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California Air Resources Board
1001 I Street
Sacramento, CA 95814

Submitted online

Subject: American Clean Power (ACP) – California Comments on the 2022 Scoping Plan Update – Electricity Sector Technical Workshop

Dear Ms. Sahota,

ACP-California appreciates the opportunity to participate in the Scoping Plan process and respectfully provides these comments on the 2022 Scoping Plan Update – Electricity Sector Technical Workshop, held on November 2, 2021.[1] ACP-California offers the following recommendations in response to this workshop:

1. Develop scenarios that are appropriately ambitious, actionable, and consistent with realistic development timelines. It is better for the Board to plan aggressively to drive deeper emissions for the electricity sector and to succeed than to set insufficient targets and not have time or ability to course-correct in several years. The Report should recognize the role that the electricity sector has already had in reducing California's greenhouse gas emissions while growing the economy and providing

[1] The American Clean Power Association (ACP) is the voice of developers from across the clean power sector that are providing utility scale clean capacity and transmission while creating jobs, spurring massive investment in the American economy, and driving high tech innovation across the United States. ACP's mission is to transform the U.S. power grid to a low-cost, reliable, and renewable power system. ACP-California is the state project of the national organization and shares this mission with an eye toward California's market and policy venues.

affordable, reliable power to Californians. The Air Resources Board should build on this success by setting aggressive targets for deep sectoral emission reductions in the resource portfolios.

2. Address the reality that GHG reductions in the electricity sector will require a significant build-out, not only of clean and renewable generation, but also of transmission infrastructure. California's state agency processes have not sufficiently addressed a backlog of transmission upgrades that will be necessary to deliver affordable clean power to California consumers over the next several years and into the next decade.
3. Signal the need for more renewable diversity over the next decade and develop signals to drive procurement of those resources in the near-term.

DISCUSSION

1. The Scoping Plan Is a Critical State Policy That Guides the CPUC and CEC's IRP Proceedings.

ACP-California appreciates the opportunity to comment on the 2022 Scoping Plan Update. It is of critical importance that the State account for the perspective of clean capacity developers who have unique perspsectives and insights into the development hurdles of reaching carbon nuetrality by 2045. The Scoping Plan sets important precedent and direction for policies at every level for California, especially in implementing programs under the the California Public Utilities Commission's ("CPUC") purview. In particular, the modeling in the Scoping Plan based will inform the greenhouse gas emission limits that are set by the CPUC Integrated Resource Planning Proceeding ("IRP"). The CPUC utilizes the IRP proceeding to direct Investor Owned Utilities, Community Choice Aggregates, and Energy Service

Providers'(collectively, Load Serving Entities or "LSEs") capacity expansion plans, including the composition of their resource plans, as well as the pace and scale of the anticipated build out of new clean capacity.

It is important that the State sets a clear and achievable policy goal for the build out of clean capacity and renewable energy. We applaud the ARB for taking SB 100 into account in the latest iteration of Scoping Plan modeling. Moving forward, ACP-California continues to encourage the ARB to keep the CPUC and various proceedings in mind when developing the Scoping Plan due to the weight the Plan carries in California's future.

The CPUC is currently planning towards a 38 MMT planning target as it completes the 2019-2021 IRP cycle. This "Preferred System Plan" scheduled for adoption in early 2022 may further refine procurement policies and inform longer-term transmission planning activities in the future, however it is likely to fall significant short of California's greenhouse gas emission reduction needs. Given the lengthy nature of the IRP and Transmission Planning Process, we encourage the ARB to work closely with the CPUC, CEC, and CAISO to drive deeper greenhouse gas reductions and to level-set planning targets that are shared as baseline inputs in myriad energy planning proocesses.

The ARB should work closely with the CPUC to ensure that the IRP modeling and associated procurement directives can be updated early in the 2022-24 IRP cycle such that the CAISO, load serving entities and developers have can properly plan to a 2030 target while there is still time for development activities. Planning and development activities must be determined quickly. A decision not to adopt updated planning requirements for the electricity sector's share of the 23 or 30 MMT target until the end of the 2022-2024 IRP cycle will put California far behind pace to reduce GHG emissions as needed to reduce the effects of climate change and meet SB 100's mandate for 100% renewable and zero-carbon electricity supplies.

