March 25, 2026

Via Electronic Mail

California Public Utilities Commission (CPUC)
txfinancing@cpuc.ca.gov

Subject: **Comments of the Public Advocates Office on the CPUC's "Working Concepts in Transmission Financing and Ownership" Concept Paper in Support of Assembly Bill (AB) 3264**

I. INTRODUCTION

The Public Advocates Office at the California Public Utilities Commission (Cal Advocates) submits these comments to the CPUC's public input request regarding its issuance of the CPUC's "Working Concepts in Transmission Financing and Ownership" Concept Paper in Support of AB 3264.

AB 3264 (Petrie-Norris, 2024) established 913.10 of the Public Utilities Code, which requires the CPUC to issue a study with findings and recommendations to "reduce the cost to ratepayers of the expanding the state's electrical transmission grid."[1]

California's aggressive clean energy goals set by Senate Bill (SB) 100[2] sets a goal of 100% zero carbon energy generation by 2045. To meet this target, the CPUC increased renewable procurement targets and the California Independent System Operator (CAISO) states that new transmission will be needed to reach and accommodate the added renewable generation capacity.

As part of the CAISO's 20-Year Transmission Outlook, the CAISO estimates $30.5 billion dollars in capital transmission projects as a starting point for California to integrate the needed resources to meet its SB 100 goal.[3]

Using alternative financing approaches can lower the cost of transmission for ratepayers by reducing the cost of debt or return on capital transmission owners are approved to

[1] Assembly Bill (AB) 3264. (Petrie-Norris, 2024).
[2] Senate Bill (SB) 100. (De Leon, Statue 2018, Chapter 312).
[3] *20 Year Transmission Outlook,* CAISO, May 2022, p. 1.

recover from ratepayers. Reducing return on capital is achieved by either reducing the transmission owner's cost of debt or reducing return on equity.

Cost of debt can be lowered through various alternative financing options, such as tax-exempt municipal bond offerings or asset backed security offerings. Return on equity can be lowered by leveraging different capital structures for transmission ownership and shifting return on equity to cost of debt, which is typically less costly to ratepayers.[4]

Cal Advocates recommends further consideration of the following alternative financing mechanisms for California's electricity transmission infrastructure to reduce cost impacts on ratepayers. Though alternative financing alone cannot address the staggering transmission expenditures that are likely to receive Federal Energy Regulatory Commission (FERC) regulatory approval, alternative financing can act as a valuable wedge in a broader portfolio of cost reduction strategies for transmission expenditures.

Alternative financing mechanisms, such as public financing through securitization, tax-exempt revenue, and general obligation bonds, can lower cost of debt if the market for public bond investments is favorable. If using a public financing mechanism, the state may also be able to take partial or full ownership of developed transmission infrastructure or influence the debt-equity ratio of transmission capital, which can reduce ratepayer impacts as well.

II. Transmission Ownership Structures

A. Competitive Transmission Providers with FERC-regulated rates

Evidence suggests that competitive solicitation for transmission projects is a benefit to ratepayers. The Brattle Group, an energy consultancy, released a study on the cost savings of allowing developers to compete to develop transmission infrastructure (as opposed to defaulting these projects to the incumbent utility).[5] Brattle found that between 2013 and 2017, only 3% of nationwide transmission investments were subject to competition. The study estimated, partially based on competitive processes in Canada, Brazil and the United Kingdom, that competition could reduce the cost of transmission investments by 20% to 30%.

[4] FERC alone has the authority to set the return on equity, but total monetary amount that is recovered from ratepayers can be reduced if transmission owners hold less equity in transmission assets compared to the debt that is leveraged against those assets.

[5] *Cost Savings Offered by Competition in Electric Transmission*, The Brattle Group, April 2019.

The Brattle Group Report also stated that competition could drive the adoption of newer, more cost-effective transmission technologies. Brattle recommends expanding the number of transmission projects subject to competitive competition.

The criteria by which the CAISO determines if a project is eligible for competitive solicitation is determined by the CAISO Tariff and federal regulations. FERC Order 1000 removed the right of incumbent transmission providers to construct transmission facilities, but allowed exemptions that include upgrades or additions to existing facilities and "local" transmission facilities, which the CAISO defined as under 200 kV and entirely with the footprint of a transmission owner.

