

# ROUNDTABLE: *Expanding Low-Income* **SOLAR** IN WASHINGTON DC

A results-oriented dialogue hosted by the  
GW Solar Institute and DC SUN

April 9, 2014  
9:30am to 4:00pm

\*\*\*Save the Date: National Low-Income Solar Symposium will be September 23, 2014 \*\*\*

## **Background and Options Paper**

While residential solar installations are booming, most are being installed on relatively higher income households, depriving less affluent Americans of the benefits of solar energy. This is the case in Washington DC, where District households with incomes below 50% of the Federal poverty level must spend about a third of their annual income for their home energy bills, and energy assistance programs like the Low Income Heating and Energy Assistance Program (LIHEAP) are unable to fully address community needs.

The combination of solar energy becoming increasingly available and affordable, and the District's recent enactment of forward-leaning legislation, means solar has real potential to help address this energy affordability gap and deliver significant benefits to lower income DC residents. One case study of this potential is in California, where families participating in the innovative Single-family Affordable Solar Homes (SASH) program reduced their monthly electricity bills by an average of around 80%, savings which will continue for the life of these solar systems (at least twenty years or more).

Innovative and well-executed low-income solar programs, incentives, and public-private partnerships could provide a pathway to deliver significant benefits to low and moderate-income people in the District of Columbia.

## Roundtable Goals

The goal of this meeting is to bring together key stakeholders from the low-income housing, solar, and advocacy communities, as well as the DC and federal government, to discuss and develop recommendations on how to best to scale the deployment of solar to benefit low-income District residents.

Our vision is to identify new options and synergies between existing low-income housing and energy programs in the District. We can build and strengthen the low-income housing and solar sectors to empower DC citizens of limited means to improve their living conditions by reducing their household energy costs.

By the end of the meeting we hope to;

- Promote future collaboration by building new bridges across different groups and individuals participating in this roundtable;
- Develop clear recommendations for the District Department on the Environment (DDOE) on how best to structure future incentive programs for low-income solar;
- Lay the groundwork that will enable the District to participate in an ambitious pilot program with the US Department of Housing and Urban Development (HUD).

Taken together all three objectives would make DC a national leader and serve as a model on how to best deploy and scale solar in urban low-income communities.

## Metrics for Success

“Low-income solar” means many different things to many different people. There are also different competing objectives in advocating for greater solar investment on low-income housing ranging from climate change to energy justice to asset building and health.

Roundtable participants are coming into the discussion with different assumptions and objectives and even different vocabularies. It is important to put those different assumptions on the table in order to reach a common consensus on next steps. Extensive conversations with key stakeholders has revealed the following common objectives and performance metrics (the square bullets):

- Maximize the benefits to low-income communities:
  - Number of individuals impacted
  - Average annual energy savings per resident
  - Total solar capacity installed
  - Total number of local jobs created
- Strengthen low-income housing sector with innovative new models that create new funding streams for the sector

- Build strong solar market in DC
  - Provide steady and predictable incentives that are good for companies
  - Encourage a diverse array of companies able to take advantage of incentives (not just one or two)
  - Create opportunities for local job training
  - Increase number of local jobs steadily, sustainably (not boom and bust cycle)
  
- Strive for the highest possible greenhouse gas reductions
  - Measure amount of carbon reduced per incentive dollars spent
  
- Act as a model/case study for developing best practices that may be replicated elsewhere
  - Develop diverse project models
  - Disseminate lessons learned
  - Amplify District investments by connecting with other low-income solar efforts underway like the President’s Climate Action Plan

### **Existing Models, Tools, and Approaches**

Based on our extensive conversations with key stakeholders we believe that the necessary leadership, consensus, and resources are available to launch a groundbreaking low-income solar initiative in the District. There are already a number of existing programs described below that could add solar to their efforts, allowing us to implement low-income solar using existing infrastructure. The DC and federal government have many programs designed to assist low-income residents with housing and/or energy costs. There are also significant financing opportunities that can leverage DC’s robust solar renewable energy credit (SREC) market and the 30% federal solar investment tax credit (see Economics of Solar and Low Income Housing on page 6 for more background).

