PADP 6960 Course Paper

A Successful Organization Story of The California Energy Commission

A Case Study of the Clean Transportation Program

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Abstract

The California Energy Commission (CEC) was established in 1974 and is leading the state to a 100 percent clean energy future. This paper tells a great successful organization story of CEC by analyzing its specific program-Clean Transportation Program. First, the paper introduces the background of the CEC and its missions and goals. And then, the paper explained what values that CEC is pursuing. Third, the paper described the organizational structure and its inter-organization powers. The following parts are all relative to the Clean Transportation Program. the paper introduces the program first and then analyzes its external and internal environments. In addition, it shares how the program makes decisions and does management and what innovations the program made when facing changes. Finally, I recommend using an program evaluation framework from a similar program in the California Air Resources Board (CARB).

Introduction

The 1973 energy crisis bought energy policy into the public spotlight. In the early 70s California's energy mix was a mixed bag about 1% nuclear, 8% large hydro, 9% coal, 30% natural gas, and 60% petroleum. These resources supplied the state's total demand for electricity[1].

The Legislature passed a bill in September 1973 that created a commission to manage energy policy, but Governor Ronald Reagan vetoed it because of perceived government interference in markets. But the next month, the Organization of Petroleum Exporting Countries

[1] 45 Years of Energy Leadership: A Look Back at the CEC. YouTube. https://www.youtube.com/watch?v=z8-1eOb5iDo&ab_channel=CalEnergyCommission

(OPEC) declared an oil embargo in response to U.S. support for Israel during the Yom Kippur War, triggering a nationwide oil shortage. The Oil Crisis turned concerns about America's dependence on foreign oil into front-page news. Many utilities saw nuclear power as the solution. But nuclear power plants generated environmental concerns.

In 1974 with a stressed energy industry rising demand for electricity and heightened awareness of environmental issues, state Assemblyman Charles Warren and Senator Al Alquist wrote what would become the Warren-Alquist Act. In this Act, The California Energy Commission (CEC) was born. The state legislature created a commission to lead the state toward a more sustainable, reliable, and cleaner energy future. This time Governor Reagan signed the Act into law and it took effect the next year[2].

The CEC is leading the state to a 100 percent clean energy future[3]. As the state's primary energy policy and planning agency, its primary responsibility is to facilitate the development of all energy projects and to encourage green energy programs. The commission has the authority to approve or deny site applications for new power plants, to write energy performance standards for new buildings and appliances, to fund research and development, and to support investment in efficiency programs. The commission also permits energy facilities, decides where transmission lines can go, forecasts future energy needs and prepares responses to potential energy emergencies (California Energy Commission, 2020).

Organization Missions and Goals

[2] California Energy Commission. http://www.allgov.com/usa/ca/departments/natural-resources-agency/california_energy_commission?agencyid=150

[3] About the California Energy Commission. https://www.energy.ca.gov/about/core-responsibility-fact-sheets-new/about-california-energy-commission

Missions

Ensuring a reliable supply of electrical energy. The Legislature hereby finds and declares that electrical energy is essential to the health, safety and welfare of the people of this state and to the state economy, and that it is the responsibility of state government to ensure that a reliable supply of electrical energy is maintained at a level consistent with the need for such energy for protection of public health and safety, for promotion of the general welfare, and for environmental quality protection.

Allocating energy resources. It is the policy of the state and the intent of the Legislature to establish and consolidate the state's responsibility for energy resources, for encouraging, developing, and coordinating research and development into energy supply and demand problems, and for regulating electrical generating and related transmission facilities.

Conserving energy resources. It is further the policy of the state and the intent of the Legislature to employ a range of measures to reduce wasteful, uneconomical, and unnecessary uses of energy, thereby reducing the rate of growth of energy consumption, prudently conserve energy resources, and assure statewide environmental, public safety, and land use goals. Over the past decade the state Legislature has pursued an aggressive green energy agenda, which has caused the commission to grow in both size and influence.

