

CALIFORNIA
TRANSMISSION
PLANNING
GROUP



Technical Steering Committee Report

CTPG Executive Committee Meeting
February 2, 2012

Agenda

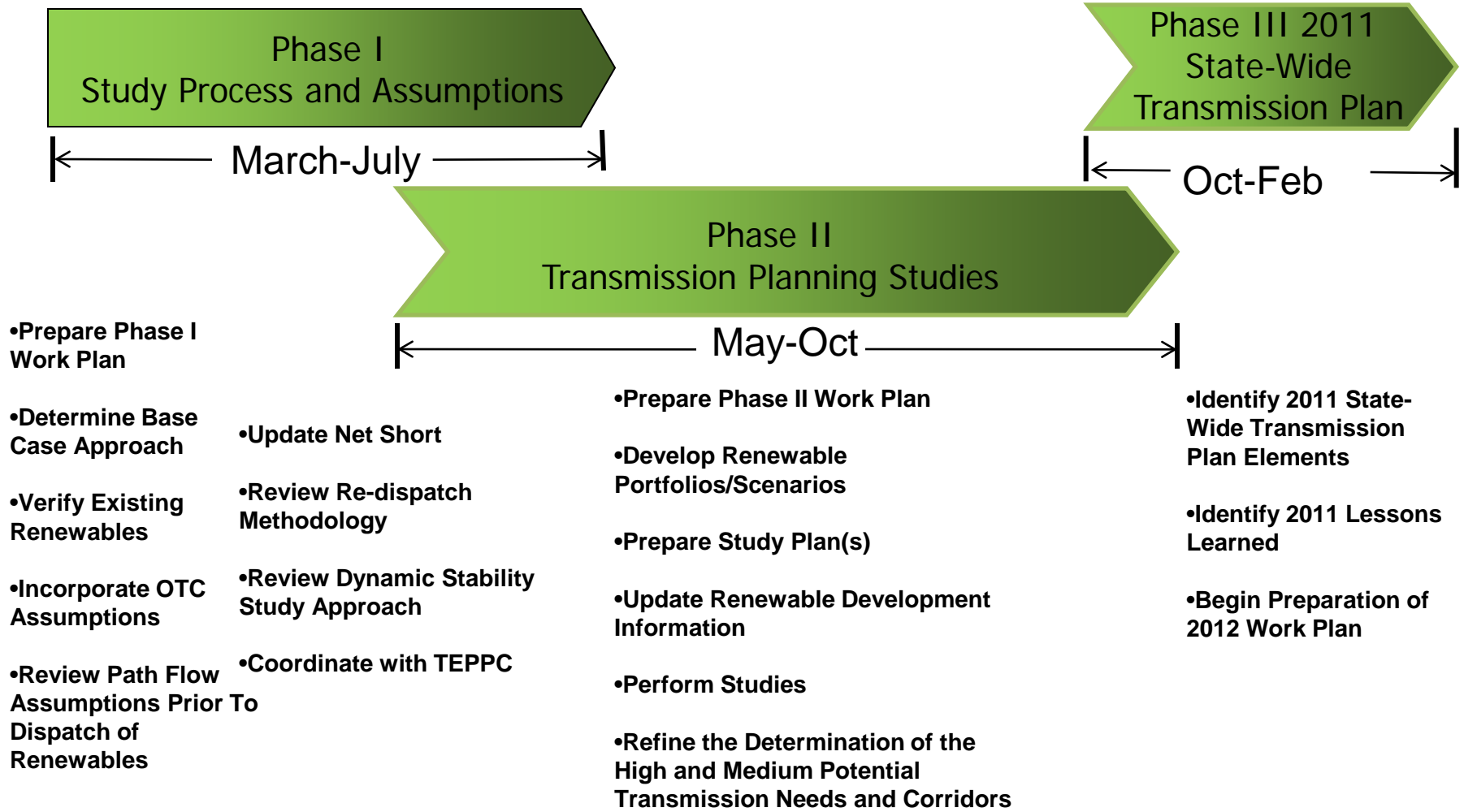
- General Update – Mo Beshir
- 2011 CTPG Work Plan – Mike Deis
- 2011 Statewide Transmission Plan – Jan Strack
 - High Ranked CREZs
 - High and Medium Potential Transmission Upgrades
 - High Potential Corridors
- Stakeholder Comments – Jan Strack
 - Stakeholder Meeting Comments
 - Written Comments (2)
- Next Steps – Mo Beshir
 - 2011 Statewide Transmission Plan Executive Approval
 - 2012 Work Study Plan