### **Existing Programs**

The DC Department of Housing and Community Development (DHCD) manages an extensive low-income housing program, as well as a green retrofit grants and loans initiative. Under their Single Family Residential Rehabilitation Program (SFRRP) DHCD facilitates the replacement of nearly 80 new roofs a year with grants up to \$15,000 per roof. Adding solar to this program would likely be a very cost effective investment as all of the program management costs are covered.

The DC Department of the Environment (DDOE) and the DC Sustainability Energy Utility (DC SEU) manage energy efficiency and have piloted a number of approaches to low income residential solar programs. Their work is funded through the Sustainable Energy Trust Fund (SETF), which is generated via a surcharge on DC ratepayers’ utility bills.

In addition, DDOE manages the DC Low Income Heating and Energy Assistance Program (LIHEAP) program also pays for the heating and electric bills of over 20,000 DC residents. The funding, expected to be \$10,474,258 in 2014, comes mostly from the federal government. In other jurisdictions the federal government has allowed portions of the LIHEAP funding to go to energy efficiency and renewable energy projects in an effort to permanently lower the energy bills of subsidized families. If some of DC's existing LIHEAP program money went towards providing LIHEAP families with solar systems to reduce their electric bills by 20-30%, the program could realize a significant cost savings over time as it reduces the number of families relying on LIHEAP for assistance.

The Department of Housing and Urban Development (HUD) supports over 50 multifamily building owners in the city who serve low-income residents, including the DC Public Housing Authority, and pays the utility bills for these properties. There is a significant opportunity and appetite to align policies to impact residents of those buildings and save taxpayer dollars.

### **Opportunities for New Funding**

The District Department of the Environment (DDOE) have indicated they plan to dedicate a significant portion of new funds available this spring/summer to low-income solar. The money comes from an alternative compliance payment (ACP) that energy suppliers are required to pay if they are unable to fulfill their solar energy requirements under DC's renewable portfolio standard (RPS). The RPS requires energy suppliers to procure a certain percentage of DC-based solar energy each year and they must pay a fine if those requirements are not met. Estimates for the ACP payment this year range from \$500,000 to \$12 million dollars, but the final amount won't be known until suppliers report to the DC Public Service Commission (PSC) in May 2014. In 2015 the fee is also likely to be several million dollars.

By law, ACP payments are transferred to DDOE to be used to stimulate solar development in the District. This is done in order to create a positive feedback loop, increasing suppliers' ability to comply with the law in the future. However, it may be a challenge for DDOE to deploy the ACP funding effectively because they receive the money in the spring and must spend it before the end of their fiscal year on September 31, 2014. While DDOE is working on a solution to facilitate a smooth carry over across fiscal years, if that is not possible there may be relatively few approaches that DDOE can take in order to spend the money quickly in a single fiscal year.

### **Political Support for a Low-Income Solar Initiative**

The DC government has a strong sustainability plan with ambitious goals to increase the use of renewable energy by 50% by 2032.

DDOE has a strong commitment to expanding support for solar in low-income housing.

In addition, in June 2013 President Obama issued a Climate Action Plan that committed to reaching 100 MW of installed renewable energy capacity (including solar) on federally assisted housing by 2020. HUD is working to implement this target by exploring public-private partnerships, existing and new policy initiatives, and other ways the agency could help stimulate the widespread adoption of solar in the low-income housing sector. Key representatives from HUD are attending this roundtable and are exploring how they might partner with DC to make the District a national model for the deployment of low-income solar.

### **New legislation opens up solar for low-income residents**

Community Renewables Energy Act (CREA) is a new law that allows District residents to receive credits on their electric bill from solar projects installed elsewhere in the city. This new “solar gardens” law (also referred to as “virtual net metering”) allows renters and apartment dwellers to offset their electric bills with solar—even if the solar panels are located somewhere across town. Thus, community solar represents a new and exciting way to increase equity and access to clean energy for DC residents and potentially deliver solar to any DC resident more efficiently than typical rooftop solar.