Promoting all feasible means of energy. It is further the policy of the state and the intent of the Legislature to promote all feasible means of energy and water conservation and all feasible uses of alternative energy and water supply sources. A big part of what the commission does is facilitating those goals by awarding funds to companies that are developing green technology.

Goals

AllGov California summarized the CEC's five basic responsibilities. These are forecasting future statewide electricity needs and keeping historical data on energy; licensing power plants to meet those needs; promoting energy efficiency and conservation; developing renewable energy resources and alternative energy technologies; and planning for and directing state response to energy emergencies. Based on these responsibilities, the CEC has to achieve eight goals (Brown, 2014).

Goal 1: Energy Policy. The CEC needs to make energy public policy recommendations based on relevant and objective information, forecasting and analyses to the Governor, Legislature and other federal, state and local decision makers that promote affordable energy supplies, improve energy reliability, and enhance health, economic well-being and environmental quality.

Goal 2: Information Resources. The CEC needs to collect targeted energy data and provide policy makers, consumers and other stakeholders with useful and objective information and analyses based on that data. Ensure data is managed responsibly and is secure.

Goal 3: Researching and Developing Polices and Programs. Research and Development Division's policies and programs promote strategic energy investments to foster innovation, create new energy solutions, cultivate regional innovation and bring clean energy ideas to the marketplace.

Goal 4: Power Plant Setting. The CEC ensures that all energy facilities, approved by the Energy Commission, are designed, constructed, operated, and decommissioned in compliance with all applicable laws, ordinances, regulations, and standards.

Goal 5: Building and Appliance Efficiency Standards. An easy way to reduce the costs, environmental impacts, and vulnerabilities of the energy system is to use less energy. Adopting progressive building and appliance energy efficiency standards will maximize durable and reliable energy efficiency. The standards should be flexible with straightforward compliance approaches and be the foundation for zero net energy buildings and highly efficient appliances.

Goal 6: Transportation. The CEC aims to promote deployment of advanced transportation technology, including alternative and renewable fuels, vehicles, technologies, and infrastructure, to help the state achieve its energy security, petroleum reduction, clean air, and greenhouse gas reduction goals.

Goal 7: Renewable Energy. California has established bold renewable energy goals—including requiring that 60 percent of the state's electricity come from renewable resources, such as wind, solar, and geothermal, by 2030.. The CEC tries their best to support California's ambitious Renewables Portfolio Standard by certifying eligible renewable energy generators, verify all renewable energy procured by utilities, ensure progress by publicly owned utilities, and promote renewable energy in California.

Goal 8: Excellent in Management. The CEC establishes, implements and maintains financial and resource allocation plans, and an organizational structure and information system to support the Energy Commission in accomplishing its missions and values. Implement staff and management professional development programs and ensure accountability.

Organization Values

The CEC's highest responsibility is to the people of California. We strive to conduct business in a manner that results in maximum public benefit while ensuring fiscal integrity and

accountability for the expenditure of funds. The CEC is dedicated to three values: public service, human resources, and excellent products and services (Brown, 2014).

Public Service. All interactions between the CEC and the public and interest groups are essential to carry out the CEC's responsibilities. The CEC focuses on these relationships by devoting their time, skills, abilities, intelligence, creativity, products, and public services.

Human Resources. The CEC's most valuable resource is its personnel. Each person is to be treated with dignity, respect, fairness, and understanding. Managers and supervisors strive to recruit, train, develop, and retain employees who are skilled, motivated, creative, intelligent, and reflective of California's cultural diversity. Commissioners and managers are committed to providing the leadership to create a positive work environment for Energy Commission employees that offers superior performance, recognition, rewards, and professional fulfillment opportunities.

Excellent Products and Services. The CEC is committed to providing superior products and services that are timely, accurate, reliable, responsive, and useful. All staff strives to continuously improve technologies, processes, structure, and the way we provide analysis, products and services to the public and other stakeholders.

Organization Structure and Inter-organization Powers

The CEC has a four-hierarchy structure: commissioners, small independent offices, office of the executive director, service divisions (see Figure 1).

