

# e-Lab Leap: a change lab for low-income energy challenges in New York

June 6, 2016  
NEUAC Conference



# Overview.

- What is a change lab?
- Our change lab in New York
- Deep Dive: Public Participation
- Lessons learned and key takeaways
- An example activity from a change lab
- Innovative business models for low-income renewable access

# Enable the grid to be affordable, resilient, and clean for all



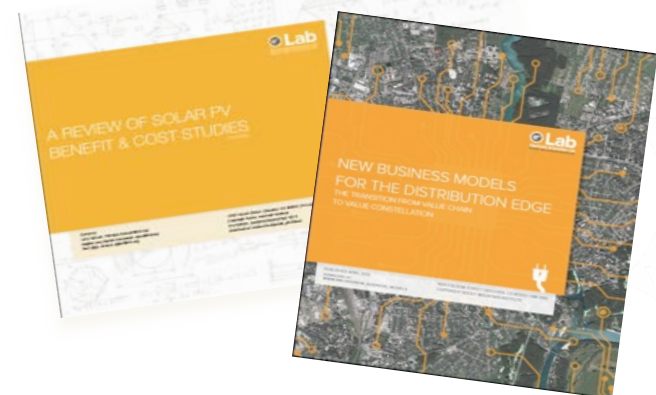
Works across industries:

- Buildings
- Transport
- Industry
- Electricity



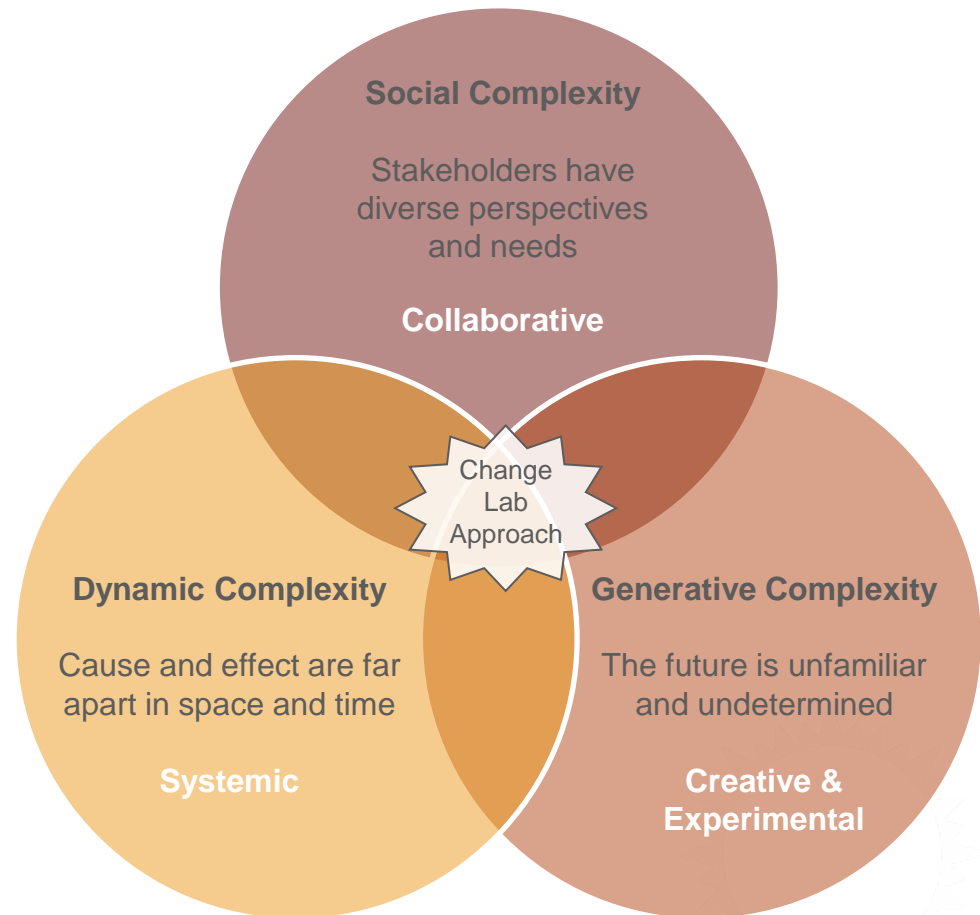
Assembly of thought leaders across the electricity sector:

- Regulators
- Government
- Utilities
- Service providers
- Technology developers
- Environmental NGOs
- Community-based orgs
- Customer Advocates



# A Change Lab takes a Systemic, Participative, and Creative & Experimental Approach to solve stuck problems:

- Complex problems, such as addressing climate change or addressing the needs of low income communities, are made up of three types of complexity:
  - social
  - dynamic
  - generative
- Solving complex problems requires a process that addresses each type of complexity:
  - it must be systemic rather than piecemeal;
  - it must involve stakeholders rather than rely only on authorities and experts;
  - it must be creative and experimental rather than simply replicating existing best practice.



