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2022 Annual Subscription Rates:

Plan	Price
Newsletter PDF Only	\$1,520
Newsletter PDF Plus Web	\$2,000

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You never want to chance too much in this market.
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Counterflow

By Steve Huntoon

Stop the Insanity

By Steve Huntoon

Given current events, it should go without saying that sound energy policy is more important than ever.



Here's a few no-brainers we should be doing: (1) banning "proof of work" cryptocurrencies (like Bitcoin),¹ (2) HVAC (emphasis on AC) interconnections between ERCOT and the rest of the country;² (3) unique emergency ratings for interconnection studies,³ (4) new technologies for increasing capacity of existing transmission lines,⁴ (5) LED lighting⁵ and, dare we keep saying it, (6) a carbon price/tax.⁶

Instead, new notions get traction that cross into insanity. Like the recent promotion of cryptocurrency mining as something that increases grid reliability.⁷ The epicenter of this crackpot idea is Texas, which seems to have learned little from February of last year. Chief cheerleaders include Gov. Greg Abbott⁸ and Sen. Ted Cruz.⁹

The crypto claim is that after crypto mining increases electric demand, it can then be curtailed when needed for reliability. Please

note the bloody obvious: Increasing electric demand never increases reliability because increased demand can never be curtailed more than the increase. Think of the retailer increasing the list price so that the discount from list price can be bigger. Does the consumer save something?

The crypto rejoinder is that crypto demand incents new capacity so curtailment at peak actually could be beneficial. But as Berkeley professor Severin Borenstein points out: "Increasing demand at times when capacity is not scarce does not raise long-run investment in capacity. ... Even if it increases price during off-peak times, that just leads to substitution of baseload for peaker capacity, *but not more capacity*"¹⁰ (emphasis added).

Mic drop.

Another bit of crypto sophistry is the claim that crypto mining uses relatively more renewable energy than other electricity uses.¹¹ Beyond the problem that this claim relies on industry self-reports (and what bad guy self-reports?),¹² it misses the fundamental point that if this renewable energy wasn't being used for crypto mining it would be displacing nonrenewable energy sources. Duh.

Here's another howler from a congressional hearing on crypto and the grid: "Computing is



Columnist Steve Huntoon says the U.S. should ban cryptocurrency mining farms like this one. | Shutterstock

a better battery."¹³ Come on, computing is no more battery than a poultry plant.

Need more insanity data points? In Miami, the new "MiamiCoin" is 95% off its high, and the mayor is having second thoughts on whether it can be relied on to fund the city and abolish taxes.¹⁴ Who would have thought?

Farther south, the president of El Salvador — self-styled "coolest dictator in the world" — wants to build the world's first "Bitcoin city" at the base of the Conchagua volcano.¹⁵ What could possibly go wrong?

Bottom line: Let's advance no-brainers and stop the insanity. ■

¹ <https://energy-counsel.com/docs/The-New-Technoking-and-His-Bitcoin-Crown.pdf>. Plus, <https://theweek.com/feature/opinion/1009450/the-spectacular-risk-of-cryptocurrency-investing>

² <https://www.energy-counsel.com/docs/a-modest-proposal.pdf>; <https://energyathaas.wordpress.com/2022/01/31/the-most-obvious-way-to-avoid-another-texas-blackout>

³ <https://energy-counsel.com/docs/waste-not-what-not.pdf>

⁴ <https://www.epri.com/research/products/000000003002023004>

⁵ <https://energy-counsel.com/docs/LED-Kills-the-Edison-Star-2017-01-24%20RTO-Insider-Individual-Column.pdf>. The Biden administration continues to diddle around on LED lighting and other energy efficiency measures.

⁶ <https://news.bloomberglaw.com/environment-and-energy/biden-deadline-slips-for-undoing-trump-era-efficiency-standards>. What's the rush? "If we don't put that price of carbon on the system, I don't see how anything could work," Harvard economist William Hogan said in the last session of the daylong conference." <https://www.rtoinsider.com/articles/29867-epsa-members-renew-call-carbon-price>

⁷ See, generally, <https://www.utilitydive.com/news/bitcoin-mining-as-a-grid-resource-its-complicated/617896/>

⁸ <https://www.bloomberg.com/news/articles/2022-01-27/texas-governor-eyes-bitcoin-mining-to-fortify-the-electric-grid>

⁹ <https://fortune.com/2022/02/10/texas-world-capital-bitcoin-mining-companies/>

¹⁰ <https://energyathaas.wordpress.com/2022/03/21/crypto-mining-for-a-more-stable-grid/>

¹¹ https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/Witness%20Testimony_Brooks_OI_2022.01.20_0.pdf

¹² And for an overall skeptical view: <https://www.vox.com/2019/6/18/18642645/bitcoin-energy-price-renewable-china>

¹³ https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/Witness%20Testimony_Belzair_OI_2022.01.20_0.pdf

¹⁴ <https://www.miamiherald.com/news/local/community/miami-dade/article258545643.html>

¹⁵ <https://moneyweek.com/economy/people/604449/el-salvadors-nayib-bukele-the-coolest-dictator-in-the-world>

Stakeholder Soapbox

Three FERC Fixes to Enable Transmission Competition

By Paul Segal, LS Power

Transmission is the Backbone of Decarbonization



Paul Segal, LS Power | LS Power

Essential to combating climate change is a significant buildout of transmission. Achieving critical elements of a “net-zero” economy — including electrified transportation and power generation that relies heavily on wind

and solar resources — will require a massive investment in our nation’s transmission infrastructure. A recent study of long-term decarbonization pathways estimates an investment of \$1.3 trillion to \$3.6 trillion will be needed through 2050 to expand the U.S. transmission system by about two to five times¹ to meet climate goals.

To grow our current system by this magnitude, we need a regulatory framework that cost-effectively mobilizes investment into new transmission. Regrettably, current federal and state regulations fail to harness the power of competition to accelerate investment and control costs. Instead, regulations cede too much control over our nation’s grid to the self-interest of incumbent utilities, which benefit financially from *augmenting*, rather than *controlling*, costs. As a result, historically *less than 10%* of domestic transmission has been subject to competitive bidding.

Correcting the flaws within our transmission policy lies within the power of federal regulators — specifically, FERC. To promote more competitive transmission procurements, FERC must close unintended loopholes to allow the already-existing FERC Order 1000 to function as intended by (1) creating a robust Independent System Planner standard; (2) ensuring that all transmission over 100 kV is regionally (rather than locally) planned; and (3) mandate minimum transmission transfer capability between regions.

Competition is Crucial to Scaling High-impact Transmission Investment

To get to where we need to go, we must utilize the power of competition to optimize the buildout of America’s transmission system by:

- Reducing costs: Relative to an incumbent utility operating as an isolated monopoly,

introducing competition into transmission procurements sharpens the focus on efficient designs and cost-containment mechanisms (i.e. fosters approaches that shift the risk of cost overruns and inflationary pressures onto developers and away from ratepayers). In New Jersey’s recent transmission solicitation to support its planned offshore wind buildout, 57 out of 79 proposals included cost-containment provisions. Such provisions range from binding construction cost caps to limits on allowable return on equity. None of these ratepayer protections would have been possible were it not for a competitive process that rewards developers for controlling costs.

Studies from The Brattle Group and other sources show that competitive bidding processes routinely deliver projects at discounts of 30% (or more) to initial project cost estimates and incumbent utility offers. Given the long-term required transmission investment of about \$1 trillion to \$4 trillion, savings of \$300 billion to \$900 billion are at stake (and are particularly significant given today’s inflationary climate). In transmission as in other sectors — and as the Biden administration highlights in its recent “Executive Order on Promoting Competition in the American Economy”² — enhanced competition benefits consumers and strengthens economic growth.

- Encouraging innovation: Exposure to competitive pressures spurs innovative designs that can transmit more power over the same footprint. Unlike incumbent regulated utilities, competitive bidders are rewarded for doing more with less. For example, with LS Power’s Silver Run transmission project between Delaware and New Jersey (awarded in a PJM competitive solicitation), use of a customized underwater cable injector design (the first of its kind in the U.S.) yielded 60% cost savings relative to initial estimates, in addition to environmental benefits from less overhead wiring and a smaller land footprint.

Regulatory Change is Essential to Promote Efficiency

Prior to 2011, incumbent utilities that owned transmission infrastructure generally proposed and built transmission projects without any competition or incentive to contain costs. To protect consumers, FERC Order 1000 was implemented in 2011 to mandate that

utilities allow competition for projects that are regionally planned and cost-allocated to two or more utilities. Though successful in creating an initial market for competitive transmission procurements, unintended loopholes in FERC Order 1000’s implementation mean that procurements have remained quite limited. For example, between 2013 and 2017, only 3% of domestic transmission was subject to competition (i.e., \$540 million out of total annual average transmission investment over this period of \$18 billion).³ Even with a recent uptick in competitive awards, this share currently remains below 10%.

The reason why transmission competition has been limited is that self-interested monopoly utilities have devised tactics to restrict the definition of “regionally planned” (as opposed to “locally planned”) or otherwise subvert the intent of Order 1000. Examples of such self-serving tactics include:

- Minimum voltage requirements: Many regions (including PJM, CAISO and MISO) restrict competitive projects to those above 200 kV — thereby excluding large swaths of the transmission network from competition.⁴
- Reliability exemptions: Projects are frequently exempted from competition by deeming them necessary for near-term reliability purposes, while short-term system planning is utilized to avoid competitive processes.
- State ROFR laws: Utilities have successfully lobbied state legislatures to pass laws giving them a right of first refusal (ROFR) on any transmission solicitations — thereby eliminating and harming competitive procurements. States that adopted such ROFR laws include Iowa, Minnesota, North Dakota, Michigan, South Dakota and Texas.

Such nefarious tactics have impeded transmission competition throughout the U.S. at the expense of consumers, particularly in those regions (e.g., the Southeast and Pacific Northwest) that are outside the purview of a regional transmission organization (RTO). In the decade since enactment of Order 1000, these non-RTO regions have held extremely limited competitive transmission procurements.

FERC Fixes: Independent System Planner, Lower Voltage Limits, Minimum Transfer Capability

To address these challenges and promote

Stakeholder Soapbox

cost-effective and innovative transmission processes, FERC should increase its enforcement of existing rules and further promulgate new policies that bolster competitive transmission procurements.

LS Power respectfully proposes three policies that would extend transmission competition to non-RTO regions, reduce “gaming of the system” via minimum voltage thresholds for regional planning and competition, and catalyze new interregional transmission projects:

Recommendation #1: Level the playing field for enforcement. If FERC is unwilling to mandate RTOs nationally, then FERC should apply an enhanced Independent System Planner (ISP) standard and planning scope to each of the 14 Order 1000 regions.

Put simply, an ISP accountable to FERC will exercise planning authority for all regional and interregional planning on transmission facilities over 100 kV⁵ (and under 100 kV, in certain instances) and will administer competitive solicitations to select transmission expansion/upgrade projects (including qualification and selection of the most efficient or cost-effective solutions).⁶ Providing a nationally consistent ISP framework will (1) ensure that all regions — including those outside of an RTO — will be subject to minimum transmission planning and independence standards and (2) further discourage utilities from leaving an existing RTO.⁷

Recommendation #2: Fix the FERC 1000 “monopoly loophole.” Require that all transmission over 100 kV be regionally planned (consistent with the new ISP standard) and that transmission above 69 kV should also be regionally planned if it is determined to facilitate regional benefits.

Incumbent utilities have undermined the intent of Order 1000 by exaggerating the share of their transmission projects that deliver only local benefits (and are therefore not subject to regional cost planning and competitive procurements). Drawing a clear line in the sand that all transmission over 100 kV should be



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regionally planned, in line with FERC precedent,⁸ would reduce the scope for such gamesmanship. A standardized planning regime will extend the architecture for competitive transmission procurements nationwide and remedy the recent deficit in regional transmission investment for non-RTO regions.

Recommendation #3: Stabilize and secure our grid. Establish minimum interregional transfer capability between Order No. 1000 regions.

This will improve grid reliability during adverse weather, reduce costs by allowing low-cost generation to access load centers, and support increased integration of variable renewable resources (in line with a net-zero trajectory). The devastating effects of Winter Storm Uri in Texas underscore the risks of insufficient interconnection capacity between regions. Given there is only 1.3 GW of transmission interconnections between the three grids that cover the U.S. (the Western Interconnection, the Eastern Interconnection and ERCOT) — versus more than 750 GW of combined load across these regions — mandatory minimum interregional transfer capability will be a

well-deserved boon to the construction of new (competitively procured) transmission. While the required minimum amount of transfer capability can be debated, we propose 40% of peak load between regions as a starting point that can materially improve grid reliability and renewable energy deployment.

Decarbonizing America’s economy involves trillions of dollars of investment in new transmission. Maximizing bang-for-the-buck on such investment requires a framework that promotes competition, rather than one that defers to incumbent utilities at the expense of cost savings and innovation. More than a decade after Order 1000, it is time for FERC to tackle the more than 90% of transmission investment that has historically been insulated from competition. Adopting a new ISP standard, requiring that all transmission over 100 kV be regionally planned (consistent with an ISP standard and scope), and mandating minimum interregional transfer capabilities are three concrete ways for FERC to revitalize transmission competition and accelerate our progress toward net zero. ■

Paul Segal is the CEO of LS Power.

¹ “Net-Zero America: Potential Pathways, Infrastructure, and Impacts,” Princeton University, Oct. 29, 2021. Pp. 27-29. Cost estimate includes new lines and replacement of end-of-life lines, while two to five times refers to capacity of transmission system (measured in GW-km). For reference, current U.S. annual average transmission investment is about \$20 billion.

