

# Green and Sustainable Approaches: Funding Solutions for Carbon Reductions

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# Questions

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  - If you are seeking CPE credits, please submit ALL polls within each session, and the conference evaluations.
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- We use **Polls and the Zoom attendance record** to verify participation throughout the webinar.
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- **Check your Zoom display name**
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  - Links to the evaluations are emailed to all registrants.
- For more information on CPE credits, contact Lindsay Wells at [consult.lwells@gmail.com](mailto:consult.lwells@gmail.com).

# Description and Learning Objectives

Impacts of climate change are visible all around us and increasing policy makers and financial partners are interested in how we can decarbonize the built environment. As mission driven organizations, we can see this as an opportunity for advancing equity. What are the technologies and strategies for decarbonization and how can we make it pencil for our portfolios?

1. Understand policy and practice shifts pointing to decarbonization
2. Understand building technologies that reduce carbon emissions and capital and operating cost implications
3. Identify key financing structures, particularly for mid cycle retrofits

# Agenda

- Introductions
- Federal, state and local trends: Carbon
- Carbon Reductions: Tech Strategies
- Tech Strategies & Financial Cycle
- Q&A

# Climate Action and Policy

- Next week at the COP26 U.N. Climate Change Conference, the U.S. will join the community of nations that have agreed to limit global temperature rise to 1.5 degrees Celsius.
- The Biden administration is tasked with reestablishing U.S. leadership and global commitments for tackling climate change.
- A series of administration actions are in place, but the Build Back Better Act and the Bipartisan Infrastructure Package are key vehicles to expand public investment in climate solutions.

***View from Capitol Hill:***  
**Draft Budget Reconciliation legislation targets investments in sustainability & resilience of affordable housing.**

Grants and loans to retrofit HUD subsidized housing:	\$6 B
Rebates for residential energy efficiency upgrades:	\$9 B
Rebates for residential electrification upgrades:	\$9 B
Weatherization Assistance Program:	\$3.5 B
Financial assistance for solar installations in affordable housing:	\$2.5 B



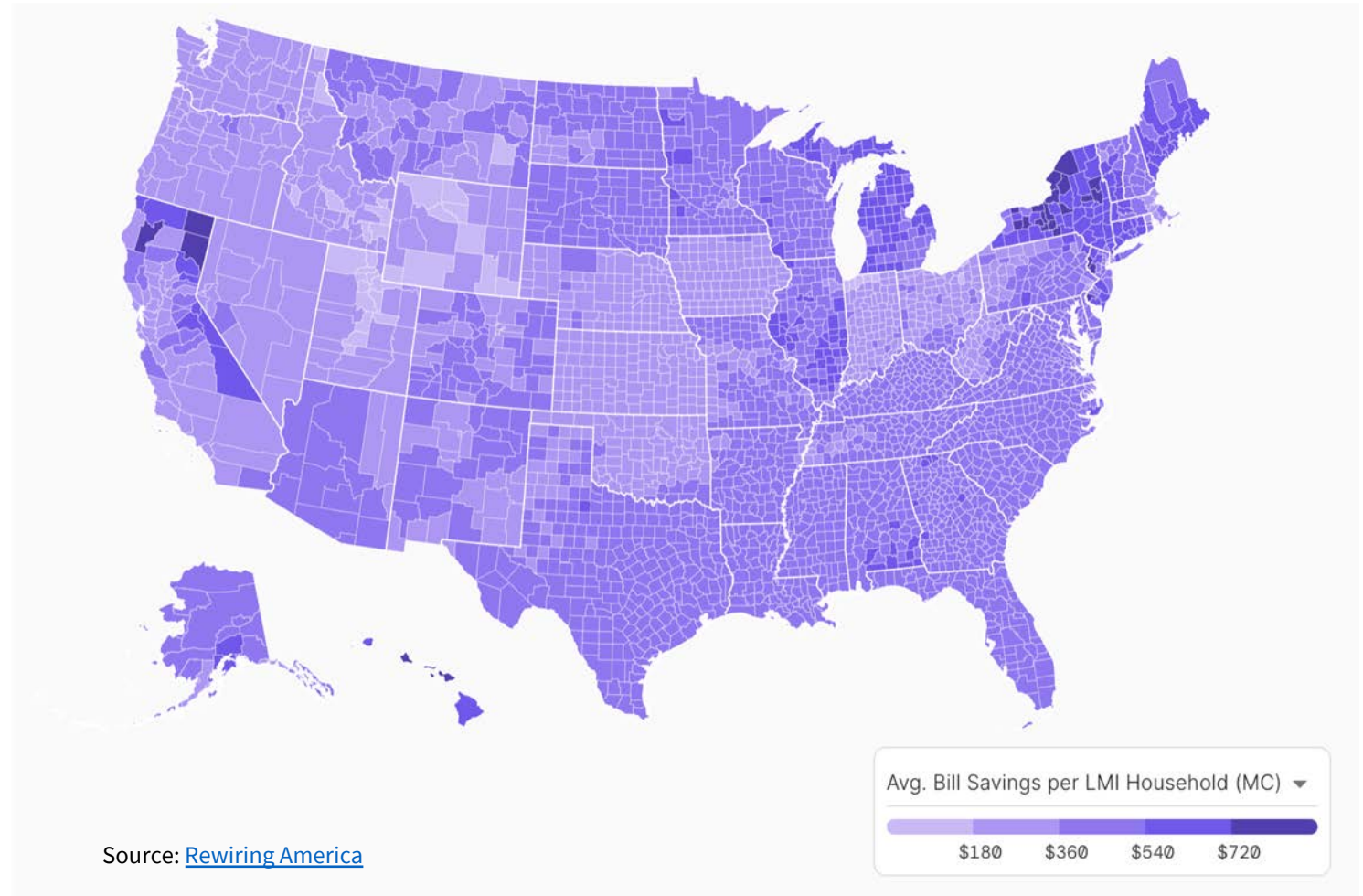
# Electrification, Climate Crisis, and Equity

