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Smart Grid Center lands $1.4 million research grant

In 2010, the California Energy Commission awarded Sacramento State $2 million to establish a campus center for smart grid research. The Energy Commission recently awarded the University’s innovative California Smart Grid Center an additional $1.4 million to pursue three critical efficient-energy projects:

- **Integrate renewable energy to the electrical grid** – Find ways to better use green energy and reduce the impact on traditional electrical utilities.

- **Identify electrical grid cyber-security issues** – The federal government is concerned that an external attack on the country’s electrical infrastructure could result in widespread blackouts or overloaded transformers. Research will identify threats to the electrical grid and find ways to keep it secure and private.

- **Design and test a customer-premise network applicable to residential and commercial buildings** – Home area networks will enable real-time control of the energy being used.

In 2006, then-Gov. Arnold Schwarzenegger signed into law the Global Warming Solutions Act, which requires a 30 percent reduction in greenhouse gas emissions by 2020. Sac State’s California Smart Grid Center will be instrumental in helping California – and Californians – meet that goal.

“People need to understand that today’s (electrical) grid is not the grid of your grandfather, just like your state-of-the-art car is not the Model T,” says Russ Tatro, a smart grid researcher at Sacramento State. “We are taking the power system and adding so many things that will change it dramatically, and we want to provide consumers with a whole new toolset.”

To meet the state’s mandated goal, as many as one of every six homes in California will need to have photovoltaic, or solar, cells on the roof, says Tatro. “The way you grew up with electricity, and the way you’ve used it, is going to change. Now, all of a sudden, you are responsible for controlling the energy usage in your house. It will shift to a much more involved consumer.”
The $1.4 million CEC grant means that the California Smart Grid Center at Sac State will continue to identify and solve potential problems with the state’s electrical distribution system – and bring consumers along to meet California’s goal of adding 20 gigawatts of renewable and distributed generation to the grid by 2020.

“We want to empower the public to make better use of their electricity, which will result in a cost savings to them and a smaller carbon footprint,” says Emir José Macari, dean of the College of Engineering and Computer Science and director of the California Smart Grid Center.

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