

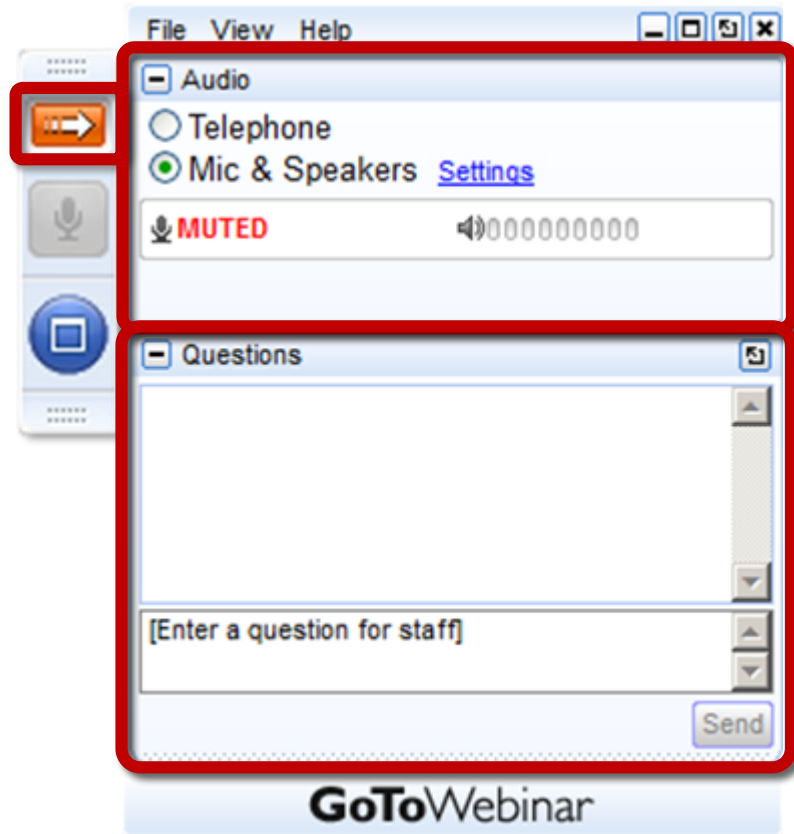
RESILIENTPOWER

A project of CleanEnergyGroup



Innovative Pathways to Developing Solar+Storage in Low-Income Communities: Norfolk Solar's Qualified Opportunity Zone Fund

WEBINAR LOGISTICS



Join audio:

