

A variety of financial tools, programs, and opportunities can help address barriers to solar and solar and battery deployment for businesses in low-income and disadvantaged communities. *Photo by Joe DeNero, NREL*

# Financing Solar + Storage for Small Businesses in Underserved Communities

Solar and solar and battery storage deployment is under-utilized by businesses in low-income and disadvantaged communities, in large part due to system costs and limited or complicated financial options. This document summarizes existing financial tools, discusses important financial barriers, and identifies emerging programs and opportunities to address these barriers. The main audience is small businesses in Salt Lake City's Westside, but this information is also applicable to similar stakeholders across the country. This work was conducted by a multi-stakeholder team as part of the Solar Energy Innovation Network (see text box).

## Existing Options for Financing Solar + Storage

**TAX CREDITS:**<sup>1</sup> Tax credits provide direct reductions of tax liability. For example, if the amount of tax liability is \$15,000 and you are eligible for a \$10,000 tax credit, then the final amount of taxes that you owe is \$5,000.

The Federal Investment Tax Credit reduces federal income tax liability for a specified percentage of the total installed cost of a solar-only or solar-and-battery system. Through 2033, systems less than 1 MW in size installed at commercial

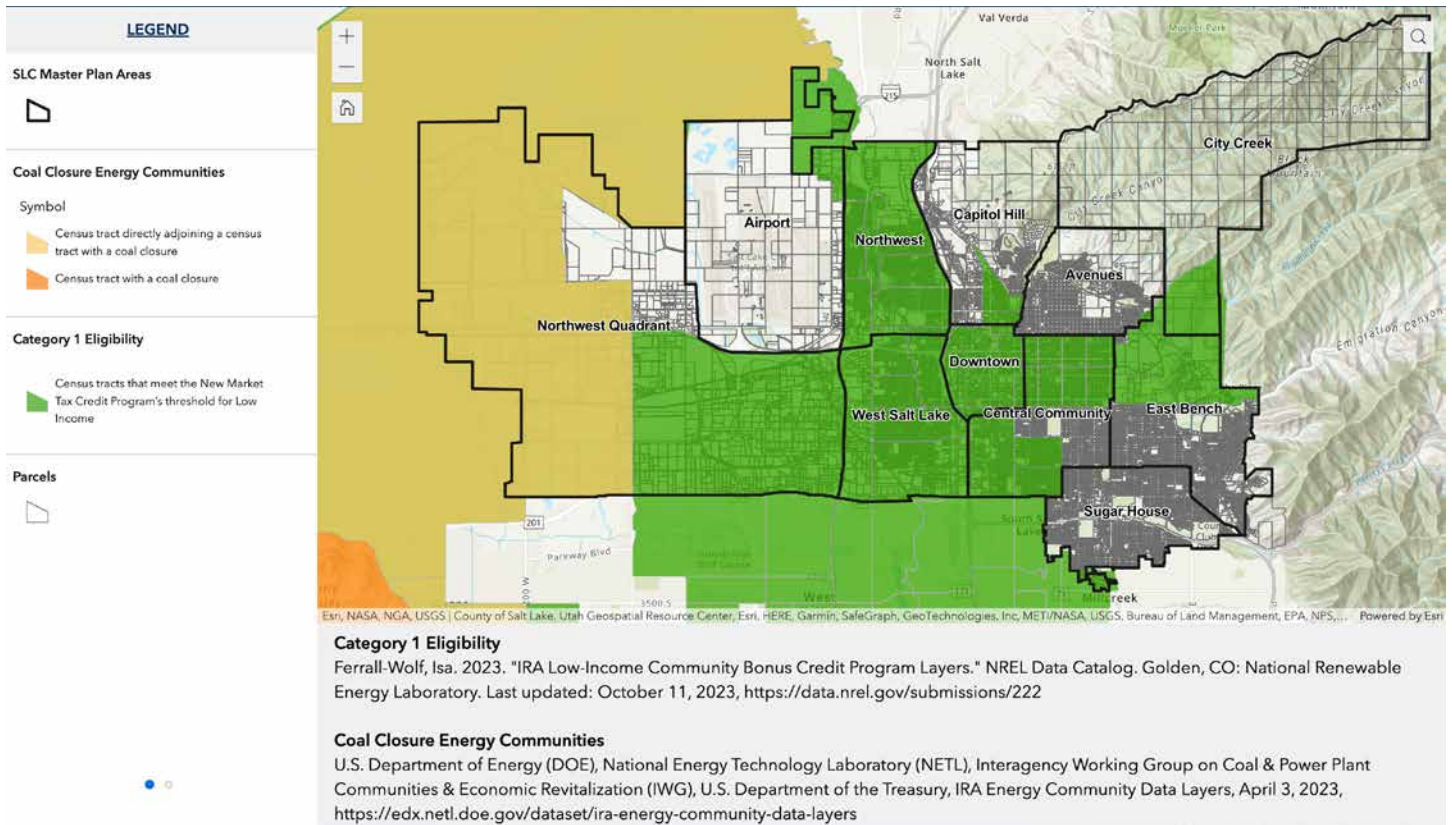
## About the Solar Energy Innovation Network

