

WECC 10-Year Regional Transmission Plan

Summary of Proposed Changes

Recommended changes to the Plan Summary to be incorporated throughout the document.

- There is distributed PV in the generation assumptions based on RPS requirements. It is accounted for in the overall PV number (distributed PV is 23% by capacity, 19% by energy). Staff recommends the distributed portion of the PV be noted in the Plan Summary.
- Regarding possible congestion solutions, WECC staff recommends adding language to the Plan Summary that states “other projects not described in the analysis also have an impact on path congestion...”
- Note in the text that the link to the Path Rating Catalog is only accessible by WECC members – mostly in footnotes.

Recommended changes to the Plan Summary to be incorporated in the following specific pages/lines.

Page 3: Add, “The Plan: 1) assumes that 44 sub-regional “foundational” projects will be completed by 2020, and 2) identifies four regional transmission projects with the potential to result in lower costs for consumers by accessing low-cost remote renewable resources in Wyoming, Montana, or New Mexico.”

Page 3, Line 8: For consistency of language, WECC staff recommends the disclaimer in Section 2.2, Lines 30-33 be added. “WECC does not have the authority to order that transmission lines be constructed, nor does WECC have any siting, permitting, or cost allocation authority. It is up to decision-makers at all levels (e.g., load-serving entities, project developers, regulators, siting agencies, financiers) to determine what transmission and other infrastructure is built.”

Introduction, after line 8: Add language, “To meet this objective, the interconnection-wide analyses used to inform the Plan evaluated numerous stakeholder-driven study cases using bottoms-up assumptions gathered through open, transparent processes. The analyses provided results on energy delivery, transmission congestion, variable and capital costs, and policy attainment. The results of the analyses, taken together, provide an interconnection-wide perspective on the possible impacts of various decisions. Importantly, the results are driven by assumptions on future loads, generation, and transmission.”

Page 3, Line 24: “There are a number of key assumptions regarding load, generation, and transmission that are germane to the observations and recommendations described in the Plan.

The Plan assumes all the Foundational Transmission Projects will be completed by 2020. These 44 projects add roughly 5500 miles of major transmission lines to the Western Interconnection.

The Plan assumptions retired and added generation sufficient to obtain full compliance with enacted State Renewable Portfolio Standards (RPS) and Once-Through-Cooling (OTC) regulations.

The Plan assumes that enacted State and Provincial Energy Efficiency (EE) and Demand-side Management (DSM) programs are fully realized.

Given these assumptions, there are a number of key regional transmission insights in the Plan.

Beyond the Foundational Transmission Projects and the assumed generation additions, there did not appear a need to build additional regional scale transmission or major generation over the next 10 years.

However, two transmission paths - Montana to Northwest and the Pacific Tie Paths – merit further evaluation for possible upgrades or expansion based on the levels of utilization and congestion observed in the Plan analyses.

There are a number of regional transmission projects, coupled with changes to renewable generation assumptions that have the potential to reduce the cost of meeting RPS by accessing renewable resources remote to major load centers.

The Plan includes the following observations and recommendations based on the analyses performed and stakeholder input. They are organized into three topical areas: transmission congestion (1 and 2), energy policy (3 through 6), and improvements to future RTEP cycles (7 through 9)."

Page 3, Lines 24-29: Replace "WECC recommends consideration by decision-makers for transmission upgrades or other mitigating measures that relieve congestion on Path 8, which is needed if significant additional generating resources are to be located in the state," with, "WECC recommends consideration by decision-makers for transmission upgrades or other mitigating measures that relieve congestion on Path 8, as renewable, or other types of generation, are expanded in Montana."

Page 4, Line 40: Replace, "TEPPC will be making," with, "TEPPC intends to make."

Page 5, Line 10, Item 4: Change language to, "Encourage greater stakeholder participation in defining load, generation, and transmission assumptions."

Page 9, Lines 7-8: End sentence to read, "...to prevent damage to the power system."

Page 11, Line 40: Add to sentence ending "impacts." → "impacts, nor does it recognize the limitations of ownership or contractual rights on a generator's ability to access transmission."

Section 2.3: A summary of the DC line modeling issues outlined in the 2019 Study Report could be added.

Section 3, Page 13, Line 30: WECC staff recommends a definition of "congestion" and a synopsis of the congestion metrics used in the Plan Summary Section 5.1.6 be added before the discussion of "Assumptions."