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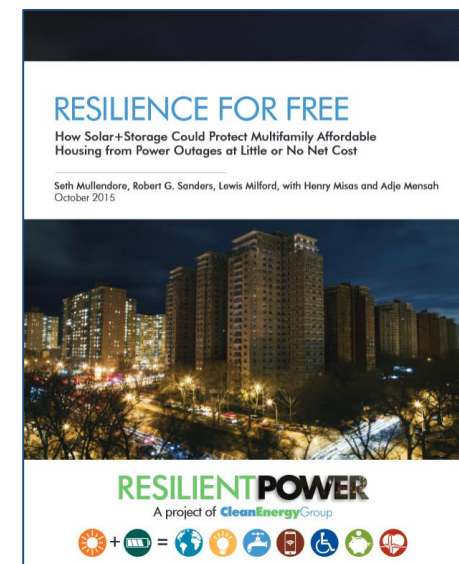
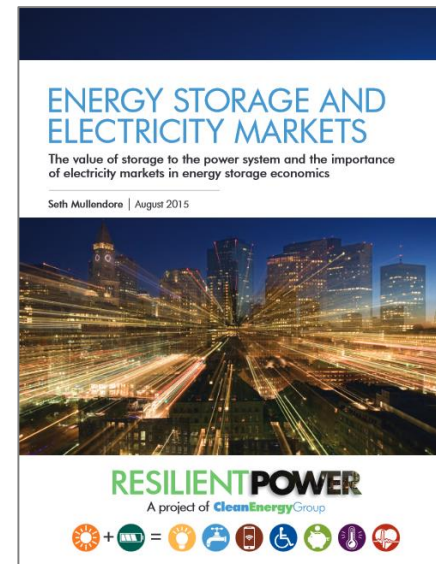
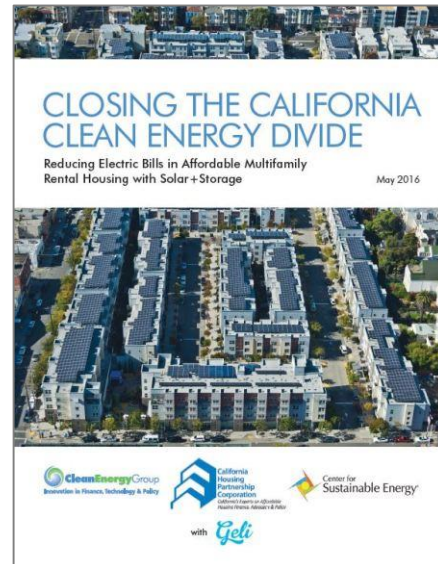
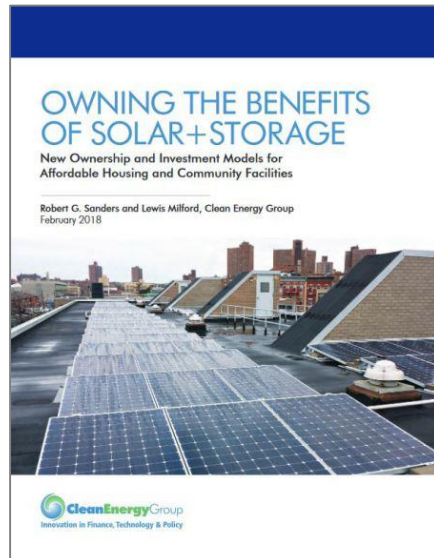
Submit questions and comments via the Questions panel

This webinar is being recorded. We will email you a webinar recording within 48 hours. CEG's webinars are archived at www.cleangroup.org/webinars



THE RESILIENT POWER PROJECT

- Increase public/private investment in clean, resilient power systems (solar+storage)
- Protect low-income and vulnerable communities, with a focus on affordable housing and critical public facilities
- Engage city, state and federal policy makers to develop supportive policies and programs
- Visit www.resilient-power.org for more information and resources



SUPPORTING 150+ PROJECTS ACROSS THE COUNTRY



WEBINAR SPEAKERS



**Ruth McElroy
Amundsen**

Founder, Norfolk
Solar QOZ Fund LLC



Marriele Mango

Project Director,
Clean Energy Group
(moderator)

