

# Native CDFI Network Solar Energy Webinar

Day 2

April 18, 2023

Clayton Mitchell, Esq PhD

Finish  
Summarize  
Share  
Resources



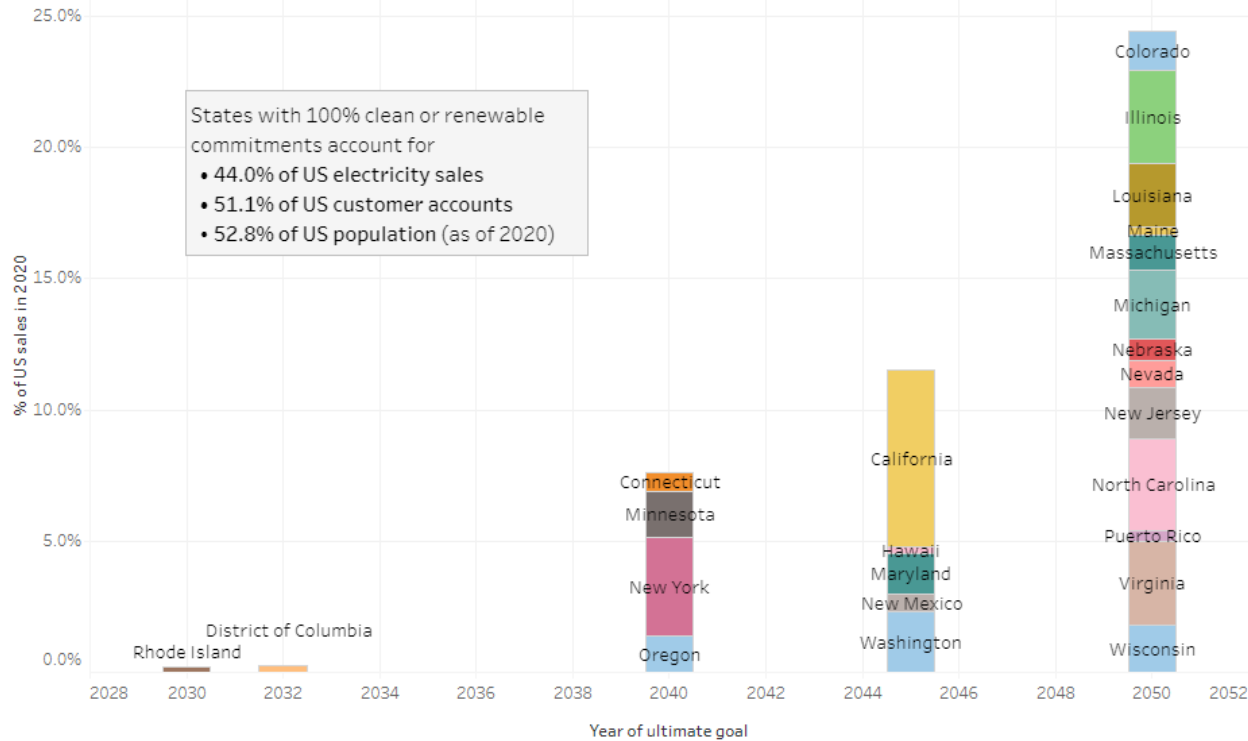
# Map and Timelines of 100% Clean Energy States

## 100% Clean Energy States

Regions that have adopted official zero-GHG or 100% renewable energy goals for their power sector or whole economy.

Map   Graphical Timeline   Table Timeline   % of US Sales

Percent of US Electricity Sales in 100% States



Source: EIA and CENSUS data, CESA analysis

Export Data

# Map and Timelines of 100% Clean Energy States

## 100% Clean Energy States

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Map   Graphical Timeline   Table Timeline   % of US Sales

**Clean Energy States Alliance**

Coverage

- (All)
- All
- Power sector

100% RE or Zero GHG

- (All)
- 100% RE
- Zero GHG

Year adopted

(All)

Year of ultimate goal

- (All)
- 2032
- 2033
- 2034
- 2040
- 2045
- 2050

Authority

- Board decision
- Executive order
- Legislation

Click on the state to see the authorizing document (legislation, executive order, or regulation).

Cancel   Apply

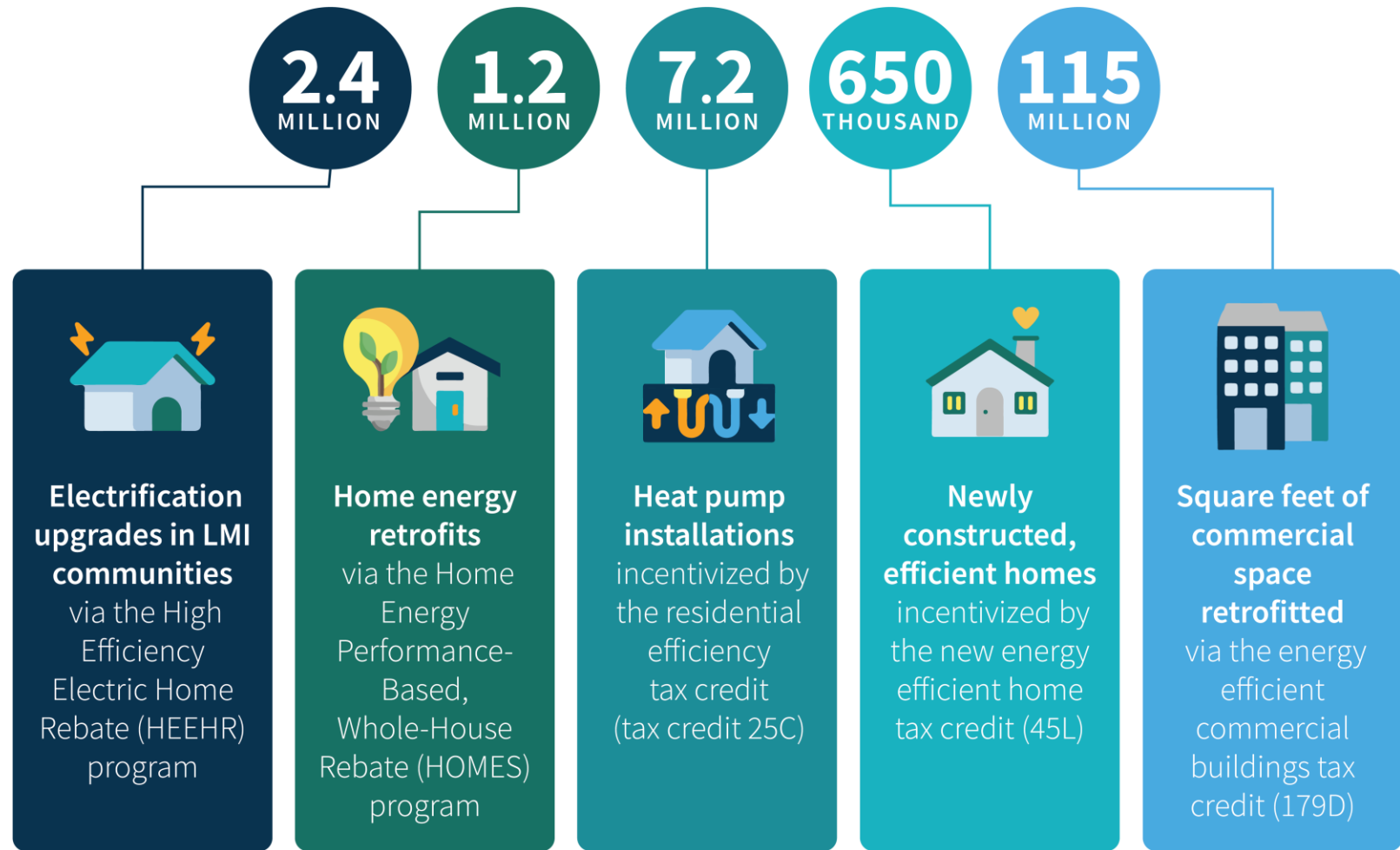
Note: California and North Carolina have both power sector and an economy-wide policies.

