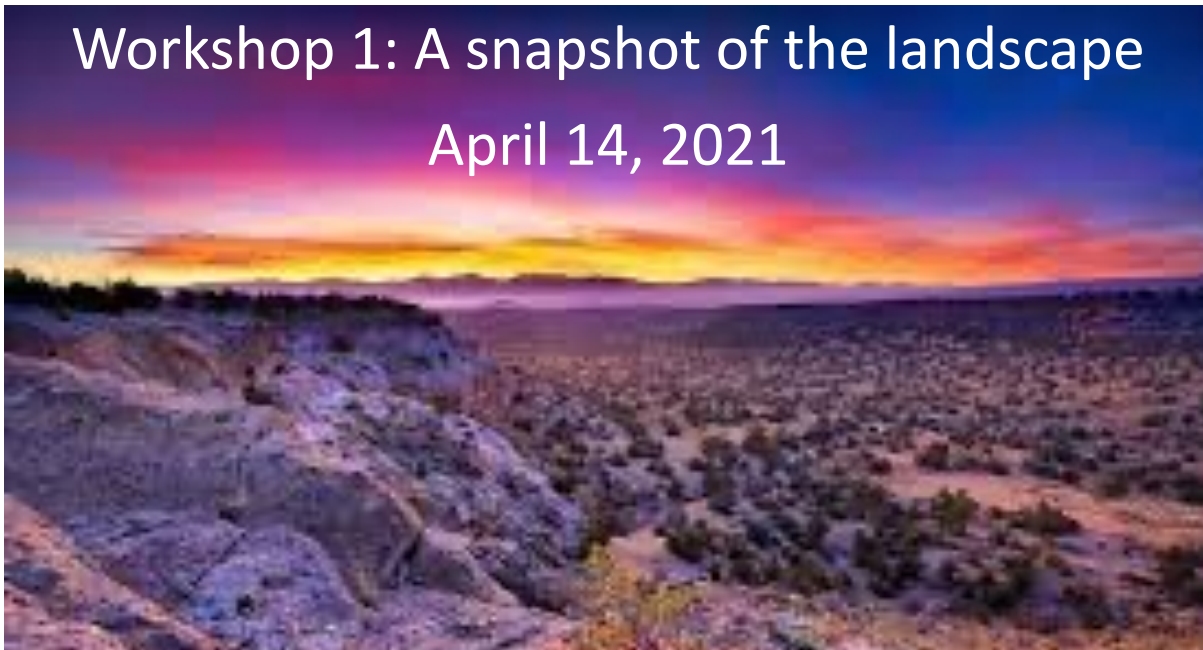




Energy Efficiency for Low Income Households

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: ???**

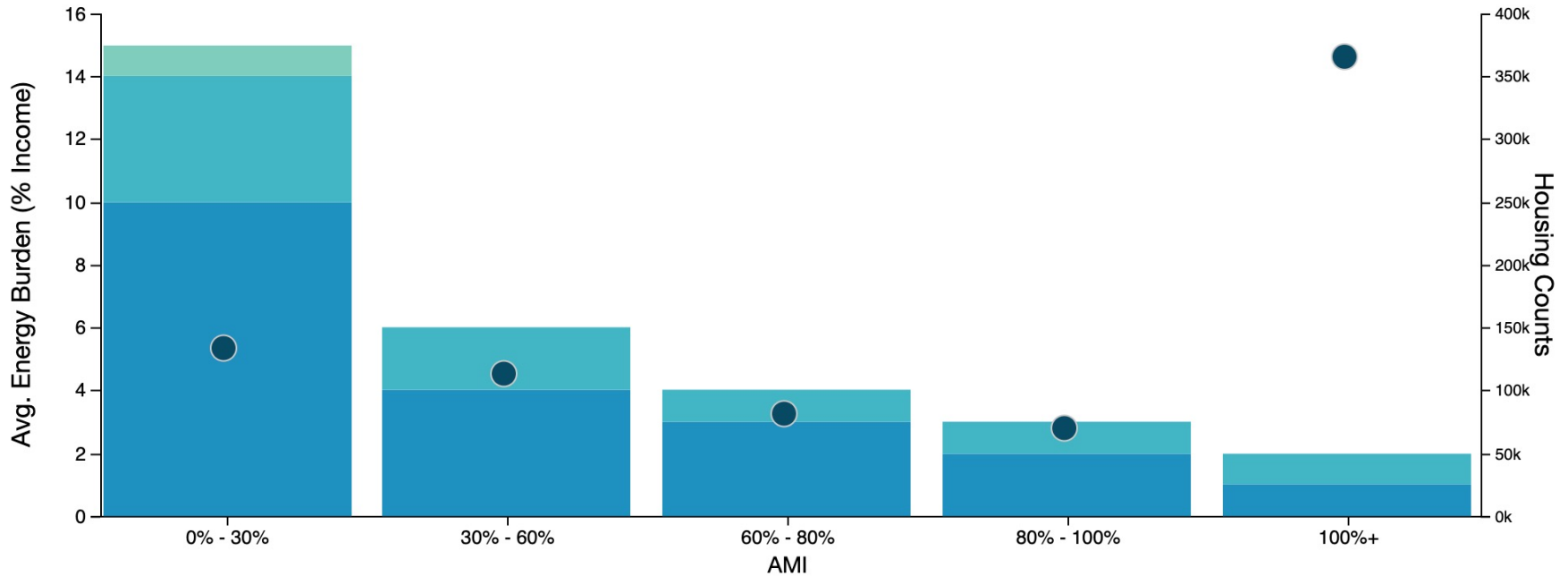
A word about today....

