

# **Welcome to the LIFE Webinar Series**

**We will begin the webinar momentarily**



**Low-Income  
Forum on Energy**

# **LIFE Webinar Series**

## **Extending the Benefits of Nonresidential Energy Efficiency to Low-Income Communities**

**Ariel Drehobl, American Council for an Energy Efficiency Economy**

**Dean Fisher, Maryland Energy Administration**

**Brooke Pike, Energy Outreach Colorado**

**June 17, 2020**

**1:30 p.m. – 2:30 p.m. ET**



**Low-Income  
Forum on Energy**

# Mission Statement

## **Working to help low-income New Yorkers address energy issues.**

LIFE, the Low-Income Forum on Energy, is a unique statewide dialogue that brings together organizations and individuals committed to addressing the challenges and opportunities facing low-income New Yorkers as they seek safe, affordable and reliable energy.

Supported by the New York State Public Service Commission and the New York State Energy Research and Development Authority (NYSERDA), the LIFE dialogue encourages an interactive exchange of information and collaboration among the programs and resources that assist low-income energy consumers.

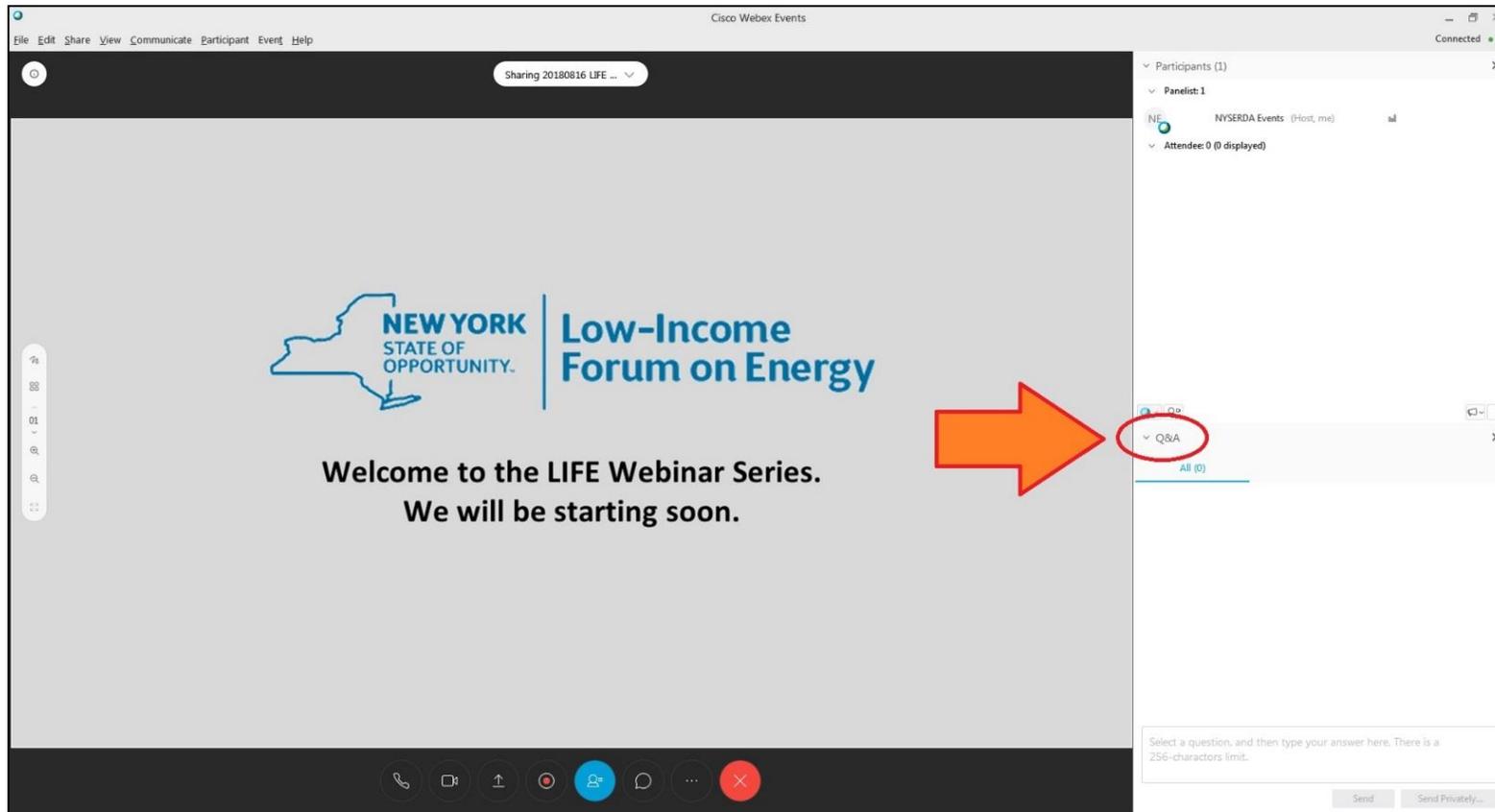
# Webinar Series, Newsletter, Social Media

