

**California Transmission Planning Group (CTPG)
Technical Study Team's Responses to October 7, 2010 Comments of
The Vote Solar Initiative (Vote Solar) on
CTPG's draft Phase 4 Study Plan**

Vote Solar Comment:

For this effort to be most useful, we encourage the CTPG to include in its analysis an evaluation of the resources, renewable resource zones (REZs) and transmission corridors identified in the various REZ processes that have taken place throughout the Southwest.¹ We further encourage CTPG to include a high-level economic evaluation of resources planned for these zones to help identify where transmission additions and expansions are most likely to occur. The National Renewable Energy Laboratory (NREL) recently performed such an analysis, albeit at a very high level, that could be used as a model to inform the Phase 4 Study Plan.²

CTPG Technical Study Team Response:

The CTPG Technical Study Team thanks Vote Solar for the references to the work being performed by the Western Governors Association's Western Renewable Energy Zones effort, Nevada's Renewable Energy Transmission Access Advisory Committee (RETAC) Phase I and II reports, the Renewable Transmission Task Force findings presented to the Arizona Corporation Commission, and the NREL economic analysis. The CTPG Technical Study Team will review this information.

The CTPG is currently contacting planning entities throughout the WECC to obtain information on renewable resource development plans and on planned transmission expansion. Note that a number of the CTPG's study scenarios used renewable resource development portfolios provided by the Renewable Energy Transmission Initiative (RETI). RETI performed a "high-level" economic evaluation of different renewable resources in different locations to identify economically feasible Competitive Renewable Energy Zones (CREZs). The CTPG expects to continue its ongoing discussions with RETI regarding the studies referenced by Vote Solar and the manner in which the information developed in those studies are reflected in the data provided by RETI to the CTPG.

Vote Solar Comment:

It is becoming more and more important to understand the integrated resource plans across the region to understand the potential impacts of fossil plant retirements due to once-through cooling regulations and

¹ Examples include the Western Governors Association's Western Renewable Energy Zones effort, Nevada's Renewable Energy Transmission Access Advisory Committee (RETAC) Phase I and II reports, and the Renewable Transmission Task Force findings presented to the Arizona Corporation Commission.

² *Renewable Resources and Transmission: Needs and Gaps*, Dr. David Hurlbut, National Renewable Energy Laboratory; May 21, 2010; presentation to Southwest Renewable Energy Transmission Workshop; <http://www.azcc.gov/images/presentations/NREL/Hurlbut%20NREL.pdf>.

new air emissions laws, potential demand side measures, including distributed photovoltaics, and policies driving increased interest in renewable energy development. While we understand the CTPG has surveyed other utilities and received input on these developments, we are concerned that there is no formal process or venue to support an ongoing two-way dialogue among regional transmission planning entities. As policies evolve, technologies mature, and procedures to address integration of variable generating resources are developed and implemented, it becomes more important to have a process for communicating these developments across the region to feed into future planning efforts.

Along those lines, the WECC RTEP [Regional Transmission Expansion Planning] process is looking into many of these issues and is developing 10- and 20-year regional transmission study plans that could inform and be informed by the CTPG's efforts. As a member of the RTEP Scenario Planning Steering Committee (SPSG), we encourage the CTPG to have an open channel of communication with this effort so that the needs of the region are addressed and to avoid duplicative or conflicting planning efforts.

CTPG Technical Study Team Response:

The CTPG provides a forum for regional transmission planning among the Balancing Authorities owning and/or operating the transmission facilities which delivers energy to nearly all of the loads in California (the California ISO, Los Angeles Department of Water and Power, Imperial Irrigation District, Sacramento Municipal Utility District, and the Western Area Power Administration). However, the CTPG Technical Study Team agrees with Vote Solar on the need for an effective inter-regional transmission planning process that includes all of the major transmission planning entities in the WECC. In this regard, the CTPG intends—as Vote Solar suggests—to have “an open channel of communication” with the WECC RTEP process. Vote Solar’s representation on the WECC RTEP SPSG, coupled with Vote Solar’s continued interest in the CTPG’s transmission planning activities, should help to facilitate communications between the organizations that will help to avoid duplicative or conflicting planning efforts.

With respect to “potential demand side measures, including distributed photovoltaics,” the CTPG Technical Study Team recognizes that the current renewable “net short” estimate is becoming increasingly stale and needs to be updated for purposes of the CTPG’s activities beyond Phase 4. Presumably this update will consider the likely impacts of (i) incremental energy efficiency, (ii) incremental distributed generation including additional amounts of combined heat power, and (iii) other applicable state energy goals. The CTPG Technical Study Team expects that the Renewable Energy Transmission Initiative (RETI), working in conjunction with the California Energy Commission, will have a central role in updating the renewable “net short” estimate and encourages Vote Solar to work closely with RETI and the Energy Commission in the update process.

Vote Solar Comment:

Finally, we encourage the CTPG not to assume that only new gas turbines built in California will be used to “firm” or “balance” renewables. We believe this balancing can and will eventually occur among the various renewable generating resources, which will require better coordination between balancing authorities, better forecasting of renewable resources, and tighter scheduling.

CTPG Technical Study Team Response:

To date, the CTPG has made no specific assumptions concerning what will be required to address the intermittency characteristics associated with certain renewable resource technologies.. The CTPG's studies have used the generating mix included in the WECC's 2019 "Heavy Summer" power flow case to model the system response that might occur under the conditions studied by the CTPG. The CTPG has not added any other dispatchable fossil-fired generation that could be required to accommodate the expected increase in intermittent renewable generation.