## **Energy Efficiency's Role in Rural Prosperity**

- Moderator
  - Jessica Rackley, Program Director, NGA
- Speakers:
  - Amy Royden-Bloom, State Energy Program Manager, Office of Weatherization and Intergovernmental Programs, U.S. Department of Energy
  - Fritz Ebinger, Clean Energy Resource Teams Rural Energy Development





Office of ENERGY EFFICIENCY & RENEWABLE ENERGY

#### **Energy Efficiency's Role in Rural Prosperity**

#### Amy Royden-Bloom

State Energy Program Manager

#### July 19, 2019



U.S. DEPARTMENT OF ENERGY OFFICE OF ENERGY EFFICIENCY & RENEWABLE ENERGY

#### The Weatherization & Intergovernmental Programs Office (WIP)



We enable STRATEGIC INVESTMENTS in energy efficiency and renewable energy technologies through the use of INNOVATIVE PRACTICES across the States and a wide United range of stakeholders, in PARTNERSHIP with state and local organizations and communitybased nonprofits.

#### **RESULTS:**





Cutting energy waste



Improving energy independence and security



Furthering the development of energy infrastructure

#### **State Energy Program (SEP)**

SEP provides funding and technical assistance to 56 states, territories, and the District of Columbia to

- enhance energy security,
- advance state-led energy initiatives, and
- maximize the benefits of increasing energy efficiency.

SEP <u>Creates Jobs</u>	SEP is <u>Cost-Effectiv</u> e
1 job created for every \$2,500 invested = over 3,900 estimated jobs in FY18	\$4.50 saved for every \$1 federal invested <i>Example</i> : Illinois' Wastewater Treatment Facility Program
Example: Texas Clean Energy Incubators	

#### **National SEP Successes Since 2017**



**Increased** energy efficiency in 21,000+ buildings (58M square feet)

**Installed** 22,000+ renewable energy systems

(594,000 kilowatt hours)

**Educated** > 580,000 people in performing energy audits and upgrades





- States implemented energy security, resiliency, and emergency preparedness plans;
- Developed state-led strategic energy initiatives;
- Invested in expanded use of energy resources abundant in states;
- Piloted innovative energy projects within the private sector, K-12 schools and universities; and
  - Developed 9 Implementation Models that serve as "how-to" guides for states who wish to replicate the programs achieving energy efficiency savings.



#### Why does energy efficiency matter for rural prosperity?

#### • High energy burden in rural areas

- Household energy burdens—the percentage of household income spent on energy bills.
- Rural areas face a 4.4% median energy burden, compared to 3.3% nationally.
- Rural low-income households 3x energy burden of higher-income households.
- Less money spent on energy bills; more \$ for other priorities
  - Approximately 41% of households in rural areas have incomes below 200% of the federal poverty level, or \$49,200 for a family of four in 2017.

#### **Challenges in bringing energy efficiency to rural areas**

- Low population density
- Lack of broadband access
- Customer reluctance





- Lack of financial means
- Shortage of qualified workers

\* Source: ACEEE Report September 2018 Reaching Rural Communities with Energy Efficiency Programs

#### **Examples of State Successes**

Bridging the Rural Efficiency Gap (Maine SEP Competitive Award)

Example:

Weatherization Week

Rural Business Energy Audits

Mitigate operating cost burdens for rural food markets and grocery stores by providing energy audits

**Kansas Small** 

Alaska Rural Communities (Alaska SEP Competitive Award)

> Energy Efficiency Technical Assistance Centers and

Toolbox with Strategic Energy Management Practices Manual



#### **Example of Recently Launched Effort**

- Advancing Energy Efficiency in Underserved Small, Medium, and Rural Communities
  - Launched February 2019
  - Lead state: RI; Partnering States: MA and WV
  - Goal: engage 150 communities across 9 states; if successful, annual energy savings of over \$179M/year.



#### **DOE Technical Assistance**

State and Local Solution Center: <a href="https://energy.gov/eere/slsc">https://energy.gov/eere/slsc</a>



We help states, local governments, and K-12 schools:





Design and Implement Energy Programs



Pay for Energy Infrastructure



Access and Use Energy Data

#### **DOE Resources and Initiative**

- Rural Resources Webpage
- <u>Energy Efficiency and Renewable Energy Resources for</u> <u>Rural K-12 School Energy Managers and Educators</u>
- <u>Clean Energy for Low Income Communities Accelerator</u> (CELICA) Toolkit



• Low-income Household Energy Burden Varies Among States- Efficiency Can Help in All of Them: Fact Sheet



Sustainable Wastewater Infrastructure of the Future (SWIFt) Accelerator

70+ facility partners in 22 states working to achieve 30% ENERGY SAVINGS

#### **DOE Tool on Energy Affordability**

#### Low-income Energy Affordability Data (LEAD) Tool





United States o

Click any state to view counties, census tracts, and cities.



Understanding the rural energy burden in your state Goal: Help stakeholders make datadriven decisions on energy goals and program planning by improving their understanding of low income and moderate income household energy characteristics.

