Energy Efficiency for Low Income Households

Workshop 1: A snapshot of the landscape
April 14, 2021
Trajectory for the Series

**Goal:**

*Developing actions that increase access to the benefits of energy efficiency for low-income households*

- **Workshop 1:** April 14, 10:30 – 12
  - Getting on the same page
- **Workshop 2:** April 28, 10 – 12
  - Constructive Conversations - dialogue around primary barriers, creative solutions, and new partnerships
- **Workshop 3:** ???
A word about today....

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:30-10:40</td>
<td>Introduction</td>
<td>Christian Casillas, CSCNM</td>
</tr>
<tr>
<td>10:40-10:50</td>
<td>Overview of the EE landscape</td>
<td>Tammy Fiebelkorn, SWEEP</td>
</tr>
<tr>
<td>10:50-11:00</td>
<td>State Weatherization Assistance Program (WAP)</td>
<td>Troy Cucchiara, MFA</td>
</tr>
<tr>
<td>11:00 - 11:10</td>
<td>Utility Energy Efficiency</td>
<td>Dawn DeGroft, PNM</td>
</tr>
<tr>
<td>11:10 - 11:20</td>
<td>Utility Weatherization</td>
<td>Steve Casey, NM Gas</td>
</tr>
<tr>
<td>11:20 - 11:30</td>
<td>Residential EE Work</td>
<td>Doug Campion, Energy Works</td>
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<tr>
<td>11:30 - 11:40</td>
<td>Apartment EE Work</td>
<td>Ravi Malhotra, ICAST</td>
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<tr>
<td>11:40-11:50</td>
<td>Community Partnerships</td>
<td>Ona Porter, Prosperity Works</td>
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<td></td>
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<td>Zully Rodriguez, Partnership for Community Action</td>
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<tr>
<td>11:50-12:00</td>
<td>Wrap-Up</td>
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</tbody>
</table>

- Please note your questions and comments but don’t add them to the chat box until the last speaker has finished.
- Questions & Comments will help inform the direction of the next workshop.
The challenge...

~150,000 households in New Mexico live with an average energy burden of 15%

Source: [https://www.energy.gov/eere/slc/maps/lead-tool](https://www.energy.gov/eere/slc/maps/lead-tool), 2018 ACS data/US Census
Energy efficiency matters...

Potential Electricity Savings in Low-Income Households

Low-Income Energy Needs in New Mexico

Tammy Fiebelkorn

Coalition of Sustainable Communities NM
April 14, 2021
Poverty in New Mexico

NM Population – 2.1M

Percent living in poverty – 19.8%
- 400,000 people

Energy Burden of those living in poverty – Average of 14%
High Energy Burdens throughout NM
Urban Energy Burdens
In some rural communities or towns, the average low- or middle-income household spends between 20 and 37% of their income on energy:

- McKinley – 37%
- San Miguel – 32%
- Mora – 26%
- Rio Arriba – 26%
- Socorro – 24%
Solutions?

- Reduce energy costs
- Reduce energy use
## Utility Programs

<table>
<thead>
<tr>
<th>Program Year 2019</th>
<th>Total Budget</th>
<th>LI Budget</th>
<th>% LI</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNM</td>
<td>$24,062,439</td>
<td>$1,130,554</td>
<td>5%</td>
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<tr>
<td>EPE</td>
<td>$5,116,681</td>
<td>$829,992</td>
<td>16%</td>
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<td>SPS</td>
<td>$9,876,113</td>
<td>$2,002,428</td>
<td>20%</td>
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<tr>
<td>NMGC</td>
<td>$6,390,426</td>
<td>$1,861,560</td>
<td>29%</td>
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<tr>
<td></td>
<td><strong>$45,445,659</strong></td>
<td><strong>$5,824,534</strong></td>
<td><strong>13%</strong></td>
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</tbody>
</table>
Energy$mart

• New Mexico’s weatherization assistance program
  • DOE: $2.3M
  • LIHEAP: $2.3M
    • NM uses approx. 12%
    • Could use up to 25%
• Utility EE Programs: $1.6M
• State appropriations: None this year
Is it enough?

400,000 in poverty
  • Assume that represents 100,000 homes/families

100,000 * 5,500 = $550,000,000

Actual amount allocated: $10.5M

$550M/10.5M = 50+ years!
What about other states?

