



Submit comment on Draft 20-Year Transmission Outlook

20-Year transmission outlook

1. Please provide your organization's overall comments on the Draft 20-Year Transmission Outlook Feb 7, 2022 stakeholder call discussion: *

The Bay Area Municipal Transmission group (BAMx)¹ appreciates the opportunity to comment on the Draft CAISO 20-Year Transmission Outlook (20-Year Outlook, hereafter), dated January 31, 2022. The comments and questions below also address the material presented at the CAISO Stakeholder meeting on February 7, 2022. BAMx acknowledges the significant effort of the CAISO staff to develop the 20-Year Outlook.

In these comments, BAMx raises some major concerns about the skyrocketing CAISO transmission access charges (TAC) and the CAISO's financial fiduciary responsibilities to Californians and grid users. BAMx's comments should be construed as attempting to assist the State in its journey to achieve its climate goals and not as any opposition in taking the necessary steps. Further, BAMx recognizes that electric rates may continue to rise as a necessary outcome in achieving the State's climate goals. That said, it is imperative and incumbent on the CAISO to design and develop an appropriate and cost-effective electric grid to accomplish those goals.

In order to understand the TAC impact of the projects the CAISO management may recommend for approval as part of the current planning process, BAMx developed a High Voltage Transmission Access Charge (HV TAC) forecast for the period of 2023-2036. The HV TAC is expected to be approximately \$47/MWh in 2036 relative to the existing \$16.60MWh, a 190% increase in the 14-year timeframe. These HV TAC projections show the extraordinary impact building and paying for the projects proposed by the plan would have on the ever-increasing CAISO-wide HV TAC. Hopefully, it will motivate decision-makers concerning the construction of these facilities to avoid approving excessive transmission projects and be careful about the selected transmission cost recovery options.

BAMx strongly supports the CAISO analysis that distinguishes between those costs that are presumed to be recovered through the CAISO TAC and those that do not. BAMx supports concepts like the subscriber model. Besides reducing the impact on the TAC, it promotes cost causation as a recovery mechanism for those projects needed to deliver out-of-State (OOS) and offshore wind (OW) generation projects. BAMx believes such a mechanism ensures Load Serving Entities (LSEs) choose to buy power from the most cost-effective projects. Concerning OOS transmission projects, the 20-Year Outlook observes that the Sunzia and TransWest Express (TWE) projects are being developed on a subscriber basis. That is, without the need for recovery of costs through the TAC, to provide transmission service to resources seeking access to California markets.² BAMx believes that the subscriber model could apply to the remaining OOS projects. Besides promoting cost causation

¹ BAMx consists of City of Palo Alto Utilities and City of Santa Clara, Silicon Valley Power.

² 20-Year Outlook, p.55.

cost recovery for OOS projects, it also fosters cost recovery via OOS entities that may benefit from installing these projects.

BAMx requests that the CAISO provide valuable input on transmission cost, scope, and related environmental impact to the Bureau of Ocean Energy Management (BOEM) and encourage them to take those aspects into account as they refine their findings concerning Call areas which they prioritize for offshore leasing and development activities.

2. Comment on chapter 1 Introduction: *

The 20-year outlook provides:

- A process to develop transmission information responsive to supporting and informing the CPUC's Integrated Resource Planning processes, the CEC's Integrated Energy Policy Report and the joint agencies' SB100 efforts.³
- Longer-term context for and framing of issues in the 10-Year Transmission Plan

BAMx notes that the 20-Year outlook is not a tariff-based project approval process that focuses on project approvals. Instead, it is meant to engage with stakeholders in a more informal discussion.⁴ Therefore, we should not draw any concrete conclusions based upon the need for transmission development identified by looking at one specific future, i.e., SB100 Starting Point scenario, envisioned in the 20-year outlook.

3. Comment on chapter 2 Coordination with State Agencies: *

BAMx supports the joint agency coordination efforts in selecting the best options to meet the State's goals as laid out by SB 100, but emphasizes the need for transmission cost containment mechanisms to manage the sky-rocketing CAISO-wide transmission access charge (TAC) as outlined below.

4. Comment on chapter 3 Process and Inputs: *

No comments at this time.

5. Comment on chapter 4 Integration of Resources: *

BAMx acknowledges and appreciates the significant efforts undertaken by the CAISO in mapping solar resources to the specific substations within each of the transmission zones identified in the SB100 Starting Point scenario.