CREA also opens up a vast number of new project and financing models for deploying solar on low-income housing stock. The exact financial and project structures and economic returns of community solar projects are not yet developed and will likely vary greatly from project to project. Click [here](#) for more information on CREA.

## Background on Solar and Low-income Housing Economics

Solar and low-income housing financing are both relatively complicated fields. The following is a breakdown of some of the key vocabulary and a summary of incentives and issues in both fields, as well as an introduction to potential opportunities for developing low-income solar initiatives.

### Solar

#### Tax Credits

The economics of the US solar market are driven primary by two federal tax incentives: a 30% investment tax credit (ITC) and a five-year accelerated depreciation. Combined these incentives are worth about 50% of the total cost of a solar project. However, non-profits and low-income residents have little or no ability to take advantage of tax incentives which makes taking advantage of tax credits more complicated in the context of low-income solar.

There are, however, a number of creative financing structures that have been developed that allow third parties to take advantage of tax credits, and to pass part of the savings on to nonprofits. The most notable option is the Power Purchase Agreement (PPA) discussed below.

#### SRECs

A SREC is a Solar Renewable Energy Credit used to monetize the “green” value of solar electricity. SRECs are separate from the physical electricity that is produced by a solar system and are traded on market exchanges where they are typically purchased by entities complying with state requirements or by individuals wanting to displace their energy demand with a renewable source. They are like a “voucher” that proves that the electricity from a solar system is renewable. A solar system produces one SREC for every 1,000 kWh of electricity it provides.

SRECs are currently quite valuable in DC because Pepco and other energy suppliers are required to purchase SRECs *produced in DC* each year in order to meet DC’s RPS requirements. In DC today, SRECs are trading at around \$480 each as they are generated. They can be sold up front to raise cash for a solar project at roughly \$1250/kw installed. Currently, the value of a SREC produced by a solar system installed within the District will pay for about a third of the cost of installing a new solar system. Click [here](#) for more info on SRECs.

Given how valuable SRECs currently are in the DC market, low-income solar projects may be more economically viable in DC than in other parts of the country. SRECs could also be used in other ways to benefit low-income residents. For example, If SRECs are not used to pay for the solar system they could be a significant source of income for low-income residents who have received free solar systems. However, this approach has not been tried yet in the DC market although many residents would be interested in such arrangement.

## Financing

Low-income housing finance is complicated and relies on a complex layering of state and federal tax credits, grants, and investments. Solar finance is also complex often relying on a combination of tax equity, debt, and other financing. Combined, the two financing structures are even more complex, with potential interactions between different tax credits unique to each project. Each has unique loan horizons, credit sensitivities, and specialized investors.

### Financing—Power Purchase Agreements (PPAs)

In the solar sector, specialized third party finance and ownership models have emerged in recent years. These are often implemented by companies called Energy Services Companies (ESCOs). Typically, these ESCOs finance the development of renewable energy projects and own and maintain the systems. They then make their investment back by taking advantage of tax credits, SRECs, grants and by contracting with the building to buy the energy produced by the solar on the roof through a PPA—usually at a rate below what the building is currently paying their utility. While the modern ESCO seems like a great fit for the housing sector, the challenge is that ESCOs have low risk tolerance, high credit requirements, and, perhaps even more importantly, lack the experience and comfort to work in the low-income housing sector. They also charge extremely high returns for their service with ESCO tax equity investors often making 18% or more on their participation.

One of the most popular ways to provide solar to people and organizations that do not have a tax appetite is a Power Purchase Agreement (PPA). With a PPA, an ESCO finances and owns a solar system and charges the building owner and or tenants only for the energy produced by the solar system. Many of these arrangements are heralded as “no money down” solar.

