

# The People's POWER



**Peter Asmus**

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**Randy Kauffman and his company Next Energy spearheaded the installation of 27 free photovoltaic systems in San Francisco.**

After 30 years in the heating and cooling industry, Randy Kauffman switched his focus to solar energy five years ago, establishing Next Energy Corp. in San Francisco. He sensed a great business opportunity, but he also wanted to make a positive contribution to his community and to society as a whole.

That's why he jumped at the opportunity to participate in a special program that provided free photovoltaic (PV) systems to qualifying residents of Bayview and Hunter's Point neighborhoods in San Francisco. The program was part of a settlement negotiated with Pacific Gas and Electric (PG&E) over the severe air pollution caused by their natural gas-fired power plant located near these neighborhoods. San Francisco's Department of the Environment collected

**Next Energy Corp. solar technicians, Bernard and Robert Naja, oversaw installation of the systems.**



US\$13 million from PG&E that was set aside in a mitigation fund. A key component of this mitigation effort was the release of a request for proposals to install 38 solar-electric systems in the Bayview–Hunter’s Point area.

*Think Globally, Act Locally*

The Bayview and Hunter’s Point neighborhoods sit on the southeastern edge of San Francisco, hugging the Bay. Here, stuccoed, two-story, single-family homes shoulder factories and businesses. Local residents have suffered from air pollution not only from the nearby power plant, but also from large ships and other industries. Despite pollution problems, this neighborhood is one of the sunniest regions in notoriously foggy San Francisco, making it perfect for PV.

Kauffman was delighted when his Next Energy Corp. won the bid to install 27 systems. “I decided I wanted to make this large-scale solar program a showcase of today’s solar energy technology. This community was the perfect opportunity for my company to demonstrate what a premier solar-electric installation should look like,” says Kauffman.

First priority for the free PV systems was given to residents who had lived in the neighborhoods the longest. Candidates were also evaluated on their participation in social activism within their communities. Finally, and also most importantly, a thorough analysis of each potential site was conducted to determine which candidates’ homes had suitable solar access, ensuring maximum electrical production of the installed systems.

Local citizens were hired to perform these site surveys to make sure that each eligible home had enough space on its roof to install a solar-electric array, and an adequate solar window to justify installing the publicly funded PV system.



**Willie Berry (left), pictured with Randy and Dion Kauffman, was one of the 27 recipients who received a rooftop PV system.**

A total of six interns completed 180 hours of classroom and field training to perform these assessments. A few, like intern Joe Snell, plan to continue their newfound solar career. “I learned how to do a lot,” he says. “Hopefully I can keep [my career] going...with solar energy.”

*Getting It Right*

Kauffman took a comprehensive approach to installing the systems, developing sophisticated blueprints for each individual installation and documenting every step in the process. Rarely does an installer get to erect solar-electric arrays on several homes in one neighborhood. Most solar contractors install solar-electric systems on an individual basis.

Instead of completing each system one at a time, the company segregated each phase of the installation process. Crews installed complete array mounts on each rooftop first. Twenty-seven mounts were in place before a single photovoltaic (PV) module was hoisted onto a rooftop. The wiring and inverter placements, and then the installation of the arrays, followed.

“It was quite a challenge installing these systems,” says Jay McLaughlin, vice president and chief technical officer for Next Energy. “Some of these roofs were add-ons. A ‘cookie cutter’ approach would not have worked. On top of that, many of our customers were a bit suspicious. They had concerns about power quality and safety issues. Along with our technical expertise, we had to also be solar ambassadors.”

Aesthetics also played an important role in the design and installation process. Though these homes were often in less-than-stellar condition, Next Energy installers treated each installation with a craftsman’s approach. “I believe the solar-electric industry has to start performing to a higher standard,” says Kauffman. “Our goal was to make these systems showcases of how far the industry has come. And to prove that paying attention to details—and not cutting corners—pays off with better system performance.”