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

- 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...

Avg. Energy Burden (% Income) for New Mexico

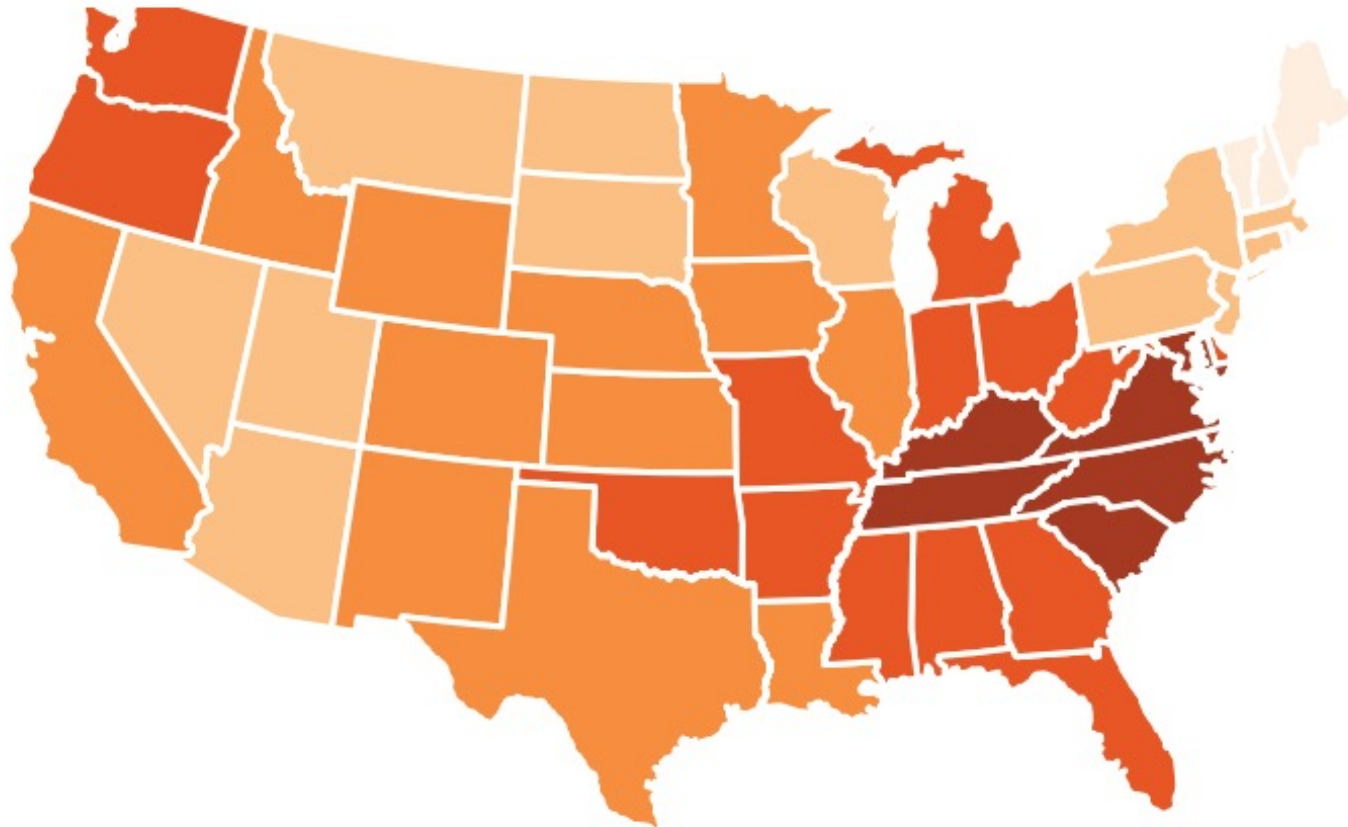
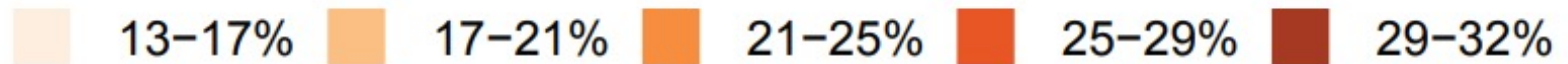


