

# CALIFORNIA'S ADVANCED ENERGY ECONOMY

Advanced Energy Business Leaders' Perspectives and Recommendations on California's Energy Policies

Based on a series of interviews with CEOs and other senior executives of advanced energy companies with operations in the State of California, this report presents key findings about perceptions of the state's energy policies and conditions for realizing their potential, along with specific recommendations for actions to accelerate the growth of an advanced energy economy in California.

## Observations From California's Advanced Energy Executives

**California's energy policies have put the state on the cutting edge of advanced energy development, investment, and deployment.** California is a national leader both in technology and policy innovation that spans a wide range of sectors: advanced vehicle fuel standards; alternative vehicles and the infrastructure to support them; developing markets for renewable energy resources; deep deployment of energy efficiency, through advanced building codes, appliance efficiency standards and utility policies and programs; support for investment in smart grid, transmission, and on-site generation technologies; and funding for advanced energy research and development (R&D). Together, these policies create powerful demand for advanced energy technology development, products, and services – making California a testing ground for development of a vibrant advanced energy economy nationwide.

**California offers a diverse set of financial tools for advanced energy research, demonstration, deployment, and for unleashing private investment in private companies.** These tools include energy technology development grants, ratepayer funding for energy efficiency, tax incentives for investment, and other financing mechanisms for advanced energy investment.

California has launched the biggest policy experiment affecting energy markets to date: a **multi-sector cap on greenhouse gas (GHG) emissions** in the state, known as AB 32. Combined with California's energy policies, this program will lead to billions of dollars of investment in advanced energy technologies, systems, and equipment to better meet energy needs.

**California's advanced energy economy benefits from clear strategic assets**, including Silicon Valley, a highly trained labor force, a culture of innovation, and many investment firms.

**There is growing anxiety over reactions** to the cumulative price tag and distributional impacts of California's policies. Advanced energy CEOs see it as essential that these policies and the programs that flow from them be managed in a way that avoids unnecessary waste and inefficiency and mitigates potential cost impacts that could result in a backlash against California's energy leadership.

**A clearer and more accountable assignment of responsibility** would make administration of the state's complex web of energy policies and programs more effective. Without focused attention to streamlining administration, the success of these programs in stimulating advanced energy adoption and business growth could be at risk.

While California provides an enviable environment for technology research and development, product design and testing, and retailing of advanced technologies, **our companies find it much more challenging to establish manufacturing operations in the state and to develop advanced energy installation projects.** The state's environmental quality act (CEQA) presents particular challenges, both in compliance, which is onerous compared to the environmental review process in other states, and in project development, where the law allows for opponents to engage in obstructive tactics even against projects that offer environmental benefits.

**Low natural gas prices are a double-edged sword**, providing relief in the form of lower energy prices for business and residential customers but creating economic hurdles that make it difficult to introduce some newer advanced energy technologies into the marketplace.

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## Recommendations From California's Advanced Energy Executives

**California should articulate an integrated vision and action plan in support of an advanced energy economy** to help guide, coordinate, and prioritize agencies' actions, and to provide greater accountability for successful implementation of the state's policies.

**California should strive to establish the stability and predictability businesses and investors need to pursue innovation.**

Programs that change year to year and incentives that expire after a short period of time (or get renewed on a short-term basis) are not conducive to investment and business development. California should maintain a commitment to energy policy solutions with longer-term, stable trajectories.

**California should foster innovation and competition by avoiding programs that pick technology winners.** Competition spurs innovation and drives down cost in meeting policy goals. California should structure programs to encourage the private sector to bring innovative technologies to the market that meet desired energy and/or environmental performance standards rather than implicitly or explicitly prescribe specific technologies.

**The Governor should appoint and empower an advanced energy business ombudsman,** to assist advanced energy companies in navigating the policies, programs, and requirements intended to promote advanced energy growth and adoption.

**California should use funding from the AB 32 revenues to fill gaps in private sector funding of advanced energy technologies and companies,** especially for smaller early-stage companies and for developers of pre-commercial technologies that need assistance in demonstration and scale-up.

**California should reform CEQA to streamline the environmental review process and prevent abuse.** Advanced energy projects could be completed faster and at lower cost (to applicants, to the state, and in many cases to the environment) if compliance with CEQA were more straightforward and if the law were less easily used for NIMBY purposes.

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