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*Additional submitted attachment is included below.*



August 11, 2021

California Energy Commission  
715 P Street  
Sacramento, CA 95814

*Submitted online*

**Subject: American Clean Power (ACP) - California Comments on the July 22, 2021 Joint Agency Workshop on Next Steps to Plan for Senate Bill 100 Resource Build: Transmission**

ACP-California is pleased to provide these comments on the Joint Agency Workshop on Next Steps to Plan for Senate Bill 100 Resource Build: Transmission.<sup>1</sup> California's SB 100 goals will require the development of unprecedented amounts of new carbon-free capacity.<sup>2</sup> These comments discuss the following transmission-related points:

1. The urgency of processing near-term, CAISO-approved transmission upgrade projects in order to provide near-term reliability and clear the decks for future transmission planning, approval, and development;
2. the importance of additional transmission planning and approval to satisfy mid-term reliability needs and facilitate the State's affordability goals; and
3. the need to expedite the process for longer lead-time resource and incorporating offshore wind ("OSW") transmission data into the RESOLVE model as soon as possible.

We also provide as Attachment 1, ACP-California's recent whitepaper, *Transmission Advancement for Clean Reliability*. This document provides ACP-California's policy recommendations for how the CEC, CPUC and CAISO can advance new transmission solutions to address both reliability and GHG targets.

- 1. To improve transmission planning to achieve SB 100 requirements, California agencies must start at the beginning, by expediting approved interconnections and transmission upgrades.**

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<sup>1</sup> 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.

<sup>2</sup> See 2021 SB 100 Joint Agency Report, Charting a Path to a 100% Clean Energy Future, Figure 35, at p. 84 (March 2021) available at: <https://www.energy.ca.gov/sb100>.



As the attachment describes, roughly 5 GW of late-stage clean energy projects are currently awaiting interconnection and transmission upgrade approvals to deliver to California customers. Some of these transmission projects were approved as much as ten years ago, but not prioritized in recent years. Many projects are seeing delays of several years beyond estimated online dates communicated in transmission owner AB 970 reports and FERC Stakeholder Transmission Asset Review (STAR) process.

Despite nearly a year of trying to advance these projects through direct engagement with transmission owners, the CAISO, and agency leadership, little progress has been made. ACP-California strongly encourages the joint energy agencies to designate a coordinator to see these projects through to completion. It is also necessary that the joint agencies consider and address these interconnection and transmission upgrade bottlenecks as a first order of business in order to better understand transmission capability and needs in the mid-term and longer-term.

## **2. ACP-California Supports Longer Term Transmission Planning to Facilitate Delivery of A Diverse and Affordable Fleet of Resources and Greater Interconnection with the Rest of the Western Interconnect.**

Sound transmission development will play an integral role in meeting the State's GHG targets by connecting renewable resources to load and facilitating an increasingly regionalized transmission grid. While twenty years may seem distant, for transmission planners, it is rapidly approaching. Planning, permitting, financing, and constructing significant transmission projects in California can take up to ten years or even longer. Thus, if California is to have the transmission in place to meet its longer-term carbon reduction goals—which include very significant electrification of transportation on top of the renewable energy demand—it needs to engage in coordinated multi-agency long-term planning. Coordination of the longer term GHG target setting of the IRP and the TPP should occur as soon as possible (i.e., in the present IRP / TPP Cycle).

The agencies should also reaffirm the Garamendi Principles<sup>3</sup> as they apply to making the most efficient use of transmission corridors and “right sizing” transmission lines and making as much deliverability available as soon as possible. These concepts might also be extended to

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<sup>3</sup> Senate Bill 2431 (Garamendi, Chapter 1457, Statutes of 1988) enacted state transmission siting policies, known as the “Garamendi Principles”, which: 1. encourage the use of existing rights-of-way by upgrading existing transmission facilities where technically and economically justifiable; 2. when construction of new transmission lines is required, encourage expansion of existing rights-of-way, when technically and economically feasible; 3. provide for the creation of new rights-of-way when justified by environmental technical, or economic reasons as determined by the appropriate licensing agency; and 4. where there is a need to construct additional transmission capacity, seek agreement among all interested utilities on the efficient use of that capacity.



consider use of other existing energy infrastructure, such as natural gas pipelines. The agencies should consider how right-sizing correlates with the State’s long term climate goals. Transmission developers assume significant costs and spend considerable time in obtaining financing and regulatory approvals. These efforts are based upon a definition of the project size that must be made early in the development process. Once a commitment to constructing a transmission project at a particular voltage has been made, the opportunity to resize that same transmission project later becomes increasingly costly, time consuming, and potentially impractical. In many cases, the opportunity will be lost entirely once a commitment to a voltage level has been relied upon for financing, permitting, and planning.

