

# Residential Demand Response Through Connecting MHA

BUDGET

**\$1M**

TVA Connected Communities

This pilot project expands and unites the “Connecting MHA” and “Home Energy Management System (HEMS)” pilot projects to offer connectivity and energy education to ensure residents benefit from smarter energy management and demand response (DR).

## Background



### Barriers to Energy Saving

While affordable housing offers many benefits for low-income residents, access to more advanced energy efficiency technologies and programs can be difficult or non-existent, hindering meaningful energy burden relief. Building off of an earlier pilot project, residents of one community within MHA have the opportunity to participate in an incentive-based HEMS plus demand response pilot project.

#### THE OPPORTUNITY

### Expanding Energy Savings

Residents of a MHA community receive new, high-efficiency, Wi-Fi-enabled devices in their units and the opportunity to participate in a HEMS plus demand response program to save energy and money.

#### PHASE 1 RECAP

**3**  
communities provided with Wi-Fi access

**300**  
total residents impacted

## Scope



### Water Heaters and Thermostats

installed and controlled through the HEMS app for DR events.



### Demand Response Events

that last two hours and include pre-event notifications and monthly reports of energy savings.



### Resident Comfortability

is top of mind and residents will have the option to opt-out of any demand response event.

#### QUANTITY

**2**  
Wi-Fi-enabled devices

**75**  
participating units

#### THE GOAL

### Designing a Scalable Program

In addition to energy-savings benefits for current program participants, data from this pilot allows Middle Tennessee Electric (MTE) to further develop customer-facing programs with HEMS and smart home functionality which other local power companies can deploy.



## Performance

### Key Performance Indicators

- Energy saved by unit
- Money saved by unit
- Resident comfort during demand response events (# of opt-outs during events)

## The Value

### Program Participants

- New smart thermostats and high-efficiency water heaters in the selected community
- Financial incentive for participation
- Energy and money savings
- Flexibility with program participation

### MTE

- Understanding of customer experience and reactions to demand response events
- Integration of HEMS platform into MTE's app
- Cost savings from reducing energy consumption during peak hours when energy is more expensive

### Other Local Power Companies

- Access to documentation to replicate the pilot program
- The Open HEMS platform and mobile app



## Key Partners

### PROJECT LEAD

Tennessee Valley Authority

### ADDITIONAL PARTNERS

ACE IoT

Middle Tennessee Electric

Murfreesboro Housing Association

Oak Ridge National Laboratory

SmartMark Communications, LLC

United Communications

## Timeline

### Move In

Residents move in to Oakland I

### Installation

Install Wi-Fi and network gateways

### Recruitment

Recruitment for participation in HEMS Plus DR pilot begins

### Education

Residents are provided educational materials on HEMS and DR

### Begin Activities

Open HEMS Plus DR activities begin with participating residents



Learn more about this pilot project