General Update

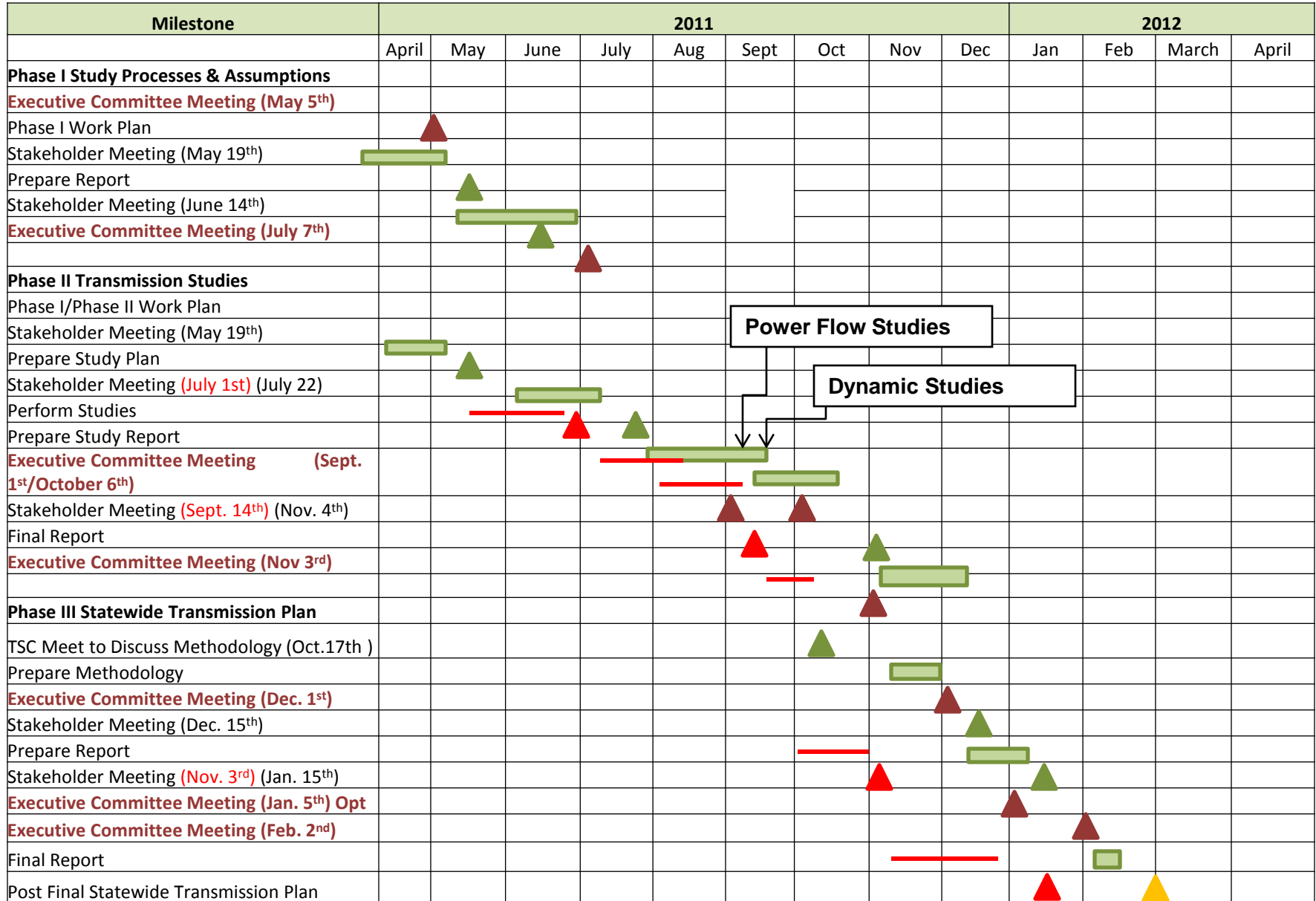
- Technical Steering Committee (TSC) completed the Draft CTPG California Statewide Transmission Plan and posted the plan on the CTPG website on January 10th
- TSC conducted a stakeholder teleconference meeting on January 20th to receive input on the statewide plan (49 attendees on phone)
- Stakeholder written comments were due on January 30th