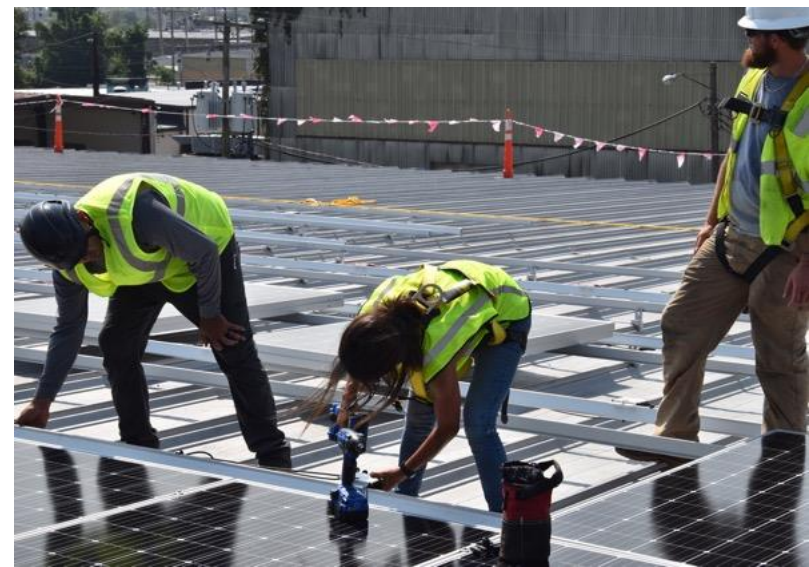




Solar & Qualified Opportunity Zones

Ruth McElroy Amundsen

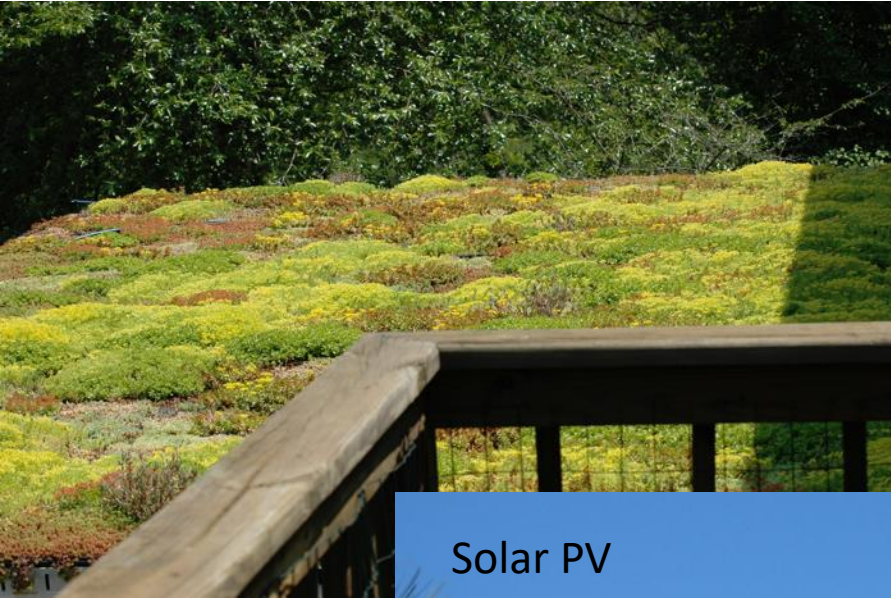
September 2020





How We Started....at home

Green (living) roof



Solar hot water



Solar PV



Our home has
been on local
solar tour
since 2009



More...

Wetlands buffer



Permeable pavers



Rainwater cistern



Rain garden (& cistern overflow)