We cannot achieve zero emissions unless we electrify lower-income households.

**42%** Emissions from homes

**45.6M** LMI households

**250M** Appliances represented



## Public investment for electrification and energy efficiency upgrades (\$18 billion)

- New programs administered by DOE via State Energy Offices
  - HOPE for Homes and Zero-Emission Homes Acts
- Rebates for homeowners and multifamily building owners to defray the costs of energy efficiency and electrification upgrades.
- Incentive levels up to 2x higher for owners of buildings occupied by residents with incomes less than 80% AMI.
- \$5.5 B reserved for qualified electrification projects carried out in Tribal communities or for low- or moderate-income households.

# Federal Justice40 Initiative

- A whole-of-government effort to deliver at least 40 percent of the overall benefits from federal investments in climate and clean energy to “disadvantaged communities.”
- Climate and clean energy investments include:
  - Clean energy and energy efficiency
  - Clean transit
  - Clean water infrastructure
  - Affordable and sustainable housing
  - Training and workforce development
  - Remediation and reduction of legacy pollution





The Federal Justice40 Initiative is a pivotal opportunity for *investment*, *reparation*, and *restoration* of communities.

Federal Justice40 Goal: “Secure environmental justice and spur economic opportunity” for communities that have been “overburdened by pollution and underinvestment in housing, transportation, water and wastewater infrastructure, and health care.”