2011 CTPG WORK PLAN – MIKE DEIS

CTPG 2011 Work Plan



2011 Work Plan Schedule



Power Flow Studies

Dynamic Studies

2011 STATEWIDE TRANSMISSION PLAN – JAN STRACK

2011 Statewide Transmission Plan

- The CTPG has followed its 2010 adopted three step approach to developing the CTPG Statewide Transmission Plan
 - Step 1: Identified “High Ranked CREZs” using commercial interest
 - CPUC Discounted Core
 - ✓ IOUs PPA under CPUC review by 6/1/2010
 - ✓ Permit application data adequate by 3/1/2010
 - CTPG Queue Portfolio
 - ✓ Have or in process of signing Interconnection Agreement
 - ✓ Posted financial security in ISO Phase II Cluster Studies

2010 High Ranked CREZs

CREZ	% Discounted Core In Queue
Carrizo North/South	94
Imperial South	100
Mountain Pass	100
Palm Springs	100
Pisgah	100
Riverside East	100
Solano	100
Tehachapi	100
Round Mountain	100

2011 High Ranked CREZs

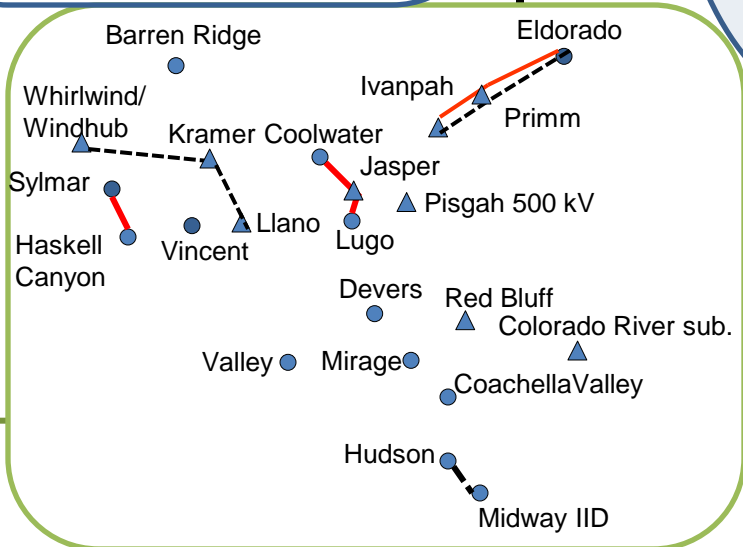
