



Green CLE Rising – *Community Solar Neighborhoods and Jobs*

Land Use, Transportation & Sustainability

Active Members

- Jim Budinger
- Les Fox
- Adrian Schnall

Inactive Members

- Missy Toms
- Rachel Wilson
- Rebecca Kimble
- Audrey Gerlach
- Mark Beno
- Josh Close



1. Aspiration Statement

- The Green CLE Rising Collaborative has made Northeast Ohio a ***national model in the green economy.***
 - It propels economic innovation, clean energy and neighborhood equity through the creation and implementation of bold renewable energy solutions, including the installation of solar panels.
- Having ***reduced the region's carbon footprint*** and inspired the region to think braver and greener, the Green CLE Rising Collaborative ***enhances quality of life in the region's most under-resourced neighborhoods*** by:
 - dramatically reducing energy costs,
 - creating better-than-living-wage jobs in an exponentially growing manufacturing sector, and
 - advancing vigorous policy solutions to the world's most urgent environmental crises.

2. Action Plan



- **Neighborhoods**

- Collaborate to develop community solar gardens or community-specific solar energy solutions for charitable organizations that serve those in under-resourced neighborhoods



Cuyahoga County's Brooklyn Landfill Solar Farm

- **Jobs**

- Help create better than living wages jobs in solar energy solutions and associated trades



Solar Panels for Garden Valley Food Pantry

- **Education**

- Establish educational and certification paths for solar jobs readiness



3. The Change We Want to See in the *Data*

Today's Data

- **Need data: x (TBD) number of community service organizations have solar energy solutions on privately owned buildings for cost savings on electricity.**
- **Need data: y (TBD) number of jobs in solar systems design, installation, or service.**
- **Need data: z (TBD) number of residents have proper training and certification for those jobs.**

2030 after Action Plan

- TBD **times x number** of community service organizations have solar energy solutions that enable TBD \$ of cost savings to be redirected to additional services to residents.
- TBD **times y number jobs** in solar systems design, installation, or associated services.
- TBD **times z number** of residents have proper training and certification for those jobs.

4. The Change We Want to See in the *Lived Experience*



Today's Lived Experience

- Pastor Doug Horner of St. Paul's Community Church serves the needs of Ohio City and Detroit City neighborhoods:
 - **Nurse and Health Services** for homeless and street population;
 - **Drop-in Center** for hospitality and assistance to about 60 people/day;
 - **Thrift Store** for those in need. St. Paul's budget is always stretched to the limit.
- Pastor Doug believes that solar energy solutions would reduce his cost of operations and provided more services, but he can't afford to do it alone

2030 after Action Plan

- Thanks to the Green CLE Rising collaborative, St. Paul's now **owns its solar energy system free and clear and is saving well over 50%** of its electricity costs for the next 15 years.
- Those **savings help provide services to more than twice as many people**, and St. Paul's has opened its doors to two more associated service organizations.
- **Tens** of the members of the congregation have **completed solar job training and have NABCEP certification.**

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5. How Our Action Plan Leads to the Change



Lived Experience

- Our original action plan to develop neighborhood solar gardens ran into an Ohio regulatory policy that prevents “virtual net metering,” a required capability for solar gardens.
- Our revised action plan focuses on decreasing the operating cost of community service providers to enable them to provide more benefits to people of color, and those in poverty or need.
- The educational element will increase readiness to secure jobs in the rapidly growing solar energy field, especially as installers of panels and new roofs.

Economic Growth

YES or NO	Plan will influence
Yes!	Workforce – The attraction, growth or retention of a skilled workforce.
No	Infrastructure – Investments or improvements in things needed for commerce such as roads, machines, factories and airports.
Yes!	Natural Resources – The amount and availability of natural resources like water, electricity and fuel.
Yes!	Technology – Improvements or investments in technology and innovation.

6. Updates, Reflections, Help Needed



Highlights

- We made contacts and had productive discussions with City and County Sustainability Offices, and multiple solar energy providers (e.g. YellowLite).
- We identified our first potential host/partner that provides multiple community outreach services: St. Paul Community Church U.C.C.

Reflections

- We didn't meet directly with any people of color, or people in poverty, or specific neighborhoods or community development corporations to hear diverse stories.

Help Needed/Next Steps

- A few more proactively involved members especially in public policy; Prepare for a working meeting in Phase II with external contacts made so far

7. Optional slide

What else does the public need to know before Phase II?

A few success stories by others give us hope!

- “The food pantry at the Garden Valley Neighborhood House feeds 100 families three times a week. It’s the biggest draw for the community center and also one of the biggest draws of electricity, \$2000/month.”
- “RE-volv, a national group with a long list of high-profile supporters, is offering to help via a \$60,000 crowdfunding campaign to install 75 solar panels on the center’s roof. The panels will provide 22 kilowatts (kW) of power and cover about 45 percent of the center’s electricity needs.
- “The Garden Valley Neighborhood House will then pay RE-volv back over a 20-year lease.”