- New Mexico**
- Electricity
 - Gas
 - Other
 - Housing Counts

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

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

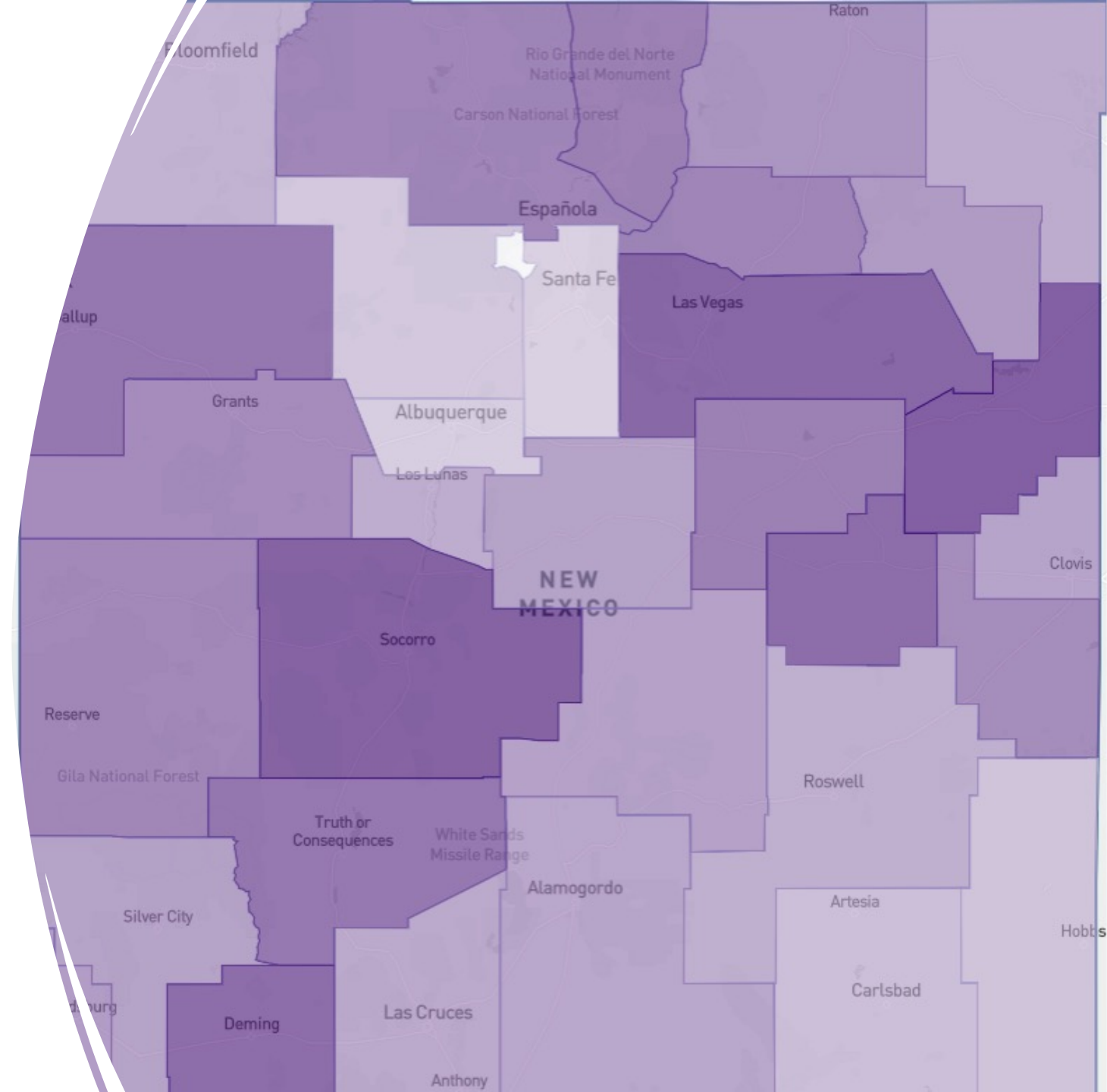
NM Population – 2.1M

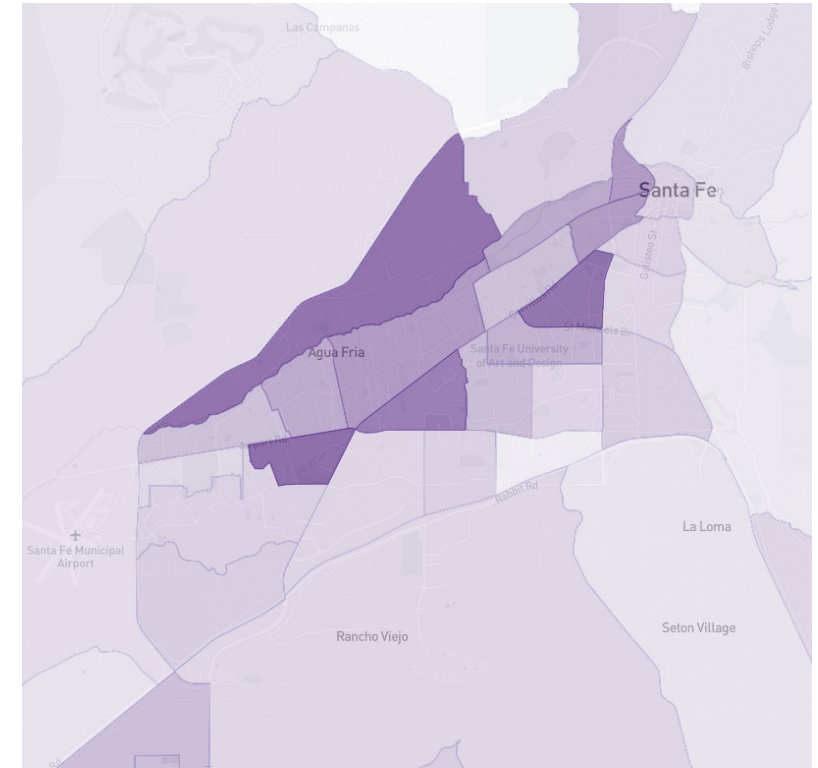
