

Elevate Energy

Illinois Energy Efficiency Stakeholder Advisor Group
May 13, 2020



Agenda

May 13, 2020

- Whole-Building Electrification Retrofits Pilot – IQ Multifamily
- Rural IQ Electric Pilot
- Benchmarking Technical Assistance

Whole-Building Electrification Retrofits Pilot for Income-Qualified Multifamily

Margaret Garascia

Senior Manager, Research and Innovation



Whole-Building Electrification Retrofits

- Applicable utilities
 - All Illinois utilities
- Background
 - Illinois has 605K units of affordable multifamily housing
 - Air-source and ground-source heat pumps are currently approved measures
 - Heat pump water heaters were removed as measures due to low demand
- Idea
 - Whole-building electrification retrofits for multifamily buildings

Program Components

- Comprehensive **energy efficiency** including building envelope measures to optimize the system size needed to meet heating and cooling loads
- **Electrification** of end uses including the **heating system**, the **domestic hot water system** via a heat pump hot water heater, and the **cooking** systems in-unit
- Upgrades to the electrical panel (if necessary)
- **Workforce** training for contractors unfamiliar with electrification retrofits
- Incorporation of **grid-enabled technology** and smart grid programs, as applicable

Impact

- Reduce site energy consumption
- Reduce carbon impacts
- Demonstrate newer technologies like VRF, heat pumps, and heat pump DHW
- Improve tenant comfort and indoor air quality
- Demonstrate leadership on electrification in the Midwest

Rural Income-Qualified Electric Pilot

Margaret Garascia

Senior Manager, Research and Innovation



Rural Electric Pilot

- Applicable utilities
 - ComEd (Research and Development)
- Background
 - Pembroke Township (Kankakee County)
 - 1,000 housing units
 - 2/3 single family; 1/3 mobile homes
 - Heating is 64% propane, 20% electricity
 - Farming community founded in 1877 by African Americans
 - Average household income of \$18,500

Rural Electric Pilot

- Idea
 - Electric modernization and weatherization for rural income-qualified customers
 - Integrated space and water heating systems
 - Electrical panel upgrades
 - Weatherization
 - Workforce training
 - Grid-enabled technology
- Impact
 - Reduce total site energy consumption
 - Reduce total energy costs for customers
 - Demonstrate innovative technology for ComEd

Rural Electric Pilot

- Rationale
 - Technology development
 - Integrated space and water heating for ground-source heat pumps produces a 44% annual reduction in domestic hot water energy consumption (2018 TRM)
 - Not well understood for air-source heat pumps even though there is no clear technical barrier
 - Need to refine such systems in a cold climate.
 - Economic development for a historically under-invested area

Benchmarking Technical Assistance

Gus Sandoval

Project Coordinator, Public Sector Programs



Benchmarking Technical Assistance

- Applicable utilities
 - All Illinois utilities
- Idea
 - Provide benchmarking technical assistance for income-qualified multifamily properties (25k-50k sq. ft)
 - Tie service to receiving free energy assessment
- Rationale
 - Properties in this building cohort may not have adequate financial, technical, or staffing capacity
 - Properties that benchmark have higher awareness of energy use performance, able to proactively maintain (i.e. City of Chicago benchmarking properties)

Benchmarking Technical Assistance

- Impact on customers
 - Increased customer satisfaction by providing unique service offering not currently available at no cost to customer
- Impact on Illinois energy efficiency programs
 - Expected to increase participation in the utilities' multifamily programs' free energy assessment offerings
 - Increased energy savings resulting from no/low-cost upgrades identified