QUARTERLY REPORT

November 2020

Planning for the Future

We've all endured a great deal of uncertainty over the last several months. From Covid to the lights going out in California and the Resources being scarce and expensive in the rest of the West to the National Election. It has been a year to remember and it's not over yet.

Covid: At the last meeting of the WPTF Board Members I provided a review of the 2021 budget. Given that our budget is not that large, it is greatly affected by whether or not we have our General Meetings. So, the Board was offered three choices of budgets predicated on the following options: 1) No Covid restrictions for 2021; 2) Covid restrictions in the early part of 2021; or 3) Covid restrictions for all of 2021. I think we can all say that option 1 does not appear realistic. Based on recent information regarding treatments and one or more vaccines, option 2 may be plausible. Certainly, we all hope option 3 is out.

RA Shortage: Many in our industry warned that both California and the larger Western Region were facing a shortage of Resource Adequacy (RA) capacity. For a variety of reasons, this came into acute focus in August with Stage 3 power interruptions in California and extraordinarily high prices at trading hubs around the West. A preliminary root cause analysis revealed problems in planning, issues with some California Independent System Operator (CAISO) dispatch tools, and misallocation of responsibilities between the California Public Utilities Commission (CPUC) and CAISO. Heightened focus has been placed on doing what is necessary to "get through" 2021. However, the longer-term actions needed to address the transition from thermal assets to a grid dominated by renewable assets have yet to be fully discussed to my knowledge. It would be nice if California, as a first step, might acknowledge its need for greater integration with the West. It might find a ready partner with parties outside the Golden State who recognize they need integration with California as well.

Election: Someone asked me after the election whether the outcome would dramatically affect my industry. The underlying assumption was that a change in Administrations would mean an increased emphasis on carbon reduction and renewables. I replied, "not much." Most states in the West have made it clear we are already going in that direction. Our members and the industry are already locked into that reality. The apparent election outcome merely puts the regulatory picture in a bit more alignment, but not much else. That's my read. Perhaps others see it differently.

But why am I dwelling on the past? This issue of all the Committee activities will also attempt to not only review what has happened but – consistent with a (nearly) end-of-year issue – attempt to look at the possible future that awaits WPTF and its members in the year ahead. We hope 2021 is different in many ways!

Scott Miller

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WIDER WEST COMMITTEE (2WC)

Caitlin Liotiris

Caitlin Liotiris coordinates WPTF's [Wider West Committee (2WC)](), which engages on market, policy, reliability and technical developments in the "wider West," generally outside of California. The 2WC is active in advocating for broader western energy markets, especially the EIM and other regional market expansion opportunities. The 2WC also follows important developments at Peak Reliability and the Western Electricity Coordinating Council. Caitlin has over a decade of experience in energy issues in the West and has spent most of those years actively engaged on market development efforts across the Western Interconnection footprint, including a major role in developing the policies for implementing the EIM. She is skilled in understanding and distilling the interaction of energy policy and energy market dynamics. In addition to her work with WPTF, Caitlin has worked on various energy policy and market related issues throughout the county. Caitlin is currently a member of Peak Reliability's Member Advisory Committee (MAC) and has also co-authored various reports exploring the benefits of proposed transmission facilities in the West.

Much Like Everywhere Else, 2020 in the "Wider West" Wasn't What Was Expected

When the new decade dawned in January, I don't think any of us could have predicted what 2020 had in store. I certainly didn't think that, for the vast majority of the year, I would miss out on the opportunity to get to see work colleagues, participate in in-person workshops, and geek out over energy policy during dinners. But, the pandemic has impacted our lives, including work, in ways we couldn't have anticipated. As I look back on 2020, while it is unclear precisely how much the pandemic had to do with it, the focus of the Wider West Committee (2WC) also wasn't what I expected. At the start of 2020, it seemed that the work of the 2WC would be primarily focused on coordinating with the CAISO Committee to address the policy design for the Extended Day-Ahead Market (EDAM). Looking back at a nearly completed year, that isn't how things panned out. EDAM development has been much slower and less intense than expected. In some ways, the loss of enthusiasm for EDAM seems to have effectively transferred to the RA program development at the Northwest Power Pool (NWPP), with many western utilities appearing highly focused on a successful outcome for this program. The focus on RA, both at the California level and across the Wider West, was further sharpened by the dramatic west-wide events of August 2020.

At the outset of 2020, we anticipated that the 2WC would be spending significant time on EDAM coordination with the CAISO committee along with EDAM workshops, and proposals. The 2WC was poised to focus on how this voluntary day-ahead market could be integrated with the existing Open Access Transmission Tariffs (OATTs) and bilateral markets and to evaluate its impacts on market participants across the Wider West. While EDAM's development hasn't completely stalled, it certainly hasn't been at the depth or the pace most expected. CAISO held a set of workshops in February and then stakeholders waited until late-July for the first "Bundle 1" proposal (which addressed resource sufficiency evaluations, transmission provision, and transfer/congestion revenue distribution). And then, for valid reasons, the comment deadline was twice extended, with comments finally due in mid-November.

There may have been a number of reasons that EDAM lost some of the wind in its sails this year. Certainly, the suspension of in-person meetings likely played a role in the delayed schedule (and associated appearance of slowed momentum). EDAM is a complex market that must somehow work in concert with the CAISO's existing day-ahead market, the bilateral markets, OATTs and the Energy Imbalance Market (EIM). It's the type of policy development which really benefits from, and perhaps even necessitates, in-person interactions and hallway or dinner sidebar conversations between the key players. And none of that has been able to happen in the COVID-world we find ourselves in.