Export Data

For more information visit <https://www.cesa.org/projects/100-clean-energy-collaborative/>

## The IRA could transform the buildings sector:

Inflation Reduction Act



# The Challenge with Tax Incentives

- Difficult with non-profits or low/no tax burden households.
- LMI benefits increase tax incentives.
- Systems can be owned by others who can monetize tax credits.
  - Even non-profits can own the system and transfer the tax credit under IRA.
  - New program / new idea.
- Eliminates tax equity investor involvement in project.
- Volt Energy:
  - Helps corporate partners,
  - “jointly make community investments that will focus on delivering affordable solar energy to historically underserved urban and rural communities, and providing workforce training for clean energy and sustainability careers with an emphasis on Historically Black Colleges and University (HBCUs) students.”

## Federal Policy: Tax Incentives

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Federal policy affecting solar project economics is generally limited to tax incentives. These incentives are no longer dependent entirely on the structure of the project ownership.

### RENEWABLE ENERGY TAX **CREDIT**

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Credit Prior to IRA	26%	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Credit Under IRA	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	26%	22%	0%

Federal Policy:

## New Tax Incentives: The Adders

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The Inflation Reduction Act adds new opportunities and one major condition for these new credits.

### The “Condition” for projects over 1MW AC:

- Once Treasury issues regulations, meeting prevailing wage requirements secure a full 30% tax credit.
- 1 MW AC is about 4 acres (so big projects).

### Adders:

- Domestic Content + 10%
- Energy Communities project siting +10%
- LMI Solar impact as participants +10%.
- Project is part of a qualified low-income residential building project or a qualified low-income economic benefit project +20%.

### These adders are stackable:

- Prevailing wage.
- Domestic panels and equipment.
- Sited in an Energy Community.
- Benefiting LMI participants in a qualified housing project:
- Total Tax Credit = 70%

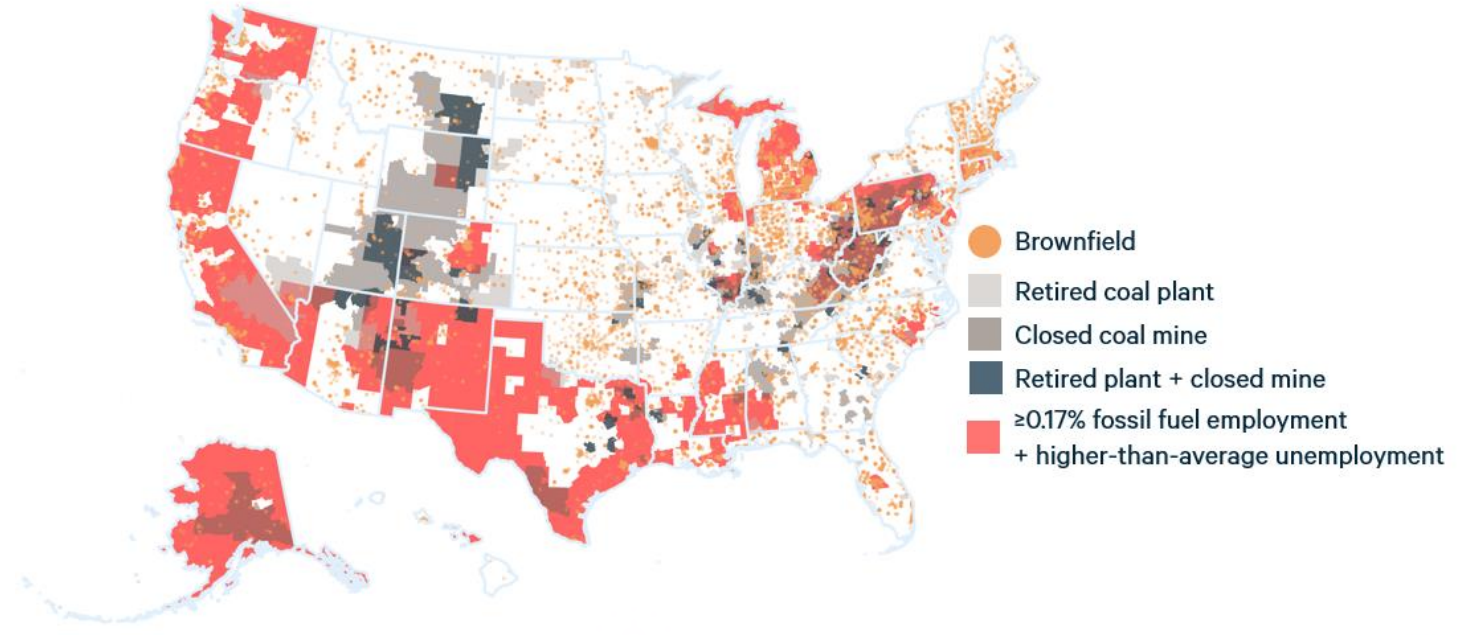


# Federal Policy: Energy Communities

.....  
What is an “Energy Community”?

In sum:

- Criteria not fully worked out.
- Multiple options for siting benefits.
- Big deal.



From: <https://www.resources.org/common-resources/what-is-an-energy-community/>

# “Selling” the Tax Credit

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No longer need a tax investor as a project “owner” in some kind of LLC or other transaction.



# How it Works

- Avoids complex legal structure to secure benefits.
- Avoids time and effort of finding tax investor.
- Avoids time and effort for having to accommodate investors.
- Good for non-profits.
- Good for municipalities and government entities.
- Good for mission-based lending.