26 states spend at least double what New Mexico spends on energy efficiency improvements for low-income residents; some states invest more than 10 times what New Mexico invests.
Possibilities

• Increase LIHEAP funds used
• Increase state funding – make it recurring
  • CEED legislation
  • Low-Income rates legislation
• Increase utility programs
  • Decoupling
  • Intervene at PRC in EE cases
  • Push for shareholder fund use (to go above EUEA)
• Push for coops and munis to offer EE programs
• Cities and Counties
Community Energy Efficiency Project

Working with the Partnership for Community Action and PMM, we have provided energy efficiency improvements in nearly 300 homes in the past 18 months. These measures:

- improve the health, safety, and comfort of homes, and
- reduce costs and emissions.

NOW, we have the opportunity to do even more! With a generous grant from the City of Albuquerque we will assist at least 10 low-income homeowners living in the International District with electric and gas efficiency improvements and also do essential home repairs as identified in a home inspection.

HOW IT WORKS

- A community partner will:
  ✓ identify homeowners who want to participate,
  ✓ explain the opportunity, and
  ✓ schedule an appointment for a home inspection.

- Our energy auditor/installer, and the community partner will:
  ✓ inspect the home,
  ✓ discuss their recommendations for improvements,
  ✓ answer questions, and
  ✓ schedule the time for the work to begin, and
  ✓ administer a survey.

WHAT WE NEED TO BE HIGHLY EFFECTIVE AND EFFICIENT

- A community partner that is known and trusted in the community.
- Two community members who are interested in advising us on the approach and process
  ✓ Each will be oriented and compensated with a small stipend for their participation.

This is a community centered project that is informed and facilitated by the experience and knowledge of residents so success will be dependent on the identification of strong community partner(s).

NO COST – NO HASSLE

To maximize the services and programs available to the homeowner, we will need to collect some household information. The trained community person will assist them with any required applications. **THERE IS NEVER A COST TO THE HOMEOWNER FOR THESE SERVICES.**

ADDITIONAL INFORMATION

Contact:  Ona Porter - Ona@prosperityworks.net
Tammy Fiebelkorn - tammy@e-solved.com
Community Energy Efficiency Development Block Grants – (CEED)

Modelled after CEE Project

Legislation Needed
- Set up CEED fund at EMNIRD
- Fund CEED

Plan to move this bill again in 2022
Tammy Fiebelkorn
NM Representative, SWEEP
tfiebelkorn@swenergy.org
New Mexico Energy$mart 2021

Energy Efficiency for Low Income New Mexico Residents

Troy Cucchiara
Dimitri Florez
Type of Installations/Retrofits

- Baseload Measures
  - Lighting
  - Water heater efficiency and delivery
  - Refrigerators
- Heating and Cooling
  - Replacement, repair
  - Duct systems
- Building Shell
  - Air sealing
  - Insulation
- Health and Safety
  - Diagnostic testing
  - Safety devices (CO Alarms)
  - Appliance replacement
  - Mechanical ventilation
Number of Households Served Per Year

650-700
Percentage of Houses that are Low-Income Qualifying

22%

174,000
Average Dollars per Household Allocated

$7,400
Percent of Waitlist Served Annually

Fully Weatherized: 3000/300 or about 10%

Emergency/Partial: 3000/675 or about 23%
Biggest Challenges

Getting to the People Who Need It First and Quick
Household Needs that are Identified but Cannot be Addressed

Rehabilitation
Increasing Effectiveness

- Work With More Utilities,
- Know what entities provide other services
MFA and Local Government Collaboration

State, Housing Authorities
As the state’s largest electricity provider, PNM serves more than 525,000 New Mexico residential and business customers in greater Albuquerque, Rio Rancho, Los Lunas and Belen, Santa Fe, Las Vegas, Alamogordo, Ruidoso, Silver City, Deming, Bayard, Lordsburg and Clayton.

We also serve the New Mexico tribal communities of the Tesuque, Cochiti, Santo Domingo, San Felipe, Santa Ana, Sandia, Isleta and Laguna Pueblos.

Brining reliable energy to these communities is the foundation of everything we do.
Low Income Energy Efficiency Programs

LIHEC-(Inc. Tribal Component)
Multifamily-
Easy Savings Kit-
Energy $mart (MFA)-
Student Kits- (40% are provided to LI Households)

New Offerings in 2021
LIHEC Weatherization
LIHEC Maintenance
New Home Construction (LI)
Currently offered virtually due to Covid-19. In home assessments will resume as soon as health orders are lifted.

The virtual offering includes: A video phone audit with an energy specialist and customized direct installation (DI) measures are directly mailed to participants for self installation.