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**PV’s Pollution Savings**

The 27 PV systems installed by Next Energy in the Bayview–Hunter’s Point neighborhoods provide pollution-free electricity in a community long plagued by air pollution, and prevent hundreds and even thousands of pounds of pollution from being emitted. Here’s a sampling of savings these systems provide each year:

- 999 pounds (453 kg) of nitrogen oxides, which contribute to urban smog and respiratory ailments
- 594 pounds (269 kg) of sulfur dioxide, a pollutant linked to acid rain and respiratory diseases
- 835,623 pounds (376,030 kg) of carbon dioxide, a primary culprit in global warming



Greg Freeman



Rosalee Pitcher



Ken Jolivette

Debra Franklin



Charles Dacus



# The PEOPLE

Money from a Pacific Gas & Electric (PG&E) pollution settlement funded the installation of 27 photovoltaic systems in the Bayview and Hunter's Point neighborhoods of San Francisco.



Bernell Taylor



Besty Bloom Stallenger

Residents who otherwise would not have been exposed to renewable energy technologies were given the opportunity to have their own solar-electric systems, for free! Here are just a few of the excited new converts to clean solar energy.

# with the POWER



Maria Piccolomini

Helen Tyner

Carmen Bannes





Next Energy Corp. president Randy Kauffman (far right) and vice president Jay McLaughlin (far left), with interns (L to R) Cyron Byrd, Eric McDowell, Charles Goins, Talafu Grange, and Jacqueline Jones.

### Small Details Count

The corrosive effects of the marine environment experienced in these bayside neighborhoods can wreak havoc on a PV installation, says Kauffman. That's where he says paying attention to the small details makes a difference. Next Energy used stainless steel hardware, including the bolts that secured array mounts to the roofs, and all-aluminum racking. Modules with prewired Multi-Contact (MC) connectors ensured tight, weatherproof wiring connections between the PV modules. Each of the 27 solar-electric systems installed in the Bayview-Hunter's Point region also feature a continuous copper ground wire for safety and system integrity.

The 1.1 to 2.3 KW grid-tied systems feature seven or fourteen Sharp 165-watt PV panels married to Sunny Boy 1,800- or 2,500-watt inverters, depending on the size of the array. With an average of 4.72 sun-hours per day, these solar-electric systems crank out from 225 to 357 KWH each month, offsetting most homeowners' electric bills from 40 to 80 percent.

### Many Happy Returns

The fortunate ones who received the free solar-electric systems are satisfied customers. "Next Energy did a really great job. They were very professional. I mean that from the bottom of my heart," says Ken Jolivette, a Hunter's Point resident since 1968 and PV system recipient. He used to work near the PG&E power plant, and says that the smell from that power plant was "absolutely putrid." Jolivette is so pleased that he says he's considering expanding his solar-electric system in the future.

Rosalee Pitcher is another longtime resident of Hunter's Point; she's lived in this neighborhood for more than

a quarter-century. "I never even thought about solar electricity," she admits. "I suppose I always assumed that I couldn't afford it." She found out about the program at a regular meeting of senior citizens in the community. "I think it is great that the 'Powers That Be' do something for this community."

Before her 1.2 KW system was installed, her electricity bills averaged US\$80 per month. Her first bill after the system was installed was US\$40. Pitcher participates in PG&E's E-NET program, which allows net-metered customers to spread out savings from their solar-electric systems over the year, subject to an annual reconciliation.

Many of Jolivette and Pitcher's neighbors are envious of their solar-electric systems, and want systems of their own. In fact, because of such strong community interest in solar energy, Next Energy Corp. is working

to create an energy cooperative so other people in the community can afford to put PV panels on their rooftops.

"We'd like to make the Bayview-Hunter's Point community the greenest in the country," says Kauffman. To forward this goal, Next Energy has combined its efforts with the Bank of the West, which is providing financing.

Kauffman estimates that participants would have to pay US\$71 per month over fifteen years to pay off the capital costs. Many residents in this area have monthly electricity bills that are higher than that amount. Kauffman is optimistic that this new co-op could become a model for other communities throughout the country to deliver solar electricity to those with modest financial resources.

### Access

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