³ Senate Bill (SB) 100 establishes a policy that renewable and zero-carbon resources supply 60 percent of California's retail sales and electricity procured to serve all state agencies by 2030, and 100 percent by 2045.

⁴ 20-Year Outlook, p. 5.

6. Comment on chapter 5 High-Level Assessment: *

Need to Incorporate All Transmission Cost

The 20-Year Outlook has done a tremendous job at providing the cost estimates associated with different types of transmission, including upgrades to the existing CAISO footprint, OW integration, and OOS wind integration. However, we believe the 20-Year Outlook is missing the costs associated with some system upgrades required for starting point generation interconnection, such as the Wheeler Ridge –Kern 230 kV DCTL Project and the Kramer –Victor –Lugo Path Upgrade Project.⁵ More importantly, the 20-Year Outlook does not distinguish between “gen-tie” facilities and network facilities in accessing OW.

BAMx believes it would be helpful for the CAISO to classify the envisioned transmission by definitions used in the CAISO tariff. We believe those characterizations would be interconnecting customer interconnection facilities (or gen-tie) that connect the OW to appropriate onshore substations (points of interconnections) and other transmission facilities required to achieve an economically justified distribution of the new wind resources throughout the CAISO grid. We believe the OW resources should connect to major onshore substations with rough equivalency to those major substations that connect OOS wind to the CAISO grid like Eldorado and Pinal Central substations. BAMx believes this methodology will help provide the proper signals to LSEs to select the economically efficient renewable resources to comply with the State's goals.

Need to Fully Understand the Extent of TAC Impact

The 20-Year Outlook does not include an estimate of future HV TAC at this time. Given the need to show the TAC impact of the projects the CAISO has recommended for approval as part of the current planning cycle, BAMx developed an HV TAC forecast for 2023-2036, as shown in the figure below. In this analysis, BAMx used the last version of the CAISO's TAC Estimating model developed for 2020-2021 Transmission Planning Process (TPP) and updated the model to include the CAISO January 01, 2022, TAC Rates (updated as of February 8, 2022). BAMx first added the projects CAISO has recommended for approval as part of the 2021-2022 Draft Transmission Plan.⁶ BAMx then incrementally added the transmission projects identified in the 20-Year Outlook⁷, namely \$10.4 billion of upgrades to the existing CAISO footprint, \$8.11 billion for OW integration and approximately \$9.95 billion for OOS wind integration⁸.

The 20-Year Outlook has identified the transmission cost for the SunZia project as **\$2.6 billion**. However, half of the project, i.e., 1,500 MW share of the 3,000 MW, is subject to the subscriber model. Therefore, only the remaining half of the project funded by the CAISO TAC, i.e., **\$1.3 billion**, should be considered. Also, as the Draft Plan states that the TransWest Express (TWE) project is being developed on a subscriber basis, without the need for the CAISO transmission plan approval, to provide transmission service to resources seeking access to California markets.⁹ In particular, out of the three segments of the TWE project, only half of the two segments would use a subscriber model. In other words, out of nearly \$2.18 billion, nearly **\$1.71 billion** would ultimately be recovered

⁵ 20-Year Outlook, pp. 37-38.

⁶ Draft Plan, pp.377-378.