The commission is headed by a five-person board made up of specialists representing four different fields of study and a fifth person serving as the public adviser. The Governor appoints, with Senate confirmation, five commissioners to staggered five-year terms. The four

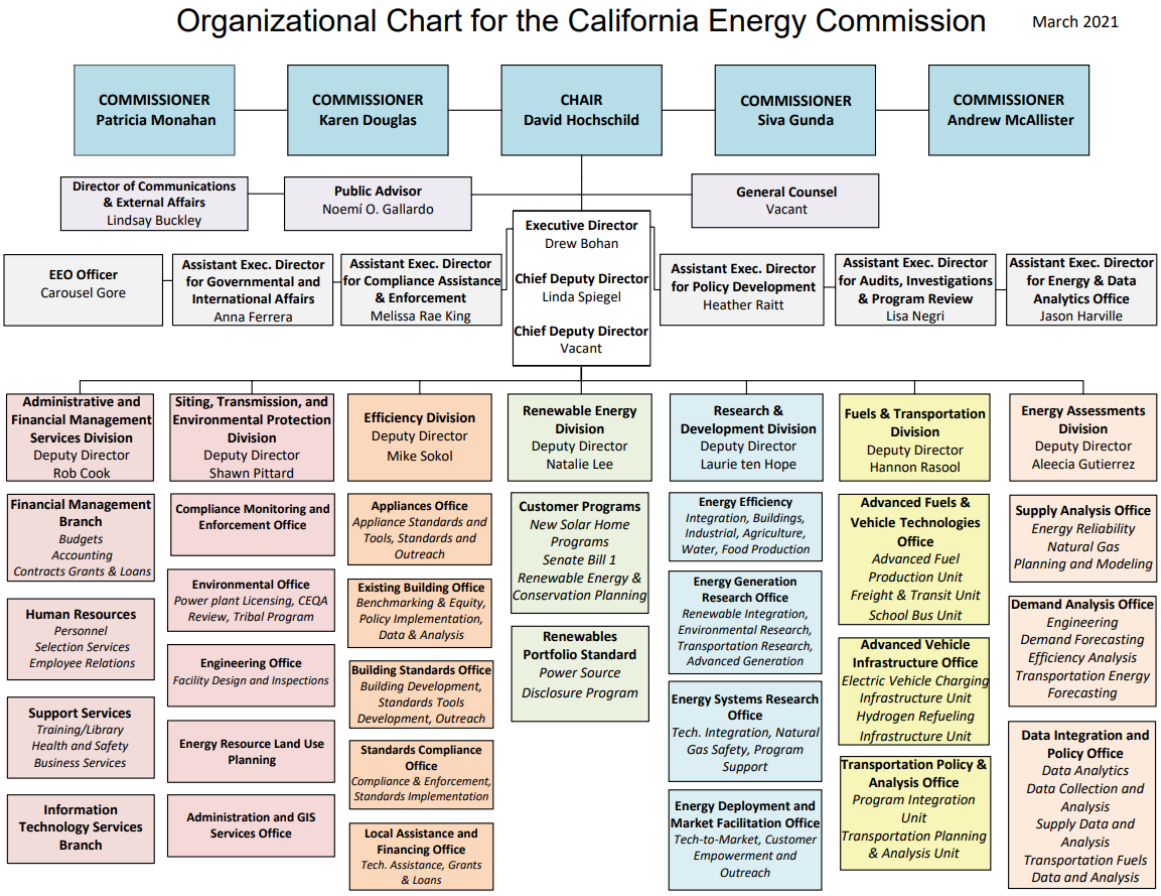

Figure 1: Organizational Chart for the California Energy Commission[4]

fields of specialization are engineering or physical science, environment, economics and law[5]. The public adviser is nominated by the committee and then appointed by the governor. He or she serves only a three-year term (D. Murimi, personal communication, May 6, 2021). In the CEC, the commissioners lead the policy formulation in engineering science, environmental protection, economics, and law[6]. The Chair Hochschild focuses on clean energy. Commissioner Douglas serves as attorney leader. Commissioner Gunda is responsible for energy assessment and long-term electricity planning. Commissioner McAllister guides the CEC as an economist.