We facilitate our meeting to create a safe space where participants can take a systemic, collaborative, and creative & experimental approaches rather taking simple ones.

| Dimension      | Simple Challenges                   |                | Complex Challenges             |   | Reason for Stuckness |
|----------------|-------------------------------------|----------------|--------------------------------|---|----------------------|
|                | Definition                          | Approach       | Definition                     | Approach  |                      |
| <b>Dynamic</b> | Cause and effect are close together | Piece by piece | Cause and effect are far apart | <b>Systemic:</b> paying attention to interconnectedness | Fragmentation        |
|                |                                     |                |                                |   |                      |
|                |                                     |                |                                |   |                      |

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|               |  |                                    |  |   |                      |
| <b>Social</b> | Actors have similar perspectives and interests | Relying on experts and authorities | Actors have different perspectives and interests | <b>Collaborative:</b> involving the actors themselves | Polarization         |
|               |  |                                    |  |   |                      |

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|                   |                                    |  |  |  |                      |
| <b>Generative</b> | Future is familiar and predictable | Planning based on existing best practice | Future is unfamiliar and unpredictable | <b>Experimental:</b> learning through trying stuff out | Obsolescence         |

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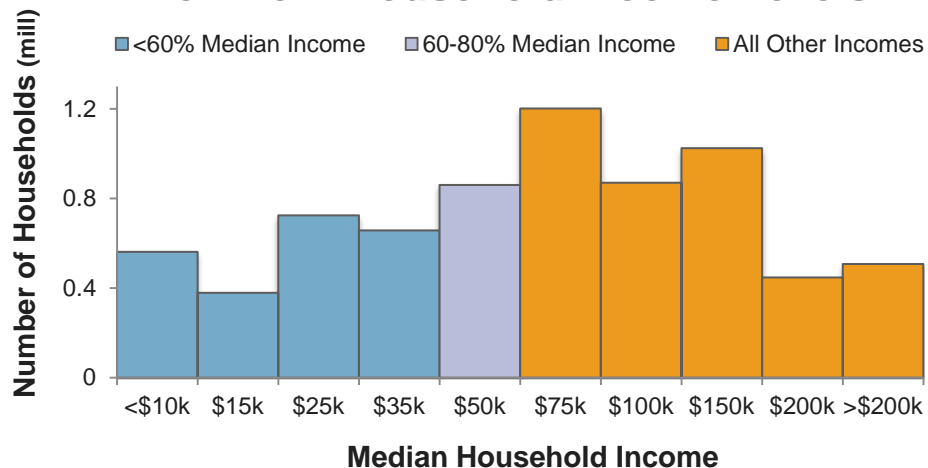


# The cost of energy represents a significant burden for low-income customers in New York

## STATEWIDE STATISTICS

- NY State median income is \$58,000 per household
- 2.3 million households fall below 60% of the NY State median income and are considered to be low-income. This is 30% of all New York households.
- Across regions within New York, low-income customers become harder to define
- Participants of utility low-income assistance programs account for 22% of residential energy utility customer arrears, 31% of the dollar value of residential arrearages

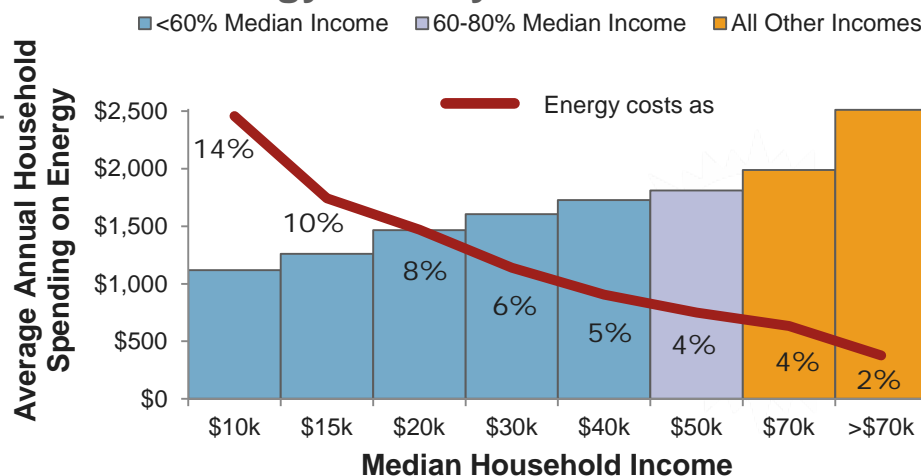
## New York Household Income Levels<sup>1</sup>



## AFFORDABILITY

- The average energy costs for all consumers, based on after-tax income, is 3%.
- All low-income segments nationally have higher-than-average energy costs, 4% – 14% of income, accounting for government assistance.
- Energy costs are considered unaffordable (“burdening”) if more than 6% of income.

## Energy Cost by Household Income<sup>1</sup>



<sup>1</sup> Income data from 2012 American Consumer Expenditure Survey. Percentage median income brackets are estimated based on available data.

# Reforming the Energy Vision (REV) has provided a platform for providing access to DERs and improving energy affordability

## REV Regulatory Proceeding<sup>1</sup>

- An energy modernization initiative that seeks to fundamentally transform the way electricity is distributed and used in New York:
  - Reorients the electric industry and the ratemaking paradigm toward a customer-centered approach that harnesses technology and markets, and
  - Uses DERs as a primary tool in the planning and operation of electric distribution system to achieve optimal system efficiencies, secure universal affordable service, and enabled the development of a resilient, climate-friendly energy system.
- REV policy objectives include: 1) enhanced customer knowledge and tools to support bill management, 2) market animation and leverage of customer contributions, 3) system wide efficiency, 4) fuel and resource diversity, 5) system reliability and resiliency, and 6) reduction of carbon emissions.