The California Public Utilities Commission has supported increasing the number of projects eligible for competitive solicitation in its comments on FERC RM21-17-000, stating that "many winning proposals have included binding cost caps or various cost control measures, such as return on equity ("ROE") caps and equity percentage caps, that 'will likely limit the cost increases to levels below those experienced by projects historically."[6]

Cal Advocates aligns with the California Public Utilities Commission in stating that voltage restrictions are arbitrary[7] and have unnecessarily harmed ratepayers[8]. Not only do these restrictions deprive ratepayers of cost savings, but research has shown that they inhibit the "price discovery" and transparency that the competitive process can provide.[9] In a competitive process, regulators and ratepayers no longer have to take incumbent providers at their word as to how much a transmission project should cost; they can see a range of bids.

FERC Order 1000 does not preclude the lowering or removal of voltage thresholds, and policies at other Independent System Operators illustrate that such changes can be beneficial. For example, the New York Independent System Operator (NYISO), does not have voltage restrictions and has seen a more robust competitive procurement process as a result. The ISOs in New England (ISO-NE) and in the Southwest (SPP) only exempt projects below 100 kV.

[6] RM 21-17-000, CPUC ANOPR Initial Comments at 27.

[7] RM 21-17-000, CPUC ANOPR Initial Comments at 4.

[8] RM 21-17-000, CPUC ANOPR Initial Comments at 37.

[9] "We estimate that overall cost savings of… 29% for CAISO would result from the competitive processes even if the competitively-developed projects were to experience percentage cost escalations similar to the historical experience with major transmission projects in these regions." Johannes P. Pfeifenberger et al., Brattle Group, Cost Savings Offered by Competition in Electric Transmission (April 2019) at 9.

Allowing more projects to be eligible for competitive solicitation would also help reduce the backlog of transmission projects at the California IOUs, a backlog that is undercutting California's clean energy goals.

B. Subscriber-Funded Rates

The Subscriber Participating Transmission Owner Model is an effective means of providing additional transmission capacity without increasing the Transmission Access Charge (TAC).

Under the subscriber model, revenue from ratepayers is not guaranteed, and the FERC does not approve a rate of return.[10] Per a 2013 FERC Ruling, "investors investing in merchant transmission projects assume the full market risk of development."[11] Essentially, the developer is responsible for financing, constructing, and maintaining a transmission line without guaranteed payment from ratepayers. The developer secures commitments and payments from utilities, other load-serving entities, or generators for a portion of that line's capacity. There is "no captive pool of customers from which to recoup the project's costs." Whether the project gets built depends on what the developer can offer to loads or generators, or whether the developer can self-finance the subscriber-based project.

The subscriber model benefits ratepayers by applying market pressure to a transmission sector that has enjoyed a high, guaranteed rate of return from captive ratepayers. The subscriber-based transmission model is an attractive alternative for funding transmission lines that are used to access out-of-state (OOS) and off-shore wind resources.

The subscriber model could be applied to any remaining OOS projects described in the CAISO 20-Year Outlook which could avoid the addition of nearly $10 billion dollars to the CAISO TAC. The subscriber-based model has the added advantage of not requiring California ratepayers to take responsibility for the full cost of a transmission line if the full capacity is not needed to fulfill policy or reliability goals.

Two such examples of subscriber-based transmission lines currently proposed to import OOS wind is the TransWest Express (TWE) Line and Sunzia Transmission system. TWE intends to join the CAISO service territory under the newly developed CAISO

[10] Owners of merchant transmission lines still file a tariff with the FERC and are FERC-regulated. They are bound to the reliability standards set by the North American Electric Reliability Corporation (NERC) and, if they are within the balancing authority area of a Regional Transmission Organization/Independent System Operator (RTO/ISO) they must operate under those standards and regulations as well.

[11] Final Policy Statement. Allocation of Capacity on New Merchant Transmission Projects and New Cost-Based, Participant-Funded Transmission Projects. Docket No. AD12-9-000. The Federal Energy Regulatory Commission. January 17, 2013.