Appendix – Background Material

What is Community Solar?



- “Community solar generally refers to large-scale solar installations that customers can subscribe to, paying monthly for solar energy credits — often at a discount that knocks costs off their regular utility bill. Because they are typically located offsite, community solar gardens can provide solar power to renters as well as people with roofs unsuitable for traditional solar because of shading or slope.”

What is Community Solar?



- Community solar refers to local solar facilities shared by multiple community subscribers who receive credit on their electricity bills for their share of the power produced.



Source: <http://www.communitysolaraccess.org/about-us/community-solar-explained/>

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Benefits of Community Solar



- **Equal Access:** Community solar works for anyone with an electric bill, including renters, residents in multi-unit buildings, and businesses that don't own their roofs. That means community solar can give ALL Americans equal access to solar for the first time.
- **Favorable Economics:** Sunshine is free, which means solar offers reliable energy at a predictable rate for decades. And because community solar projects are optimally sited, professionally maintained, and built at scale, consumers can save even more money.
- **It's Easy:** Customers can sign up to participate in a community solar project in a few minutes and begin receiving power production credits on their next utility bill. No contractor visits, permits, or maintenance means no hassle.
- **It's Mobile:** Community solar allows customers to move within the utility territory and still retain their participation in the community solar project, making it an easy, portable energy solution.
- **Utility Partnerships:** The community solar model is based on a mutually beneficial relationship with utilities, allowing them to provide a product their customers want—locally-made clean energy.



Source: <http://www.communitysolaraccess.org/>
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Categories of Net Metering



THE MANY... CATEGORIES OF NET METERING

SINGLE OWNER NET METERING	MULTIPLE OWNERS
<ul style="list-style-type: none">- Solar* on a single property- One meter on-site- Example: Home	TENANT AGGREGATION <ul style="list-style-type: none">- One owner, many renters- Savings spread through tenants- Example: Apartment building
BASIC METER AGGREGATION <ul style="list-style-type: none">- Solar on same or adjacent property- Multiple meters on-site- Example: Farm	VIRTUAL/COMMUNITY SOLAR <ul style="list-style-type: none">- Solar offsite, multiple properties- Savings spread through subscribers- Example: Community buy-in
MULTI-SITE AGGREGATION <ul style="list-style-type: none">- Solar on multiple properties- Multiple meters on-site- Example: City-owned buildings	

Not currently supported in Ohio!

Not currently supported in Ohio!

*Net metering applies to many technologies including wind, anaerobic digesters, etc., but solar is the most common.

Source:
<https://ilsr.org/rule/net-metering/updated-states-supporting-virtual-net-metering/>



Community Solar and Virtual Net Metering Policy



- Community Solar:
 - “The term community solar refers to an alternative to rooftop solar for homeowners that either don’t qualify to have solar installed on their roof or would prefer not to have their own personal solar panels. Community solar is also sometimes referred to as ‘shared solar,’ wherein homeowners collectively pay for a solar system that provides power to multiple households.”
- Virtual Net Metering:
 - “Virtual net metering (VNM) is a bill crediting system for community solar. It refers to when solar is not used on-site but is instead externally installed and shared among subscribers. In this case, you receive credits on your electric bill for excess energy produced by your share of a solar garden.”

Source: <https://news.energysage.com/virtual-net-metering-what-is-it-how-does-it-work/>

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States with Virtual Net Metering Policy



- Before anyone can construct a community solar array, their state government needs to approve legislation to enable virtual net metering. Not every state has VNM, but a growing number are developing virtual net metering rules to make way for community solar options.
- These are some of the states that offer virtual net metering in some form:
 - California; Connecticut; Colorado (solar only); Delaware (solar only); Massachusetts; Minnesota (Xcel Energy only, solar only); Maine; Maryland; New Hampshire; New York (solar only); Pennsylvania; Rhode Island; Vermont; Washington D.C.; Wisconsin (NSP only, solar only)

Source: <https://news.energysage.com/virtual-net-metering-what-is-it-how-does-it-work/>

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National Community Solar Partnership



The National Community Solar Partnership (NCSP) is a coalition of community solar stakeholders working to expand access to affordable community solar to every American household by 2025.