² The White House, “Fact Sheet: Executive Order on Promoting Competition in the American Economy,” July 9, 2021

³ “Cost Savings Offered by Competition in Electric Transmission,” The Brattle Group, April 2019, pp. 5, 9.

⁴ For reference, of the about 600,000 miles of transmission lines in the U.S., about 360,000 are below 230 kV.

⁵ 100 kV being consistent with NERC’s definition of the bulk power system.

⁶ For more detail on how an ISP would function, see “Comments of LS Power Grid, LLC in Response to the Commission’s Advanced Notice of Proposed Rulemaking” FERC Docket No. RM2117000, pp. 79-85.

⁷ As part of enacting an ISP standard, FERC should also foreclose utility exits from their selected Order 1000 region for 10 years, unless the exit was found to both comply with FERC’s “just and reasonable” standard and to be in the public interest. LS Power believes that joining an RTO could be in the public interest.

⁸ Revision to Electric Reliability Organization Definition of Bulk Electric System, Order No. 743, 133 FERC ¶ 61,150 at P 73 (2010)

Southeast

TVA Board Nominees Back Renewable Power, Affordability

By Amanda Durish Cook

Nominees to the Tennessee Valley Authority's board of directors stressed affordable rates and a more robust renewable portfolio for the federal utility during their Senate confirmation hearing last week.

Beth Geer, Robert Klein and L. Michelle Moore appeared before the U.S. Senate Environment and Public Works Committee about a year after they were nominated to the TVA board by President Biden. Also sitting before the committee was Ben Wagner, a longtime employee in TVA's Office of the Inspector General who has been nominated to serve as the federal utility's next inspector general.

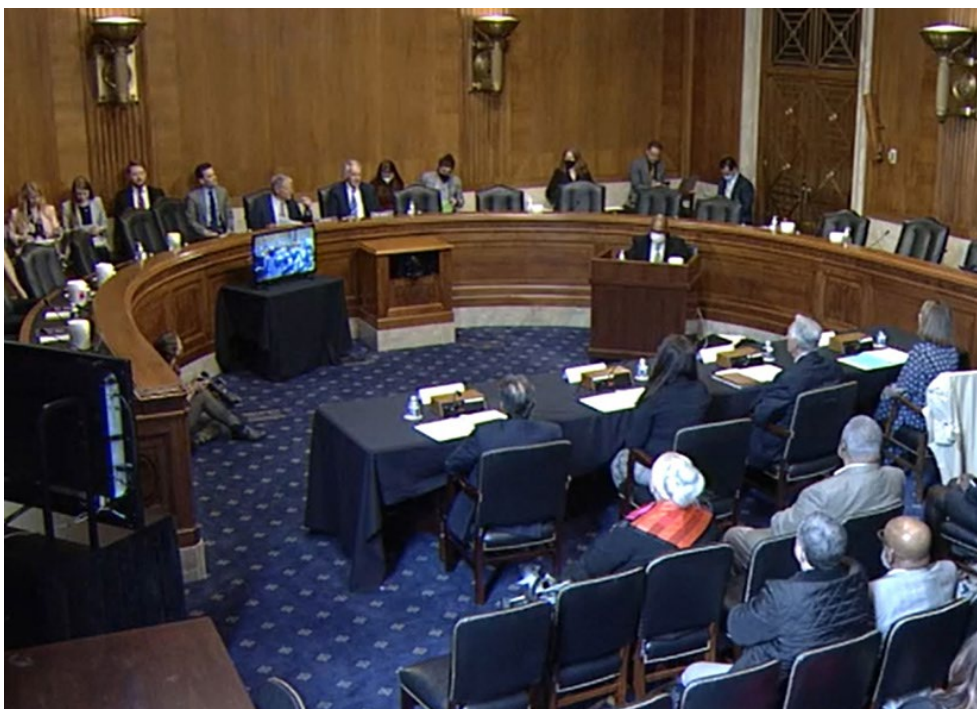
Committee Chair Edward Markey (D-Mass.) opened the April 5 hearing by saying TVA could do more to provide innovation, low-cost power, environmental stewardship and reduce its 10 million customers' energy burdens.

Markey said TVA could substantially expand its generation portfolio's 3% share of wind and solar, both at the utility scale and the distribution level. He called the 3% share a "very sad number."

"It's almost as though it's still the 1930s and there hasn't been any real progress in terms of the implementation of real change," Markey said. "Unfortunately, the TVA has pushed, for several decades, more fossil fuel energy at the expense of potentially cheaper renewable sources, which pollutes our communities and exacerbates energy burdens for TVA customers, who already pay some of the highest electricity bills in the nation as a percentage of



TVA board nominee Beth Geer | U.S. Senate Committee on Environment and Public Works



April 6 Hearing on TVA nominees | U.S. Senate Committee on Environment and Public Works

household income."

Markey said the trio of nominees are well-positioned to prudently influence the utility's energy planning for years to come and provide customers with "reliable, clean and affordable" energy."

However, Ranking Member Jim Inhofe (R-Okla.) said "calls to eliminate fossil fuels from the power sector are foolish and would be devastating for the American people by increasing already sky-high utility bills and creating greater unreliability for the electric grid."

He said the nominees must recognize the ongoing need to maintain fossil fuels as part of TVA's power supply.

"The TVA must not be weaponized to pursue a radical, Green New Deal-inspired agenda that forgoes reliability and affordability and fossil fuels for its power supply in the name of climate alarmism," Inhofe said.

He also criticized the slate of nominees for not including anyone from Kentucky or Mississippi.

The TVA Act prescribes that seven of the board's nine members be residents of the TVA service area and that their residences be geographically diverse across the footprint. The current board contains members hailing from Georgia and Tennessee; the nominees also come from

those two states.

TVA's current board is at quorum with five of nine seats filled. However, two directors' terms expire in May. The utility's bylaws allow board members to stay on through the end of the year to maintain quorum if replacements have not been confirmed in time.

The current board includes Chair William Kilbride, whose term expires in 2023; A.D. Frazier and Jeff Smith, whose terms expire this year; and Beth Harwell and Brian Noland, whose terms expires in 2024. If the nominees are confirmed, the board will have three women instead of one, but no one of color.

"The financial success of renewable energy is something I observe daily in my current work, and it's why the sustainability revolution may now be the most significant investing and business opportunity in the world," Geer said in her testimony. "Sustainability does not just make sense for our environment; it makes good sense for economic progress."

Geer, a Tennessee resident, is chief of staff to former Vice President Al Gore and serves on Nashville's Sustainability Advisory Committee.

"Let me say that while I have worked in the political realm at many points in my career, I firmly believe that doing what is best for all the people of the Tennessee Valley is what

MISO News

matters, and that is, at the end of the day, a nonpartisan issue," she said.

Geer said she shared Markey's concerns with TVA's relatively small deployment of wind and solar.

Ernst Objects to 2015 Tweet

Sen. Joni Ernst (R-Iowa) said she will oppose Geer's nomination over a 2015 Twitter comment she made in response to a Fox News tweet featuring an image of Ernst and a quote from her response to President Barack Obama's State of the Union address. Geer responded "hideous" to the tweet, which asked, "What did you think of Sen. Joni Ernst's GOP response to the State of the Union address?"

Ernst asked Geer to explain herself, saying, "You believe one reason you should be confirmed to serve in the TVA, the Tennessee Valley, is because of your ability to 'build relationships and work together.' Is that correct?"

"Well, I apologize if I offended you, and I appreciate you bringing it to my attention," Geer said. "And I do, in fact, believe that civility is key, and I'm sorry that I did not demonstrate that, in your opinion, with that tweet."

Klein, a former lineman at the Electric Power Board of Chattanooga and member of the International Brotherhood of Electrical Workers, said TVA's status as a government-owned public utility poises it "to be a leader in technology and innovation for the nation, allowing the United States and the Southeast, in particular, to contribute to our collective goals of decarbonization."

Klein said if confirmed, he would support carbon reductions and "look for projects that could potentially lead the way in further reductions." He said he was particularly interested in TVA's exploration of a small modular nuclear reactor near Oak Ridge, Tenn.

Klein also said he was committed to exploring new renewable energy additions to TVA's fleet.

Moore, a former sustainability staffer in the Obama White House and CEO of solar non-profit Groundswell, said "energy and environmental quality go hand in hand with fiscal responsibility" and pointed to her work in helping build a market for green buildings that use less energy and water.

She recalled a childhood in which her grandparents would rack up "backbreaking" \$300 to \$400 energy bills because they were forced to turn on their furnace periodically during Georgia winters to keep their inefficient house's pipes from freezing.

Ranking member Sen. Shelley Capito (R-W. Va.) grilled Moore on a 2018 tweet on her now-private, personal twitter account where she wrote, "Oil is like opioids, it keeps you sick and poor." Capito asked how Moore would square her opinions with TVA's 40% fossil fuel energy portfolio.

Moore said while she was grateful for fossil fuels powering the Industrial Revolution and helping to lift families out of poverty, it's time to move forward with clean energy and new technologies. She said she envisioned battery storage having a bigger role in TVA's portfolio and said she will make sure that as TVA's decarbonization plays out, communities with fossil plants will be supported.

Late last year, the five-member board voted to give TVA CEO Jeff Lyash more discretion over utility decisions, including replacing output from the Cumberland and Kingston coal plants in Tennessee. TVA is currently exploring building pipelines and two new natural gas plants at the sites, a move the Sierra Club *opposes*.

TVA's emissions goals and renewable generation plans are currently the focus of an inquiry by the U.S. House of Representatives' Commit-



TVA board nominee L. Michelle Moore | U.S. Senate Committee on Environment and Public Works

tee on Energy and Commerce. The committee is questioning whether the utility is doing enough to keep rates affordable and invest in renewables and energy efficiency. (See [TVA Defends Rates, CO2 Reduction Plans in House Inquiry](#).)

Before the inquiry, several nonprofit groups *said* TVA needed a stronger decarbonization plan than its current 2050 goal.

Wagner is a 31-year veteran of TVA's inspector general's office, where he served as an investigator and auditor until his retirement in 2017. Before that, he worked in TVA's nuclear power segment.

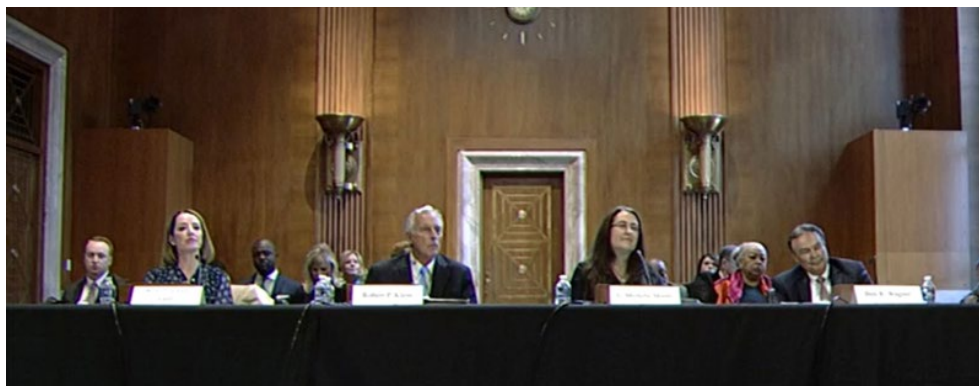
Wagner committed to performing program re-evaluations of TVA's audits and investigations to determine possible process improvements.

All nominees agreed to Markey's ask to pay close attention to TVA's coal ash dumps. Markey also asked that nominees pledge to place emphasis on energy efficiency measures.

The committee will vote on the nominations in the weeks ahead. A full Senate vote will follow.

The hearing comes as TVA risks losing the largest of its 153 power company customers, Memphis Light, Gas and Water (MLGW), over affordability concerns and low renewable energy investment. MLGW and a third-party contractor hired to oversee a request for proposals are currently evaluating 27 bids for alternative electricity supply, including one from MISO.

The city utility has previously said it will release a short list of finalists and invite the companies to prepare presentations this summer. After that, MLGW plans to request final offers and potentially award a contract in December. ■



TVA nominees (from left) Beth Geer, Robert Klein, L. Michelle Moore and Ben Wagner | U.S. Senate Committee on Environment and Public Works

Southeast

FERC's Republicans Irked by Declarations in PURPA Complaint

By Michael Brooks

Republican FERC Commissioners James Danly and Mark Christie issued a partial dissent in an otherwise typical PURPA order Friday, criticizing the Democratic majority for making “unnecessary” declarations on the case.

All five commissioners agreed to not act on a qualifying facility's petition to enforce a contract between it and the South Carolina Public Service Authority (Santee Cooper), a decision allowing the QF to sue the state-owned utility under the Public Utility Regulatory Policies Act (EL22-29, QF15-850-003).

National Renewable Energy Corp.'s Magnolia Solar negotiated a power purchase agreement under which Santee Cooper would pay an avoided-cost rate, as required by PURPA, for five years for the output of its 42-MW solar project in Orangeburg County.

The dispute arose when Magnolia revised the draft PPA to a 20-year term.

In protest, Santee Cooper argued that “no LEO [legally enforceable obligation] was formed because Magnolia refused to accept Santee Cooper's five-year term for the LEO, a term that Santee Cooper is entitled to set as a condition.”

FERC's majority sided with the developer, declaring that “whether a LEO was established depends on the QF's commitment to sell its output to the utility and not the utility's actions.