2. The Scoping Plan Should take into Account the Development Timelines for Developing new Generation Capacity and Associated Infrastructure.

Acceleration of the IRP GHG targets, as noted by the energy agencies in the March 2021 SB 100 joint agency report to the Legislature would necessiate additional resources and on a different timeline.[2] ACP-California recomends that the ARB recognize the importance of establishing realistic timelines behind the call-to-action to build new clean capacity and associated transmission infrastructure. With the implementation of stringent timelines, LSEs must immediately begin the planning process for procurement of clean energy and capacity, and development of transmission infrastructure. We understand that the methods to meet the proposed goals include many moving parts and will occur on an unprecedented scale. There are ongoing and emerging considerations as we accelerate this build-out. The desire to meet the Scoping Plan's net carbon future is widely shared, but it is equally critial that the ARB also recognize the need to develop a methodology that accounts for the pace and scale of development needed to meet these unprecedented milestones. Infrastructure development can unlock clean energy potential throughout the U.S. and in California, but not without significant transparency, focus, and accountability from California's joint energy agencies.

ACP-California offers the following recommendations, described in greater detail in the attached document, to simultaneously accelerate near-term reliability and long-term clean energy deployment to meet greenhouse gas reduction targets.

- Designate someone within the Governor's Office to work directly with the CPUC, CAISO, and transmission owners, and hold the transmission owners accountable to facilitate infrastructure development to enable delivery of clean energy within the necessary timeframes.

[2] SB 100 Joint Agency Report: Charting a Path to a 100% Clean Energy Future, pp. 75-76, https://www.energy.ca.gov/sb100.

- Provide clear guidance to transmission owners to prioritize timely completion of projects already approved by the CAISO, particularly those awaiting minor permitting approvals.
- If transmission owners require additional resources to secure completion of these important transmission projects, provide funding (e.g., for engineering services) that will help ensure their successful and timely completion.
- Provide clear directives to the CPUC and CAISO to enable approval of additional transmission upgrades that do not require significant additional permitting and, if approved, could enable incremental clean energy development.
- Ensure that the CPUC support for the CAISO to plan and approve sufficient transmission for the 11,500 NQC MW of new capacity identified in the recent IRP Proposed Decisions.
- Improve the IRP process and assumptions to enable the approval of additional transmission and, thereby, significant new generation resources. Improvements should include:
    - Plan for a 38 MMT portfolio in this IRP cycle, and lower GHG reduction targets in future scenarios.
    - Develop renewable resource portfolios that are consistent with commercial procurement activities (e.g., do not assume that significant quantities of renewable resources will be "energy-only" and unable to provide capacity value; this is inconsistent with commercial realities and simply puts off decisions about future transmission investment).

- Study long-lead time resources, including offshore wind, long-duration storage, and green hydrogen, in the IRP and TPP, and tie the outcomes of the CAISO's 20-year transmission outlook into procurement activities.

3. Consider the Importance of Resource Diversity in the Face of Climate Change.

The SB 100 report suggests that California may need to build at least 48 gigawatts of new renewable energy and energy storage developments by 2030, and at least 145 gigawatts of new renewable energy and storage by 2045. It also notes that resource portfolio diversity, both technological and geographical, generally lowers total resource costs.

The ARB should account for the value of resource diversity by accounting for the development timelines for a more diverse portfolio and the timing of when new capacity can be available to meet the updated GHG targets. We urge the ARB, joint energy agencies, and the CAISO to continue to explore opportunities to facilitate implementation of California's greenhouse gas reduction strategy and 100% clean energy requirement in coordination with other western states.

Offshore wind is a critical resource for California's ability to decarbonize its electrical supply. AB 525, chaptered earlier this year, specifically finds that offshore wind can add resource and technology diversity to the State's energy portfolio while creating an opportunity to attract investment capital and to realize community economic development and workforce development benefits in California. The ARB should recognize the need for offshore wind to meet SB 100's renewable and zero-carbon electricity requirements, which was acknowledged in the SB 100 report. AB 525 underscores the state's need to advance the development of offshore wind to meet the state's renewable energy mandates, which was underscored by the Biden-Harris Administration and the Newsom Administration advancement of leasing activities for offshore wind projects under the jurisdiction of the Bureau of Ocean Energy Management.