Put differently, the cost of failure to hedge for uncertainty is particularly great in the context of transmission planning. Major transmission additions take many years to plan and permit; this is particularly true in California. Thus, needed but unplanned transmission cannot be built quickly as circumstances change. The opposite is not the case. Transmission that is planned, but later determined to be unnecessary, can easily be suspended prior to construction. Because the vast majority of transmission costs are incurred in the construction phase, stranded-cost risks are limited during the majority of the pre-construction portion of a typical transmission project schedule. Stated simply, transmission planning risks are asymmetric: a transmission plan is much more flexible downward than upward.

The ten-year planning horizon used in the TPP is a significant hurdle in providing transmission planning certainty and using transmission as a tool in achieving the 2030 Climate reduction target. While a ten-year planning horizon may be appropriate for certain transmission planning objectives – e.g., reliability needs, the ten-year planning horizon is too short to facilitate the achievement of long-term climate and renewable energy goals as identified in the IRP *and* the SB 100 processes. SB 100 planning is an opportunity to reaffirm the Garamendi Principles and encourage the CAISO to utilize a longer timeframe for planning and directing transmission to facilitate a more diverse fleet of resources and with greater connectivity to the rest of the Western Interconnect.

Affordability is also an important consideration in the question of developing a 20 year plan. Proactive planning for network transmission and deliverability solutions will enable customers to access a larger pool of generation resources and create more opportunity for the most cost effective, diverse capacity to serve customers. By enabling greater competition, transmission solutions can help facilitate total bill savings by providing greater competition and access to least cost generation solutions.

### **3. The State Should Plan for Offshore Wind Transmission Development Needs Through Its SB 100 Modeling and the 2019-21 IRP Cycle.**



In the CAISO, generation and transmission planning primarily occur through the integration of the IRP and TPP cycles. The current IRP cycle is coming to a close this year through the preparation of a Preferred System Plan. The next “PSP” won’t be available until the end of 2024. Thus, the closure of this IRP cycle represents a critical opportunity for the State to signal the need to plan now for transmission to access new technologies in untapped resource areas, such as high-capacity factor offshore wind.

ACP-California encourages the agencies to expedite the process for incorporating OSW TPP sensitivity results into RESOLVE as soon as possible. In particular, OSW transmission cost information should be used to inform the candidate resource selection in both the SB 100 and IRP modeling.

In sum, if the joint agencies truly wish to start planning for the future, the CEC, CPUC and CAISO must take the steps today to authorize new transmission in this TPP cycle. For transmission resources that are needed to deliver long-lead time resources, the “long-lead time” planning challenge is exponentially greater. Offshore Wind is a key example of this. The state should use the SB 100 process to create a mechanism for SB 100, IRP and TPP portfolios to rapidly catch up with new information, identified needs, and provide timely direction to the CAISO whether through the IRP or SB 100 results. We look forward to participating in this process and working with the State on cost-effective strategies to meet the 2045 carbon reduction targets.

Respectfully submitted,

/s/

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# **Attachment 1**

**American Clean Power – California**

*Transmission Advancement 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 – 2,000 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 3,100 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 the right directives 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 at least 3,100 MW of incremental renewable energy capacity, increasing 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.



# Accelerating Transmission for Clean Reliability



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.<sup>1</sup> 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.

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<sup>1</sup> 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.<sup>2</sup> 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 roughly 3,100 megawatts of new renewable and storage capacity. 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. Direct the CPUC to convey to CAISO an updated scenario that includes 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. Enable new transmission development via longer-term, more integrated planning processes.

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

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<sup>2</sup> CPUC Decision 21-02-008. Date of Issuance 2/17/2021.

<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M366/K426/366426300.PDF>

# Accelerating Transmission for Clean Reliability



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. 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.
2. 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.
3. 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.
4. 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 them 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 provides updated guidance and scenarios to 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 a 30 MMT resource portfolio 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.