Final Review Draft
WIRED Transmission Planning & Development Working Group Report
November 2020

Introduction

In early 2020, the Center for the New Energy Economy (CNEE), at the request of the Western Energy Industry Leaders (WEIL), convened a group of Western governors' energy advisors along with a small but diverse group of experts representing utilities, power marketing administrations, renewable energy companies and clean energy advocates, collectively referred to as the "Western Interconnection Regional Electricity Dialogue" (WIRED). The goal of this effort is to provide a set of recommendations to governors by the end of the year. To achieve this goal, CNEE has facilitated a series of work group meetings to discuss and analyze a range of regional electricity issues including resource adequacy (RA), state clean energy and climate policies, and transmission development.

This transmission planning and development working group report builds upon the foundation and recommendations from the WIRED Resource Adequacy Working Group and works in harmony with the recommendations of the GHG Working Group. Ultimately, transmission planning and development is a mechanism to preserve reliability, facilitate access to low-cost energy and achieve resource and policy goals, and not an end in and of itself.

Building large transmission projects is an extensive undertaking. It requires long lead times, implicates significant land use issues, and is a major capital expenditure. Transmission development flows from the need to deliver resources selected through state and utility procurement policies coupled with the need to meet reliability and grid resilience requirements. Thus, if overall energy directives that emanate from the states and utilities require new transmission to be built, and we wish to succeed in those efforts and not repeat past failures, direction from Western governors is needed to enhance West-wide planning and development.

Transmission will not build itself. The need for transmission, as we move to a different resource mix and strive to modernize our electric system, is largely driven by the resource choices made under the authorities of individual states. To examine the value proposition for major transmission that may cross multiple states, a more comprehensive look at West-wide resource procurement is required.

This decision to pursue coordinated resource planning must be made in collaboration with state officials. We are convinced that if utility procurement activities assessed resource choices over a multistate footprint, procurement decisions would ultimately result in a more diverse and reliable mix that would lower costs to consumers while meeting state policy goals. This does not mean ceding procurement authority, but rather, increasing collaboration of procurement planning on a West-wide basis in a manner that is not done currently.

Coordinated resource planning will also require a new commitment to West-wide collaboration to ensure the transmission necessary to achieve the chosen resource mix is developed to the benefit of consumers. Moving this forward will require political will and a coordinated effort across all Western states. This is why we strongly recommend that governors make this matter a priority.

The Problem Statement

Coordinated West-wide resource planning is critical to identifying and achieving the reliability and economic benefits of load and resource diversity in order to optimally and cost-effectively meet clean energy and other state policy goals. Coordinated transmission planning is important for delivering system benefits that come from diverse resource and demand profiles, and from peak load patterns that vary across the West by season and time zone.

However, the majority of electric utilities in the West first conduct transmission planning and development processes to meet their own set of localized needs and benefits. Next they coordinate those plans within each planning region to identify the most cost-effective solution to a regional[1] transmission need. Interregional proposals are then assessed as a means to better evaluate potential synergies of regional needs. While this process achieves a baseline level of transmission planning coordination, it is cumbersome and does not provide comprehensive consideration of resource needs across the greater footprint that are driving the need for transmission. Coordinated resource planning and development across the West would provide a platform for considering West-wide needs, blending a larger, more diverse load and generation mix, and achieving the following benefits: enhanced reliability, cost savings, and the facilitation of state environmental and energy policy goals.

Transmission planning involves identification, technical evaluation, and cost/benefit analysis of transmission upgrades or additions to meet a need or provide a benefit, or a combination of needs and benefits that would make a project cost-effective. The need for, and benefits of, transmission upgrades and additions are varied and may consist of: 1) meeting resource adequacy and reliability requirements, 2) delivering new resources to accommodate load growth, 3) lowering the cost of delivered energy, or 4) addressing a resource mix that is changing through retirements and additions of supply in accordance with clean energy policies and goals.

A key issue is that transmission planning is not sufficiently linked to resource planning in a way that achieves the maximum benefits that can come from tapping the West's technologically and geographically diverse wind, solar, storage, thermal, hydro, and other resources. Transmission planning historically focused on the existing fleet of generation and modest incremental additions to meet load growth and occasional end-of-life retirements. In the West, largely back in the 1970s and 1980s, this type of planning led to several coordinated major transmission projects from load centers to large generation facilities including coal, hydropower, and nuclear power plants. These projects achieved benefits by providing synergies between existing fleets and new, large generation projects. However, this historical transmission planning model reflected a completely different paradigm than we have today. In many states, utilities are now implementing the policy-driven transition to clean energy resources which has accelerated the pace of fossil and nuclear generation retirements (and replacement with new resources), necessitating regional collaboration now more than ever.

[1] **Note:** FERC Order 1000 created definitions of planning regions, of which there are three in the West - CAISO, WestConnect and Northern Grid. In that framework, proposed transmission projects that would reach between those planning regions are referred to as "interregional transmission projects". In this paper, "regional" refers to one of the Order 1000 planning regions, "interregional" refers to connections between two or more of these Order 1000 regions, and "West-wide" is used to describe the entire 11-state interconnect.