But there are probably other factors at play too. For one, CAISO's Bundle 1 didn't appear to give the type of deep consideration of the impacts to western players as many hoped for. For instance, the proposal to eliminate intertie bidding and self-scheduling did not seem to have been made after a thorough consideration of, among other things, the likely impacts to transmission revenues for transmission providers outside of CAISO. Additionally, the CAISO rolling blackouts and western emergency events occurred in August created a need to "pause" and reevaluate the market design. In particular, those dramatic events forced the CAISO to take a hard look at resource sufficiency tests in the EIM and whether they are achieving the desired outcome or if changes are needed for EDAM and/or EIM.

In recent comments, the EIM Entities reaffirmed their commitment to the EDAM process and their view that an incremental EDAM is the "next logical and achievable step in the evolution of Western wholesale markets" though they also highlighted a number of concerns and improvements that should be implemented. Thus, EDAM will likely continue to be a focus going forward.

Not to be left out of the market optimization discussions, the Southwest Power Pool (SPP) and a number of entities recently announced they will evaluate expanding the SPP Regional Transmission Organization (RTO) to the West. This announcement came as many of the entities are eyeing implementation of SPP's new Western Energy Imbalance Services market in early 2021. This SPP RTO examination is different from the failed Mountain West Transmission Group (MWTG). It encompasses different entities, and it appears to envision joining the existing SPP tariff essentially "as is".

While broader wholesale market optimization clearly remained an important focus in 2020, many utilities in the West appeared to focus their collective effort on developing an RA program. The need for a more coordinated RA program was further highlighted by the rolling blackouts and emergency conditions that occurred in the West this summer. In order to provide updates on the RA development effort, NWPP has been hosting quarterly stakeholder meetings. But the real work is going on through the Steering Committee and associated subgroups (made up of about 18 participating utilities, and one independent power producer). These entities have completed their Conceptual Design, but the thornier issues remain to be resolved via "Phase 2B" (Detailed Design phase). NWPP has hired the SPP to assist in the Detailed Design phase. That doesn't mean that SPP will be selected as the Program Administrator – it's entirely possible another entity could be selected to administer and oversee the NWPP RA program.

What Will the Wider West Focus on in 2021?

Given all of the uncertainty 2020 has brought, I've mostly given up trying to predict what the next few weeks will bring, let alone what the upcoming year will bring. That said, I anticipate 2021 will include a significant focus on the RA front across the Western Interconnection. Of course, California is dealing with its own RA changes. However, the implementation of a voluntary to join RA program outside of an ISO/RTO, consistent with the program currently being designed by the NWPP, appears likely to take center stage outside of California. Furthermore, questions remain about whether the future NWPP program can be coordinated, to some extent, with the California program. The most recent schedule for the NWPP's efforts includes implementation of a non-binding RA program beginning by mid-2021, with the program becoming binding and adding and operational program between 2021 and 2024. This means we can expect some significant details and decisions around the program to be made during 2021. Notably, during 2021, we will learn more about the work the NWPP participants and SPP are undertaking to develop answers to the difficult questions, such as: how the program will be governed, what entity will have the compliance obligation, how will resources' eligible capacity be determined, and how will transmission and deliverability constraints be addressed?

But wholesale market discussions are also likely to continue in 2021 and beyond. The biggest question, at this time, appears to be which venue will have the most momentum: CAISO's ongoing EDAM initiative, the SPP expansion (which might attract other interested parties), or, potentially, market discussions at the NWPP. Given that SPP is acting as the program developer for the NWPP's RA program, SPP is likely to have the ear of those participating entities. It will be interesting to see if that dynamic creates any drive for those entities to consider joining the existing SPP RTO or to begin their own discussions about formation of a new entity to act as a market operator. Thus, regardless of "where" it happens, I'm optimistic that 2021 will also include a substantial focus on western market formation.

CPUC COMMITTEE

Greg Klatt

Greg Klatt coordinates the CPUC Committee. Greg is a practicing attorney with over 20 years of energy industry experience. His practice focuses on state and federal regulation of the electric power and natural gas industries. He has represented clients in numerous ratemaking and rulemaking proceedings before the CPUC. He regularly advises energy companies regarding regulatory requirements applicable to their product and service offerings. He represents marketers and retailers in CPUC licensing, compliance and enforcement matters. He also commonly acts as regulatory counsel in energy-related transactional matters, including procurement contracting, resource development projects, repower projects, major asset acquisitions and related financing arrangements.

Greg received his J.D. from UC Berkeley's School of Law (Boalt Hall). He graduated magna cum laude with a B.A. in History from the University of San Francisco and is a lifetime member of the Alpha Sigma Nu honor society.

If the CPUC's integrated resource planning (IRP) process were set to music, it would be the soundtrack from Jaws. In this '70s horror movie/energy policy mashup, California is Amity Island, and the man-eating shark is capacity shortfalls that could wreak havoc on the CAISO grid.

In this quarterly update, we take a look at the results of CPUC's first IRP proceeding under Senate Bill 350,[1] check in on the current IRP proceeding, and assess where things are headed in 2021 and beyond. But first a quick overview of the IRP process itself.

"Tell 'em I'm going fishing."
– Chief Brody, Jaws (1975)

Traditional integrated resource planning is focused on electric utilities and their generation needs. Thanks to Senate Bill 350 and California's… unique… regulatory landscape, the CPUC's IRP process is more expansive, less centralized, and more convoluted than the norm.

