

Western Transmission Expansion Coalition: Concept Paper for a West-Wide Transmission Plan

Comments of Public Interest Organizations

October 31, 2023

The following Public Interest Organizations (“PIOs”) submit comments in response to the Western Transmission Expansion Coalition’s (“WTEC”) Concept Paper for a West-Wide Transmission Plan (“Concept Paper”), published on October 2, 2023, by the Western Power Pool (“WPP”): GridLab, National Wildlife Federation, Natural Resources Defense Council, Northwest Energy Coalition, Western Resource Advocates, Rocky Mountain Institute, and the Sustainable FERC Project.

PIOs Generally Support this Effort

PIOs agree that the current transmission planning framework in the West is inadequate to meet the needs of today’s electric grid and that additional enhancements are needed to meet the needs of the future grid. We therefore offer our strong support for the WTEC initiating a stakeholder process that has the potential to yield critical improvements to the existing inadequate framework. In summary, we note and recommend the following in our comments:

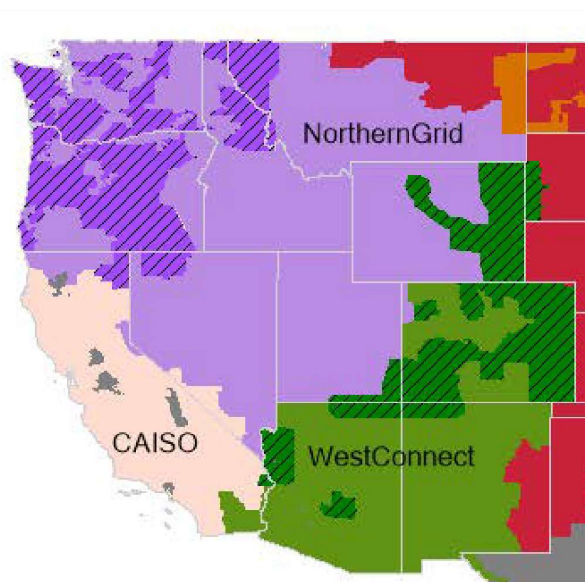
1. The current bifurcated transmission planning framework in the West is inadequate and has failed to produce the transmission infrastructure necessary to meet the demands of our future western grid.
2. A West-wide transmission plan must be actionable to address regional and interregional needs. PIOs propose certain criteria for the WTEC and the WPP to consider in ensuring that any final transmission plan is truly actionable.
3. To provide equitable and geographically diverse West-wide representation, as well as the opportunity for meaningful engagement by all stakeholders, the WTEC’s proposed governance framework and stakeholder process for developing the study should be modified.

The Current Transmission Planning Framework in the West is Inadequate

In the U.S. portion of the Western Interconnection, where a Regional Transmission Organization (“RTO”) or Independent System Operator (“ISO”) does not exist outside of California, transmission planning is bifurcated, with three Western Planning Regions (“WPRs”) – the California ISO (CAISO), NorthernGrid, and WestConnect – responsible for transmission planning and coordination across 37 Balancing Authorities.¹ Of these three WPRs, CAISO is the only one offering truly coordinated transmission planning.

¹ “Regional” versus “interregional” is not always straightforward for purposes of transmission planning, particularly in non-RTO/ISO portions of the country. For purposes of these comments, PIOs refer to “regions” or “regional” planning to include the three footprints represented by the Order 1000 Western Planning Regions. Additionally, PIOs refer to “interregional” when discussing transmission planning that occurs either between these regions or across the entire western footprint.