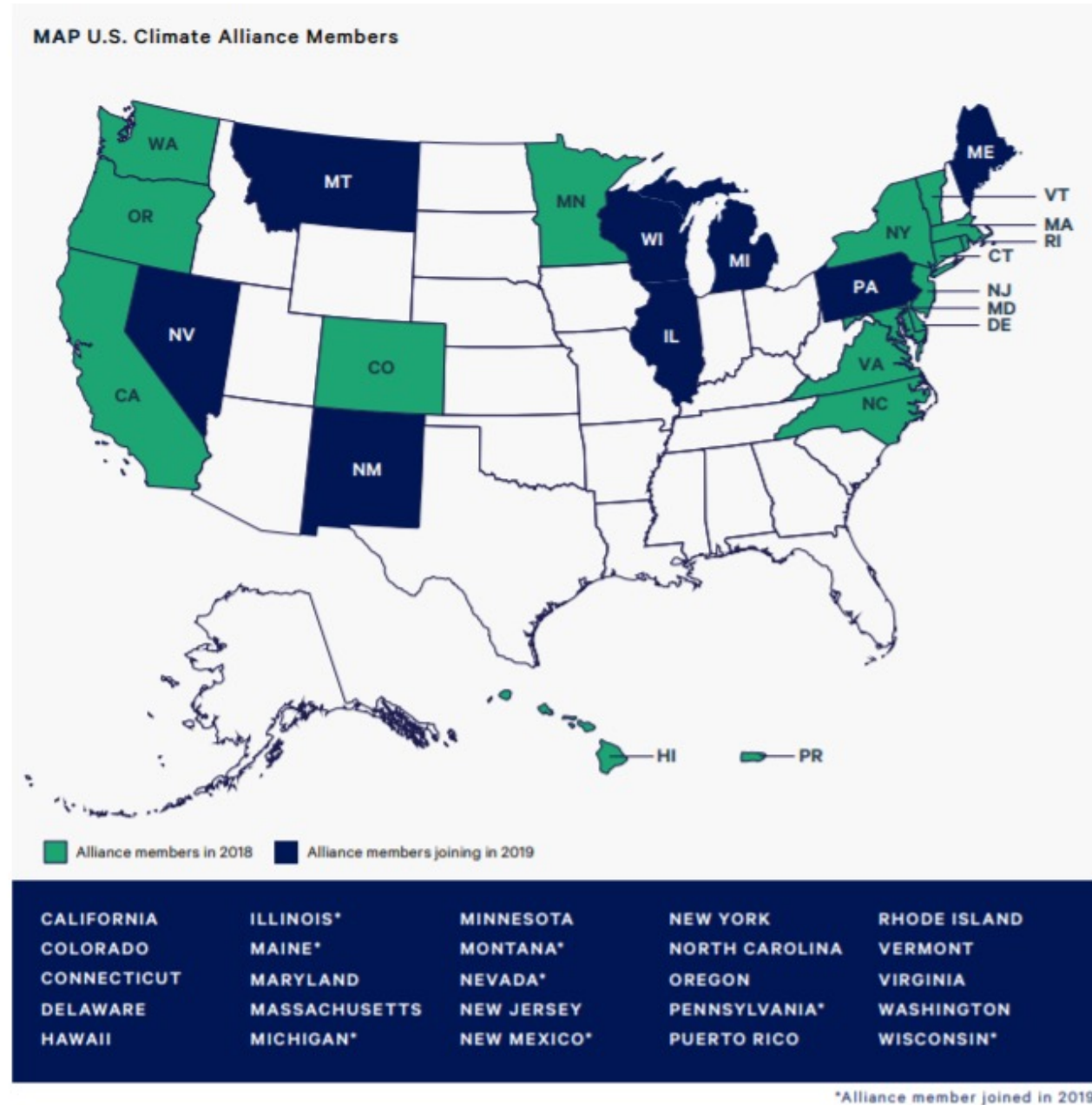


# Justice40

## Accelerator



# State Action on Climate





## *Recent Example:* **Illinois Climate and Equitable Jobs Act (CEJA)**

- Puts Illinois on a path to **40% renewable energy by 2030 and 50% by 2040**
- **Establishes deadlines** for ending coal and gas-fired power plant emissions
- Over **\$80 million** per year for workforce and contractor development programs targeted in equity focused communities
- **Minimum diversity and equity requirements** for all renewable energy projects, and dedicated support to help contractors access projects
- **Expands Illinois Solar for All** to help residents with low incomes access solar and save on energy bills.
- Project **financing mechanisms and seed capital** for businesses.

# About BlocPower

- BlocPower is a Black-owned clean tech company founded in 2014, focused on greening and modernizing residential and small commercial buildings
- BlocPower develops and finances energy efficiency and clean energy projects for building owners in dense, often LMI urban areas.



nationalgrid

conEdison

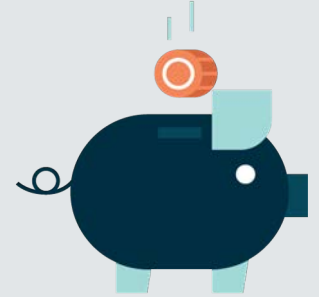
ANDREESSEN  
HOROWITZ

Kapor  
CAPITAL

Exelon



Our software platform streamlines the process of designing and installing these projects, **cutting down the time and cost** of completing an energy project.

