Leaders Planning for New Era in Alternative Energy Industry

ENERGY: State's Utilities Spending $1B Annually to Increase Efficiency

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San Diego — The next decade will usher in a new era of alternative energy solutions that could meet a growing demand for "smarter" electrical power, a group of industry leaders said last week.

Public utilities such as San Diego Gas & Electric Co. have already begun looking into ways of meeting California requirements that call for 33 percent of the energy they distribute to come from renewable sources by 2020. The utility plans to deploy so-called "smart meters" to 1.4 million San Diego customers. The meters track a customer's power usage throughout the day and transmit the data to a central operator, eliminating the need for meter readers and allowing the utility to identify any problems, such as outages, that may arise. Eventually, the utility is expected to adapt its pricing to set electric rates higher during times of peak demand.

"We're about halfway through the state (installing smart meters)," David Berokoff, manager of technology development for Southern California Gas Co., told a group of about 50 people who had gathered June 8 for a Chairmen's RoundTable event at Fish & Richardson P.C. in Carmel Valley.

Many of the attendees were members of the CRT, a nonprofit volunteer organization featuring 45 current and former chief executive officers that provides mentoring services to emerging businesses.

New Business Model

As utilities seek new ways of generating, distributing and storing energy for future use, a kind of changing business model has emerged, said Berokoff, whose employer, SoCalGas, and SDG&E are subsidiaries of Sempra Energy.

"The utility service today has been pretty much top down. You build a power plant, put in some wires, gas pipelines and serve it to the customer," he said. "That model is all changing for us, and the big driver is technology."

Tomorrow's utilities will involve a mix of renewable energy sources, including some technologies still being tested today, according to Berokoff. Among those are next-generation wind systems, including offshore turbines such as those being used in Europe, thin-film solar panels and biomass systems that capture landfill gasses.

Already, he estimated that California utilities are spending $1 billion a year on energy efficiency programs, including incentives. But much of the technology for storing power and accepting it from other producers remains in the early stages. Utility leaders are also seeking to identify better ways of balancing energy demand with power supply, especially in the solar arena when clouds impede production.

Working Smarter

Sanyo Electric Co. Ltd. said June 3 that it pledged $3 million in a three-year research collaboration with UC San Diego to identify ways of storing solar energy, among other things.

The research builds on Sanyo's smart energy system and ongoing studies at UCSD's Jacobs School of Engineering in areas such as solar forecasting, which uses advanced imaging tools and weather stations to create hourly forecasts.

Sanyo's smart energy system uses solar panels to generate energy that is stored in rechargeable batteries and then used in energy efficient appliances.

Lee Barken, a certified public accountant with the San Diego office of Haskell & White, pointed to state rebates and tax incentives that have allowed local businesses to finance lighting retrofits, weatherization upgrades and solar panel installations. The upgrades allowed the businesses to receive free power after about 10 years, he said.

"Rebates can account for up to 56 percent of these projects," he said.

But S. Wayne Rosenbaum, an environmental and real estate attorney in the San Diego office of Foley & Lardner LLP, said myriad regulatory hurdles remain.

In the future, renewable energy projects will need to circumvent food and water issues and reduce their environmental impact, he said.

"A lot of the current forms of energy production rely on significant amounts of water," he said.

Commercial and residential builders are already under regulatory pressure to build "green" and reduce electricity consumption. By 2020, all residential construction projects in the state will have to be "net zero" in terms of energy consumption. Commercial buildings must meet the same standards by 2030.

"To be relevant now, you want to be LEED certified and we will see more emphasis on the construction and design," Berokoff said.