Senate Bill 350 mandated that the CPUC establish an IRP process that encompasses not only electric utilities but also competitive electric service providers (ESPs) and community choice aggregators (CCAs), and ensure that the load-serving entities (LSEs) it oversees develop electric resource portfolios that, both individually and collectively, produce GHG emissions in 2030 at reduced levels consistent with California's economy-wide GHG target. It also requires the resource portfolios developed through the IRP process meet the state's Renewables Portfolio Standard (RPS), provide system and local reliability, and minimize localized air pollutants in disadvantaged communities.

The CPUC conducts its IRP process in phases over a two-year period. In the first phase, the Commission specifies the information and data requirements for LSEs' plans and adopts a Reference System Portfolio—with key inputs from the Air Resources Board (GHG emissions benchmarks) and the Energy Commission (demand forecasts)—to guide LSEs in the development of their proposed resource portfolios. After LSEs file their integrated resource plans, the Commission reviews the LSE plans for consistency with the aforesaid requirements, and staff aggregate data from the LSE filings into a Preferred System Portfolio. The Commission also transmits recommended resource portfolios to the CAISO for study in the CAISO's annual Transmission Planning Process (TPP).

In the second phase, the Commission determines whether directed procurement is needed

[1] Also known as the Clean Energy and Pollution Reduction Act of 2015.

to ensure grid reliability and/or achieve the state's clean energy and decarbonization goals.

"I'll catch this bird for you, but it ain't gonna be easy." – Quint, Jaws (1975)

The CPUC opened its first IRP proceeding under SB 350 in early 2016. For purposes of the initial IRP cycle, the Commission adopted a Reference System Portfolio based on a 42 MMT GHG target, which included large amounts of new solar and wind resources and 2 GW of battery storage. LSEs filed their integrated resource plans in August 2018. The Commission issued its decision assessing the 2018 LSE plans and adopting a Preferred System Portfolio in April 2019.

For purposes of the CAISO's 2019-20 TPP, the CPUC recommended the CAISO use the aforementioned Preferred System Portfolio (with updates) as its reliability and policy-driven base case. The Commission also asked the CAISO to study two policy-driven sensitivity cases, one that allowed new buildout of out-of-state wind on existing transmission only, and a second that allowed up to 4,250 MW of new out-of-state wind on new transmission.

In the procurement phase, CPUC staff raised the alarm over significant system capacity shortfalls that could start materializing in 2021, if not earlier. [Cue Jaws soundtrack.] In response, the Commission directed LSEs to procure 3.3 GW of new system resources, with 50% required to come online by August 1, 2021, and the remainder in 2022 and 2023. The Commission also recommended the State Water Board allow approximately 3.7 GW of legacy gas-fired generation that utilizes once-through-cooling (OTC) to operate for a couple more years.[2]

"You're gonna need a bigger boat!" – Chief Brody, Jaws (1975)

The CPUC adopted the Reference System Portfolio for the current IRP cycle in March 2020. The adopted portfolio, which utilizes essentially the same GHG target that was used for the prior IRP cycle, includes even larger amounts of new solar and wind (compared to the previous IRP cycle), a staggering 8.9 MW of battery storage, nearly 1 GW of pumped storage, 606 MW of out-of-state wind on new transmission, and 222 MW of demand response, with minimal gas capacity retirements (30 MW).

The same decision directed LSEs to include at least two "conforming" resource portfolios in their 2020 IRP filings, one based on the Reference System Portfolio, and a second based on a more aggressive 38 MMT target. The portfolio for the 38 MMT scenario includes an additional 6.7 MW of new solar, wind (including out-of-state wind on new transmission), and battery storage, with an additional 2 GW of gas capacity being retired in 2030.

LSEs filed their 2020 integrated resource plans on September 1, and CPUC staff is currently in the process of aggregating data from the LSE filings for use in developing a new Preferred System Portfolio.

Stakeholder filed comments on the LSE plans and related issues on October 23. And here's where things get really… interesting. In the CAISO's comments, it reported that it performed a reliability assessment of the aforesaid 38 MMT portfolio using different production cost modeling software than that used by CPUC staff. The CAISO's modeling "shows that incremental resource needs may be much greater than originally anticipated and that the system hits a critical inflection point" after PG&E shuts down Diablo Canyon—the state's last remaining nuclear power plant—in 2025. *[Dahhh-dunnn… dahhh-dunnn.]*

Just how bad is it? This bad: "The CAISO's study results show the 38 MMT Portfolio is not reliable in that it does not meet the target loss of load expectation (LOLE) in 2026 or 2030. The CAISO production cost modeling found a 0.890 LOLE in 2026, well in excess of the 0.1, or one day in ten-year LOLE target. The 0.890 LOLE equates to a 3,493 MW shortfall in effective capacity in 2026. Effective capacity is the energy-backed capacity that is available when needed to avoid a loss of load event. For 2030, the CAISO's

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[2] The OTC units were otherwise scheduled to be retired by the end of 2021.

analysis shows a 0.268 LOLE, which is equivalent to a 1,383 MW shortfall in effective capacity." *[Dahh-dunn, dahh-dunn.]*

It gets worse: The CAISO attributes that smaller LOLE factor and corresponding capacity shortfall in 2030 to the addition of more resources between 2026 and 2030 (compared to the Reference System Portfolio). If I'm not mistaken, that means the CAISO's pending study of the Reference System Portfolio from this IRP cycle will likely identify even worse LOLE factors and larger capacity shortfalls. *[Dah-dun dah-dun dah-dun!]*

The CPUC has recommended the Preferred System Portfolio from the previous IRP cycle as the reliability and policy-driven base case for the CAISO's 2020-21 TPP. As alluded to in the previous paragraph, the Commission has asked the CASIO to study the Reference System Portfolio from the current IRP cycle as a policy-driven sensitivity case. It also asked the CAISO to study a second sensitivity case based on a 30 MMT target, with much larger amounts of out-of-state wind, to test the impacts of energy-only deliverability status on transmission congestion costs and renewable curtailment.