The Solar Energy Innovation Network (SEIN) seeks to overcome barriers to solar adoption by connecting teams of stakeholders that are pioneering new ideas with the resources they need to succeed. Teams that participate in SEIN receive direct funding and analytical support from U.S. Department of Energy national laboratories and participate in peer-to-peer learning with other teams tackling similar challenges. These teams are developing and documenting their solutions for solar adoption with scale in mind, so that others can adapt those solutions to their own contexts. Ultimately, the true impact of these teams' efforts will be to enable a wide array of communities to adopt solar solutions that meet their needs in their contexts.

The Salt Lake City Team, led by the Salt Lake City Department of Sustainability, has spent the last 18 months working on a project addressing barriers to equitable deployment of solar and battery storage in Salt Lake City's underserved Westside Businesses. The team received invaluable insights through working sessions with NREL staff, and partnerships with community partners, Suazo Business Center, NeighborWorks Salt Lake, the Utah Division of Multicultural Affairs, Zions Bank, Rocky Mountain Power, and Intermountain Healthcare Impact Investing.

<sup>1</sup>Although we describe these tax credits to the best of our knowledge, we are not tax professionals, and you should always seek the advice of a tax professional.





**Figure. 1 Salt Lake City GIS Map Layers for Financial Opportunities<sup>2</sup>** This interactive map is available at <https://maps.slcgov.com/portal/apps/experiencebuilder/experience/?id=4539d698795641b0b349ff6581781400>. This map is subject to change based on emerging federal rules, guidance, and interpretation. The team consulted with local financial leaders, researched Green Bank products and Green Bank opportunities in Utah, spoke with the Salt Lake City Economic Development Department, and worked in depth on understanding the Inflation Reduction Act (IRA) and how its benefits apply to Salt Lake City's Westside Community Businesses. Salt Lake City Sustainability created a map that allows us to evaluate, address by address, products and economic development programs that a particular business might be eligible for based on their location, demographics, income levels, ownership, environmental justice considerations, and possible IRA investment tax credit adders.

businesses are eligible for a 30% tax credit.<sup>3</sup> In addition, many Salt Lake City Westside businesses may be eligible to apply for a 10% bonus tax credit for low-income communities. There is a cap on the annual capacity that will receive the Low Income Community bonus. Businesses should also discuss the 10% Domestic Content adder with their solar installer.

Some small businesses may not have a large tax liability. In those cases, it may be beneficial to sell the tax credits to a third party that has a larger tax liability. The Salt Lake City Solar Energy Innovation Network (SEIN) team produced a map (Figure 1) that uses the best available information to depict where clean energy bonus tax credits may be available. More details about these tax credits are available through Department of Energy<sup>4</sup> and the Internal Revenue Service.<sup>5</sup>

**UTILITY INCENTIVES/REBATES:** Utility incentives for customer-sited solar or storage are not common, but Rocky Mountain Power (Utah's largest electric utility provider) has a

customer battery rebate program (see the fact sheet entitled "Utility Programs Supporting Customer-Sited Battery Storage: Program Design to Ensure Mutual Benefits"). As of 2023, the program provides a \$600 rebate per kW of battery capacity installed, in addition to an ongoing annual bill credit of \$15/kW of battery capacity. The program allows the utility to use enrolled customer batteries to maintain the stability of the grid by drawing on a customer's battery for five minutes at a time. Although the battery may be called upon frequently, the utility only uses the battery for a short duration, and does not significantly draw down its power, leaving most of the battery available for the customer. The utility rebate and annual payments reduce the cost of the battery investment.<sup>6</sup>

