



Tackling Energy Burdens in New Mexico

Coalition of Sustainable Communities New Mexico

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BACKGROUND

The Department of Energy (DOE) defines energy burden as the percentage of gross household income spent on energy costs.¹ As reported by the DOE's Low-Income Energy Affordability Data (LEAD) Tool, the average energy burden for the lowest-income households in New Mexico is 8.7%, compared to 1.8% for high earning households.² Nationally, rural and Native communities have higher energy burdens.³ New Mexico is no exception. The average energy burden in these households are 6.5% and 10.7%, respectively.²

Energy efficiency has proven to be a critical component for reducing energy burdens for low-income households.⁴ Although the DOE developed the federal Weatherization Assistance Program (WAP) and state energy program (SEP) to decrease the national average energy burden for low-income households using energy efficiency,⁴ these households are still struggling. As of January 2022, New Mexico has received approximately \$78.6 million for weatherization since 2010, weatherizing 10,670 New Mexican homes at an average cost of \$7,400 per home.⁵ Despite weatherization being a cost-effective tool to reduce energy consumption and increase energy efficiency, there is insufficient funding to reach each household in need.

Solar home system installation, paired with the right amount of subsidies and financing, can additionally play a role in lowering energy costs for low-income households. In residential communities, solar panels can substantially reduce the electricity bill, getting bill credits for each unit of energy generated by the solar panels.⁶ Although the initial fixed cost of installing solar is dropping each year, they are still extremely expensive for low-income households. After the 26% federal solar tax credit, the total average installation cost is between \$17,538 and \$23,458 in January 2022.⁶

New Mexico has some of the best solar incentives in America, making these upfront costs cheaper. For example, there is a 10% state tax credit (and rebate for those without tax liabilities) with a savings value up to \$6,000.⁷ Nonetheless, many New Mexicans are having trouble integrating their households into the solar network. The upfront costs are still too high, and lower income households may not have sufficient tax liability to take full advantage of the tax credits.⁸ New Mexico consistently ranks as a top state in the U.S. for its solar potential.⁹ Should New Mexico make solar more accessible and affordable, residents would enjoy tremendous long-term benefits. For example, in 2019, installing a 5 kW system would have brought New Mexico homeowners a net 20 year savings between \$24,607 to \$33,292, with a payback period ranging from 8 to 11 years.⁹ The electricity bill offset, or the percentage of the homeowner's electricity needs covered by solar, is typically 83-112%.¹⁰ Energy efficiency and solar investment are therefore both great tools to reduce energy burden.

Governments, green banks, credit unions, and other financial institutions across the country have developed appropriate loan packages, utility on-bill financing, and other programs to assist low and middle income households to finance energy efficiency updates and roof-top solar.¹¹ Some believe financing should not extend to lower income households, as they are

typically unwilling or unable to assume debt.¹² However, there is significant evidence that providing financing options to these individuals can aid individual financial stability and provide collective climate benefits.¹² Prioritizing energy efficiency and exploring solar development through appropriate financing can uplift these individuals and their respective communities, ultimately advancing sustainability and financial stability.

RECOMMENDATION 1: Prioritize Energy Efficiency in Low and Middle Income Communities

Policymakers should first prioritize energy efficiency in New Mexico's low and middle income communities. Financing energy efficiency offers many clear opportunities to reduce household energy burdens. New refrigerators, windows, air conditioners, and other core household items can be updated to successfully save the consumer money from wasted energy. Policymakers ought to consider three pathways for energy efficiency: 1) developing new financing programs for low and middle-income residents, 2) improving and expanding energy efficiency projects, and 3) prioritizing energy efficiency and weatherization for new low and middle income housing. Equity, along with overlapping policy goals, such as improved public health and job creation, should be considered when making energy efficiency decisions.

First, policymakers should invest in existing financing programs for low and middle-income residents. Big data, artificial intelligence, and machine learning have completely evolved financial markets, creating new opportunities to connect government and private lenders to these customers.¹³ For example, Inclusive Prosperity Capital operates the Smart-E Loan platform, which it is bringing to New Mexico.¹⁴ This platform utilizes a network of select local lenders and vetted contractors to streamline financing programs for low and middle income communities.¹⁴ High levels of trust and connection between borrowers and lenders allows for financing of more than 40 eligible green energy home improvement projects.¹⁴ By developing a secure, online environment for project management and transparency, Inclusive Prosperity Capital has been able to make weatherization more feasible for low and middle income communities.¹⁴ Further investment from policymakers would empower them and other inclusive financing companies to provide energy efficiency to those in New Mexico who need it most.

