GUEST JUICE

Innovating Energy Innovation

By Arthur O'Donnell

As California lawmakers consider the future of the public goods charge levied on regulated-utility ratepayers—whether to end it, extend it, or modify it in some way—investigating what we've been getting for our money is a good idea.

It contributes $62.5 million for research and development under the auspices of the California Energy Commission's Public Interest Energy Research (PIER) program. This charge amounts to pennies per month on the average household monthly bill.

When first put into law as part of the electric industry restructuring legislation, the public goods charge also funded energy efficiency programs, which the California Public Utilities Commission has subsequently expanded greatly via direct utility budgets.

Public goods.

Assemblymember Das Williams (D-Santa Barbara), this month, recounted an uphill battle for passing any bills involving any spending—regardless of the fact that the public goods charge is a dedicated fee component of utility bills, not part of the general fund.

"The last places we should be abdicating are higher education and research and development," Williams said. "Too much of the state's economy is going to service sector jobs."

Gov. Jerry Brown's subsequent veto of the proposed budget is making the steep climb for spending bills even more difficult.

Admittedly, a $60 million annual allocation for energy research is not going to change the economy much. It is a pittance compared to what other industries spend on research into new products and ideas.

The sad fact is that without state prompting, utilities are unlikely to spend anything that would support innovation.

As noted by Arati Prabhaker, an experienced venture capitalist who now chairs the U.S. Department of Energy's efficiency and renewable energy advisory committee, the utility industry spends about 0.1 percent of revenues on research and development, while industry sectors from pharmaceuticals to software routinely spend from 12 percent to 20 percent.

Utilities are not set up for the rapid change innovation demands, she added. The structure of the industry "actually inhibits change."

There are several legislative vehicles addressing the 2012 public goods charge sunset.

Currently, it appears William's AB 1303 remains the most viable measure—having passed the Assembly with surprising support from both sides of the aisle. The bill would extend Energy Commission authorization for the renewable energy program and PIER through 2020. It is slated for a hearing in the Senate Energy, Utilities & Communications committee in early July.

This space cannot begin to attempt a detailed analysis of PIER program results or its value. Readers are directed to the series of annual reports easily found on the commission web site and a harder to track down independent evaluation conducted by the KEMA consulting firm several years back.

Nor did a June 7 commission forum provide a comprehensive analysis. Instead it highlighted the possible relationship between state funding for research and the continued growth of venture capital investments in energy and clean technology start-up companies here in California.

PIER gives innovators much needed credibility. Even though individual PIER grants are limited in scope (technology advancement in the public interest is the sole mission) and relatively small in terms of dollars, having the commission essentially endorse a company's new idea is tremendously beneficial in getting other funders to invest.

"We used the credibility as well as the cash," said Mark Housley of Vigilent Control, a firm that specializes in reducing energy waste at data centers.

Four rounds of PIER grants, about $600,000, has led to $16 million in current revenues, supporting 36 employees and resulting in contracts with several state agencies, while saving 100 million kWh of electricity, Housely testified.

Success does not come overnight. Seven years passed between the first small grant to One Cycle Controls in 2004 and its first sale—which happened just this month.

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It took a decade and three separate PIER grants for Clean Energy Systems to advance its oxygenated combustion power generators from 100 kW to as much as 200 MW in capacity. Now, backed with additional funding from the Department of Energy and the Dutch government, the Energy Commission is taking over the old Placerita power station to convert it to zero-emissions combustion. The initial state grant from 2001 has now leveraged 100 times its original amount, reported company chief executive officer Keith Pronske.

PIER funding by itself cannot guarantee market acceptance for innovative technologies.

Automated demand-response programs (ADR, as opposed to the old telephone-tree notification) seems like a no-brainer. But entrepreneurs quickly learn that energy is fraught with barriers to innovation. It also takes many coordinated actions to institute a new "open system" technology, according to Clay Collier, Akuacom chief executive officer.

"A utility had to pilot it," he noted. The California Public Utilities Commission had to approve tariffs, and utilities control the parameters of a program that allows building operators to monitor their energy," he said. Having that structure in place has allowed over 60 energy control-technology companies to embrace automated demand-response in their equipment to respond to peak price signals.

Individual project success is certainly not guaranteed—nor should it be. One major difference between the government/utility culture and entrepreneurial culture is the attitude towards tolerance of failure, said Dan Adler, president of the CalCEF venture fund. But more can be done to direct state funding to overcome the several "valleys of death" that young technology companies face on their path to potential success, and many people pointed out that much more can be done to make the whole funding process less bureaucratic without sacrificing the quality of projects.

The evidence suggests that PIER should be continued—indeed, expanded in the future—but the best we can hope for in Sacramento is a life extension as per AB 1303. And the Energy Commission should continue trying to better incorporate PIER into the Clean-Tech and VC communities without losing site of the public interest, which for this observer includes fostering innovation where it otherwise would not flourish.

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Edison Rate Hike Dissected

Southern California Edison's proposal to raise rates 14 percent is being scrutinized. The rate hike proposal, according to Edison, would add less than $5 a month to most residential customer bills.

In a series of California Public Utilities Commission hearings, cities, businesses, and consumers are urging regulators to scrutinize the increase in the face of ongoing economic distress in the utility's service area.

"It does weigh very heavily on our decision as we view the utilities," commissioner Tim Simon said June 20. The CPUC hosted a hearing in Long Beach, the biggest city in the utility's territory.

Executive compensation.

Included in the increase is Edison's request for $35.2 million for executive compensation, according to an analysis filed earlier this month by The Utility Reform Network.

That amount is out of step with what public utilities pay their executives, according to TURN consulting economist Bill Marcus. That is even in cases where operations are comparable to Edison's. At the neighboring Los Angeles Department of Water & Power, for instance, chief executive annual compensation totals $380,000 compared to $7.4 million at Edison International—the utility's parent corporation.

Based in part on the comparison, Marcus recommends that the CPUC cut Edison's request for executive compensation by $23 million to a total of $12.2 million.

Simon agreed that the CPUC should critically examine executive compensation as it weighs the utility's rate increase request.

In a statement June 23, Edison said that even with the rate increase its residential customers would see monthly bills that still reflect the national average for household power bills. Executive compensation represents less than 1 percent of the rate hike request, according to the company.

Edison focused on how its proposed rate plan would enable it to rebuild infrastructure installed 50 to 60 years ago after World War II. The utility stated its plan would make sure the grid in its service territory remains reliable and secure.

The utility added its new revenue and spending plan would create 10,000 new jobs related to rebuilding projects.

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