## Clean Energy Fund<sup>2</sup>

- A NYSEERDA proposal complementary to REV to replace the state's current System Benefits Charge (SBC), Energy Efficiency Portfolio Standard (EEPS), and Renewable Portfolio Standard (RPS), set to expire in 2015, with a new, more market-driven form of support for New York's clean energy economy and the reduction of GHG emissions.
- The proposal seeks \$5 billion over ten years, funded through electric bill surcharges, and invested in 1) market development, 2) technology and business innovation, 3) the New York Green Bank, and 4) New York Sun.
- Seeks to increase the adoption of energy efficiency and clean energy in low-income communities by addressing barriers that have limited access to capital and market solutions.

## Energy Affordability for Low Income Customers<sup>3</sup>

- A proceeding to investigate the low-income assistance programs provided by the various energy utilities in New York. Historically the programs have been developed through individual rate cases, resulting in substantial differences between programs.
- This proceeding seeks to standardize these programs to reflect best practices, streamline the regulatory process, and ensure that these programs continue to be consistent with statutory and policy objectives, while improving affordability for low-income customers.

## REV activities of note

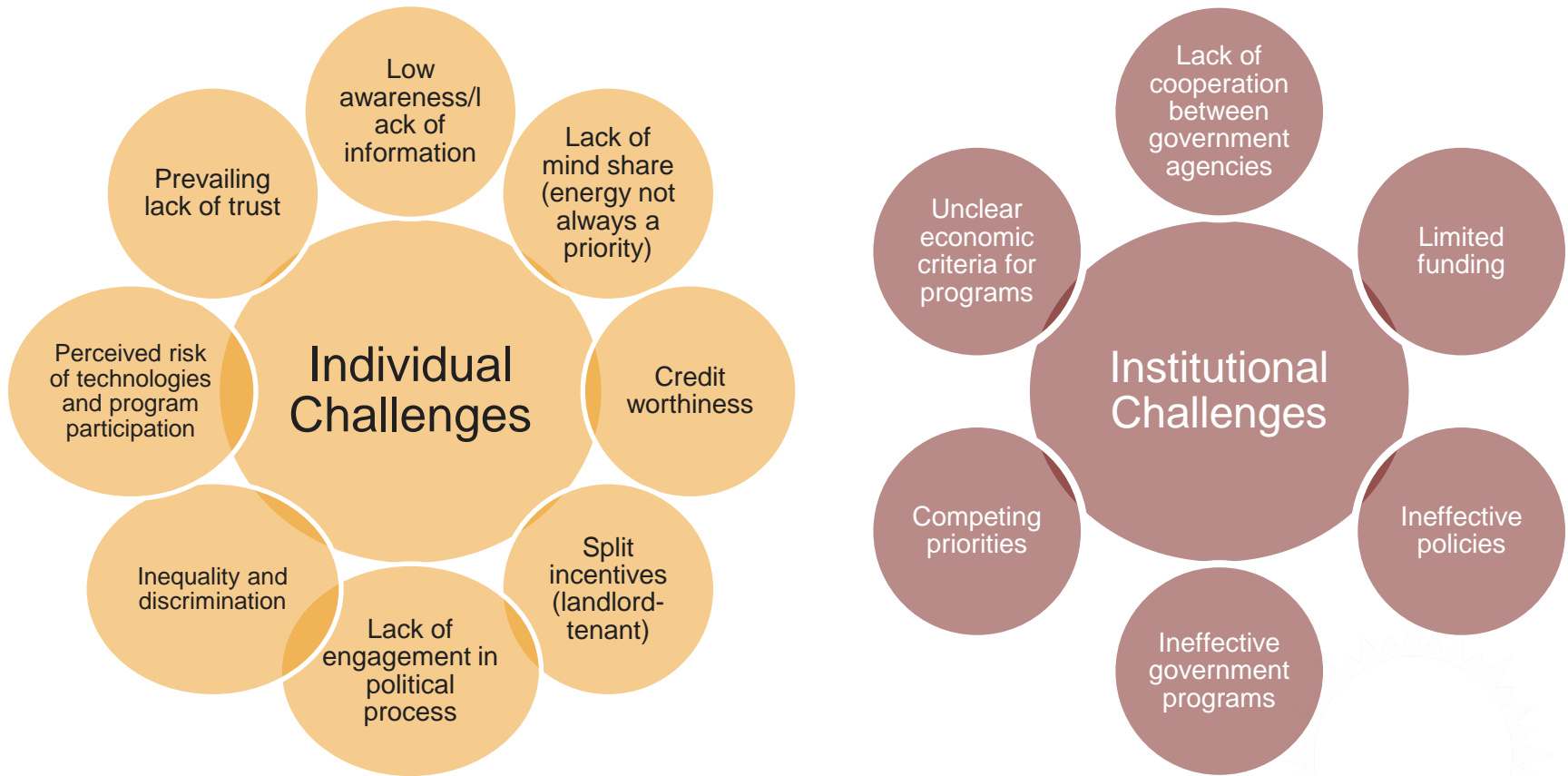
### Low-Moderate Income Working Group

- A NYS inter-agency working group, convened by the Governor's Office, developing a coordinated strategy to refine, integrate and expand current and planned state support for LMI energy customers, in order to reduce their energy bills and bring more clean energy benefits to LMI communities throughout the state.
- The group is developing a workplan that two sets of different interventions and actions that work 1) within the construct of current LMI end-user energy efficiency incentive programs, and 2) apply the state's broader clean energy market transformation initiatives to the LMI sector.