Two weeks after the initial video phone audit, participants receive a follow-up installation call with an Energy Specialist to answer any questions, review personalized energy saving tips and ensure that the (DI) measures were properly installed. Rebate applications for appliances and/or cooling equipment are also reviewed which were included as part of the installation kit.

If the customer qualifies for a free refrigerator replacement, the refrigerator is ordered and is delivered by an outside third party. If the customer qualifies for a Wi-Fi thermostat, they are waitlisted until pandemic restrictions are lifted. At that time, the customer will be scheduled with an Energy Specialist for installation.
New LI Program offerings for 2021

**LIHEC Weatherization**
- Infiltration reduction, duct sealing, ceiling insulation, tank and pipe insulation
- Evaporative cooler upgrade

**LIHEC Maintenance:**
- Evaporative Cooler Start-Up: New water lines, new water connections, new water pump, new belt, new pads and extensive cleaning and lubrication.
- Winter Evaporative Cooler Shut Down: Drain water from pads, basin and water lines, remove calcification, disconnect belt from motor, disconnect water pump and motor from electrical outlet install damper and wrap cooler.
- Energy Efficiency Services: install weather stripping on exterior doors, caulk all windows, air seal leaks throughout the house.

**New Home Construction LI:**
- Habitat for Humanity, Homewise will help identify low income families that will be moving into new homes that builders will be receiving incentives on to make even more energy efficient.
Types of installations or retrofits for Multifamily

- The implementer is working on criteria to expand the LI eligibility criteria for LI eligible properties
- Expanding measures for Multifamily
- Increase health and safety through energy efficiency
- Lower energy costs and improve LI neighborhoods
Types of installations for Easy Savings or Homeworks

Easy Savings kits include LEDs, low-flow showerheads, advanced power strips and other items were distributed to low-income PNM customers. The primary channel for recruiting customers is direct mail.

5th grade and high school student safely received a sealed energy efficiency kit to install at home which includes easy-to-install technologies such as a low-flow showerhead, faucet aerators, efficient light bulbs, and an LED night light.

The kit also includes a written guide to assist students and parents with installation of the efficient technologies while also learning about additional ways to reduce energy waste.

The high school kit contains a tier-two advanced power strip.

Participating teachers have the opportunity to receive a mini-grant to use in their classrooms to help maximize the number of surveys returned from students and to confirm students installed the kits at home.
Types of installations for Energy$mart Program

PNM partners with Mortgage Finance Authority (MFA) to install LEDs, replace inefficient refrigerators and weatherization efficiency measures.
### LI Stats for 2018-2020

*approximate figures refer to annual reports for actuals

#### 2018 Low Income Program

<table>
<thead>
<tr>
<th>Program</th>
<th>Low Income Percentage of Program Participation</th>
<th>LI Participants or Units</th>
<th>LI Annual Savings (kWh)</th>
<th>Low Income Program Costs</th>
<th>Ave Cost Per LI Participant or Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Income Home Checkup</td>
<td>100%</td>
<td>703</td>
<td>871,079</td>
<td>$563,230</td>
<td>$831</td>
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<tr>
<td>Multifamily</td>
<td>42%</td>
<td>2,502</td>
<td>1,025,978</td>
<td>$401,305</td>
<td>$160</td>
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<tr>
<td>Easy Savings</td>
<td>100%</td>
<td>6,211</td>
<td>3,233,535</td>
<td>$366,356</td>
<td>$52</td>
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<tr>
<td>Energy Smart (MFA)</td>
<td>100%</td>
<td>223</td>
<td>321,265</td>
<td>$224,722</td>
<td>$1,008</td>
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<tr>
<td>PNM Home Works</td>
<td>40%</td>
<td>3,638</td>
<td>704,720</td>
<td>$148,138</td>
<td>$10</td>
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<td>13,277</td>
<td>5,246,568</td>
<td><strong>$1,723,751</strong></td>
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#### 2019 Low Income Program

<table>
<thead>
<tr>
<th>Program</th>
<th>LI Percentage of Program Participation</th>
<th>LI Participants or Units</th>
<th>LI Annual Savings (kWh)</th>
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<th>Ave Cost Per LI Participant or Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Income Home Checkup</td>
<td>100%</td>
<td>757</td>
<td>568,674</td>
<td>$625,098</td>
<td>$826</td>
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<tr>
<td>Multifamily</td>
<td>90%</td>
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<td>1,942,843</td>
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<td>Easy Savings</td>
<td>100%</td>
<td>6,542</td>
<td>2,490,642</td>
<td>$356,426</td>
<td>$54</td>
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<tr>
<td>Energy Smart (MFA)</td>
<td>100%</td>
<td>218</td>
<td>359,860</td>
<td>$220,480</td>
<td>$1,011</td>
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<td>PNM Home Works</td>
<td>40%</td>
<td>3,816</td>
<td>756,214</td>
<td>$165,779</td>
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<td>16,234</td>
<td>6,173,224</td>
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#### 2020 Low Income Program

