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## THE LEADER IN ENERGY & ENVIRONMENTAL POLICY NEWS

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### 1. RENEWABLE ENERGY:

#### Community organizers press for clean power in the inner city

Katherine Ling, E&E reporter

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BALTIMORE -- Wallace Baker wants the new downtown casino being built here to deal his struggling downtown neighborhood a "full house": good-paying jobs, safe parks -- and renewable energy.

The operations director for the 144-year-old Leadenhall Street Baptist Church, Baker is working with developers being lured downtown by the casino to install solar panels to charge street lights, create "hot spots" to charge cell phones and maybe put up some rooftop installations that could help shrink electricity bills in the Sharp-Leadenhall neighborhood.

Renewable power and energy efficiency improvements could be "life changing" in his neighborhood, Baker said. In a nearby housing complex for senior citizens, for example, lowering an electric bill by even \$20 a month, he said, might be the "difference between not getting their meds this month and getting their meds." And just seeing some gleaming solar panels on their rooftops may encourage residents to open their eyes to other new opportunities, he said.

"A lot of these residents never pick their heads up. They are always looking down," Baker said. "I always tell them to pick their heads up and look around."

Baker's efforts stand out because lower-income neighborhoods like Sharp-Leadenhall have largely been left out of discussions about clean power because there's an assumption they lack assets to buy or lease equipment. But Scott Sarem, CEO of Everyday Energy, whose specialty is putting solar within reach for "everyday people," said financing shouldn't be an issue. The main barrier, he said, is the ignorance of banks, utilities and developers about how to structure deals in the low-income market.

And Erica Mackie, CEO of Grid Alternatives, a nonprofit organization that installs rooftop solar for low-income families and trains workers at the same time, said providing low-income families with renewable energy generation and jobs makes "simple sense."

"Why should big business and the wealthy have the most access to renewable energy, but the ones in the most need for savings, healthy environments and jobs not have any?" Mackie said.

Advocates like Mackie see renewable energy not just as a way to cut carbon emissions but as an important economic and environmental boat to lift up disadvantaged groups -- or if left out, will leave them even further behind.

The Horseshoe Casino and related development, Baker is hoping, will buoy Sharp-Leadenhall. The neighborhood is a major passthrough for visitors to the casino, which is a five-minute walk from Sharp-Leadenhall's southwestern edge. Though older residents are still shaken by a proposed highway project that forced the relocation of some 3,000 neighbors in the early 1970s, Baker is determined that the casino will help bring benefits to the neighborhood -- although he worries about the gambling.

The 6-foot-6-inch Baker is an imposing man who speaks passionately about improving his community and is blunt about mustering political will for street repairs, the revival of a dilapidated recreational center, and the possibilities of solar energy.

Developers have so far have been open to the idea of helping Sharp-Leadenhall with solar, Baker said, as they design a \$250 million mixed-use development of apartments, commercial and office properties a few blocks south of the church.

With its rowhouses and flat roofs, Sharp-Leadenhall's infrastructure is great for solar panels, Baker said. Just two blocks over in tiny but well-to-do Federal Hill, rooftop solar arrays already adorn townhouses with polished brass door knockers and carefully arranged flowerboxes.

Baker also wants to bring a solar array for the church's parking lots or even a geothermal system to help defray some of the church's energy expenses. He said that would free up money for literacy, voter registration and other support programs. The church could also serve as an emergency power center if there are blackouts in storms.



"Churches are everywhere in Baltimore," Baker said, and they might be the best avenue for bringing clean power to poor neighborhoods. He hopes Leadenhall can show others



Wallace Baker (right) chats outside the historic Leadenhall Baptist Church, where he is leading efforts to bring solar to the Sharp-Leadenhall neighborhood in downtown Baltimore. Photo by Katherine Ling.

renewable energy is an option in their disadvantaged communities.

