More Affordable Energy Upgrades for America’s Families

Thursday, August 23rd
4:00 – 5:30 PM
Panelists:

- Stefen Samarripas, ACEEE
- Deborah Philbrick, Elevate Energy
- Daniel Ticona, Freddie Mac
Addressing Urban and Rural Energy Burdens

Stefen Samarripas
Senior Research Analyst

Better Buildings Summit
August 23, 2018
The American Council for an Energy-Efficient Economy is a nonprofit 501(c)(3) founded in 1980. We act as a catalyst to advance energy efficiency policies, programs, technologies, investments, & behaviors.

Our research explores economic impacts, financing options, behavior changes, program design, and utility planning, as well as US national, state, & local policy. Our work is made possible by foundation funding, contracts, government grants, and conference revenue.
Lifting the High Energy Burden in America’s Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities

Ariel Drehol and Lauren Ross

The High Cost of Energy in Rural America: Household Energy Burdens and Opportunities for Energy Efficiency

Lauren Ross, Ariel Drehol, and Brian Stickles

Urban Analysis (2016): aceee.org/research-report/u1602
Rural Analysis (2018): aceee.org/research-report/u1806
What are Energy Burdens?

Energy burden % = 
Annual energy costs/Annual household income
E.g. ($200/month) x 12 months/$60,000 = 4%

Median energy burdens:

- Rural burden: 4.4%
- Metropolitan burden: 3.1%
- National burden: 3.3%

(Source: 2015 American Housing Survey)

Drivers: physical, economic, policy, behavioral

Low energy prices do not equate to affordable bills!
### Urban Energy Burdens

**Source:** 2011 and 2013 American Housing Survey

**Energy burden in largest metro areas**

**Metro energy burden by demographic**

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-income (80% AMI)</td>
<td>7.2%</td>
</tr>
<tr>
<td>African American</td>
<td>5.4%</td>
</tr>
<tr>
<td>Low-income multifamily</td>
<td>5.0%</td>
</tr>
<tr>
<td>Latino</td>
<td>4.1%</td>
</tr>
<tr>
<td>Renters</td>
<td>4.0%</td>
</tr>
<tr>
<td>Total metro</td>
<td>3.5%</td>
</tr>
</tbody>
</table>

*Based on median across selected cities.*
Rural energy burdens

Source: 2015 American Housing Survey

By region:

Energy burden: percent of income spent on energy bills

By demographic:

- Low-income: 9.0%
- Manufactured housing: 5.8%
- Elderly: 5.6%
- Renters: 5.3%
- Nonwhite: 5.1%
- Multifamily (2-4 units): 4.9%
- Total rural: 4.4%
- Total US: 3.3%
- Total metropolitan: 3.1%

*Based on national figures.
Energy Efficiency: A Long-Term Solution

• Energy efficiency provides long-term bill savings for households
  • Can lower burdens by 25% and save households up to $400/year
  • Reduces utility disconnections

• Additional benefits:
  • Positive health and wellbeing outcomes
  • Increased school performance for children
    (Denson and Hayes 2019)
  • Improved household financial security

• With these benefits in mind, some states and cities are setting goals to reduce high burdens and creating targeted energy efficiency initiatives
Policy Recommendations

1. States should set low-income spending/savings targets for energy efficiency programs and/or modify cost-effectiveness requirements

2. States and cities should expand energy efficiency programs for low-income households

3. Support financing options for affordable multifamily building owners and low-income households

4. Expand education and training opportunities for energy efficiency contractors
Program Recommendations

1. Provide adequate funding to make home health and safety repairs
2. Partner with local community, nonprofit, and religious organizations
3. Leverage other utility or weatherization programs
4. Target property owners to reach renters
5. Collect and track demographic data to better target and reach customers
Contact Information

Stefen Samarripas
Senior Research Analyst

Email: ssamarrripas@aceee.org
Phone: 202-507-4031
Features of Successful Low-Income Energy Efficiency Programs

August 2018
Deborah Philbrick
Better Buildings Summit
We give people the resources they need to make informed energy choices.