Figure 1: Western Planning Regions²



Outside of California, the West’s WPRs primarily engage in a “check-the-box” exercise to comply with FERC Order 1000’s requirements related to transmission planning and cost allocation. This has resulted in NorthernGrid and WestConnect conducting what is known as “bottom-up” transmission planning by “rolling up” and consolidating their individual member utilities’ transmission plans to produce regional plans (rather than conducting “top-down” transmission planning, where these WPRs would instead proactively identify transmission needs across the region and then determine whether member utilities’ plans meet those needs). Additionally, while regional plans may be shared and discussed amongst the WPRs, there is no formal interregional transmission planning taking place across the western footprint.³

The Western Electricity Coordinating Council (“WECC”), as the Western Interconnection’s Regional Entity, also plays a role in this fragmented transmission planning story, but its role is somewhat limited. In short, WECC houses the Anchor Data Set (“ADS”).⁴ The ADS reflects applicable state and federal public policy requirements and is designed to include loads, resources, and generator-specific information compatible with production cost and power flow models to support NERC-required transmission planning assessments. Once completed, the ADS should reflect a West-wide view of loads, resources, and transmission for a Year-10 planning horizon and is designed to be the common starting point for Order 1000-related analysis by the West’s WPRs. While WECC compiles the dataset, its accuracy is dependent on the quality and consistency of data provided by each of the WPRs, but data validation practices remain unclear.

Given this fragmented planning framework, it is therefore perhaps not surprising that under today’s model, mostly intrastate transmission is being built by individual utilities, which generally is not as

²Americans for a Clean Energy Grid, Transmission 101, Transmission 101 Factsheet (2023), https://cleanenergygrid.org/wp-content/uploads/2023/05/Transmission_101_Factsheet_2023.pdf.

³FERC Order 1000 encouraged the Regional Planning Groups to coordinate interregional transmission planning, but fell short of mandating the development of interregional transmission plans.

⁴Western Electricity Coordinating Council, Anchor Data Set (ADS), WECC Reliability Modeling, <https://www.wecc.org/ReliabilityModeling/Pages/AnchorDataSet.aspx>.

effective as larger scale, interregional transmission lines.⁵ This model also provides little to no competitive opportunities to incentivize the construction of new and necessary transmission. To underscore the ineffectiveness of the current framework, Americans for a Clean Energy Grid (“ACEG”) recently released their “Transmission Planning and Development Regional Report Card”, assigning the following grades to the West’s WPRs:

Figure 2: ACEG Grades for Western Planning Regions⁶

Western Planning Region	Assigned Grade
CAISO	B
NorthernGrid	D
WestConnect	D-

In reaching its conclusions, ACEG relied upon the following metrics for assessing transmission planning and development performance: (1) planning methods and best practices; (2) miles of transmission built and future transmission plans; (3) transmission capacity available for new resources; and (4) congestion.⁷ Seeing opportunity for substantial improvement (and emphasizing a number of shortcomings with the current process as highlighted in ACEG’s report), a coalition of Western PIOs submitted joint comments in response to FERC’s May 2022 Regional Transmission Planning and Cost Allocation NOPR, supporting FERC’s proposed changes to long-term interregional transmission planning for the West.⁸

A West-Wide Transmission Plan Must be Actionable to Address Regional and Interregional Needs

The concept paper proposes to develop an “actionable” transmission plan, noting the following:

The plan will be built upon a comprehensive analysis that includes economic studies (production cost modeling), actual physical operations of the system that meets NERC reliability standards, and operational flexibility (inclusive of a full contingency analysis), and that is implementable with a high degree of confidence. An independent consulting firm will be hired to conduct the analysis, with the goal of producing a West-wide transmission plan that includes a 20-year outlook.⁹

⁵ Where interstate or interregional projects are being built, they are moving forward outside of the West’s Order 1000 transmission planning process. Examples include PacifiCorp’s Energy Gateway Transmission Expansion Program, Pattern Energy’s SunZia transmission project, and the Anschutz Corporation’s TransWest Express transmission project.

⁶ Americans for a Clean Energy Grid, *Transmission Planning and Development Regional Report Card* (June 2023), https://www.cleanenergygrid.org/wp-content/uploads/2023/06/ACEG_Transmission_Planning_and_Development_Report_Card.pdf.

⁷ *Id.* at 6.

⁸ Public Interest Organizations Comments on Advance Notice of Proposed Rulemaking, Building for the Future Through Electric Transmission Planning and Cost Allocation and Generator Interconnection Regional, Docket No. RM21-17-000, 176 FERC ¶ 61,024 (2021).

