Fuel Fund // MD SUN Solar Pilot

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# Background

Energy is unaffordable for Maryland’s low-income residents. According to the home energy affordability gap project (<http://www.homeenergyaffordabilitygap.com>), in 2014 home energy costs accounted for between 21% and 40% of yearly income for low-income residents. This is as defined by up to 100% of the Federal Poverty Level. These staggering costs force families to choose between paying heating and electricity bills, or medical bills, or rent.

With retail net-metered solar cheaper than grid electricity in Maryland, solar could be one long-term solution to this problem, creating long-term bill reduction and often a new source of assets for low-income communities and residents. But, these families are by and large unable to take advantage of this opportunity because of unfavorable policies (like solar incentives requiring tax liability to offset system costs), a lack of project models, and a lack of low-income suitable financing tools.

# Pilot Summary

**Partners:**

*Fuel Fund of Maryland*

A non-profit that provides bill assistance and energy conservation workshops to individuals who aren’t able to pay their home energy bills.  They are also developing and implementing new strategies that leverage energy sobriety, energy efficiency and renewable energy sources to prevent the home energy crisis from happening.

*MD SUN*

A non-profit with expertise in solar technology and policy that builds a community of solar supporters through education, outreach and solar co-op (bulk purchase) development.

**Goal:** *Test a model with the potential to scale low-income residential solar at low cost while still providing a quality experience for the participants. Leverage and utilize available incentives such as the Federal Investment Tax Credit, Solar Renewable Energy Credits (SRECs), local grants and philanthropic dollars.* Identify programmatic challenges and opportunities for the Fuel Fund to add residential rooftop solar to its suite of affordability solutions as another means by which they can permanently address the cost of energy for their clients.

**Model:** *Customer Aggregation + Pre-paid Solar PPA*

First, following our solar co-op model, we aggregated demand, screening roofs for solar viability and working with homeowners to explain the program and educate them about solar. From a pool of 28 Fuel Fund clients, we identified 7 roofs that were good for solar and for whom solar had the potential to bring their energy costs into an affordable range. We then issued a request for proposals (RFP) to solar installation companies that guided the projected implementation, ensured competitive pricing (bulk discounts) and secured long-term warranties and monitoring that we feel are critical to the long-term success of the program.

Second, by using a pre-paid Power Purchase Agreement (PPA) model we simultaneously addressed several of the key challenges of deploying solar in a low and moderate-income context: tax appetite and credit score. In the pre-paid PPA model, a for-profit third party company owns the solar system, they take all available incentives such as Solar Renewable Energy Certificates (SRECs) and Federal Tax Credits. They own the system for 20 years and they guarantee solar production and provide maintenance if necessary for the length of the contract.

**Project Status**

As of August 2016 the selected installer (GRID Alternatives) has installed three systems and is awaiting final interconnection approval from the utility company. We expect additional installations to take place this Fall.

**Key findings to date**

* Customer aggregation produced roughly 10% savings on the cost of each system while adding significant benefits, such as 20 years of cellular-based monitoring and extended warranties for the participants. It also helped create a “network” for participants.
* Existing solar PPA financing products will work and put private capital to work through an existing solar product. The two top bids were comparable in quality and price and used a widely available PPA provider in their bid.
* The prepaid PPA allowed us to:
  + Utilize the 30% Federal Tax Credit to decrease project costs.
  + Overcome low credit score issues of many of the participants.
* The cost for a 3 kW system installed in Baltimore is approximately $6,800 (including all parts, labor, permits and extended warranties for 20 years)
* Participants were excited to go solar but had numerous pre-conceived notions about solar such as it not being compatible with flat roofs and that it caused roof leaks.
* Some homes may require upgrades to electrical equipment to make them suitable for solar. When required, these represent added project costs above the pre-paid PPA cost.
* Several homes originally qualified to participate in the pilot were later disqualified due to the poor condition of their roofs. The pilot project lacked sufficient funding to assist homeowners with the cost of replacing their end-of-life roof.
* Participants will significantly reduce and stabilize their energy costs from day one with a portion of electricity needs coming from their rooftop solar system.

**What’s next?**

This pilot project and all solar project costs were supported by a grant through the Town Creek Foundation.  To scale the model, our priority will be to identify funding sources that can cover the reduced project costs as well as the achievable goals that were highlighted in the pilot project.

These sources could include a combination of State and local funds as well as financing products that enable the homeowner to cover some portion of the system cost while still seeing energy savings from day one.