This type of arrangement can be very attractive because it allows the ESCO to take advantage of tax incentives and pass that savings onto the low-income housing providers or tenants (entities that often cannot take advantage of tax credits because they do not pay taxes). A key roadblock, however, is that lenders that finance typical PPA’s generally require a high credit score. This can be a significant barrier for both single-family low-income residents as well as non-profits. Though multi-family building owners do not face the same hurdles and may be excellent candidates for PPAs. A creative way around this conundrum is to use solar incentive money or other capital to *prepay* the cost of a PPA. This reduces risk to lender and decreases the overall cost of going solar.

Both the DC Sustainable Energy Utility and DDOE have implemented a prepaid PPA project model in low-income residential pilot projects in recent years. To give a sense of the opportunity, Community Power Network recently solicited bids for prepaid PPA’s for a set of 10 low-income townhomes in Baltimore. The cost for a three kilowatt system completely prepaid was a one-time investment of \$5,650 in each house resulting in an estimated \$78 in savings each month, \$930 in savings each year, and \$18,600 savings over twenty years for each resident. In DC the opportunity is considerably greater because SRECs are trading at nearly four times the value in Maryland.

### Financing--Including Solar Investment in Mortgages

With new construction loans the challenge is often the low loan to value ratio required by traditional lenders in the construction business. For new buildings, it is possible for the tenant to roll the cost of a solar system into the cost of a long-term low interest fixed mortgage and still have a lower monthly bill (combined electric and mortgage) than without solar. For example, a recent analysis by Community Power Network for a residential solar system showed a \$300 annual increase in mortgage payments and a \$600 to \$1,000 annual decrease in energy bills due to the solar installation. This assumes forgoing all tax incentives and SRECs and using a low interest (2%, 20 year Habitat for Humanity) loan to pay for the cost of the system. In many situations and project structures the addition of solar to new low-income housing could make compelling economic sense for the resident and be revenue neutral for the developer, but financial institutions do not take into account these energy savings and the subsequent increased ability to pay in calculating loans. New solutions are needed for these types of construction loan projects because currently, construction loan financing that includes solar is extremely restricted.

### Financing--Low Income Housing Tax Credit (LIHTC) Projects

Low-Income Housing Tax Credits (LIHTC) are one of the primary financing tools used to develop housing for low-income households. Developers are awarded tax credit allocations that are then purchased by investors and/or syndicators in exchange for an equity stake in the housing development. This provides direct capital to the developer to reduce the amount of needed debt and rent levels. The residents are limited to that earn at or less than 60% of area median income (AMI). The AMI in DC was \$107,300 in 2013. In these types of buildings owners are only allowed to charge Fair Market Rents (FMR) as determined by HUD. The general guideline for FMR is that rent plus utilities should equal 30% of a resident's income. Owners go through a somewhat complex approval process to set rental rates. Because of this, if a building manager lowers energy costs they could potentially reap significant benefits because they may be able to increase rent rates depending on the utility allowance guidelines in place. Depending on the owner, the specific project site, and the building economics, *all* the savings might accrue to the owner or might be shared between owner and tenants. These projects could potentially take more advantage of additional energy tax credits if they explore alternative energy and other newly emerging models of supplying power on site.

### HUD Assisted Housing (Public Housing and Project Based Section 8 Multifamily Buildings)

Section 8 is a federal voucher program administered by HUD which provides rental housing assistance to private landlords on behalf of approximately 3.1 million US low-income households. In Section 8 buildings, HUD pays the power bills (heat, hot water, electricity) for the residents either directly or indirectly via a utility allowance. Therefore there is limited incentive for Section 8 housing developers or building owners to lower energy costs (beyond those of common areas) because any savings would go to HUD, not the private building owner. HUD has piloted test projects that allow a "benefit share" whereby building owners and HUD would share the benefits of lowering energy costs, however, there are significant legislative and programmatic hurdles that make these arrangements challenging.