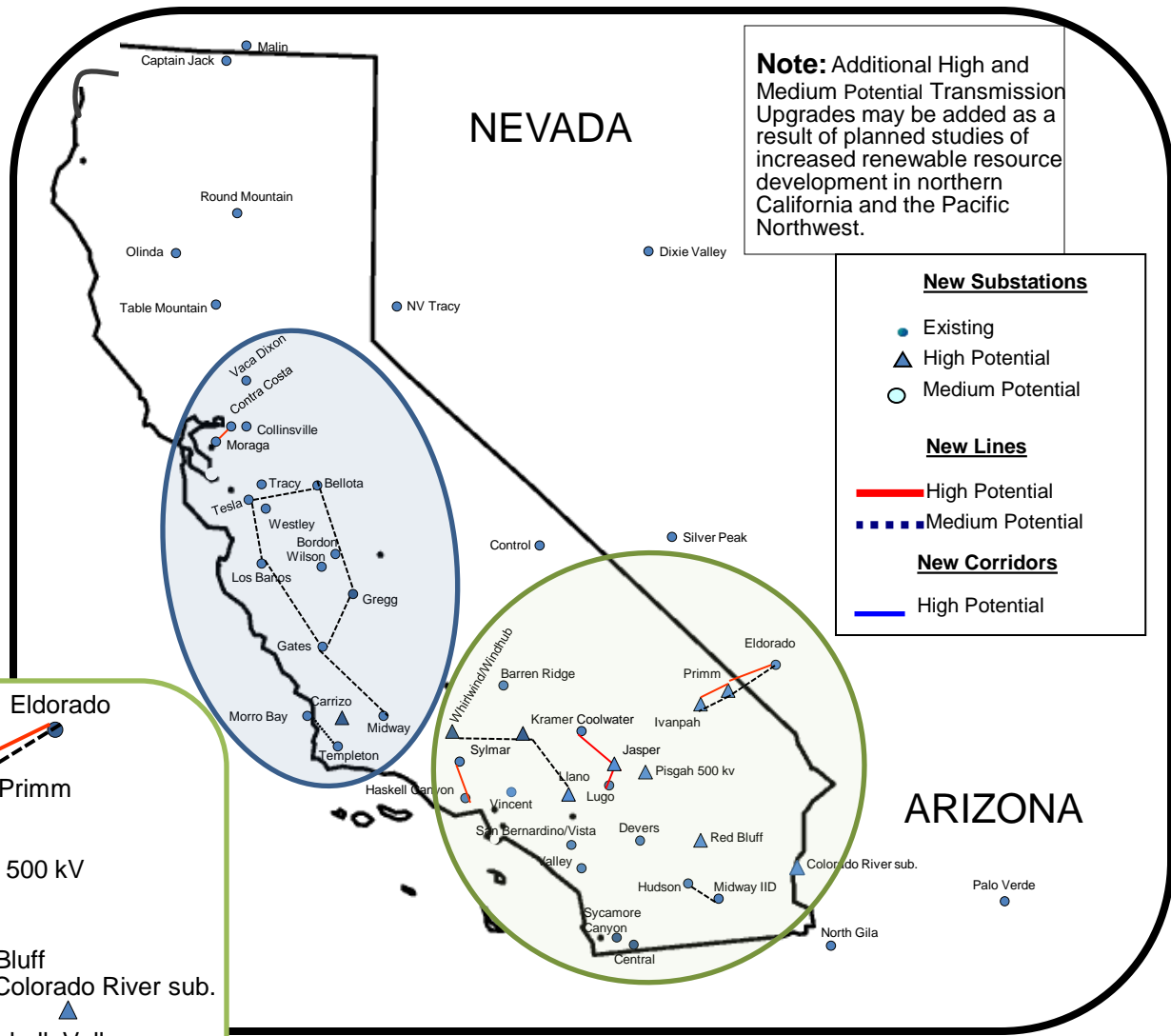
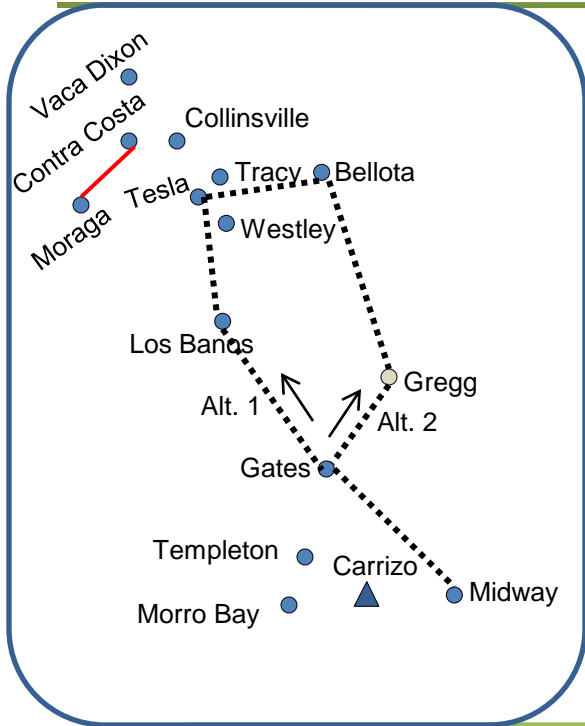
CREZ	% Discounted Core In Queue
Carrizo North/South	94
Imperial South	100
Kramer	100
Mountain Pass	100
Palm Springs	100
Pisgah	100
Riverside East	100
San Bernardino-Lucerne	100
Solano	100
Tehachapi	100

2011 Statewide Transmission Plan

- Step 2: Identified “High Potential” and “Medium Potential” Transmission Elements
 - ✓ Identified transmission elements associated with High Ranked CREZs
 - High potential elements support connection of the High Ranked CREZs to the network. Expected to carry a significant amount of renewable power from High Ranked CREZs to load.
 - Medium potential elements carry a comparatively lower level of output from High Ranked CREZ or are generally associated with a large build out of High Ranked CREZs
 - ✓ Compiled a list of “High Potential” and “Medium Potential” transmission elements (Table 3 of Statewide Plan)