<sup>1</sup> Case 14-M-0101. <sup>2</sup> Case 14-M-0565. <sup>3</sup> Case 14-M-0094.

Dialogue interviews revealed that both individual and institutional challenges have made it difficult for solutions to scale broadly

### *Challenges voiced by New York stakeholders<sup>1</sup>:*



<sup>1</sup> Results from the dialogue interviews



# e-Lab Leap seeks to empower and improve the lives of low-income households and communities in a clean energy future

## The Need

The electric grid is in the midst of transformation as DER are poised to play a central role in the decades ahead.

DER solutions to date have focused largely on utilities, regulators, and third-party segments

Current programs and policies for LI populations do not sufficiently address energy affordability and face uncertainty, particularly with funding.

There are opportunities to develop new approaches and incorporate new technologies to design solutions that increase equity and provide a long list of benefits to LI households and communities

## Desired Outcomes

**Empowering** those who are currently disadvantaged with opportunities and resources<sup>1</sup>

- Meaningful engagement
- Access to capital and finance opportunities
- Ownership of assets

**Improving** the well-being of people and households<sup>2</sup>

- Affordable and healthy housing
- Increased jobs and earnings opportunities
- Better environmental quality
- Community resiliency (social and economic)
- Affordable and reliable energy

## e-Lab Leap: a Change Lab approach

Build communication and cooperation between key stakeholders

Create foundational understanding of benefits and challenges impacting LI groups in a changing and more distributed electricity system

Spur co-creation and deployment of effective solutions

<sup>1</sup> For examples of work addressing empowerment, see [Gender and rural microfinance: Reaching and empowering women](#)

<sup>2</sup> For examples of work addressing well-being, see the [OECD Better Life Initiative](#)



# Convening intent: To empower and improve the lives of LI households and communities in a clean energy future



**Genesis**  
e-Lab National

**Deep  
Dialogue  
Interviews**

**Meeting #1**  
June 8-9,  
2015

**Meeting #2**  
November 16-17

**Meeting #3**  
July

2014

Fall

Winter

Spring

Summer

Fall

Winter

Summer

2016

## Objectives:

- Develop a shared sense of the current situation
- Help existing efforts in New York move faster + identify new efforts
- Develop and refine the plan for working together as a group

# The change lab helps participants rethink how they collaborate inside and outside the lab.

Optimizing for short-term bill reductions

Working on behalf of low-income end users

Multi-year master planning

Top-down solutions

Optimizing for long-term energy independence

Working with low-income end users, at the speed of inclusion

Experimentation, nimble course-corrects

Bottom-up innovations



Pace Energy and Climate Center



# e-Lab Leap has co-created 9 initiatives that are volunteer run, volunteer led

|                           |   |
|---------------------------|---|
| REVitalize*               | Support community-driven energy planning efforts in low-income communities, by connecting those communities to funding sources and key ongoing energy initiatives— REV in particular.   |
| Public Participation*     | Develop a new model of effective and transparent public engagement between government agencies and community stakeholders on low-income energy issues.  |
| REV 101                   | Create a broad campaign that supports public education, awareness, and participation in REV and related policy initiatives  |
| Microgrid Resource*       | Produce a resource that would help communities identify the fundamental legal, economic and technical questions that need to be addressed, identify and compare viable solutions, and define a process for making decisions   |
| Lender Learning           | Develop learning and education materials for lenders to use to educate building owners who are in a position to adopt efficiency measures and DERs  |
| Uber Coalition            | Identify and align key REV policy recommendations as they bear on LI community energy concerns and to coordinate overlapping efforts for key REV leverage points in order to result in a “single loud voice” on those items of agreement across coalitions.   |
| Community Power Portal    | Develop an online portal to share information about existing community distributed generation projects and those under development, and to create a virtual space for a growing network of innovative organizations to connect, share, and collaborate towards the advancement of local, people-owned projects. |
| Community Energy Project* | Identify areas of coordination between existing programs serving LI customers and communities to deliver improved value through coordinated and holistic intervention.  |
| Community Energy Access   | To develop viable, replicable business models for community ownership of energy resources and assets.   |



## Overview

- This initiative aims to:
  1. Develop a **new model of effective communication** between government agencies and community stakeholders on low-income issues in New York
  2. Build a **process that ensures program decision-making considers the community feedback** that has been solicited (and is transparent).
- The group takes a long- and short-term approach.
  - Long term: ongoing discussion about ideal format and outcomes of public participation
  - Short-term: testing of ideas, as opportunities emerge. The group is currently focused on using the Track 2 REV Roadshow as an opportunity to test the efficacy of networking directly with leaders of grassroots organizations (“grasstops”).