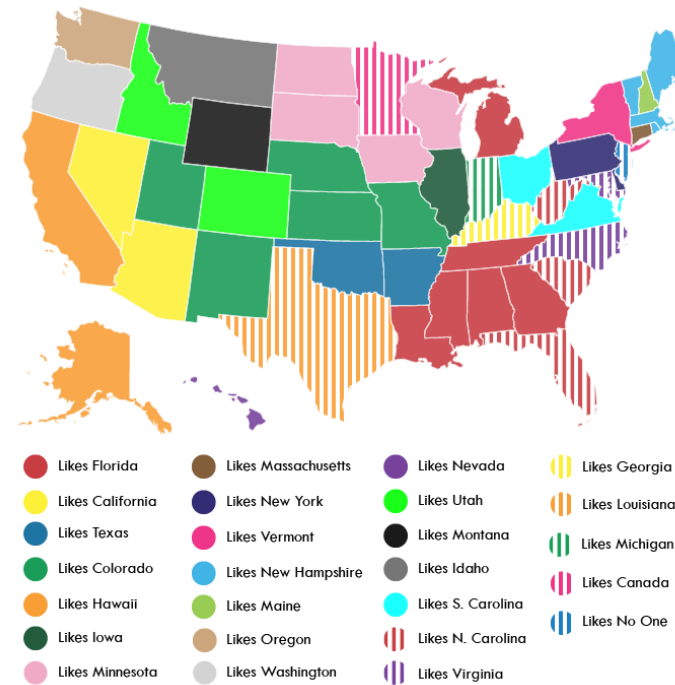




# State Programs – Species of Programs

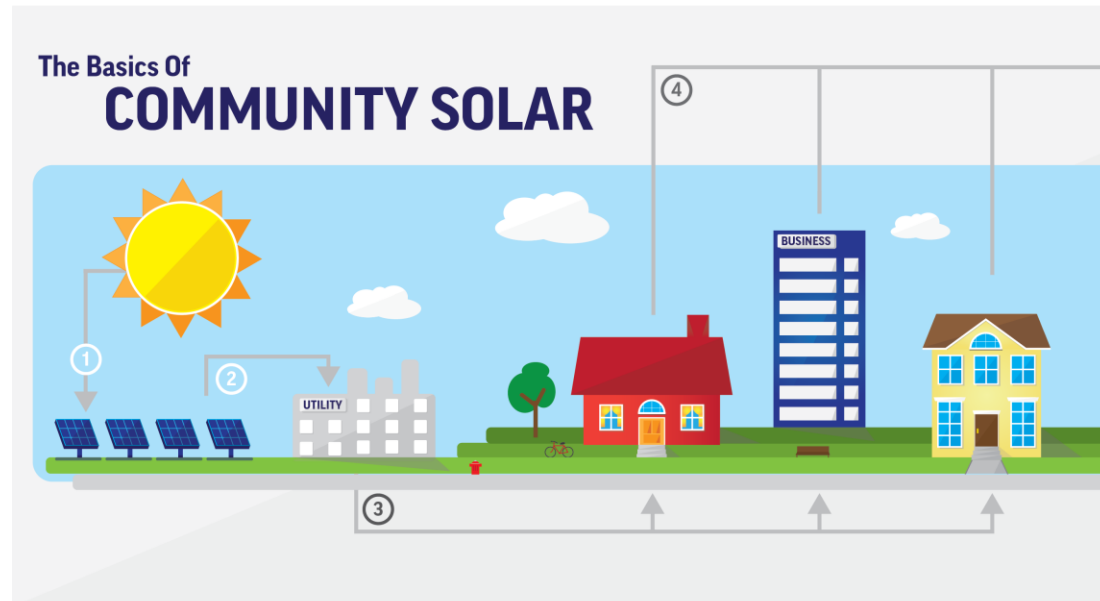
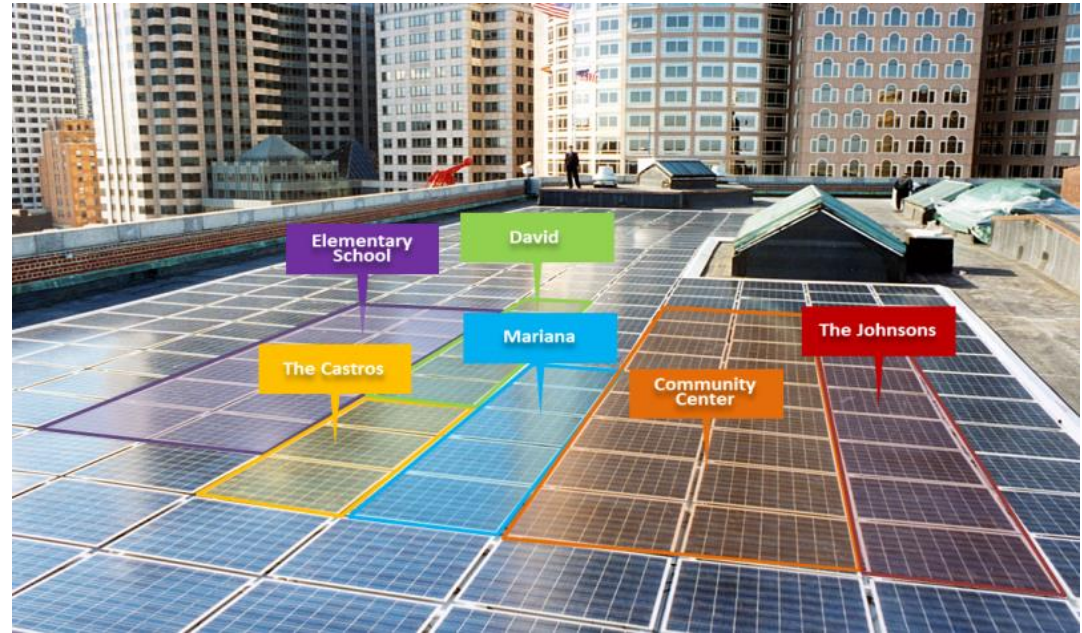
- Community Solar
- Direct incentives (rebates)
- State supported loan loss reserves
- On-bill financing
- Energy assistance programs
- Weatherization links
- Affordable housing financing

**EVERY STATE'S FAVORITE OTHER STATE**  
(ACCORDING TO @MATTSURELEE'S INSTAGRAM FOLLOWERS)



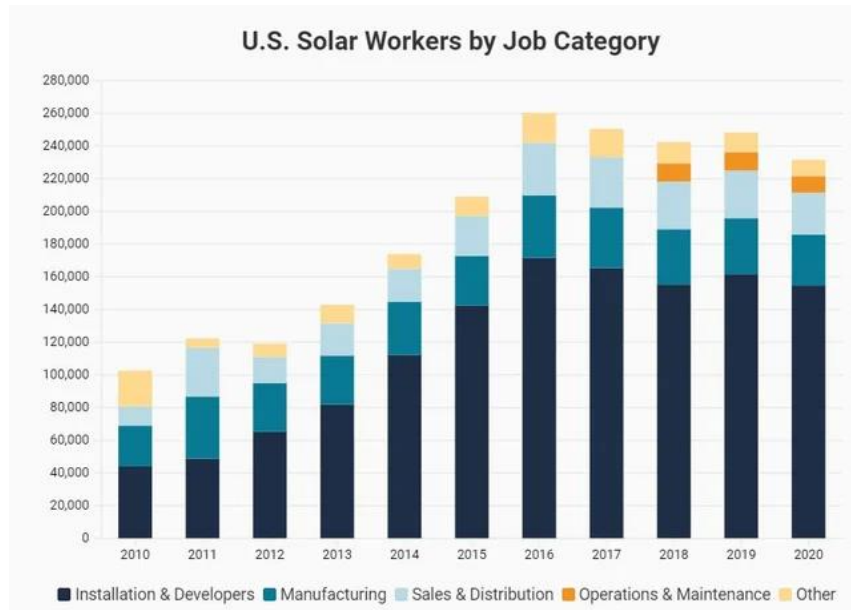
# Community Solar

- Does not need to be on roof.
- Good for renters.
- Can “come and go”.
- Can have “keystone” tenant/host.



# Economic Development

- Jobs.
- Businesses in solar.
- Businesses seeking solar.



THE INFLATION REDUCTION ACT WILL CREATE:

