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Collegeville nonprofit introduces solar energy to Togo, West Africa

Sunday, July 18, 2010

By Melissa Brooks

In Togo, West Africa, not many people even know what solar energy is. A few weeks ago a Collegeville-based organization, backed by local workers, installed a solar electric system on the roof of a microcredit institution there.

That organization is called SunPower Afrique, a small nonprofit aiming to provide reliable and renewable solar power to West African microfinance institutions.

The installation will provide “clean” power to run computers, lights and fans in a building that stands to help reduce poverty, in a country facing a debilitating energy crisis.

According to www.sunpowerafrique.org, many cities and towns in Togo experience frequent electricity cuts that last anywhere from 15 minutes to 48 hours. Lack of reliable energy threatens hospitals, schools and government offices and puts Togo’s developing economy at risk on a larger scale.

Citizens, elected government officials and other local authorities in Togo gathered July 1 for the unveiling of a pilot project that’s been two years in the making, the brainchild of 26-year-old Kira Costanza.

Kira is daughter of Jon Costanza, who in 1972 founded a Collegeville-based solar design-build firm called SunPower Builders. A true pioneer in the field of energy conservation, Jon built his first solar house in 1974.

Kira, who now lives in Phoenixville and works in external relations for her father’s company (which she said aims to “work local and act global”), grew up in a solar power house in Collegeville.

As a kid, if Kira forgot to flip a light switch when leaving the room, she’d have to pay her father a nickel to get the light bulbs back.

“Whether I liked it or not, environmental consciousness was ingrained in me from a very early age,” she said. “We had solar hot water collectors on our house the day I was born. I didn’t have a very conventional childhood.”

That not-so-ordinary life is what molded her into the person she is today, one who founded a nonprofit organization two years ago at age 24.

With the help of her father (SunPower Afrique’s solar energy consultant and chair of its board of directors), who managed the construction of the system and helped with training, and Ron Celentano, an engineer and nationally recognized solar trainer, Kira, the executive director, led local trainees in installing a 5kW solar electric system on the roof of nonprofit microcredit bank FECECAV’s headquarters in Kpalimé, Togo.

FECECAV, SunPower Afrique's microfinance partner, is a cooperative union that provides banking services to more than 10,000 people in the Plateaux and Maritime regions who are excluded from the traditional financial system.

"(Togo) has one of the largest needs in the region for international assistance," Kira said. "They produce zero electricity domestically — except for a couple of small hydro plants. Because of global warming and the climate crisis, a lot of hydro energy is starting to dry up.

"(Togo is) increasingly running out of options to buy power, so they need to come up with a solution," she continued. "Finding a solution that can help develop their economy and reduce poverty in their country is ideal. My master plan is to convince the Togo government themselves to buy into solar."

Kira founded SunPower Afrique on the belief that microfinance, the provision of financial services to low-income clients, is "one of the world's most effective strategies to fight poverty," according to www.sunpowerafrique.org. "But its growth is significantly constrained due to a lack of consistent access to electricity."

In an effort to support existing microfinance structures and create jobs in a new industry of solar system sales, distribution and installation, SunPower Afrique shipped about 30 solar panels, inverters, batteries and other equipment from Collegeville to Togo a couple of months ago.

"We designed an innovative system to be smaller and save money while still generating consistent power at all times," said Kira, who discovered first hand that the development of this small, French-speaking country is threatened by an "acute energy crisis."

She'd studied international development after college at a "United Nations think tank ... and "wanted experience on the ground in Africa to connect the dots."

So for four months beginning in March 2008, Kira volunteered with Kiva Microfunds, a microfinance platform based in Togo that mobilizes money online. "While I was there the energy crisis became very clear, and the solution of combining microfinance and my family's background in solar became a no brainer to me," she said. "That's (how) this all started."

She returned home and worked for the next year to obtain nonprofit status. It took her two years to raise \$50,000, as donations mostly came in from individuals, with \$50 here and \$50 there.

"I collected money little by little by little, in the spirit of microfinance," Kira said, referring to microcredit, a provision of the microfinance field that provides credit services in the form of very small loans, or microloans, to low-income entrepreneurs.

The \$50,000 she raised covered the cost of equipment, shipping, training and a "very small percentage of expenses, like plane tickets," which was otherwise supported directly by SunPower Builders.

Added costs and all expenses incurred up to the official project launch, Kira said, totaled upwards of \$15,000 to \$20,000 and came out of her own pocket.

In building SunPower Afrique from the ground up, Kira also faced a hard-to-navigate system in Togo and had lots of "official paperwork" thrown her way.

"There's a lot of bureaucracy there that doesn't even exist here," she said. "We confronted a lot of challenges, but we were able to overcome them with tenacity."

The small team of Kira, Jon and Ron were an inspired three. "We all complement each other very well," Kira said, calling her dad and Ron "solar pioneers since the '70s."

Together, the three trained nearly a dozen local technicians to jumpstart a new solar industry in Togo. "To explain how enthusiastic they were," Kira said of the trainees, "they wanted to see every electron. They asked questions, they came at night, they studied. They were over the moon about the power tools.

"Training was challenging because of the language barrier," she said, adding that she speaks fluent French, but her dad and Ron do not. "I had to translate most things that were said in the classroom and on the ground."

Eyes are certainly directed to this African solar project, which Kira said is "regional in scope," serving as a "demonstration for the (possible) expansion of programs in Togo.

"Everyone is really looking forward to see how this project will grow. There are a lot of expectations now, but we're absolutely going to deliver."

SunPower Afrique maintains close contact with its technicians and partners in Africa on a frequent basis, according to Kira, who said now that the pilot project is completed and she's back home, the focus is on fundraising.

"We've actually acquired funding for an additional three small projects (solar installations in Togo) to be carried out in the first quarter of 2011, in partnership with a French development agency."

SunPower Afrique's business model, Kira said, is "scalable and sustainable, which means for every installation we do, 50 percent of the cost of equipment will be repaid to the organization by the recipient.

"So money will slowly start to come back to SunPower Afrique and be recycled to the next installation. The model provides accountability."

Kira, who splits her time between working for her father's company and running her nonprofit, is driven to encourage people in Togo to explore their options in solar energy. But she doesn't at all downplay energy issues at home.

"We all need to think about the future of energy as a diverse supply," Kira said. "It's not all gonna come from coal, it's not all gonna come from nuclear, it's not all gonna come from solar. We have to find other options besides traditional sources to meet our needs. There are great incentives now in the state of Pennsylvania to help people buy solar."

Kira, a member of the Collegeville Rotary Club, said she's always been an engaged member of her community. The pilot project in Togo is "only the beginning" of what SunPower Afrique can accomplish, she said. "This has been my dream for years and now it's finally real.

"(Working in) the solar industry and being conscious of the world and the environment is something that's so inherent to me, it doesn't even seem like I should call it being an environmentalist," Kira said. "It's just the way."

Online

SunPower Afrique: www.sunpowerafrique.org

Kira's blog: www.kirawithoutborders.blogspot.com

SunPower Builders: www.sunpowerbuilders.com

URL: http://www.montgomerynews.com/articles/2010/07/18/montgomery_life/news/doc4c4337074086a085563821.prt

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