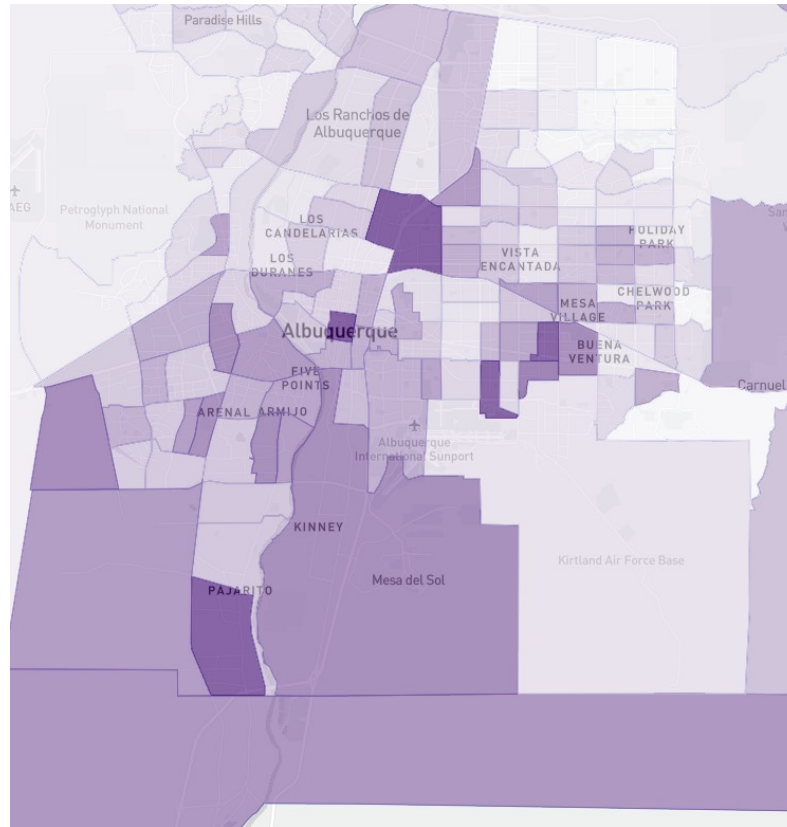
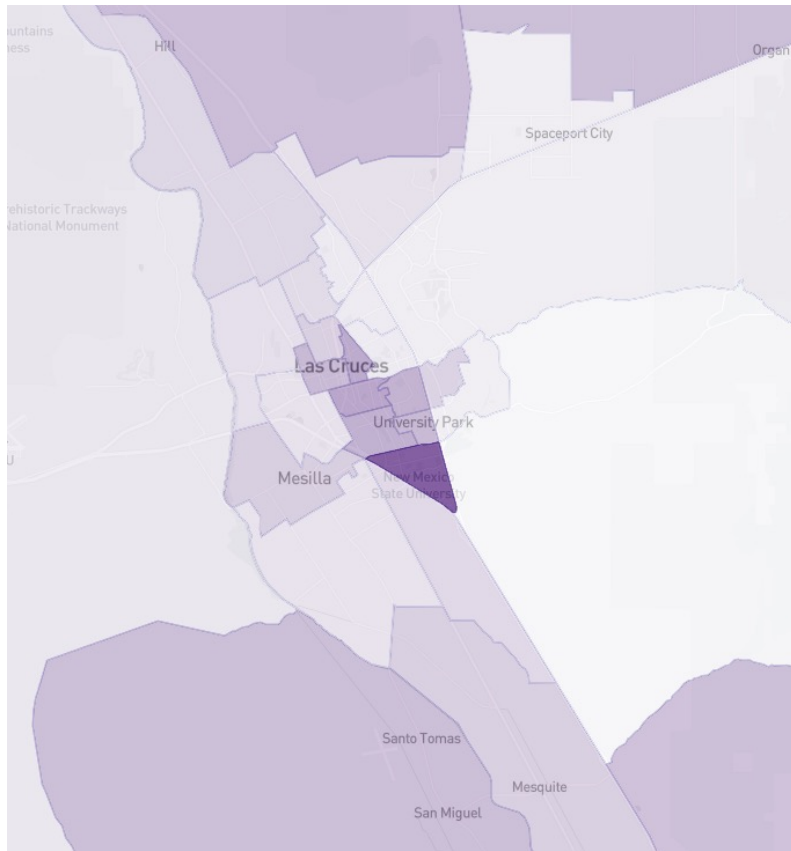
Percent living in poverty – 19.8%

- 400,000 people

Energy Burden of those living in poverty – Average of 14%

High Energy Burdens throughout NM





Urban Energy Burdens

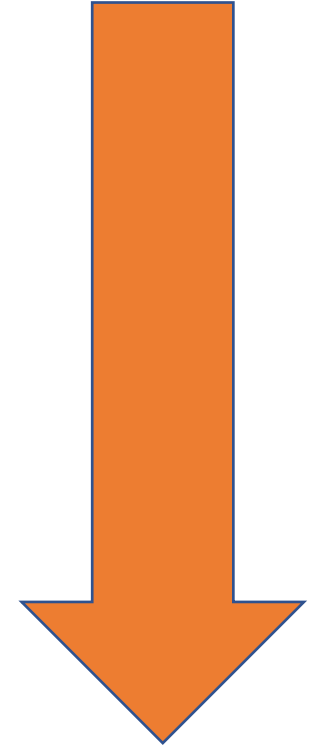
Rural Energy Burdens

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

Program Year 2019			
	Total Budget	LI Budget	% LI
PNM	\$24,062,439	\$1,130,554	5%
EPE	\$5,116,681	\$829,992	16%
SPS	\$9,876,113	\$2,002,428	20%
NMGC	\$6,390,426	\$1,861,560	29%
	\$45,445,659	\$5,824,534	13%