“Magnolia's demonstrated commitment to develop the QF, and expressed intent to sell



| Santee Cooper

its net output to Santee Cooper at an avoided-cost rate, supports the finding that a LEO was formed,” FERC said. “Santee Cooper's insistence that Magnolia agree to a five-year term as condition precedent to establishing a LEO is inconsistent with commission precedent.”

Such decisions not to act are common.

“FERC typically declines to initiate enforcement actions requested by QFs,” Bracewell wrote in a 2018 blog *post*. “Instead, if FERC believes such petitions merit discussion, FERC's practice is to issue a Notice of Intent not to Act and a declaratory order setting forth its position on the issues raised in the petition.”

Such declarations are unnecessary, Danly and Christie said in separate but similar partial dissents.

The Republicans — especially Danly — have been vocal since the beginning of their tenure about the commission being too proactive, preferring that it take a hands-off approach

and letting Congress decide matters of policy. In this case, the two said the majority's statements were superfluous because the commission took no action for which it needed to explain itself.

“While the commission may offer unnecessary declarations on any subject it chooses, I do not believe it should,” Danly wrote. “Responsible adjudication counsels minimalism, and the commission should be more circumspect.”

In a footnote, Danly listed other Notices of Intent not to Act in which “the commission has properly declined to include unnecessary declarations.”

“The declarations in this order will not aid the petitioner in court,” he wrote. “Should an action be initiated, the court has processes by which to adduce evidence; the law has not been changed or clarified by any of the order's unnecessary declarations; and the precondition for initiating such a proceeding was fully consummated by the Notice of Intent not to Act.” ■

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CAISO/West News

Calif. Seeks to Blaze Trail for Long-duration Storage

Time Pressure Mounts with Looming Grid Challenges, Lithium Supply Crunch

By Robert Mullin

California Gov. Gavin Newsom is looking to earmark \$380 million for long-duration energy storage (LDES) incentives in his proposed 2022/23 state budget. For California energy officials, the state's grid operator and LDES developers, that money can't arrive soon enough.

California defines "long-duration" as any storage resource able to discharge energy to the grid for at least eight hours at full output, but the state also has a "stretch goal" of 20 to 100 hours. While otherwise technology-neutral, Newsom's incentive program would seek to boost the commercial prospects of alternatives to lithium-ion batteries and pumped hydro. Priority would be given to technologies on the verge of commercialization or positioned for widespread deployment within the next five to 10 years.

Speaking April 5 at an interagency workshop exploring ways to advance the adoption of non-lithium-ion LDES, California Energy Commission Chair David Hochschild acknowledged that the \$380 million in funding "still has a little ways to go" before passing the legislature.

"But part of the reason for coming together today was feeling an incredible sense of urgency about getting this right, particularly on program design," Hochschild said.

Two issues are driving that urgency, according to speakers at the workshop.

The first is that California's grid, increasingly reliant on variable renewable generation, will soon push its reliability limits by relying on four-hour batteries as a substitute for gas-fired peaking resources.

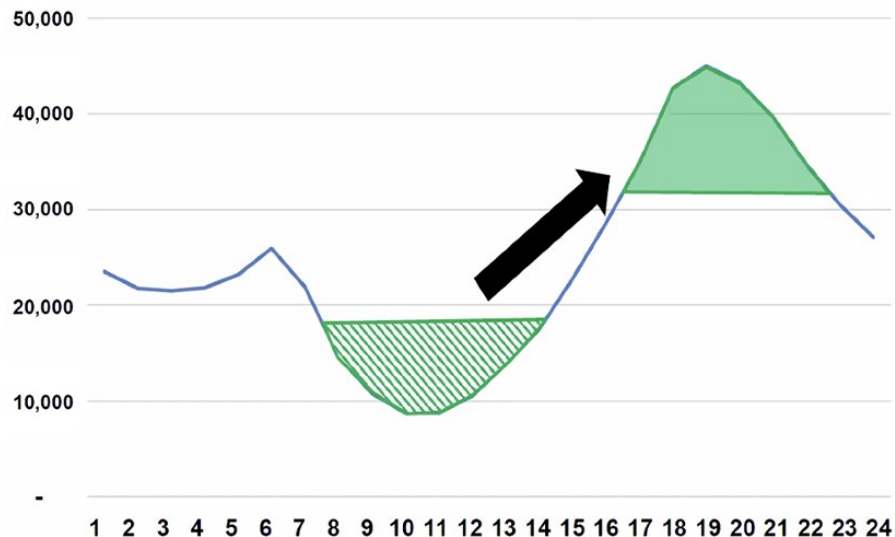
The second factor is more global in nature, with competition for worldwide lithium supplies heating up as more consumers purchase electric vehicles and government policies across the world encourage the electrification of most forms of transportation and heavy-duty equipment.

'Incredibly Versatile'

Two years ago, CAISO had about 200 MW of battery storage on its grid. Today it manages 3,100 MW, most of which is lithium-ion. By summer, that number is expected to reach 4,000 MW.

During last week's workshop, Hochschild

Net Load – 2024 (Sept)



The changing shape of CAISO's "duck curve" indicates that, by 2024, four-hour batteries will no longer suffice for covering California's growing peaks, requiring a shift of daytime solar oversupply into long-duration storage systems. | CAISO

praised the state's ability to integrate that kind growth in such a short time.

"We're not finished, of course; there's a lot more to go; but just to actually have that installed and dispatchable is incredible," he said.

"Not only is California leading the way in terms of [storage] technologies that are on the grid, and what we're operating today, we're also leading the way in terms of the tools that we have to actually manage and operate these resources," said Gabe Murtaugh, storage sector manager at CAISO.

California's battery storage resources, predominantly four-hour in duration, are "incredibly versatile," helping CAISO manage peak loads and "operational uncertainty" on the grid, Murtaugh said. The ISO has committed much time to developing market models that manage the state of charge of those resources, he said, ensuring they're available when needed most, such as on the hottest summer days.

But the continued emergence of storage requires a dynamic approach to managing the resources, Murtaugh said. The California Public Utilities Commission's 2032 integrated resources plan calls for 15 GW of storage by 2032, with 30 to 50 GW looking further out, according to Jonah Steinbeck, deputy director of the CEC's Energy Research and Development Division.

"Just because we have a model that works today, and we're sharing that model with other ISOs and RTOs across the country, doesn't mean our work on storage is done by any means," Murtaugh said. "We know that there's other different kinds — different flavors — of technology: long-duration technology; other short-duration batteries as well. And as we've mentioned before, the ISO is technology-agnostic, so we really need to design our models to be able to accommodate all kinds of technologies potentially."

The growing prevalence of variable generation in California will alter the shape of CAISO's "duck curve," the iconic graph that depicts the deep trough in the ISO's "net load" during the middle of the day (formerly the period of peak demand) as solar resources reach full output, followed by the steep rise in net load heading into evening as those same resources taper and cease production.

Longer-term peak load forecasts from the CEC indicate the middle of the duck curve will become even deeper and wider as California brings on more solar resources, while net loads in the late afternoon and evening will become even steeper with increased electrification of the state's economy.

The key for the ISO is to shift the solar oversupply in the trough period to the high needs

CAISO/West News



during the ramp. Using the CEC's forecasts, CAISO predicts that, by 2024, four-hour batteries discharging at full capacity will be insufficient to provide the energy flows necessary to meet demand across a longer and steeper evening peak. Long-duration storage will be needed to cover that gap and avoid continued reliance on peaking plants.

"Obviously, you can take a four-hour battery and operate it at something less than its full output for a longer period of time, but you're probably losing some efficiency there," Murtaugh said.

More challenges loom beyond 2024, as the state pursues its policy of achieving a zero-emissions grid by 2045, requiring use of even longer-duration storage of up to 100 hours, Murtaugh said. That's because CAISO expects the grid will shift from a summer- to winter-peaking system.

"The hardest times will be during multiday periods when we have low wind and low solar availability, which is more prevalent in the winter than it is in the summer," he said. "And in those kinds of situations, when we're very heavily reliant on renewables to produce the energy that's going to be consumed in the state, then you need storage or some other solution to generate new energy in order to keep the lights on across those periods."

Other factors will compound the need to adopt long-duration storage by the middle of this decade, according to James McGarry, a senior analyst in integrated resource planning at the CPUC.

Among them is the expected retirement in 2024 of 1.3 GW of gas-fired capacity 40 years or older and the closure of 3.7 GW of thermal plants relying on once-through cooling, followed by the 2025 retirement of the 2.3-GW Diablo Canyon nuclear plant.

"And throughout this time period, West-wide heat and drought conditions paired with neighboring states increasing their own clean energy commitments are leading us to expect tighter availability of imports during peak

demand periods," McGarry said.

"As we look across different use cases and applications, long-duration storage has a major role to play in the ISO's local capacity requirements," said Jin Noh, policy director for the California Energy Storage Association. "Studies are already showing a significant need to look at long-duration storage if we really want to replace local gas generation."

Noh said long-duration storage could provide more of the "diverse capabilities" the ISO is seeking to manage a system increasingly dominated by inverter-based resources, including offering inertia support and helping to "better optimize and utilize the other resources on the grid."

'Dirt Cheap'

According to Noh, long-duration storage technologies already benefit from "pretty significant" private investment. But Gov. Newsom's proposed incentives would "serve as that tipping point for technologies that are really on the verge of commercialization" while easing the "first-mover burden" on those organizations adopting the new technologies.

CEC Vice Chair Siva Gunda pointed out that part of that burden includes testing — then rapidly scaling — the new technologies. Lithium-ion batteries benefited from about 10 years of deployment and providing operational data before attracting broad private investment, he said.

To help alleviate the proof-of-concept burden for LDES, the U.S. Department of Energy has proposed the Rapid Operational Validation Initiative, designed to accelerate testing and have resources ready for commercialization by 2030, ahead of the Biden administration's 2035 target for a clean U.S. electricity system, said Eric Hsieh, DOE's director of grid systems and components.

"We're looking to use these demonstrations to collect data from them [and] combine them with accelerated testing procedures in the lab with domain knowledge and [artificial intelligence/machine learning] algorithms, with the

intent of being able to provide investment-grade performance projections with just one year of data," Hsieh said.

And another key development adds to the time pressure to deploy LDES, according to Larry Zulch, CEO of Invinity Energy Systems, a flow battery developer.

"I talk to a lot of metals companies, people who are in the trade, and they keep telling me, 'You have no idea what kind of lithium shortage is coming along because of the [transportation sector] requirements,'" Zulch said.

Zulch said the applications that will rely on energy-rich lithium-ion batteries, which include EVs, airplanes and construction equipment, "far exceed the increased production capabilities" of lithium and nickel mines.

Invinity's flow batteries rely on vanadium, which Zulch said is more abundant than copper and found throughout the world, preventing it from becoming a "conflict" mineral.

Other LDES company representatives speaking during a workshop panel also touted the relative abundance of the critical minerals used in their systems. Mateo Jaramillo, CEO of Form Energy, said his company's iron-air design relies on the most heavily mined mineral on Earth, present on every continent. Henrik Stiesdal, founder of Stiesdal A/S, said the storage medium in his company's thermal energy system is crushed basalt, which he called "dirt cheap."

Unsurprisingly, company executives were unified in their belief that the moment has already arrived for LDES.

"I think the [LDES] batteries that all of the panelists, along with myself, are able to produce and provide are addressing a specific market need that's already there," said Balki Iyer, chief commercial officer of Eos Energy.

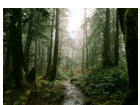
"What we see here is the fact that we actually have a longer-duration need from the market [that's] driving the shift, moving away from lithium to non-lithium, longer-duration batteries," he said. ■

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CAISO/West News



CAISO Reports High Energy Prices in Q4

Western Energy Imbalance Market Affected; Renewables up

By Hudson Sangree

High natural gas costs drove wholesale electricity prices sharply higher in CAISO and its Western Energy Imbalance Market (WEIM), the ISO said in its fourth-quarter 2021 Report on Market Issues and Performance, released last week.

Day-ahead electricity prices in CAISO rose by about 50% compared with the same quarter in 2020, reflecting a similar rise in natural gas prices at key trading hubs, according to the Q4 report. Gas prices increased by more than \$2/MMBtu at the Henry Hub in Louisiana, SoCal Citygate near Los Angeles, PG&E Citygate near Sacramento, NW Sumas in Washington State and El Paso Permian in Texas, it said.

PG&E Citygate saw a 65% price jump and SoCal Citygate experienced a 57% increase over the same quarter one year earlier, it said.

The price spike led to higher marginal energy prices across CAISO and the WEIM, which covers much of the Western Interconnection. Prices averaged \$62/MWh in the day-ahead market, \$59/MWh in the 15-minute market and \$53/MWh in the real-time market.

“Electricity prices in western states typically follow natural gas price trends because gas-fired units are often the marginal source of

generation in the [CAISO] balancing area and other regional markets,” the report said.

In the WEIM, energy prices in California were 18% higher than in the rest of the interstate trading market.

“Prices tend to be higher in California than the rest of the system due to both transfer constraint congestion and greenhouse gas compliance costs for energy that is delivered to California,” CAISO said.

Congestion on three lines — the Los Banos-Quinto 230-kV line in Central California, the Miguel 500/230-kV transformer nomogram and the Imperial Valley-EI Centro 230-kV nomogram, both in Southern California — affected CAISO prices the most, it said.

On major interties, “the frequency and import congestion rent on Palo Verde [feeding power from Arizona to Southern California] remained notably high relative to the same quarter in 2020,” but congestion decreased on the Pacific AC and DC interties linking the Pacific Northwest to California and the Southwest.