**550,000** clean energy jobs

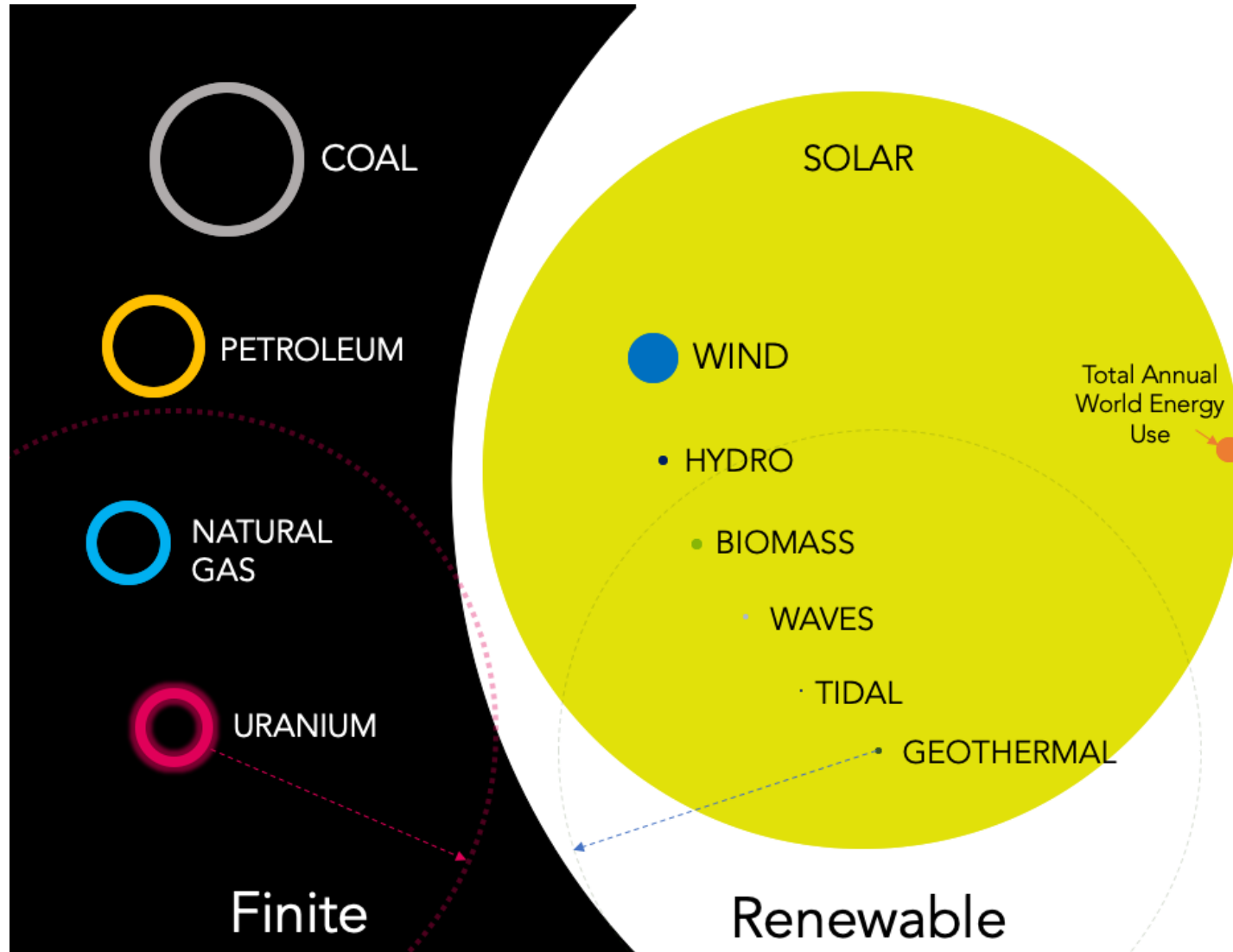
**525 - 550 GW** of new clean power

**\$600 billion** in capital investment



// **inclusiv** //

# Why Renewables?



## WORLD ENERGY USE

2015 Use 18.5 TWy/y

## RENEWABLES

Solar 23,000 TWy/y  
Wind 75-130 TWy/y  
Waves 0.2-2 TWy/y  
Hydro 3-4 TWy/y  
Biomass 2-6 TWy/y  
Geothermal 0.2-3++ TWy/y  
Tidal 0.3 TWy/y

## FINITE

Coal 830 TWy  
Natural Gas 220 TWy  
Petroleum 335 TWy  
Uranium 185++ TWy

Source: Marc Perez & Richard Perez:  
*A Fundamental Look at the Supply  
Side Energy Reserves for the Planet*;  
Rendered: The Freeing Energy Project

