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Finance

Financing options to help make on-site solar a reality

A variety of factors are helping commercial building owners find new justification for adding on-site solar to their properties. Corporate sustainability programs are growing with national and big-box firms such as Kaiser, Walmart, Janus and more. And, with just a few years left for deep tax benefits, businesses of all sizes are looking for ways to claim those financial gains. Finally, not-for-profit and the municipal, university, schools and hospitals market – often unable to monetize tax advantages directly – are finding clever methods to capture some of those benefits while they last.

While solar costs currently are impacted by tariffs, costs continue to improve modestly. Also, most electricity rates in Colorado increased in the 2017 Xcel rate case cycle and inflationary in 2018. These factors make the value proposition of on-site solar plausible for many locations, but not all. On-site solar can be viewed as a stable futures contract on electricity, hedging and locking in energy costs for 20 to 30 years and reducing the impact of inflation on energy cost projections, according to Jordan House, operations director of Sopris Solar.

John Bringenberg
Renewable energy executive, Petros PACE Finance

While the size of project and the energy usage in the property are key factors, the mode of financing is as much a factor in rationalizing on-site solar, and new choices can make sense depending on the situation.

■ **The old.** The power purchase agreement has been the go-to transactional method for commercial and industrial on-site solar for over 10 years, for several good reasons. Very few businesses can rationalize owning electricity generation as a balance sheet capital expenditure. The financial motive is to save energy costs and lock in energy rates. PPAs accomplish this is by having a third party own and maintain the system while the property owner agrees to purchase all energy output for a long term, up to 30 years. That cost of electricity can be easily compared with current costs to predict the savings to the business over the term of the PPA. PPAs typically have an escalator and the property owner is assured that the cost of clean renewable energy is hedged and contracted for the term of the PPA.

	PPA	PACE	Deposit PPA
Ownership	3rd Party	Building Owner	3rd Party
Upfront Cost	$0	$0	$0 - discounted
Fixed Energy Cost	20-30 years	20-30 years*	20-30 years*
Tax Equity	3rd Party	Building Owner	3rd Party
Tax Benefit	Shared to lower energy rate	100% to Building Owner	Shared to lower upfront cost
REC Payments	Negotiable	Owner	Negotiable
Adders / Carport, etc.	Owner- upfront or in rate	Most included	Most included
System Size	1MW+	100kW+	250kW+

* In Colorado, maximum PACE financing term is 25 years

The table identifies some of the key differences between three forms of financing for on-site solar energy.

■ **The new.** While PPAs have many merits, this financing leaves some of its value on the table since the third party must now also achieve financial gain from the transaction and ownership of the system for 20 years or more. You have essentially taken on a partner to control energy costs who will share your benefits. Also, PPAs are difficult to fund when they are smaller than about 1 megawatt, which is equivalent to an IKEA-size rooftop.

A relatively new form of financing, Commercial Property Assessed Clean Energy captures much of that lost value and can support smaller solar projects. When financing solar or other energy improvements with C-PACE, the property owner agrees to add the value of the improvements to the property tax basis paid off in higher property taxes over 25 years. PACE with renewable energy sometimes results in electric cost savings and financial benefits that are higher than the additional annual property tax cost.

PACE provides 100 percent of the funds – same as a PPA. However, with this finance option, all tax benefits flow directly to the property owner and typically are coupled with renewable energy credits purchased by Xcel each month at a price that offsets about 50 percent of energy costs for 20 years based on the solar power generated. There are no parent/owner guarantees and the long financing term improves cash flow.

A peculiar feature of C-PACE financing is that by statute, it does not accelerate upon sale of the property. Like the PPA, C-PACE financing is generally off the balance sheet since the financial impact is increased annual property tax.

■ **When you are a nonprofit.** In some cases, PPAs can be coupled with PACE financing – particularly when the building owner is a not-for-profit and unable to monetize the tax benefits. To accomplish this, the PACE industry employs a deposit PPA or PACE PPA. In this version of PPA, an upfront "deposit" or prepayment of 20 to 25 years of energy costs are calculated at present value and paid in one lump sum. The third-party owner then typically shares his tax benefits by providing about 15 percent of the cost of the project to the contractor. So, a $500,000 system would cost the nonprofit $425,000.

Where does the nonprofit get the funds for this deposit? If they have a large endowment, they could use their own funds. Alternatively, a PACE financing attached to the property can provide those funds with the annual payments for up to 25 years resembling the cost of PPA payments. Most deposit PPAs also provide for the transfer of ownership of the system in year six or later for a nominal sum, since it has been essentially paid for upfront.

■ **The contrast.** The table on Page 23 helps identify some of the key differences between these three forms of financing for on-site solar energy.

New choices are now available to property owners for financing on-site solar using the PPA, C-PACE financing and, in some cases, the combination of C-PACE financing and the deposit PPA. Ask your contractor or energy adviser to help determine what makes the best sense in your situation. ▲

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A 500 kilowatt photovoltaic system