Composters





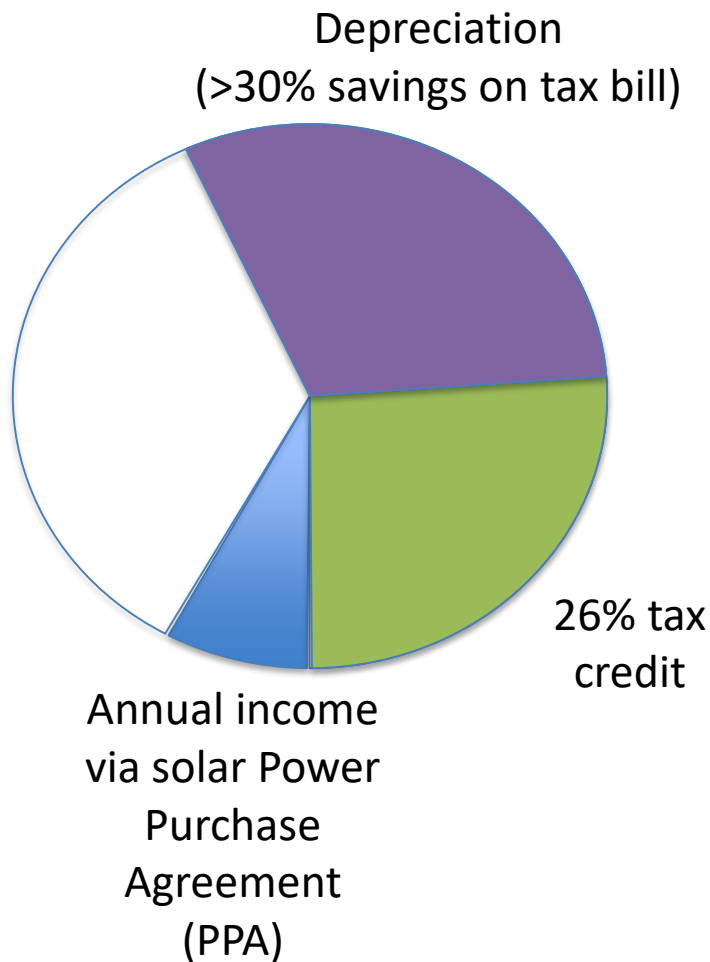
Image Virginian Pilot 3-6-19

Actions at home led to actions in the community....

Led parent group to put \$1M (600 kW) of solar on independent school, Norfolk Academy
No cost to school, parents re-paid in 7 years