- > Monthly webinars – Register at [nyscrda.ny.gov/LIFE-Webinar-Series](https://nyscrda.ny.gov/LIFE-Webinar-Series)
  - Thursday, July 16, 2020 – 1:30-2:30pm ET  
*Energy Justice – Research at the Intersection of Energy and Equity*
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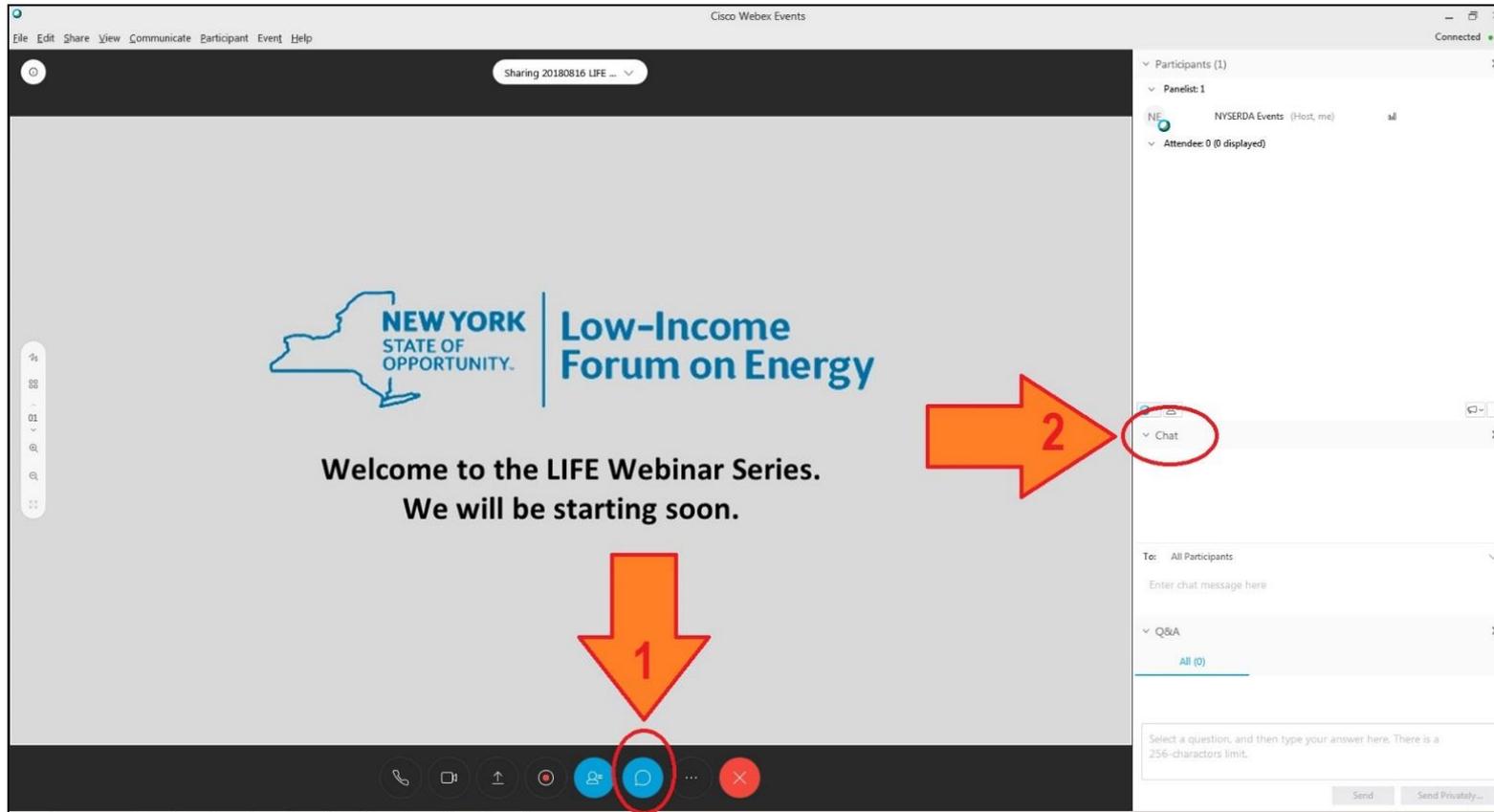
# Asking Questions During Today's Webinar



The screenshot shows a Cisco Webex Events window. The main content area displays a slide with the New York State of Opportunity logo and the text "Low-Income Forum on Energy" and "Welcome to the LIFE Webinar Series. We will be starting soon." A red arrow points from the slide to the Q&A panel on the right. The Q&A panel has a dropdown menu with "Q&A" selected, and a text input field below it with the placeholder text "Select a question, and then type your answer here. There is a 256-character limit." and "Send" and "Send Privately..." buttons.