"subscriber-based PTO" model. In this model, the cost of TWE will not be included in the CAISO TAC and will instead collect revenues from its subscriber (Power Company of Wyoming), which will then collect revenues from the off-takers based on a flat $/MWh subscriber charge.

The SunZia Transmission system is an approximately 552-mile, bi-pole, high-voltage direct current (HVDC) transmission line in New Mexico and Arizona with a transmission capacity of 3,021 MW and will connect generation resources in the Southwest with markets and customers in California and Arizona. The SunZia Transmission system will also connect to the CAISO Controlled Grid under its Subscriber PTO model by utilizing long term firm transmission rights across Arizona and will result in a non-contiguous addition to the CAISO Balancing Authority Area.

The subscriber model is an important tool to mitigate rapidly increasing transmission costs. If developed and integrated thoughtfully, subscriber-based lines can leverage private investment to benefit California ratepayers.

III. Potential Options for Achieving Transmission Cost Savings

A. How Can Transmission Costs be Reduced

There are many viable options to reduce the impact of transmission infrastructure on rates, including the following:

1. Encourage competitive solicitation for the buildout of transmission facilities.[12]
2. Exercise stronger oversight and cost control measures for transmission planning and construction by incumbent transmission owners.[13]
3. Institute binding cost caps for transmission projects.[14]
4. Fund transmission from outside electricity rates.[15]

[12] A study on competitive solicitation by Brattle Group showed an average reduction in project costs of approximately 30% for competitively solicited projects approved by the CAISO. *Cost Savings Offered by Competition in Electric Transmission*, The Brattle Group, April 2019, p. 27, Table 9.

[13] The CPUC has noted lack of effective oversight by the FERC (who has the sole jurisdiction over transmission cost recovery) for utility capital spending that does not augment the capacity of the bulk transmission system. These projects are referred to as "self-approved projects". *Utility Costs and Affordability of the Grid of the Future,* CPUC, May 2021, p. 40, Section titled "Increase in utility Self-Approved Projects."

[14] A study of 18 transmission projects approved by the CAISO showed an average final cost increase of 41% compared to the upper range cost estimate submitted to the CAISO. *Cost Savings Offered by Competition in Electric Transmission*, The Brattle Group, April 2019, p. 41, Table 18.

[15] Certain approaches to alternative financing may work in tandem with funding transmission facilities from outside utility rates.

5. Utilize alternative financing approaches to reduce borrowing costs and transmission owner return on capital for transmission investments.

IV. Considerations for Implementation

A. What are Alternatives to Traditional Transmission Financing

a. Public Financing

A state, county, municipality, or joint powers authority[16] may use public financing to secure funds required for public works projects or infrastructure. Public financing typically makes use of public bond offerings, which may have benefits, such as exemption from state taxes or lower interest rates than borrowing from a traditional financing institution. Public financing can work in tandem with other approaches to reduce transmission costs, such as changing the capital structure ratio of utilities, competitive solicitation, and stronger oversight of transmission spending.

i. Revenue Bonds

Many infrastructure projects are financed by the issuance of revenue bonds. There are variations on revenue bonds. Revenue bonds are often supported by the cash flow from a specific project, such as bridge tolls,[17] road tolls, or utility bills.[18] The California Department of Water Resources (DWR), for example, is almost solely financed by revenue bonds.[19] However, revenue bonds may also be repaid by levying a tax or fee on a particular activity or asset.

[16] Joint powers authorities (JPAs) are most common in California but are also used in other states. A JPA is an entity in which two or more public authorities (e.g., local governments, utilities, transportation districts) may jointly exercise any power common to all of them. Common uses of JPAs are to coordinate and manage activities crossing boundaries of member entities, or to combine commercial efforts to exercise market power. JPAs are distinct from each of the member authorities and are typically operated by boards of directors. These boards can be given any power common to all participating entities.

