

Financial methods for installing solar

Method	Description
LLC of investors (or single investor); used for non-profit	<p>If an individual or LLC of investors installs and owns the solar on any entity, they can take the 30% federal tax credit and 100% depreciation the first year (equivalent to >31% deduction). Then the entity pays the individual for the generated electricity through a power purchase agreement (PPA). The system would be paid off within 5-7 years and then the individual/LLC can gift the panels to the entity (or can retain them for additional year(s) to make a profit before gifting). The caveat is that the individual(s) involved must have <i>passive income</i> (by IRS definition, this is rental or lease income) to take these credits.; credits can feed forward 20 years.</p> <p>This method allows the entity to get solar with no cost and no change to their utility bills; the decrease in their bills for the first 5-7 years goes to the investor/LLC. After 5-7 years, the investor/LLC would be fully paid back, and the entity would be reaping the benefit of the free solar electricity.</p>
Qualified Opportunity Zone Fund; useful for investors with capital gains	<p>Investments can be made in a Virginia Qualified Opportunity Zone (OZ). If an investor started a QOZ Fund, the investor would get a 10-year deferral of capital gains taxes on the investment, 15% step-up in basis (i.e. elimination of 15% of tax), and no tax on any appreciation within the QOZ fund. In addition, if the QOZ owned the solar system, the same methods used above could pay off the system within 5-7 years. Map of OZs is on-line. One Norfolk Solar Qualified Opportunity Zone Fund has been set up already.</p>
Commercial business	<p>Any business that installs and owns their own solar can take the 30% tax credit and 100% first-year depreciation and get a 5-7 year payback time. Need to have sufficient income to soak up the credits, but credits can feed forward 20 years. Can get loan for install (since effective payback rate is 10%, low interest loan is still zero-cost).</p>
Taxable entity with non-profit	<p>If a non-profit has some associated taxable entity (such as a real estate firm that owns their business), that business can install and own the panels with 5-7 year payback as above.</p>
Loan to installer	<p>Loan can be made to installer, who install and own the panels, take the tax credits through their business, be paid via a PPA, and achieve 6-12 year payback, depending on installer profit margin and potential loan interest amount.</p>
RFP to solar financier/ installer	<p>Companies like Suntribe, Solar City, Standard Solar or Convert Solar will quote an installation of solar at no cost, with payoff times in the 12-20 year time frame; they are paid via a PPA for that time frame. Many municipal school systems in Virginia have used this method.</p>
C-PACE	<p>Commercial Property Assessed Clean Energy. National program enacted in Virginia; can be used for no-cost installs if city activates via ordinance. Institution gets solar at no cost, and pays back using savings on electricity. So far only active in Arlington and Fredericksburg – but could be effective in all Hampton Roads cities.</p>

Notes:

30% federal tax credit through end of 2019. 26% in 2020, 22% in 2021.

But, 5% start on project locks in 30% tax credit as long as it is complete by end of 2023.

50 MW cap on PPAs in Virginia will limit LLC method after December 2019 unless expanded by VA legislature.

Roofs should be <5 years old (or renovated recently), not slate, flat or south-facing (within 45°), minimal shade 11 am – 3 pm.

Panel roof weight 2-3 lb/sq ft. All installs rated to 150 mph wind.

Installs can include some battery backup for power to critical systems in a power outage.

Benefits to installation of solar:

Lower utility costs

Extend roof lifetime

Lower air conditioning costs

Lower carbon footprint

Begins mitigation of sea level rise

Example to others

Ruth (rma@cox.net) can give tours of Norfolk Academy solar to show LLC method in action.

See also <http://solar.the-mcelroys.com/> and <http://www.norfolksolar.org/>.