

Financial methods for installing solar

Method	Institution	Description
LLC of investors (or single investor)	Non-profits	<ul style="list-style-type: none"> • Individual or LLC of investors installs and owns the solar • Takes federal tax credit and 100% depreciation (equivalent to >31% deduction) first year (split between investors) • Institution pays LLC for solar via PPA • Payoff time 7-10 years depending on desired profit • LLC sells/gives solar system to institution at end • <i>Investors must have passive income</i> (or be active in LLC) • Tax credits can feed forward 20 years
Qualified Opportunity Zone Fund	In QOZ	<ul style="list-style-type: none"> • Same as above, plus: • Investor gets 7-yr deferral of capital gains taxes, 15% step-up in basis (i.e. elimination of 15% of tax) • Most useful for investors with capital gain & passive income • Map of OZs is on-line • Norfolk Solar Qualified Opportunity Zone Fund is example
Commercial business	Business	<ul style="list-style-type: none"> • Commercial business installs and owns their own solar • Takes federal tax credit and 100% depreciation (equivalent to >31% deduction) first year • Business must have sufficient income to soak up tax credits, but credits can feed forward 20 years • Can get loan for install (payback rate greater than loan rate)
Taxable entity with non-profit	Non-profits	<ul style="list-style-type: none"> • A non-profit with associated taxable entity (e.g., real estate firm that owns building), that business can install and own the panels as above. Must have enough tax burden to use credits
Loan to installer or business	Any	<ul style="list-style-type: none"> • Loan can be made to installer or commercial business, which installs and owns panels, takes tax credits, paid via a PPA, can achieve 8-15 year payback depending on desired profit
RFP to solar financier/installers	Any	<ul style="list-style-type: none"> • Commercial solar business installs solar for institution • Companies like Suntribe, Solar City, Standard Solar, Secure Futures or Convert Solar can quote solar installation at no cost, payoff times 12-20 year time frame; paid via a PPA • Many Virginia municipal school systems have used this • Make sure installer is reputable (get multiple quotes)
C-PACE	Commercial property owners and developers	<ul style="list-style-type: none"> • Commercial Property Assessed Clean Energy financing • Enabling legislation enacted in Virginia; local government must enact ordinance to use • Commercial customers (and non-profits) can access 100% financing for solar PV (e.g., no down payment), pay back using savings on electricity
Crowd-funding	Any	<ul style="list-style-type: none"> • Example: https://localstake.com/businesses/secure-futures-solar/preview
Mission Energy	Catholic churches	<ul style="list-style-type: none"> • Catholic church network helps with financing: www.catholicenergies.org

Advice:

When approaching an institution, bring everyone relevant to the table (leadership, development, finance, facilities, sustainability)

Motivate any interested groups (students, alumni, parents, faculty, congregation, members)

Lay out financial plan in detail, address details such as maintenance & insurance

Be patient but persistent

Notes:

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

5% start on project in 2019 locks in 30% tax credit if complete by end of 2023.

Virginia limits that could be removed by VA legislature:

50 MW cap on PPAs will limit LLC method after December 2019 unless expanded

PPAs with commercial entities limited to > 50 kW (but non-profits any size)

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. Installs rated to 150 mph wind.

Can include battery backup for power to critical systems in a power outage.

Solar Renewable Energy Credit (SREC) market in Virginia (if Virginia had mandatory renewable requirement), would make solar payoff time much faster.

PPA = Power Purchase Agreement. Agreement by entity with solar installed to pay owner of solar system for power generated. Can be simple (1 page) to complex (50 pages).

LLC = Limited Liability Corporation. A way for a group of people to fund something together.

Can be simple to start, and \$50 per year to maintain.

Template LLC and PPA documents at <http://solar.the-mcelroys.com/>

Potential Barriers you may encounter that institutions worry about:

Maintenance

Risk

Insurance/liability

Damage to roof

Future disposal

Investor motives

Benefits to installation of solar:

Lower utility costs

Mitigation of climate change / sea level rise

Extend roof lifetime

Example to others

Lower air conditioning costs

Independence from utilities

Lower carbon footprint

Creation of high-paying, high tech local jobs

Contacts:

LLC method: Ruth Amundsen, rma@cox.net, Norfolk Academy solar, Norfolk Solar QOZ Fund

Commercial Installer: Chad Wilkins, c.wilkins@convert-solar.com, Nolie Diakoulas

nolie@convert-solar.com

Student Organizing: Aditi Iyengar, Solar on the Schools: solarontheschoolsfcps@gmail.com

Solar on Schools: Tish Tablan, tish@generation180.org

Churches installing solar: Father John Grace, frjohn@icchampton.org

C-PACE: Abby Johnson: abby@abacusprop.com, Scott Dicke: sdicke@paceworx.com

<http://www.pacealliance.org>

Virginia solar loans: VCC, <https://www.vacommunitycapital.org>

Non-profit financing: <https://re-volv.org>