But the inclusion of low-income communities in the transformation of U.S. energy is far from certain, despite powerful political motivations for clean power supporters. A major charge levied against Democrats promoting action on climate change through renewable energy initiatives focuses on rising energy prices on working-class families. Republicans, fossil-fuel industry advocates and some utilities have pointed to that issue as a rallying point against U.S. EPA's proposed rules for curbing power plant emissions, as well as moves to end state renewable energy requirements and incentives for distributed generation known as "net-metering."

"It is going to take leadership, creativity and capital, and a policy environment that is conducive to seeing the low-income segment grow solar," said David Arfin, founder and CEO of First Energy Finance and an adviser for Everyday Energy.

"There are real business prospects," Arfin said. "It would be damaging if solar were viewed as only for the middle and higher income households."

### 'Not just a luxury good'

Arfin developed the leasing program for SolarCity, the San Mateo, Calif.-based photovoltaic solar panel leasing and

installation company that jump-started the residential solar industry by making the technology affordable for millions of customers by eliminating the upfront capital costs ([Greenwire](#), Nov. 5, 2013).

"I think [low-income] requires focus and specialization because the need for those customers in purchasing decisions and process and who they trust working with is different than other market segments," he said.

Solar has the added benefits of providing local jobs, boosts in property values and exposure to advanced technology, especially for children, Arfin said. And the more the industry scales up, the cheaper it gets, he said.

While clean energy advocates agree with those ideas, there are companies working to prove they work.

"We are a firm believer at Skyline that solar is for everybody," said David Hoedeman, head of business development at Skyline Innovations. "It is not just for people who live in suburbs and want to feel good about themselves. It makes sense. It is not just a luxury good. It should be everywhere."

Skyline has been deploying solar water heating systems since 2009 and recently also jumped into solar electricity, by mainly focusing on affordable, medium-sized multifamily buildings. Based in Washington, D.C., the company has expanded into California, Florida, Delaware, Hawaii, Maryland and Puerto Rico with eyes on Arizona as well.

The company fully finances, designs and installs the solar technology on the buildings and sells back the energy to the owner at a price that is a fixed percentage lower than their conventional utility rate, which guarantees savings.

It's important to educate developers about the opportunity to do solar before they have to do a big renovation, said Hoedeman, who noted that much of their business has come from word-of-mouth between developers.

"It is a building improvement you can do without having to dig really deep into your pockets," Hoedeman said. "You can do solar with Skyline and still have capital to put a new roof on or whatever else you are dealing with."

EverydayEnergy's Sarem said letting developers know that solar is affordable and ensuring the financing is tailored for affordable housing is important.

"We have come up with an offering that works within their financial structure," Sarem said. "We are solving a problem for them. For affordable housing the biggest variables are insurance and utility costs. We are completely eliminating one of their risks."

EverydayEnergy has become a leader in solar installation for multifamily housing units and was the first to make "virtual net metering" work with utilities.



according to Sarem.

Virtual net metering allows solar panels to feed electricity to the grid without being connected into every apartment's meter that gets the credit. Instead there is only a few meters that the utility tracks for which the solar leasing company has provided a list of what customers earn credits to count toward their electricity bills.

Virtual net metering has become the cornerstone for "community solar," which has opened opportunities in renewable energy for those stuck in the shade or with a roof that can't support solar panels.

It is important to pair renewable energy with energy efficiency, and every installation also comes with energy efficiency improvements like caulking and insulation to ensure maximum benefits, Sarem added.

While financing solar for affordable housing may take a few more steps and partners, it is very doable and is only getting easier as more projects are completed, Sarem said.

"There is just not a lot of knowledge," he said. "We are working hard to educate people about the investment. And now we have a track record of several years and can point to how well the assets are performing."

Sarem added, "It is not risky. We just have to educate banks and provide enough scale to make it interesting."

With multi-family, multi-unit housing, the investor is actually spreading out the risk, which makes the investment stronger, he said. Foreclosure in affordable housing is four-tenths of a percent nationwide, Sarem said.