"It proves you wealthy college boys don't have the education enough to admit you're wrong."
– Quint, Jaws (1975)

So where are things headed? My gut tells me it's no place good. We know 4-hour battery storage will account for virtually all the 3.3 GW of new system resources that the CPUC has directed be brought online in the next three years. Is it realistic to expect nine to ten gigawatts on top of that getting built out between now and 2030? If it does, can it be charged with sufficient frequency and dependability to provide resource adequacy? How will the grid—in the real world—handle another ten to fifteen gigawatts of new wind and solar? What about the probability of nearly 1 GW of pumped storage being built in California by 2030? These are just a few of the many questions that the CPUC, CAISO and stakeholders will need to address.

The IRP proceeding promises to produce some very interesting content in the coming year. I'll save you a good seat. Now excuse me while I go get some more popcorn.

CALIFORNIA INDEPENDENT SYSTEM OPERATOR (CAISO) COMMITTEE

Carrie Bentley

Carrie Bentley is the co-founder and CEO of Gridwell Consulting and has over a decade experience in the energy industry across the ISO/RTO markets. Ms. Bentley currently provides analysis and strategic support on "all things California ISO," including transmission, interconnection, capacity, storage assets, and the energy markets. Prior to becoming a consultant, Ms. Bentley most recently had been acting as a lead market design and regulatory policy developer at the CAISO, leading design and stakeholder initiatives in critical areas such as flexible ramping, resource adequacy, and renewable integration. Prior to the CAISO, Ms. Bentley was a consultant for GDS Associates, an engineering and economics consulting firm where she specialized in power supply contracting, natural gas hedging, and energy market design for a large range of clients in ERCOT, PJM, MISO, and SPP.

Leadership Redesign and Roadmap

In the beginning of November, the CAISO announced that in addition to a new Chief Executive Officer, they are redesigning the leadership team under Mark Rothleder as the new Chief Operating Officer. This will streamline communication and lead to better coordination between the market policy, planning, operations, and technology departments. While it will take some time to see the full impacts from the new leadership team and organization, many external participants should be excited to have leaders with strong energy market backgrounds at the helm.

As Scott notes in his introduction, many in our industry (including the CAISO) have been warning of a possible shortage of assets to maintain grid reliability in California and the wider western region. While on behalf of the CAISO committee we have written and presented on the August shortage root causes, we have not yet explored how these events might change current and expected CAISO initiatives. Given the new leadership structure, perhaps it should not be surprising stakeholders are beginning to see shift within the relevant policy proposals.

The 2021 Draft Policy Initiative Roadmap differs only slightly from last year's roadmap. This is mostly a good thing. The CAISO has identified three goals (1) meeting operational needs resulting from changing resource fleet; (2) enhancing the day-ahead market and extending EIM across the West, and (3) aligning RA requirements and rules with changing operational needs and tightening west-wide supply conditions. As always, the devil is in the details.

The most meaningful add to the roadmap is an initiative to look at scarcity pricing in the energy market. This is a crucial initiative and key to incenting market imports and EIM imports during critical periods of tight supply in California. Along with meaningful RA reform at the CPUC, scarcity pricing would ideally incent existing generators with deliverability headroom to make capacity improvements in order to capture additional available RA and energy market rents.

While the 2021 roadmap content and direction of many of the initiatives has not changed, we just got news that one significant initiative will be put on hold. The CAISO announced via email that they were no longer moving forward with an initiative that could adversely impact every resource, System Market Power Mitigation. No other ISO dynamically checks and mitigates for system market power, and for good reasons. It is an extremely tricky process generally, and especially tricky in California's case, because inaccurate mitigation could prevent the CAISO from relying on imports it badly needs for reliability. WPTF has been – and will remain – supportive of a competitive market that allows for appropriate and transparent price formation while protecting against market power. That said, we have continually expressed extremely concerned that the costs of implementing the proposed system market power mitigation mechanism will not outweigh the benefits. Our fear has been that this policy will end up deterring needed import supply from being offered into the market during periods when it is needed the most.

The CAISO's data has yet to show the exercise of system market power, and we are exceeding relieved that this proposal has been put on hold until the CAISO sees a need for it. The design, as currently constructed, would have inherently over-identified hours to be tested for uncompetitive conditions, leading to over-mitigation and suppressed market prices during periods when the CAISO needed price signals the most. It remains to be seen how the Department of Market Monitoring and CPUC will respond.

The Price Tag of Reliability and Progress

The CAISO 2020 Fiscal Year budget report allowed for no new additional headcount, despite a record 26 initiatives planned for the year. In our Q4 2019 article, we noted that without additional resources, we did not believe the CAISO's three-year plan was at all feasible, no matter the good intentions. Disappointingly, this played out throughout 2020. We have continued to observe a distinct decline in transparency not only on the rationale for certain policies and strategic decisions, but also on their costs and benefits. Nowhere is this more apparent than in the Day-Ahead Market Enhancements.