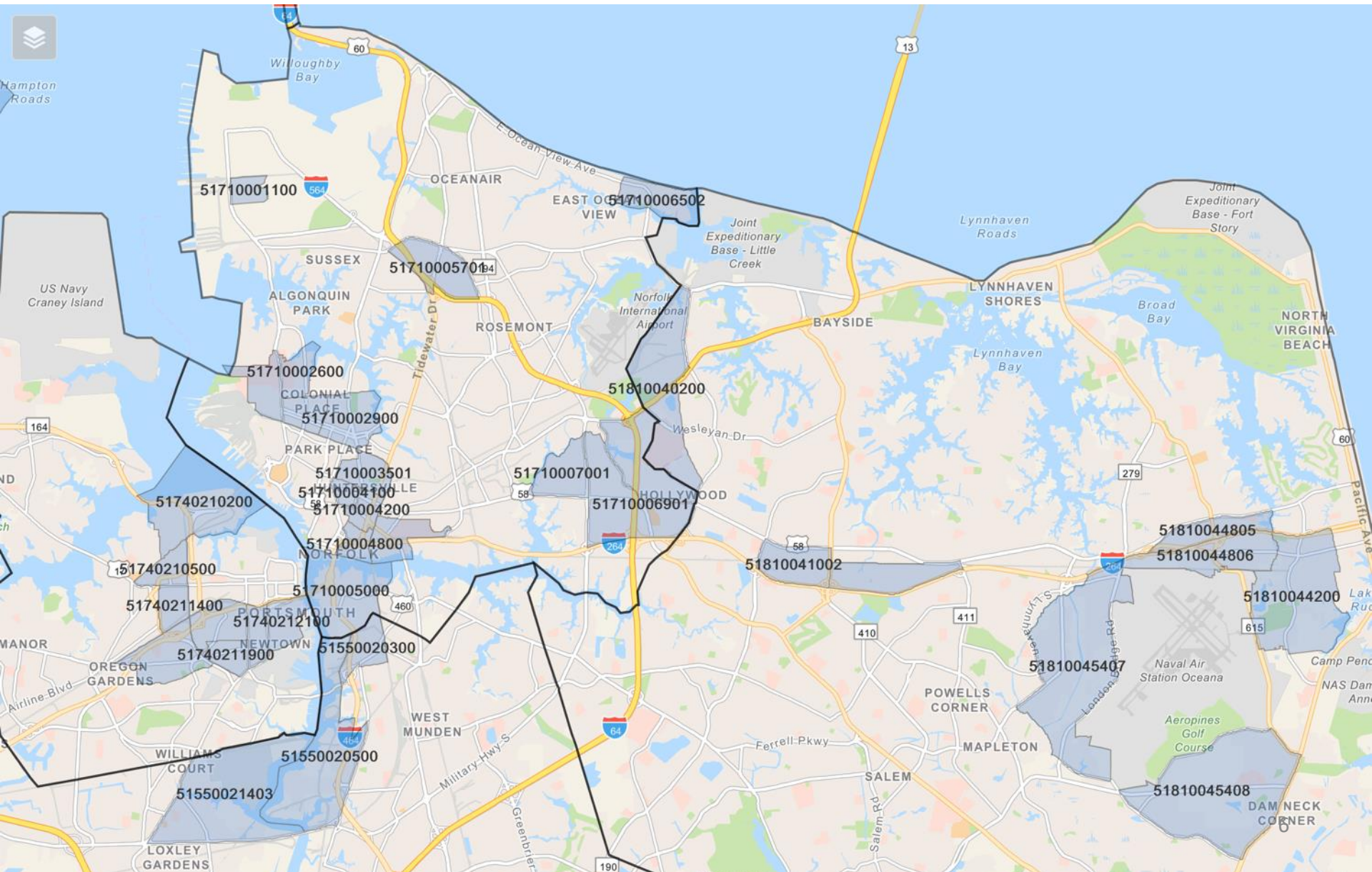
Financing Solar on a Non-Profit



- Use LLC of individuals to get tax benefits
- No cost to non-profit
- Investors get all money back in <10 years
- Works for churches, schools, museums – any non-profit or business
- Must have passive income to take credits
- Can add storage to be resilient



HR Qualified Opportunity Zones





Starting Norfolk Solar QOZ Fund

- Wanted to do more for disadvantaged
- Had capital gains
- Had involuntary 5 weeks off work
- Created map of solar-suitable homes in QOZs
- Worked with lawyers and accountants to set up structure



- Downsides:
 - Virginia law did not allow PPA with homes
 - Had to create 3 LLCs
 - Personal taxes became wildly more complicated
 - Difficult to add battery/storage to financing



Solar OZ Fund Basics

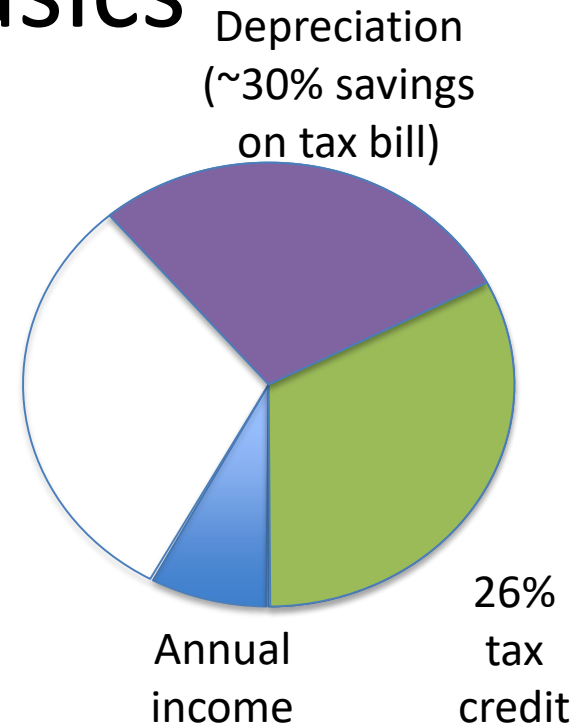
- Finances of solar installation

- 26% ITC
- ~30% through depreciation
- ~8% per year solar income
- OZ Fund: use capital gains

- Defer cap gains tax for 7 years
- Eliminate 15% of cap gains tax
- Most installs pay off with profit in <10 years
- Must also invest non-cap gain funds to take depreciation

