



CaliBaja Moving Forward Together *CaliBaja Avanzando Juntos*

Takeaways from meeting on the Energy Outlook in the CaliBaja Region

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Baja California's power sector serves a population of 3.3 million people with a GDP of nearly \$28.7 billion. 90% of customers are residential and consume 34% of the power while industrial customers represent only 1.3% of customers and consume 56% of power. There are differences within Baja California in terms of energy consumption based on climate zones and seasons. The Zona Coastal and Zona Valle regions have different energy and water use profiles.

Energy security is crucial for fostering economic development, competitiveness, and sustainability. It is also central for water supplies. Energy security involves having availability of sufficient energy supply at accessible prices.

Baja California has a significant power supply deficit that becomes more pronounced in the summer. This is an energy security vulnerability that will likely cause blackouts and brownouts. The state government has taken action to meet energy demand in the last few years through the corrective protocol. It is also evaluating to restart operations in the wind farm in La Rumorosa.

Baja California's power market largely depends on importing natural gas. It has no indigenous energy sources except solar, wind and geothermal. Although the state's electric grid is disconnected from the national system, the Federal Electricity Commission (CFE) still plays a significant role. Baja California's electric grid and natural gas pipelines are connected to California's system. There are two unique cross-border connections to the Western Electricity Coordinating Council (WECC) for energy imports.

The plethora of natural resources in the region provides an opportunity to meet energy demand growth in California and the Baja California peninsula. Baja California alone has the physical resources to be the largest solar energy producer in Mexico. Wind potential is also very high and there are many sites where renewable energy (biomass, geothermal, hydropower, solar, wave and wind) can be developed.

However, the infrastructure for renewable energy needs to be established. Current Mexican federal energy policies do not favor development of energy resources by the private sector. Sempra is a notable exception since it has successfully negotiated natural gas and renewable energy projects.



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There are multiple actions that can lead to a more optimal scenario for Baja California’s energy market. A [report](#) by the Institute of the Americas suggests 1) upgrading the Cerro Prieto Geothermal Field to improve efficiency, 2) reducing nontechnical losses through wider penetration of Advanced Metering Infrastructure, 3) interconnecting existing generation assets exporting power, 4) promoting the participation of the Baja California grid in the California Independent System Operators (CAISO) Energy Imbalance Market (EIM), and 5) upgrading simple cycle gas turbines at the Presidente Juárez Power Plant in Rosarito.

Solutions must take advantage of in-state and cross-border advantages. It is suggested that Baja California and California sign a Memorandum of Understanding to formalize cooperation. Opportunities for cooperation include developing renewable energy resources, energy services, innovation in new technologies (storage, smart grids, systems analysis) and moving into the value-added segments of the lithium battery supply chain. Also, Baja California could be the major clean energy supplier to California. Future energy and water planning must take into account the potential effects from climate change.

One of California’s main goals is decarbonization. However, it is difficult to have a coherent strategy since many decarbonization-related decisions are made at the city level. The San Diego Regional Decarbonization Framework (RDF) aims to provide technical pathways to decarbonization to inform policy making in regional, county and city governments. RDF is based on national and state regional pathways to ensure that the San Diego county model is coherent with these pathways to decarbonization. It produces specific, quantitative policy options focused on proven, scalable technologies. The uncertainties and tradeoffs of each pathway are provided to emphasize that there is no “right” way and there is a need for ongoing planning processes as the landscape evolves.

Potential pathways for San Diego depend on policy priorities. Feasible scenarios have been identified to prioritize 1) least-cost, high local capacity, 2) avoiding areas of high conservation value, 3) avoiding high-value land, 4) avoiding land with natural carbon sequestration potential, and 5) high transmission deliverability. RDF concluded that San Diego County has a strong policy foundation for reducing emissions related to transportation but projected annual emissions in 2045 and 2050 are inconsistent with the levels of reductions required. The most effective and inexpensive natural climate solution in San Diego is to avoid land use change to leave natural land cover intact. Emissions from space and water heating should be a primary policy focus and a near-term priority should be to replace end-of-life fossil fuel heating systems with electrified systems.

One of the recommendations from the participants is the creation of a California-Baja California Energy Group.

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