2011 CTPG Statewide Transmission Plan

High and Medium Potential Transmission Upgrades



2011 State-Wide Transmission Plan

- Step 3: Identified “High Potential Transmission Corridors”
 - Similar to 2010, the CTPG has chosen to identify “High Potential Transmission Corridors” for future study for the following reasons:
 - There remains considerable uncertainty regarding the precise location and amount of renewable resources
 - Load serving entities are still finalizing procurement decisions as the regulations and rule making surrounding renewable energy credits (REC) and green house gas reductions are developed
 - The existing purchase power agreements (PPA) may be insecure
 - ✓ Inability to meet some scheduling terms
 - ✓ PPAs may contain milestones that if not achieved render the contract terms invalid

2011 State-Wide Transmission Plan

- “High Potential Transmission Corridors” Continued:
 - Provides California’s load serving entities with potential future procurement options beyond the “High Ranked CREZ”
 - Recognizes the potential for renewable resource projects that may be developed faster and for less cost
 - Recognizes the potential for reduced total procurement costs, i.e., combined generation and transmission costs

2011 State-Wide Transmission Plan

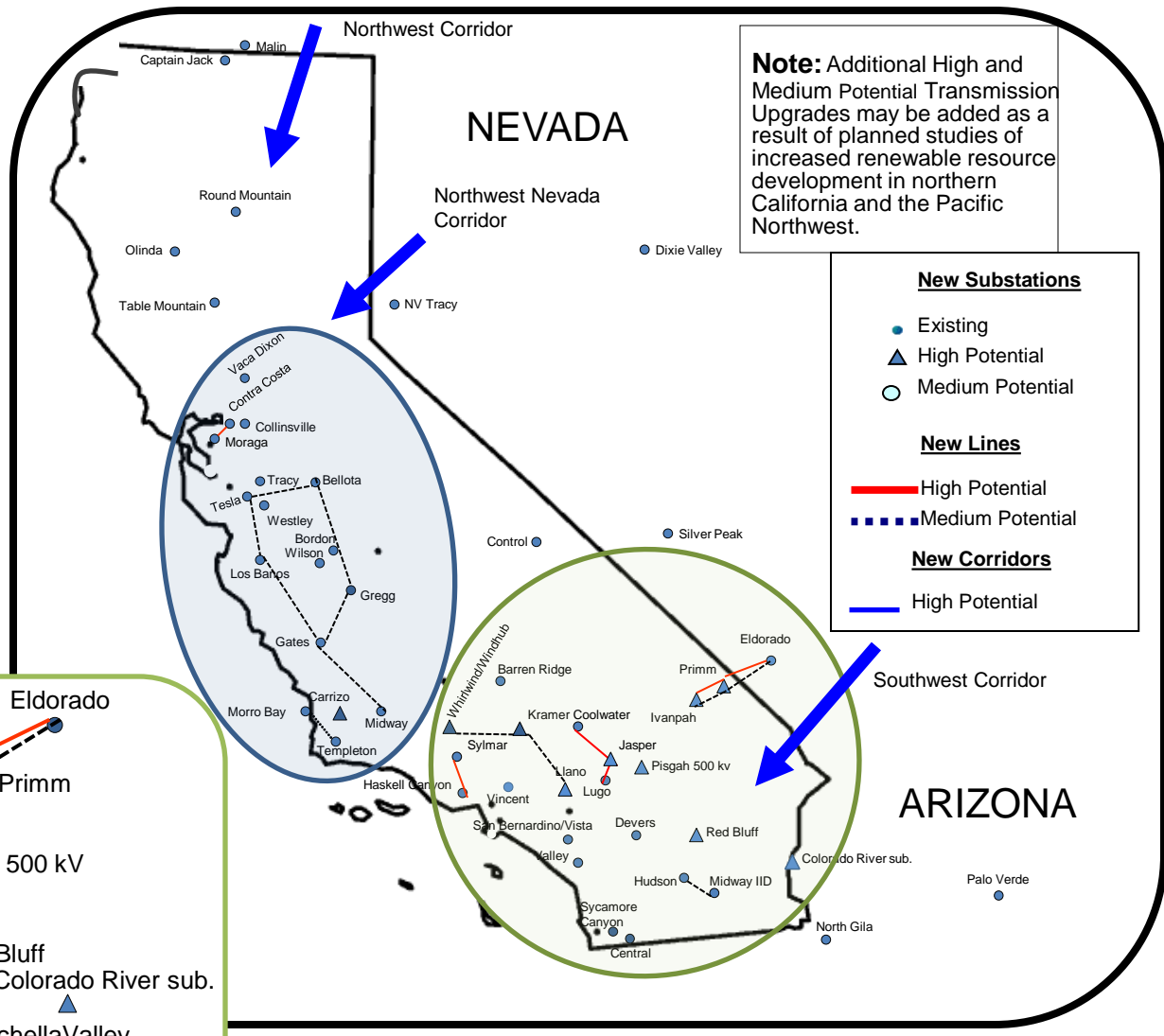
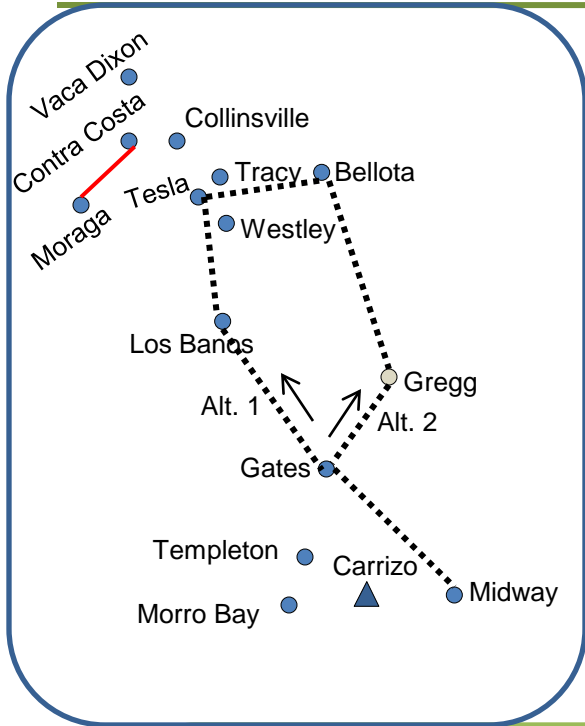
- “High Potential Transmission Corridors” Continued:
 - Will sustain a competitive renewable resource development and procurement environment as final procurement decisions are made by the State’s load serving entities
 - The CTPG believes that additional renewable resource options should be explored because California will have additional renewable resource needs beyond 2020 and to address future GHG reduction policies