⁷ 20-Year Outlook, p. 57

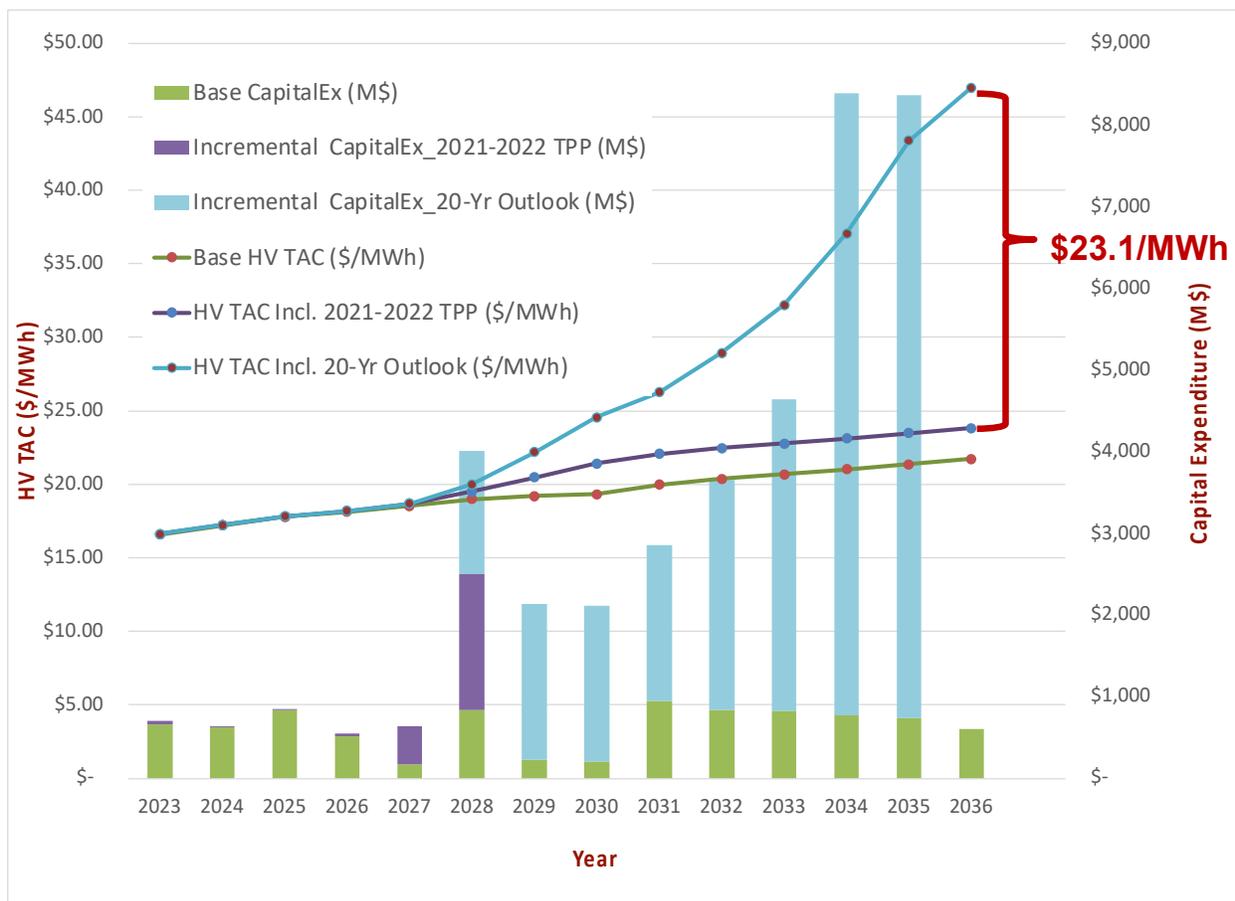
⁸ The amounts identified in 20-Year Outlook, p. 55-56 for TransWest Express were reduced by \$400 million, where the cost estimate for SunZia was reduced by \$1.3 billion.

⁹ Draft Plan, p.7.

from the CAISO ratepayers.¹⁰ Therefore, BAMx’s TAC projections assume the capital costs associated with the SunZia and TWE projects as **\$1.3 billion** and **\$1.71 billion**, respectively.

BAMx developed a preliminary HV TAC forecast for 2023-2036, as shown in Figure 1 below. In this analysis, BAMx used the last version of the CAISO’s TAC Estimating model developed for the 2020-2021 TPP, and updated the model to include the CAISO January 01, 2022, TAC Rates (updated as of February 8, 2022). The newly added capital expenditures associated with the transmission projects was based on the transmission projects found to be needed in the 2021-2022 TPP as per the Draft Plan¹¹ and for transmission development to integrate the resources in the SB100 Starting Point scenario as included in the 20-Year Outlook.¹²

Figure 1: Transmission Capital Expenditures and HV TAC Projections with CAISO 20-Year Outlook: 2023-2036



As shown in Figure 1 above, the HV TAC is expected to be as high as approximately **\$47/MWh** in 2036 relative to the existing **\$16.60/MWh**, a **190%** increase in the 14-year timeframe.¹³ These HV TAC projections show the extraordinary impact these projects will have on the ever-increasing

¹⁰ Draft Plan p. 306.

¹¹ Draft Plan, pp.377-378.

¹² 20-Year Outlook, p. 54-56.