## Creating an Incentive Program: Options for Discussion

There are a number of different ways to structure or create a low-income solar program in DC, although each has their pros and cons. The most promising options proposed by roundtable participants fall into five different categories, summarized by the five options described below:

### Option One: Dollar Per Watt Incentive

In this option DDOE would provide a dollar per watt after installation rebate. The current proposal is to provide \$1 dollar per watt for all projects, except for low-income systems. A higher amount, possibly \$3/watt, would be provided for low-income projects. This model was used in DDOE's low-income pilot program last year.

Over the last year DC SUN has successfully organized a number of residential bulk purchases across the city. By aggregating customers, the organization has been able to achieve significant savings for homeowners and has facilitated more than 100 solar projects on homes in the past year. In each group participants paid roughly \$3/watt for their systems. An incentive rate provided on a sliding scale could allow any homeowner to participate in the program. A \$3/watt incentive would allow low-income homeowners to invest in a solar system and keep the SRECs as an additional source of income. A \$2/watt incentive would allow moderate income residents to go solar by using their SRECs to fill the gap between incentive and cost, and a \$1/watt rebate would allow most moderate income residents to afford solar.

#### *Pros*

This approach is fairly simple to administer and would not require changes in procurement policy. If well advertised and provided on a first come first serve basis, this approach could be considered an equal opportunity for any qualifying District homeowner. Providing the benefit only after a system is installed benefits completed projects, does not pick winners and losers, and does not constrain or slow the pipeline by having people wait for grant approval before the move forward with a project.

The dollar per watt rebate can also be combined with customer aggregation efforts to provide a good tool for driving large quantities of low-income residential solar projects. An approach like this could leverage existing programs such as DC SUN's bulk purchase programs, DHCD roof replacement program, or Habitat for Humanity's new homes programs. In addition, participation could be driven by homeowners and residents rather than by developers or government.

### *Cons*

This approach is not helpful for financing of projects and doesn't explicitly stimulate new models or expansion into new areas of the market. It may also use scarce ACP funds to reward installations that may have occurred even without this program. It also does not highly leverage incentive dollars when compared with some of the other project approaches.

### *Issues for Discussion*

- This approach has been advocated by the installer community as a straightforward way to stimulate solar investments.
- Are there ways to fine-tune the administration of such a program to make it more effective and accountable?
- Is it better to proceed with a program that has already been tried that is relatively easy to administer or is it better to attempt to maximize the number of low-income solar installations and the resulting benefits?

## Option Two: Competitive Grant Program

There is a general sense in the developer community that after-the-fact (cost reimbursable) incentives have limited impact on stimulating solar because these kinds of grants do not provide improved financing or decrease the amount of money needed to be raised to complete a project. This alternative option would provide a guaranteed source of funds to selected projects through a competitive application process similar to some of the competitive grant programs run by the Maryland Energy Administration (MEA).

In a competitive program, an request for proposal (RFP) could be issued before the exact level of funding available to the program is confirmed early in the calendar year. The agency could set specific criteria, based on the outcomes that it desires to achieve with the program, and developers would submit proposals in response to those criteria. Criteria could include measures of impact (number of people served, kW installed, greenhouse gas reduced), project viability, innovation, cost-share or leveraged funds, community need, etc. Criteria could be weighted based on importance. Once the quantity of funding is known the winning proposals would be chosen based on how the project scores on the criteria that had been set in advance.

MEA often engages outside stakeholders to review grants and assist with scoring in order to provide an objective perspective. For example, for a competitive grant program related to low-income solar, the local housing department could be part of the grant review team. Another important note is that the agency can negotiate with applicants to adjust the scope of the project, the award amount, or another component of a project.

Once awarded, grantees sign an agreement and set up a scope of work. Awardees submit invoices for work performed on a monthly or quarterly basis, according to a set of milestones agreed upon by the two entities. In one grant program, payments are made at set milestones (including delivery of equipment, installation, and final report). Grantees also submit regular progress reports on projects, which list accomplishments and discuss any problems they have encountered.

### *Pros*

This approach allows the agency to design a flexible program that emphasizes particular criteria such as new models, low-income impact, geographic priorities, economic or social sectors, new technologies, etc. It could allow for new and innovative project models for low-income solar that may promote the development of a pipeline of low-income projects. Additionally, funding allocations could be more flexible and respond to the programs that seem to be working best or changing market conditions.