2011 State-Wide Transmission Plan

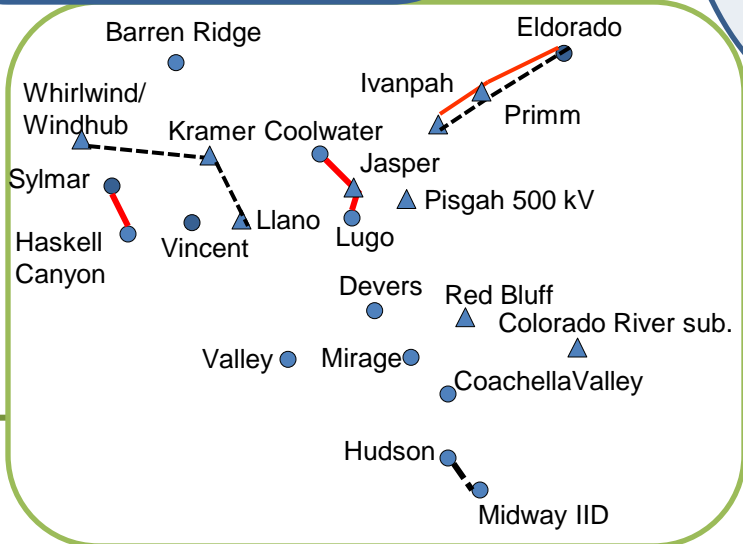
- Similar to 2010, the CTPG has selected “High Potential Transmission Corridors” that meet a majority of the following criteria:
- Recognition by other sub-regional planning groups for study as potential WECC transmission system improvements
 - Potential for geographic, weather, and resource diversity for California’s renewable resource portfolio beyond that provided by renewable developed primarily in southern California
 - Strong support by federal and state governments required for the completion of the renewable resource projects and transmission improvements that would provide renewable energy throughout the western United States
 - Potential access to entities that are currently planning for the development or renewable energy resources well beyond their own needs for potential import into California

2011 CTPG Statewide Transmission Plan

High and Medium Potential Transmission Upgrades and Corridors



Note: Additional High and Medium Potential Transmission Upgrades may be added as a result of planned studies of increased renewable resource development in northern California and the Pacific Northwest.



