



## CALIFORNIA- STATE ENERGY PRIORITIES AND OPPORTUNITIES

### U.S.-India State and Urban Initiative

#### California's Energy Profile and Priorities

About half of California's electricity generation in 2016 came from natural gas. Renewable energy (excluding large hydropower projects) was second at about 28 percent, while large hydropower generated about 12 percent, nuclear generated 9.5 percent, and coal generated less than .002 percent. California has invested heavily in renewable energy, especially solar, and requires its electric utilities to generate or procure 50 percent of retail sales from renewable energy by 2030. California utilities provide incentives for renewable energy and energy efficiency adoption, including rebates for energy efficiency and rooftop solar systems, and many cities and localities have instituted green building codes for new municipal buildings.

#### Potential Partnership Opportunities

##### *Incubators & Research Institutions*

[California Clean Energy Fund](#): The CalCEF provides funding to clean energy companies to increase technology adoption. Through its programs, that provide assistance at various parts of the development process, the fund supports companies in technologies such as solar, electric vehicles, and battery storage.

[California Energy Research Center](#): The CERC, housed at California State University, Bakersfield, conducts research into energy issues and leverages its engineering students to assist companies and government agencies. Research areas at the CERC include oil and gas, solar, wind, and carbon capture and sequestration.

[Center for Energy Efficiency and Renewable Technologies](#): CEERT is a consortium of environmental groups and clean energy companies that conducts advocacy and analysis on renewable energy and energy storage in California. Recent projects from the group have included contributing analysis to the California 2030 Low Carbon Grid Study and working with the California Air Resources Board on updating pollution standards for cars.

[Emerging Technologies Coordinating Council](#): The ETCC was created by the California Energy Commission and the state's four largest investor-owned utilities to help meet the state's energy savings goals. The council facilitates collaboration and partnerships across sectors nationally and internationally on technologies such as energy efficient lighting, electric vehicles, and energy storage.

[Network for Global Innovation](#): NGIN is a global network of incubators, technology parks, research institutes, universities, and corporations dedicated to developing new technologies to fight climate change. The network seeks to bridge the "innovation gap" between developing technologies in laboratories and deploying those technologies at a large scale.

[Lawrence Berkeley National Laboratory](#): LBNL is one of the U.S. Department of Energy's national laboratories, managed by the University of California system, that conducts scientific research in energy and other fields. LBNL's staff is already working with the central government of India on the design of



EV policy, off-grid energy and super-efficient appliance research, and building energy efficiency research and development.

[Los Angeles Cleantech Incubator](#): LACI is a business incubator funded by the City of Los Angeles that helps fund startups in clean energy. LACI currently houses companies working in technologies such as electric vehicles, biomass, energy efficient lighting, and solar. LACI is a member of NGIN.

[Powerhouse](#): Powerhouse provides seed funding for innovative companies in the clean energy sector. Companies housed at Powerhouse work in technologies such as solar, wind, and biomass, and provide solutions such as residential energy data, smart home management, and grid security software.

[Prospect Silicon Valley](#): ProspectSV provides funding and implementing capacity to startups in the cleantech industry. Companies housed at ProspectSV work in technologies such as energy storage, electric vehicles, smart cities, and automation.

[San Diego State University](#): SDSU is interested in fostering technology innovation and commercialization in innovation clusters, including the [San Diego Regional Energy Innovation Network](#) (SD-REIN), and high-value agriculture production in the water/energy/food nexus.

[University of California-Berkeley](#): UC Berkeley has a strong Energy Resources Program that has two core projects relevant to India's states: the energy modeling, analysis and control (EMAC) program and the renewable and appropriate energy laboratory (RAEL). The Energy Institute at Berkeley's Haas School of Business can assist Indian states with assessing impacts of energy programs, particularly those pertaining to micro-grid/off-grid technology deployment.

[University of California-Los Angeles](#): UCLA's Smart Grid Energy Research Center is capable of assisting India's states develop projects and think through policies focused on smart grids, electric vehicle deployment, energy storage and renewable energy integration, cyber security, automated demand-response, and internet enabled devices.

[Valley Ventures](#): Valley Ventures is a business incubator housed at Fresno State University that assists startups in agriculture, water, and energy technologies. The accelerator is currently funding a company that converts biomass into a renewable fuel for use in coal plants.

[Water, Energy, and Technology Center](#): The WET Center is a technological partner of Valley Ventures that accelerates innovative technologies for agricultural producers. Companies housed at the WET Center work in solar photovoltaics, solar process heat, and biomass.

### *State Programs*

[California Energy Commission](#): The CEC is California's primary energy policy and planning agency. In addition to driving the state's energy policy, the commission sets standards for energy efficiency, runs research and development programs, leads the state's emergency planning efforts, and contributes to the state's climate goals.

[Energy Innovations Small Grant Program](#): The California Energy Commission provides grants to companies for research into new, innovative technologies that provide benefits to California electric ratepayers. The grants are awarded to prove the feasibility of early-stage concepts in electricity, natural gas, and transportation.



[City of Los Angeles](#): Los Angeles has a sister city relationship with Mumbai and is interested in deepening its engagement with India. The city released a comprehensive sustainability pLAn to chart its development to 2035 with targets in 14 categories. The unique set of public-private partnerships the city's administration has fostered might be replicated in India to spark innovation and job growth, particularly if led by the utility sector in India's states.

[City of San Diego](#): The City of San Diego is working on electric vehicle infrastructure implementation, direct and indirect incentives for electric vehicles, mobility hub planning, and solar for public areas.

### *Other Opportunities*

[U.S.-China Clean Energy Research Center Clean Vehicles Consortium](#): The University of California-Davis China Center for Energy and Transportation is a participant in the US-China CERC Clean Vehicles Consortium, which is conducting research in electric vehicles, biofuels, lightweight materials, and vehicle-grid integration. As part of the program, [the UC-Davis Institute for Transportation Studies and the China Automotive Technology and Research Center](#) are collaborating on designing zero-emission vehicle policies and analysis of consumer markets.

California also has an ongoing collaboration with the [Chinese government](#) and with two Chinese provinces ([Sichuan](#) and [Jiangsu](#)). It also participates in the international [Under2 Coalition](#) (which also includes Telangana and Chhattisgarh), demonstrating a willingness to work with other national and sub-national governments on climate and energy.

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