⁹ Western Transmission Expansion Coalition, *Concept Paper for a West-Wide Transmission Plan* 2, 7 (October 2, 2023), accessed at: <https://www.westernpowerpool.org/news/wpp-reveals-concept-for-transmission-planning-grou>.

PIOs strongly support an actionable West-wide transmission plan that includes a 20-year outlook and that represents a more holistic and coordinated effort that can identify and optimize transmission expansion solutions for the largest possible footprint, thereby effectively addressing the broadest set of needs. In our view, an actionable plan is one that provides adequate justification for implementing the plan’s recommendations. Therefore, to ensure that the final plan is, in fact, actionable, PIOs offer the following criteria for consideration:

1. Utilize Comprehensive Top-Down Analyses. To ensure the accurate identification of needs, the plan should strive to utilize top-down analysis as much as possible, rather than defaulting to bottom-up analysis. For reference, bottom-up transmission studies typically compile the individual requirements for transmission into one system – i.e., by “rolling up” utilities’ local plans to create a regional or interregional plan. In contrast, top-down transmission studies are usually based on generation scenarios that are formulated in an open, collaborative process by stakeholders for a specified future period.¹⁰ An example of utilizing the top-down approach would include establishing the interregional transmission requirement at the outset of the planning process (based on inputs from state policies, federal policies, economic needs, and local and regional reliability needs).
2. Consider All Benefits. It has become increasingly recognized – especially in RTO/ISO regions of the country – that planning for economic- and public policy-driven transmission projects requires consideration of the wide range of benefits and costs associated with these investments.¹¹ PIOs believe that all benefits that can be reasonably evaluated should be, and benefits that are potentially significant but that are difficult to estimate should be analyzed by calculating their likely range and magnitude.¹² Indeed, failing to consider difficult-to-determine benefits results in an underestimation of project benefits. The following table provides a summary of the potential multi-value benefits of transmission projects.

Figure 3: Potential Benefits of Transmission Investments¹³

Benefit Category	Transmission Benefit
Traditional Production Cost Savings	<ul style="list-style-type: none"> ● Production cost savings as traditionally estimated
Additional Production Cost Savings	<ul style="list-style-type: none"> ● Reduced transmission energy losses ● Reduced congestion due to transmission outages ● Mitigation of extreme events and system contingencies ● Mitigation of weather and load uncertainty

¹⁰ Richard Piwko et al., Wind Energy Delivery Issues: Transmission Planning and Competitive Electricity Market Operation, IEE Power & Energy Magazine 48 (November/December 2005), <https://gridprogress.files.wordpress.com/2019/09/wind-energy-delivery-issues-transmission-planning-and-competitive-electricity-market-operation.pdf>.

¹¹ Judy Chang, Johannes Pfeifenberger and J. Michael Hagerty, The Benefits of Electric Transmission: Identifying and Analyzing the Value of Investments, The Brattle Group (July 2013), <https://www.brattle.com/wp-content/uploads/2021/06/The-Benefits-of-Electric-Transmission-Identifying-and-Analyzing-the-Value-of-Investments.pdf> [hereinafter “Brattle Evaluation of Transmission Investments”].

¹² *Id.* at iv.

¹³ *Id.* at v.

	<ul style="list-style-type: none"> ● Reduced cost due to imperfect foresight of real-time system conditions ● Reduced renewable energy curtailments ● Reduced cost of cycling power plants ● Reduced amounts and costs of operating reserves and other ancillary services ● Mitigation of reliability-must-run conditions ● More realistic representation of system utilization in “Day 1” markets
Reliability and Resource Adequacy Benefits	<ul style="list-style-type: none"> ● Avoided/deferred reliability projects ● Reduced loss of load probability or reduced planning reserve margin
Generation Capacity Cost Savings	<ul style="list-style-type: none"> ● Capacity cost benefits from reduced peak energy losses ● Deferred generation capacity investments ● Access to lower-cost generation resources
Market Benefits	<ul style="list-style-type: none"> ● Increased competition ● Increased market liquidity
Environmental Benefits	<ul style="list-style-type: none"> ● Reduced emissions of air pollutants ● Improved utilization of existing transmission corridors
Public Policy Benefits	<ul style="list-style-type: none"> ● Reduced cost of meeting public policy goals
Employment and Economic Development Benefits	<ul style="list-style-type: none"> ● Increased employment and economic activity ● Increased tax revenues
Other Project-Specific Benefits	<ul style="list-style-type: none"> ● Storm hardening ● Increased load serving capability ● Synergies with future transmission projects ● Increased fuel diversity and resource planning flexibility ● Increased wheeling revenues ● Increased transmission rights and customer congestion-hedging value ● HVDC operational benefits