- > Click on the small arrow to the left of Q&A to open the text field.
- > Type your question into the text field and click "send."

# Technical Difficulties or Contacting the Host



- > Click on the “Chat icon on the bottom menu to activate the chat function.
- > The chat function will appear in the middle right portion of your screen.

# Extending the Benefits of Nonresidential Energy Efficiency to Low-Income Communities

**Wednesday, June 17, 2020**

**LIFE Webinar Series**

**Ariel Drehobl**

**Senior Research Analyst**

**American Council for an Energy-Efficient Economy**

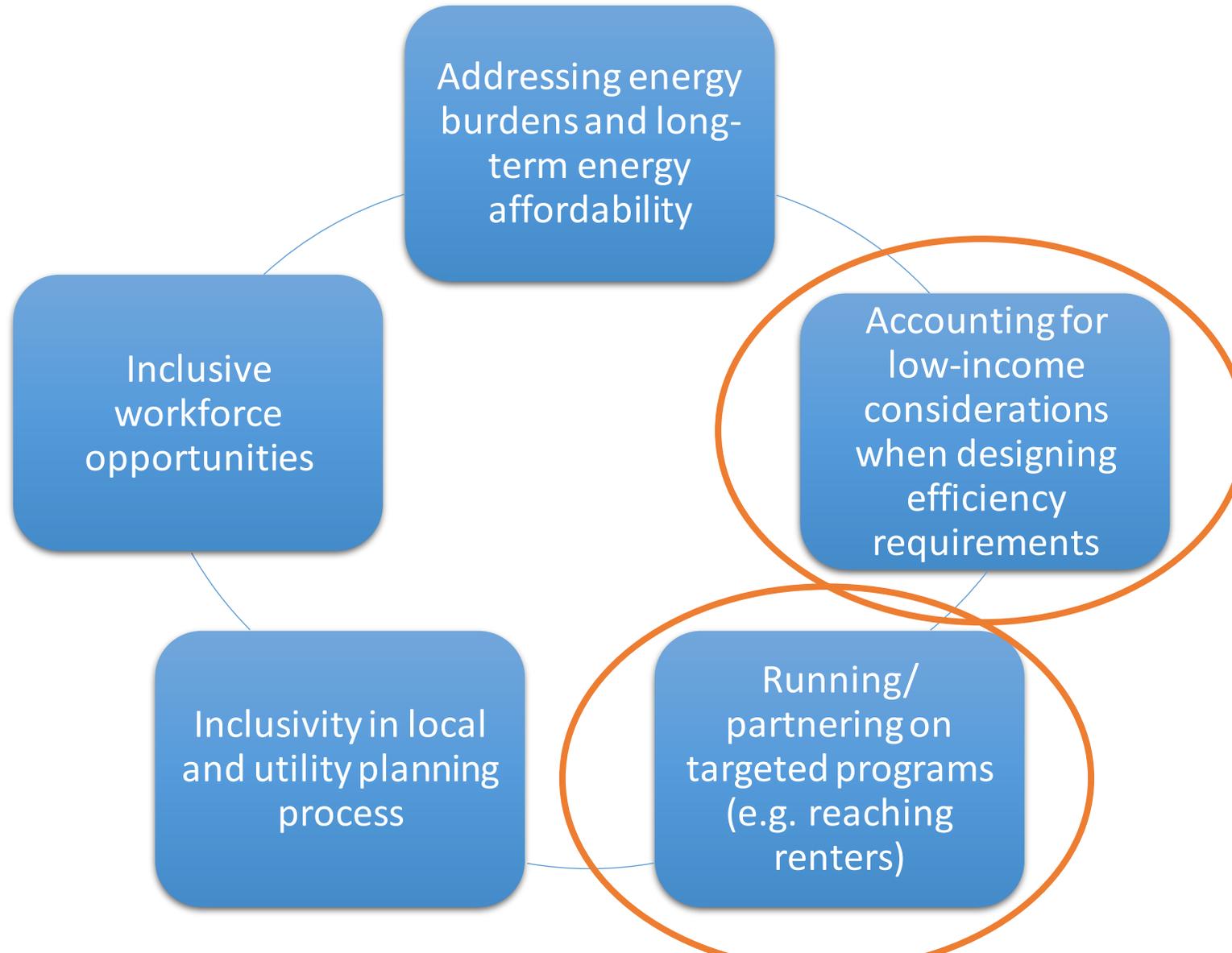


American Council for an Energy-Efficient Economy



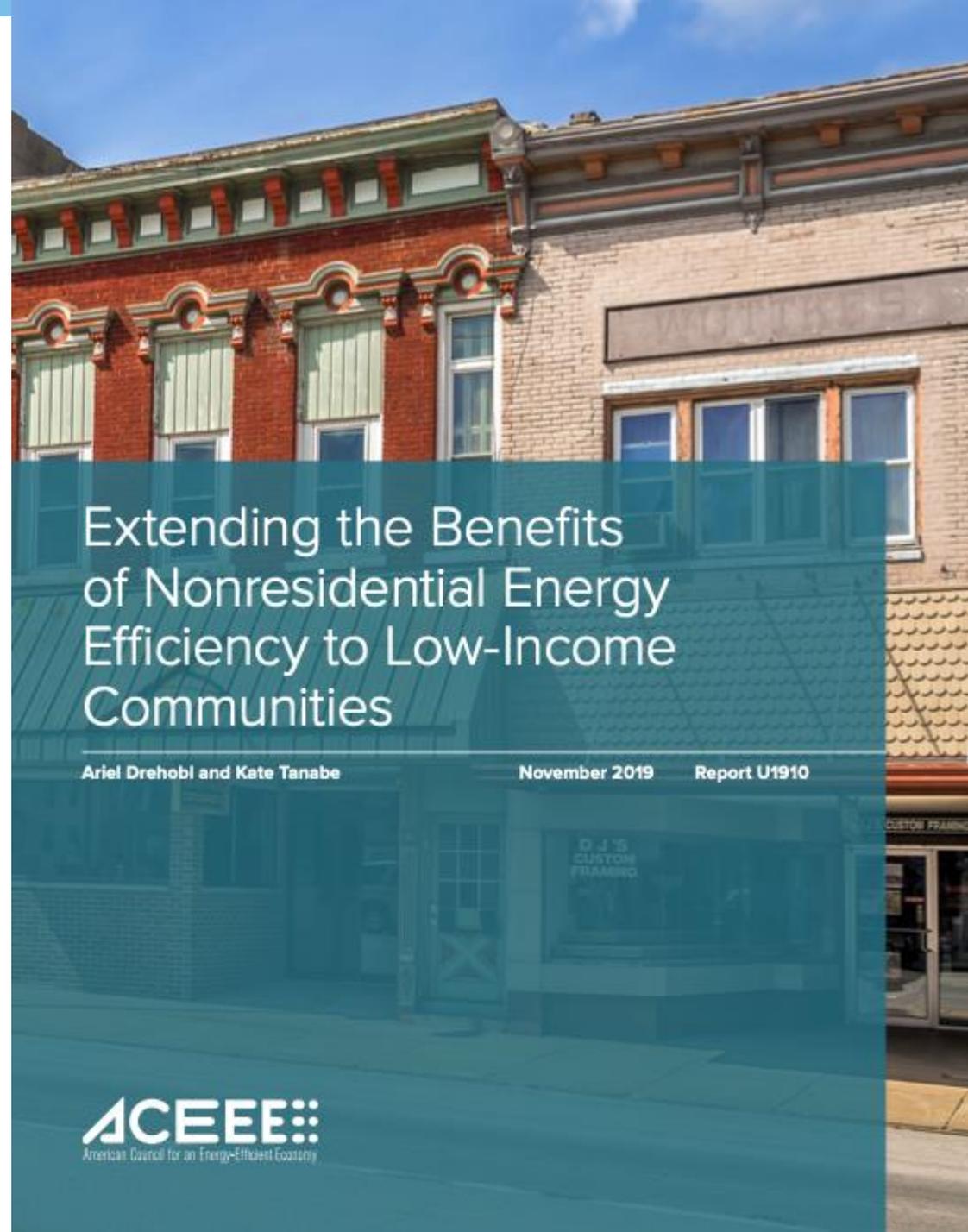
- Non-profit research organization
- Founded in 1980
- 58 staff and US \$10 million/year budget
- Act as a catalyst to advance energy efficiency policies, programs, technologies, investments, & behaviors
- Funding comes from foundations, government agencies, contracts, conferences and corporate memberships

# Considerations of Equity in Energy Efficiency



# Recent ACEEE Research

- First report to explore topic of energy efficiency for community-serving institutions
- Published November 2019
- [aceee.org/research-report/u1910](https://aceee.org/research-report/u1910)



## Extending the Benefits of Nonresidential Energy Efficiency to Low-Income Communities

Ariel Dreihobl and Kate Tanabe

November 2019

Report U1910

# Why community-serving institutions?

## Community-serving institutions include:

- Nonprofit organizations
- Charitable and philanthropic organizations
- Religious centers
- Transitional centers and shelters
- Clinics and hospitals
- Municipal buildings
- Community centers
- Educational institutions
- Small commercial businesses, especially locally-owned or operated

## Reaching community-serving institutions is important because

- Residential vs. nonresidential
- Legacy of underfunding and additional barriers
- Program design can help address structural barriers to accessing energy efficiency
- Improve energy affordability and reduce energy burdens