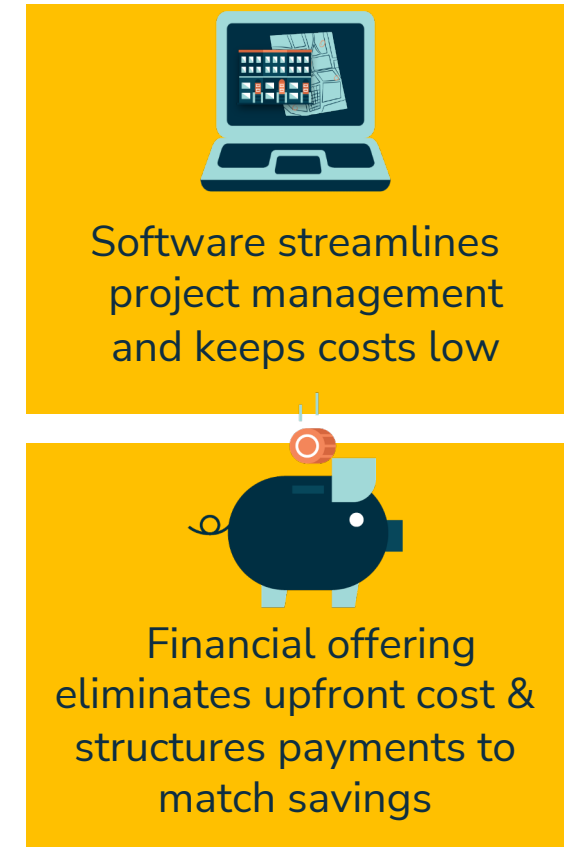
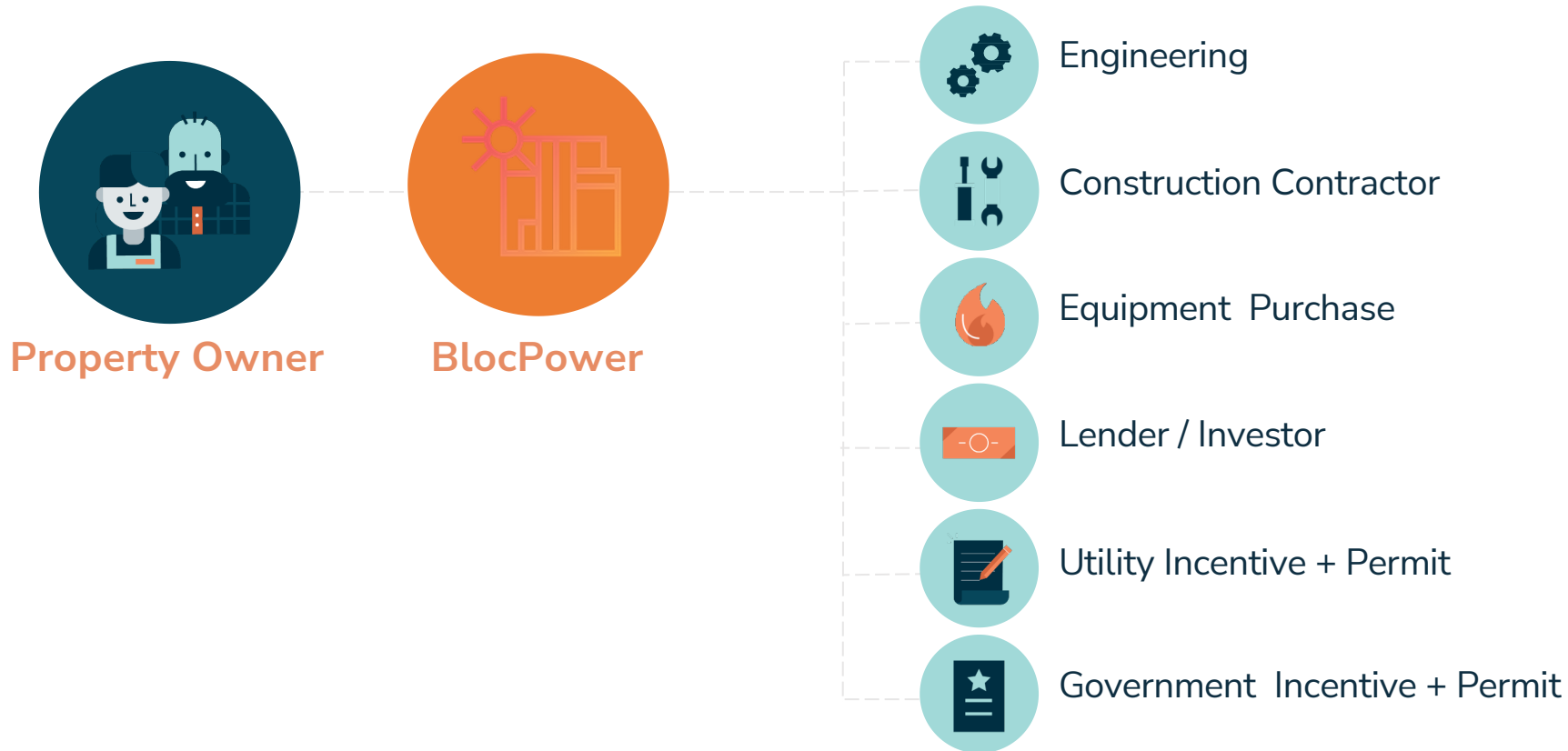