## Achievements

- Two “grass tops” meetings held that created a dialogue between the Department of Public Service and local community leaders
  - New York City, 10/27
  - Ulster County, 11/2
  - The initiative is currently planning further “grass tops” for another round of outreach and preparing materials to better explain REV to communities

# Deep Dive: Public Participation

Business as usual:



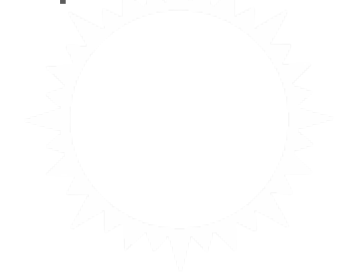
## A new attempt:



*Grasstops Meeting, Ulster County*

## Takeaways

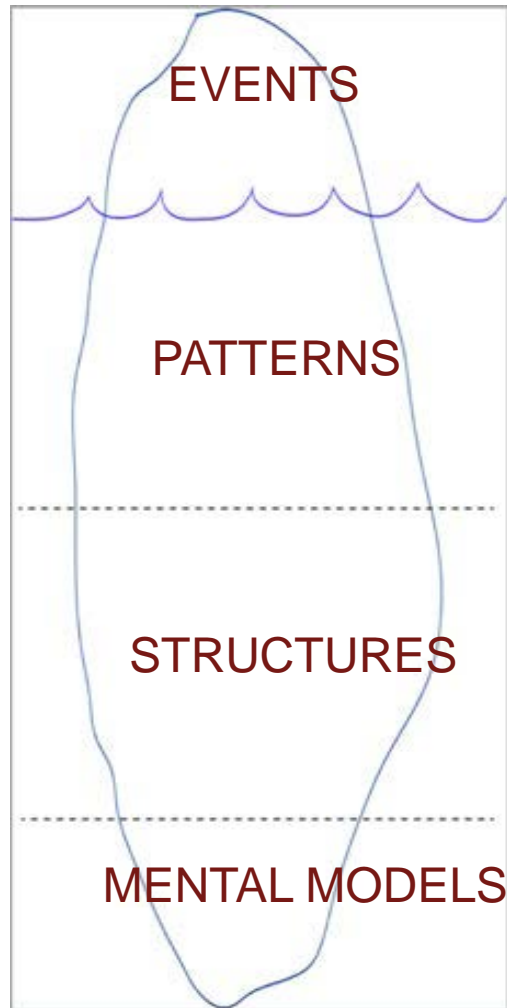
- Existing relationships are tricky
  - RMI facilitation helps
- Work, more than talk, builds rapport
  - Important to steer towards action
- Exciting examples of what is possible



# Lessons learned and key takeaways from convening a change lab.

- Need for convener's resources to maintain the lab and external initiatives
- Sensitivity & politics must be considered when bringing together stakeholders that have relationships outside the lab
- Existing relationships are nuanced and complicated
- "Speed of inclusion" means action is not always immediate
- Incorporating new members is challenging and requires additional attention
- This approach can make a difference
- Focusing on low-income issues is required, these issues are pressing

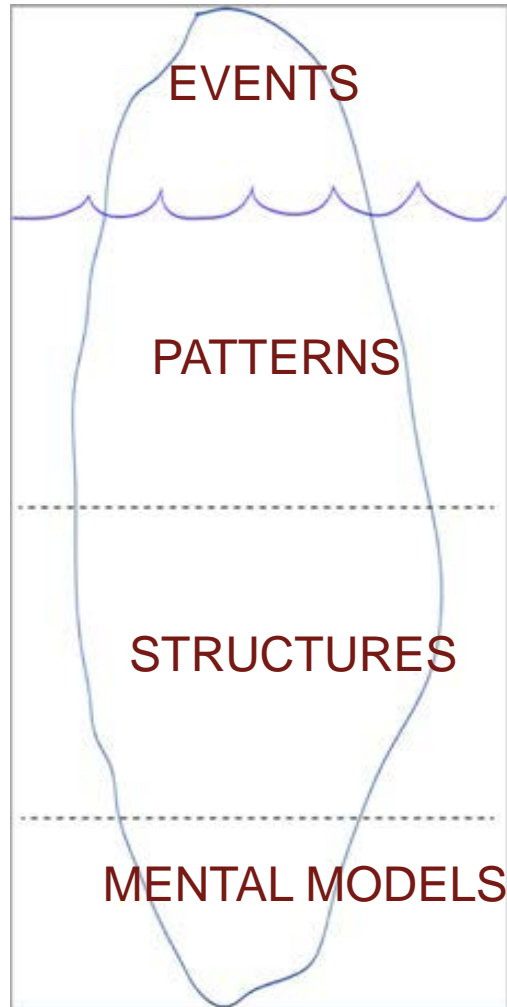
# A better understanding of what happens at a change lab through an example activity, the iceberg.



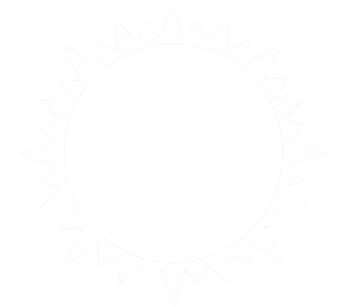
In this exercise, we identify:

- Discrete **events** or actions we can confirm are true. This is what is readily seen “above the water line.”
- Trends and **patterns** emerging around events that repeat over time.
- The **structures** supporting those patterns. These could be rules, norms, policies, power structures, resource distribution, etc.
- The ingrained thinking and **mental models** that creates those structures, and explains why people behave the way they do.