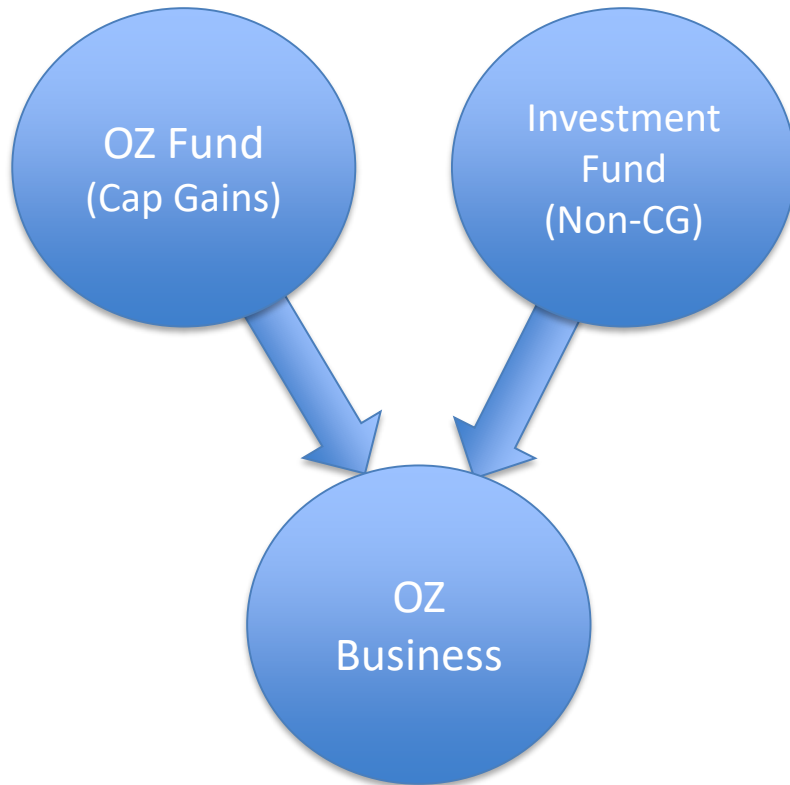
- Most beneficial for investors with both capital gains and passive income

- Passive income to take ITC and depreciation credits





Norfolk Solar QOZ Structure



- Top level:
 - OZ Fund (cap gains)
 - Non-CG Inv Fund
- Second tier:
 - OZ Business
 - Takes depreciation against non-CG
 - 70% investment rule
 - Buys & owns solar



Norfolk Solar QOZ Fund

- \$750K family fund started in 2019
- Installs solar in QOZs at no cost to businesses
- Hires & trains residents of QOZs as solar installers
 - Required in installer contract





Norfolk Solar QOZ Fund

- Five solar systems complete and two pending
 - Rooftops include four businesses and one nonprofit:
 - JD Miles: 100-year-old roofing company
 - CozyPure: organic bedding company
 - Norfolk Machine and Welding: family-owned
 - First Baptist Berkley: African American church
 - Ironclad Distillery: family-owned
 - Two are planning on adding storage battery
- Four Opportunity Zone residents hired and trained on-the-job -- first diversity in local solar installers
- Total when complete:
 - 7 system installs, 1200 solar panels, 420kW, 530 MWh solar electricity produced annually, 370 tons CO2 production avoided annually
- Actively engaged with local environmental and social justice groups
- Part of The Opportunity Project run by the Council of Economic Advisers within the Executive Office of the President
- Nominated by Sorenson Impact as one of Forbes Top 20 OZ Funds





Pilot Home Solar Install

- Virginia Clean Economy Act
 - Made PPA with residential legal for low-income
- All Norfolk Solar QOZ Fund already committed
 - Decreased size of one non-profit install to save funds for one home install
- Plan to do one low-income residential customer this year to pave the way for others



