

# TOOL A: FINANCING RESOURCES

Unlike traditional forms of energy that utility customers pay for on a monthly basis, installing solar PV typically puts the initial, significant cost burden on the customer. Robust financing options are vital to make the solar dream come true.

## FEDERAL INCENTIVES

### **Solar Investment Tax Credit (ITC)**

The Solar Investment Tax Credit is a 30 percent federal investment tax credit for solar energy systems in place until December 31st, 2016. Both residential and commercial customers can take advantage of this tax credit. The ITC was first put in place in 2006, and has since been extended twice.

### **1603 Treasury Program**

In lieu of the ITC, the 1603 Treasury Program allows developers for residential and commercial renewable energy projects to receive a direct federal grant for 30 percent of the project cost. Enacted as part of the American Recovery and Reinvestment Act of 2009, the program provides developers with access to upfront capital, which can be a valuable tool in a down economy.

## UTILITY INCENTIVES

P.A. 295, which was signed into law in 2008, requires all regulated utilities to generate 10 percent of their retail load from renewable energy. The state's largest utilities, DTE Energy and Consumers Energy are required to meet additional targets. The law also required the MPSC to create a statewide net metering program that requires rate-regulated utilities, cooperatives, and alternative electricity suppliers to offer customers net metering based on the size of the system installed.<sup>xxx</sup> See Part 1 for more on net metering.

In order for electric providers to demonstrate compliance with the new RPS standard, they must purchase and/or produce Renewable Energy Credits (RECs) to meet the ten percent threshold. In response, Michigan's two largest investor-owned utilities (IOUs), Consumers Energy and DTE Energy, both launched programs to incentivize customers to install solar generation sources. Through both programs, the utility ultimately receives ownership of the RECs generated by the solar asset in exchange for rebates (DTE Solar Currents Program) or outright purchase of the electricity from the source (Consumers). Participants in each program are limited to installing systems that cover their annual electricity use.<sup>xxxi</sup>

While it was running, the pilot phase of DTE's SolarCurrents program provided incentives for customers to install solar PV systems up to 20 kW. The initial \$25 million SolarCurrents pilot program began in 2009 and provided for a total of 20 MW for solar PV systems. 15 MW of installed capacity was set aside for large-scale installations owned by DTE, and the other 5 MW was designated for customer-owned PV systems for DTE's customers. According to NREL, 94 percent of Ann Arbor's total installations in 2010 are attributable to the SolarCurrents program.<sup>xxxii</sup>

The pilot phase concluded in May of 2011 when it had reached their 5 MW target. The pilot phase of the program was incredibly popular, and resulted in 606 installations by over 100 solar installers. Approximately 79 percent of the installations were residential systems, and all but one used Michigan-based labor for installation.<sup>xxxiii</sup>

The second phase of SolarCurrents began in 2013. Rebates for solar installations are now available

through a random lottery in four phases over two years of 500 kW for each offering. To keep updated on any DTE's activities related to solar, visit: <https://www2.dteenergy.com>

Consumers Energy's Experimental Advanced Renewable Energy Program (EARP) is a performance-based incentive, meaning that the utility pays the customer for each kW produced by the PV system. This means that the homeowner does not use the electricity generated by their PV system, and instead it is fed back to the grid. Eligible residential solar systems are limited to 20 kW, while non-residential systems may range from 1 kW to 150 kW generation capacity. Applicants are selected through a lottery process. Consumers Energy customers participate in either EARP (if selected) or net metering, but not both for a single PV system. The most up-to-date information about the Consumers EARP program can be found on the company's website (<http://www.consumersenergy.com/content.aspx?id=4844>).

## LOCAL PROGRAMS AND INCENTIVES

### SmartBuildings Detroit

The Detroit Economic Growth Corporation (DEGC) offers energy program grants and loans out of a revolving loan Green Fund made possible by a grant from the DOE. SmartBuildings Detroit is part of the BetterBuildings for Michigan Program and is intended to offer ongoing grants and loans up to \$100,000 to commercial, institutional, and public buildings for eligible energy-saving projects, including solar PV. The program is limited to a specific geographic area in downtown Detroit, and available funding is expected to fluctuate. Visit <http://www.degc.org/special-initiatives.aspx/smartbuildings-detroit-program-2> for more information.

