



MI Solar Communities: Reducing the
Cost of Solar through Great Lakes
Renewable Energy Association
(GLREA) Solarize

Housekeeping



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meeting



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MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY



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Catalyst Communities

Resources to aid communities
with their decarbonization efforts



<https://www.michigan.gov/egle/outreach/catalyst-communities>

Michigan Green Communities

Resources for benchmarking and
tracking sustainability progress



<https://migreencommunities.com/>

Today's Speakers

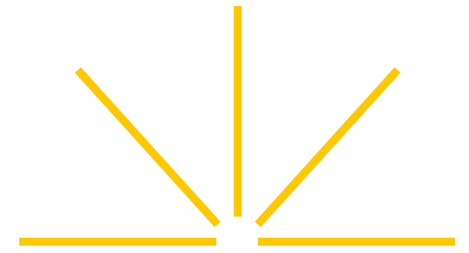
- John Freeman, Executive Director, GLREA

Michigan Solar Communities Guidebook

Chapters 4 & 5: Solarize Program and Return on Investment

November 27 , 2023





GLREA

The Great Lakes Renewable Energy Association (GLREA) is a non-profit organization of solar energy advocates who support the expansion and adoption of renewable energy in Michigan.

- GLREA's mission is to educate and enable homeowners, farmers, and businesses to save money and protect our environment by installing a renewable energy system and to establish policies that support the expansion of renewable energy in Michigan.
- Become a member or learn more by visiting GLREA.org

Michigan Solar Communities Guidebook

- A Practical Guide for Local Units of Government and Renewable Energy Advocates
 - **Purpose:** To help Local Units of Government, Organizations and Individuals learn about solar and geothermal energy, and be able to support the deployment of it.
 - **Recognition:**
 - The transition from fossil fuels to renewable energy is underway. There is the need of having a Guidebook so people can learn about it, quickly.
 - Many Local Units of Government are developing 'Sustainability Plans' and renewable energy plays a critical role in the implementation of these plans.
 - GLREA and the State of Michigan want to help Local Units of Government support and deploy renewable energy.



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What is Solarize?

How It Works:

- Community based group-buy solar opportunity that reduces the cost of buying solar.
- Host/Organizer brings together interested people for a meeting.
- At the Meeting, GLREA works with installer/s to educate about the program and the benefits of solar.

Interested people can get a free estimate!



Group Buy Example

Group Buy discounts are based on numbers:

- 5% discount if 3+ new arrays
- 10% discount if 7+ new arrays
- 15% discount if 10+ new arrays

Group Buy reduces Price per Watt Average:
PPW:\$2.50-\$2.70/watt with some outliers
above and below