[4] Source: CEC website. https://www.energy.ca.gov/sites/default/files/2020-03/California%20Energy%20Commission%20Org%20Chart_ADA.pdf
[5] Commissioners Introduction. https://www.energy.ca.gov/about/commissioners
[6] Commissioners. https://www.energy.ca.gov/about/commissioners

Commissioner Monahan serves in the Energy Commission's Science/Engineering position and is the lead commissioner on transportation.

The small independent office provides research, survey and report to the CEC. Also, they help the CEC release publications and build media accounts. For example, The Public Advisor's office advises the public and the CEC to ensure full and effective participation by all interested groups and the public at large in the CEC's planning, procedures, proceedings, business meetings, workshops, and other activities. The CEC nominates the Public Advisor, whom the Governor appoints to a three-year term. Governor Gavin Newsom appointed Gallardo to the position in August 2019.

The Office of Executive Director oversees the annual Integrated Energy Policy Report (IEPR) and more than a dozen reports that track California's progress in transforming its energy system. The Office of Executive Director includes six sub-offices: Employment Opportunity Office (EEO), Governmental and International Affairs Office, Compliance Assistant and Enforcement Office, Policy Development Office, Audits Office, and Energy and Data Office.

The commission is broadly divided into seven different divisions: Administrative and Financial Management Services Division, Siting, Transmission, and Environmental Protection Division, Efficiency Division, Renewable Energy Division, Research and Development Division, Fuels and Transportation Division, and Energy Assessments Division. And most of them are responsible for a certain branch of energy technology. Many of these subdivisions are responsible for funding clean energy projects. Each of those receives thousands of proposals a year from companies, nonprofits or local governments requesting funding for projects related to that subdivision's field. Each subdivision is given a different budget, which is determined either by state law or the commission board.

Clean Transportation Program

The California Energy Commission's Clean Transportation Program provides funding to support innovation and accelerate the development and deployment of advanced transportation and fuel technologies[7]. The program plays an important role in achieving California's ambitious goals on climate change, petroleum reduction, and adoption of zero-emission vehicles, as well as efforts to reach air quality standards. It also supports the state's sustainable, long-term economic development. The CEC has an annual Clean Transportation Program budget of approximately $100 million and provides financial and technical support for projects that 1) reduce greenhouse gas emissions as well as criteria and toxic air pollutants from the transportation sector, 2) address the clean air, employment, and mobility needs of low-income or disadvantaged communities, 3) deploy or support the deployment of electric vehicle charging and hydrogen refueling infrastructure, and 4) support workforce training programs, local and regional planning, and in-state manufacturing for zero-emission vehicles and infrastructure.

Organization's External Environment

The California legislature has enacted bills that support clean transportation by requiring reductions in criteria pollutants, greenhouse gas emissions (GHGs), and the carbon intensity of transportation fuels (Baroody, Eckerle, & Bevan, 2020). The Clean Transportation Program was established by Assembly Bill 118 (Núñez, 2007), which took effect on January 1, 2008. In 2013, the State Legislature passed Assembly Bill No.8 to re-authorize and extend this program administrated by the CEC. This program provides up to $100 million per year toward innovative

[7] Clean Transportation Program. https://www.energy.ca.gov/programs-and-topics/programs/clean-transportation-program

transportation and alternative fuel technologies, including electric vehicle charging and hydrogen station infrastructure.

The CEC has invested over $11 million in regional ZEV readiness planning to equip communities for increasing numbers of ZEVs by establishing regional and local plans for ZEV infrastructure deployment (Baroody, Eckerle, Bevan, 2020). In 2017, the CEC released funding for a competition that challenged local and regional project teams to accelerate electrified transportation with a holistic and futuristic view of transportation planning.

The CEC's Clean Transportation Program has funded over $52 million for 24 manufacturing projects including ZEV powertrains and fully integrated zero-emission buses, trucks and motorcycles, and electric vehicle chargers. Many of the 700 manufacturing jobs that have been created or retained as a result of these investments are vital to many disadvantaged and low-income communities as well as small businesses. The CEC has also invested $31 million in workforce projects for more than 17,400 trainees to support advanced vehicle technology maintenance and service sectors as well as support for clean transportation EVS33 8 technology innovation, demonstration, deployment and manufacturing[8].