BlocPower financing enables building owners to get much-needed energy-saving infrastructure improvements with **no money upfront** and projects can be profitable day one.



# BlocPower delivers a one-stop solution for building owners, working with local partners

- The solution: a steward of the customer experience



# An “all of the above” suite of electrification services allow building owners to pursue what’s best for them

## BlocPower Capabilities

 <p>Air source and ground source heat pumps; High SEER AC units</p>	 <p>Heat pump hot water</p>	 <p>Home appliances, + panel upgrades</p>	 <p>LED lighting, insulation, air sealing, water measures</p>	 <p>Project planning to put it all together</p>
 <p>Remediation: Lead, mold, asbestos</p>	 <p>Monitoring and control systems</p>	 <p>Local Solar or Community Solar</p>	 <p>Battery Storage</p>	 <p>Incentive sourcing &amp; financing to make it accessible</p>

# Pairing software with data and local insights support pilot success and enable scale

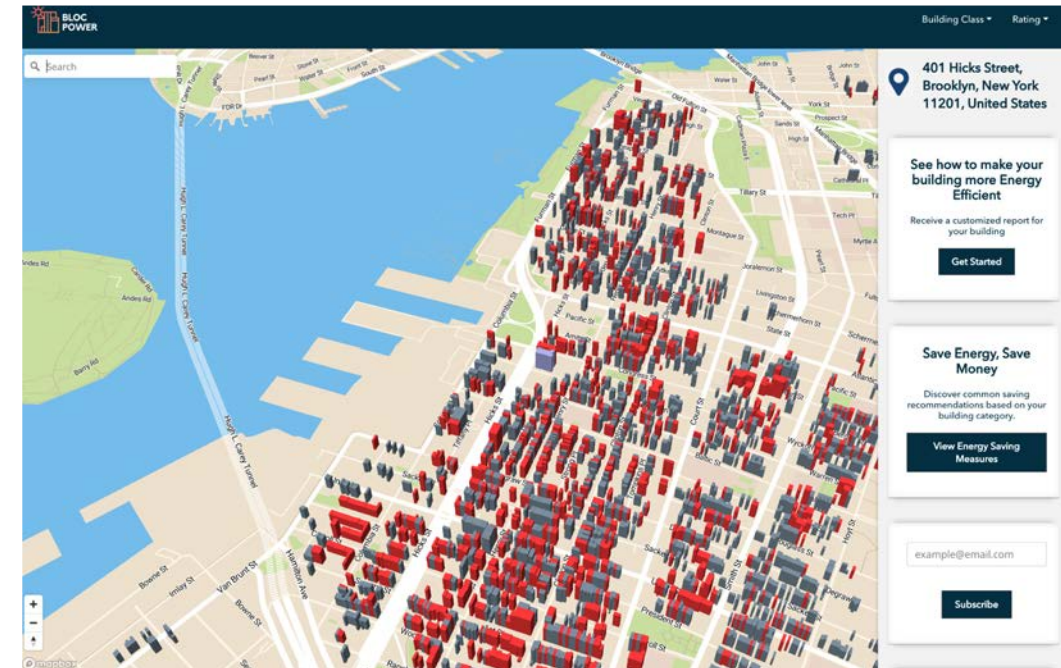
## BlocMaps & BlocPower Software

### BlocMaps and BP Target

- BlocPower software built on public and proprietary data sets
- Building visualization tool for an entire community of buildings, allows cities, utilities, and private building owners to view each building's energy efficiency score within a community
- Based on over 200,000 buildings analyzed

### Preliminary Needs Assessment Engine

- Using a proprietary model, incorporating the Energy Plus calculations, produces an automated list of recommended energy conservation measures including initial estimated costs to provide guidance and direction for the necessary scope of each retrofit project before engaging in final quotes based on contractor quotes.