# Is it worth going solar?



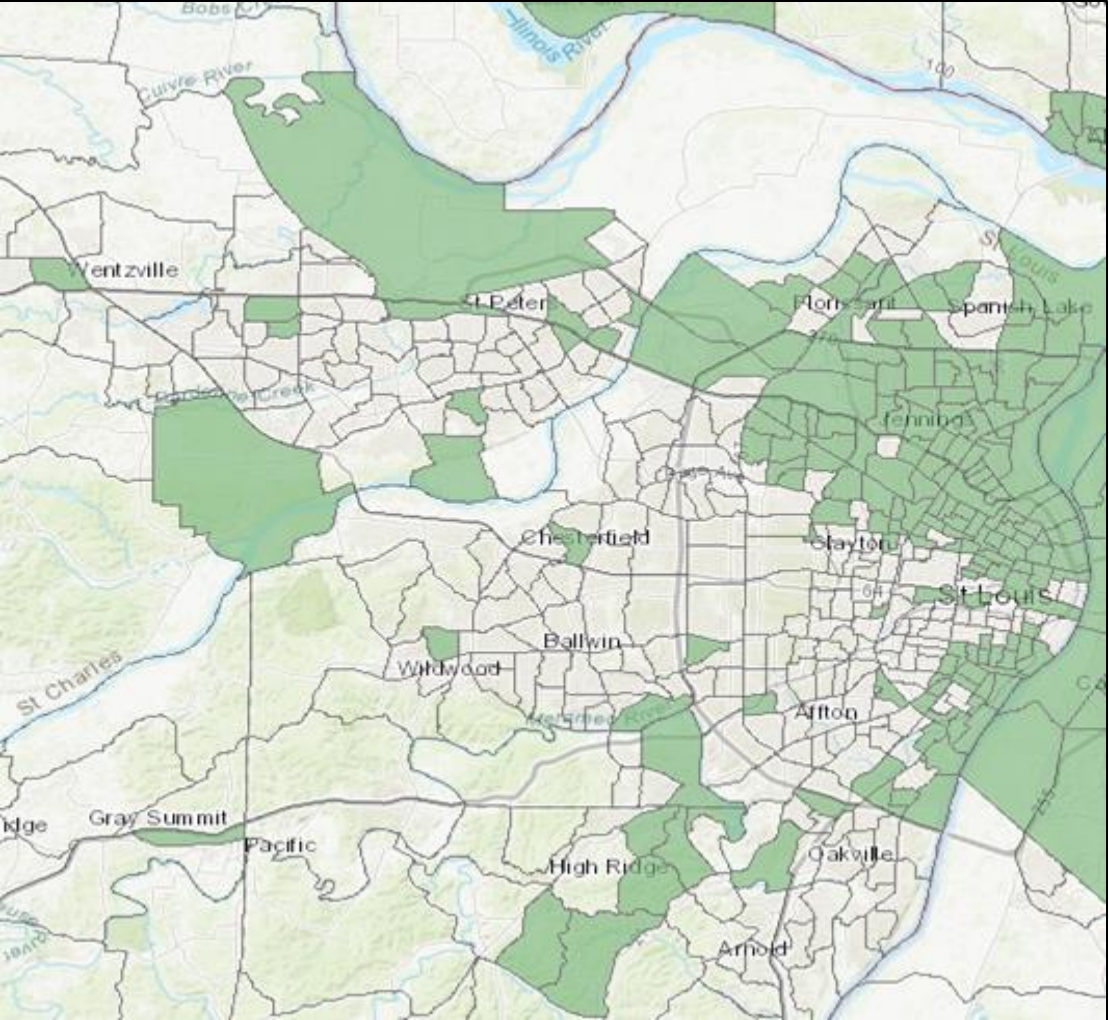
Electricity costs

Cost of solar

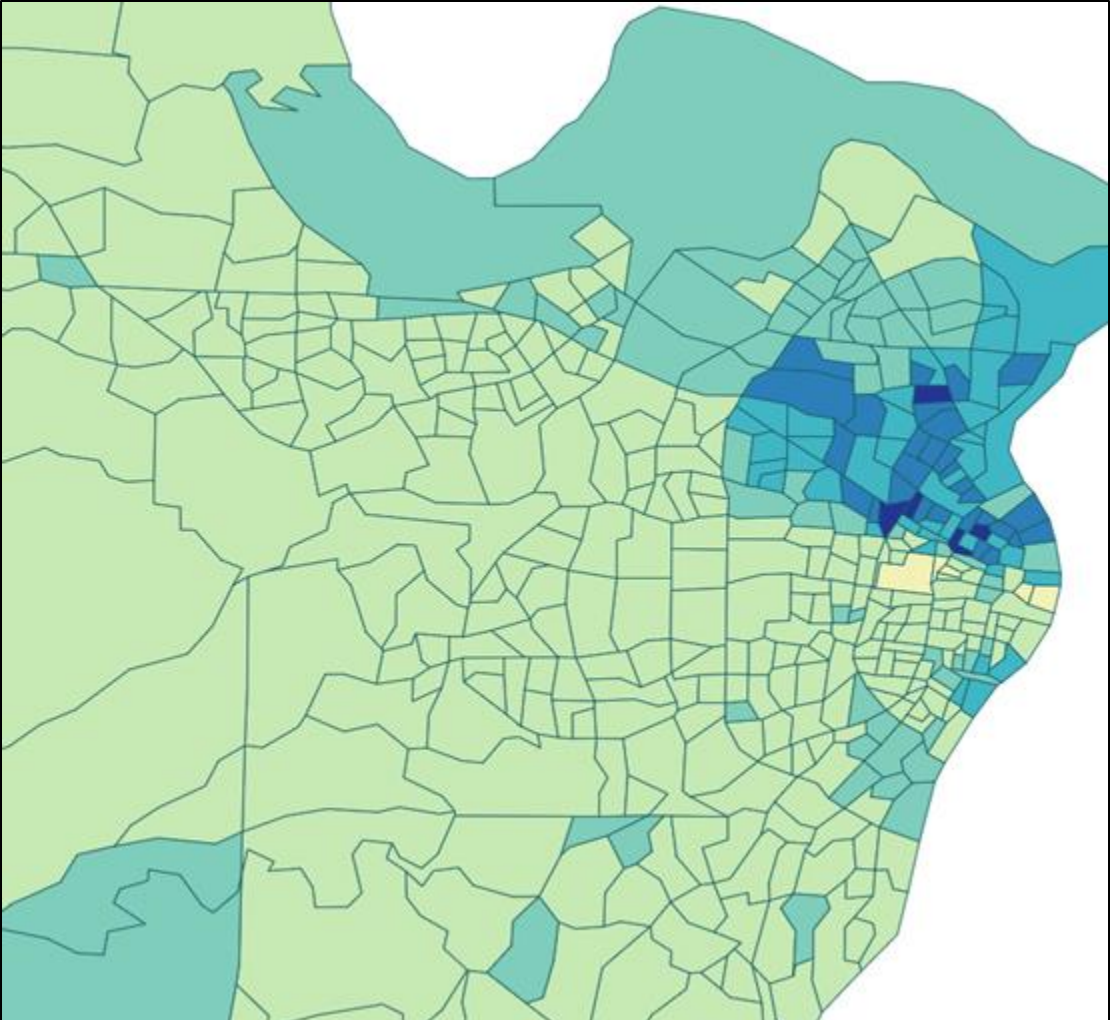


# CDFIs Already Invest in the Highest Energy Burden Census Tracts

•CDFI Investment Areas - St. Louis, MO Area

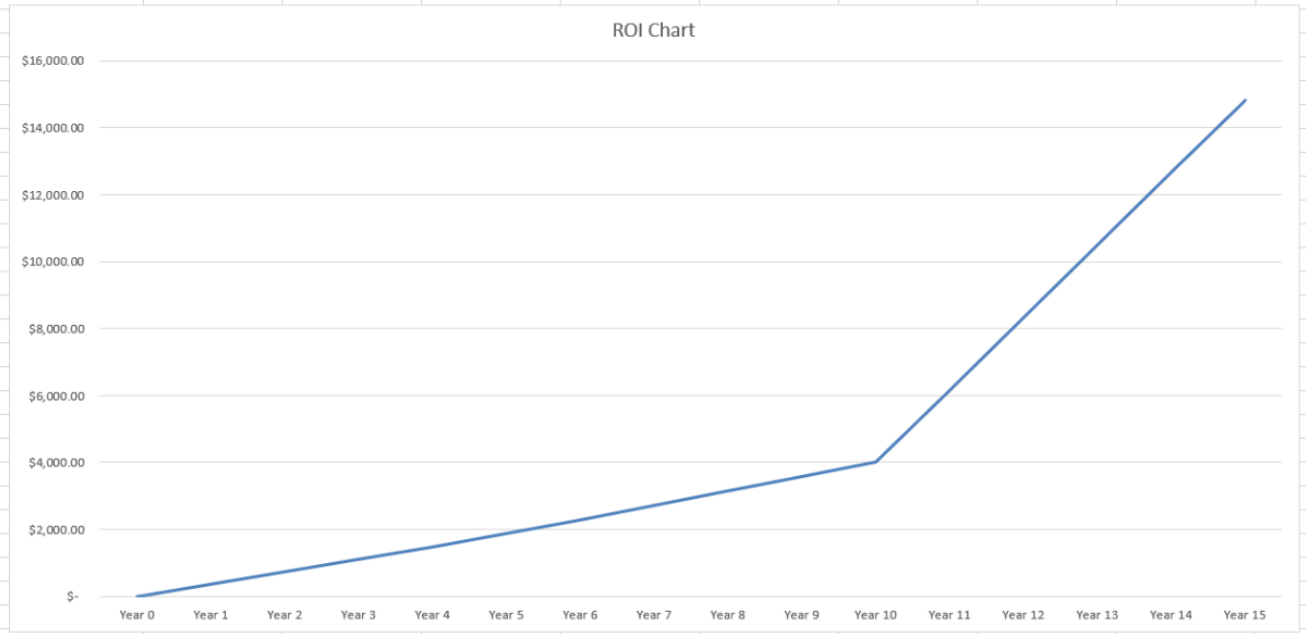


•Energy Burden by Census Tract - St. Louis, MO Area



Annual Generation		13564.0	13496.2	13428.7	13361.6	13294.7	13228.3	13162.1	13096.3	13030.8	12965.7	12900.9	12836.4	12772.2	12708.3	12644.8
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Cumulative Savings		\$ 2,035	\$ 4,079	\$ 6,134	\$ 8,199	\$ 10,274	\$ 12,360	\$ 14,455	\$ 16,562	\$ 18,678	\$ 20,805	\$ 22,943	\$ 25,091	\$ 27,250	\$ 29,419	\$ 31,600
Loan Payments																
	Savings	\$2,035	\$2,045	\$2,055	\$2,065	\$2,075	\$2,085	\$2,096	\$2,106	\$2,117	\$2,127	\$2,138	\$2,148	\$2,159	\$2,169	\$2,180
	Loan Payment	-\$1,678	-\$1,678	-\$1,678	-\$1,678	-\$1,678	-\$1,678	-\$1,678	-\$1,678	-\$1,678	-\$1,678	\$0	\$0	\$0	\$0	\$0
ROI Chart	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
	\$ -	\$ 356.63	\$ 723.33	\$ 1,100.16	\$ 1,487.15	\$ 1,884.37	\$ 2,291.85	\$ 2,709.67	\$ 3,137.85	\$ 3,576.46	\$ 4,025.55	\$ 4,484.13	\$ 4,952.71	\$ 5,431.30	\$ 5,920.00	\$ 6,418.81
Cashflow without Solar		-3,000.00	-6,030.00	-9,090.30	-12,181.20	-15,303.02	-18,456.05	-21,640.61	-24,857.01	-28,105.58	-31,386.64	-34,700.50	-38,047.51	-41,427.98	-44,842.26	-48,290.69