After a year and a half of discussing integrating the financial and reliability day-ahead markets into a single integrated market, the CAISO has tested and dropped this idea. Instead, they will move forward with a day-ahead imbalance product and then determine additional benefits of integrating the day-ahead market. It is hard for WPTF to be upset about this – our initiative comments have supported this idea for some time. However, it was an incredibly painful road to get here. The painful part was mostly due to the lack of concrete data and transparency around the costs and benefits of integration as well as continually changing proposals and market designs. The frustrating part is that the day-ahead imbalance product was almost universally supported by stakeholders and the CAISO has spent very little time on its design or product formulation. This will be a heavy lift at the end of this year and beginning of next as the CAISO and stakeholders try and create a new energy product which – according to the posted schedule – must be done by March 2021.

By contrast, the Draft 2021 Fiscal Year budget both has the lowest revenue requirement since 2006 and has an O&M budget increase that includes budget for additional staff. WPTF sincerely hopes that a portion of this budget be spent on a new Resource Adequacy Executive Director or VP. Every other ISO has this position, and it would allow for explicit coordination and accountability for the RA program and all its components. Currently the RA program is spread under multiple directors across at least three departments. It is imperative that by summer of 2021 there is someone at the CAISO whose job it is to transparently assess whether they're sufficient RA capacity available to keep the lights on. It could be that it is already too late and that if the West experiences a low-hydro year, there is nothing the CAISO can do. But WPTF believes we should start assessing the potential and solutions for reliability issues now, and not in spring of 2021.

CARBON AND CLEAN ENERGY COMMITTEE

Clare Breidenich

Clare Breidenich coordinates [WPTF's Carbon and Clean Energy Committee](). In this role, Clare has been actively involved in the development of California's cap and trade program since its inception and has particular expertise on issues related to the treatment of electricity imports under the program and the interactions of the carbon market and the markets operated by the CAISO. Clare also represents WPTF on matters related to carbon and clean energy policies in other western states.

Prior to joining WPTF, Clare worked on international climate issues at the Environmental Protection Agency, the US Department of State and the United Nations Framework Convention on Climate Change Secretariat. Clare has extensive knowledge of the technical and policy options for greenhouse gas mitigation, including market mechanisms, and methodologies and protocols for estimation, reporting and verification of greenhouse gas emissions and reductions. She has served on the Washington Governor's Climate Action Team, the Washington Carbon and Electricity Markets Workgroup and on a National Academy of Sciences' Committee on monitoring of greenhouse gas emissions. Clare is a graduate of the University of Michigan and has a Master of Public Affairs and a Master of Science in Environmental Science from Indiana University School of Public and Environmental Affairs.

Uncertain Times Ahead on Climate Policy

Vice-President Elect Biden has made climate change a central pillar of his policy platform. Internationally, he has committed to return to the Paris Climate Accord and seek to increase the ambition of the world's climate targets. Domestically, he has called for 100% Clean Energy by 2050, and for the electricity sector to be carbon free by 2035. While Biden's international climate policy agenda will be achievable in the absence of Congressional support, the strong possibility that Republicans will retain control of the Senate calls the political feasibility of his domestic climate agenda into question.

On international climate policy, Biden has signaled that he would immediately move to have the US join the Paris Climate Accord. Because the US commitment under that agreement is tied to domestic law (i.e. the level of effort is contingent on legislation and regulations in place), US compliance does not depend on new action. The Biden Administration will also seek to reassert US leadership on climate in other international fora, such as the G20.

On the domestic front, significant climate action will be more challenging if Republicans maintain a majority in the Senate. While the overarching theme of Biden's climate platform was a transition away from fossil fuels, this would likely be a bridge too far. Likewise, a national carbon tax, cap-and-trade program, or RPS is unlikely. However, a focus on promoting clean energy under an infrastructure plan, including grid modernization and transmission development, could garner bipartisan support. Investment in climate research and development, both with respect to emission-mitigation technologies and on climate impacts and adaptation is also something that could attract support from moderate Republicans, who may have more influence with a Democrat in the White House.

The question then becomes what a Biden Administration can do through Executive Orders and Regulation. One thing we can clearly expect is a more pervasive approach to climate change across the entirety of governmental agencies and policies, with commensurate agency funding requests. The Climate 21 project, which synthesizes recommendations of experts and former Cabinet appointees, and which is closely tied to Biden's transition team, calls for a "whole-of-government climate response" coordinated by the White House and creation of a National Climate Council on par with the National Security Council.

We can also expect immediate executive orders directing agencies to begin the roll back of Trump's actions, such as the Environmental Protection Agency's (EPA) Affordable Clean Energy Rule (ACE), the Department of Energy's 11th hour efforts to eliminate tightening of energy efficiency standards, and recent drilling leases. Also look to Biden to direct EPA to once again defer to California on Vehicle Emission Standards. Another potentially significant action early on would be direction from the White House to agencies to emphasize climate in government procurement and research and development efforts.

Biden's path forward on climate regulations is harder to predict. While a return to the Clean Power Plan is likely a non-starter after the Supreme Court stayed it, Biden will undoubtedly turn to the EPA to tighten emission standards across all sectors, including for the power sector. What this will look like is anybody's guess, because the Clean Power Plan was widely viewed as pushing the envelope with respect to the EPA's authority to create a framework for greenhouse gas emissions trading under section 111(d) of the Clean Air Act. But, with the national decline in coal, and increasing support within the power sector for carbon pricing, maybe something will happen. New emissions regulations and fuel economy standards for vehicles are more straight-forward, as EPA and the Department of Transportation have clear authority there. It is also likely that a Biden EPA will go after fugitive methane emissions from the oil and gas sector.