California's largest manufacturer is now Tesla, a ZEV only company that has leveraged these and other state programs (including sales and use tax exclusions), to grow.

Organization's Internal Environment

The Clean Transportation Program is only administrated by the Fuels and Transportation Division. Under the Fuels and Transportation Division, Transportation Policy and Analysis

[8] California to Unveil $50 Million Initiative to Accelerate Charging and Refueling for Zero-Emission Trucks and Buses. https://www.energy.ca.gov/news/2021-04/california-unveil-50-million-initiative-accelerate-charging-and-refueling-zero

Office takes charge of writing the "2020-2023 Investment Plan Update for the Clean Transportation Program[9]." They released the first draft on March 2, 2020 and held the first Advisory Committee Meeting for the Clean Transportation Program 2020-2023 Investment Plan Meeting on March 3, 2020. The Advisory Committee was established to provide advice and guidance to the California Energy Commission and serve as a forum to consult on matters relative to developing the Clean Transportation Program Investment Plan. In June 2020, the office published Lead Commissioner Report (June 16) and held the second Advisory Committee Meeting (June 19). The CEC also encourages public participation to engage in the policy process. Therefore, the CEC organized business meetings every month to obtain the grass-root detailed requests and recommendations. Anyone can speak for three minutes or less at a business meeting on an issue concerning the Energy Commission. The Business Meeting format meets the provisions in Government Modernization, Efficiency, Accountability, and Transparency Act of 2005. And then, the Transportation Policy and Analysis Office revised the original Lead Commissioner Report on October 13. They continually updated "the 2020-2023 Investment Plan Update for the Clean Transportation Program" on September 30, October 13, and November 30, 2020.

In addition to the policy analysts and staff in the Transportation Policy and Analysis Office, this 2020-2023 Investment Plan was also finished by collaborating with other leader or staff in other internal agencies, such as Chair Hochschild, Vice Chair Scott, Commissioners Douglas, McAllister, and Monahan. Dorothy, a CEC public advisor, said that they usually use

[9] 2020-2021 Investment Plan Update Proceeding. https://www.energy.ca.gov/programs-and-topics/programs/clean-transportation-program/clean-transportation-program-investment-5

the Microsoft Team app to track the program report among different members from various offices (D. Murimi, personal communication, May 6, 2021).

Management and Decision-making Process

As the Project Manager in the Clean Transportation Program, Patrick Brecht should consider health, equity, and sustainability in the decision-making process with a holistic and futuristic view. He needs to determine the goal-driven priorities of the program by incorporating input from stakeholders, the disadvantaged communities, and the Advisory Committee. Although the long-term goals of this program remain the same, the CEC is committed to considering the ongoing public health crisis and economic impacts associated with COVID-19 in the short-term (Newsom, 2020).

In 2015, the CEC adopted a resolution to improve fair and equal opportunities for disadvantaged and underserved communities to benefit from CEC programs. As a result, according to the Clean Transportation Program Awards, as of May 1, 2020, roughly 36% of the program funds have been awarded to disadvantaged communities[10].

The Disadvantaged Communities Advisory Group (DACAG) wrote a letter to the CEC on June 28, 2019. They recommended prioritizing and investing in proper community outreach and engagement. In addition, the CEC issued a request for new members to the Advisory Committee for the program in December 2019. The perspectives and recommendations of the member will assist in forming an inclusive approach for allocating investments. For example, the Advisory provided Funding Disposition Make up To-Date, Funding by Geography (e.g., South

[10] Source: California Budget Change Proposal – Cover Sheet.
https://esd.dof.ca.gov/Documents/bcp/2122/FY2122_ORG3360_BCP4209.pdf

Coast, San Diego, and Monterey), Funding Toward Disadvantaged and Low-Income Communities pie Charts to the CEC.