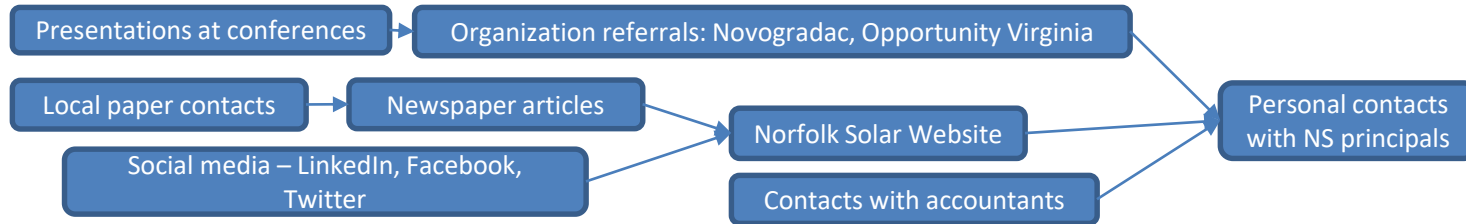


Norfolk Solar Installation Process

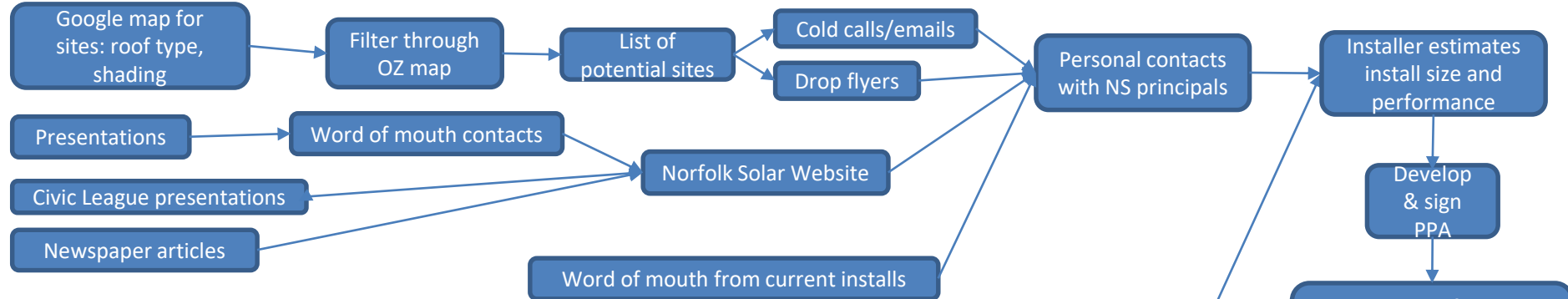
- Identify sites, design solar, find rate, plan payoff
- Discuss possible solar+storage plans
- Develop & sign PPA for solar payments
 - Payoff period 7-10 years
- Fund installs solar panels, owns/maintains during payoff period, site pays nothing
- Entity buys solar electricity from Fund, via PPA, using utility savings
- After payoff period, Fund sells array to site at minimal cost
- Other benefits: extended roof life, savings on air conditioning, decrease in demand charge, potential for battery power during outages



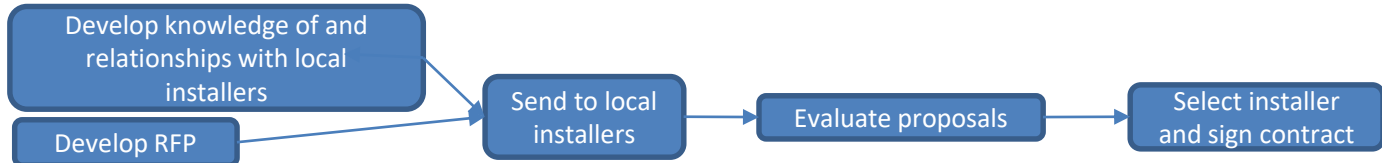
Process Flow



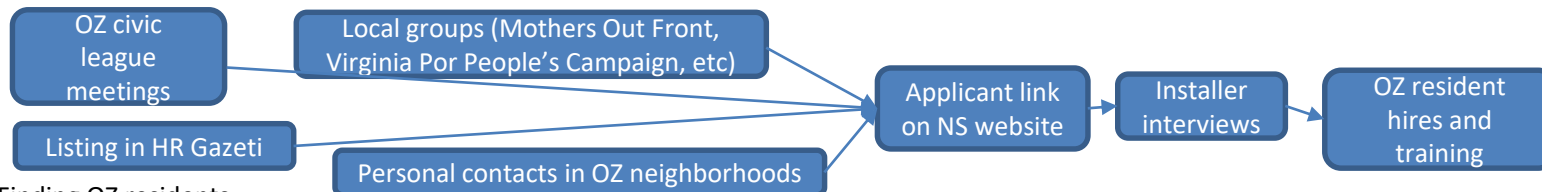
Finding investors



Finding sites



Finding installers



Finding OZ residents





Vision

- Resilient shelters in at-risk areas with solar+storage
 - Churches, schools, day cares, clubs
- Resilient homes in low-income areas with solar+storage
- Resilient businesses with solar+storage