Prices in the WEIM’s Northwest region — which includes PacifiCorp West, Puget Sound Energy, Portland General Electric, Seattle City Light and Powerex — trended lower than in other balancing areas “due to limited transfer

capability out of this region during peak system load hours,” the report said.

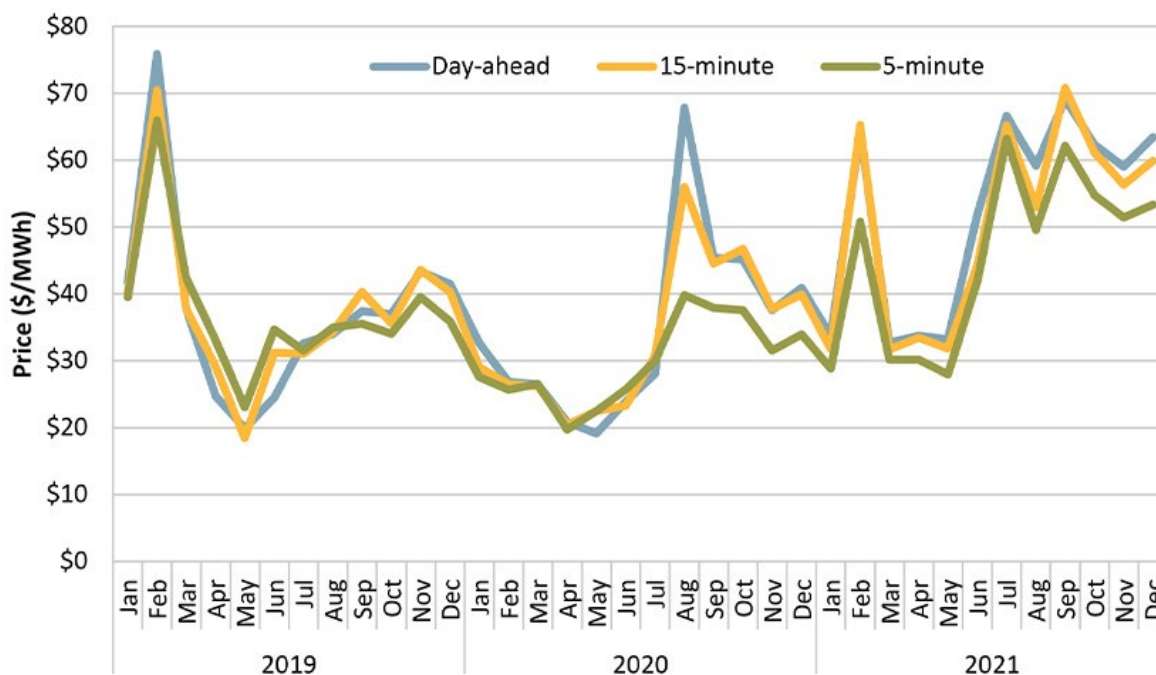
CAISO was a net importer during most hours except the middle of the day when California’s ample supply of inexpensive solar power makes it a net exporter.

“Compared to the fourth quarter of 2020, imports into the California ISO from Arizona Public Service and Salt River Project were partially replaced by imports from Los Angeles Department of Water and Power,” the ISO said.

CAISO’s addition of a net-load uncertainty requirement to the WEIM’s bid-range capacity test in June 2021 caused the most resource sufficiency failures in Q4 2021, but CAISO removed the controversial requirement from the test in February.

While gas prices were rising, renewable production increased by about 600MW, or 9% compared to Q4 2020, CAISO said. Hydroelectric, wind and solar generation increased 12%, but geothermal and biogas-biomass generation were down 4%, it said.

The prolonged Western drought eased from October to December, helping to increase hydropower slightly from last year’s fourth-quarter low point, but California then saw its driest January to March on record. ■



Energy prices in Q4 2021 were 50% higher than Q4 2020. | CAISO

CAISO/West News

CPUC Tells SoCalGas to Return Ratepayer Money

Funds Were Used to Lobby Against Clean Energy Programs, Regulators Find

By Hudson Sangree

The California Public Utilities Commission on Thursday ordered Southern California Gas Co. to refund ratepayer money it inappropriately used to lobby against regulations that could undermine its business, such as building codes that require electric space and water heaters in new construction instead of gas appliances.

The commission also imposed a \$150,000 penalty against SoCalGas after hearing from some parties who argued for no fines and others who urged for a \$255 million penalty.

The moves were the latest in a long-running dispute between the CPUC and the nation's largest gas utility, a subsidiary of Semptra Energy, over its advocacy efforts against the California Energy Commission's building decarbonization requirements, federal efficiency standards, and the state's 100% clean energy mandate, which would remove natural gas from the generation mix by 2045.

Last month the CPUC fined SoCalGas \$9.8 million for contempt of its 2018 [order](#) to stop using ratepayer money to lobby against greenhouse gas reduction efforts intended to benefit ratepayers. The company flouted the order and continued to engage in "numerous and substantive" activities that harmed the regulatory process, Administrative Law Judge Valerie Kao wrote in her Feb. 3 [decision](#).

"Such insolence must be accorded a high degree of severity," Kao said. Her decision took effect last month after SoCalGas did not appeal it in the required 30 days.

The CPUC's Public Advocates Office (Cal Advocates) had [recommended](#) a \$124 million fine in the case.

Of the dozens of allegations against it, SoCalGas accepted some in a [filing](#) but argued others were outside the scope of the 2018 order. It contended, for example, that lobbying the U.S. Department of Energy was not covered by the order, an argument that Kao flatly rejected.

The case decided Thursday involved SoCalGas's activities prior to the 2018 order, from 2014 to 2017, when it was prohibited from engaging in "codes and standards advocacy" with ratepayer money because of a prior order but did so anyway, the CPUC said.

Kao issued a [proposed decision](#) in the case that ordered SoCalGas to refund ratepayer funds

but did not impose a penalty. Commissioner Clifford Rechtschaffen offered an [alternative decision](#) that was the same as Kao's except for proposing a \$150,000 fine.

Both decisions ordered SoCalGas to return the ratepayer dollars it misspent and instructed commission staff to perform an audit to determine the amount.

Commissioners adopted Rechtschaffen's alternative Thursday, voting 3-2 in a rare split decision.

Commissioner Genevieve Shiroma, who was the lead commissioner in the proceeding before Kao, said she thought the judge had "got the outcome right" and voted against

Rechtschaffen's alternative. The previous \$9.8 million fine of SoCalGas and the later decision ordering the return of ratepayer money "go together," she said.

Commissioner Darcie Houck said she agreed with Shiroma and voted against Rechtschaffen's proposal.

Other commissioners supported Rechtschaffen's contention that the fine was necessary to deter similar behavior and backed his plan.

Rechtschaffen's decision applied "deliberate and precise penalties for specific actions that clearly contradict the commission's direction," CPUC President Alice Reynolds said. "These carefully crafted additions to [Kao's proposed decision] are important to ensure the integrity of the regulatory process and deter future unlawful practices."

Commissioner John Reynolds also voted for Rechtschaffen's decision, as did Rechtschaffen himself.

Opponents of both proposed decisions said \$150,000 would not deter unlawful behavior and proposed a fine of up to \$255 million, based on the argument that SoCalGas's improper actions were "continuing" over time, not 10 distinct actions each meriting a fine of \$15,000, as Kao and Rechtschaffen both found.

Rechtschaffen's alternative decision "errs in considering what it properly identifies as 'a deliberate and years-long pattern of misconduct' as constituting 10 single-day violations for the purpose of assessing penalties," the Sierra Club [contended](#). "Commission precedent strongly supports finding SoCalGas' conduct as a continuing violation."

Cal Advocates [argued](#) that a \$150,000 penalty "falls far short of an amount that could reasonably be expected to deter SoCalGas and other utilities from future misconduct" and said a \$255 million fine for SoCalGas's ongoing violations was more appropriate.

"The commission, consistent with its prior decisions, its established penalty framework, and its obligation to oversee the conduct and rates of the entities it regulates, must impose a fine that is likely to deter SoCalGas from disregarding Commission directives when faced with the choice of either complying with those directives or maximizing shareholder profits," it said. ■



SoCalGas is headquartered in the Gas Company Tower in downtown Los Angeles. | Shutterstock

ERCOT News



Developers Push Texas PUC on Distribution-level Storage

PUC also Approves Broadband Rule; Search Continues for Consultant on ERCOT Redesign

By Tom Kleckner

Texas regulators and energy storage developers can see the problem coming. What with some 67 GW of energy storage, either standalone or co-located with solar, sitting in ERCOT's interconnection queue, it's not hard to miss.

"This is a massive number of new megawatts that could fundamentally change how our system works in ERCOT," Public Utility Commissioner Jimmy Glotfelty told his colleagues in a March 30 *memo*.

Unfortunately, Glotfelty said, it's not known how many more of those battery storage megawatts are trying to interconnect to distribution systems managed by ERCOT's utilities, municipalities and cooperatives. He said the commission needs to track and develop a process to handle that process.

"The lack of visibility into these distribution system assets is an oversight," he wrote.

The developers agree. In early March they asked the PUC to "expeditiously" open a project that would determine the "appropriate policies necessary for nondiscriminatory interconnection" and operation of distribution-voltage battery energy storage systems (BESS).

They asked for guidance necessary "for storage companies and utilities to more efficiently move ahead" with investments at the distribution level that can deliver resilience, innovation and affordability.



Broad Reach Power energy storage facility | Broad Reach Power

"Such guidance will also allow for the removal of barriers to interconnection of distributed BESS, which will incentivize additional investment in these reliability-promoting resources throughout ERCOT," the developers said.

"We built the grid for a certain type of resources. Now, we're having to figure out these processes as they apply to new technologies," Caitlin Smith, senior regulatory director for storage developer Jupiter Power,

told *RTO Insider*.

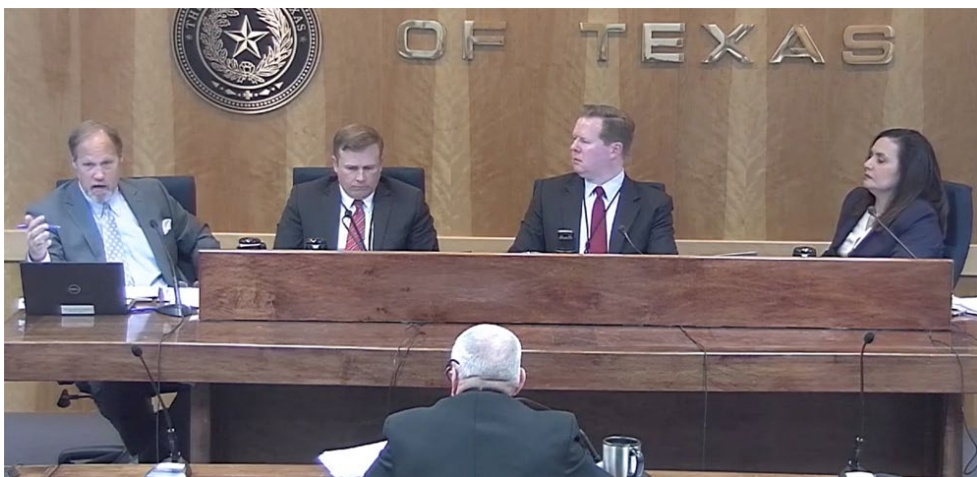
The company recently commercialized its *first transmission-connected project*, a 100-MW storage facility in West Texas with 200 MWh of duration capacity.

Smith and Jupiter were signatories, along with Hunt Energy Network and Broad Reach Power, in the March *filing* requesting the commission develop "clear and consistent" interconnection policies and timelines and determine "appropriate cost-recovery mechanisms."

"Without clear guidance in rules, the cost of service to batteries connected at distribution voltage is being allocated directly to the battery, in a way that it isn't allocated to other generators," Smith said.

Referencing the developers' request, Glotfelty brought the issue to the PUC's March 31 open meeting. He reminded the commissioners that in the mid-1990s, previous state regulators developed standardized transmission interconnection procedures and said that doing the same for distribution-level resources is "just a natural progression of how this system is moving."

"We're gaining resiliency; we're gaining



Jimmy Glotfelty (left) explains the battery storage issue to the Texas PUC. | *Admin Monitor*

ERCOT News



resource-adequacy benefits from these interconnections; and thus we can consider different levels of costs and cost allocation,” Commissioner Will McAdams said during the meeting. “I certainly see benefits from this project. I think we’ll have a lot of insightful comments as a part of it. It’ll serve as a repository for questions ... so that theoretically, we could take actions to consider policy refinements.”

“We’re ahead of the curve, before this becomes a big rush,” Glotfelty said. “I think if we don’t do this, we’re going to solve these issues on a utility-by-utility basis, on a filing-by-filing basis.”

Smith said she expects the project to become a rulemaking that would likely need to be completed before 2023, as the PUC usually pauses rulemakings during legislative session. It also presents an opportunity to implement *Senate Bill 1281*, which outlines criteria for reliability transmission projects.

Noting that almost 3 GW of distributed generation and more than 1 GW of energy storage is already online in ERCOT, Smith said, “It’s time to address the barriers to using these resources for a reliable and resilient grid in a holistic, instead of piecemeal, way.”

PUC Adopts Middle-mile Broadband Rule

The PUC last month also adopted a *rule* that allows electric utilities to lease their excess fiber capacity so that internet service providers (ISPs) can offer broadband to the state’s

unserved and underserved areas (52845).