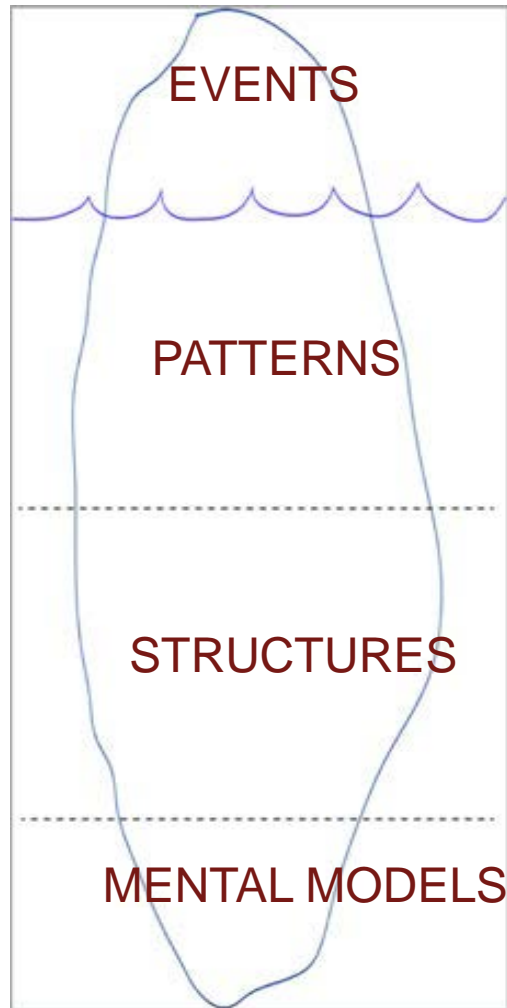
# An example of an iceberg.



- **Event**: NEUAC Conference happens in Denver, June 6, 2016.
- **Patterns**: The NEUAC Conference has happened annually for 28 years.
- **Structures**: The Planning Committee decides where the conference will be held.
- **Mental models**:
  - “Humans are social animals”
  - “Information spreads quickly in groups”



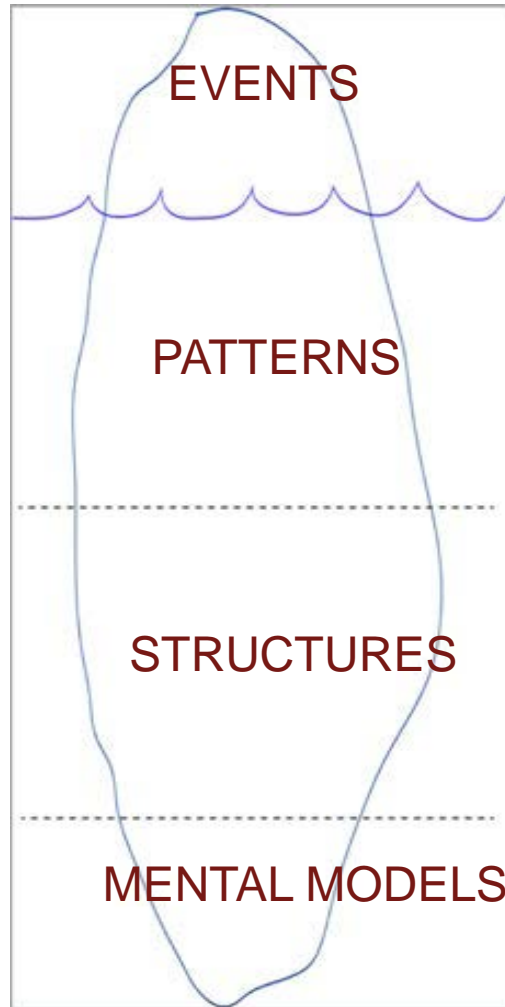
# Using the iceberg.



- **Event**: There is relatively low penetration of renewables in low-income customer segments, and a lack of programs and business models tailored to low income needs.
- **Patterns**: For-profit service providers have historically targeted and served higher income customers.

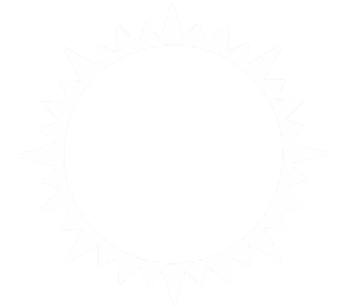
*Take 5 minutes to write down structures and mental models with your neighbor.*