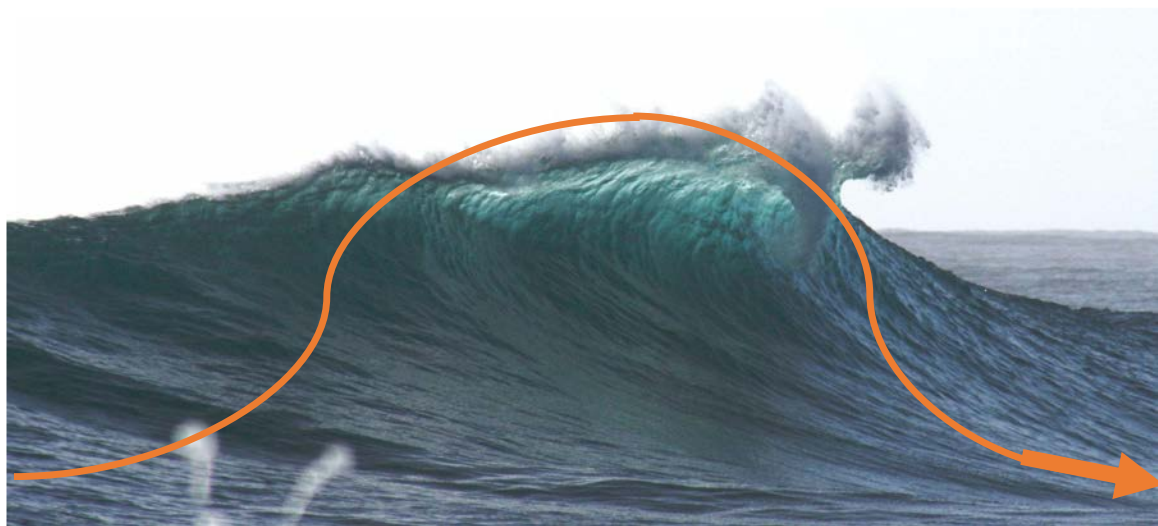






# Justice reframes the typical adoption curve and centers the transition in historically underserved communities

## Typical Market-based Adoption Curve

Adoption driven by access to resources & risk tolerance



**Early-adopters:**  Risk takers who have resources and desire to try new things

**Majority**  **Laggards:** Make decisions based on past experience; not economically able to take risk on new ideas

## LMI-First Adoption Spiral

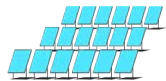
Adoption driven by potential to benefit



A **just transition** centering on those with highest energy burden, negative health impacts, and the compounded burdens of historical racism

# NHT Sustainability Focus Areas

## CLIMATE



- Community Solar \*\*



- Water



- NHTC Portfolio Targets

## RESILIENCE



- Solar + Battery Storage



- Green Roof + Solar

## Health & Equity



- Equitable Electrification



- Reduce Socioeconomic Burdens for NHT Residents:
  - Energy Burden
  - Healthy Buildings

# NHT Solar Overview

- NHT supported AMFH owners deploy **13MW** of low-income solar energy capacity across the country
- **Community Solar:** NHT's 1.15MW community solar project at [Pepco's Benning Rd. substation](#) (June FY21)
  - Advances NHT's mission by supporting local workforce development and providing **\$166,493** of annual free power to **333** income eligible households