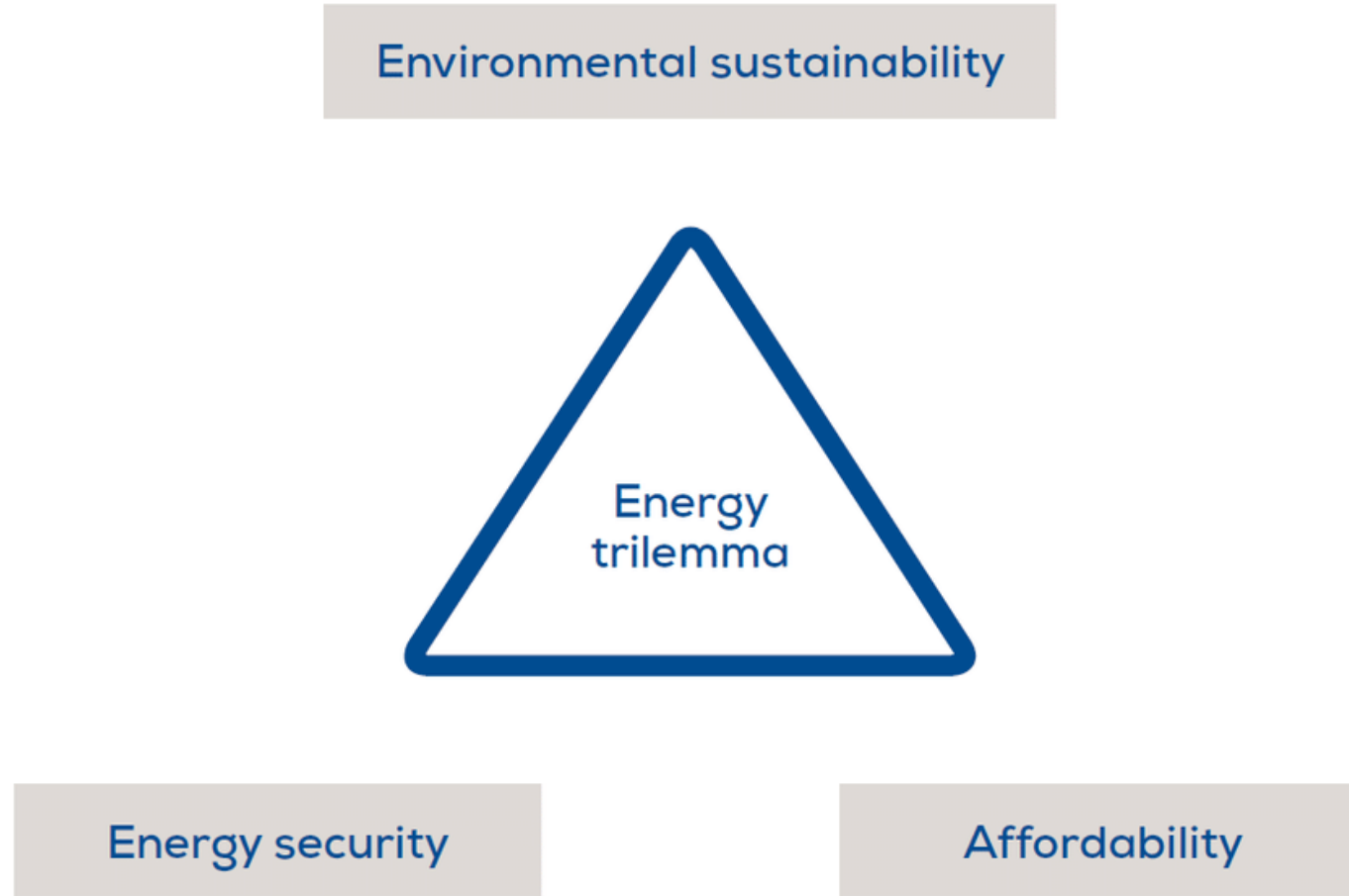
CREATE CHART USING GREEN DATA



Loan Calculator		% Loan
Loan Amount	12350	100%
Interest Rate	6%	
Term	10	
Annual Payment	1677.969284	

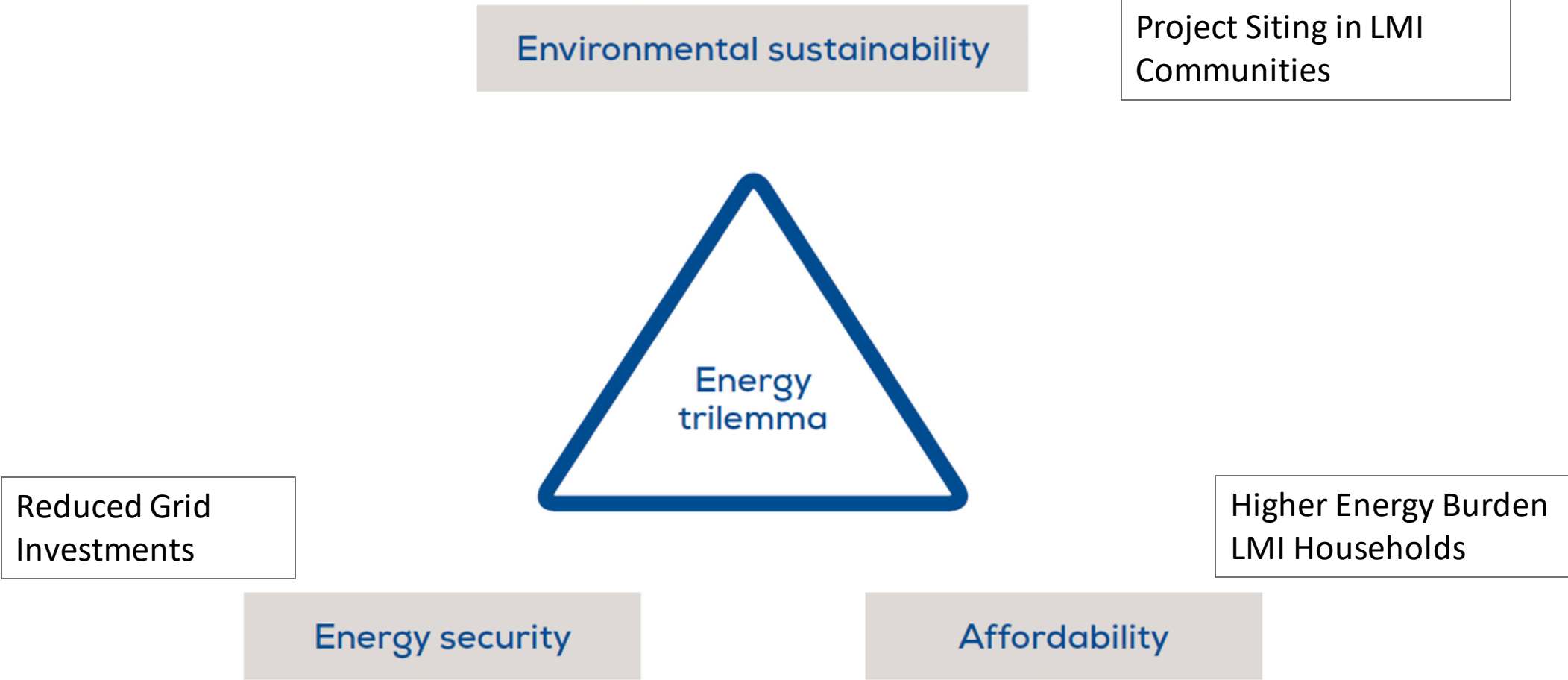
Enter your loan terms here - in the green cells. The term in years and rate. The % is the percentage of the Final Cost (so post-credit).

# The Energy Trilemma





# The Energy Trilemma – With Equity Impacts



# Part 2: Serving Solar to Businesses and Communities

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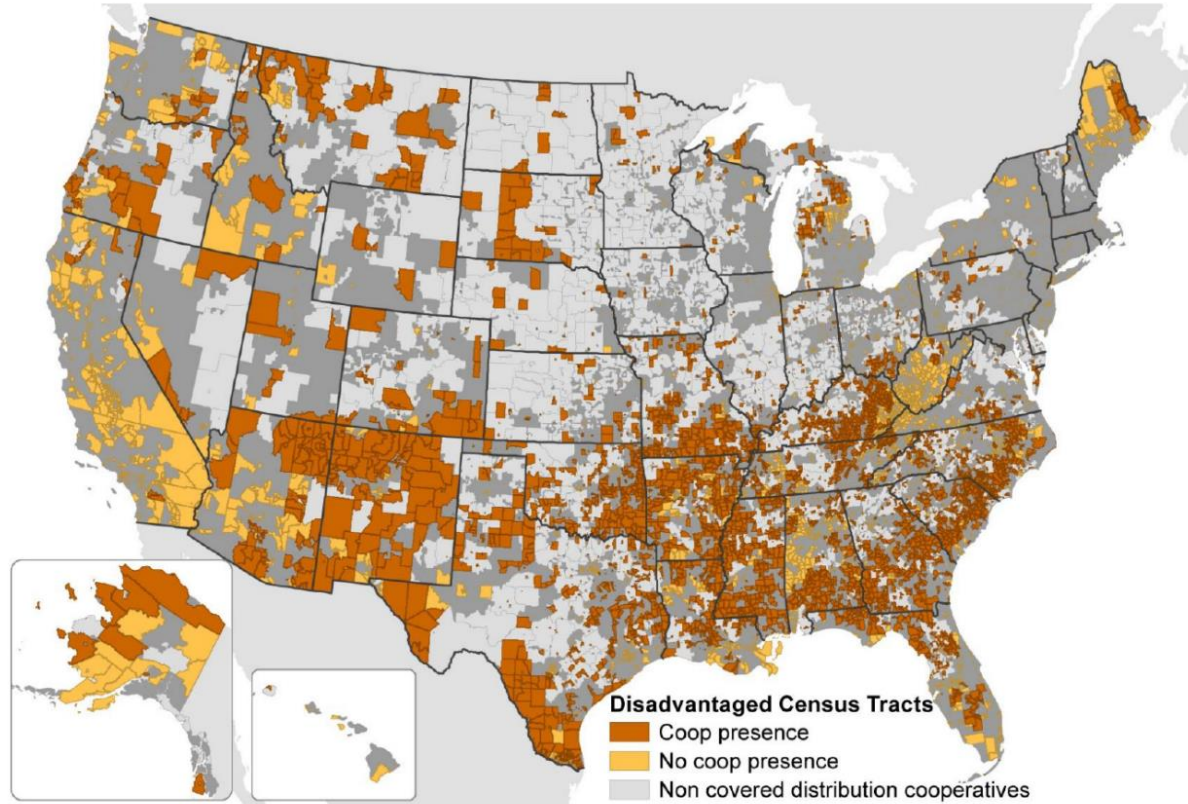
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# Federal Funding to Leverage Green Energy

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- Treasury SSBCI
- DOE Tribal Energy Loan Guarantee Program
- IRS Tax Credits and "Direct Pay"
- EPA Greenhouse Gas Emission Reduction Fund
- USDA REAP

# Justice40 Map



- About 250 electric cooperatives are working with Tribal nations to provide service to tribal facilities, homes, and businesses.