Barriers

- Trust
 - Many minority-owned businesses have dropped out
- Roof condition
 - Many OZ businesses lack capital for roof repairs
- Incentive
 - Many businesses want short term benefit from Day 1 to participate
- Resilience Cost
 - Battery cost not easily included in financed system
- Legislation for installing on housing
- Tax Complexity





Rancho Solar LLC

- NYC investor found us on-line based on press
- He duplicated Norfolk Solar QOZ Fund
- We formed small woman-owned business to work with him
- Will install additional \$750K of solar in Hampton Roads QOZs this year
 - Will hire and train additional OZ residents
- Would welcome other OZ Fund investors!!



Norfolk Solar QOZ Fund II

- Seeking funding to set up financial structure to take on commercial investors
- Actively seeking investors for Norfolk Solar QOZ Fund II
- Identified \$150M of potential solar sites in Hampton Roads
 - 8 million sq ft roof area
 - 90 MW solar
 - Includes large institutions, e.g. Norfolk State, ODU, Virginia Wesleyan, Oceana, VB convention center, Greenworks, Lynnhaven Mall
- Prospectus documents at [The Opportunity Exchange](#)
- Could lead to 200+ clean energy OZ jobs locally
- Others could duplicate in other areas of nation



Norfolk Solar QOZ Fund II Goals

- Equitable energy future
 - Cost neutral solar for OZ businesses, churches, homes
- Investor satisfaction
 - Dependable ROI
- Workforce development
 - On the job training in at-risk communities
- Community resiliency
 - Grid stabilization, clean and resilient power, diversify energy sources, storage for dependable power





What Can You Do

- Install your own solar
- Put solar on a non-profit and get your money back in ~8 years
- Form an LLC to solarize your favorite non-profit
- Encourage those with passive income to use to install solar
- Loan money to a solar installer to put in solar
- Ask your city/school board to install solar on schools via RFP *in the next year*
- Ask your city to implement C-PACE
- Ask your city to create resilient shelters with solar+storage
- Join Solar United Neighbors and their Google group discussion
- Join National Community Solar Partnership
- Ask investors to invest in solar in QOZs



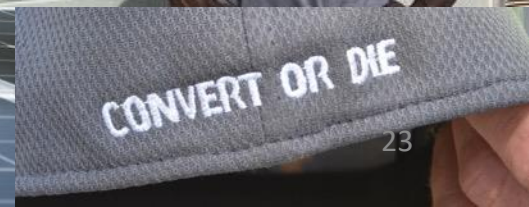
Summary

- Norfolk Solar QOZ Fund
 - Successfully installed \$750K solar
 - Hired & trained minority solar installers
- Installing additional \$750K for Rancho Solar
 - Seeking additional QOZ investors
- Seeking funding to create financial/legal structure to do this at scale



Contact: Ruth Amundsen
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www.NorfolkSolar.org

Questions?





Links

<http://solar.the-mcelroys.com/>

Template LLC & PPA

<http://www.the-mcelroys.com/>

[Solar sizing on Norfolk emergency shelters](#)

[Norfolk Solar Qualified Opportunity Zone Fund](#)

[Pilot article on Norfolk Academy install](#)

[Pilot article on Norfolk Solar QOZ Fund](#)

[Op-Ed on OZ solar installs](#)

[Virginia Beach Companion Op-Ed on Solar QOZs](#)

[VB case study on Norfolk Solar QOZ Fund](#)

[Photos of Norfolk Solar QOZ installs](#)

[Recent story on the PPA cap featuring this Fund](#)

[Virginia OZ Map](#)

[Generation 180 – Solar on Schools](#)



Thank you for attending our webinar

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An Introduction to Virtual Power Plants

September 28, 1-2pm ET

This webinar will cover the basics of what a virtual power plant is and how it can create value for both utilities and customers, with examples from real-world programs.

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