Section 3, Page 15, Lines 9-10: Replace, "However, two major transmission paths, Montana to Northwest (Path 8) and Northwest to California (Paths 65 and 66), remained congested," with, "With the exception of two major transmission paths, Montana to Northwest (Path 8) and Northwest to California (Paths 65 and 66)."

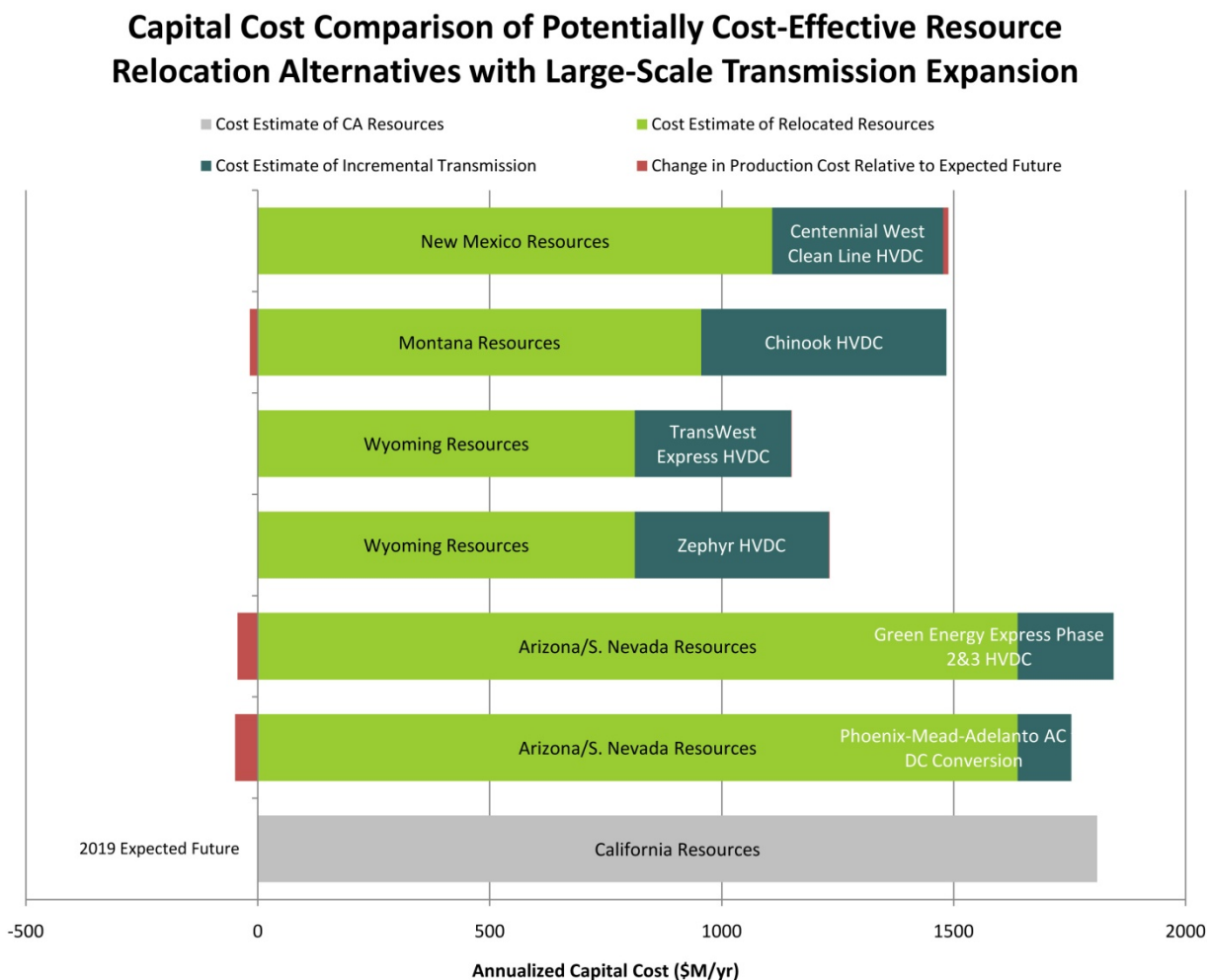
Section 3.2.1, Page 16: Clarify the discrepancy between the LRS (14%) and the SPSC-adjusted (9%) forecasts.