The “middle-mile broadband” rule contains several ratepayer, consumer and private-property owner protections. Electric utilities cannot pass any costs related to middle-mile broadband service to their ratepayers, and they cannot deliver internet service directly to end-use customers on a retail basis.

Commissioner Lori Cobos called the rule a “great step forward” for Texas and especially important for the state’s rural communities.

“This will allow for more broadband expansion into those areas. We all discovered during the pandemic how important it is to have access to broadband service for a variety of very important services out there.”

The commission doesn’t regulate broadband service but said the rule will help electric utilities partner with ISPs to expand broadband access to Texans. It is a result of a *bill* passed last year by the 87th Texas Legislature.

Private-property owners who have granted easements to electric utilities can protest the easement’s use for middle-mile broadband service.

The rule defines an unserved area as one or more census blocks in which 80% or more of end-user addresses have no access to broadband service or lack access to reliable broadband service as determined using Federal Communications Commission mapping

criteria, if available.

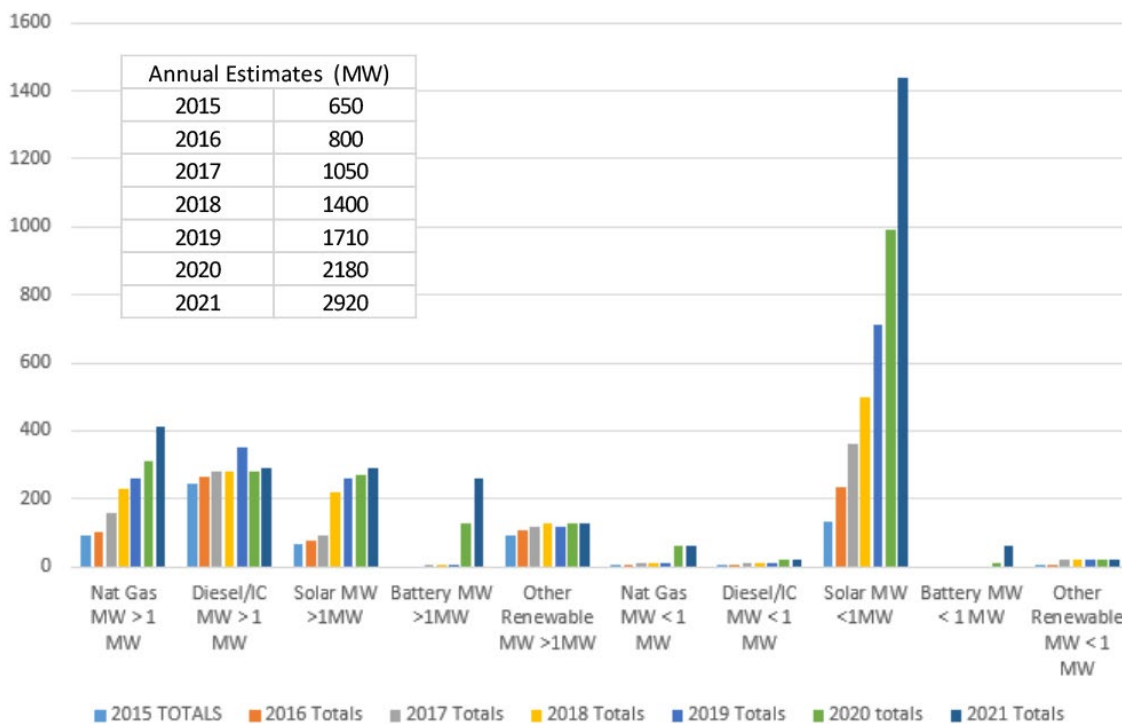
An underserved areas is defined as one or more unserved census blocks in which 80% or more of end-user addresses in each block lack access to broadband service, with a download speed not less than 100 Mbps and an upload speed not less than 20 Mbps, or lack access to reliable broadband service with those speeds as determined using FCC mapping criteria, if available.

Electric utilities that contract with ISPs for middle-mile broadband service must submit implementation plans to the PUC for review and approval.

Search Narrows for Market Redesign Consultant

In other actions at the meeting, the commission delegated to its executive director, Thomas Gleeson, the authority to award, negotiate and execute contracts for consulting services related to the second phase of the ERCOT market’s redesign (53237).

The PUC issued a *request for proposals* for expertise as it implements a *market design “blueprint”* intended to “ensure sufficient dispatchable generation resources” that meet ERCOT’s reliability needs. The consultant would be responsible for recommending implementation strategies and support the commission and staff in developing business requirements for those strategies. ■



Rooftop solar is leading the expansion of distributed generation in Texas. | ERCOT

ERCOT News



Praise for ERCOT Operators' Performance in February 2021

By Tom Kleckner

FERC staffers last week praised ERCOT operators for preventing a worse catastrophe during last year's devastating winter storm.

Reacting to criticism of ERCOT during the immediate aftermath of the storm's extended outages and financial and human damage, Heather Polzin, legal counsel and reliability coordinator for FERC's Office of Enforcement, called out the actions within the grid operator's control center that prevented a total collapse of the system when the grid's thermal generation failed to show up.

"The actual ERCOT operators that were on duty that day did a tremendous job in keeping the grid operational in the face of this challenge," she said during a presentation before the Texas Reliability Entity on April 5.

Polzin was joined by the commission's David Huff and NERC's Kiel Lyons as they reviewed their *joint report* on the February 2021 storm, published in November, during a Talk with Texas RE webinar. The report detailed how the severe cold affected bulk electric system reliability, leading to widespread generation outages, derates or failures to start and forcing more than 23 GW of manual firm load shed. (See [FERC, NERC Release Final Texas Storm Report](#).)

Huff, an electrical engineer, said a team that included regional entities' staff "deeply" investigated the event, which also led to load sheds in MISO and SPP. He said each of the grid operators had only nine minutes to prevent an additional 17 GW of generation units

from tripping offline and leading to blackout conditions.

"In all three footprints, the operators coordinated through these extreme emergency conditions," Huff said. "The ERCOT operators, from our view, took the steps necessary to keep the balance of generation and load to avoid further emergency conditions or possible blackout conditions. The team really thought that the operators took the appropriate measures and maintained reliability."

As others have said since early last year, Huff said ERCOT's lack of sizeable interconnections with the rest of the nation's grid hampered its ability to import power from the east to meet demand, while MISO and SPP were able to import more than 13 GW of power from the rest of the Eastern Interconnection.

"ERCOT ... thus needed to shed the greatest amount of firm load to balance electricity demand with the generation units that were able to remain online," Huff said.

The storm led to unprecedented generation shortfalls, according to the report, with 1,045 individual units experiencing 4,124 outages, derates or failures to start. Gas-fired generators accounted for most of the units knocked offline with 604, or 58% of all units.

The report team found that fuel issues were to blame for 31% of the outages, derates or failures to start, with 87% of the fuel supply problems related to the natural gas supply. The storm caused the largest monthly decline of natural gas production on record; between

Feb. 8 and 17, total natural gas production fell by 28% in the Lower 48 and 70% in Texas (as compared to January average).

Polzin said recurring problems between gas and electric interactions have become common during recent cold-weather events.

"You see demand for natural gas from the natural gas-fired generators increasing dramatically during a cold weather event like this," she said. "At the same time, you may see demand from local distribution companies for local heating supply increasing dramatically, while at the same time, you may see gas supply drop off because of the weather."

The report makes a number of *recommendations* to increase coordination between the electric and gas industries. It recommends legislators and regulators with jurisdiction over natural gas infrastructure require the gas infrastructure facilities to have cold-weather preparedness plans, including measures to prepare to operate during a weather emergency. The report also suggests gas entities undertake voluntary measures to prepare for cold weather.

The report team has proposed a forum where those lawmakers and regulators would work with FERC, NERC and the REs to gather input from the grid operators and gas entities identifying concrete actions to improve the gas infrastructure's reliability and support BES reliability.

FERC is hosting a technical conference April 27-28 on winter readiness measures. ■



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ISO-NE News



NEPOOL Participants Committee Briefs

Board of Directors Elections

ISO-NE and NEPOOL are getting ready to set up elections for two spots on the grid operator's Board of Directors.

Board Chair Cheryl LaFleur is up for re-election, and she took questions from stakeholders at the NEPOOL Participants Committee meeting on Thursday.

There's also a vacant seat on the board. The Nominating and Governance Committee — made up of current board members, NEPOOL sector chairs and a representative chosen by the New England Conference of Public Utilities Commissioners — has chosen a candidate, although it's keeping the name confidential.

"Maintaining the confidentiality of prospective director candidates is done to protect their privacy, as most candidates do not wish to have their identities publicly revealed in the early stages of the process," RTO spokesperson Matt Kakley said. "Search firms have advised



Cheryl LaFleur is under consideration for a second term on the ISO-NE board. | © RTO Insider LLC

that this confidentiality is necessary to attract highly qualified candidates."

The secrecy of the RTO's board elections have been criticized in the past by the states and others. (See *ISO-NE, States Seek to Build on 'Alignment' Efforts.*)

Winter's Over, Now Get Ready for Winter

After successfully navigating potentially tricky grid conditions during the 2021/2022 winter, ISO-NE isn't taking any time to rest on its laurels.

The grid operator is diving back in to prepare for next winter, when many of the same worries will remain about pipeline constraints and fuel availability colliding with potentially extreme conditions.

"The winter weather forecast will continue to be a critical factor for the operational outlook and will be closely monitored," COO Vamsi Chadalavada said in a *presentation* to the PC.

In keeping an eye on cold weather, the RTO is planning for some tactics old and new. Like in 2021, officials are going to perform a 90-day forward-looking energy analysis ahead of next winter, looking at different scenarios to try to better understand risk.

But they're also trying something fresh: a tabletop exercise along with transmission and distribution owners to try to "evaluate existing operational processes and communication protocols that would be used during a energy emergency."

The exercise will include a simulated energy emergency leading to multiple days of

shortages, giving the RTO and TOs a chance to practice rotating load shed to manage the energy deficiencies.

Work Plan Updates

Chadalavada also *presented* changes to ISO-NE's work plan for 2022.

Most notably, the RTO is changing its approach for resource capacity accreditation, a hot-button project linked to the removal of the minimum offer price rule. Rather than splitting the project into two separate stages for FCAs 18 and 19, the grid operator is going to move forward with it as one for just the latter.

ISO-NE is planning to begin discussions this summer, with a "detailed design" presented by the end of the year and a FERC filing at some point in 2023.

Also newly included in the work plan is ISO-NE's adoption of a project to develop a way for retired resources to return to service in more circumstances and to enhance the flexibility of retirement delist bids, which has been working its way through the NEPOOL process but hadn't been accepted by the RTO yet as part of its yearly plan.

Consent Agenda

The PC voted to approve changes to tariff schedules 18 (MTF; MTF Service) and 24 (Incorporation by Reference of NAESB Standards) to comply with the requirements of FERC Order 676-J, as recommended by the Transmission Committee at its March 23 meeting. ■

— Sam Mintz

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MISO News

Enviro Groups Push Wisc. DNR to Scrutinize Cardinal-Hickory Creek Line

By Amanda Durish Cook

Attorneys for conservation groups have asked Wisconsin's Department of Natural Resources (DNR) to revoke wetlands and waterway permits for the embattled Cardinal-Hickory Creek transmission line.

The Environmental Law & Policy Center — representing the Wisconsin Wildlife Federation, Driftless Area Land Conservancy, Defenders of Wildlife and the National Wildlife Refuge Association — last month sent a letter to the DNR asking it to halt construction of the 101-mile, 345-kV line until the agency and the Wisconsin Public Service Commission conduct a new environmental review.

“Wisconsin DNR has the obligation and duty under Wisconsin law to stop this orchestrated trainwreck, pause the construction spree, and provide for the proper environmental process to take its course without the specter of a rushed construction process and a forced decision leading to wasteful costs and unnecessary environmental harms and property damages,” lead attorney Howard Learner wrote.

The letter is the latest step in the conservation groups' ongoing battle against Cardinal-

Hickory Creek's construction.

U.S. District Judge William Conley last month issued a final ruling forbidding the line from running through a protected wildlife refuge in southwestern Wisconsin's Driftless Area. He agreed with the groups and overturned the line's environmental impact statement (EIS), prepared by the U.S. Department of Agriculture's Rural Utilities Service. The EIS didn't adequately consider line alternatives and failed to comply with the National Environmental Policy Act, the judge ruled. (See [Federal Judge: Tx Line Can't Cross Wildlife Refuge.](#))

The line's co-owners — American Transmission Co., ITC Midwest and Dairyland Power Cooperative — have asked a federal appeals court to suspend the decision until an appeals panel decides the case. They argue the project will be able to cut through the refuge.

Learner told the DNR that ATC, ITC and Dairyland are “aggressively continuing to build two costly and environmentally destructive high-voltage transmission line segments in Wisconsin and in Iowa with no legally permissible connection through the protected Upper Mississippi River National Wildlife and Fish Refuge.” He said the companies are deliberate-

ly “pushing forward with construction despite their lack of a lawful path to completion so they can create maximum leverage ... while passing on costs and risks to the captive utility ratepayers.”

Learner said a new, “lawful” environmental review is in order, especially because the DNR's 2019 wetlands and waterway permits rely on the now-invalid EIS. The DNR must “divorce itself from the transmission companies' bulldozing and bullying,” Learner added.