"This absolutely makes business sense. We wouldn't be doing this as a matter of charity," he said.

## Creativity needed

The California market has grabbed a lot of attention from companies that work with lower-income neighborhoods because the state set aside 10 percent of its solar initiative for the Single-Family Affordable Solar Housing (SASH) and Multi-Family Affordable Solar Housing (MASH) programs (*see box*).

Originally set to expire in 2016, the California Legislature voted to extend the programs until 2021 last year. Each program received \$100 million, although some of this is used for administration and marketing including identifying third-party sources that can cover funding gaps as the state support doesn't cover the full project costs.

Skyline, Everyday Energy, Grid Alternatives and other advocates would like to see other states set aside funding for low-income renewable energy programs, although they say providing renewable energy for affordable housing is still workable without the incentives, as demonstrated in their projects in Colorado and Washington, D.C. SolarCity and other larger solar service companies have done some work in the low-income area as well.

FirstEnergy Finance's Arfin said the market would also be well-served if bank regulators required a certain amount of clean energy loans or if leasing were based on more than just credit scores including how long a person has been in the house or if they pay bills on time, he said.

It is surprising, Arfin said, "how little structuring creativity there has been to work through the issues of solar and low income areas." It is still early in the adoption cycle, and "I think there is a lot of kinds of business innovation that can happen," he added.

Still, for Everyday Energy and other low-income renewable energy providers, it is more than just the bottom line for their business.

Everyday Energy also offers job training programs for tenants of the buildings where they are installing solar panels and have hired seven employees from these programs. The company currently has 30 total people on staff, Sarem said.



[+] A map of the patchwork of the neighborhoods around downtown Baltimore. Photo courtesy of the Baltimore Neighborhood Cooperative.

### California initiatives

California's Single-Family Affordable Solar Housing (SASH) program has allocated \$64 million and has received a total of 3,386 applications. The result has been 8.5 megawatts of installed capacity on eligible homes with another 1.8 megawatts currently in progress.

The Multi-Family Affordable Solar Housing (MASH) program has fully subscribed its funding and so far has completed 287 projects representing a total capacity of 18.4 megawatts with an additional 83 MASH projects in process for a total capacity of 11.3 megawatts.

Source: California Public Utility Commission's 2013 annual [program assessment](#).

For Grid Alternatives, technical training is a critical part of bringing renewable energy to disadvantaged communities. The organization has a presence in California, Colorado, the New York tri-state area and will be opening an office in Washington, D.C., in the fall.

Grid Alternatives recruits a volunteer team to do an installation, including the family members who are receiving the panels, and has partnerships with business, community colleges and training programs. It can provide the work experience required to be hired professionally and to test out of the North American Board of Certified Energy Practitioners (NABCEP) solar photovoltaic certification program. Grid Alternatives is also the program manager of California's SASH program and aims to bring the government, private and public sectors together to work on low-income solar.

"We want to do this in a way that really lifts people up instead of a way that does the opposite," Mackie said. "We really see these families we are mostly talking about as working poor, as folks that desperately can benefit from solar and the traditional market is not selling to."

Grid Alternatives and Everyday Energy are lending their experience to the U.S. Department of Energy and the Department of Housing and Urban Development as they work to meet President Obama's goal of 100 MW of renewable energy installed on-site at federally subsidized housing by 2020. That goal looks like it will be easily met as 30 organizations have already pledged 150 MW of on-site renewable energy for federal subsidized housing over the next decade, HUD announced in May.

In Baltimore, advocates are trying to use concessions made by Exelon Corp. in its 2012 merger with Constellation Energy (which owns Baltimore Gas & Electric Co.) to boost solar energy in the city. Exelon-Constellation agreed to develop 10 MW of solar generation in Baltimore and also pledged \$50 million for energy efficiency retrofits.