# Opportunities.

- New Businesses
- New Solar
- New Incentives



DECEMBER 13, 2022

## Tribal Provisions in the Inflation Reduction Act Address Energy, Climate Change

*Holland & Knight Alert*

# Challenges

Sandia NREL Study

Link:

[https://www.energy.gov/sites/prod/files/2016/01/f28/3\\_tommy\\_jones\\_len\\_necefer.pdf](https://www.energy.gov/sites/prod/files/2016/01/f28/3_tommy_jones_len_necefer.pdf)

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# Future Energy Development on Tribal Land



- More small scale projects 5
- Capacity building 4
- Tribally managed projects 4
- Critical for Alaskan Communities 3
- Distributed Generation / Community Scale 3
- Not many large scale projects 3



# Rank Order of Importance of Barriers

## Most Significant Barrier

Financing / Funding

Tribal Leadership / Staff

Customer

Partnerships

Infrastructure

6

6

5

5

4

## Least Significant Barrier

Tribal Sovereignty

Non-tribal govt/public

Financing / Funding

Strategic Energy Planning

Cultural Acceptance

5

4

3

3

2





## How will barriers be addressed?

- Capacity building 5
- Depends on Tax Credits 2
- Partnerships 2
- Renewable Energy Portfolio Standards 2
- Climate Change Impacts 1



## Finding 1: Financing and Funding



- **Lack equity**
- **Tribes are risk adverse + not willing/unable to take on debt**
  - Do not have credit history to do so.
- **Markets for renewable energy**
  - Renewable Energy Tax Credits
  - State RPS Standards
- **Remote locations often far from infrastructure**
- **Finding a partner + customer can be difficult**
  - Section 17 Corporations

# Section 3 – Overlap: Mission/Solution/Results

- Building Capacity
  - The trusted partner needed to provide capital and education
- Building Bridges
  - Connecting new economic jobs to customer served
- Building Power
  - Righting past wrongs: access to finance, grid investment, energy costs
- Reducing Greenhouse gas emissions
- Stabilize housing costs with cost-effective energy
- Provide for energy security with solar and batteries
- Growing businesses as users and installers.

# Building Capacity

- Experience.
  - Trust.
  - Relationship.
  - Mission.
  
  - The issue:
  - Lack of “seeding,” or social diffusion.
  - Word of mouth (trust) is the #1 driver for solar installation.
- Tufts Study:
  - Black and Hispanic residents are far less likely to own their own homes than whites or Asians, and on average, they report lower median incomes.
  - Controlling for median household income:
  - Predominantly black census tracts had a rate of rooftop-solar adoption 69 percent lower.
  - Predominantly Hispanic tracts had a rate that was 30 percent lower.

# Building Bridges

- Existing customers
  - Business as owners
  - Business as installers
- New companies
  - Installers and workforce
- Households:
  - Engage with public/private housing owners
  - Engage with homeowners

Reading Time 3 mins

## Twin Cities Project to Develop Equitable Solar Access Model for Underserved Small Businesses

December 20, 2022 in [Communities](#)

Author: [Diana McKeown](#)



CityLab | Environment

## Solar-Power Benefits Aren't Reaching Communities of Color

A new study in Nature Sustainability finds racial and ethnic disparities in rooftop solar adoption, even controlling for income and homeownership.

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# The Solutions/Results

## Addressing the challenges

- Lending to users in addition to the providers.
  - Closing the loop.
  - Installers, hosts, and buyers.

## Lowering the barrier:

- Sensitive underwriting perspective.
- Securing investments through equipment.
- Securing investments through credit enhancements.
- Participate/support a targeted solarize campaign.

## Creative solutions.

- Community solar lending – as lender, as partner.
- PPA sponsor through installers.
- Program development with IRA opportunities.
- Institutionalizing the “sale” of tax credits – historically a policy that has regressive impacts to low and moderate income populations.

# Solarize

- Group Purchasing.

## Last Year's Campaign

**129**

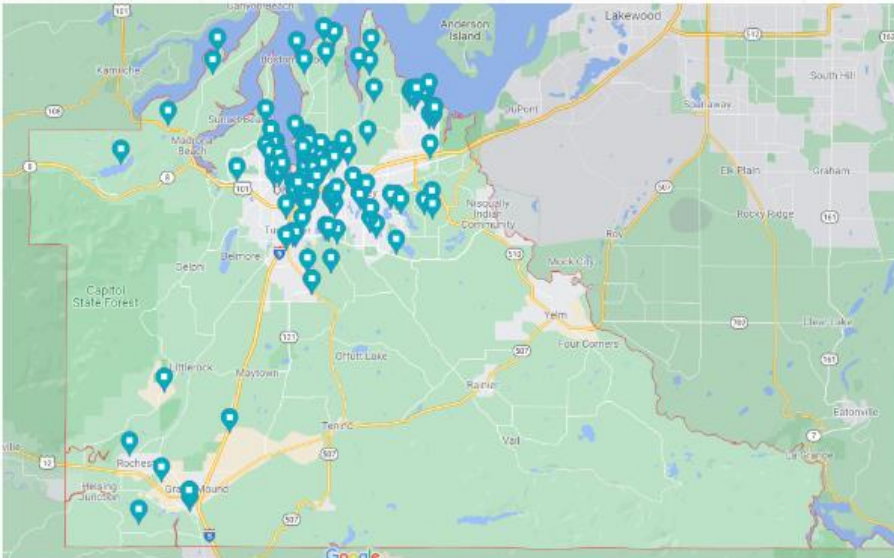
Systems

**1,100kw**

Solar Capacity

**\$2.4M+**

Invested



Projects from the 2021 Solarize Thurston project.

# Solarize

## In 4 easy steps

Sign up  
online



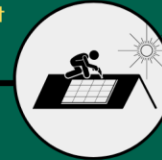
**Assessment**

Your installer will schedule a solar assessment. Be sure to have a copy of your energy bill available.



**Quote**

Your installer will send a quote that includes payback period & total savings.



**Installation**

Installation date will be scheduled. The work generally takes 2-3 days.



**Generation**

Start generating clean energy savings!

[olysol.org/solarize](https://olysol.org/solarize)