# NHT Solar Service Offerings

	NHT Service Offerings			Solar ownership model			
	Type	Description	Case Study	NHT	Client	3rd Party	Notes
1	Owner's Rep: Consulting fee-for-service	NHT as hourly consultant for work performed			X	X	
2	Owner's Rep: Payment-for-success	NHT as 'trusted broker': Scopes projects, solicits & reviews PPA/lease offers, oversees installation and commissioning. NHT takes share of upfront dev fee and/or lease earned by site owner upon project completion. (Optional ongoing management services for 3rd party owner)	<a href="#">Denver Housing Authority</a>			X	
3	NHT Non-profit Co-Ownership	NHT and client form SPE, jointly put in sponsor equity; NHT structures deal, financing, takes a fee; NHT gets priority repayment on SREC revenue, then splits cash flow after debt repaid. Free/discounted power to client property.	DCIII	X	X		No tax investor/3rd party in deal
4	Solar Co-Development Fee model	Co-development agreement with client; Share of development fee at completion; optional ongoing asset management for client	<a href="#">SSDC Solar</a> , CPDC, Rose		X		Client ownership implies tax appetite; If client funded, potentially no SNDA
5	Solar Development & ownership	Develop projects with NHT clients. NHT provides sponsor equity, assumes, long term ownership of solar asset, guarantees , installation, ongoing operation	<a href="#">DC1</a> , <a href="#">Pepco</a> , <a href="#">Channel Square</a>	X			



# Actual vs. Expected Performance

## Solar PV Report 2020

Project Name	Total Size (kW)	Actual Production (kWh)	Expected Production (kWh)	Performance Ratio	Actual Revenue (\$)	Expected Revenue (\$)	Property Savings (\$)	Solar for All Benefits	Emissions Reductions (lbs of CO2e)
NHT Ingenuity DC1	1,396	1,605,114	1,607,675	99.8%	\$ 653,500	\$ 655,349	\$ 38,833	\$ 132,024	2,568,182
NHT Renewable	158	177,625	177,147	100.3%	\$ 96,721	\$ 96,660	\$ 2,487	N/A	284,200
Channel Renewable	309	364,196	363,051	100.3%	\$ 168,912	\$ 168,450.00	\$ 25,008	N/A	582,714
<b>TOTAL PV</b>	<b>1,863</b>	<b>2,146,935</b>	<b>2,147,872</b>	<b>99.96%</b>	<b>\$ 919,133</b>	<b>\$ 920,459</b>	<b>\$ 66,328</b>	<b>\$ 132,024</b>	<b>3,435,096</b>
<b>TOTAL PV + Thermal</b>	<b>2,199</b>				<b>\$ 1,057,618</b>	<b>\$ 1,061,147</b>	<b>\$ 71,052</b>	<b>\$ 132,024</b>	<b>3,560,867</b>

Property Name	Project Name	Property Owner Name	Units/Families Served
Shalom House	NHT Ingenu	SOME	94
Altamont Place	NHT Ingenu	SOME	38
Griffin House	NHT Ingenu	SOME	40
Jeremiah House	NHT Ingenu	SOME	32
Fendall Heights	NHT Ingenu	SOME	29
Chesapeake House -1	NHT Ingenu	SOME	11
Chesapeake House -2	NHT Ingenu	SOME	11
Barnaby House	NHT Ingenu	SOME	11
Gasner House	NHT Ingenu	SOME	49
Fort View Apts-1	NHT Ingenu	Somerset	31
Fort view Apts-2	NHT Ingenu	Somerset	31
Avondale Park	NHT Ingenu	Victory	88
Manor Apartments	NHT Ingenu	Victory	62
Channel Square Aptm	Channel Re	Channel Square Hous	231
<b>Total PV</b>			<b>1713</b>

### 2020 Highlights

- In 2020, all solar PV projects performed at nearly 100% of expected energy generation
- \$1M was generated in revenue from energy sold to properties and environmental offset credits sold to utilities
- NHT-owned properties and partner organizations saved a total of \$71k in energy costs as a result of discounted power sold to the properties
- NHT's participation in DC's Solar for All Grant program produced \$132k in savings that will be used for resident benefits including upgrades to common areas, on-site security, rent relief, free meals and groceries, and fitness classes among other things
- The amount of energy generated by NHT solar has offset 3.5 million lbs of CO2e. This is the equivalent to taking 335 cars off the road or powering 179 homes' energy for one year



# CPE Feedback Poll

- If you are seeking CPEs, please complete this brief feedback poll.
- Note: All registrants will receive links to the conference evaluations via email.
  - Please complete the conference evaluations to request CPE credit and to provide qualitative feedback.