# Why community-serving institutions?

## Barriers

- Competing priorities
- Lack of expertise in building energy use for decision-making
- Lack of access to up-front capital and financing options
- Split incentives
- Mistrust and uncertainty of benefits

## Benefits

- Reducing capital and maintenance costs, time spent on upkeep, and monthly utility costs
- Increasing available capital for organizational missions
- Improving indoor air quality, health, and indoor comfort
- Greenhouse gas reduction and positive environmental justice impacts
- Improving community economic stability

# Program Survey

- Conducted online survey
- Responses from 39 program implementers
- Questions about
  - Types of organizations served
  - How they target/exclusively serve organizations in low-income communities
  - Program goals and partnerships
  - Funding
  - Evaluation data and cost-effectiveness



# Main Program Trends

- Eligibility requirements and targeting
  - Few exclusively targeted LMI communities
  - Most used a variety of low-income community indicators to identify target communities
  - 11 programs had building size or or energy use requirements
- Measures
  - Lighting and HVAC most common
- Funding and financing
  - A third of programs cover the full cost of measures
  - Many use multiple funding sources
- Workforce development
  - Goals included for four programs
- Cost Effectiveness
  - Most programs did not have CE exceptions or different rules (unlike residential programs)
- Evaluation data
  - Provided for less than half of programs in study

# Strategies for Better Reaching Community-Serving Institutions

- Stakeholder engagement
- Partnerships
- Program outreach/marketing
- Program targeting
- Comprehensive community-focused qualifications



# Role of Policy

- Need assessment of nonresidential programs
  - Establish baseline and identify savings potential for community-serving institutions
  - Analyze program design and delivery mechanisms
  - Set regulatory targets or carve-outs for nonresidential programs
  - Set goals and requirements for equitable program access
  - Expand cost-effectiveness criteria and quantify impacts
- Offer robust funding and financing incentives
- Address split incentives
- Set diversity targets for the clean energy workforce



# Key Takeaways



- Decision about targeting general programs or designing specific programs
- Stakeholder engagement is key
- Definition of target communities can take many forms
- Policymakers and program implementers can influence the success of these programs

# Thank you for your attention!

Please send additional questions to:

Ariel Drehobl  
[adrehobl@aceee.org](mailto:adrehobl@aceee.org)  
(202) 507-4038





**ENERGY  
OUTREACH  
COLORADO**

*Together We Power Stability*



# Brooke Pike

Energy Outreach Colorado

Nonprofit Energy Efficiency Program Manager

# ENERGY OUTREACH COLORADO

*Ensuring that all low income Coloradans can meet their home energy needs*

Statewide nonprofit established 1989

## Program Offerings

- Electric and gas bill payment assistance
- Emergency home furnace repair
- Single family, Multifamily and nonprofit energy efficiency programs
- Solar subscriptions for CSGs
- Energy and behavior change education
- Advocacy at State Legislature

# BACKGROUND OF NEEP

2006: high utility costs contributing to nonprofit displacement

- Nonprofit Energy Efficiency Program (NEEP) was created using private EOC fundraising

Purpose: reduce monthly energy costs to allocate more funding to low income programs, direct services and other nonprofit priorities

2008: awarded funding through Denver Office of Strategic Partnerships

- CO PUC mandated low income carve out of DSM programs

2009: EOC won RFP as implementer for Xcel Energy Low Income programs

2017: EOC is implementer for all IOU LI efficiency programs in CO

# PROGRAM ELIGIBILITY

## Qualifications for NEEP:

- Programs support the limited income community
- 501(c)3 status in good standing with the State of Colorado
- Own or have a long term lease for building (at least 3 years remaining)
- Organization pays utility bills

# PROGRAM DESIGN

## Unique Customer Segment

Nonprofit organizations often experience:

- Staff constraints- so many hats
- Limited cash reserves
- Operating budget prioritized for service delivery
- Existing health and safety concerns and years of deferred maintenance
- Limited institutional knowledge of energy efficiency or rebate programs
- Serving people in crisis and at most vulnerable times

# PROGRAM DESIGN

## Not just providing a rebate or a grant check

Guide project from assessment through inspection

Free assessment

- Creation of proposed measure list

Free project management

- Contractor network
- Prepare rebate submissions
- Contract with subs and manage installations
- Handle all payments to contractors
- Equipment verification

Leveraged funding streams: Utilities, local cities, EOC fundraising efforts

# COMMON NEEP REPLACEMENTS

- Lighting
- Condensing furnace
- Condensing boiler replacement and tune ups
- Faucet and showerhead aerators
- Sealing leaky doors and windows
- Hot water pipe insulation
- Roof insulation
- Building Automation Systems