¹³ This preliminary HV TAC forecast (first Y-axis) assumes a sample schedule for transmission upgrades (second Y-axis), as shown in Figure 1. It does not consider high electrification load projection by 2040 assumed in the 20-Year Transmission Outlook.

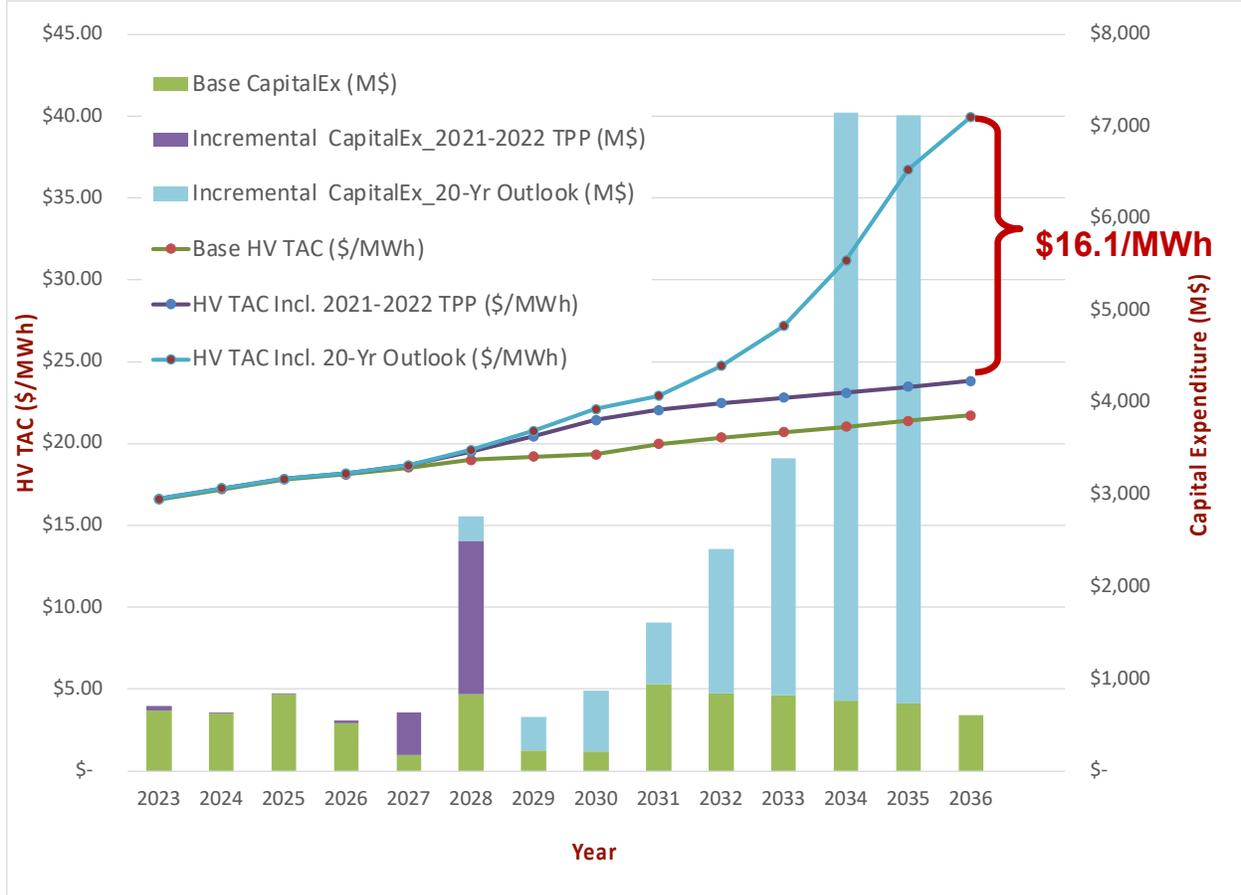
CAISO-wide HV TAC and further justify the need to avoid approving excessive transmission projects while identifying mechanisms, such as the subscriber model to soften the rapid TAC impact.