The nearly \$500 million line is the last of MISO's \$6.7 billion, 17-project Multi-Value Project *portfolio* approved in 2011. MISO has since moved on to another long-range planning effort. (See [MISO Updates Stakeholders on \\$10B Long-range Tx Package.](#))

Some MISO stakeholders have asked the RTO to omit the project from system modeling it performs for transmission planning, saying its completion is no longer a foregone conclusion.

ATC, ITC and Dairyland have so far spent \$161 million on the project. Construction began last fall, and the line currently has a December 2023 in-service date.

ATC spokesperson Alissa Braatz said the developers disagree with both Conley's ruling barring passage through the wildlife refuge and the argument that the original EIS requires changes. Although “legal proceedings continue, [the utilities] have the regulatory authorization to move forward with construction activities, and project construction will continue in areas outside of the refuge,” she said.

“Renewable generation developers and distribution utilities are depending on the Cardinal-Hickory Creek project to facilitate our region's transition from fossil fuels,” Braatz said in an email to *RTO Insider*. “The critical role of this project in meeting our region's energy needs compels us to ensure it is built for the benefit of electricity consumers by the scheduled in-service date.” ■



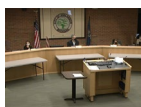
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NYISO News

NY Greenlights \$345M, 280-MW Excelsior Solar Farm

Largest Solar Facility in State to Include 20-MW Battery

By Michael Kuser

New York officials on Wednesday approved a NextEra Energy Resources subsidiary to build and operate a 280-MW solar farm with 20 MW of battery storage capacity on a few thousand acres of farmland between Rochester and Niagara Falls (19-F-0299).

The state Board on Electric Generation Siting and the Environment *authorized* a certificate of environmental compatibility and public need for the estimated \$345 million Excelsior Energy Center project in the Town of Byron in Genesee County. The facility will be the largest solar farm ever built in New York, with solar panels covering 1,716 acres on a project tract of about 3,443 acres and is expected to begin commercial operation in late 2022.

Administrative Law Judge Gregg Sayre detailed the reasoning of the Department of Public Service staff recommendation to the siting board, saying the contested issues fell into three areas: the use of agricultural land, particularly prime farmland; the impact of the project on the character of the community as a result of its size and visual impact; and the alleged noncompliance of the project with the Town of Byron and Genesee County comprehensive plans.

Contested Issues

The state Department of Agriculture and Markets objected to 30% of the project being located on prime farmland and claimed that a solar energy project constitutes a permanent conversion of farmland to non-agricultural uses.

The Siting Board *rejected* the argument about permanent conversion of farmland in the Hecate Energy Albany case in January of 2021 when it concluded that a commercial solar



Judge Gregg Sayre, NYDPS | NYDPS

facility does not result in a permanent loss of farmland where certificate conditions require the land to be fully restored as closely as possible to its prior condition upon decommissioning (17-F-0617).

"In this case there is some permanent loss of farmland due to access roads and other similar construction, but it amounts to only about 31 acres, which is less than 1% of the project's area," Sayre said. "Although the department is certainly correct that agricultural production will be reduced in the footprint of the project for approximately 30 years, the reason behind that loss is that the property owners in question have voluntarily entered into lease agreements with the applicant."

A local group, Byron Association Against Solar (BAAS), *filed* at least 20 documents regarding safety concerns, issues concerning soil and air contamination, concerns about the danger of battery fires, and the layout of the project, roads, boundaries and set-backs.

BAAS offered two studies to support its position that the project will have a massive negative impact on farming in the town of Byron, but one of the reports was based on what Sayre said is a "completely erroneous" number of affected acres. The report, he said, is deficient in using one year of crop pricing in its analysis of impacts rather than a longer average given the price fluctuation that occurred over the course of several years in the town's top 10 crops.

The second study produced by BAAS claims that the project would cause a redistribution of farms and lands and an increase in farming costs, but it fails to support its conclusions that the project would increase the cost of farming in the area, Sayre said.

BAAS also put in the *testimony* from Eric Zuber, owner of a large dairy farm adjoining the project area, who stated that he would lose the use of farmland on which he spreads excess manure.

Secondly, the order concluded that claims that the project will destroy the rural community were "overstated" and that visual impacts have been avoided or minimized to the maximum extent practicable.

Laws and Plans

The third issue in dispute was based on the testimony of a local resident speaking for



Tammy Mitchell, NYDPS | NYDPS

himself, not for the town or the county, that the project is inconsistent with the town and county comprehensive plans.

"The resident is absolutely correct in stating that the protection of agricultural lands is listed as a goal in both of those plans, but ... the town comprehensive plan also explicitly supports the development of clean energy resources, so there is necessarily, as with most land-use issues, some balancing required of competing goals," Sayre said.

Last year, the town adopted a solar law, finding that the law is consistent with its comprehensive plan, and the county planning board implicitly found that the law was consistent with both the town and county comprehensive plans when it approved the town law, Sayre said.

"I believe that the proposed draft order granting a certificate of environmental compatibility and public need for the Excelsior solar generating facility is well balanced and avoids or mitigates impacts to the extent practicable," said Tammy Mitchell, director of the DPS Office of Electric, Gas and Water, serving as alternate chair of the board in place of Public Service Commission Chair Rory Christian.

The other alternates for the permanent members of the Siting Board were Louis Alexander, representing the commissioner of the Department of Environmental Conservation; Dr. Elizabeth Lewis-Michl, representing the commissioner of the Department of Health; Vincent Ravaschiere, representing the commissioner of the Department of Economic Development; and John Williams, representing the chair of the New York State Energy Research and Development Authority.

The Siting Board for the Excelsior case also included one ad hoc member, Norman Pawlak, dissenting. ■

NYISO News



NY Offshore Wind Transmission Project Draws No Residential Comment

By Michael Kuser

The first-ever offshore wind transmission project in New York will bring 816 MW from Empire Wind 1 right under Brooklyn streets – and has drawn no comment from local residents (21-T-0366).

Siting major new energy infrastructure in New York City is notoriously difficult and expensive. Equinor, which is managing the project on behalf of itself and partner BP, will likely pay half a billion dollars or more to lay 17.4 miles of twin submarine cables in state jurisdictional waters. But it is facing no opposition to its plans to bring the 230-kV lines ashore at the South Brooklyn Marine Terminal.

Only developer representatives, labor and industry interests, and academics spoke at a public hearing hosted by the New York Public Service Commission on April 5.

According to Mariah Dignan – regional director on Long Island for *Climate Jobs New York*, a statewide labor coalition representing 2.6 million workers – the project and its related onshore work will undoubtedly serve the public interest and is necessary to meet the state’s climate action goals, especially the 9,000-MW target for offshore wind energy by 2035.

“In addition, the project and related onshore work and construction must be done with good union, family-sustaining jobs,” Dignan said at the hearing. “We look forward to working with the applicant to make this clean energy economy a reality through a just transition for not only our workforce but also our communities.”

The 50/50 joint venture of Equinor and BP also includes Empire Wind 2 and Beacon Wind 1. The three projects will collectively provide 3.3 GW of electricity, Harrison Feuer, direc-

tor of public affairs in the state for Equinor Renewables U.S., said in a presentation at the hearing before it opened to public comment.

The operations and maintenance base for all three projects will be situated in an industrial park adjoining the South Brooklyn terminal. “We do extensive environmental and social impact evaluations to minimize the effects on wildlife and local communities, and that happened long before we get started,” Feuer said.

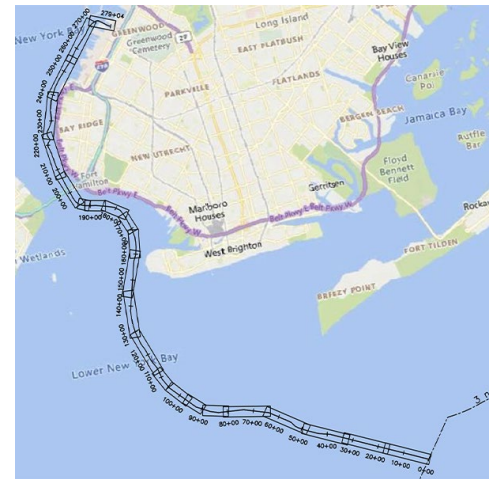
The developers expect state permitting to conclude between the end of 2023 and beginning of 2024, when construction will then commence, said Joshua Verleun, Equinor manager for the permitting process in New York.

After landfall at South Brooklyn, the 230-kV export cables will be connected to an onshore substation to up the voltage to 345 kV for interconnection to the grid.

“When the cables make landfall, they will be pulled directly through the bulkhead to terminate into the onshore substation,” Verleun said. “From the onshore substation there is a short interconnection cable that runs along New York City streets and connects into the existing Con Edison Gowanus substation.”

The approval of the project’s transmission lines will be a critical milestone in its development, said Fred Zalzman, director of the New York Offshore Wind Alliance, a coalition of OSW developers, including Equinor, national environmental organizations, labor and academia.

“This project presents many good benefits to the electric grid of downstate New York, and one of the key benefits I see is its proximity to the New York City load center,” said Thomas Barracca, director of the Office of Economic Development at Stony Brook University, which runs a workforce development program for the OSW industry in New York. “In terms of



The EW1 submarine export cables will extend from the shoreline either directly to the cable terminations or to a vault within the onshore substation. | *Empire Wind*

environmental impact, the project has been very well conceived and thought out, and has obviously been vetted with a lot of stakeholders in the environmental community.”

The developers engaged with local fisheries, whose feedback helped inform decisions on how the project is made, and also worked closely with the U.S. Bureau of Ocean Energy Management and Department of Defense to mitigate any potential interference of coastal defense and radar, Feuer said.

“We are delighted that the cable connection would be going to Brooklyn,” said Adrienne Esposito, executive director of Citizens Campaign for the Environment, a statewide group with 140,000 members. “We all know that the greatest load of fossil fuel use is ... in New York City and also on Long Island, and that’s why it’s so imperative that wind farms get connected to both of those areas.” ■

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PJM News



Forum: Collaboration Key in Minimizing Enviro Impact of NJ Offshore Tx Developers See Less Environmental Damage with Fewer Cables

By Hugh R. Morley

The key to minimizing the environmental impact of running transmission lines from New Jersey’s offshore wind projects to the onshore grid will be collaboration and coordination between developers to tie several projects to the same cable ashore, speakers told a state Board of Public Utilities (BPU) hearing April 4.

The suggestion emerged at the third of four hearings into the proposals submitted under FERC Order 1000’s State Agreement Approach (SAA), a solicitation process conducted by New Jersey with PJM in which 13 developers have offered 80 suggestions on how to upgrade the grid to handle the future wind-generated power.

The hearing focused on environmental and permitting issues that are expected to surface

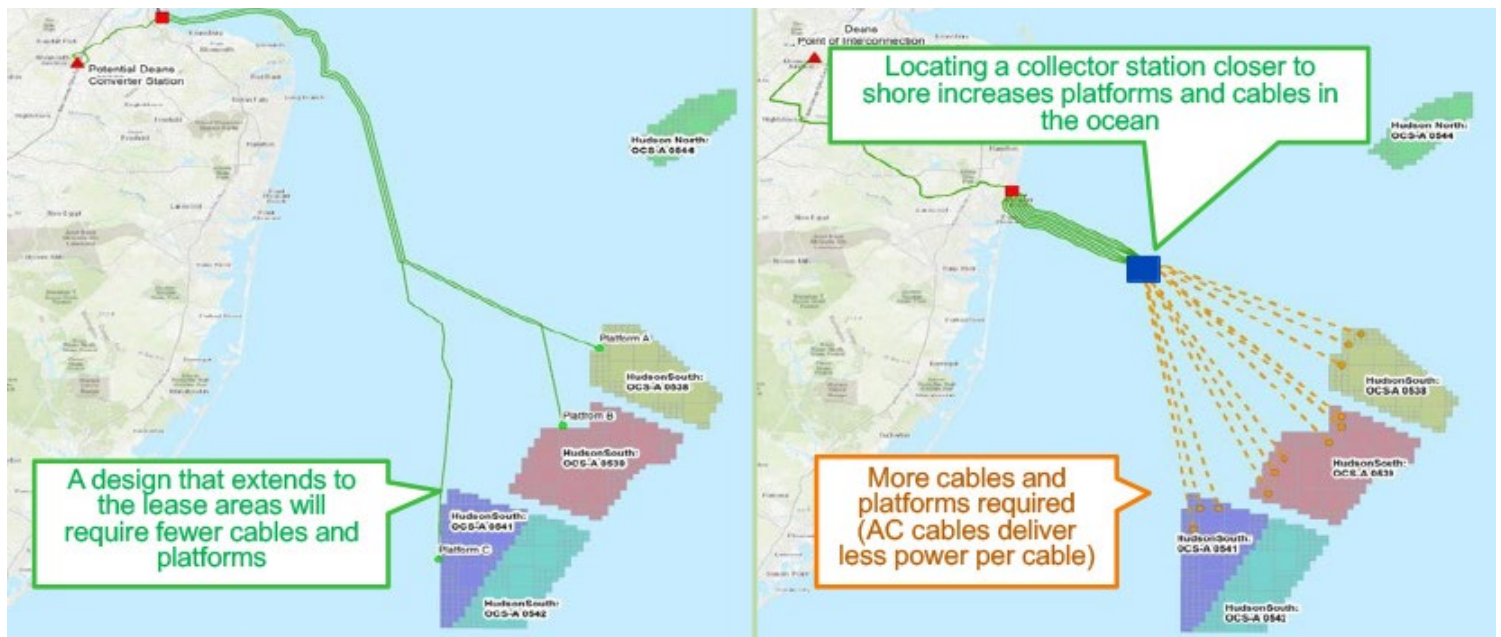
in the development of an enhanced transmission system, including the sensitive issue of how to secure public support for the projects and curb opposition. In New Jersey, some elements in the tourism and fishing sectors — and local residents near to where cables from the offshore wind turbines would come ashore — all oppose the projects.