As to who is going to lead these efforts, outgoing California Air Resources Board Chair and former head of EPA's Office of Air and Radiation, Mary Nichols is widely viewed as a top contender for EPA Administrator. However, some believe she might not be approved by a Republican Senate. If that's the case, she could be a candidate for National Climate Advisor. Governor Jay Inslee, who just won reelection for a third term in Washington, has also been floated, but he has indicated that he is not interested in the position. Heather McTeer Toney, who is a former EPA Region 4 Administrator, is also often cited. Given Biden's stated emphasis on environmental justice and equity, Ms. Toney would be a good fit.

Western States keep moving forward

Given the likelihood of mixed government at the federal level, state climate action will remain central in the coming years. Here in the West, the number of states pursuing emission reductions strategies continues to grow. In early November, the Republican Majority Arizona Corporate Commission approved a Clean Energy Plan that would establish a clean energy emission standard. Each regulated utility would be required to reduce its greenhouse emissions by 50% by 2032, 75% by 2040 and 100% by the year 2050. Despite an earlier approved amendment, the Commission did not increase, but instead eliminated, the state's existing renewable energy standard. This change was necessary to ensure that the new standard would survive review by the Commission next year, when two members will have been replaced. The rules also require investment in battery storage and energy efficiency.

In Washington, although votes are still being counted (Washington is a vote-by-mail state) Governor Inslee was elected to a third term, and Democrats are expected to retain a majority in both houses of the legislature. As a result, the legislature appears poised yet again to take another run at cap-and-trade during the regular (long) 2021 legislative session. Meanwhile, regulators at the Utilities and Transportation Commission and the Department of Commerce continue to develop rules to implement the Clean Energy Transformation Act (CETA). Determination of what it means to "use" renewable energy under the CETA. Whether such use requires matching of generation to load will be a central question of the rulemaking in 2021.

In Oregon, which also has a long legislative session in 2021, it is not yet clear whether any climate legislation will be tabled. After failing to pass cap-and-trade legislation during the past two years, Governor Brown, who was not up for re-election this year, issued executive orders to reduce emissions from industrial and fuel sources via regulation. (These regulations are not expected to cover the electric sector because of the inability of the Department of Environmental Quality to regulate emissions from imported electricity.) Sources close to the Governor's Office have signaled that she is not likely to push again for carbon pricing, but would be supportive of new clean energy legislation, perhaps modeled on the CETA. Given the other pressing issues in front of the legislature, notably the state budget, Covid-19 response and wildfire recovery, clean energy is not likely to be a priority for the coming session.

CALIFORNIA LEGISLATIVE COMMITTEE

Jesus Arredondo

WPTF Legislative Committee consultant is Jesus Arredondo. Jesus is the principal and founder of Advantage Government Consulting LLC and has over 19 years of experience in media and government relations, including concentrated experience in energy policy. Prior to launching Advantage Consulting, Jesus worked as a senior advisor for two major public relations firms in the United States and Mexico. Jesus also served as a policy advisor to a major California transmission project, principal advisor on an education effort in California concerning natural gas and on a national education campaign concerning the FERC's push for standard market design. Before launching Advantage Consulting, Jesus was a bilingual spokesman for two California governors and served five years as director of regulatory and government affairs for a fortune 250 independent power producer and two years at the California Power Exchange, where he served as director of corporate communications.

Newsom Concludes His First Legislative Two-Year Session

Governor Newsom concluded the first two-year legislative session of his tenure earlier this year, managing a combined 1,470 bills passed by the Senate and Assembly during the two-year session. Newsom signed 1,242 of those measures into law. Overall, fewer bills were brought to the Governor's desk in 2020 than 2019 based on agreement between both houses during the COVID-19-impacted session.

Looking Forward to 2021

The election (as of this writing, yet unofficial) of former Vice President Biden will likely embolden California's already aggressive approach to climate change and renewable energy matters. It seems that at least on some issues, the groundwork has already been laid.

Newsom's call for a ban on fracking, on which the Legislature already committed to introducing a bill, promises to bring fireworks to the Capitol. Depending on the outcome of the "deep dive" outage report from the energy agencies (on the August 14 and 15 blackouts – the report is due to the Governor and Legislature by year-end 2020), more renewable power legislation is anticipated. A push for more storage? Count on it. A few members have already signaled a push for more storage, albeit without specificity on what kind of storage, and a push for hydrogen as an energy fuel.

The Legislature returns from the election break on December 7, 2020 – this is a formality to swear in the newly elected or re-elected members. After this, the shuffling may begin on the energy committee assignments, and the introduction of legislation for 2021 will also officially begin.

Possible Legislation in 2021

2020's COVID-19 abbreviated Legislative session left many bills and ideas on energy matters stuck in committee debates. While additional ideas are coming, especially ideas on how the utilities manage wildfire risk and other thoughts on renewable power and conservation, this is the sample list of the bills that didn't make it through the process in 2020, but may be revived:

AB 1839 (Bonta) Green New Deal

AB 2071 (Muratsuchi) Prevent OTC Extensions – new ones

AB 2145 (Ting) Electrification of Transportation/Charging Stations

AB 2255 (Eggman) Long Duration Bulk Storage

AB 2547 (Gonzalez) RPS: Renewable Energy Credit Limitations (Eliminates Bucket 3)

AB 2689 (Kalra) Reporting for Utilities of Aging Infrastructure

AB 3014 (Muratsuchi) California Reliability Authority (RA Procurement Entity)

SB 774 (Stern) Micro Grid Development for Grid Resiliency (Orders IOUs to Build in Specific Locations – PSPS Response)

SB 1362 (Stern) Carbon Neutrality Plan by 2045

We may also see bills influenced by the SB 100 Report to the Governor and Legislature as well as bills influenced by the CEC's IEPR 2020. 2021 will be lots of fun on the Legislative front.