Goals

- Make community solar **accessible** to every U.S. household
- Ensure community solar is **affordable** for every U.S. household
- Enable communities to realize **supplementary benefits** and other value streams from community solar installations, such as **increased resiliency and workforce development**

Approach

- Developing community solar models that **enable adoption in underserved communities**
- Community solar models that **reduce energy bills for those living in multifamily affordable housing units**
- Utility partnerships around community solar models to expand solar access in their communities

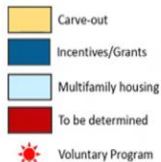
Low- and Moderate-Income Access and Barriers

States are Expanding Low- and Moderate-Income (LMI) Access



14 states and Washington, D.C. have a policy or program supporting LMI community solar capacity.

California, Michigan, and Florida have new voluntary programs.



Note: See appendix for state policy references. In addition, MN Solar* Rewards Programs 2019 will provide incentives to both low-income nonprofit and multifamily qualifiers

NREL | 15

Persistent Barriers Limiting Solar Access

75%
of Americans
cannot access
rooftop solar

Technological Barriers

- Lack suitable roof space
- Rent home
- Live in multifamily buildings

Financial Barriers

- High up-front expense
- Lack of competitive interest rates
- Few options for those with a low credit score and/or income below traditionally acceptable underwriting criteria
- Inability of tax-exempt businesses and certain LMI populations to use the Investment Tax Credit

energy.gov/solar-office

U.S. DEPARTMENT OF ENERGY
ENERGY OFFICE OF ENERGY EFFICIENCY & RENEWABLE ENERGY
SOLAR ENERGY TECHNOLOGIES OFFICE

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Garden Valley Neighborhood Food Pantry Solar via RE-volve Fundraising



- “The food pantry at the Garden Valley Neighborhood House on Cleveland’s east side feeds 100 families three times a week. It’s the biggest draw for the community center and also one of the biggest draws of electricity, \$2000/month.”
- “RE-volv, a national group with a long list of high-profile supporters, is offering to help via a \$60,000 crowdfunding campaign to install 75 solar panels on the center’s roof. The panels will provide 22 kilowatts (kW) of power and cover about 45 percent of the center’s electricity needs.
- “The Garden Valley Neighborhood House will then pay RE-volv back over a 20-year lease.”



Source: <https://www.ideastream.org/news/sustainable-neighborhoods-solar-panels-for-garden-valley-food-pantry> #CLERising

Cleveland Public Power teams with CMHA on East Side Solar Field



- CPP is proud to support our customers and suppliers who have initiated solar, wind, bioenergy, and hydroelectric projects.
- We are working with the Cleveland Metropolitan Authority (CMHA) on their Solar Field.
 - The field is a 1.1-megawatt solar field, with close to 4,200 solar panels, which occupies about six acres of a twelve-acre parcel adjacent to the CMHA Campus near East 82nd Street and Kinsman Road.
 - The technology is self-sustaining because the sun shines on the panels, producing electricity that is used to provide lighting and cooling for the building, CMHA will save several million dollars in electricity costs over the life cycle of the solar panels.



The Cuyahoga Metropolitan Housing's solar field located on the city's east side.

Cleveland Public Power Teams with CMHA on East Side Solar Field



- CMHA utilized a portion of a 12-acre brownfield site adjacent to its Campus complex to install a one-megawatt solar array.
- The output of this array is interconnected to The City of Cleveland's municipal power company.
- The solar array was completed in 2012 and to date has produced over 6,500,000 kilowatt hours of electricity, and has offset as much carbon as planting more than 115,000 trees.

CMHA Solar Array: Solar

System Size: 1011.0 kW DC
Generating Since: November 26, 2012
Last Updated: 1:30pm Jan 7, 2020



Source: http://live.deckmonitoring.com/?id=cmha_solar_array&peek=true

Powered by DECK Monitoring Admin



Ohio Solar Facts



- **Solar Installed (MW):** 247.95
- **National Ranking:** 28th (29th in 2018)
- **Enough Solar Installed to Power:** 30,318 homes
- **Percentage of State's Electricity from Solar:** 0.26%
- **Solar Jobs:** 7,162
- **Solar Companies in State:** 318 (122 Manufacturers, 97 Installers/Developers, 99 Others)
- **Total Solar Investment in State:** \$670.10 million
- **Prices have fallen:** 36% over the last 5 years.
- **Growth Projection and Ranking:** 1,545 MW over the next 5 years (ranks 17th)
- **Number Of Installations:** 4,929
- Ohio, which has a burgeoning non-residential solar market, has seen increased competition in the face of the state's rising renewable portfolio standard goals. There are 268 companies in Ohio providing jobs in the solar industry. 105 of those companies are manufacturers that manufacture goods across the supply chain- from the polysilicon that many photovoltaic panels are comprised of to the racking systems used to install solar panels.



State of the U.S. Solar Market



In Q3 2019, the U.S. solar market installed

2.6 GW

of solar electricity capacity

- 45% increase from Q3 2018
- 25% increase from Q2 2019



seia.org/smi



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