## *Cons*

This approach doesn't necessarily provide a high leverage of incentive dollars. It also does not help as much with financing challenges compared with some of the other models. Depending on how the program is set up, it could also entail a greater administrative burden during the period when the administering agency must review all of the applications. Finally, a competitive program relies on having enough responses to fully encumber the funds, meaning that the target audience will have to be identified and adequate outreach conducted.

## *Issues for Discussion*

- Would this type of program design leave too much discretion with the funding agency?
- Could a program like this help promote cross-agency collaboration?
- What organizations or entities would a competitive grant program target?
- What is the associated administrative burden?
- Is this an effective way to deploy the funds?

### Option Three: Loan Guarantee Program

A loan guarantee, in finance, is a promise by one party (the guarantor) to assume the debt obligation of a borrower if that borrower defaults. A guarantee can be limited or unlimited, making the guarantor liable for only a portion or all of the debt. Most loan guarantee programs are established to correct perceived market failures by which small borrowers, regardless of creditworthiness, lack access to the credit resources available to large borrowers. In the case of a low-income solar, a loan guarantee program could take advantage of the facts that (1) the risk of nonpayment is very low with solar projects, and (2) the savings from solar over the life of the system far exceed the cost of installing solar

For existing housing, a solar system would provide energy or hot water heating at a below-market cost typically charged by the utility. Thus, the actual risk of non-payment is quite low. Nevertheless if the building owner or tenants have little credit history they will not be eligible for financed systems. The loan guarantee eliminates that credit risk and lowers the cost of project.

For new housing, an economic analysis of solar in the DC market confirms that if solar is built into the new housing, the savings from solar over the life of the system far exceed the cost of installing solar. Thus, even if the cost of solar is wrapped into mortgage costs or rent costs of low-income residents, there could be significant savings for the low-income homeowner. However, for many lenders mortgage payments are limited to percent of mortgage holder's monthly income. The challenge is convincing lenders that they should redo their formulas to include the energy savings. A loan guarantee program could be used to back the incremental increase in construction loans on low-income housing needed to include solar.

#### *Pros*

Since the credit risks associated with low-income residents and non-profits a loan guarantee program can significantly decrease the costs of financing solar system construction and can provide a high degree of leverage of incentive dollars per kilowatt deployed. There are a lot of precedents with this approach, for example funds from the 2009 American Recovery and Reinvestment Act were used to create escrow-like accounts at participating lenders to increase lending for residential energy projects.

Besides DDOE/SREC funds another potential source of funds for this might be the Section 108 block grants that typically go to DHCD from HUD. HUD is determining the eligibility of these funds for renewables. Sustainable DC Challenge Grant funds to DC Agencies might also be available for this or other purposes.

## Cons

Due to the DC government's budget cycles, it would likely be necessary to place the fund at a third party organization, perhaps by issuing an RFP to identify a bank, non-profit, or fund that is best suited to provide this service to the community. This might be challenging for DDOE considering the time constraints and lack of experience with this type of approach.

## *Issues for Discussion*

- Given limited solar incentive money would the creation of a loan guarantee fund be the most important use of DC solar incentive money?
- How much money would be needed to be in the fund in order to make it meaningful?
- If a project like this were to go forward would it make sense to divide up the fund to one or more third-party entities? What would be the best candidates?
- What criteria would you develop in order to issue an RFP to manage a fund like this in DC?

## Option Four: Leveraged Loan Fund

There are numerous examples in the housing sector of public entities granting or loaning capital to Community Development Financial Institutions (CDFIs) to match and leverage public funding with private capital to provide more competitive and flexible loans to affordable housing developers. For example the District Department of Housing and Community Development (DHCD) created the [Site Acquisition Funding Initiative \(SAFI\) in 2005](#). It was created to provide quickly accessible, revolving loan funds for acquisition and pre-development costs to nonprofit developers committed to the production, rehabilitation, and preservation of affordable housing. SAFI leverages DHCD funds with private monies for the preservation of affordable housing. This investment by the District of Columbia leveraged non-public senior capital 3-to-1. There are four SAFI lenders in the District. This could serve as a model for leveraging DDOE funding for necessary solar installation.