Together, these leasing areas can accommodate roughly 4.6 MW as the first phase of offshore wind development in the state. The Bureau of Ocean Energy Management intends to conduct leases for the Morro Bay and Humboldt Wind Energy Areas in 2022 to initiate development over the next several years.[3] Incorporating offshore wind into the Pathways modeling within the next decade will create an avenue for development and not only fulfill the State's goals, and will also help meet the Biden-Harris Administration's ambitious goal of deploying 30,000 megawatts of offshore wind by 2030.

Conclusion

The State Energy Agencies have a challenge of satisfying legislative requirements that are necessary to address climate change, ensure reliability, guide the State through an equitable transition to clean power, and minimize costs to consumers. The Scoping Plan should recognize the need to reflect commerical realitites and economic opportunities associated with clean energy development. The Scoping Plans should be structured to provide market signals that are commercially meaningful and socially transformative. ACP-California appreciates the opportunity to comment on the pathway to decarbonization in the electricity sector.

Respectfully submitted,

/s/

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[3] https://www.boem.gov/renewable-energy/state-activities/california

Accelerating Transmission for Clean Reliability

Status of Renewable Transmission Development in California

Completion of transmission upgrades and expansion projects will be critical to near-term reliability and long-term decarbonization, facilitating delivery of renewable energy projects to Californians.

Many renewable energy projects available to serve California to meet near-term and mid-term reliability needs, as they are "shovel-ready" or in the late stages of project development. When facilitated by the completion of transmission upgrades, including upgrades that have minimal environmental impacts and do not require the acquisition of new rights of way, these renewable energy projects can unlock investments in clean power, providing real economic stimulus and reliable, clean capacity over the next several years.

This document describes three categories of transmission projects, based on readiness:

1. **CAISO-approved transmission upgrades (1,400-2,300 MW):** Transmission upgrades that have already been approved by the California Independent System Operator (CAISO), but which remain in various phases of siting, engineering, and construction by the relevant transmission owner (generally PG&E but may include additional upgrades from SCE and SDG&E). Collectively, these upgrades can enable 1,400 – 2,300 MW of renewable and battery storage projects in the near-term, assuming expedited approval. Several of these upgrades were initially supposed to be completed by 2020 but now face additional multi-year delays.
2. **Transmission upgrades pending regulatory approval (roughly 15,300 MW):** The CAISO and renewable energy industry have collectively identified a list of transmission upgrades which have not yet been approved in a CAISO transmission plan but are not expected to require extensive additional permitting. With support from the State and/or the California Public Utilities Commission (CPUC), these upgrades could be approved relatively quickly and would enable the build out of up to roughly 15,000 MW of incremental renewable energy capacity to support Resource Adequacy obligations, which are critically needed for mid-term reliability and can increase near-term economic development potential.
3. **Transmission upgrades and expansions requiring additional planning and approval:** In addition to the more near-term transmission solutions, ACP-California recommends a statewide transmission planning effort to appropriately consider and evaluate the transmission build out that will be necessary for California to achieve its climate goals. Unfortunately, the current loop of the Integrated Resource Plan (IRP) and Transmission Planning Process (TPP) does not enable full consideration of California's future transmission needs and has served to hinder the approval of new transmission lines. The State should initiate a process to study and approve transmission upgrades that can enable California's near and longer-term climate goals and support long-lead time resource development, including offshore wind.

Both the CAISO-approved projects and projects pending approval generally use existing rights of way and would not require transmission lines in new areas. Instead, they would upgrade existing transmission lines to carry more capacity. These projects could facilitate near-term renewable energy development, including the associated jobs and tax benefits.

Together these recommendations will facilitate transmission upgrades and new transmission build that is necessary for the State to achieve its climate goals and to spur economic development that is desperately needed.

1. Secure and accelerate CAISO-approved transmission upgrades.

One step that can be taken immediately and will provide real stimulus starting in 2021, is to ensure that transmission upgrades already approved by the CAISO move through the siting, engineering, and construction phases as soon as possible. Accelerating and securing these transmission upgrades will support near-term development of the associated renewable energy resources. However, some of these transmission upgrades are delayed and need to be prioritized by the California Public Utilities Commission and/or the transmission owner responsible for their completion.