**SALT LAKE CITY ECONOMIC DEVELOPMENT FUNDS:** Salt Lake City has an Economic Development Loan Fund<sup>7</sup> (EDLF) that provides small business loans for terms of 6 months to 7 years. The first 12 months of these loans can be made

<sup>2</sup> <https://maps.slcgov.com/portal/apps/webappviewer/index.html?id=7b2bdc5180e14356912cfdece876cd5>

<sup>3</sup> Tax credits for solar/storage systems apply to the cost of equipment and installation, but not the cost of site preparation, such as roof repairs. Find more information, including a summary table of all of the federal tax credits for solar/storage at: [www.energy.gov/eere/solar/federal-solar-tax-credits-businesses](http://www.energy.gov/eere/solar/federal-solar-tax-credits-businesses). State-level incentives may also be available; information on state incentives is available at: [www.dsireusa.org/](http://www.dsireusa.org/)

<sup>4</sup> [www.energy.gov/eere/solar/federal-solar-tax-credits-businesses](http://www.energy.gov/eere/solar/federal-solar-tax-credits-businesses)

<sup>5</sup> [www.irs.gov/pub/irs-pdf/p5817g.pdf](http://www.irs.gov/pub/irs-pdf/p5817g.pdf)

<sup>6</sup> [www.rockymountainpower.net/savings-energy-choices/wattsmart-battery-program.html](http://www.rockymountainpower.net/savings-energy-choices/wattsmart-battery-program.html)

<sup>7</sup> [www.sl.gov/ed/edlfloan/](http://www.sl.gov/ed/edlfloan/)

## Funding Programs

**Greenhouse Gas Reduction Fund** (Inflation Reduction Act, Sec. 60103): \$27 billion of funding to deploy low and zero-emissions technologies, particularly in low-income and disadvantaged communities. \$20 billion will fund nonprofits that build financing products and \$7 billion will fund competitive Solar for All grants for residential and community solar benefiting low-income and disadvantaged communities.

**Climate Pollution Reduction Grants** (Inflation Reduction Act, Sec. 60114): Grants to allow states, municipalities, and tribes to develop and implement plans to reduce greenhouse gas pollution. The Utah Division of Air Quality received a \$3 million statewide planning grant and Salt Lake City received a similar \$1 million Salt Lake City Metropolitan Statistical Area (MSA) planning grant. Climate solutions—like commercial solar deployment grants—that are proposed in Priority Climate Action Plans (PCAPs) will become eligible to apply for competitive implementation grants from a \$4.6 billion fund. Salt Lake City, in consultation with other government agencies, should be well positioned to propose and seek funding for these types of programs.

interest- and payment-free, with loan repayments beginning a year after the dispersal of funds. This program can act as a “bridge-loan” to help cover the upfront cost of a solar or solar and battery installation while waiting for federal tax credits or direct payments<sup>8</sup> to be received, after which the loan can be paid off.

**GRANT PROGRAMS:** There are additional federal and non-federal competitive grant programs that can be directed through structured offerings to support solar and battery storage investments. See the sidebar above for examples of grants that are or will become available.

**POWER PURCHASE AGREEMENTS:** Some states allow third parties to own solar installations and sell the power to the commercial consumer. This ownership model can alleviate financing barriers, but this option is not available in some states, including Utah.

## COMMERCIAL PROPERTY ASSESSED CLEAN ENERGY

**(C-PACE):** This financing option uses borrowed capital that is repaid over time through property taxes. More than 30 states have passed C-PACE enabling legislation; additional authorization is required by local governments.<sup>9</sup> C-PACE should be considered by city or state authorities designing new financing programs and should target a range of business and solar project sizes.

## Barriers to Solar + Storage Financing

Despite federal, utility, and other incentives for solar and battery systems, financial barriers remain that impede the installation of solar + storage systems by small- and mid-sized businesses. Barriers include:

**UPFRONT COSTS:** Commercial entities can have high electricity consumption. Consequently, a renewable energy system designed to offset all electricity consumption can be expensive. While the system can pay for itself over time, the initial funds necessary to install the system can be an insurmountable barrier for a business without significant savings or ability to take out a loan.