Page 25, Lines 2-3: Add language, "depending on the level of renewable development in the Northwest used to satisfy RPS in California" after "California" on line 2; and adding the following links to the footnote: <http://www.caiso.com/Documents/Board-approvedISO2010->

[2011TransmissionPlan.pdf](#) and http://www.ctpg.us/images/stories/ctpg-plan-development/2011/02-Feb/2011-02-09_final_statewide_transmission_plan.pdf

Section 3.3, Page 28, Lines 3-4: Replace, “to some local resource,” with, “to a portfolio of least cost-effective California resources in the expected future case.”

Page 29, Insert new figure (from the 2019 Study Report):



Propose the following inclusions with the graphic above: Add footnote to the title of the graphic indicating that the capital costs are assumed to be net of applicable tax incentives and tax credits.

Page 30, Lines 1-3: Replace, “Within the renewable resource relocation alternatives, the analysis performed as part of the Plan considered a finite set of values and costs. Figure 11 illustrates values and costs that may play into a resource decision and which ones were considered in this analysis,” with, “For the resource relocation cases, resource comparisons were driven by certain important factors, principally estimated resource and transmission investment costs relative to the renewable GWh obtained. However, additional values, costs and risks can significantly influence renewable resource decisions, and Figure 11 depicts some of the major factors included versus excluded from the resource comparisons.”

Section 3.3, Page 30, Line 7: Add language to describe how the tax incentives were calculated in the capital cost section (page 77).

Page 35, Lines 1 and 2: Replace, “However some hydro resources such as Libby, Hungry Horse, and Noxon in the northwest corner of Montana do not impact Path 8 flows” with, “However some hydro resources in the northwest corner of Montana can lower Path 8 flow if those generators (i.e., Cabinet Gorge, Libby, Hungry Horse, and Noxon) are generating at high levels.”

Sections 4.1 and 4.2: Add language to inform the reader that individual solutions were not evaluated, but that there are solutions proposed that appear to relieve congestion on the path.

Section 4.3: WECC staff recommends that recommendation 3 be removed and the language, “additional transmission will be required if remote resources are selected in lieu of local generation for pending retirements (e.g., Once-Through-Cooling (OTC), emissions)” and “...if remote resources are selected in lieu of local generation for pending retirements...” be added/incorporated into recommendation 4.

Section 4.4: Request to move recommendation 4 to the top.

Page 43, Line 28: Replace, “It is worth noting that in a recent report titled COI utilization report...” with, “It is worth noting that in the report published May 2011 title COI Utilization Report...”

Page 53, Line 5: Add sentence, “In addition to reducing congestion on Paths 65 & 66, the Chinook project was effective at reducing congestion along Path 8 and lowered WECC-wide utilization values.”

Page 56, Line 17: Suggested rewording for clarity, “ These project were either on the SCG list of Foundational or Potential projects, or on the WECC project portal.”

Page 58, Lines 17-19: Replace, “Such targeted assessments should consider more detailed and situation-specific factors such as those outlined in Figure 11, and should include a more detailed analysis of the costs associated with any resource and/or transmission alternative considered,” with, “... and should include a more detailed analysis of the costs and uncertainties associated...”

Page 66, Line 10: Add text (italicized) to clarify the recommendation, “Reconcile...*to develop consistency* regarding (1)...”

Page 66, Section 4.7: Add language to include WGA.

Page 68, Item 3.a.: Add language, “(e.g., DSM, distributed-generation, and other non-traditional options).”

Page 68, Item 3.d.: Add language, “(e.g., testing the transmission assumptions in the 2022 common case against a plausible range of generation and load combinations).”

Page 68, After Item 3.h.: Modeling improvements are needed to better simulate DC line performance.

Page 68, After Item 3.h.: Add new item with the following language, “Quantify cost and risk metrics and evaluate solutions against these metrics.”

Page 68, Item 4: Change language to, "Increase stakeholder input and increase the objectivity of criteria regarding load, generation, and transmission assumptions;"

Page 68: WECC staff recommends that TEPPC not include this recommendation in the Plan Summary since it expresses a commitment that WECC cannot make at this time.

Page 69, Lines 3-4: Add language, "Coal retirements (6,000 MW) replaced by an equivalent capacity value of renewable resources simply did not displace enough CO² emissions to achieve a 30 percent reduction in CO² from 2005 levels. More coal retirements, plus more renewable resources would be needed to achieve this reduction."

Section 5.1, Page 70, Lines 10-11: Replace, "duty to ensure," with, "responsibility to assure."

Appendix, New: WECC staff recommends an appendix be added that describes the purpose(s) of the foundational projects. A DRAFT titled, "Foundational Project Purpose – Staff draft" has been posted for review. Staff also recommends this document be subject to SCG review before finalizing.