[17] *California Highways and Public* Works, Department of Public Works, November 1936, p.12. Available at: http://libraryarchives.metro.net/DPGTL/Californiahighways/chpw_1936_nov.pdf

[18] *Revenue Bond: Definition, Types and* Examples, James Chen, February 27, 2021. Available at: Revenue Bond Definition (investopedia.com)

[19] *State Water Resources Development System: Annual Comprehensive Financial Report for the fiscal years ended June 30, 2020, and 2019,* Department of Water Resources, April 29, 2021, p.4. Available at: State Water Resources Development System Annual Comprehensive Financial Report for the fiscal years ended June 30, 2020 and 2019 (bondlink-cdn.com)

Revenue bonds allow for potentially lower interest rates than private financing because the market appetite for the bonds will set the interest rate rather than the financial institutions which provide private financing to TOs. Lower interest rates will lower cost of financing, which should be passed through to ratepayers.

Legislation would be required to create a financing authority or other entity authorized to issue revenue bonds.[20] The most straightforward source of revenue to support the bond payments would be existing transmission cost recovery through utility rates.

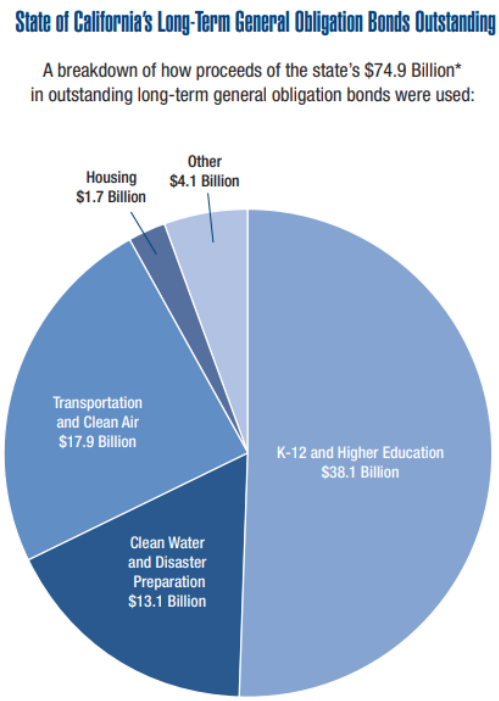
ii. General Obligation Bonds

Some infrastructure projects are fully or partially financed by the issuance of general obligation (GO) bonds. With a GO bond, the state takes on the amount financed by the bond as part of the state's general debt, backed by the state's taxing powers and a commitment of the state's full faith and credit to repay the bond.[21] Figure 3 shows the state of California's $74.9 Billion in outstanding long-term general obligation debt in 2016.

Many public infrastructure projects are financed by the issuance of public bond offerings. A high-profile infrastructure project funded partially by GO Bonds is the California High Speed Rail (HSR) project. Sources of funding for the HSR include Proposition 1A GO Bonds, but also billions of dollars in federal funds and continuous appropriations from the CA Greenhouse Gas Reduction Fund (Cap-and-Trade Program revenues).[22,23]

[20] Senate Bill (SB) 254 (Becker, 2025) establishes a Transmission Infrastructure Accelerator within the Governor's Office of Business and Economic Development (GO-Biz) to develop financing and development strategies for eligible clean energy transmission projects. To finance these projects, the bill creates the California Transmission Accelerator Revolving Fund within the California Infrastructure and Economic Development Bank (I-Bank), deeming such projects to be in the public interest and eligible for various forms of financial assistance, including bonds.

[21] Cal. Gov. Code §§ 16720 et seq.
[22] *Cap and Trade Program Website,* California Air Resources Board. Available at: https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program
[23] *Cap-and-Trade Regulation Instructional* Guidance, California Air Resources Board, September 2012, Chapter 1. Available at: https://ww3.arb.ca.gov/cc/capandtrade/guidance/chapter1.pdf



Breakdown of California's Long Term Outstanding GO Debt, as of June 30, 2016[24]

GO bond offerings above $300,000 are prohibited under the California state constitution without a majority vote.[25] The use of GO bonds at the scale of transmission costs would require a ballot measure, which creates a substantial implementation barrier.

Transmission required for offshore wind integration may be the most viable candidate to be funded by GO bonds. GO bonds require a ballot measure, which can be a significant implementation barrier. However, offshore wind is a discrete project and a public infrastructure project to reach the state's environmental goals, while bolstering the economies of coastal communities, workforce development, and supply chain growth. There may be enough interest in offshore wind to create the political momentum needed to pass a ballot measure.