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

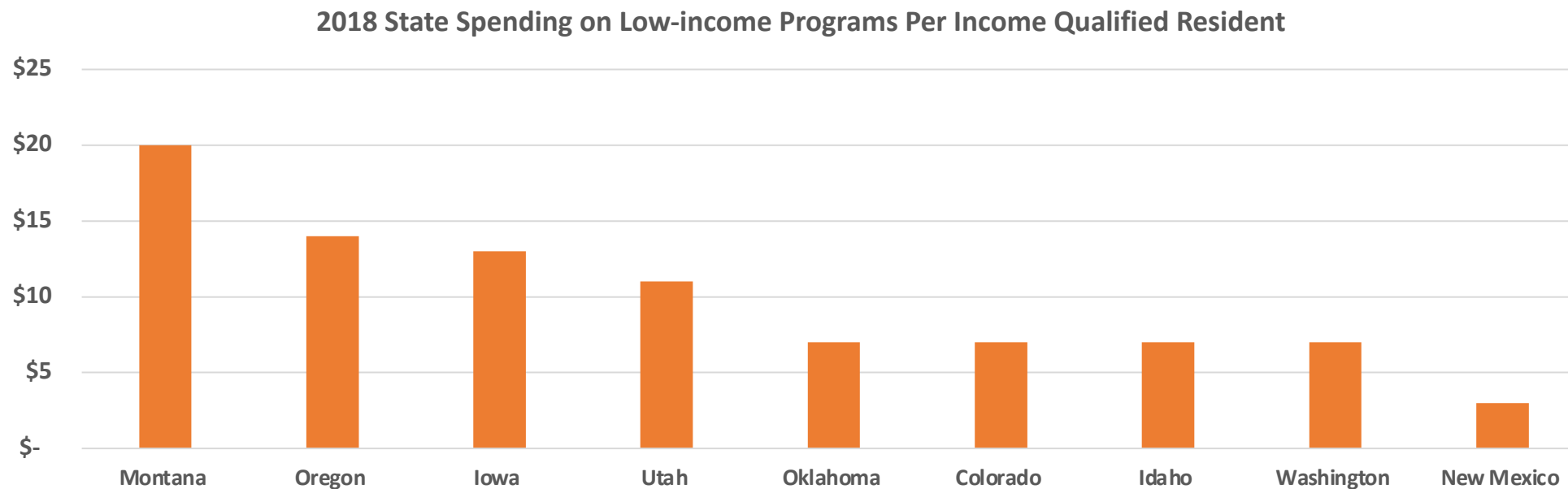
$$100,000 * 5,500 = \$550,000,000$$

Actual amount allocated: \$10.5M

$$\$550M/10.5M = 50+ \text{ years!}$$

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 (CEE) Project

~ Providing Energy Burden Relief to Low-Income Homeowners ~

Community Energy Efficiency Project

Working with the Partnership for Community Action and PNM, 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

