

MODEL BRIEF

Low-Interest Secured Flex Loans (LISFL)

Low- and moderate-income (LMI) households historically have been underrepresented in the solar photovoltaic (PV) market. Increasing LMI household participation may be facilitated through Flexible Financial Credit Agreements (FFCAs).

An FFCA is an innovative financial or programmatic product that addresses underlying financial barriers for potential LMI solar customers, such as long-term contracting requirements, nontransferable solar subscriptions, credit score hurdles, seasonal income fluctuation, product or vendor skepticism, and limited mechanisms for multiplying or leveraging benefits. This brief focuses on a flex loan program that offers a no- or low-cost capital source to bridge the gap between the initial installation cost and the ultimate receipt of tax credits and energy savings. This program also provides low interest rates, for affordability, as well as a pre-funded debt service reserve account (DSRA), and is secured by the solar PV asset.

Model Description

Currently, an investment tax credit of approximately 26% of the cost of a solar PV system is available for individual taxpayers (Internal Revenue Code Section 25D) and business taxpayers (Internal Revenue Code Section 48). However, an alternative method was utilized to great effect under Section 1603 of the American Recovery and Reinvestment Act of 2009, which provided a cash payment in lieu of the tax credit for taxpaying businesses through 2017.

Under Section 1603, a business could install and own a residential or community solar PV system, bill the customer under a Power Purchase Agreement (PPA) or lease arrangement, and qualify for the cash payment. This obviated the need for a tax equity investor, along with the related costs and limitations. The tax credit was not transferable, regulated utilities and cooperatives were generally not eligible, and the taxpaying business had to retain ownership for at least 5 years. When combined with accelerated depreciation benefits, the federal tax subsidies covered about half of the cost of the system. The Section 1603 program facilitated the rapid growth of the solar PV market—both residential and business—which in turn led to a steep decline in solar PV costs.

Although the federal Section 1603 program is no longer in play, its success was deemed sufficiently noteworthy to evaluate whether a 1603-style program could be implemented at the state or local level. Conceptually, if funds are available when a system is placed in service, a business or a residential customer could opt for a “payment in advance” of the tax credit to cover a portion of the solar PV system cost. Residential implementation might be partially outside the federal taxation framework and would require that the residential customer have some form of tax appetite (or that the residential customer be willing to work with a solar PV business that has a tax appetite).

Cash payments in lieu of or in advance of tax credits make it possible for more parties to participate in the market without relying on a tax equity investor. Establishing a program of this nature could focus on the challenge of increased access to solar for LMI households. While many parties would need to be involved for successful implementation, one of the key stakeholders would be the fund manager, who would coordinate the flow of funds within the required tax framework, effectively displacing tax equity investment.

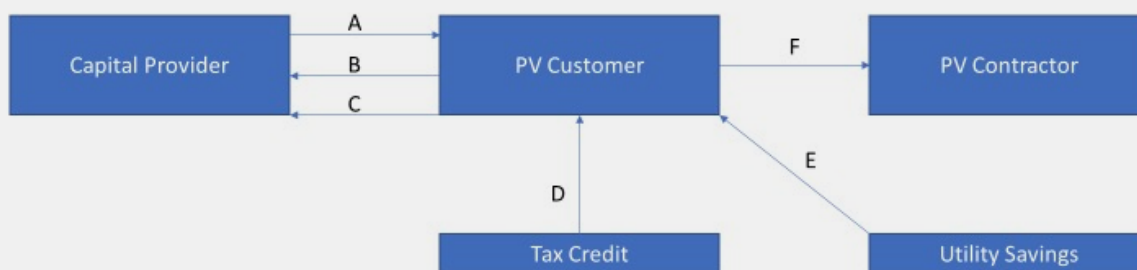
Existing agreements for PPA/lease arrangements would form a foundation for implementing this FFCA, as the balance of the solar PV system is paid for as a utility bill.

Building on this concept, we believe that a low-interest secured flex loan (LISFL, pronounced “listful”) product could meet one or more of the challenges that LMI households face when contemplating a solar PV installation. The participants and flow of funds are shown in the graphic provided below.

In this model, two low-interest flexible loans, which would fund 100% of the solar PV project, would be provided to the PV customer. The PV contractor would be competitively selected for best value. The larger loan would cover approximately 74% of the project cost, and loan payments would be structured to be consistent with anticipated utility bill savings. The smaller loan would cover approximately 26% of the project cost, and annual loan payments would be structured to be consistent with the customer’s receipt of investment tax credits over one or more years of tax returns. Included in the capital outlay would be a DSRA, set aside in a trust to allow LMI customers to enjoy periodic payment holidays in the term loan payment schedule. Recourse would be limited to the installed solar PV system.