- Individuals are free to get other bids!
- Vetting Installers



As of October 2023

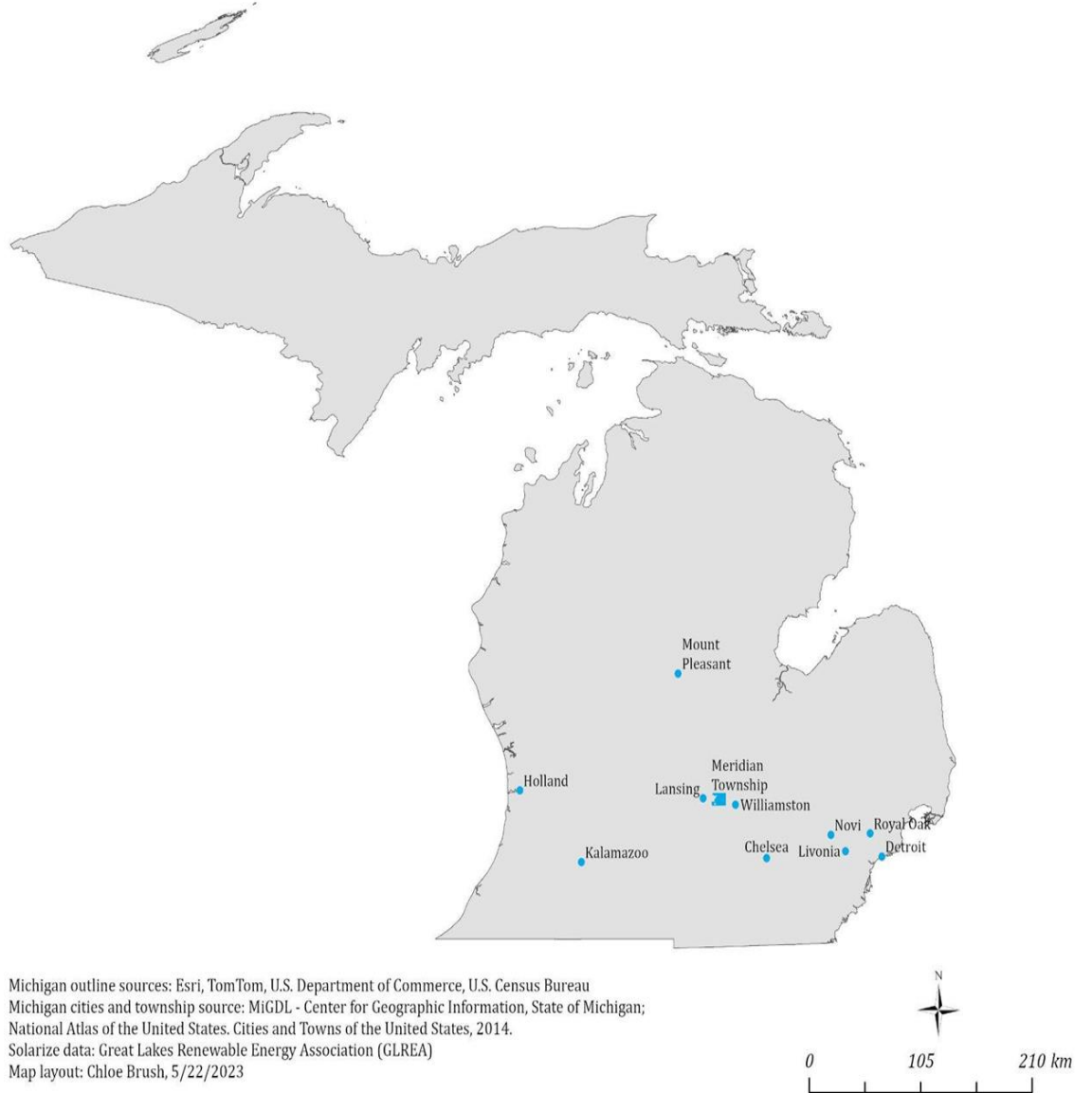
30 Solarize Meetings

512 Participants

60+ Sales

370+ kW's of New Solar

GLREA Solarize Locations



Updates & Lessons Learned

- Reach out to cities with sustainability plans or who had sustainability coordinators.
- Held a Solarize Strategy Meeting with all of our partners and participants.
- Getting a large turn out at meetings can still be difficult.
 - Partnering with multiple organizations, municipalities, cities with large reaches.
 - Using libraries as outreach.
 - Creating a marketing plan with the host.
- Hard to reach LMI communities with current model.
 - Even with loans, financing, and tax credits, rooftop solar can still be inaccessible.
- Built out the website to have more information and resources.
- Started to include SolSmart and SolarAPP+ in outreach.
 - Made informational pamphlets.
 - Met with SolSmart cities in Michigan to learn about the process in practice.

Solar and Geothermal Energy – Return on Investment

- There are two primary reasons why individuals, business and governments support the deployment of renewable energy energy:
 - **Financial Benefits.** The cost of generating electricity from solar or heating your home with geothermal or a heat pump is less than utility electricity or natural gas.
 - **Environmental Benefits.** Renewable energy is clean, it generates no pollution. It reduces Climate Change risk.



Return on Investment

- Three ways to view 'Return on Investment'
 - **Financial**
 - Individuals and Business save on energy expenditures.
 - 30% Investment Tax Credit (ITC) extended to 2032. Reduces cost of system.
 - Developers calculate their Return on Investment:
 - Investors reduce taxes through ITC
 - The depreciation of solar asset
 - Receive a return on their investment
 - Return on Investment is viewed long term e.g. 25-year warranty on panels.
 - **Environmental Justice**
 - Fair treatment of all people.
 - People of color spend more than 30% of their income on energy.
 - Communities of Color are located closer to coal power-plants.
 - African-American families emit 20% less greenhouse gases than White families.
 - Strategy is to target resources to Communities of Color to promote renewable energy, including Community Solar.

Return on Investment

- **Embodied Carbon**

- In addition to reducing carbon emissions there is increased interest in reducing the amount of carbon used in the manufacturing of solar energy systems.
 - Low embodied carbon solar panels.
 - Low embodied carbon in solar electronics – inverters, electric vehicle chargers.
 - Low embodied carbon materials – concrete, steel, plastics.
- Calculation of Embodied Carbon Return on Investment
 - Determine the Price of Carbon: life cycle analysis – cradle to grave
 - For coal plants fuel combustion is majority of green house gases
 - For solar its in the production of materials and solar panels
 - Determine the Value of Embodied and Operating Carbon
 - Once a price of carbon has been calculated, then can attach a value on how much less carbon is generated in the production of low carbon solar panels and that can be compared with the actual cost of those panels and whether its cost effective.

What is Community Solar

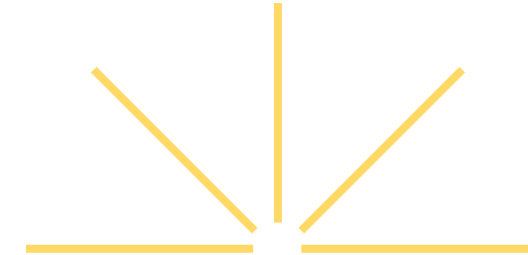
- A solar energy system, where individuals or business can either purchase or subscribe to a number of panels.
- The value of electricity generated is credited back through their utility bill.
- Everybody can purchase solar electricity without having to install their own system where they live or work.
- Lower income people can now get solar, without spending a lot of money.



Two Types of Models

- **Equity Model:** participant buys a certain number of panels
 - It's as if panels are on roof of house.
 - Requires up front payment.
 - 30% Fed ITC applies.
- **Subscription Model:** participant 'subscribes' to certain number of panels.
 - Requires less money to subscribe.
 - Participant doesn't own panels and can't utilize ITC.





Questions?
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QUESTIONS?

Upcoming Webinars

- December 04, 1-2 PM
[MI Solar Communities: Utilization of Geothermal and Other Resources](#)
- December 13, 11-12 PM
[Michigan Green Communities New Sustainability Plan Resource Kit Tutorial and Program Updates](#)