California Election Notes: Appointments

Governor Gavin Newsom has work to do. While distracted by a possible resurgence of COVID-19 cases and some likely "re-closings" in major metropolitan counties, Newsom has to also focus on junior US Senator vacancy as, Kamala Harris is the presumptive Vice President of the United States. With that vacancy, Governor Newsom must select a successor to Senator Harris' unexpired term.

Tere are several names rumored and several theories for his selection process. Congressman Adam Schiff or former presidential candidate Tom Steyer could help Newsom with progressives and raise his profile in other states. Long Beach Mayor Robert Garcia or State Senate President Pro Tem Toni Atkins would give California its first US Senator from the LGBT community. Los Angeles County Supervisor Hilda Solis would send a Latina to Washington DC.

However, there are three names that seem to be getting the most attention. The first is Congresswoman Karen Bass. She was rumored to be on Biden's short list for Vice President. She is being backed by the Black Caucus that wants to replace an African-American woman with another African-American woman. She has been in Congress since 2011 and previously served in the California State Assembly as Speaker.

California Secretary of State Alex Padilla would place a Latino in the US Senate and allow Newsom to pick Padilla's replacement, giving him another chance to appoint to that office. Padilla was elected Secretary of State in 2014. Prior to that, he was a California State Senator, where he chaired the Committee on Energy, Utilities and Communications. He also previously served as a Los Angeles City Councilman.

California Attorney General Xavier Becerra would place a Latino in the US Senate and allow Newsom to pick Becerra's replacement, again, giving him another bite at the appointment apple. As Attorney General, Becerra has been a thorn in the Trump Administration's side by filing more than 90 lawsuits against the federal government. Becerra was appointed Attorney General by then Governor Jerry Brown after Kamala Harris became US Senator. Prior to that he served as a California Congressman.

By the way, a Latino US Senator from California would be the first in the State's 170-year history. Newsom told the press earlier this month that he will name the successor as soon as the President and Vice President are sworn in.

California Election Notes: Proposition 15

Proposition 15, which could have been the largest property tax increase in California history, was defeated 52 percent to 48 percent, by a margin of more than 550,000 votes, ending a challenge by Service Employees International Union, California Teachers Association, California State Parent Teacher Association and Facebook CEO Mark Zuckerberg to dismantle major portions of Proposition 13. This would have impacted all energy sites in California.

Presidential Election 2020: Will California Play a Role on Energy Appointments?

The lobbying for appointments to the incoming Biden Administration is in full swing. What is California's likely role? Many who are high on lists of consideration for cabinet level appointments to the new administration have roots or direct connections to California.

Biden's 47 years of government relationships with political operatives and elected officials means he has a long list of possibilities when he looks to fill Cabinet posts and White House jobs, including those who may end up in the Vice President's office. Here are some of the names in the running:

Energy

- Ernest Moniz, a nuclear physicist who served as President Obama's Energy secretary, has served as an informal adviser to the Biden campaign on energy issues. Moniz's ties to the fossil fuel industry, including serving as an independent director on the board of utility owner Southern Company, worry climate change activists on the left. His unanimous confirmation as energy secretary in 2013 could make him a no-drama pick although some Republicans could oppose him given his prominent role in negotiating the Iran nuclear deal during the Obama administration.
- Elizabeth Sherwood-Randall, another Energy Department veteran, is also close to Biden and is considered a legitimate contender for the Cabinet job. Randall served as deputy secretary of energy during Obama's second term, as well as White House coordinator for Defense Policy, Countering Weapons of Mass Destruction, and Arms Control. She is now a professor at the Georgia Institute of Technology.
- Arun Majumdar is best known in Washington, D.C. as the founding leader of the Advanced Research Project Agency - Energy, making it a permanent fixture in the federal government. He later became acting under secretary of the Energy Department under then-Secretary Moniz. During the Trump administration, he did a stint at Google as vice president for energy, before joining the faculty at Stanford University.

The appointments will take months to make in some cases, but some of these may be made soon. WPTF will be monitoring and keeping the membership up to date on these as they happen.

MEXICO COMMITTEE

Rajan Vig

The WPTF Mexico Committee Consultant is Rajan Vig. Rajan started his career in strategy consulting with FTSE 100 companies, working at WPP Group in London before working at private equity firm, Hamilton Bradshaw, where he began his consulting focus on commodities. He moved to Houston in 2014 to found an energy human capital consultancy within Sir Peter Ogden's portfolio, where he oversaw the build-out of commercial energy businesses across oil, gas and renewables into emerging markets across the Americas, specifically Mexico and the Southern Cone. Most recently, Rajan started and ran BioUrja Trading's office in Mexico City, managing the company's implementation across trading and origination in Mexico across fuels, gas and electricity. Rajan has a BA (Hons) in Modern Languages (Spanish & Italian with Portuguese) from the University of Manchester and an MSc in Latin American Studies (Economics & Politics) from Oxford University.

Hydroelectric Power

Mexico's President Andrés Manuel López Obrador (AMLO) has repeated promises to

prioritize hydropower in the dispatch order conflicting with the complex process of managing water resources in Mexico. The concern remains as to whether the technology he wishes to implement is feasible and whether there are even the funds in 2021 available to see the government's plan through.

AMLO said publicly in press conferences in early November that he would mandate power market operator CENACE to permanently dispatch four southeast hydropower plants to stop ongoing flooding issues in his beloved home state of Tabasco. If implemented, it would include hydropower plants at Angostura, Chicoasen, Malpaso and Penitas.

