it. On Wednesday it closed at about \$25 per share.

Over the summer I had the opportunity to speak with the CEO of CNIC, Tim Kramer. He explained that modern portfolio theory suggests that investors hold a diversified portfolio of stocks, bonds, commodities, and cash. According to Tim, there are all sorts of ETFs and index funds that track commodities (generally thought to include agricultural, metals, energy), but there is no fund that provides pure exposure to electricity prices. Given the importance of electricity in the economy, this seemed like an opportunity. If CNIC can launch an electricity commodity ETF and get even a small slice of the passive investment dollars allocated to commodities, then CNIC could have a viable business earning a management fee for this ETF. According to my research, the expense ratio for the AMPD ETF is 0.95% (95 basis points) with total assets of \$5 million. Currently, 50% of its holdings are US Treasuries, 44% is invested in electricity, and 6% is invested in other bonds. It's not clear why only 44% of the fund is invested in electricity; I'd expect it's a startup thing where the founders seeded the fund with money and opted to put that initial money into safe instruments.

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Let's take a look at what's under the hood here. The ETF endeavors to track the [ICE Carbon Neutral Power Index](#), which was launched in January 2023. The ICE "Index & Rules Methodology" document goes into great detail about the electricity markets, electricity pricing dynamics, correlations to other asset classes, volatility, and more. They present results showing that the addition of electricity price exposure to a portfolio pushes the efficient frontier "up" (higher expected return) and to the "left" (lower standard deviation). Who can argue with that? The ICE Carbon Neutral Power Index (CNPI) comprises PJM West (34%), NYISO Zone G (7%), ISO New England MA Hub (5%), MISO Indiana Hub (28%), ERCOT North Hub (17%), and CAISO SP15 (10%). This allocation is proportional to the MWh volume in each market. The Index comprises the Peak Product in each market, and positions are equally allocated to each of the prompt 12 months. For example, at the beginning of September 2023 the Index comprised October 2023 through September 2024 contracts. During September, the index rolls out of (sells) the prompt month contracts (October 2023, in this case) and buys the same month one year in the future (October 2024). The Index is carbon-free because they buy carbon allowances that are sufficient to cover the emissions associated with the notional volume of MWh in the fund.

I have mixed feelings about investing in the ETF. First, on the "pro" side, I tip my hat to the good people at CNIC and ICE for thinking this up and putting together a thoughtful index and ETF. It's always good to have choices in this world, and now, if someone wants broad exposure to US electricity prices, they can go buy the AMPD ETF. Second, small doses of AMPD in a portfolio may increase returns and decrease risk. That would be great. There are some downsides that I see as well. My biggest reason for caution is because this index only captures one slice of the electricity commodity (energy) and excludes capacity and flexibility value (ancillary services). If you look at the big picture, increasing renewables should lower market clearing prices over time as zero-marginal-cost resources supplant gas and coal in the dispatch. An increasing amount of the revenue dollar for generators will move out of the MWh bucket and into the capacity and flexibility buckets. Certainly, it is possible for the Index to evolve to include these other value streams, but it doesn't include them now.

Second, I can only imagine how they actually make this sausage. Rolling out of the prompt month contract each month and replacing it with a contract one year in the future may be a gift to wholesale electricity traders. I am quite certain that there isn't a high degree of liquidity in the October 2024 CAISO SP15 contract on ICE, which the fund will be buying during September. It is never a good idea to (a) broadcast to an illiquid market exactly what you will be looking to buy and (b) require that you buy into an illiquid contract. I don't see this issue getting much better with time. In fact, as the ETF volumes grow, this will be an even bigger problem due to limited market liquidity. This seems like a great opportunity for traders to front run the index managers buy, purchasing the target contract a few weeks in advance. This could easily result in value slippage in the neighborhood of 3% (equates to \$1.50 of slippage on a \$50 per MWh underlying price).

Third, requiring the purchase of carbon allowances makes sense from a marketing perspective, but carbon allowances are an input into electricity prices, so you have two instruments in the fund that are correlated. Should the ETF get bigger, and its holdings of carbon allowances grow, it is theoretically possible that the volume of carbon allowances required to be held by the fund could exceed the market supply of these allowances. Or, the ETF could be a material source of demand for these allowances and impact allowance prices. Given these factors, plus the nearly 1% management fee, it will be important to measure the performance of this fund based on actual (rather than modeled) results after taking into account all transaction fees.

I'm pulling for the fund to succeed – it would be great to have this option. Trading volume in AMPD has averaged 805 shares per day over the last 10 days, which is about \$20,000 of notional value (\$25 per share x 800 shares). To convert the \$20,000 daily dollars into MWh traded, you could assume \$40 per MWh is the average price across all of the ICE products in the index, you get 500 MWh traded per day (\$20,000 divided by \$40). These 500 MWh spread across six US markets and 12 monthly contracts within each market, you get an average of 7 MWh per contract-month (500 divided by 72) in power market liquidity. CNIC earns its money on the ETF management fee, while ICE earns its money via trading volume and selling index price data. We are only a few months in, but I'd expect the only folks who are reliably making money in this endeavor are the traders who are buying and selling the contracts that underpin the ETF.

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The above Op Ed is from the team at Energy GPS with Tim Belden as the lead writer.

Odds & Ends (!)

After next Friday's Burrito, it will be accessible to WPTF members **only by subscription**. The monthly fee will depend on the number of readers and email addresses listed for each respective WPTF member.

The monthly charges are \$150 (1 reader) to \$750 (10 to 20 readers). Subscriptions for more than 20 readers will be serviced by Energy GPS. You can review their fee structure by clicking [here](#).

For Burrito recipients via WPTF, the invoicing and payment will be managed by Frank McDonald in the same way in which WPTF invoices for the WPTF Committees.

If you are interested in subscribing to the Burrito, please [email me](#)

For you folks who get the meat-filled version of the Burrito (Note: Starting next month everyone who subscribes will get the meat-filled version), below are your stories:



For those who celebrate the Jewish High Holidays, I wish you an easy fast for Yom Kippur. It starts on Sunday evening and the fast is for those of age and able go for a whole day without food or water. I'll tell you what, that first sip of liquid to break the fast is something you savor throughout the year. You never forget it.

Otherwise, we'll do this again next week.

gba