Nearly a dozen transmission upgrades – located primarily in PG&E's system, can enable 1,400 – 2,000 MW of renewable and battery storage projects.[1] Renewable developers are ready to construct these projects when the transmission upgrades are secure. From an environmental/siting perspective, most of these projects are relatively benign "reconductoring" of existing transmission lines and substations, meaning minimal new right-of-way and minimal environmental impacts. The projects are currently in varied stages of the siting process. All these upgrades have been approved by either the CAISO generation interconnection process or the CAISO transmission planning process. The funding mechanisms for the upgrades are already established and well understood.

Regulatory action is necessary to prioritize these projects and ensure they are completed in a timely manner so that they can unlock renewable energy development in the near-term.

Action Items:

1. Work with CPUC CEQA staff and PG&E to identify options for responsible acceleration of completion of these projects.
2. Ensure that transmission owner (in this case, PG&E) has sufficient engineering resources to maintain and, where possible, accelerate the engineering phase of the projects and begin construction as soon as possible.
3. Provide funding to support additional resources the transmission owners may require, such as funding for engineering support.
4. Provide firm direction that transmission owners should prioritize timely completion of transmission upgrades needed to facilitate renewable energy development, including highlighting the construction jobs and renewable energy projects that will be supported by completion of these upgrades.

[1] Projects identified through review of PG&E's AB 970 report from Q3 of 2020 and industry review of interconnection studies. Further review of other utility AB 970 reports will likely add to the total number of projects that can contribute reliable, clean power in the near-term and medium-term.

2. Facilitate approval of transmission upgrades that do not require additional permitting.

CAISO identified five projects using information from the Generator Interconnection and Deliverability Allocation Procedures (GIDAP) study process. These upgrade projects have not yet received approval via the CAISO transmission planning or generator interconnection process, however several of them are included in the 2021-2022 TPP based on scenarios provided by the CPUC in D.21-02-008.[2] Like the CAISO-approved upgrade projects described above, however, these projects would also have minimal environmental impacts and are not expected to require extensive additional permitting as they are generally upgrading transmission facilities that already exist. If the transmission upgrades are approved, ACP-California estimates they could enable the near-term development of up to roughly 15,000 megawatts of new renewable and storage capacity to support Resource Adequacy requirements and reliability in the state. To accelerate these transmission projects and the generation development they can enable, their approval in the CAISO TPP needs to be expedited.

The State should accelerate the planning and procurement processes needed to approve these transmission upgrades. Upon CAISO approval of these lines, these projects should move forward quickly into the development and construction phases.

Action Items:

1. Support TPP approvals of to support the full 11,500 NQC MW of need by 2026, as identified in recent proposed decisions on mid-term reliability. This update will set the CPUC and CAISO on a more appropriate glidepath for transmission upgrades and expansions that will be necessary in the next several years and will enable the approval of these transmission project through the CAISO's policy-driven transmission planning efforts.
    a. Critically, ensure the resources enabled by these resources are conveyed as Full Capacity Deliverability Status (FCDS), so that the capacity benefits they provide are appropriately considered in the Transmission Planning Process.
2. Work with the CPUC and CAISO to ensure CAISO approval of priority transmission upgrades in the 2021-2022 and 2022-2023 TPP to enable design, permitting, and construction of transmission projects in time to bring associated clean capacity online.
3. Make a policy case for offshore wind.
    a. A clear policy case from the State will enable the CAISO to preserve deliverability rights at Diablo Canyon for the unique resource.

3. Enable new transmission development via longer-term, more integrated planning processes.

[2] CPUC Decision 21-02-008. Date of Issuance 2/17/2021.
https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M366/K426/366426300.PDF

The goal of the Renewable Energy Transmission Initiative (RETI) was to examine where potential new renewable energy generation could be developed and assess what transmission upgrades may be needed to deliver clean renewable energy to California's load centers. RETI 2.0, initiated in 2015 and completed in 2017, updated and expanded upon the insights gained during the first RETI process, including a review of data regarding the resource potential, costs, and benefits of renewable energy resources throughout California and the western United States, while offering information regarding the ability of the existing transmission infrastructure to access these resource areas.

The CAISO 20-year transmission outlook initiative should be designed to feed back into other regulatory processes at the CPUC and CEC, and to incorporate reliability needs, commercial information, and connect those with longer- term reliability, affordability, and decarbonization objectives. This new effort will rightfully include assessments of both western regional transmission and other long-lead time resources that could help with resource portfolio diversification and renewable integration, such as offshore wind and long-duration storage. To begin to take immediate action on long-term resources, the study should produce near-term actionable recommendations for the agencies, balancing areas, and load-serving entities.