Getting energy use right saves money, increases comfort, creates jobs, and protects the environment.

We ensure the benefits of clean and energy efficient energy use reach those who need them most.
What are the key elements to the program design?

Does it remove obstacles to participation?
Considerations for a Successful LMI Program

- Conduct a baseline analysis
- Target audience: Do you know who you’re serving?
- Jobs & Training: Impact beyond the upgrade
What does low-income mean to your program?

- 200% FPL, 150% FPL, 80% AMI
- Streamline with other programs
- Geographic eligibility
Colorado couples WAP & LIHEAP $$ to install rooftop solar

- Anticipated $400 savings/year
- Made possible by the 2005 Energy Policy Act (SIR>1)
Promising Practice: Accessibility of Broadband in Rural Communities

Tennessee's “Broadband Accessibility Grant Program”

- $30M over three years
- Smart homes require reliable internet connections
Deborah Philbrick
Elevate Energy
Deborah.Philbrick@elevateenergy.org

ElevateEnergy.org
Activities to Support Financing of Energy Efficient Homes

Daniel Ticona
Manager, Single-Family Affordable Lending

Freddie Mac
We make home possible®
Freddie Mac’s Mission

A **better** Freddie Mac

...and a **better** housing finance system

**For families**
...innovating to improve the liquidity, stability and affordability of mortgage markets

**For customers**
...competing to earn their business

**For taxpayers**
...reducing their exposure to mortgage risks
Duty to Serve Overview

The Housing and Economic Recovery Act of 2008 established for the GSEs a duty to serve very low-, low- and moderate-income families in three historically underserved markets:

### Manufactured Housing

Titled as
- **Real property** -- resident finances the unit structure and the land together
- **Personal property** -- resident finances the unit structure without owning the land

### Rural Housing

**Regions**
- Middle Appalachia
- Lower Mississippi Delta,
- Colonias – located in Arizona, California, New Mexico and Texas

**Populations**
- Members of a federally recognized Native American tribes
- Agricultural workers

### Affordable Housing Preservation

- Financing of single-family **energy efficiency** improvements on first lien mortgages.
- Affordable homeownership preservation through **shared equity** programs administered by nonprofits, or state or local governments.

Each year, the Federal Housing Finance Agency is required to evaluate and rate each Enterprise’s performance in each underserved market and report the results to Congress.
Affordable Housing Preservation

Energy Efficiency – Strong Focus Now

- Low- to mid-income markets face a disproportionate energy burden
- Many challenges prevent communities from taking advantage of energy efficiency
- Low- to mid-income assistance funds shrinking while the needs are growing
- Serving low-income populations with effective programs/initiatives is critical
Energy Efficiency Financing

Financing of Energy or Water Efficiency Improvements on Single-Family Properties in Support of Affordable Housing
Freddie Mac supports the energy efficiency market as a way to preserve home affordability

We currently support this market by

- Purchasing mortgages on properties with energy efficiency features
- Allowing lenders to use energy efficiency to compensate for higher debt-to-income ratios
- Permitting cash-out refinance transactions that allow borrowers to
  - make energy efficiency improvements
  - pay off existing unsecured debt obligations
  - pay off property assessed clean energy (PACE) loans

Our focus is to support financing of single-family energy efficiency improvements on first lien mortgages that support

- Reduction of energy or water consumption by <15%
- Utility savings over the improvement’s expected life exceeding the cost of installation
Single-Family Energy Efficiency

Energy or water efficiency improvements on first-lien, single-family homes

Freddie Mac will:
- Conduct research on the impact of energy efficiency improvements on property values and loan mortgage performance; publish white paper
- Design new or improved product flexibilities
- Develop valuation guidance and data collection mechanisms to account for energy-efficient features

Challenges:
- Lack of property-level data
- Difficult to assess value of energy-efficient properties
- Limited awareness about energy efficiency benefits and financing products available
Thank You

Daniel Ticona,
Manager, Single-Family Affordable Lending
Freddie Mac
daniel_ticona@freddiemac.com
Questions?