#### Low-Income Energy Affordability Data Tool



https://www.energy.gov/eere/slsc/maps/lead-tool

#### **Next Steps**

• WIP is currently researching the following opportunity areas:

Small & Rural Wastewater Treatment

Small & Rural K-12 School Districts

**Correctional Facilities** 

Resilience



#### **Stay Connected**

- State and Local Solution Center
  - More than 500 tools, resources, and best practices
- State and Local Spotlight
  - Monthly newsletter with ~27,000 subscribers

#### **Subscribe:**

http://energy.gov/eere/slsc

#### **Contact:** <u>stateandlocal@ee.doe.gov</u>

#### ENERGY EFFICIENCY & RENEWABLE ENERGY RESOURCES

FOR STATE & LOCAL LEADERS



### **QUESTIONS?**

### **THANK YOU!**





## **Energy and Rural Prosperity**

Fritz Ebinger, J.D. Energy Policy Institute

## Helping Minnesotans build clean energy



**MISSION** We connect individuals and their communities to the resources they need to identify and implement community-based clean energy projects



#### How does CERTs work? STAFF northwest **Regional coordinators and** statewide support **STEERING COMMITTEES** central One per region; governing body for regional team **REGIONAL TEAMS** metro Anyone can join; broad range of skills, interests, and backgrounds southwest southeast

## How does CERTs help?





#### **Hands-on assistance**

For cities, counties, utilities, farmers, businesses, and other organizations looking to make a change

3 -	



#### Practical steps to clean energy

Resources for getting started, moving forward, and completing projects

#### Learning opportunities

We host events, create resources, and highlight clean energy stories and jobs

#### CERTs Partners

Regional Sustainable Development Partnerships UNIVERSITY OF MINNESOTA EXTENSION





## **CERTs Audiences**





# We're all about people









## **CERTs Right Light Guides & App**





#### Customized for 70+ utilities



mncerts.org/lighting



1 \$ 79%





## **CERTified Campaigns**













## Sharing farm case studies

#### MN ENERGY STORIES mncerts.org/blog





Zumbrota Farm harvesting solar power to reduce energy costs



Ronningen Dairy Farm adds solar PV to their West Concord operation



Jorgenson Hog Farm in Westbrook, MN cashes in with wind, solar PV



Family farm invests in renewable energy, saves barn



Learning about solar energy at Featherstone Farm



Solar exceeds expectations at Guentzel Family Farms in Eagle Lake



Hoffman Farms near Chatfield saves money with utility rebates



The Popps are harvesting solar and wind energy on their farm



Turkey farmers learn about solar air and LED lighting technologies



Langmo Bros. Farm pilots LED lighting for turkey barns







- Network of Extension professionals and educators
- Land-Grant universities addressing the nation's energy needs
- Share energy research, programs, and resources
- Primarily serve rural stakeholders









## **Energy & Rural Poverty**





Map & Data Visualization Credit: Jordan Wirfs-Brock See also, ACEEE, The High Cost of Energy in Rural America, July 2018; Chandler, Adam, "Where the Poor Spend More Than 10 Percent of Their Income on Energy, June 8, 2016. Percent Income Spent on Energy Bills for Homes Below 50% of Federal Poverty Level
LESS THAN
53% TO
24%
53%

In MN, households below 50% of the Federal Poverty Level spend 25% to 46% of income on energy bills.

P.S. Fuel Poverty is ridiculous in NoDak and parts of Wisco

## **Conserv. Improvement Program**



- Mandate: 1.5% retail energy savings over 3-year avg.
- Applies to electricity and natural gas utilities; No fuelswitching policy!
- Result: Weatherization Service Gap for the rural Propane Reliant
- MN: 135,000 homes rely on Low-income Heating Assistance Program

## **Barriers: The Hidden Obvious**





#### Market Conditions









No Time



Not a Priority

# **GRANT: USDA-REAP**



- Rural Small Business town with less than 50,000 people
- Farmer derive more than 50% of your income from agricultural production (crops, livestock, timber, etc.)

Tangletown Gardens / Wise Acre Farm – Plato, MN

# **GRANT: USDA-REAP**

- 25% of project cost
- Two deadlines:
  - October 31, 2019
  - April 30, 2020
- Start project <u>after</u> <u>application is</u> <u>submitted</u>



Turkey Farm by CB Solar – Washington, IA

## **Property-Assessed Clean Energy (PACE)**

Finance efficiency and renewable upgrades for commercial or agricultural property owners

- Project cost is repaid as a separate item on property taxes
- Eliminates the burden of upfront costs

## mncerts.org/pace





# How does PACE work?



- 1. Landowner has a site assessment or energy audit
- 2. Port Authority approves loan/lien financing of the project cost up 20% of tax assessor's property valuation.
- 3. LGU adds the property tax assessment as a tax lien
- 4. Owner pays back the loan/lien for up to 20 years (usually 10 years at 5% fixed rate).

## Simple! Easy!

## **GRANT: MDA AGRI Livestock Investment**

- Grant 10% of project cost
- Equip improvements and energy efficiency!
- Funding cycle once per year
- Deadline Mid-December
- 50%-60% success rate







## **No-Go: USDA RESP On-Bill Financing**



- Rural Energy Savings Program
- 0% for 20 years for borrowing utility...Yay!
- 3% lending rate to end-user...Boo!

Means: Money <u>loser</u> in admin. costs and loan defaults to elec. coops.

Energy Efficiency & Conservation Loan Program (EECLP) has same problem: 1.5% lending rate to end-user: Too Low.





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