3. Consider Non-Transmission Solutions. Non-transmission alternatives (“NTAs”) also need to be considered in the planning process. NTAs generally include technologies that do not require the building of new wires, but rather, focus on using the existing electric line infrastructure more efficiently. NTAs include Grid-Enhancing Technologies (“GETs”), which increase the capacity and flexibility of the existing transmission system and include the use of dynamic line ratings,

advanced power flow control, and topology optimization.¹⁴ Therefore, as part of any comprehensive study, transmission benefits should be weighed against the benefits associated with these types of alternatives.

4. *Proactively Plan for Future Generation and Load.* To proactively plan for future generation and load, the plan must incorporate realistic long-term projections of the anticipated generation mix, public policy mandates, load levels, and load profiles.¹⁵ It must also integrate generation interconnection and local reliability planning processes into broader regional and interregional transmission planning to ensure that the most cost-effective solutions can be identified.
5. *Address Uncertainties and High-Stress Conditions through Scenario-Based Planning.* Scenario-based planning should account for a broad range of plausible (but still uncertain) long-term futures, as well as real world system conditions, including challenging and extreme events.¹⁶ This includes the impact of weather on generator dispatch, Distributed Energy Resources (DERs), and GETs. Ultimately, the temperature and generation assumptions in use today will likely not hold up 20 years from now – therefore, model line ratings and generator performance should be adjusted to reflect this.
6. *Consider Evaluating Transmission Solutions Identified in Other Studies.* This effort should consider building upon studies that are either underway or that have recently concluded to enhance our collective knowledge of current and future western transmission needs, including evaluating the transmission and non-transmission solutions identified in these studies. Studies that should be considered include, but are not necessarily limited to: (1) WECC’s Congestion Trends Analysis¹⁷; (2) GridLab and Gridworks’ Connected West Study¹⁸; (3) CAISO’s 20-Year Outlook¹⁹; (4) DOE’s National Transmission Needs Study²⁰; (5) ESIG’s Impacts of DERs on Transmission Needs in WECC²¹; (5) a potential DOE-funded West-Wide Transmission Study at CREPC²²; and (6) Utah’s Transmission Study.²³

¹⁴ Jay Casparay, The Role for Grid-Enhancing Technologies, Energy Systems Integration Group (January 27, 2022), <https://www.esig.energy/the-role-for-grid-enhancing-technologies/>.

¹⁵ Brattle Evaluation of Transmission Investments at vi.

¹⁶ Johannes P. Pfeifenberger et al., A Roadmap to Improved Interregional Transmission Planning, The Brattle Group (November 30, 2021), https://www.brattle.com/wp-content/uploads/2021/11/A-Roadmap-to-Improved-Interregional-Transmission-Planning_V4.pdf.

¹⁷ This study is ongoing and a final report is therefore not yet available.

¹⁸ This study is ongoing and a final report is therefore not yet available.

¹⁹ CAISO’s 20-Year Outlook is an iterative stakeholder process that first produced a report in May 2022. For the 2021-2022 20-Year Outlook report, please visit: <https://www.caiso.com/InitiativeDocuments/20-YearTransmissionOutlook-May2022.pdf>. To track the ongoing stakeholder process that is informing the 2023-2024 20-Year Outlook report, please visit: <https://stakeholdercenter.caiso.com/RecurringStakeholderProcesses/20-Year-transmission-outlook-2023-2024>.

²⁰ U.S. Department of Energy, National Transmission Needs Study (October 2023), https://www.energy.gov/sites/default/files/2023-10/National_Transmission_Needs_Study_2023.pdf.