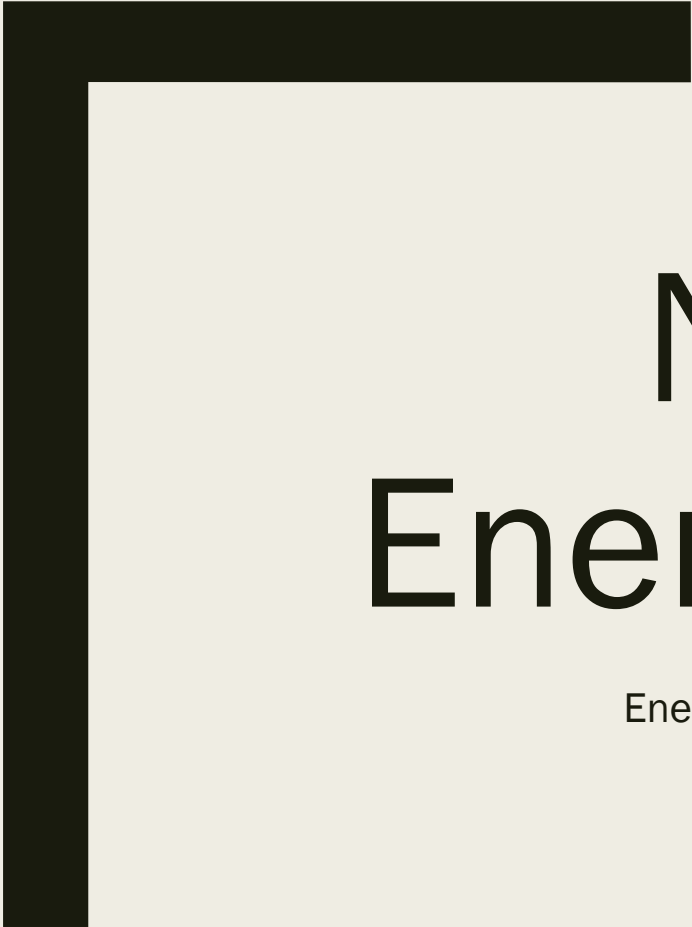
Legislation Needed

- Set up CEED fund at EMNRD
- Fund CEED

Plan to move this bill again in
2022

Tammy Fiebelkorn
NM Representative, SWEEP
tfiebelkorn@swenergy.org





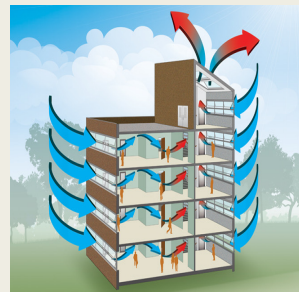
New Mexico Energy\$mart 2021

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

PNM Utility Energy Efficiency Low Income Programs



PNM Service Territory

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.

Bringing 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)



What are the types of installations or retrofits LIHEC

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	Low Income Percentage of Program Participation	LI Participants or Units	LI Annual Savings (kWh)	Low Income Program Costs	Ave Cost Per LI Participant or Unit
Low Income Home Checkup	100%	703	871,079	\$ 563,230	\$ 801
Multifamily	42%	2,502	1,025,978	\$ 401,305	\$ 160
Easy Savings	100%	6,211	2,323,535	\$ 386,356	\$ 62
Energy Smart (MFA)	100%	223	321,255	\$ 224,722	\$ 1,008
PNM Home Works	40%	3,638	704,720	\$ 148,138	\$ 41
		13,277	5,246,568	\$ 1,723,751	\$ 130

2019 Low Income Program	LI Percentage of Program Participation	LI Participants or Units	LI Annual Savings (kWh)	Low Income Program Costs	Ave Cost Per LI Participant or Unit
Low Income Home Checkup	100%	757	568,674	\$ 625,008	\$ 826
Multifamily	90%	4,901	1,992,843	\$ 848,299	\$ 173
Easy Savings	100%	6,542	2,495,642	\$ 355,426	\$ 54
Energy Smart (MFA)	100%	218	359,850	\$ 220,480	\$ 1,011
PNM Home Works	40%	3,816	756,214	\$ 165,779	\$ 43
		16,234	6,173,224	\$ 2,214,993	\$ 136

2020 Low Income Program	LI Percentage of Program Participation	LI Participants or Units	LI Annual Savings (kWh)	Low Income Program Costs	Ave Cost Per LI Participant or Unit
Low Income Home Checkup	100%	500	392,342	\$ 553,202	\$ 1,106
Multifamily	42%	16	1,349,930	\$ 94,278	\$ 5,907
Easy Savings	100%	13,481	3,004,915	\$ 912,208	\$ 68
Energy Smart (MFA)	100%	161	269,972	\$ 197,918	\$ 1,229
PNM Home Works	40%	5,021	1,030,512	\$ 223,654	\$ 45
		19,179	6,047,671	\$ 1,981,260	\$ 103

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

International Center for Appropriate & Sustainable Technology

ICAST history

National 501c3 non-profit

Univ. of Colorado-Boulder Spin-Off

History of scaling innovative solutions

ICAST focus

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 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

IMPACTS

2020

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

IMPACTS cumulative

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

Ravi Malhotra

Founder and President, ICAST & TBL Fund

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