## LOAN PROGRAMS

### Michigan Saves

Through its Home Energy Loan Program, Michigan Saves works with participating local credit unions to offer financing for a number of energy-related home improvements, including PV. Systems must be connected to the grid and under 20 kW in size. Interest rates are below 7 percent. Homeowners must choose a Michigan Saves authorized contractor. To access update information on this program, visit <http://michigansaves.org/>.

## FINANCING ALTERNATIVES

Many creative financial mechanisms are being implemented across the country to reduce the up-front costs associated with installing solar. The following may represent possibilities for use across the state:

### PACE

Property Assessed Clean Energy (PACE), which was enabled by the State of Michigan in 2010, allows local jurisdictions to finance energy efficiency and renewable energy upgrades to commercial and industrial properties. The City of Ann Arbor launched the state's first PACE program in 2011; more information on this program as well as an explanation of how PACE works is available at <http://www.a2energy.org/pace>. Best practices from this program could be used to craft an "Advancing Solar PACE Program." For example, third-party sponsored funding could seed a revolving loan-loss reserve program to underwrite a financing program for solar installations in the region. Under such a program, the sponsored funding would be paid back to the third-party sponsor through a series of payments added on to the borrower's loan. As the borrower pays in to the revolving loan program, the sponsor would withdraw an equal amount.

Contact Clean Energy Coalition (<http://cec-mi.org/>) or Michigan Lean and Green (<http://www.leanandgreenmi.com/>) to learn more about PACE.

### Impact Investing

Impact Investing refers to investments made based on the practice of assessing not only the financial return on investment, but also the social and environmental impacts of the investment that happen in the course of the operations of the business and the consumption of the product or service which the business creates. An Impact Investing initiative could be designed specifically to advance solar in

Michigan, with the intention of generating measurable social and environmental impact alongside a financial return.

### **Power Purchase Agreements (PPA) and Solar Leasing**

Third-party financing mechanisms can make installing solar more attractive to homeowners, business owners, or public entities by reducing the risk and complexity involved in installing a PV system. Instead of paying for the PV installation upfront, a home or business owner enters into an agreement with the third-party company to lease the system (solar leasing) or buy all the electricity that the PV system generates (PPA). Maintenance and repairs are typically the responsibility of the third-party provider. The lease payment is usually competitive or less than previous utility bills before the solar installation. Private sector solar leasing firms find these models attractive because they allow them to take advantage of tax credits and accelerated depreciation of the PV system.<sup>xxxiv</sup> Terms for PPAs and solar leasing arrangements are usually between 10 and 20 years.

## **ECONOMIC DEVELOPMENT PROGRAMS**

There are several programs available to incentivize high-tech and research companies, including those in the alternative energy sector, to base their offices in Michigan.

### **SBIR/STTR + ETF**

Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) are federal, competitive award programs that enable innovative and entrepreneurial small businesses to explore their technological potential and provide the incentive to profit from commercialization.<sup>xxxv</sup> These programs expand funding opportunities in the innovation research and development arena by encouraging small businesses to partner with nonprofit research institutions and commercial investors/partners to bridge the gap between performance of basic science and commercialization of resulting innovations.<sup>xxxvi</sup>

The Michigan Emerging Technologies Fund (ETF) further expands funding opportunities for Michigan-based technology companies in the federal innovation research and development arena by matching federal SBIR/STTR awards.<sup>xxxvii</sup> Applicants must be in one of the four technology sectors supported by the ETF, including Advanced Automotive, Manufacturing, Materials, Information, and Agricultural Processing; Alternative Energy; Homeland Security and Defense; and Life Sciences. ETF funds are used for commercialization purposes, such as the purchase of equipment, legal costs, sales and marketing costs, business planning costs and fundraising costs.<sup>xxxviii</sup> For more on Michigan's ETF, visit <http://www.mietf.org>.

## **ADDITIONAL OPTIONS**

### **Made in Michigan Preference**

Renewable energy that is generated from a system that was constructed using Michigan-made equipment qualifies for Michigan incentive renewable energy credits equal to 1/10th REC per MWh for the first three years (subject to a calculation that takes into account all components of the renewable energy system). For example, if the solar panels qualify for the Michigan Equipment incentive RECs, but the inverters and racking do not, then the 1/10th REC would be prorated unless a threshold level of Michigan Equipment is met. If a threshold level of Michigan Equipment is used, then the entire 1/10th REC is awarded. Additionally, if the system is constructed using Michigan labor the 1/10th incentive credit for Michigan Labor is granted for the first three years in a manner similar to the Michigan Equipment provision. The Michigan Equipment and Michigan Labor incentive credits are only available for the first three years.