# PROGRAM DESIGN

## Utility Considerations

Higher incentives with up to 100% of measure cost funded

- Program cost is higher
- Net Energy Benefits and mTRC

Address equity concerns of DSM programs

Implementer contracts with all LI programs- SF, MF, NEEP

Improve energy affordability

Less arrears accumulation

Meet DSM goals and reduce need for new generation

Community goodwill

**Reach most vulnerable customers**

# PROGRAM BENEFITS

## Going Beyond Energy Efficiency

- 15% lower monthly utility bills – more capital to invest in mission (more meals served, more beds available, part time caseworker hired full time)
- Nonprofit more likely to remain in community
- Improved equipment reliability- less employee time spent on maintenance, less money on emergency repairs
- Better air quality and improved overall comfort

40-65 organizations participate annually, \$2.3mil budget, 2GWh, 5,500 dth

# COVID 19 RESPONSE

## Going Beyond Energy Efficiency

### Nonprofits during COVID

- Expanded services expected to maintain into Fall and some into 2020
- Lost Income Sources
  - Spring most common time for major fundraisers
  - Church historically donations during service
  - Rental revenue lost
- Increased Costs
  - Purchase of additional equipment, repairs of existing
  - Higher utility bills and program operation costs

# NEEP BILL PAYMENT ASSISTANCE

## PROGRAM Going Beyond Energy Efficiency

Grant of up to \$5,000 to offset 6 months of building gas and electric bills

### Criteria

- Be a previous or current NEEP participant
- Program providing shelter, healthcare or services to older adults
- Be able to demonstrate service delivery was affected by the COVID-19 virus

### Funding

- Internal EOC budget, NEEP BPA campaign, proposals with outside funders being evaluated

# PROGRAM SUCCESS

## Contributions to NEEP's success

- Mission driven
- Strong Partnerships
  - Utilities, cities, engineering firms, contractor network
- Incorporate Behavior Education- trainings, bill review, signage
- Multiple funding streams for statewide impact
- Leverage other efficiency programs or local entities
- Flexible
- An advocate



**ENERGY  
OUTREACH  
COLORADO**  
*Together We Power Stability*

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**Senior Program Manager**

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**303-226-5060**

**[EnergyOutreach.org/NEEP](https://EnergyOutreach.org/NEEP)**

# Maryland Energy Administration

## **Strategies and Opportunities to Serve Nonresidential Buildings in Low-income Communities**

Dean Fisher  
Senior Energy Program Manager

# MEA LMI Grant Program

The Clean Energy Communities Competitive Low-to-Moderate Income (LMI) Grant Program provides an opportunity for non-profits and local governments to receive funding to implement energy efficiency measures that benefit low-to-moderate income Marylanders.

The LMI Program is designed to support cost-effective energy efficiency and conservation programs, projects, or activities for low-to-moderate income Marylanders.

# Program Awardees

## Project Eligibility

Energy efficiency measures implemented by non-profits and local governments that benefit low-to-moderate income Maryland households are eligible under this competitive program.

## Examples of Past Awardees

- Habitat for Humanity Chapters
- Community Action Councils
- Housing Authorities
- City and County Energy/Sustainability Offices

***Including both low and moderate income residents greatly increases the number of Marylanders eligible for the program.***

- Low Income - at or below 175% of the federal poverty level
- Moderate Income - above Low Income, but at or below 85% of median income by county



# Project Types

Whole Home/Building  
Residential Retrofits

Whole Building  
Commercial Retrofits

Limited Upgrades to  
Existing  
Residential/Commercial  
Buildings

New Construction with  
Incremental Efficiency  
Upgrades

# Building Types

Residential and commercial buildings which serve the target population (LMI). Including but not limited to:

- Homes (Including Rentals & Manufactured Homes)
- Multifamily Buildings (Including Master-Metered Buildings & Multi-Story Units)
- Commercial Buildings serving LMI population (Schools, Community Centers, Retirement Centers, Mental Health Facilities, Homeless Shelters)



***Allowing both residential and commercial buildings, including master-metered buildings, more projects are eligible under the program.***

# Energy Efficiency Measures

All forms of energy saving measures across multiple energy sources are eligible provided they are cost effective.

- Residential - 10 years payback
- Commercial - 15 years payback
- Measure savings are considered and measured ***in aggregate***
- Allows for health and safety costs (i.e. Mechanical Ventilation) that enable implementation of energy efficiency measures



***By weighing savings in aggregate and allowing for any form of energy savings, many measures that would not be eligible for other programs are able to be implemented.***

# Leveraged Funds

- Grants may be made in conjunction with, or in addition to, financial assistance provided through other state, federal, or utility programs.
- Grant applicants are encouraged to pursue support through other energy efficiency programs available.