Similarly, in 2011, Bank of America launched an Energy Efficiency Finance Program providing low cost loan and grants to CDFIs to finance energy efficiency improvements. ACP funding could see a loan pool in DC to create a revolving lending source on renewable systems benefiting low-income persons.

### *Pros*

This approach leverages public sector funding. It may also help build predictability rather than on-again-off-again solar incentives that quickly run out. A fund would help smooth out the budget cycle and ease the challenge of deploying funds received late in spring by the end of the fiscal year on September 31<sup>st</sup>.

### *Cons*

Time frame to set up new entity. Potentially loans to projects versus grants. There may be a need for recourse to the borrowers and/or require collateral.

### *Issues for Discussion*

- How would a program like this compare to a loan guarantee program?
- Would the available funds be enough to capitalize such a program?
- Would private sector investors be interested in such a fund?
- Would such a loan fund be limited to certain types of low-income housing or could it help address needs across housing types and programs?
- Would this tool be sufficient to overcome the significant challenges to solar development in low-income housing?

## **Option Five: Community Solar**

DC's community solar legislation allows a unique opportunity to directly impact low-income resident's electric bills. In this approach, community solar facilities would be built on roofs, such as those owned by the DC or federal government or commercial properties. Projects could also be built on low-income housing buildings themselves. Direct subsidies would be provided to Community Solar developers to ensure that each project includes a dedication of part or all of its capacity to serve low-income residents.

Assuming that solar developers are already looking at DC as a prime location to develop community renewable energy facilities (CREF), this approach would take advantage of existing federal and local incentives but still ensure that the benefits of the legislation are shared in the low-income community. If sliding scale incentives were available for CREFs it would allow any CREF to be open to anyone in the neighborhood, rather than some CREFs being designated low-income and others being market value.

Another potential advantage of this approach is that tenants could own a portion of the renewable energy system through a tenant-owned organization. Under the Renewable Energy Tax Credit program, Tenant-Owned Entity would be given a 1% share of the Solar Owner, which would become, after five years, a 90% share. Tenants would not pay any part of the cost of the system. The cost of the system would be paid through a combination of a loan from the ACP Payments (20%), tax equity (35%), and market-rate debt (45%).

### *Pros*

A community solar program could increase the scope and scale of renewable projects by enabling more building owners to participate and create community investment opportunities for local residents. This approach could also provide benefits directly to low-income residents, particularly those receiving direct energy assistance from DC government, rather than housing developers, building owners, or federal agencies.

Such an approach could largely disaggregate the complexity of solar from the complexity of low-income housing. It would also strongly promote CREFs on multi-family housing. Such an approach may also stimulate the development of more community solar projects, as it would greatly enlarge the market for such facilities.

### *Cons*

DC is roof constrained, so there may not be enough roof space for such a program. It will also take time to develop these community solar projects or CREFs. This approach wouldn't address residents receiving HUD vouchers for energy, as there would be no incentive for them to participate. This approach does not empower low income housing developers to finance a larger quantity of solar on low-income housing.

### *Issues for Discussion*

- What is the priority for DC's investment in low income solar? Is it more important to directly assist residents struggling with their utility bills? Or is it more important to stimulate new and innovative models to deploy solar on low income housing in order to build a new sector and a new way of doing housing business?
- Should a higher leverage and stimulating a greater total number of solar systems be more important, or more transparency and accessibility of the program to many sectors, residents, and companies?
- What is more important, a low barrier to entry or the stimulation of innovation?
- How can we optimize the developers economy of scale but still have local control and transparency?
- What were the lessons learned from previous efforts?
- Is an incentive for non-low income solar needed based on the idea that DC has a large challenge to meet its solar goals?

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