Tracking the sun, from utility planner to entrepreneur

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Dan Shugar was the kind of kid who hustled to earn a few bucks doing yard work and odd jobs for neighbors. Going to work for a large, public utility like the Pacific Gas and Electric Company, commonly called PG&E, after college didn't dampen his entrepreneurial spirit.

Shugar discovered his passion for solar technology in the utility's research and development department. He took up the solar cause even as the first hints of net metering - the structure and billing system used to integrate renewable energy onto the grid - were being proposed at actor Robin William's wine country ranch.

Shugar co-founded PowerLight, a solar power system provider, and sold it to SunPower in late 2006.

Tracker technology - typically frames with small motors to tilt solar panels at optimal angles toward the sun - became the focus of his next venture while CEO of solar manufacturer Solaria. A tracker can produce about 25 percent more energy than a similar, stationary panel. NEXTracker was spun out of Solaria in 2013, although the two still share an office building in the East Bay city of Fremont.

The tracker market is expected to nearly triple this year, to 12.6 gigawatts of power installed in 2016, according to a forecast by GTM Research. NEXTracker focused on light, balanced systems with small motors and became a leader in the field, having delivered trackers to solar projects generating a combined 4 gigawatts of energy on five

continents.

NEXTracker was purchased by Flextronics International for about $330 million in 2015. It now employs about 210 people in offices around the world.

The interview has been lightly edited for clarity and length.

Q: How did you find an entrepreneurial path at a public utility like PG&E?

A: Well, I was always one of these kids that had a lemonade stand. I became very passionate about solar - I had this "aha" moment when I went out to the Altamont Pass, which at that time was the largest wind farm in the world. I stood up there on a really windy day, it was in 1988. The wind was blowing really hard. You could just hear those turbines really producing. I looked at the farm, I was like, wow - there was 500 megawatts out there. I want to do this in solar, but I want to have it in a distributed fashion, not in just one big place. We had been doing work then, when I was a transmission planner, that basically said solar provides benefit to the grid.

So I saw there was a really big opportunity. At that point in time, there was only about 30 megawatts a year, globally, of solar that was manufactured and installed. (A solar industry trade group estimates that major solar projects in the U.S. now have at least 16 gigawatts of capacity.)

I became completely fascinated by technology that had no moving parts and burned no fuel.

Q: At one time, you worked as a lobbyist, an advocate for the solar industry. What role did Robin Williams play in net metering?

A: I was at PG&E in the early '90s. We received a call from the ranch manager for Robin Williams' estate in the North Bay. His objective was really simple - I've got this ranch, I've got all these meters out here, there were like seven or eight meters. He said, I just want to put in one big solar system and generate all my power.

Mr. Williams would be able to offset his peak demand. We ran into a lot of roadblocks (on the project) within the company when I was there. To me, I kind of took a step back and underscored the need to really focus on policy. Together, with some colleagues in the industry ... we really focused on explaining what the benefits of solar were to the grid. We were able to leverage a lot of the technical work at PG&E to then demonstrate the benefits were to the electric system.

He did build the system. It was early, so there were a lot of issues to work out with PG&E. It did get built, and he was able to power his estate with solar.

Q: What do you see as the future of utility-scale solar, both in the U.S. and around the world?

A: I think solar will continue to be the fastest-growing new energy source in the world. It will become ultimately the single greatest source of energy.

I'm very excited about utility scale. I'm very excited about community solar as a variant of utility - more medium-sized systems. They might be 5 to 20 megawatts. It's an interesting model - where the utility receives a fee for transmitting the solar energy from the community solar to the customer. The customer is able to buy the solar power directly. If they live in an apartment building ... they can still use solar without having to make the investment and worry about the details of the project.

Utility is dominant. Community is emerging. Both of the these are growing very handsomely.

Q: What's the killer app for solar?

A: It depends what part of the value chain you're in. We really thought the killer app for utility scale was the tracker. That's why we re-imagined the tracker. The killer app is basically higher performance in the solar panel. That can take a lot of forms. I think there's also a killer app around software.

Q: Is there any market that has developed in the last couple of years that has surprised you?

A: Absolutely. I mean, Honduras? Are you kidding me? I was very surprised to learn how fast solar took off in Latin America.

Once the rules were made more market-based and open access, you saw the fundamentals of solar, with outstanding production in that climate, particularly in high deserts, really kick in. And the markets took off.

The thing I've consistently underestimated in my career is the growth in the solar market.

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Dan Shugar

Position: CEO, NEXTracker

Hometown: Albany, N.Y.

Education: Rensselaer Polytechnic Institute, bachelor's in electrical and

electronics engineering; Golden Gate University, MBA

Previous jobs: Transmission planner, PG&E; co-founded solar provider PowerLight, sold to SunPower in 2006 for $332 million; CEO of Solaria; founder, CEO of NEXTracker.

Family: Wife Kathleen, two sons, granddaughter

Home: Pacifica, Calif.

Age: 53

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Five things about Dan Shugar

1. His first job was doing lawn work for neighbors.

2. Shugar holds several patents with colleagues from his solar companies, including one for a solar-powered golf cart.

3. He proposed to his wife, Kathleen, on their second date.

4. Shugar recently completed a custom home in Pacifica, designed to be as environmentally friendly as possible. Solar-collecting tiles on the roof provide power for the home and electric vehicles. The house generates all of its own electricity.

5. Shugar plays guitar in a 1970s-style dance band called Groovity. The group plays at local bars and clubs. His favorite guitarist is Jimi Hendrix.