THE CALIFORNIA ENERGY COMMISSION

SITING, TRANSMISSION, AND ENVIRONMENTAL PROTECTION DIVISION

Western Energy Planning

California is part of a larger integrated electricity system in the western United States called the Western Interconnection, which includes all or parts of 14 western states as well as Alberta, British Columbia, and Baja California. All of the electric utilities in the Western Interconnection are electrically tied together and operate at a synchronized frequency.

Emerging western energy trends include expanding the use of renewable generation resources, declining use of coal to generate power, developing transmission to support market expansion opportunities, increasing customer choice and use of distribution connected resources, and increasing transportation electrification. Historically, California imports roughly one-third of its energy supply from generating resources located outside its borders. Given the electrical and contractual interconnectedness of California and its western neighbors, it is imperative that California maximize all opportunities to meet its greenhouse gas reduction goals in a manner that ensures electricity reliability, enhances the state's economy, and protects public health, safety, and the environment.

Since these trends have planning and operational implications for California, the California Energy Commission participates in relevant governmental and industry groups at a regional level, including the following:

- Western Electricity Coordinating Council (WECC), which is a non-profit corporation that assures a reliable bulk electric system in the Western Interconnection. WECC has been approved by the North American Electric Reliability Corporation (NERC) and the Federal Energy Regulatory Commission (FERC) as the Regional Entity for the Western Interconnection.
- Western Interstate Energy Board, which is an organization of 11 western states and three western Canadian provinces. The governor of each state and the premier of each province appoints a member to the Board. The Board promotes energy policy that is developed cooperatively among member states, provinces, and the federal government.
- Western Interconnection Regional Advisory Body (WIRAB), which was created by western governors under Section 215(j) of the Federal Power Act. Section 215 provides

for the establishment of a federal regulatory system of mandatory and enforceable electric reliability standards for the nation's bulk power system. WIRAB provides advice to the NERC, WECC and the FERC on electric system reliability.

- Western Governors' Association (WGA), which is an instrument of the governors of 19 states and 3 U.S Territories for bipartisan policy development, information exchange, and collective action on issues of critical importance to the Western United States.

California's policies and interests must be represented in regional energy forums to maintain the reliability of the Western Interconnection. The Energy Commission's active participation in these efforts ensures that California's energy policies and interests are represented in the work of these organizations and that decision makers are kept informed of findings and recommendations.

Increased regional coordination is key to tackling critical energy issues and policies, such as electricity system reliability, and is one of California's strategies to achieve its renewable energy and GHG reduction goals. Coordination offers potential to significantly increase the integration of renewable energy and to develop renewable generation in regions with factors that match or complement California's seasonal and daily operational needs. These partnerships also offer opportunities to sell California renewable generation during surplus periods instead of potentially curtailing operations, a move that helps keep costs down for customers.

The Western Energy Imbalance Market (EIM) allows for excess renewable energy in the California ISO balancing area to be transferred to other areas in real time, reducing in-state renewable curtailment and GHG emissions. Since its inception in November 2014, the EIM has provided more than $500 million in gross benefits to customers in eight western states due to more efficient dispatch of resources in both the 15-minute market and real-time dispatch. Though the EIM is just one avenue for increased western market collaboration, its success to date has motivated entities to consider further (day-ahead) market enhancements that would provide even greater GHG emissions reductions and reduced renewable curtailments.

Regional outreach enables current energy data to be shared so planning studies are coordinated in the western United States, Canada, and Mexico. As a result, increased regional coordination will help enhance reliability, reduce costs, reduce carbon emissions, and make the transmission grid more efficient.