Get Free: Understanding the potential for Community Solar Power in Highland Park

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Imagine if one day all the street lights in your neighborhood disappeared. Suddenly all after sunset activities, like an evening stroll, would be done in a level of darkness city dwellers don't often experience. This happened in Highland Park, Michigan, in 2011. Deeply in debt, the city could not pay the utility company that owned the lights, DTE Energy Co. The end result? DTE removed 1,000 of the city's 1,500 streetlights.

Enter Soulardarity, a non-profit organization focused on the goal of getting light back to the people of Highland Park by promoting community-owned solar. The group sees solar as a path toward energy independence because no one owns sunlight. The trick is that someone has to acquire solar panels to capture the sunlight and generate electricity. To assist in figuring out the feasibility of community-owned solar energy in Highland Park, Soulardarity engaged a University of Michigan (U-M) Dow Sustainability Fellows team in 2017. The U-M team conducted community surveys to determine the financial burden of energy for Highland Park residents, and how solar energy might create an affordable and democratic process for accessing electricity. The team also created a solar calculator that Soulardarity can use to estimate the potential of different solar panel sites in Highland Park.

"Get Free" – Partnership in Energy Democracy

Soulardarity established a non-profit organization in 2012 in response to DTE's streetlight repossession. Since then, the organization has successfully installed multiple streetlights and has shifted its focus from simply installing solar-streetlights to promoting energy democracy in their community.

The concept of energy democracy is for people and communities to have control of their energy supply, like choosing whether it comes from fossil fuels or renewables, infrastructure considerations, and other options. Energy democracy focuses on poor and working class people of color, often most impacted by energy purchase decisions. In the case of Highland Park, the city has a majority African-American and Black population, with nearly half of the residents living below the poverty line. Approximately 40% of the population reported difficulty in paying their energy bills, and multiple people reported illegal shut-offs, all of which suggest a high and possibly unjust energy burden on the population. These were some of the findings from the community survey on which Soulardarity and the Dow Fellows team collaborated.

"The community was really inspiring with their ideas of energy democracy," says Cailin Buchanan, a member of the U-M team. "Multiple members said immediately, 'help us get free," and expressed their vision of energy independence.

"They were articulating a different world," says Tyler Fitch, another team member. The community's struggle is a reflection of how basic needs, like heating or light, are a major part of creating a sustainable community.

"You can't think of a sustainable community if there are people in your community who don't have their basic needs met," Buchanan comments. "it's a huge challenge that needs to be overcome."

Solar Calculator

Soulardarity asked the U-M team to help them with two things:

1. get a better sense of the problem and potential need for solar energy to address financial burden and injustice in the community through a community survey, and
2. perform a feasibility study of bringing community solar to Highland Park.

To do this, the team worked with Soulardarity interns on the community survey and created a "Community Solar Calculator to estimate solar capacity and rate of return on investment for specific sites." To test the calculator and understand the feasibility of solar as a solution for energy independence, they created a case study of three sites in Highland Park with different energy needs and building designs: a community building, a senior living center, and a privately-owned restaurant. They also did extensive research into Michigan's energy policies and the lessons learned from other community solar efforts.

They found the way to get the project to work is for Soulardarity to partner with businesses to host Soulardarity-owned solar panels on their roofs. To jump-start this collaboration, the U-M team and Soulardarity hosted a meeting with the Highland Park Business Association to get the business view point.

"There were 50 people, 8-10 organizations," says Fitch. "The [positive] feedback we got was so overwhelming." The business community, and the rest of Highland Park, seem to be onboard. There is a lot of energy focused positive change in the community.

"One of the [business] leaders said, 'this community has a lot of challenges, but I don't see them as challenges, I see them as small fences I have to hop over," says Lenhart. "The energy really made it amazing."

Challenges and Next Steps

One of the main challenges the team discovered over the course of their project was developing complex models and policies connected with solar energy production in Michigan. Figuring out financing options was another major hurdle. Both of these issues will have to be managed by the community.

"[We found] the ROI [return on investment] is about 15-20 years depending on the site...that's not fast. That's a hurdle our client now faces with finding people willing to deal with that," says Lenhart. "It is going to take investors who are willing to take the risk because they believe in solar and believe in energy sovereignty. I think that exists."

"It's going to take a while," agrees Buchanan. "We know that, our client knows that."

Despite the lengthy process, the Highland Park community and Soulardarity anticipate they can use and take ownership of the effort in the future.

"It seems to have legs," says Fitch. "People seem interested and the organization seems committed to running with this idea. This is transformative sustainability–proposing a solution that can help people... it's not just about systems that can sustain themselves, it's about systems that can thrive."

PROJECT TEAM

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