Furthermore, the CEC consulted with the California Air Resources Board (CARB) to analyze whether light-duty electric vehicle charging station infrastructure is disproportionately utilized. CEC staff has the responsibilities to identify, collect, and assess data on the demographic index. And they also receive feedback from public utilities, electric vehicle charging manufacturers, and electric vehicle companies to learn about the current situation.

After consulting with these agencies, the CEC follows a funding mechanism to implement the Clean Transportation Program. First, CEC staff proposes funding allocations based on their priority consideration. Second, the Investment Plan is uploaded on the CEC website before the CEC Public Business meeting. Third, the CEC issues a series of competitive solicitations called grant funding opportunities (GFOs) to decide the priorities. Each solicitation has a set of score criteria to be compared, like meeting requirements of laws, benefiting disadvantaged communities, and establishing minimum requirements.

Organization's Capacity for Innovation and Change

The Clean Transportation Program develops and deploys innovative technologies that transform California's fuel and vehicle types to help attain the state's climate change policies.

CEC mangers are trying to find innovative solutions to fill anticipated gaps in charging infrastructure and avoid a slowdown of light-duty electric vehicle adoption. In order to facilitate zero-emission process, the CEC developed the Electric Vehicle Infrastructure Projection (EVI-

Pro) Analysis and Visualization Tool[11] to plan for state-wide and county-level charging station deployment. The tool is used by the State to provide infrastructure goals and by local communities to develop charging infrastructure plans. For hydrogen stations, the State develops the "Annual Evaluation of Fuel Cell Electric Vehicle Deployment & Hydrogen Station Network Development".

One challenge of funding infrastructure is that the ZEV market and technology is continually advancing so investments made at a point in time can quickly become outdated. The CEC helped to solve its challenge of timely charging infrastructure installations by providing a block grant program called CALeVIP[12] administered by the CSE to more nimbly deploy charging infrastructure in a focused, market-responsive way (Baroody, Eckerle, Bevan, 2020).

Organizational Performance and Effectiveness

Because there is no framework widely received in the CEC's Clean Transportation Program, I recommend using Greenlining's Operationalizing Equity Framework, a program evaluation of California's Clean Vehicle Assistance (CVA) Program in the California Air Resources Board (CARB). The CVA Program provides grants and affordable financing to help income-qualified Californians purchase or lease a new or used hybrid or electric vehicle. Their goal is to make clean vehicles accessible and affordable to all who qualify. The goal of the CVA program is highly similar to the Clean Transportation Program. Therefore, Greenlining's

[11] CEC EV Infrastructure Projection Tool (EVI-Pro). https://maps.nrel.gov/cec/?aL=0&bL=cdark&cE=0&lR=0&mC=36.84446074079564%2C-116.34521484375001&zL=6

[12] California Electric Vehicle Infrastructure Project (CALeVIP) Cost Data. https://www.energy.ca.gov/programs-and-topics/programs/clean-transportation-program/california-electric-vehicle

Operationalizing Equity Framework may be a good performance and effectiveness evaluation for the Clean Transportation Program.

To get an in-depth analysis of the CVA Program, multiple data sources and documents will be used. Documents include grant solicitation and summary of applicants, program implementation manual, review of administering organizations, and reports to the California Air Resources Board. The documents also include interviews with program staff, including the Program Director, Operations Director, Data and Impact Manager, and Community Engagement Manager. Interview questions were specific to each interviewee based on their role at the CVA Program and ability to speak on different program functions. Questions were based on either particular program details or Greenlining's equity framework. This research combines two methods to determine how equity is being implemented in the CVA Program. First, survey respondents who qualify for the program are compared to those who don't qualify for the program based on income eligibility to determine if there is a difference in concerns of clean vehicle adoption barriers. Second, a program evaluation utilizing an equity framework is used to look at the program as a whole. Finally, using the equity framework as a reference, analysis is done on how the program addresses these barriers to adoption (Diaz, 2020).

Conclusion

The CEC is still making progress to achieve its ambitious goals and making innovative methods to face rapid changes. I hope this story of the CEC could give you a comprehensive and resourceful view to understand public management and organizational theories.

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