Need to Look into Transmission Cost Containment Mechanisms

As stated above, BAMx strongly supports the subscriber model to access OOS and OW. The economics of the OOS transmission should be based upon the Seller's ability to access existing transmission or purchase transmission from developers of that transmission. To perform a systematic comparison of the transmission cost impact of the OOS transmission, the following transmission cost allocation principles should be applied. The fundamental principle for cost allocation is that it should be allocated in a way that is commensurate with benefits. In particular, the LSEs within the Local Regulatory Authorities (LRAs) approving resource procurement that are benefiting from the OOS resources should pay for that transmission delivering those resources to the CAISO border. BAMx believes that having the supplier build in its cost of delivering its product to the CAISO will also improve its ability to deliver its product to the WECC-wide grid optimally. This mechanism ensures that buyers of the remote generation will have the transmission costs outside of the CAISO captured in the power purchase agreement (PPA) pricing. This will also help accomplish the first principle of FERC Order 1000, that is, costs are allocated in a way that is roughly commensurate with benefits. Broadly, LSEs voluntarily procuring resources using transmission should pay for the cost of delivery. Besides promoting cost causation cost recovery for OOS projects, it also fosters cost recovery via OOS entities that may benefit from having these projects built.

BAMx believes that the subscriber model should be applied to the remaining OOS projects and would have a tremendous positive impact in containing the ever-growing TAC. For example, as shown by Figure 2 below, if all transmission projects to access OOS wind envisioned in the 20-year outlook are subject to the subscriber model, nearly \$9.95 billion of transmission costs will not be recovered via CAISO-wide TAC. As a result, the projected CAISO-wide HV TAC in 2036 would reduce from **\$47/MWh** to **\$40/MWh**.

Figure 2: Transmission Capital Expenditures and HV TAC Projections Subjecting All OOS Transmission Projects to Subscriber Model: 2023-2036



And as we explore the need for the transmission to access OW, State policy-makers and decision-makers need to apply the subscriber model for transmission to access OW, which should also positively affect containing the TAC.

CAISO Should Promote Considering Transmission Cost and Environmental Impact To Influence the Process of Prioritizing Offshore Wind Call Areas

Development of wind energy areas on the Outer Continental Shelf (OCS) typically begins with the federal BOEM identifying potential OW planning areas or wind energy areas (WEAs), and then identifying and reaching out to stakeholders that may be affected in the vicinity of the potential WEA.¹⁴ The Task Force and stakeholder outreach process is used to refine the potential lease areas prior to issuance of the Call for Nominations and Information (Call) that is published in the Federal Register. The Call allows developers to document the interest in obtaining wind energy lease areas and for the public to comment on the areas and their potential concerns. The Call for the California planning areas was issued in October 2018, and multiple developers, local and state agencies, concerned industries and NGOs responded and provided their interests or concerns. Since that time,

¹⁴ Offshore Wind Industry Responses to Questions from Staff of the California Public Utilities Commission (Prepared by Offshore Wind California, American Clean Power – California, and Individual Companies) March 2021, p.13.

BOEM has continued its stakeholder outreach efforts and has conducted environmental analyses that will be used to support the next step, the preparation of a National Environmental Policy Act (NEPA) Environmental Assessment (EA) that has to be completed prior to a lease auction and before the formal federal permitting process can begin.¹⁵

In the past, there have been efforts to examine multiple transmission pathways to access the most viable routes from Central Coast and North Coast projects.¹⁶ However, they have not been as robust as the CAISO 20-Year Outlook that not only captures the multiple transmission pathways to access both Humboldt and Morro Bay/Diablo area OW resources, but also identify the additional in-CAISO infrastructure upgrades that are required to accommodate the OW. In particular, the CAISO's findings illustrate how dramatically different transmission costs could be. The CAISO has estimated the **6,000MW** of resources in the Diablo – Morro Bay OW area trigger the need for only **\$0.11 billion** of transmission upgrades, whereas only **4,000MW** of offshore wind in the Humboldt Bay would require as high as **\$5.8-\$8.0 billion** of transmission upgrades.¹⁷

BAMx requests that the CAISO provide valuable input on transmission cost, scope, and related environmental impact to the BOEM and encourage them to take those aspects into account as they refine their findings concerning Call areas which they prioritize for offshore leasing and development activities.

¹⁵ *Ibid.*

¹⁶ Offshore Wind Industry Responses to Questions from Staff of the California Public Utilities Commission (Prepared by Offshore Wind California, American Clean Power – California, and Individual Companies) March 2021, pp.23-26.

¹⁷ 20-Year Outlook, p. 55