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<tr>
<th>Program</th>
<th>LI Percentage of Program Participation</th>
<th>LI Participants or Units</th>
<th>LI Annual Savings (kWh)</th>
<th>Low Income Program Costs</th>
<th>Ave Cost Per LI Participant or Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Income Home Checkup</td>
<td>100%</td>
<td>600</td>
<td>392,342</td>
<td>$563,202</td>
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<td>Multifamily</td>
<td>42%</td>
<td>16</td>
<td>1,349,930</td>
<td>$94,278</td>
<td>$5,907</td>
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<tr>
<td>Easy Savings</td>
<td>100%</td>
<td>13,481</td>
<td>3,049,915</td>
<td>$912,208</td>
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<tr>
<td>Energy Smart (MFA)</td>
<td>100%</td>
<td>161</td>
<td>269,972</td>
<td>$197,918</td>
<td>$1,229</td>
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<tr>
<td>PNM Home Works</td>
<td>40%</td>
<td>5,021</td>
<td>1,030,512</td>
<td>$223,654</td>
<td>$45</td>
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<td>13,179</td>
<td>6,047,871</td>
<td><strong>$1,981,260</strong></td>
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Challenges and Moving Forward

• Keeping LI programs cost effective
  • Researching how to remove LI from EE portfolio and having them evaluated separately
• LI households need more comprehensive repairs/needs that energy efficiency cannot help with
  • Electrical upgrades
  • Structural upgrades
  • Broken windows/doors
• Processes slow down progress
Thank You
Energy Efficiency for Multifamily Affordable Housing (MFAH) in New Mexico

challenges and successes
ICAST history

National 501c3 non-profit

Univ. of Colorado-Boulder Spin-Off

History of scaling innovative solutions
SOLE FOCUS ON MF

deep expertise & experience in MFAH

ONE-STOP-SHOP

high-quality technical assistance to MFAH

CUSTOMER-CENTRIC

tailored to meet customer needs

ICAST focus
ICAST
what works

early retirement

• whole building approach
• Replace on Fail / Turns

deep retrofits

• 22+% savings per building
• 25,000 LMI households in 2021
• $60M+ utility cost savings over lifetime
ICAST
In NM
- MF WAP for MFA - 2014
- NM Gas Company for MF DSM - 2015
- EPC for HUD - 2017
MFAH in NM
by the numbers

- NM Housing Stock: ~10% apartment renters
- Total 3+ MF Units: ~120,000
- 3+ Unit MF Properties: ~3000
Properties Served ~ 31
Households Served ~ 2,137
LMI Households Served ~ 1,137
Total Project Investments ~ $1,408,524
Annual Energy Savings ~ 24,025 MMBTU
Annual Utility Bill Savings ~ $268,525
Properties Served ~ 140
Households Served ~ 11,946
LMI Households Served ~ 4,720
Total Project Investments ~ $9,808,073
Annual Energy Savings ~ 130,315 MMBTU
Annual Utility Bill Savings ~ $1,733,742
IMPACTS cumulative

At-Risk Youth Trained ~ 210
Direct Jobs Created/Retained ~ 200
In-Direct Jobs Retained ~ 340
Total Carbon Emission Reduction ~ 175,023 Tons
Total Utility Bill Savings ~ $20M+
ENERGY EFFICIENCY installations

- High-Efficiency Furnaces
- Heat Pump HVAC
- Insulation
- Appliances
- Weatherization
- Smart Thermostats
- High-Efficiency Water Heaters
- LED Lighting
- Low-Flow Devices
- Windows
Challenges and Solutions
For MFAH

- Timing for Upgrades
  - Reduced Regulatory Hurdles

- Myth of Green
  - Concerted Education Efforts by 3rd Parties

- Lack of Stick
  - Lack of Codes/Standards/Regulatory Req’mts

- Lack of Funds
  - Low-Cost Financing or Credit Enhancement
PROGRAM

Benefits

Alleviate affordable housing crisis for LMI families

Impact Climate Change

Provide Local Economic Development & Job Creation
Thank You

QUESTIONS

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