Similar Examples

A similar approach is currently in place for homeowners with good credit scores. A homeowner can sign up with a vendor for a turnkey solar installation. The Section 25D tax credit portion of the project cost is funded through a short-term bridge loan, with the expectation that the homeowner will pay off the loan when they receive their federal tax refund in the year following the solar PV installation. The term loan is paid over many years in monthly payments, similar to a car loan. A down payment typically serves to inflate the overall return for the developer and lender on the solar PV project. Unfortunately, credit score qualifications, loans, structured payments, and near-term tax appetite can be hurdles that are too high for LMI households; thus, a fund to provide the credit support would be necessary.



- A. Capital provided to PV Customer for purchase of solar PV installation. Unlike PACE, LMI customer is not at risk for tax liens or foreclosure on the residence due to default on the solar PV system. Capital provision may include a pre-funded, limited use debt service reserve account.
- B. PV Customer pays back the Capital Provider for the “low-interest bridge loan” over the number of years necessary for the PV Customer to secure tax credits through annual filing of tax returns. Approximately 26% of capital.
- C. PV Customer pays back the Capital Provider for the “low-interest term loan” with payment amounts structured to be less than or equal to utility tariff for each solar PV kilowatt-hour AC delivered. A debt service reserve account may accommodate payment holidays.
- D. PV Customer must file taxes and obtain the federal tax credit and any other state or local incentives to pay back the bridge loan.
- E. PV Customer will pay for the term loan through the savings off the utility bill.
- F. Capital provided to PV Customer is used to pay for the best value, competitively-determined PV Contractor solar PV installation.

At least two types of partners/ implementers are envisioned for this concept, with many opportunities for variations on this theme. First, a state or community could offer a low-interest loan for the customer to install the solar PV system. The customer would then repay the loan to the state over time, as they take the investment tax credit and enjoy utility bill savings. Such a program would work for businesses serving LMI communities as well as multi-family and individual LMI households. This is not without cost; rather, it represents a shift in the cost of capital and the risk of repayment away from the LMI customer to the implementer. A portfolio of LISFL projects might help minimize risk by spreading risk across the portfolio, managing reserve accounts for the portfolio, and incorporating “anchor tenant” participation.

Second, current tax equity investors tend to focus on large-scale renewable energy projects. A carve-out that supports a portfolio of LMI investment would be beneficial, and a state or local community may work with the tax equity investor to provide additional incentives to make the carve-out more attractive to the tax equity investor pool.

FFCA Rubric

The National Renewable Energy Laboratory (NREL) designed an FFCA evaluation rubric composed of four high-level metrics—locational flexibility, financial flexibility and stability, attractiveness, and impact—with fifteen sub-metrics. Stakeholders

can evaluate FFCA concepts by rating the sub-metrics, which have maximum scores of 5 or 10, depending on the sub-metric’s level of importance. Total scores have a maximum value of 100. These scores are subjective and depend on individual FFCA program design; however, they provide a general framework for judging the merit of a program. Below, the authors rate the LISFL concept.

Portable

●●●●●●●●●● (5/10)

Moderate portability; better in a community solar program

Universal

●●●●●●●●●● (5/10)

Moderately universal in competitive distributed generation markets

Applicable

●●●●●●●● (2.5/5)

Moderate applicability; can be rooftop, multifamily, or community solar

Transferable

●●●●●●●●●● (5/10)

Moderate transferability, depending on underlying ownership of property/ asset

Investable

●●●●●●●● (5/5)

Strong investability, depending on program design and funds provider

Accessible

●●●●●●●● (5/5)

Strong accessibility; provides access to a variety of LMI populations

Secure/Transparent

●●●●●●●● (2.5/5)

Depends on program design

Equitable/Desirable

●●●●●●●●●● (5/10)

Moderate, depending on program design

Strengthens Community

●●●●●●●● (5/5)

Strong engagement if program design is directed to a specific community

Leverages Partners

●●●●●●●● (2.5/5)

Moderate, depending on implementing organizations

Mitigates Risk

●●●●●●●● (2.5/5)

Cannot tie up the LMI household like PACE constraints

Provides Financial Benefits to LMI

●●●●●●●●●● (5/10)

The benefits can be directed to LMI households by providing cash earlie

Provides Non-Energy Benefits

●●●●●●●● (2.5/5)

Moderate benefits, depending on successful implementation

Impacts Grid Flexibility/ Stability

●●●●●●●● (0.5/5)

Limited applicability unless directed toward community solar

Scalable

●●●●●●●● (5/5)

Strong, depending on the success of the pilot program implementation

Discussion

A program of this nature has a high degree of complexity, requiring the gathering and deployment of no- or low-cost capital from sources such as foundations, public funds, or tax equity investor carve-outs. Legal or regulatory change may not be necessary in many jurisdictions across the United States where community solar or competitive distributed generation is permitted

Next Steps

This FFCA has the potential to deliver a very high positive impact to LMI households by providing access to no- or low-cost capital for solar projects targeting LMI households. The next steps for implementing this concept as a pilot

FFCA would be to further develop the underlying concept and to recruit a foundation, a community, and a tax equity investor with an emphasis on increased access to solar for LMI households.

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Full Overview of FFCA Products

www.nrel.gov/solar/market-research-analysis/flexible-financial-credit-agreements.html

