CALIFORNIA ENERGY COMMISSION

Investing in Energy Innovation

Technology innovation in California is needed to create a modern energy system that can power the world's fifth largest economy in ways that are cleaner, safer, more affordable, and reliable.

Since 1975, the California Energy Commission has advanced innovation through its energy research and development programs. Energy Commission research has generated billions of dollars in energy cost savings for California ratepayers, helped create new businesses and thousands of jobs, and attracted almost $2 billion in private and federal investments.

Modernizing California's Energy Systems

The energy we use and the ways we use it are rapidly changing. Continued innovation is necessary for California's energy system to make the leap from a nearly century-old system to one that meets modern needs and challenges.

The Energy Commission supports the modernization of California's energy system by investing in science and technology that aligns with the state's policy goals. These investments support advancements in energy efficiency, renewable energy, storage technologies, energy-related environmental protection, transmission and distribution, and transportation technology. The Energy Commission partners with businesses, utilities, energy companies, public advocacy groups, and world-class scientists at California universities and national laboratories to help achieve technology breakthroughs and bring them to market.

Critical Research Areas

Energy Commission research and development programs bridge the gap between the laboratory and the market, transforming tomorrow's technologies into today's reality. Investments are focused on projects that aim to:

- Bring new clean energy technologies and related benefits to disadvantaged and low-income communities.
- Use climate science for energy planning decisions.
- Enable a more decarbonized and decentralized electric grid.
- Maintain critical operations and services during grid outages, extreme weather events, and catastrophes.
- Address vulnerabilities in the natural gas infrastructure.
- Develop scalable technology solutions for the industrial and agricultural sectors.

- Advance energy efficiency solutions in homes and businesses.
- Address product gaps in the energy storage market.
- Reduce the cost of renewable generation.
- Advance low-carbon transportation technologies.
- Create a vibrant entrepreneur ecosystem where entrepreneurs may thrive.

Investment Portfolio

Electricity System

The Energy Commission invests approximately $130 million a year for electric system research and development projects through the Electric Program Investment Charge (EPIC) program. These funds support innovative projects that have the potential to provide safer, lower-cost, cleaner, and more efficient and reliable electricity for investor-owned utility ratepayers.

Natural Gas System

The Energy Commission's Natural Gas research and development program funds innovative projects to improve the state's natural gas system. These investments, which total more than $20 million a year, complement electric system improvements to reduce energy use and costs, improve reliability and safety, and reduce environmental impacts.

Reducing Energy Costs in Food Processing

Production Investment Program is part of the California Climate Investments, a statewide initiative that puts billions of carbon cap-and-trade dollars to work reducing greenhouse gas (GHG) emissions, strengthening the economy, and improving public health and the environment — particularly in disadvantaged communities. The program will provide approximately $118 million in funding to the food processing sector, to accelerate the adoption of state-of-the-art technologies that can substantially reduce energy use and costs, and the associated GHG emissions.

Research Planning, Implementation, and Success

The Energy Commission's research investments are attracting additional private and public sector funding. The California Sustainable Energy Entrepreneur Development Initiative, or CalSEED, provides opportunities for entrepreneurs to apply for seed funding to move their invention through the proof-of-concept stage. To date, 109 companies have attracted $28 million in private investment, and $6 million in public funds.

The Energy Commission is working to further involve small businesses, women, minorities, and disabled veterans in its energy innovation projects. The Energy Commission allocates a minimum of 25 percent of EPIC technology demonstration and deployment funds to projects located in and benefitting disadvantaged communities and an additional 10 percent for projects located in and benefitting low-income communities.

As a lead administrator of California's public-interest research programs, the Energy Commission is committed to making its investments through the use of a transparent and public process.