2011 Statewide Transmission Plan

- Updated California Balancing Authority Area Transmission Planning Information
 - California Independent System Operator
 - Los Angeles Balancing Authority
 - Balancing Authority of Northern California
 - Imperial Irrigation District Balancing Authority
 - Turlock Irrigation District Balancing Authority

STAKEHOLDER INPUT – JAN STRACK

Stakeholder Comments

- CTPG should not simply append each California Balancing Authority's (BA's) own transmission plan in CTPG's statewide transmission plan. There are some transmission upgrades that "reduce costs for everybody". These upgrades could be identified by examining the common upgrades in the various California BA's transmission plans.
- CTPG should focus on "integration resources"
- CTPG has relied too heavily on the CPUC's dated discounted core.
- The CAISO had various initiatives that are significantly changing the way the CAISO conducts its generator interconnection study processes.

Stakeholder Comments

- A narrative should be included in the final 2011 statewide transmission plan concerning the value of interstate trade of renewable resources, both imports of renewables into California as well as exports from California (for example, exports pursuant to PPAs with Arizona load serving entities and exports during low load hours). CTPG can help develop a convincing counterpoint to Governor Brown's opposition to out-of-state renewable development.
- The CTPG should include a complete analysis of alternative mitigation including proposed projects by independent transmission developers.

Stakeholder Comments

- Clean Line Energy Partners
 - CTPG 2012 work should identify the best resource and transmission options both in-state and out-of-state
 - CTPG should perform more studies of the “High Potential Corridors” to take into account the potential for diverse and lower cost out-of-state resources
 - CTPG should look beyond needs for 2020 to include potential increases in RPS and GHG reduction goals

Stakeholder Comments

- Westlands Solar Park (WSP)
 - WSP supports CTPG Scenario No. 7 (Central California)
 - CTPG should request a CPUC Discounted Core update from the CPUC
 - CTPG should collaborate with CPUC to influence the CPUC LTPP scenarios
 - WSP believes the Midway-Gregg-Tesla upgrade currently categorized by CTPG as medium potential be changed to high potential due to the commercial interest in central California, environmental permitting advantages of the WSP, increase utilization of pump storage, and proximity to multiple California BAAs

NEXT STEPS – MO BESHIR

Next Steps

- Incorporate comments from Executive Committee into the Final CTPG Statewide Transmission Plan
- Respond to written stakeholder comments ~February 17th
- Post Final CTPG Statewide Transmission Plan ~February 24th
- Obtain direction from Executive Committee on the development of a CTPG 2012 Work Plan and lessons learned from 2011

2012 STUDY PLAN UNKNOWNNS/ASSUMPTIONS – MO BESHIR

2012 Unknowns/Assumptions

- Update CPUC Discounted Core
- Finalization of rulemaking for defining in-state vs. out-of-state resources
- Update of Net Short
- Update on state's distributed generation goals
- Potential impact of carbon reduction rules on imports into California
- Possible retirement of out-of-state coal units
- Disposition of existing generating units using Once-Through-Cooling technology
- Whether, and which, new integration resources should be modeled

2012 Unknowns/Assumptions

- Whether, or when, to assume nuclear plant shut-down in California
- Application of reliability standards to transmission facilities within the Balancing Authorities (BAs) adjacent to California BAs (e.g., BPA, APS, SRP, NV Energy, WAPA desert Southwest, PacificCorp, NV Energy)
- Identifying a “most likely” or “base case” and renewable resource development portfolio (for year 2022?)
- Identifying the “most likely” evolution of the “base case” and renewable resource development portfolio over time (e.g., for years 2017, 2020)

2012 Unknowns/Assumptions

- Establishing the end-point of the relevant planning horizon (e.g., 2022?)
- Identifying reliability standard violations/mitigation for intervening time periods (e.g., for years 2017, 2020)
- Update of transmission additions to be included in seed cases
- Update of generation resources to be modeled in seed cases
- Proposed transmission project alternative analysis including economic analysis
- Evaluation of non-wire solutions
- Inclusion of economic dispatch modeling

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Thank you!