Jeff Nield, an environmental consultant, told the hearing that a system that tied several projects to a single corridor of HVDC cables would be preferable to several projects each running their own line ashore and creating “multiple cable landfall locations.” Tying several projects to cables following the same route, and using a common substation location, would minimize the “overall environmental footprint,” reducing the sea floor disturbance and disruption of neighborhoods when the cable comes on land, he said.

Nield represents developer Mid-Atlantic Offshore Development (MAOD), which submitted three proposed cable routes. It is a joint venture between EDF Renewables North America and Shell New Energies US, who also partnered to submit the proposal for Atlantic Shores, one of New Jersey’s approved offshore wind projects.

A single-cable corridor, Nield said, would benefit from using HVDC technology, which is able to “transmit more electricity from offshore wind projects through fewer circuits occupying less area offshore and on land.” And a “coordinated transmission solution can also decrease the potential conflicts with other resource users,” he added, citing the example of the impact on shipping.

“This equates to fewer potential conflicts with shipping because cables are routed in one



The single trunk line solution (left) minimizes the footprint and impact of cable routes coming to shore compared to an alternative solution (right) where every wind developer would have to bring a landing to the shore, according to NextEra Energy. | *NextEra Energy*

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PJM News



well sited corridor, and it minimizes the areas that conflicts can occur with commercial and recreational fishing,” he said.

That reduction in disruption also could make for a smoother passage for the transmission project through the environmental process, said Michael Sole, vice president of environmental services at NextEra Energy, which submitted several proposals for routes.

“The key thing is fewer environmental impacts means lower permitting risks,” said Sole, who displayed a presentation slide that showed a project with a single trunk line linking four wind areas and a project with several cables coming from the wind areas and only joining together in a single collector station closer to the shore.

The single-trunk line “minimizes the footprint and impact of cable routes coming in onshore as compared to an alternative solution where if every wind developer had to bring a landing into the shore,” he said. “So, the question of a coordinated transmission approach is: Can it be done efficiently with an offshore wind development? And the short answer is: absolutely.”

Fishermen Doubts

The forum followed two earlier hearings that focused on the proposals submitted and the BPU’s evaluation process, and how they would be integrated into the existing grid. The BPU expects to decide on the proposals in October.

New Jersey, with a mandate from Gov. Phil Murphy that it reach 100% clean energy by 2050, see its growing offshore wind sector as a key element in the effort and has set a goal of 7.5 GW from the sector. The state has so far approved three offshore wind projects — the 1,100-MW Ocean Wind and 1,148-MW

Ocean Wind II, and the 1,510-MW Atlantic Shores — in two solicitations, with three more solicitations expected to be awarded by 2027 and in operation by 2033.

The first three projects included plans to bring the energy ashore. But the BPU, through the SAA process, is looking for a more efficient way to do that for future projects.

In presenting the problem to potential developers, the board sketched out three general proposals for the transmission elements that could be addressed, including the upgrades needed. The proposals also included an “off-shore transmission backbone” that would run parallel to the coast and provide a connecting strip to receive the energy from the wind farms and pass it on to cables headed for the shore. (See [Fierce Competition in Plans to Upgrade NJ Grid](#).)

The potential disruption of marine life and in the coastal communities through which any cable would pass through is among the most sensitive faced by the offshore wind projects. Ocean Wind is facing vigorous opposition in the tourist town of Ocean City in South Jersey, through which the cable would pass as it goes to a now closed coal-fired power plant in neighboring Upper Township. (See [Ørsted NJ Wind Project Faces Local Opposition](#).)

Commercial fishermen, who are among the most vigorous opponents of the wind projects, fear that the projects will damage habitats, perhaps scaring fish away from long-time fishing areas, and that it will be dangerous to fish around the turbines. Fishing representatives say the combination of the weight of the fishing nets and the impact of the waves, wind and tides passing through rows of turbines can make it difficult and dangerous to maneuver a fishing vessel. (See [Fishing Industry Concerned](#)

About NY Bight OSW Plan.)

Scot Mackey, a lobbyist for Garden State Seafood Association, a 1,200-member industry group that represents fishers of scallop, clam and other fish, commended the BPU and state Department of Environmental Protection (DEP) for “trying to play catch up with this issue.” But he added that the impact of the cable and transmission infrastructure should have been addressed before.

“We are greatly concerned about the impact of transmission,” he told the hearing. “We support minimizing the number of cables in the greatest possible way to minimize the impact on commercial fishing, most of which is done via bottom [and] midwater trawl pulling large structures through this environment.

“We are greatly concerned with the size, scope and cumulative effects of such huge projects in such a short period of time being proposed off our coast, in prime fishing grounds,” he said.

Zachary Klein, a policy attorney for Clean Ocean Action, also questioned the pace at which the offshore development is unfolding.

“Given the seriousness of the risks at play, it seems more responsible to start with a pilot-scale offshore wind development in the mid-Atlantic to minimize the impacts of bringing energy onshore while we figure out how to do so most responsibly, in greater volume,” he said.

“I just urge that the approach to minimizing these impacts not be looked at so rigidly,” he added. “And that if necessary or appropriate, we take a step back, and consider that maybe reducing or not jumping to rapid industrial development might help ensure that this interconnection with the grid can be done in the most responsible way possible.” ■

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PJM News

Bloczynski Resigns as PJM Chief Risk Officer

By Michael Yoder



Nigeria Bloczynski,
PJM Chief Risk Officer
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PJM Chief Risk Officer Nigeria Bloczynski announced her resignation from the RTO on April 5.

In her tenure at PJM, Bloczynski established several financial oversight groups in the organization, including Corporate Insurance,

Credit Risk & Surveillance, Enterprise Risk Management, Trade Risk & Analytics and Trade Surveillance.

No reason was given as to the nature of the resignation. At last month's Members Committee meeting, Bloczynski presented PJM's next steps after FERC rejected its proposed collateral requirements for FTR traders. (See [Stakeholders Encourage PJM to Defend FTR Filing.](#))

"It has been my honor and privilege to serve PJM's employees and members," Bloczynski said in an email. "I am proud to have been part of such an outstanding team doing extremely important work, and I know PJM will continue to forge ahead with innovation, integrity and outstanding service to its members."

Bloczynski joined PJM in July 2019 after serving as director of commodity and corporate risk management for WGL Holdings, the parent company of Washington Gas, WGL Energy, WGL Midstream and Hampshire Gas. She has more than two decades of experience in commodity and risk management in both the financial and energy markets after graduating with a bachelor's in mathematics from Morgan State University and an MBA from Johns Hopkins University.

The hiring of Bloczynski came several months after the release of independent consultant [report](#) on the GreenHat Energy default that characterized PJM management as "naive," recommending the RTO bringing a CRO into

the organization. (See [Report: 'Naive' PJM Underestimated GreenHat Risks.](#))

PJM spokeswoman Susan Buehler said the Board of Managers has "been kept in the loop" regarding Bloczynski's resignation and that the RTO is now beginning

its search for a replacement. CFO Lisa Drauschak has assumed the CRO's responsibilities for now.

CEO Manu Asthana thanked Bloczynski for her work with the RTO.

"We are grateful for Nigeria's contributions to the organization over the past two and a half years," Asthana said.

Bloczynski did not respond to a request for comment as of press time. ■



PJM CFO Lisa
Drauschak | © RTO
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PJM News



FERC Accepts PJM CTOA Revisions

By Michael Yoder

FERC last week accepted revisions to PJM's Consolidated Transmission Owners Agreement (CTOA) changing the voting rules in the Transmission Owners Agreement-Administrative Committee (TOA-AC) and giving more voting power to larger transmission owners in the RTO ([ER22-358](#)).

PJM transmission owners in November [filed](#) the proposed revisions to the CTOA. The changes:

- called for the removal of an individual vote majority requirement "where an extreme supermajority of ownership supports an action";
- permitted voting action to occur "where a quorum of an extreme supermajority ownership is present";
- provided "comparable changes to the conduct of simple majority votes"; and
- limited the open meeting requirement to matters subject to a two-thirds voting rule under the existing CTOA language.

The commission said the revisions received "broad support" among transmission owners in a vote taken in October at the TOA-AC. The revisions become effective retroactively to Jan. 10.

"We find that the proposed CTOA revisions

are just and reasonable as they are limited modifications to the CTOA that allow PJM transmission owners to resolve concerns potentially affecting their ability to achieve the needed vote to propose tariff changes to the commission, and to effectively and efficiently conduct the business of the TOA-AC and execute their responsibilities as transmission owning members of PJM pursuant to the CTOA," FERC said in its order.

Issues

The TOs said the CTOA currently features a voting structure based on a combination of two separate votes needed to act on an issue: an individual vote based on the votes of individual, unaffiliated PJM transmission owners; and a weighted vote based on the net asset value of each PJM transmission owner's transmission facilities. According to the rules of the CTOA, no individual TO can have a weighted vote of more than 24.9% of the sum of the weighted votes.

Voting under current CTOA rules at the TOA-AC is divided into two procedures, including an action where a supermajority, or two-thirds, of the individual and weighted votes is required, or an action where a simple majority of both the individual and weighted votes is required.

The voting items requiring a supermajority include comments on the Regional Transmission Expansion Plan (RTEP) and tariff changes related to the recovery of transmission-related costs, including "joint rates or the PJM

transmission rate design." If a proposed issue such as a tariff change is supported by 95% of the weighted vote, a simple majority of the individual vote is required instead of the two-thirds rule.

The TOs said since the CTOA voting rules were adopted in 2006, there have been "several significant developments" impacting the number of transmission owners in PJM and the type of facilities qualifying a company to become a TO.

"PJM transmission owners assert that the commission's approval of NERC's definition of bulk electric system made it possible for small municipal electric systems to be eligible to have their transmission facilities integrated with the PJM region and become PJM transmission owners and thus parties to the CTOA," FERC said.

The TOs said without changes to the CTOA, the required majority individual vote "could create difficulty" in achieving consensus on tariff changes that "protect the PJM transmission owners' substantial investment in the PJM transmission system that fairly allocate its costs among their transmission customers." The TOs also said the CTOA should acknowledge the differing levels of investment among the voting entities, pointing out that more than \$67 billion was invested in the PJM transmission system as of the beginning of 2021 with individual TO investments ranging from more than \$140,000 to almost \$15 billion.

In the proposal, the TOs requested the elimination of the majority individual vote approval "in a situation in which the requirement for a two-thirds vote is not met, but a weighted vote of 95% approves the proposal." The proposal will leave the 95% weighted vote requirement in the CTOA unchanged.

The TOs also argued that the "proliferation of smaller, non-traditional transmission owners could also frustrate the ability to achieve quorum at TOA-AC meetings and thus the ability of the transmission owners to conduct business." The proposed CTOA revisions called for a quorum to be present when "either 50% of the PJM transmission owners eligible to vote are in attendance or when PJM transmission owners representing 95% of the weighted vote are in attendance."

In making its argument regarding voting in ISOs/RTOs, the PJM TOs cited FERC's decision in 2019 to reject *RTO Insider's* bid to force NEPOOL to open its meetings to the public



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PJM News



and press, saying it lacked authority to act. (See [FERC Rejects RTO Insider Bid to Open NEPOOL](#).)

“The commission found that rules prohibiting press and public access to NEPOOL meetings do not directly affect rates, because they do not affect who may vote on NEPOOL proposals,” the TOs said in their filing.

Protests

A joint protest was [filed](#) in November by AMP Transmission, Old Dominion Electric Cooperative and Silver Run Electric, arguing that the impact of the CTOA changes would “disenfranchise non-traditional transmission owners whenever enough of the large incumbent PJM transmission owners coordinate their votes, as they have done in the past.”

The protesters said the changes would allow a “supermajority” of weighted votes to “override a proposal’s failure to obtain the required share of individual votes” and to “negate” the individual votes of the minority PJM TOs. They also argued that the TOs “fail to identify a single instance” where they were stopped from making a filing under the existing CTOA rules by the non-traditional transmission owners.

“Protesting parties assert that the proposed CTOA changes are unjust and unreasonable because they are premised entirely on speculation that ‘the proliferation of smaller, non-traditional [PJM] transmission owners’ could prevent a filing by larger incumbent PJM transmission owners,” the commission said in its order. “Protesting parties contend that they have no incentive to block a filing that does not adversely affect their interests and that the existing TOA-AC voting rules already provide sufficient protection to incumbent PJM transmission owners.”

The commission said it disagreed with the argument that the CTOA revisions will disenfranchise the non-traditional PJM transmission owners.

“All PJM transmission owners retain the opportunity to express their views on proposals and to cast a vote,” the commission said. “Furthermore, we find that the proposed revisions rebalance the CTOA voting rules to better align with individual PJM transmission owners’ economic stakes in the transmission system.”

Consenting Commissioners

FERC Commissioners Allison Clements and

Willie Phillips issued a concurring opinion, saying the revisions were approved by 80% of the individual vote under the current voting rules at the TOA-AC. They said PJM stakeholders also retain the ability to protest Section 205 filings “regardless of size.”

The two commissioners said they had “some concerns” with the voting changes, but they were not great enough to reject the proposal. They specifically pointed to the removal of the individual vote, saying the changes make that vote “irrelevant” when the TOs achieve a 95% or greater weighted vote.