**LAG TIME TO RECEIVE FEDERAL and STATE TAX CREDITS:** Federal tax credits are substantial and available through 2033. These credits can save a business owner 30% or more off the cost of a solar and battery installation. However, the tax credit is requested when the business’s tax return is filed in the spring of the year following installation of the renewable energy system, and any refund due may not be received until months after filing. This lag time requires the business owner to have sufficient financial resources to cover system installation costs until the business owner realizes the benefit of the tax credit. This lag time also exists for any relevant state tax credits, such as the 10% tax credit for commercial solar in the State of Utah.

**COMPLEXITY OF ACCESSING/USING TAX CREDITS:** In order to take advantage of a tax credit in the year following solar installation, a for-profit business must owe taxes in excess of the amount of the tax credit. If the business does not have sufficient tax liability in that year, the tax credit can be applied retroactively to the 3 previous years or carried over to 22 future years. Alternatively, the tax credit may be sold to another entity that does have sufficient tax liability. A tax-exempt entity, such as a non-profit organization, is entitled to receive the amount of the Federal Tax Credit as a direct payment.<sup>10</sup> The lag time for direct pay may be less than for a tax credit.

<sup>8</sup> As a result of the Inflation Reduction Act’s elective pay provision, qualifying entities can now receive direct payments in lieu of federal tax credits.

See: [www.whitehouse.gov/cleanenergy/directpay/](https://www.whitehouse.gov/cleanenergy/directpay/)

<sup>9</sup> [www.energy.gov/scep/sisc/articles/commercial-property-assessed-clean-energy-fact-sheet-state-and-local-governments](https://www.energy.gov/scep/sisc/articles/commercial-property-assessed-clean-energy-fact-sheet-state-and-local-governments)

<sup>10</sup> [www.irs.gov/credits-deductions/elective-pay-and-transferability-frequently-asked-questions-elective-pay](https://www.irs.gov/credits-deductions/elective-pay-and-transferability-frequently-asked-questions-elective-pay)





Salt Lake Solar Leaders (Jorge Fierro of Rico Brands, left, and Eric Stone of Salt Lake Barber Co/Culture Coffee, right) discussing financial barriers to solar + storage with Alejandro Moreno (center), Associate Principal Deputy Assistant Secretary for the Office of Energy Efficiency and Renewable Energy at the U.S. Department of Energy (DOE).

*Photo from Jennifer Eden, Utah Clean Energy*

**COMPLICATED FINANCING PROCESS:** Unlike for residential solar systems, there are few streamlined financing packages offered by solar installers to commercial entities. In most cases, it is up to the business to determine appropriate financing options.

**NOT ELIGIBLE FOR LOAN, OR CASH FLOW CANNOT SUPPORT A LOAN:** Many small businesses (especially in historically underserved communities) are not eligible for low-interest loans. Even when affordable loans are available, it may not be desirable to take out a loan, depending on the business' credit and comfort/trust surrounding debt.

## Possible Solutions: Innovative Financial Products and Services

Underserved communities have been historically targeted by predatory lenders who charge high interest rates. In all situations, the financial products listed below should be trustworthy, be developed based on community input and best practices, and provide transparent processes and terms. For example, loans should be communicated so that loan recipients can answer basic questions like: will there be a lien placed on my entire property or only my solar equipment? Are there any prepayment penalties? Is the loan rate fixed?

**GREEN BANK:** Green Banks are public, quasi-public, or non-profit financial institutions that combine public and private capital to support clean energy deployment. As such, these institutions are uniquely positioned to address the financing barriers faced by lower income businesses and homeowners wanting to install solar + storage. Because a Green Bank is typically run by a state or nonprofit organizations, there may be additional opportunities to implement safeguards against

predatory lending practices. Because Green Banks are mission-driven lending institutions focused specifically on clean energy deployment, they should be able to develop highly tailored lending products that combine and simplify available incentives for residents and businesses.