Additional long-term transmission planning exercises, like the 20-year transmission outlook, will result in more integrated procurement and infrastructure planning, setting the state up to achieve longer-term requirements.

Importantly, longer-term transmission planning exercises should include provisions that will help ensure that beneficial and necessary transmission expansion projects can proceed with approval, permitting and construction, as well as better alignment with statewide procurement.

Recommended actions to align long-term transmission planning with procurement:

1. Begin to study and approve transmission associated with long lead-time resources early.
    a. The 2022-2023 TPP should include offshore wind in the base case to enable CAISO to consider moving transmission projects to support OSW forward to approval and to align with offshore wind procurement and development.
2. Set basic requirements for outcomes of long-term transmission planning. The State should require that the analysis provide a path to 2030 and 2045 greenhouse gas reductions at lowest cost by enabling delivery of a specific amount of renewable generation in both the near-term and longer-term (e.g., 10 GW by 2025, and assessment out to SB 100 2045 objectives).
    a. Ensure that the analysis extends out to 2045 to assess achievement of the state's 100% clean energy goals and facilitate analysis and approval of long-lead time transmission development, including those necessary to support offshore wind and other diverse clean energy resources, such as green hydrogen and long-duration storage.
3. Assess transmission solutions using a cost-benefit analysis to determine which options offer an overall net benefit. The range of benefits assessed should be broad and include lower resource procurement costs, increased resource adequacy, enhanced reliability, and other benefits.
    a. To ensure the transmission projects that are identified as beneficial proceed to the CAISO for approval, the CPUC should be directed to assume these projects are already

"planned" in the IRP modeling efforts. This assumption will ensure that as the IRP portfolios are selected, the renewable energy enabled by the transmission solutions recommended by the longer-term transmission planning process are available to the model without the imposition of the cost of new transmission. The resulting renewable resource portfolios should be conveyed to the CAISO so that CAISO can approve the transmission solutions as policy-driven solutions.

4. Build a procurement opportunity into the process to ensure that the quantified benefits of the transmission solutions identified in long-term transmission planning activities are accurate.
    a. After identifying possible transmission solutions, the State agencies and/or Load Serving Entities should conduct informative procurement processes. Resources that are enabled by the new transmission build out, could submit pricing offers. The procurement process could also include resource that do not require new transmission. The pricing information provided may enable the comparison of the cost of procurement with and without various new transmission solutions to validate the benefits of each potential transmission solution.
5. Create a funding mechanism where the State will fund transmission solutions that are identified.

Summary of Recommendations to Accelerate Transmission Development and Enable Renewable Energy Deployment

- Designate someone within the Governor's Office to work directly with the CPUC, CAISO, and transmission owners, and hold transmission owners accountable to facilitate infrastructure development to enable delivery of clean energy within the necessary timeframes.
- Provide clear guidance to transmission owners to prioritize timely completion of projects already approved by the CAISO, particularly those awaiting minor permitting approvals.
- If transmission owners require additional resources to secure completion of these important transmission projects, provide funding (e.g., for engineering services) that will help ensure their successful and timely completion.
- Provide clear directives to the CPUC and CAISO to enable approval of additional transmission upgrades that do not require significant additional permitting and, if approved, could enable incremental clean energy development.
- Ensure that the CPUC support for the CAISO to plan and approve sufficient transmission for the 11,500 NQC MW of new capacity identified in the recent IRP Proposed Decisions.
- Improve the IRP process and assumptions to enable the approval of additional transmission and, thereby, significant new generation resources. Improvements should include:
    - Plan for a 38 MMT portfolio in this IRP cycle, and deeper GHG reduction resource portfolios in future scenarios.
    - Develop renewable resource portfolios that are consistent with commercial procurement activities (e.g., do not assume that significant quantities of renewable resources will be "energy-only" and unable to provide capacity value; this is inconsistent with commercial realities and simply puts off decisions about future transmission investment).
    - Study long-lead time resources, including offshore wind, long-duration storage, and green hydrogen, in the IRP and TPP, and tie the outcomes of the CAISO's 20-year transmission outlook into procurement activities.