# Report out.



*Take 5 min to share the structures and mental models you wrote down.*

- Structures
- Mental models

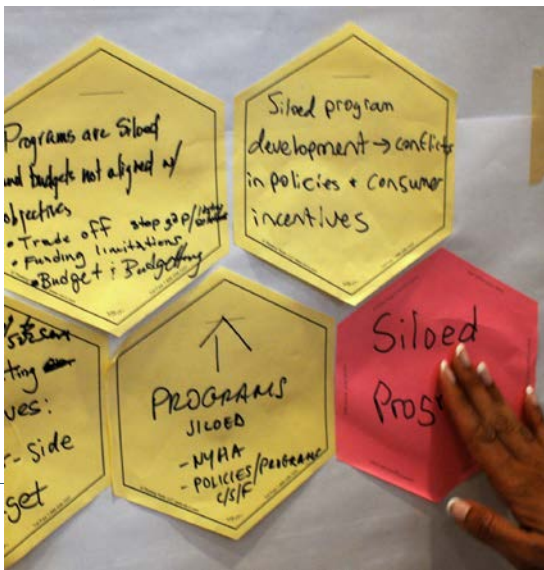




# Structures and mental models from Iceberg Activity during Meeting 1: June 2015 were used to inform

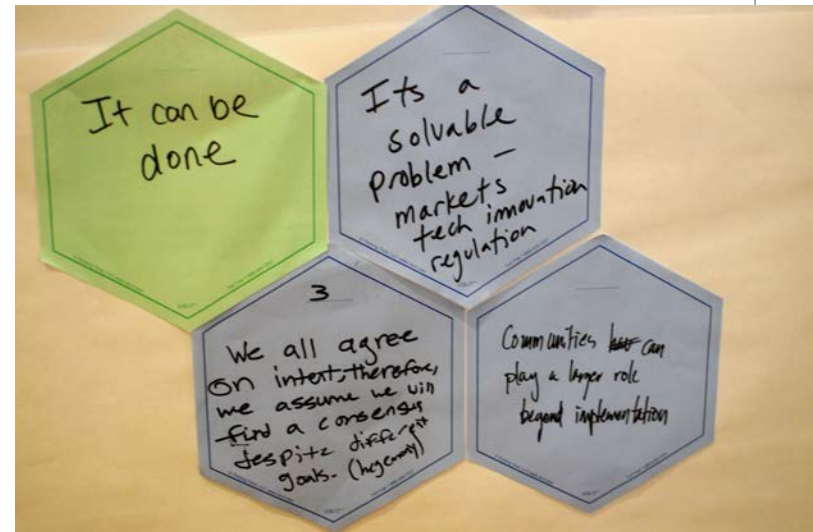
## Structures


- Strong feeling that there is a constructed system of oppression (evidenced by the accessibility to jobs, available levels of pay, etc.) that works against low-income households
- The market is struggling with its role and the priorities of businesses and business models in serving low-income communities
- Concern for change has led to an uncertainty of whether to distrust or embrace REV
- Programs develop in silos leading to conflicts in policies and consumer incentives
- Massive need for more effective LMI education and community engagement
- The scale and scope of issues is overwhelming and paralyzing; where to start?



## Mental Models

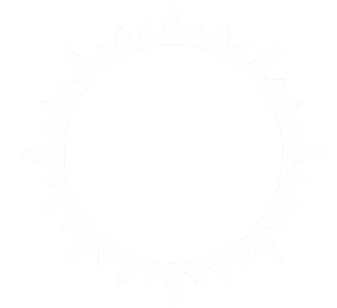
- Reliability trumps all other concerns
- Technology will solve all problems
- We all agree on intent, therefore we assume we will find a consensus despite different goals
- We agree on the urgency (of climate change) but leave dramatic change off the table
- The government should step in when/if the market fails
- Thinking the market will create solutions assumes low-income will benefit and capital markets don't favor high income





**RMI is a participant in its own change lab. As a result, we have learned from the space, and hope to add our own knowledge.**

*We will be publishing a report shortly on some of the business models we've found through the lab that are helping to provide access to renewables for low-income customers.*



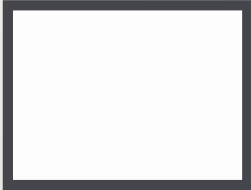
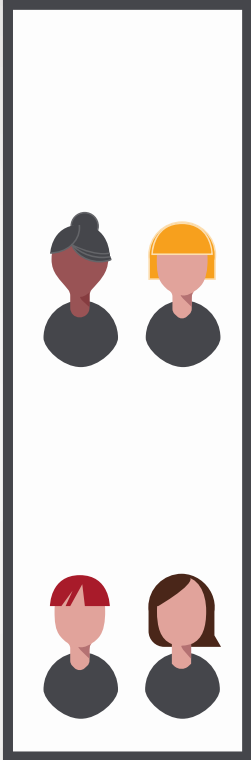


# Building Coop Model: Using existing building cooperative structures to enable shared ownership

Type: Multifamily Rooftop Solar  
Developed by: Brooklyn Power

|           |   |
|-----------|---|
| Headlines | <ul style="list-style-type: none"><li>• <b>Works primarily through building coops</b> to install onsite solar PV, storage, and efficiency measures</li><li>• Transforms the building coop into a “front-end” vehicle that holds primary financial liability (signatory on project debt), which <b>enables individuals of varied credit ratings and histories to participate</b></li><li>• <b>Passes tax incentives</b> and other benefits to tenants</li><li>• Aggregates low- to moderate-income customers <b>to enable entire buildings to benefit</b></li><li>• Helps tenants access <b>long-term energy independence and resilience</b></li></ul> |
|-----------|---|

|            |   |
|------------|---|
| Adapted to | <ul style="list-style-type: none"><li>• NYC</li><li>• Urban</li><li>• Multifamily</li></ul> |
|------------|---|