***Allowing applicants to leverage other funding via state, federal, private, and utility programs it enables them to expand the size of their respective projects.***

# Program Performance

**Since 2014, the LMI program has....**

Awarded 269 grants to non-profits and local government serving LMI Marylanders

Helped fund energy efficient improvements to over 13,000 homes/buildings

Helped create an estimated 400,000 job hours

Resulted in estimated total cost savings of nearly \$4,000,000

Funded energy efficiency measures with an average estimated payback of 9.44 years

# More Information and Past Program Results

**The MEA LMI Program Showcases Past Program Performance Information on the LMI Program Webpage:**

**<https://energy.maryland.gov/govt/Pages/CleanEnergyLMI.aspx>**

**Previous Cycles of the LMI Program- Read about past cycles of the LMI Program.**

[LMI 2019](#)

[LMI 2018](#)

[LMI 2017](#)

[LMI 2016](#)

[LMI 2015](#)

[LMI 2014](#)

# Case Studies

## 2014 Healthy Neighborhoods Inc.

Project Type: Non-Residential Whole Building Retrofits

### Project Summary Award Amount: \$998,789

- Working in partnership with the Baltimore City Energy Office and 11 other city nonprofits, HNI helped make 27 facilities more energy efficient.
- By lowering operating costs at these sites the savings are able to be directed to serving some of the city's most vulnerable residents such as the homeless, those with mental, physical or developmental disabilities, and persons with substance abuse disorders, among others.