Another closely related challenge is that cost allocation processes have not kept up with the shift in planning paradigms. While cost allocation of major projects were previously negotiated between participants based on principles applicable to the circumstances, FERC Order 1000 codified a benefits-based approach that has limitations for considering a more integrated resource planning approach across a broader footprint. Advancing transmission projects from the planning phase to development and construction calls for re-establishing cost allocation negotiating frameworks and principles – leaving flexibility to meet specific circumstances - to apportion the cost of transmission projects found to be a cost-effective means to reach the reliability, economic, and policy objectives of multiple states. Without a clear understanding of cost responsibility and recovery, transmission developers are unlikely to take on the risk associated with building transmission identified in a coordinated, West-wide resource and transmission planning process.

The Opportunity Statement: Achieving the Benefits of a West-wide Approach to Coordinated Resource and Transmission Planning and Development

Governors and other state political leaders have a strong interest in timely, cost-effectively and reliably meeting their energy, environmental and economic development goals. This can be best achieved by evolving the existing paradigm and establishing a West-wide process to inform both resource planning and transmission planning and development, resulting in more reliable, efficient and cost-effective planning across the entire footprint.

Enhanced Reliability through Resource Adequacy

Coordinating resource and transmission planning will enable the broadest view of the physical capability of the grid – resources *and* transmission – to serve customer demand at all times. This coordination may enable sharing of resources and reserves across the region through additional transmission paths if this is determined to be cost-effective and beneficial.

Cost Savings

Increased coordination and larger planning footprints should lead to more customer demand and resource diversity, providing an opportunity for capital savings related to resources needed to meet load growth and policy goals. This, in turn, will meet the region's resource adequacy requirement while achieving more cost effective renewable energy deployment and lower cost energy production to benefit consumers.

Facilitates State Policies and Goals

Enhanced coordination of both transmission and resource planning across a broader West-wide footprint will also enable utilities to more cost-effectively meet state clean energy policies and carbon reduction goals. This coordination should also lead to increased transparency of the drivers and benefits of transmission investment necessary to facilitate transmission cost allocation.

Principles Underlying a West-wide Resource and Transmission Planning Framework

Our recommendation to develop a cohesive and coordinated West-wide resource and transmission planning process is based upon the following principles:

- Coordinated resource planning during, not after, the development of utility resource plans is critical to unlocking diversity benefits.
- Transmission planning needs to be informed by credible resource planning decisions and should be coordinated directly with those plans.
- Increased consideration of each state's clean energy policies and carbon reduction goals, and the corresponding resource plans of utilities.
- West-wide transmission planning should recognize and coordinate the varied jurisdictional frameworks – i.e., integrated resource planning, FERC-required regional transmission planning, and sub-regional planning groups.
- Cost allocation discussions will need a forum to address specific circumstances and provide mutual assurances of intent.
- New financial mechanisms to support large transmission investments will be necessary.
- While transmission planning will benefit from planning coordination across the region, this does not mean that states need to cede their procurement policy authority.

Recommendations

The work group recommends governors' recognition of, and commitment to, pursuing the numerous benefits from West-wide coordination, including a commitment to greater coordination among Western states on resource planning decisions and associated transmission planning.

This commitment would also recognize that enhanced utilization of existing transmission and the construction of new transmission will lead to consumer savings, as well as reliability benefits and economic development opportunities.

Ideally, an explicit commitment from governors would provide direction to state agencies, utilities, and entities with resource and transmission planning responsibilities to collectively explore options for a formal process to support West-wide resource planning and related transmission with multi-state benefits. Actions in such a process would include:

- Establishing a mechanism for coordination in developing integrated resource plans informed by potential transmission implications and requirements.
- Ensuring these needs are addressed in the relevant transmission planning processes.
- Developing a format to provide adequate information sharing and commitments.
- Providing support for coordinated study processes and timelines.
- Establish a decision-making framework, including principles for fairly allocating costs of new transmission development.
- Establish financial incentives to support the multi-decadal nature of transmission investments.
- Defining role and input mechanisms from non-state jurisdictional utilities.
- Setting the expectation that each state will evaluate their current resource planning processes to help ensure implementation of resource planning and transmission needs identified in a formal multi-state process as described above.

Through the process developed above, planning organizations can undertake additional analysis to better inform future coordinated resource and transmission planning that facilitates the goals in this paper. That could include consideration of the items below:

- Transmission planning that considers more broadly intra-regional and inter-regional impacts and benefits.
- A comparative analysis that demonstrates how transmission planning, cost allocation and the building of multi-state transmission lines are achieved with and without RTOs in place.
- The role transmission may play in attaining state energy goals at least cost by providing access to a diverse suite of renewable energy resources to gain the benefits of technology and regional diversity.
- How investments in grid hardening, and the maintenance of transmission and rights-of-way for both new and existing transmission, can provide benefits while reducing wildfire risk.