

California alternative-energy program is under scrutiny

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California is spending nearly \$15 million to build 10 hydrogen fueling stations, even though just 227 hydrogen-powered vehicles exist in the state today.

It's a hefty bet on the future, given that government officials have been trying for nine years, with little success, to get automakers to build more hydrogen cars.

The project is part of a sprawling but little-known state program that packs a powerful financial punch: It spent \$1.6 billion last year on a myriad of energy-efficiency and alternative-energy projects.

Even as California has scaled back education, law enforcement and assistance to the disabled in this era of financial stress, the energy program has continued unrestrained and is expected to grow significantly in coming years.

State agencies have invested in milk trucks that run on cow manure, power plants fueled by ocean tides and artificial photosynthesis for powering vehicles and buildings.

The spending is drawing increasing scrutiny. Some of the energy investments have gone bust, electricity costs have soared, and some economists have disputed the benefits. The legality of some consumer fees that fund the programs also is being challenged in court.

The alternative-energy projects are largely financed by small charges on electricity bills or obscure consumer fees that are seldom noticed. The hydrogen fueling stations, for example, will be financed by a \$3 fee on license plates.

Proponents of this spending say the funds are working the way they were designed. The money is helping position the state as an international leader in energy-conservation technology, said Michael Peevey, president of the California Public Utilities Commission.

"We are on a mission to deal with climate change," said Peevey, who oversees most of the spending. "It is considered a great success story."

Not everybody is convinced that the investments are doing any good for ratepayers.

"Suddenly, you look up and there are literally hundreds of millions of dollars going into investments that produce marginal benefits," said state Sen. Rod Wright, D-Inglewood, a member of the Energy, Utilities and Communications Committee.

"You know the tale of Robin Hood? Well, this is robbing the 'hood," he said. "You are taking from poor people to give to rich people."

Over the last decade, the state has invested nearly \$15 billion in its campaign for energy efficiency and alternative energy.

The vast majority of the money is doled out through about 20 programs run by three agencies - the California Energy Commission, the Public Utilities Commission and the Air Resources Board.

The spending dates back to the 1970s energy crisis. More recently, the passage of the 2006 Global Warming Solutions Act has shifted

California's focus to become a leader in greenhouse-gas reduction.

The largest amount is for a \$1 billion-a-year program that funds rebates and subsidies - on products including solar panels, industrial equipment and energy-efficient swimming pool pumps - for residential and commercial customers of utilities. About 24,000 free refrigerators were delivered to families that met income qualifications.

The rest of the money is largely spread among a tangled collection of special projects and programs. The agencies have wide discretion in distributing the money, which has resulted in a program that lacks a comprehensive strategy, according to a report by the Legislative Analyst's Office.

The disbursements in 2012 included \$317 million for renewable-energy projects; about \$250 million for advanced transportation projects; and \$44 million for research grants, according to the report.

The spending is headed sharply higher due to two recent laws that created roughly \$1 billion in new taxes and fees for clean-energy goals. "We are moving in the direction of spending \$2.5 billion per year on energy efficiency and alternative-energy programs," said Tiffany Roberts, author of the Legislative Analyst's Office report.

At that point, the spending would surpass the current level of state support for the University of California system.

Many of the projects involve technologies and research that even aggressive venture capitalists will not touch.

Robert B. Weisenmiller, chairman of the California Energy Commission, said he believes his agency's approach has "hit some real home runs."

The commission recently awarded \$1.6 million to a UC Berkeley team researching a high-tech solution to cold feet. The team is developing a personal-comfort system for offices, including a low-power foot warmer, desk fan and temperature-controlled chair.

Researcher Fred Bauman said the foot warmer resembles a bread box open on one side, allowing workers to stick their feet in to get warmed from the top down. It would run on an average of 30 watts, a tiny amount compared to the 1,500-watt portable heaters that people put under their desks.

"We are going to test this in several buildings and get the data to show that we can save a lot of energy and people will be just as happy," Bauman said.

State officials say that funding research and rebates has been a key reason that California's per-capita residential electricity consumption has remained stable for two decades while it has grown across the rest of the nation.

Georgetown University economist Arik Levinson, however, said there is little proof that government spending is responsible for the state's relative efficiency.

A massive migration of people to the South and Southwest, where air conditioning gobbles up electricity in places such as Atlanta and Phoenix, drove higher energy growth outside of California, according to a Levinson analysis. And other complex changes in household sizes and incomes across the nation drove up energy growth elsewhere, the analysis found.

"California is spending a lot of money on something with slim evidence of how effective it is," Levinson said.

The Public Utilities Commission estimates that the fees for the various funds have added \$24 annually for an average residential electrical user and another \$12 for gas customers.

The U.S. Energy Information Agency reported recently that California's overall rate of 16.2 cents per kilowatt hour was the nation's highest, excluding Alaska and Hawaii.

The utilities commission last year imposed another new fee to fund research, and the action triggered a suit by Southern California Edison, asserting it was an illegal tax on consumers. A trial is scheduled for later this year.

The state program money has found its way to failed projects, academic research centers and private companies that are part of the political patronage system of the state.

"We've got people who figured out they can steal a small amount of money from a large amount of (electricity) meters and spend it on things they find interesting," said Wright, the state senator. "Where it winds up going is just goofy."

One politically connected hydrogen-fuel-cell firm, Bloom Energy Corp., was awarded \$208 million through the utilities commission's Self-Generation Incentive Program.

A 2011 legislative report described the program as "everybody pays a little, some take a lot." The report called it a "vendor-driven free-for-all" in which millions were doled out with "no direct relationship to electrical system needs or other general ratepayer or public benefit."

The money mostly went to subsidize fuel-cell systems sold by Bloom, a Silicon Valley startup whose board included former Secretary of State

Colin Powell, as well as other investors with political ties.

The state subsidies, combined with generous tax breaks, enabled Bloom to sell the fuel cells to big corporate clients at a deep discount. The PUC ultimately suspended the incentive program, over the objections of Bloom.

Another project that ran into problems involved nearly \$7 million for subsidies to hundreds of small wind turbines that generated a fraction of the power their manufacturer claimed.

The firm, DyoCore Inc. of San Marcos, was ultimately disqualified from the Energy Commission program and acknowledged it had submitted inaccurate data, but admitted no wrongdoing.

"It was a difficult situation," Weisenmiller said, adding that the program is a target of "quick-change artists."

The Legislature has reined in some expensive projects, including a \$600 million global warming research center.

Last year, Peevey led the effort to create the California Energy Systems for the 21st Century at Lawrence Livermore National Laboratory for researching "renewable generation" and "smart-grid technology." The cost: \$150 million. Lawmakers became alarmed and cut it to \$30 million.

Even supporters of the state's [energy-efficiency](#) program say it sometimes goes too far.

Weisenmiller said that investments in hydrogen fueling stations will pay off in the long run. Major automakers have told him they will not introduce hydrogen-powered vehicles until at least 68 fueling stations

exist in the state.

The same strategy was cited nine years ago when air regulators in Southern California built five hydrogen fueling stations from Riverside to Santa Monica.

But James L. Sweeney, a Stanford University engineering professor who often lauds the state's [energy](#)-efficiency standards, considers the hydrogen strategy a mistake.

"The expenditures on moving toward a [hydrogen](#) highway will turn out to be a waste of [money](#), other than the experimental value it provides," he said.

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