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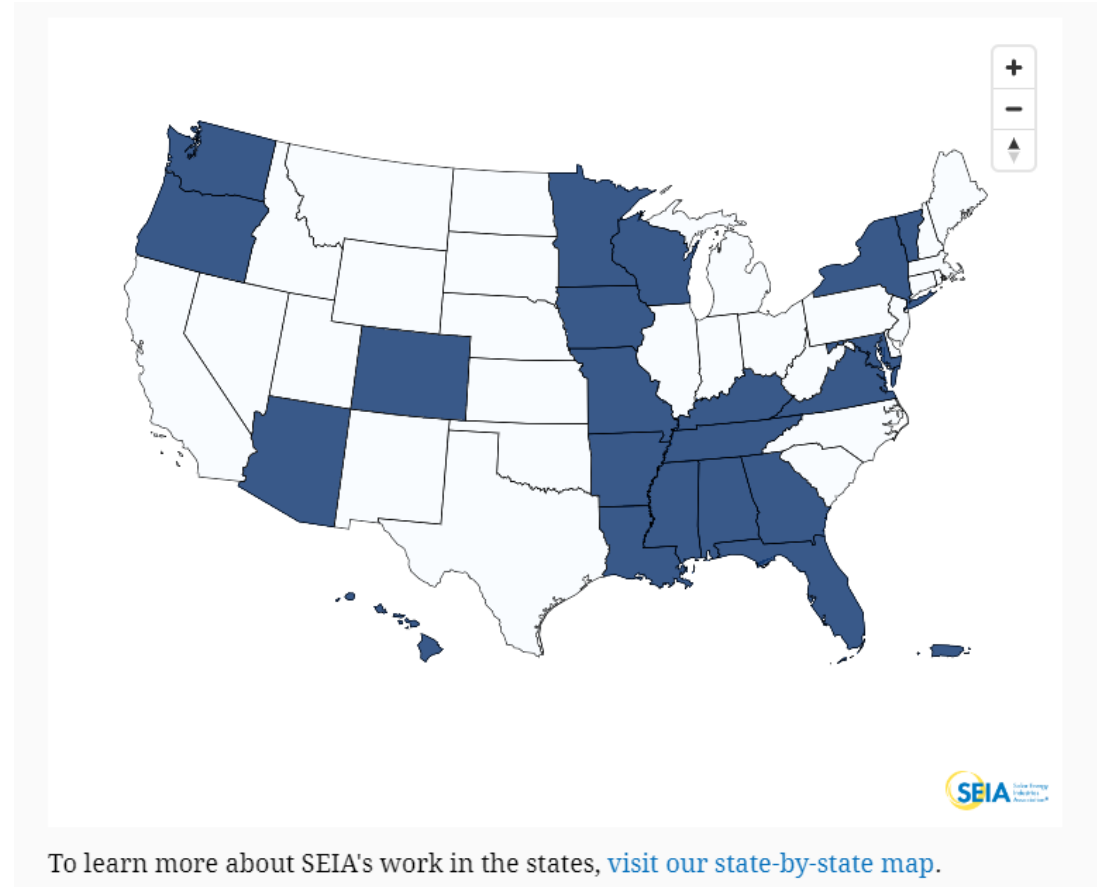
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# Activism

- Join local/state clean energy group.
- Talk to your partners and fellow lenders.
- Engage with state/local officials.



NC SUSTAINABLE  
ENERGY ASSOCIATION



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# Clay's Personal Advice Make and Plan and Focus



## What is Happening.

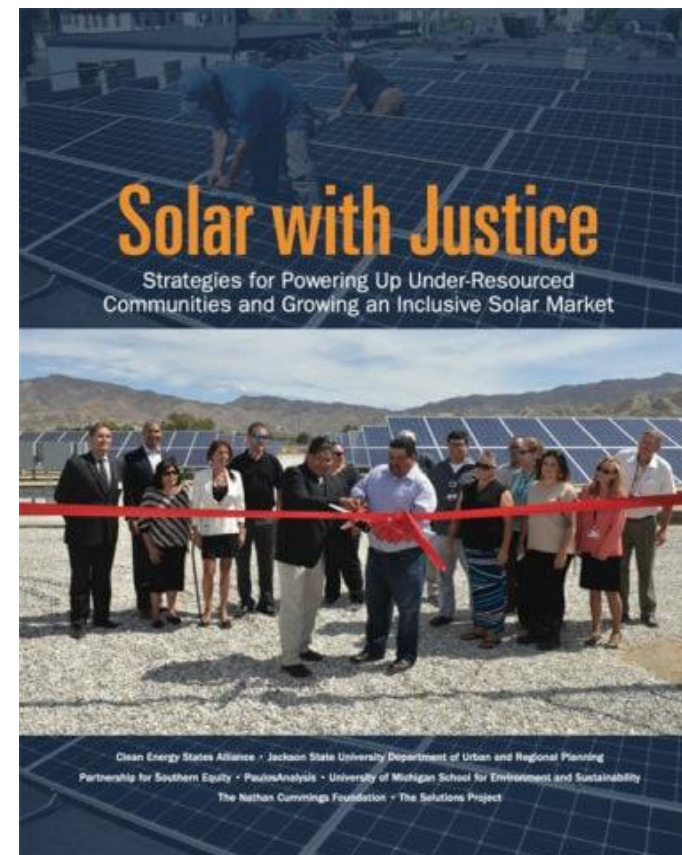
- Solar financing make sense.
- A LOT of programs/incentives are opening soon.
- These are usually complicated and sometimes competitive.
- Your state and utility matter.
  - Policies for solar are state/utility specific.
- There are many people trying to help.

## Considerations for Success

- Determine your goals and objectives.
  - Focus on these non-stop and without distraction.
- Learn applicable policies.
- Learn available incentives and programs.
- Find leaders committed to success.
- Engage effective mission-aligned partners.

# Resources – Top 4 on Mission-based solar lending

- <https://www.nrel.gov/state-local-tribal/lmi-solar.html>
- <https://www.cesa.org/wp-content/uploads/Advancing-Equity-through-100-Percent-Clean-Energy.pdf>
- <https://www.cesa.org/resource-library/resource/directory-of-state-low-and-moderate-clean-energy-programs/>
- <https://www.cesa.org/resource-library/resource/solar-with-justice/>



# Tribal-based Resources

- <https://www.nrel.gov/state-local-tribal/decision-support-tribes.html>
  - Gateway to entire library of support from DOE / NREL.
- <https://www.nrel.gov/docs/fy22osti/82725.pdf>
  - Research pre-publication on challenges for solar on tribal lands.
- <https://www.nrel.gov/docs/fy13osti/57748.pdf>
  - Older but solid presentation on energy development on tribal land.
- <https://www.eenews.net/articles/climate-law-boost-for-renewables-hits-barrier-on-tribal-lands/>
  - Common sense article on barriers.
- <https://www.hklaw.com/en/insights/publications/2022/12/tribal-provisions-in-the-inflation-reduction-act-address-energy>
  - Good summary of IRA benefits.
- <https://www.whitehouse.gov/briefing-room/statements-releases/2022/08/18/fact-sheet-how-the-inflation-reduction-act-helps-tribal-communities/>
  - Whitehouse factsheet on programs for tribal communities.

# Links to GRID Alternatives: Tribal Solar Accelerator Fund (TSAF)

- Main Site:

- <https://tribalsolar.org/>

- Grant Portal:

- <https://tribalsolar.org/grants/>



**TRIBAL SOLAR  
ACCELERATOR FUND**

**GRID Alternatives**

1. Facility/residential grant – tribal nations / organizations / education
  - a. Facility based (community center or even residential).
  - b. 200 k max
1. Energy plan – brand new planning and TA or update an energy plan.
  - a. Allows the tribe to revamp and upgrade.
  - b. 50k limit
1. Gap funding
  - a. To support larger projects.
  - b. Partner with DOE and tribes they are working with for GAP funding opportunities.

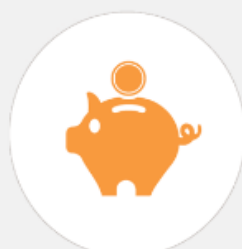
[Tribal Facility and Residential Grant](#)  
Now Accepting Applications



[Tribal Energy Plan Grant](#)  
Opening April 31, 2023



[Tribal Solar Gap Funding Application](#)  
Opening May 31, 2023



# inclusiv – some information about our work.

What we do.



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# Inclusiv Center for Resiliency and Clean Energy

Affordable and sustainable energy for all people, particularly for LMI and communities of color.


## Collaborative Platforms and Infrastructure

- Shared software platforms
- Investment vehicles
- Loan participation platform

## Movement Building

- Network building
- Thought leadership
- Advocacy

## Training and Technical Assistance

- Nation's first training program for community-based lenders launched with the  University of New Hampshire
- Trained 367 students from 192 community-based financial institutions in past 28 months
- Alumni program, technical assistance workshops and one-on-one guidance

# Community-Based Green Lending Trends

There are 10,000+ community-based lenders (credit unions, CDFI loan funds, community banks) with over \$5.5 trillion in combined assets

## 439 community lenders offer or are building dedicated green loan products

- Serve all 50 states, Washington DC, and Puerto Rico
- Manage over \$461 billion in combined assets
- Serve over 21 million community members
  
- 91 of these financial institutions took Inclusiv-UNH solar lending courses
- 98 are Inclusiv members
- 174 are Low-income designated credit unions
- 43 are Minority Depository Institutions
- 135 are CDFIs

**56 of these lenders have reported a combined investment of over \$2.7 billion in green projects over the past five years.**