Franklin Lee, a partner at Tydings & Rosenberg LLP, sees developing community solar projects in multi-family housing, schools and open spaces as an opportunity to raise up not only the low-income community, but also women- and minority-owned business and generate extra revenue for the city of Baltimore. Similar to other states, BG&E pays about 9 cents per kilowatt-hour for solar electricity fed back onto the grid, known as net metering.

Lee is co-chairman of a task-force for the city's urban solar initiative, which aims to have a development plan and set of success metrics in place by the fall to kick off the project.

"It is all about structuring the industry and doing it in a way that it serves the public interest and the benefit of the public," Lee said.

Rather than having third parties or utilities own the solar installations, Lee said he would like to use municipal bonds and public-private partnerships to maintain ownership of the arrays for the city and residents. In this way, instead of settling for just a steady percentage deduction of a bill, they could see a greater return as the installation is paid off, Lee said.

"There are ways to structure industry that keeps the status quo where utilities control all the solar panels and residents would only benefit from stability, but most of the cost savings would go to utilities," Lee cautioned. "You want to make sure there is actually ownership from the distribution of solar by residents and commercial tenants themselves. And in that way you can maximize transfer of cost savings to those parties."

He added, "If you consciously focus on investing in those communities -- concentrate on job formation and minority business participation -- that is how you start to transform a community from one that is dependent to one that is sustainable."

## **Protecting neighborhoods**

Renewable energy not only offers low-income families a way to cut energy bills but also protection against blackouts.

"Low income people are, as we say it, are the first and the worst to suffer the consequences of burning fossil fuels," said Denise Fairchild, president of the Emerald Cities Collaborative, a nonprofit network of organizations advancing energy efficiency as an environmental and economic opportunity.

"Just think Katrina and you see how these communities are impacted by extreme weather conditions," she said.

There is a consumer protection argument for bringing renewable energy to disadvantaged communities, and it is important these communities are represented in the climate change and energy conversation, Grid Alternative's Mackie said.

"The argument that we shouldn't have solar-friendly bills because it's going to adversely impact low-income families ... it's such an unfair conversation to have because really the conversation is how can we build a solar economy that includes everyone and how can we do that in a way that everyone can take advantage of the benefits," Mackie said.

Part of that is a growing call for "power resiliency" for disadvantaged neighborhoods in times of disasters.

Advances in the technology and price of solar panels and battery storage have enabled the possibility for back-up power in these neighborhoods, which is as important as other emergency services, according to a report from the Clean Energy Group released February 2014 on behalf of the Abell Foundation. The report examines the costs and benefits of bringing solar with storage to large community buildings like schools and churches to make low-income neighborhoods in Baltimore "power resilient" -- but the arguments could be made for any cities, according to authors Lew Milford and Robert Sanders.

Milford, president and founder of CEG, said the challenge is "to find high value applications in solar that actually directly benefit low-income communities," as placing solar panels on every roof is probably not realistic.

"There is a real change of utility regulators and energy officials to create new solutions for more protected reliable power going forward, and we are starting to see new policy develop in this area," he said.

In Sharp-Leadenhall, Baker hopes that bringing solar into his neighborhood can stir more discussions about energy choices on the streets.

"Renewable energy and solar is so far removed from them they have no clue," he said. Discussions will first require overcoming a bias that an energy bill of any kind of is bad news, Baker said.

"It is not just renewable energy," he said. "It is their access to information."

Bring solar into a neighborhood through the right stakeholders and in a way they can understand, Baker said, and people will get to know the technology and perhaps their relationship with energy could change.

Renewable energy in poor communities, Emerald Cities' Fairchild said, is about "economic justice" -- lowering the electricity bills for those who it is among their highest living costs -- and "energy democracy" -- a voice and choice in where that energy comes from.

"There is going to be an energy divide and we need to address that," Fairchild said.

"Giving community residents the option to not only be energy consumers but also planners, innovators and producers of energy -- to decide for themselves what their preferred energy source is and also possibly to do their own bulk purchasing and even make money off of it."

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