²¹ This study is ongoing and a final report is therefore not yet available.

²² At the Fall 2023 Joint CREPC-WIRAB meeting, the potential for a DOE-funded West-wide transmission study was discussed by CREPC’s membership, but no final decision was made at that time.

²³ Energy Strategies (prepared for the Utah Office of Energy Development), Utah’s Energy Backbone: The Transmission Grid - A Study of the Options and Benefits to Unlocking Utah’s Resource Potential (January 2021), <https://energy.utah.gov/energy-information/transmission/>.

To Provide Equitable and Geographically Diverse West-Wide Representation, the Proposed Governance Framework and Stakeholder Process Should be Modified

Included in the concept paper is a proposed governance framework and stakeholder process for overseeing the development and presumed implementation of the West-wide transmission plan, comprised of the following coalitions, committees, and task forces: (1) the Western Transmission Expansion Committee, or WTEC; (2) the Steering Committee; (3) the Regional Engagement Committee; and (4) the Technical Task Force.

Western Transmission Expansion Coalition

The WTEC is the self-organized coalition of interested stakeholders who began meeting over the summer and early fall of 2023 and produced the concept paper. While this coalition should be applauded for undertaking this important initiative and proposing to address the current inadequacies in Western transmission planning, the concept paper does not indicate who is represented on the WTEC and what the role of the WTEC will be going forward – particularly after the Steering Committee, Regional Engagement Committee, and Technical Task Force have been formed. In the interest of transparency, the membership of the WTEC should be disclosed and its future role, if any, clarified.

Steering Committee

Per the concept paper, the Steering Committee should be responsible for resolving and making major decisions regarding the structure of the West-wide transmission plan. Additionally, it will coordinate directly with the Technical Task Force and the Regional Engagement Committee. The concept paper recommends that it be composed of senior and executive-level leaders from utilities and energy industry stakeholders. The concept paper goes on to suggest membership from the following organizations:

1. NorthernGrid (including BPA)
2. CAISO
3. WestConnect (including WAPA)
4. WECC
5. Canadian Provincial Transmission Planning
6. State Representative
7. Northwest & Intermountain Power Producers Coalition
8. Renewable Northwest
9. Interwest Energy Alliance
10. Pacific Northwest Utilities Conference Committee (“PNUCC”)
11. Public Power Council
12. Western Power Pool

The currently proposed composition of the Steering Committee leans heavily on representation from the Pacific Northwest and therefore lacks geographic diversity necessary for the development of a West-wide transmission plan. It also is insufficient to adequately represent the diverse breadth of stakeholders engaging in West-wide transmission issues. Our recommended modifications follow:

- An effort should be made to ensure that the Steering Committee has geographically diverse representation in each of its sectors – currently, the composition appears more heavily weighted toward the Pacific Northwest. For example, it would be helpful to include a representative from

public power located outside of the Pacific Northwest (i.e., California, Desert Southwest, or Intermountain West).

- One state representative for the Steering Committee is inadequate. At a minimum, there should be one state representative from each of the following states or regions: (1) California; (2) Pacific Northwest (Oregon, Washington, Idaho and Montana); (3) Desert Southwest (Arizona, Nevada, and New Mexico); and (4) Intermountain West (Utah, Colorado, and Wyoming).
- The West’s two Power Marketing Administrations (“PMAs”) (BPA and WAPA) should be represented by their own sector.
- Although there is no PIO-specific sector identified for the Steering Committee, the coalition of PIOs submitting these comments strongly supports the designated seats for both Renewable Northwest and Interwest Energy Alliance.
- There is no sector representation provided for consumer or ratepayer advocates on the Steering Committee. This stakeholder sector should be added.

Regional Engagement Committee

The concept paper also proposes the formation of a Regional Engagement Committee, which is to have responsibility for providing input and feedback on the approach for the transmission plan, as well as providing input on major decisions informing the transmission plan. This committee will also be responsible for reviewing proposals, scopes of work for technical studies, as well as draft plans.