The Greenhouse Gas Reduction Fund<sup>11</sup> provides \$27 billion in competitive grants to support clean energy lending by green banks. If Utah does not create its own Green Bank, a green bank from another state or a national green bank should be identified and approached about the possibility of providing clean energy loans to Utah residents and businesses.

For example, the Colorado Clean Energy Fund<sup>12</sup> offers a Commercial Bridge Loan product. It would be interesting if a state clean energy fund extended its products to commercial entities in other states.

A Green Bank might also play other valuable roles. A Green Bank might facilitate the transfer and sale of tax credits generated by commercial systems, allowing businesses who cannot use the tax credit directly to realize their value by selling tax credits to businesses who can. Additionally, a Green Bank might be able to broker the sale of Renewable Energy Certificates (RECs) generated from a commercial system to other businesses who want to claim the associated environmental benefits. The sale of tax credits and RECs could create additional revenue streams to offset the upfront cost of installing solar and battery systems.

**REVOLVING COMMUNITY BRIDGE LOAN:** Low-cost financing can be made available to bridge the gap between the purchase of a system and the receipt of tax credit payments and cost savings due to the solar installation. For example, Salt Lake City's Economic Development Loan Fund (described earlier) can be used to provide upfront capital for the short period of time during which a business applies for and receives their tax credit. Because the fund is paid back reliably and frequently, the principal can remain available for future loans. Similarly, a Green Bank could serve the same need for low-cost clean energy bridge loans for a wider audience of businesses and households.

**SOLAR-SPECIFIC LOAN PRODUCT:** Given the predictable electricity bill savings that can be achieved with a solar installation, financiers could offer a solar loan product for which payments correspond with the electricity cost savings provided by the solar system. This approach is analogous to paying off energy efficiency capital expenses using electricity cost savings associated with the equipment. Green Banks could explore offering this type of product.

<sup>11</sup> [www.epa.gov/system/files/documents/2023-02/Greenhouse%20Gas%20Reduction%20Fund%20Factsheet.pdf](https://www.epa.gov/system/files/documents/2023-02/Greenhouse%20Gas%20Reduction%20Fund%20Factsheet.pdf)

<sup>12</sup> <https://cocleanenergyfund.com/wp-content/uploads/2022/12/CCEF-Commercial-Bridge-Loan.pdf>

**ON-BILL FINANCING:** Utilities can fund customer clean energy and energy efficiency projects through On-Bill Financing and On-Bill Repayment programs. Customers repay these loans on their electricity bill, typically through the savings realized by the clean energy or energy efficiency project.<sup>13</sup> Ideally, the savings generated by such programs will exceed the loan payments, resulting in overall bill savings for homes and businesses.

**COMMERCIAL SOLARIZE CAMPAIGNS:** Solarize campaigns leverage economies of scale to install many rooftop solar installations at a more affordable price. In a Solarize program, a local government or other organization will run a Request for Proposals (RFP) where local solar installers are invited to submit bids indicating preferred pricing on solar panels and financing terms. Solarize programs have often focused on the residential sector but could be adapted for businesses. Such a process could make it easier for businesses to find competitive solar pricing, reliable warranties, and favorable financing terms.

## Next Steps

While the information contained above illustrates feasible pathways to financing commercial solar installations in underserved communities, the team seeks to demonstrate some of these concepts in actual projects in Salt Lake City. Salt Lake City and Utah Clean Energy have received a grant from Urban Sustainability Director's Network to support the installation of solar + storage systems in historically underserved communities. In particular, the team hopes to demonstrate the value of low-cost bridge loans in conjunction with clean energy tax credits and available bonus tax credits in making solar + storage a reality for businesses in underserved areas. Additionally, Utah Clean Energy is producing a Commercial Solar + Storage Toolkit, which will describe opportunities, guidelines, and resources for accessing clean energy financing.



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SEIN is funded by the U.S. Department of Energy Solar Energy Technologies Office and is led by the National Renewable Energy Laboratory.

[www.nrel.gov/solar/market-research-analysis/solar-energy-innovation-network.html](http://www.nrel.gov/solar/market-research-analysis/solar-energy-innovation-network.html)

[www.utahcleanenergy.org](http://www.utahcleanenergy.org)

<sup>13</sup> <https://betterbuildingssolutioncenter.energy.gov/financing-navigator/option/bill-financingrepayment>