**ANCHOR TENANT**

**MONETARY FLOWS**

# Coop Owner Model: Using cooperative structures to enable shared ownership

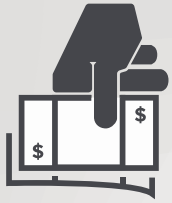
Type: MA Low-Income Community Solar

Developed by: Coop Power

Headlines

Adapted to

- Enables households to participate both **as energy subscribers** (benefit from bill savings), as well **as project co-owners** (benefit from project revenue)
  - Uses an **ownership flip arrangement** to pass ownership to members of a member-owned cooperative LLC
  - Targets communities and neighborhoods with **mixed income households**, and aggregates this diverse customer base to enable **sizable, cost-effective projects**
  - Gives low-income customers the opportunity to **prepay subscription costs at low interest rates**, in this case, through the Massachusetts Solar Loan Program.
- Massachusetts
  - Rural/Suburban
  - Mixed housing type

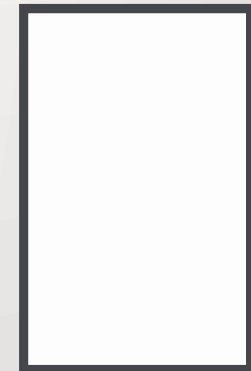
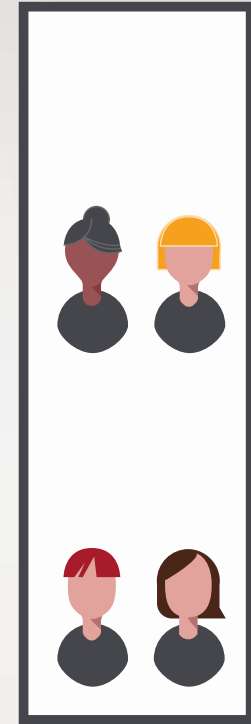


TAX EQUITY INVESTOR



MONETARY FLOWS

- Project Capital (Coral) →
- Ongoing Revenue and Costs (Blue) →
- Benefits of Ownership (Green) →
- Supplementary Funding Source (Grey) →



# Coop Worker Model: Leveraging community resources to reduce the cost of co-ownership

Type: NY Low-income Community Solar

Developed by: ROCSPOT and RMI

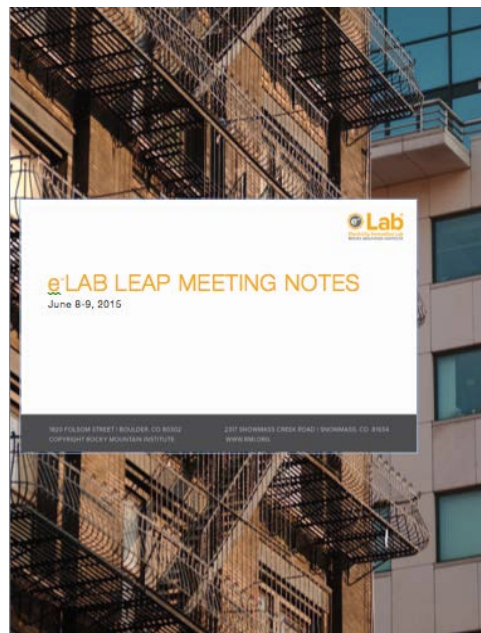
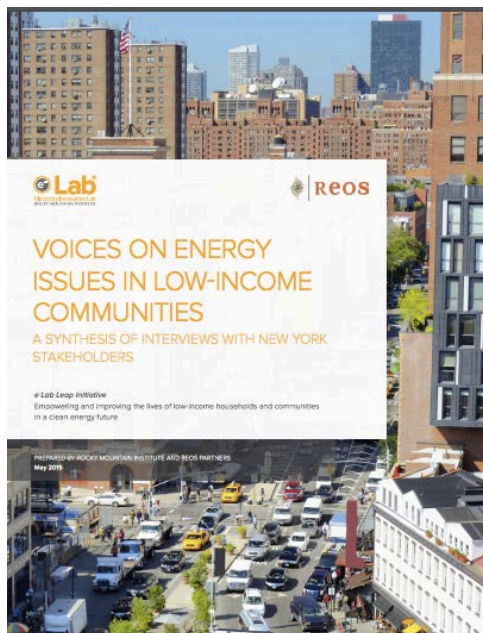
|           |  |
|-----------|--|
| Headlines | <ul style="list-style-type: none"><li>• Allows consumers, including low-income consumers, <b>to co-own and subscribe</b> to multiple projects</li><li>• Involves a <b>local worker cooperative</b> to perform O&amp;M, as well as subscription acquisition activities</li><li>• Uses an <b>ownership flip arrangement</b> to pass ownership to members of a member-owned cooperative LLC</li><li>• Lowers costs through <b>community support activities</b> (e.g. siting, permitting)</li><li>• Leverages an existing network of community-based organizations <b>to identify and aggregate customers quickly.</b></li><li>• Achieves low-income access to solar energy through a <b>diverse mix of subscriber types</b></li></ul> |
|-----------|--|

|            |  |
|------------|--|
| Adapted to | <ul style="list-style-type: none"><li>• Upstate NY</li><li>• Urban</li><li>• Mixed Housing</li><li>• Community development needs</li></ul> |
|------------|--|



# Thank you!

[www.rmi.org/elab\\_leap](http://www.rmi.org/elab_leap)



For more information, please contact:

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