The concept paper proposes the following stakeholder sectors for the Regional Engagement Committee, with each sector appointing its own representatives. Each sector is to have two representatives, with the following exceptions: consumer-owned utilities (four representatives) and Western Power Pool (one representative). The proposed stakeholder sectors for the Regional Engagement are set forth below:

1. Steering Committee Members
2. Investor-Owned Utilities
3. Consumer-Owned Utilities
4. Power Marketing
5. Federal PMAs
6. Independent Power Producers
7. Independent Transmission Companies
8. Public Interest Organizations
9. Consumer/Ratepayer Advocates
10. Industrial Customers
11. State Agencies
12. Tribal Representatives
13. Western Power Pool

PIOs generally support both the stakeholder sectors represented on the Regional Engagement Committee and the self-selection mechanism for identifying representatives. Further, while PIOs agree that most stakeholder sectors should have two representatives and that the Western Power Pool should only have one representative, we question why the Steering Committee Members sector should have two representatives and the Consumer-Owned Utilities sector should have four representatives. Alternatively, and in the interest of fair and equitable representation, we propose that the Steering

Committee Member sector having one representative (as with the Western Power Pool sector) and the Consumer-Owned Utilities sector having two representatives.

Technical Task Force

Per the concept paper, the Technical Task Force is responsible for identifying the study scope and approach, including the identification of renewable energy zones, resource expansion, electrification and load data, and scenario development (including extreme event scenarios). The task force is also to include an independent consultant who will be responsible for conducting the study.

The concept paper further proposes that the Technical Task Force will be comprised of the following representatives:

1. Technical Staff of Steering Committee Members
2. Independent Consultant (responsible for conducting the study)
3. Pacific Northwest National Lab
4. Northwest Power and Conservation Council
5. Merchant and Independent Transmission Developers
6. Western Power Pool

PIOs generally support the proposed composition of the Technical Task Force, but offer a few modifications. First, PIOs recommend that the “Technical Staff of Steering Committee Members” sector be recharacterized to allow for greater flexibility in identifying technical expertise so important for the Technical Task Force. By instead characterizing this sector as “Technical Staff Designated by Steering Committee Members,” this additional flexibility can be ensured by enabling Steering Committee members to appoint their own staff to the Technical Task Force or to appoint other experts from the industry, including independent transmission experts, transmission consultants, and even staff from other organizations with transmission expertise that are not represented on the Steering Committee. PIOs also wish to underscore the importance of WECC’s representation on the Technical Task Force, which we understand will be ensured by their previous designation as members of the Steering Committee. Finally, because PIOs do not have a designated sector seat on the Steering Committee, we recommend the addition of a PIO stakeholder sector representative for the Technical Task Force. The West’s PIO community is vast with abundant expertise and includes environmental, conservation, clean energy advocacy, and environmental justice organizations.

Conclusion

We appreciate the opportunity to offer our support and recommendations to the Western Transmission Expansion Committee and the Western Power Pool on their October 2, 2023 “Concept Paper for a West-Wide Transmission Plan”. We further look forward to continuing to engage in the stakeholder process for this effort and to participating in the important work of the Regional Engagement Committee and the Technical Task Force.

Respectfully submitted,

Jennifer Gardner
President & Founder, Envision Energy
Consultant to GridLab
jennifer@envisionenergyllc.com

Veronica Ung-Kono
Staff Attorney/Clean Energy Transmission Policy Specialist
National Wildlife Federation
ungkonov@nwf.org

Ralph Cavanagh
Energy Co-Director
Natural Resources Defense Council
rcavanagh@nrdc.org

Fred Heutte
Senior Policy Specialist
Northwest Energy Coalition
fred@nwenergy.org

Vijay Satyal
Deputy Director of Regional Energy Markets
Western Resource Advocates
vijay.satyal@westernresources.org

Kelsie Gomanie
Advocate
Sustainable FERC Project
kgomanie@nrdc.org

Charles Teplin
Principal
Rocky Mountain Institute
cteplin@rmi.org

Tyler Farrell
Senior Associate
Rocky Mountain Institute
tfarrell@rmi.org