The process of dispatching hydropower in Mexico is not straightforward, however. It requires regular communication and logistics between CENACE, Federal Commission of Electricity (CFE) and CONAGUA (Water Commission). This is because CONAGUA must prioritize the use of the associated water resources among competing uses outside of power dispatch that include natural disasters and water flow, use of water for irrigating farmland and of course, population requirements.

These plans have not come without setbacks and local issues though: Tabasco's Governor Adan Augusto Lopez took legal action against CFE for allegedly mismanaging hydropower assets in a way he alleged was a threat to public safety as it has resulted in flooding in the state.

CFE rang in changes

The CFE rang the changes in late August as it aimed to portray itself in a new light. According to Manuel Bartlett Díaz, the Head of the CFE, and an absent figure for many months since the pandemic began, the state entity appointed Edmundo Sánchez Aguilar as the new Corporate Director of Finance, replacing José Antonio Rojas Nieto.

"It is due to a strategic change in the management of the CFE whose business model has diversified and today, it is not only a company in charge of generating, transmitting and distributing electricity," the statement read.

The document released also discussed that the activities of the CFE have broadened and now involve the import, transport and sale of gas through its subsidiary CFEnergía.

Sánchez Aguilar's hire is clearly a strategic one as indicated by CFE officials but I struggle to understand the justification for the change being differing responsibilities. The marketing and trading arm of CFE – CFEnergía – was created during the previous administration earlier on during the implementation of the Energy Reform so the explanation of this replacement remains dubious. This could be a real signal by AMLO's team that they plan to expand and invest more heavily in its marketing arm and this hire displays their desire to take bigger risks and positions in the gas markets.

Legal Battles

Private power sector companies active in Mexico are expected to continue taking legal action in the weeks ahead against the federal administration's latest regulatory changes. Companies challenging the MORENA administration before Mexico's Supreme Court have had some success in receiving temporary suspensions against regulatory changes deemed out of the administration's authority to amend. The regulatory changes are many. For examples, under AMLO, long-term power and transmission line auctions were cancelled in early 2019. Also, around the same time, energy ministry SENER amended the rules overseeing the strict legal separation of state-run utility CFE causing conflict in the private sector as it demonstrates potential internal bias.

Government Stanc

Rocío Nahle, the head of SENER, has been bullish about pushing the MORENA energy agenda in the public eye also over the past few months. She even said the administration would push for a constitutional energy reform if the Supreme Court rules against its so-called grid reliability policy. Nahle's remarks made in a late October Senate energy committee hearing are in line with earlier comments made by the President following the court's decision to uphold a suspension against the controversial reliability policy. Nahle and AMLO affirmed the administration's intention to boost state-run power utility CFE under the current legal framework but they said they would contemplate a counter-reform if existing legislation does not enable them to implement their desired policies. This has been a contentious issue as it is the first time the government has even alluded to the potentiality of a counter-reform; a topic it denied it would pursue until recently. The legal framework surrounding the Energy Reform is solid and institutionalized in nature making these types of comments sound more like a defense of their desired plans than carrying much legal recourse.

Gas Infrastructure

Several natural gas pipeline projects are ongoing. One of Canadian energy infrastructure builder TC Energy's pipeline has progressed well and is set for completion early next year, while the outlook for the other remains uncertain, based on the company's third-quarter earnings. Construction of the Villa de Reyes project is ongoing, with the first half of 2021 set as its expected in-service period.

Two of the largest projects both in terms of size and investment entail the construction of pipelines in the southern region. One of them, the Jaltipan-Salina Cruz pipeline, would span 247km across the Tehuantepec Isthmus. Although not a novel idea, it is a key component of the development plan for the Isthmus – a landmark project of the administration, which President Andrés Manuel López Obrador unveiled at the start of his presidential campaign.

In addition to supplying a future trade corridor and the existing oil refinery at Salina Cruz port, the project would also serve as a complement to the LNG export project the government recently announced for Salina Cruz.

Meanwhile, the Prosperidad pipeline would link Ixtepec, in the state of Oaxaca, with Tapachula, near the Guatemalan border. Construction of the 355km pipeline would be developed by a private party and conditioned on a future open season for Jaltipan-Salina Cruz.

Natural Gas 5 Year Plan

Mexico's 2020-2024 five-year natural gas planning document known as Plan Quinquenal

prioritizes the administration's objective of boosting the development of the country's southern region. The document published by SENER on November 5th is perhaps more limited than the one previously released according to the number of projects, as well as a couple large projects with unclear prospects that were included.

The plan has eight projects, most of them involving infrastructure to increase gas pipeline capacity, such as headers, compression stations and measuring and control equipment. The total investments required for the works are estimated at $1.3B.

The vast majority of projects in the plan are in the pre-construction stage, but others such as the Leona Vicario hub have made initial progress with the launch of tenders, according to information CENAGAS, the system operator, has previously released.

CFE Financial Gains

CFE said the revenues it achieved in the first nine months of 2020 were offset by a weak economy and other external factors, although a government audit revealed numerous structural and governance issues deemed in unprofitable in 2019.

Mexico's Audit Office (ASF) published its evaluation of CFE's efficiency and profitability that revealed ongoing issues as well as a reduced carbon emissions footprint by 9% in addition to increasing its renewables generation by nearly 8%. The report, published on October 30, also said the risk associated with CFE's governance "continued materializing" and that in 2019, the company did not update its business plan. ASF said updating a plan was imperative to mitigating financial and operating risks, along with establishing greater transparency and accountability.

The government has a tendency to implement and try to ring changes in legislation during the holiday period. This was the case last year and so we shall be watching the next couple of months closely.