# 2014 Healthy Neighborhoods, Inc.

## Healthy Neighborhoods Project Summary

Total Project Cost

- \$1,197,257

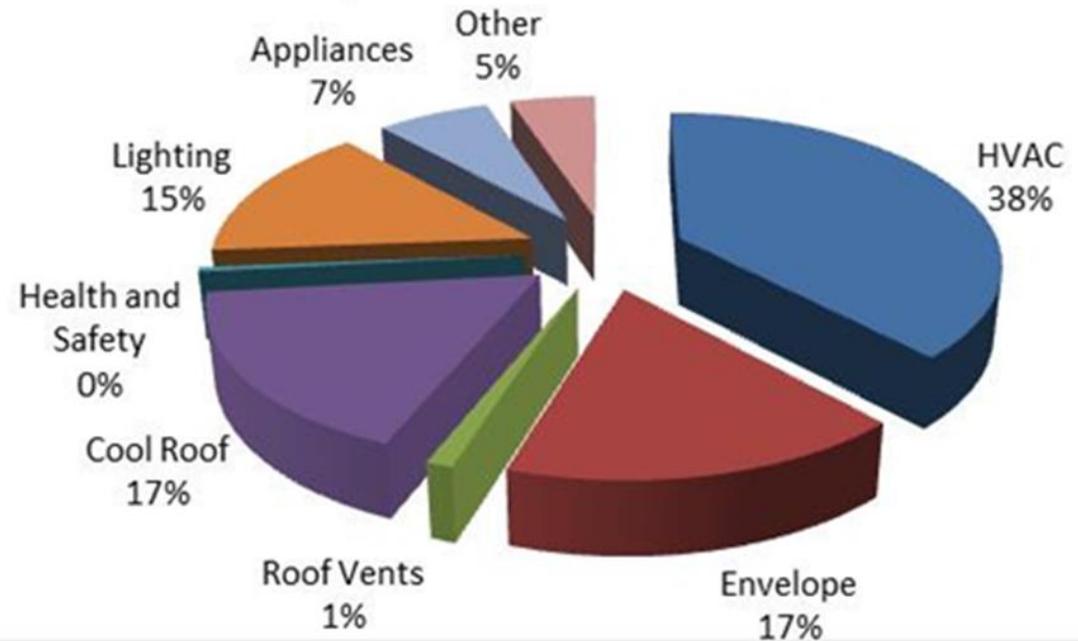
Annual Energy Cost Savings

- \$129,780

Simple Payback

- 9.2 years gross project cost
- 8 years net project cost with rebates

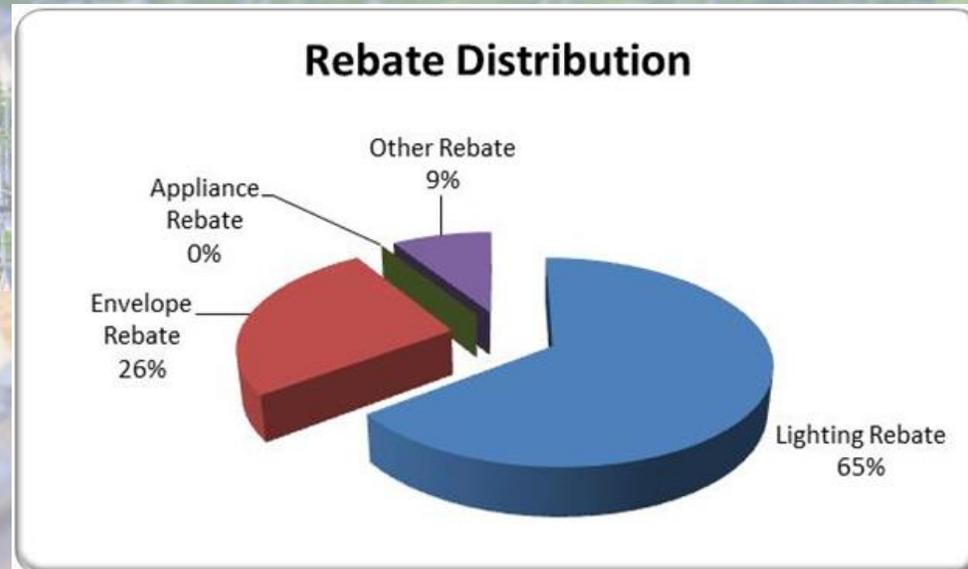
## Project Cost Distribution



# 2014 Healthy Neighborhoods, Inc.

## BGE and BEI Leveraged Funds

Lighting Rebate	\$101,808
Envelope Rebate	\$41,534
Appliance Rebate	\$0
Other Rebate	\$14,130
<b>Total</b>	<b>\$157,472</b>



## Project Costs

HVAC	\$456,417
Envelope	\$201,800
Roof Vents	\$13,430
Cool Roof	\$205,517
Health and Safety	\$5,557
Lighting	\$173,479
Appliances	\$80,497
Other	\$60,560
<b>Total</b>	<b>\$1,197,257</b>
Audits	\$64,100
<b>% of Projects Cost</b>	<b>5.4%</b>

# Center for Urban Families Community Center

## Project Type

Whole Building Commercial Retrofit

## Project Summary

- HVAC Control Modifications and Occupancy Sensors
- Lighting Upgrades
- Air Sealing and Insulation



# Center for Urban Families

CFUF Community Center Energy Savings Table

Energy Measure	Investment	MEA Grant	Electricity Savings (kWh/yr.)	Gas Savings (therms/yr.)	Annual Cost Savings	Payback (Years)
<b>Air Sealing and Insulation</b>	\$41,227	\$41,227	12,000	600	\$2,076	19.9
<b>Lighting Retrofit</b>	\$67,166	\$23,903	148,755		\$18,445	3.6
<b>HVAC Tune-up</b>	\$71,400	\$46,050	132,771	-2,885	\$13,636	5.2
<b>Total</b>	<b>\$179,793</b>	<b>\$111,180</b>	<b>293,526</b>	<b>-2,285</b>	<b>\$34,158</b>	<b>5.3</b>

# Talbot Interfaith Homeless Shelter

## **Project Type**

Whole Building Commercial Retrofit

## **Project Summary**

- **Air Sealing and Insulation**
- **Duct Sealing and Duct Insulation**
- **Lighting Upgrades**



# Talbot Interfaith Homeless Shelter

Energy Measure	Investment	MEA Grant	Electricity Savings (kWh/yr)	Natural Gas Savings (Therms/yr)	Annual Cost Savings	Payback (Years)
<b>Air Sealing and Insulation</b>	\$14,847	\$12,847	626	534	\$607	24.4
<b>Lighting Retrofit</b>	\$1,439		2,737	-61	\$323	4.5
<b>HVAC Tune-up</b>	\$523	\$523	13,129	292	\$2,119	0.3
<b>Health &amp; Safety Debris removal</b>	\$1,500	\$1,500				
<b>Total, excluding H&amp;S</b>	\$16,810	\$13,370	16,492	765	\$3,050	5.5
<b>Total, with H&amp;S</b>	\$18,310	\$14,870	16,492	765	\$3,050	6.0

Talbot Interfaith Shelter Energy Savings Table

# B'nai B'rith Homecrest House

## Project Type

Commercial – Individual Measure

## Project Summary

- **HVAC – Chiller Upgrade**
  - **Screw Chiller with Cooling Tower**
  - **Originally proposed as a Magnetic bearing chiller**
  - **Weatherized property**



# B'nai B'rith Homecrest House

- **Grant Amount: \$190,000**
- **Energy Efficiency Upgrades: Replace (1) existing 225 Ton, water cooled chiller with a new energy efficient, variable speed, screw chiller.**
  - **Grantee contributed a high efficiency variable speed cooling tower along with controls retrofit to operate the equipment efficiently.**
- **Total Cost of the Project: \$291,480**
- **Energy Savings Results: 219,639 kWh/year, 39 kW/month, \$24,072/year**
  - **20% reduction in Baseline Energy Consumption**

Annual Consumption Savings	219,639 kWh	20%
Annual Cost Savings	\$24,072 per year	20%
Peak kW Savings	39 kW	
* Savings over the Existing Conditions & Proposed High Efficiency Chiller		
Chiller Replacement Cost	\$291,480	
Simple Payback	12.1 years	

# Maryland Energy Administration

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# Questions?

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