Green banks also deserve attention from policymakers. In recent years, small green banks, sometimes called clean energy funds, have developed innovative financing tools to encourage private investment in energy efficiency projects that are sustainable yet also strengthen participation of those traditionally left behind.¹⁵ When state policymakers work with and create their own green banks, the impact can be even greater. The Connecticut Green Bank, for example, motivated local lenders in the state to provide loans to finance multi-measure energy efficiency retrofits.¹⁶ By developing a loan-loss reserve that essentially eliminates risk for local lenders, 11 private lenders currently offer unsecured personal Smart-E Loans for home energy retrofits in the state.¹⁶ New Mexico should strongly consider following suit. The City of

Santa Fe recently approved funding that will be used to pilot a green bank to initially serve the Santa Fe area.

Second, policymakers should improve and expand existing energy efficiency offerings. Although many of these projects have helped low and middle income communities reduce their energy burden in the long term, there is still much work to be done. For instance, New York has developed the EmPower program, offering low-income consumers free refrigerator or freezer replacement, air sealing, and efficient lighting should they request it.¹⁷ To evaluate and finance the fixed and short-term costs of updating, individuals receive access to a contractor, education on the benefits of energy efficiency, appliance replacement, and other critical services.¹⁷ This program owes much of its success to policy improvements over time. When interviewing actual low and middle income customers, EmPower employees discovered which energy efficiency services were most needed, and what can be done and changed with limited public resources.¹⁷ For example, educating the homeowner while changing an appliance adds value, as she is more likely to be aware of future updates, changes to the program, and energy efficient technologies.¹⁷ Education can be done at no cost to both the program and the homeowner.¹⁷

ICAST has been successful in providing weatherization services for low and middle income residents, particularly those living in multifamily housing.¹⁸ ICAST additionally will educate the multifamily property owners on the economic, health, and safety benefits of WAP.¹⁸ They have been successful across New Mexico. For instance, in Belen Vista-Albuquerque, they used funding from WAP and incentives from electric and gas utilities to complete a \$277,538 project.¹⁸ This project has significant annual savings in carbon emissions, energy use, and water use: 83 tons of carbon, \$42,750 in kWh Savings, \$7,584 in thermal savings, and \$7,447,400 in water.¹⁸ Savings mainly came from replacing all aerators and showerheads with updated low flow technology, installing smart thermostats, LED light bulbs, Energy Star refrigerators in 15 units, and upgrading ventilation.¹⁸ Compared to other non-profit social enterprises, ICAST has succeeded in providing its WAP services at a third of the cost.¹⁸ This is because it efficiently pairs financing and utility rebates with WAP funding and focuses on multifamily housing.¹⁸ Moreover, policymakers should explore partnerships with ICAST and other efficiency-focused non-profits such as PosiGen to improve and expand energy efficiency projects.

Third, policymakers should prioritize energy efficiency and weatherization for new low and middle income housing. Building new energy efficient homes for low and middle income individuals at one point was a challenge. However, as energy efficient design is advancing, costs are falling. Efficient appliances and home electronics, space heating and cooling, water heating, windows, lighting, insulation, and air sealing can be bundled together, saving installation and labor costs on new construction.¹⁹ While building energy efficient homes can increase building costs, they are often marginal, with large economic payback. For example, a study by Northwest National Laboratories showed that, statewide, all residential dwelling units would have an average incremental cost of \$1,908 to implement newer energy efficiency codes, resulting in an

annual energy savings of \$377, having a simple payback of 5 years, and result in a life-cycle cost savings of \$6,397.²⁰ Habitat for Humanity New Mexico and Homewise have both been investing significant resources in tightly sealing homes during the construction process, purchasing energy efficient appliances on behalf of homeowners, and even providing free labor for construction.^{21 22}

In addition to these three energy efficiency recommendations, policymakers should further invest in new and innovative forms of state and local weatherization investment. The Community Energy Efficiency Development (CEED) block, signed into law in 2022, will incentivize counties, Indigenous nations, municipalities, and other financial stakeholders to find local community partners and apply for energy efficiency grants from the state.²³ These energy efficiency projects would target low and middle income communities, helping them install new appliances, retrofit, and weatherize their residences.²³

RECOMMENDATION 2: Pair Solar Investment with Energy Efficiency Initiatives

In addition to prioritizing energy efficiency, policymakers should further invest in solar initiatives for low and middle income communities. Many energy stakeholders have described pairing solar installation with energy efficiency initiatives as a “match made in heaven,” as their benefits augment each other.²⁴ For example, when a firm designs a roof-top solar system for a homeowner’s property, it considers two essential factors: overall energy usage and roof conditions (vents, sizes, chimneys, etc.).²⁴ Industry experts recommend improving energy efficiency before installing solar or, in the case of community solar, signing up for a subscription, as lowering the energy consumption lowers the number of solar panels necessary to power the home.²⁵ Conversely, installing solar panels has the potential to lower household energy burden, as most solar panel systems offset close to 100% of energy consumption.²⁴ By offsetting solar costs, low and middle income communities would therefore see tremendous savings on their energy bill.