The commissioners said they were also “concerned” that the TOs “failed to adequately respond” to a question in a deficiency letter issued by FERC about whether it was just and reasonable “for a small number of PJM transmission owners with the largest transmission rate base to meet the 95% weighted vote threshold for approving a voting item when a majority of individual PJM transmission owners vote against the item.”

“Instead, the PJM transmission owners dodged the question by revising it,” the commissioners said. ■

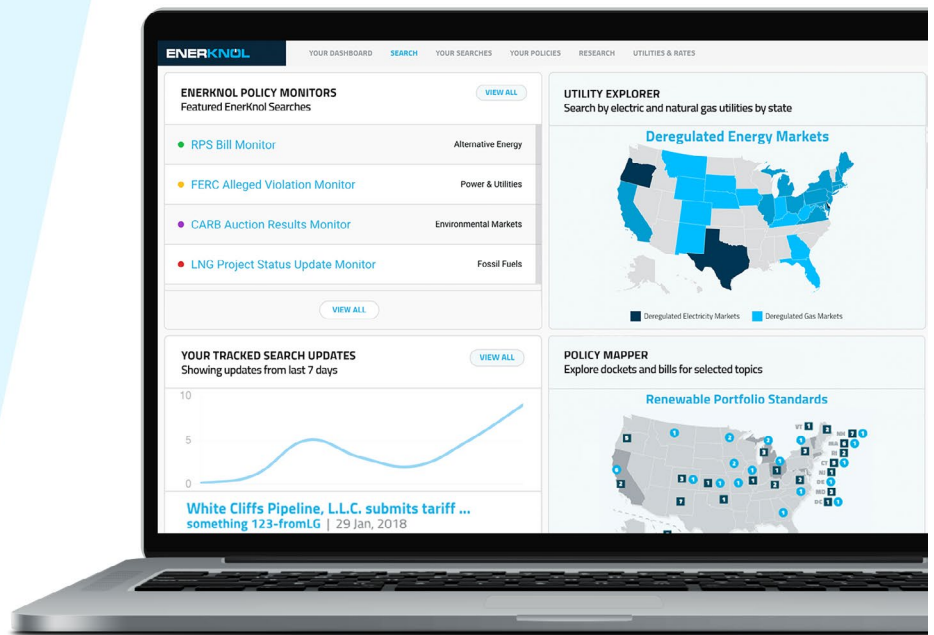
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Company Briefs

ESI Energy to Pay Up to \$35M After Turbines Killed Eagles



ESI Energy pleaded guilty last week to three counts of violating the Migratory Bird Treaty Act after at least 150 bald and golden eagles died at three of its facilities in

Wyoming and New Mexico, according to the Justice Department.

As part of an agreement, ESI was sentenced to five years of probation and must pay more than \$8 million in fines and restitution. The company also agreed to implement up to \$27 million in measures to minimize future eagle injuries and deaths. Prosecutors said ESI will pay \$29,623 for each eagle killed by its turbines in the future.

More: [The Washington Post](#)

GM Resumes Bolt Production

General Motors last week said it has



resumed production of the Chevy Bolt after at least 19 vehicles caught fire.

The automaker had recalled every Bolt that had been produced at its Michigan factory since 2016 after determining two "rare manufacturing defects" in the lithium-ion battery cells of the battery pack could cause a fire.

More: [CNBC](#)

Hertz to Add 65,000 EVs to Rental Fleet

Car rental company Hertz last week said

Hertz

it intends to add 65,000 Polestar electric vehicles to its global fleet within the next five years.

The Polestar 2 hatchback will be the first model added to its fleet, starting this spring in Europe and reaching North America by the end of the year. The Polestars are in addition to the order of 100,000 Tesla Model 3 vehicles Hertz says it has already begun introducing to its U.S. fleet in select cities.

Hertz has not yet released cost or availability details, but the vehicles are expected to be priced similarly to other premium or luxury rental rates.

More: [Car and Driver](#)

Federal Briefs

Climate Change Could Cost US \$2T Each Year by 2100

Natural disasters made worse by climate change could cost the U.S. federal budget about \$2 trillion each year — a 7.1% loss in annual revenue — by the end of the century, the Office of Management and Budget said last week.

The analysis warned that intensifying wildfires could increase federal fire suppression costs by between \$1.55 billion and \$9.60 billion each year, representing an increase between 78% and 480% by the end of the century. Meanwhile, more frequent hurricanes could drive up annual spending on coastal-disaster response to between \$22 billion and \$94 billion. Additionally, 12,000 federal buildings could be flooded due to rising sea levels, with total replacement costs of more than \$43.7 billion.

More: [CNBC](#)

Mountain Valley Pipeline Wins Stream Boring Permit

FERC last week unanimously authorized a permit that will allow the Mountain Valley Pipeline to bore under 180 streams and wetlands it must cross to complete the natural gas pipeline.

The commission amended its 2017 certificate to allow Mountain Valley to tunnel below some water bodies, rather than



digging a trench along their bottoms to bury a 42-inch diameter pipe, after it found that boring under water bodies would cause less environmental damage than the open-cut method.

Mountain Valley still lacks authorizations from other agencies to ford the remaining streams and wetlands by open cut and to pass through the Jefferson National Forest.

More: [The Roanoke Times](#)

Ninth Circuit Deems Montana Coal Expansion Illegal

The U.S. Court of Appeals for the Ninth Circuit last week ruled that the federal government violated the National Environmental Policy Act when it approved the expansion of an underground coal mine in Montana.

In a 2-1 decision, the panel of judges found the Trump administration's Department of Interior did not give enough weight to the environmental impacts of the added greenhouse gas emissions the mine expansion would lead to. In approving the project,

the DOI had to prepare an environmental impact statement (EIS) quantifying both the project's costs and benefits. Signal Peak Energy, which sought the expansion, said the expansion would lead to 240 billion additional tons of greenhouse gas emissions. The 2018-era DOI said the numbers would have "no significant impact" and claimed the emissions would represent just .04% of the world's total.

The judges agreed that the DOI's EIS "failed to articulate any science-based criteria of significance in support of its finding of no significant impact but instead relied on the arbitrary and conclusory determination that the mine expansion project's emissions would be relatively minor." However, they stopped short of ruling that the social-cost-of-carbon metric was the correct one in assessing the impact of greenhouse emissions.

More: [Courthouse News Service](#)

Supreme Court Reinstates Trump-era Water Rule

The Supreme Court last week voted 5-4 to reinstate a Trump-era rule that curtails the power of states and Native American tribes to block pipelines and other energy projects that can pollute rivers, streams and other waterways.

The court's action does not interfere with the Biden administration's plan to rewrite the rule, and a revision has begun. But the

administration said a final rule is not expected until the spring of 2023. The Trump-era rule will remain in effect in the meantime.

EPA spokesman Tim Carroll said the agency is reviewing the court's order, as well as "moving forward with rulemaking to restore state and tribal authority to protect water resources that are essential to public health,

ecosystems and economic opportunity."

More: [The Associated Press](#)

TVA Nuclear Plant Operating After Fire

The Tennessee Valley Authority's nuclear plant in Browns Ferry, Ala., is operational once again following a fire inside the plant on April 2.



A little before 2 p.m., a notice of unusual event was declared at the plant after a fire started near non-safety related equipment in unit three. The fire was extinguished by plant personnel.

More: [WAFF](#)

State Briefs

CALIFORNIA

SMUD Approves Geothermal PPA with Calpine



Sacramento Municipal Utility District (SMUD) last week

announced it has agreed to buy electricity from a 100-MW portion of The Geysers field under a new contract with Calpine.

The SMUD board approved a 10-year power purchase agreement that should become effective on Jan. 1, 2023.

Located north of San Francisco in the Mayacamas Mountains, The Geysers is considered the world's single largest geothermal resource in operation.

More: [Renewables Now](#)

COLORADO

Officials Likely to Shut Down Rifle Power Plant



The Tri-State Generation and Transmission Association last week made a filing

with the Public Utilities Commission that, if approved, would result in the Rifle natural gas power plant's retirement.

The plant, which currently has four employees, has run more infrequently in recent years.

More: [Post Independent](#)

GEORGIA

Georgia Power Plans to Reduce Coal Reliance, Boost Renewables



In hearings with the Public Service Commission last week, Georgia Power revealed plans to close nine coal-burning units and three

oil-burning units by 2028. After that, only two units would be left at Plant Bowen, which would be shut down by 2035.

The company said it plans to replace the electricity from the coal plants by purchasing 2,356 MW of natural gas from other utilities and adding 2,300 MW of power from renewable sources by 2029. That commitment to renewables would be raised to 6,000 MW by 2035. The utility also plans to develop 1,000 MW from batteries by 2030.

More: [Capitol Beat News Service](#)

MASSACHUSETTS

Senate Unveils Legislation for EVs, All-electric Buildings

State senators last week unveiled new climate change regulations that they consider vital for ensuring that the state achieves net-zero carbon emissions by 2050.

The bill calls for the creation of a \$100-million Clean Energy Investment Fund to spur infrastructure developments, with separate proposals making it easier to seek financial assistance for "cutting-edge technologies," including nuclear fusion, networked geothermal and deep geothermal energy. There is also a \$100-million Electric Vehicle Adoption Incentive Trust Fund in the bill for zero-emission cars and light-duty trucks.

The emphasis on EV infrastructure is accompanied by a proposed \$50-million Charging Infrastructure Council Fund. New developments must also allocate at least 10% of parking spaces for EV charging.

More: [MassLive](#)

NORTH CAROLINA

Duke Energy Soliciting 1,300 MW Solar Capacity



Duke Energy last week announced it is seeking approval

from the Utilities Commission to procure a total of 1,300 MW of new solar capacity in North and South Carolina this year.

The Utilities Commission must approve Duke's proposal before it can seek bids for the new projects. In its request, Duke proposes a minimum of 700 MW of utility-owned and third-party solar resources as part of its 2022 Carolinas Carbon Plan. The company already has around 600 MW out for bid from the last round of the Competitive Procurement of Renewable Energy program.

If approved, Duke says the window for bids will be between May 31 and July 15, with the potential for the projects to be online by 2026.

More: [Daily Energy Insider](#)

PENNSYLVANIA

Gov. Wolf Appeals Court Order Blocking Carbon Emissions Plan



Gov. **Tom Wolf's** administration last week asked the state's highest court to let the centerpiece of his plan to fight climate change take effect and make Pennsylvania the first major fossil fuel state to adopt a carbon

pricing policy.

The filing in the state Supreme Court appealed a decision by the lower Commonwealth Court which, in a one-line unsigned order, barred the official publication of the governor's regulation "pending further order." The regulation had been scheduled to be published on April 2, but the lower court sided with leaders of the Republican-controlled Legislature. The regulation would have required fossil fuel plants to pay a price for every ton of carbon dioxide they emit starting July 1.

The high court did not immediately rule or schedule a hearing on the appeal.

More: [The Associated Press](#)

TENNESSEE

Memphis City Council Hires Independent Consultant

The Memphis City Council last week voted 11-1 to have Allan Wade, the council's attorney, find and hire a consultant to read and review the private sector energy bids that have been submitted to Memphis, Light, Gas and Water.

It remains to be seen whether MLGW cooperates with the city council and allows a private consultant to review the proposals submitted by the private sector. At least 27 companies have bid on Memphis electricity supply.

Councilwoman Cheyenne Johnson said the consultant would not be making a recommendation or any decisions about what bids to choose and would remain independent.

More: [Memphis Commercial Appeal](#)

TEXAS

Renewables Account for a Third of State's Energy in 2022

Renewable sources have contributed more than a third of the power on the state's grid so far this year.

In the first three months of 2022, solar

farms have generated 85% more power than in the same period last year. In March alone, solar produced more than 1,800 GWh — more than twice the amount it generated in all of 2016. With more than 4,600 GWh generated in the first quarter, solar farms contributed an all-time high of 5% of the state's electricity.

Meanwhile, wind turbines generated 29% of the state's electricity so far this year — placing second to natural gas.

More: [Houston Chronicle](#)

VIRGINIA

Charlottesville Hires Firm to Assess EE in Gov't, School Buildings

Charlottesville last week hired CMTA Energy Solutions, an energy auditing firm, to assess its 40 buildings, including city schools, to find ways to reduce power and water usage and lower utility bills.

The audits are part of the first phase of the city's effort to fulfill its commitment to climate action and reduce its greenhouse emissions. The contractor will collect data on each building's existing systems and operation.

Strategies and upgrades under consideration include standardizing the controls, plumbing fixtures and heating and air-conditioning equipment in city facilities.

More: [The Daily Progress](#)

WISCONSIN

Power Cut-offs to Begin Again on April 15

The Public Service Commission last week reminded customers that disconnections for unpaid utility bills will begin again on April 15.

The state's annual winter heating moratorium on disconnections runs from Nov. 1 to April 15 and prevents those behind on their utility bills from losing power during the coldest time of the year.

More: [WGBA](#)

PSC Approves Construction of State's Largest Renewable Energy Plant

The Public Service Commission last week approved construction of the 465-MW Koshkonong Solar Energy Center — the state's largest renewable energy plant — in Dane County.

Utilities owned by WEC Energy Group and Madison Gas and Electric plan to spend \$649 million to buy the plant, which would host 300 MW of solar and 165 MW of battery storage. We Energies and Wisconsin Public Service would own 90% of project, while Madison Gas and Electric would own 10%.

Inverenergy hopes to begin construction late this year or early next spring and have the project in service in 2024.

More: [Wisconsin Public Radio](#)

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