[24] *A Citizen's Guide to General Obligation Bonds,* Office of the State Treasurer, 2016. Accessible at https://www.treasurer.ca.gov/publications/bonds101.pdf

[25] California State Constitution, Article XVI, Section 1. Available at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=CONS&sectionNum=SECTION+1.&article=XVI

While GO bonds may be the most attractive option, they represent a significant barrier due to the requirement of a ballot measure. The feasibility of GO bonds may hinge on the state's current budget outlook and the general state of the economy.

b. Securitization

Securitization is a financing process where assets are removed from a company's balance sheet, packaged into tradeable "asset-backed security" (ABS), and sold to buyers in a public offering. Securitization can be described in two general steps:[26]

i) Step One: Company with loans or other income producing assets (the Originator) identifies the assets it wants to securitize.
   (1) Originator removes the assets from its balance sheet and pools them into what is called the "reference portfolio."
   (2) Originator sells this reference portfolio to an issuer such as a special purpose vehicle (SPV) (an entity set up, usually by a financial institution) specifically to purchase the assets and realize their off balance-sheet treatment for legal and accounting purposes.

ii) Step Two: The SPV, or the Issuer, finances acquisition of the pooled asset portfolio by issuing tradable, interest-bearing securities that are sold to capital market investors.
   (1) The investors that purchase the securities receive fixed or floating rate payments from a trustee account funded by the cash flows generated by the reference portfolio.
   (2) In most cases, the Originator services the loans in the portfolio, collects payments from the original borrowers, and passes them on to the SPV or the trustee.

Securitization is a form of alternative financing that allows the transfer of credit risk (and possibly also interest rate and currency risk) from the issuer to the investor. Securitization also allows the immediate realization of funds for the value of the assets.

i. Utility Securitization

For utilities, the asset backing a security is the right of a utility to bill and collect a non-by-passable securitization charge from the utility's customers in its service territory. This charge will be in an amount necessary to generate cash flow sufficient to pay the debt

[26] *What is Securitization?*, Andreas Jobst, IMF Monetary and Capital markets Department, September 2008. Available at: Back to basics: What Is Securitization? – Finance & Development – September, 2008 – Andreas Jobst (imf.org)

service along with other financing costs of the transaction. This is unique to securitization by utilities and is referred to as a "statutory credit.".

The utility securitization industry is worth approximately $55 billion dollars nationally. Southern California Edison Company (SCE) and Pacific Gas and Electric Company (PG&E) have applied to the CPUC for authorization to securitize certain costs related to wildfire hardening.

Securitization bond offerings may attain lower than market interest rates for financing, depending on market conditions and investor appetite. Separation of the securitized assets from the other liabilities of the company may affect the attractiveness and perceived security of the investment as well, further lowering interest rates.

In 2020, the CPUC issued a financing order authorizing the issuance of recovery bonds for SCE, and in 2021, the CPUC issued a financing order authorizing the issuance of recovery bonds for PG&E. Recovery bonds were authorized to securitize certain costs related to wildfire hardening.

The statutory authority allowing for this securitization stems from California Assembly Bill (AB) 1054 and the California Public Utilities Code Section 850(a)(2). Legislation in the form of AB 1054 was required to allow the CPUC issue financing orders specifically for catastrophic wildfire costs.

SCE also conducted a revenue requirement analysis to show the cost impacts of securitizing the proposed assets. Due to the low interest rate and the anticipated maturity date of the structured bonds, SCE's analysis showed significant savings attainable through securitization. The total savings attainable through securitization (~$260M over time) and the net present value (NPV) of those yearly savings ($174M NPV). Securitization of transmission investments to reduce ratepayer costs could be addressed using a similar approach.

Securitization is a feasible financing measure that has been used in the past for financing utility wildfire safety hardening costs and securitized assets are typically excluded from the utility's return on equity. Interest rates attainable from the market for asset-backed securities should be compared to financing with revenue bonds.

Please contact David Peck at David.Peck@cpuc.ca.gov with any questions regarding these comments.

Sincerely,

/s/ Karin Hieta
Karin Hieta
Program Manager