In Louisiana, Connecticut, and New Jersey, PosiGen has been successful in coupling solar investment with energy efficiency improvements.²⁶ Since its creation in 2011, PosiGen has helped 18,000 customers install solar panels on the rooftops of their homes.²⁶ With no solar panel installation fee for leasing, PosiGen gives homeowners more agency over their energy costs.²⁶ Maintenance and monitoring of the panels is included.²⁶ When customers choose to lease solar panels from PosiGen, they also provide initial energy efficiency upgrades for the homeowner free of charge.²⁶ Energy efficiency is considered at all steps of the solar installation process: design and engineering, permit approval, installation, inspection, and activation.²⁶ By pairing solar installation with energy efficiency improvements, PosiGen is able to significantly increase cost savings for the homeowner, allowing the customer to save 40 to 80% more than a typical solar power purchase agreement.²⁶

In Louisiana, where upwards of 85% of the population cannot access typical solar lease programs due to low credit scores or are unable to afford to purchase systems, PosiGen installs 6-kW solar systems for a flat rate of \$50 per month for a 10-year lease, plus a \$10 monthly charge for energy efficiency upgrades, saving the average customer \$65 per month.²⁶ PosiGen additionally offers the choice to lease or purchase solar panels, further giving the customer financing options that best fits their budget.²⁶ Leasing tends to be the more popular option among customers, as there is more focus on energy efficiency improvements.²⁶ Leasing has no minimum credit requirement and down payment, and can extend for either ten or twenty years.²⁷

Throughout its 11 years in business, Posigen has provided clean and affordable energy to over 19,000 customers.²⁸ Approximately half are from communities of color.²⁸ Despite most industry solar installers selecting customers with high salary and FICO credit scores, PosiGen has instead focused on low and middle income communities.²⁸ The particular emphasis on pairing energy efficiency and solar to reduce energy costs has allowed them to build trust with these communities, along with the future benefit of becoming a utility provider for them.²⁸

Although PosiGen has yet to develop offices in New Mexico, other social enterprises such as ICAST have also combined solar installation efforts with energy efficiency improvements in the state. ICAST considers energy efficiency when deploying multifamily solar.²⁹ Policymakers should reward social enterprises that integrate energy efficiency into their solar installation process through subsidies or tax credits, as their services would be of great value to the state of New Mexico.

Even though many middle income households in New Mexico can afford to finance rooftop solar panel installation, low-income households tend to struggle with financing or purchasing systems. Many low income households rent or have inadequate roofs, eliminating roof-top solar as an option. For these customers, subscribing to community solar projects offers additional bill saving opportunities. New Mexico's Community Solar Act, signed into law in April 2021, requires 30% of the energy from every community solar facility (which can be as large as 5 megawatts) to be allocated to low-income households or low-income service organizations.³⁰ Because of this law, low-income subscribers should expect to see their overall bill savings ranging from 15-20%.³¹

Policies that integrate solar with energy efficiency for low and middle income communities are cost-effective, more equitable, and better for the environment. Moreover, policymakers should strongly consider integrating the two when constructing energy incentives and making energy decisions.

CONCLUSION

Low and middle income communities in New Mexico bear the brunt of large energy burden costs, as their homes are less energy efficient, appliances are often outdated, and

finances are more strained. Energy efficiency updates have been effective in lowering energy burdens for these households. With the falling costs of renewable energy, along with state and federal tax incentives, rooftop solar or community solar can also reduce energy costs for these communities. New Mexico policymakers should first prioritize energy efficiency in low and middle income communities, as there are many immediate benefits. They should do this in three ways: 1) developing new financing programs for low and middle-income residents, 2) improving and expanding energy efficiency projects, and 3) prioritizing energy efficiency in new construction for low and middle income housing. Second, policymakers should integrate solar investment with energy efficiency initiatives, as solar installation complements energy efficiency efforts. With New Mexico's high solar potential, strong public policy efforts, and hunger to tackle climate change, these policies will make the state better for generations to come.

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