

# Supporting Veteran Reintegration Through Sustainable Agriculture

The project aims to build on a 32-unit housing development for veterans in Knoxville, Tennessee, creating a net-negative carbon development. The housing development focuses on reducing energy consumption and carbon emissions while educating residents on innovative agriculture solutions and improving living conditions for veterans and their families. By capturing carbon and utilizing it to support local agriculture, it serves as a demonstration of sustainable housing and energy practices.

BUDGET

\$250K

TVA Connected Communities

## Background



### Energy-Efficiency Meets Affordability

Many veterans in communities across the nation struggle with workforce reintegration and affordable housing. Affordable housing and stable income are critical drivers of success for those experiencing homelessness. Installing innovative farming technology allows veterans to learn desirable, transferable skills that can be applied to future careers in sustainable agriculture. Providing energy-efficient, affordable housing supports underserved veterans and the holistic community's carbon footprint.

#### THE OPPORTUNITY

### Resilient Energy Management

KCDC is partnering with others to develop an affordable housing complex specifically for veterans to reduce utility costs and improve living conditions. This complex is energy efficient, supports local agriculture through an onsite agriculture pod (ag pod), and will eventually explore a carbon capture system.

#### IMPACT

**Workforce Reintegration support for underserved veterans**

**Model Solutions for energy-efficiency and sustainable agriculture**

## Scope



### Enhance Quality of Life

for low-income veterans by reducing energy costs and improving housing conditions through energy-efficient, affordable housing units.



### Support the Community

by lowering carbon emissions and supplementing local agriculture with the production of crops through the ag pod.



### Provide Training

opportunities to veteran residents, supporting potential career pathways related to managing hydroponic systems.

#### OUTCOME

**32**  
new energy-efficient housing units for veterans

**Ag Pod**  
to produce crops through hydroponics

#### THE GOAL

### An Affordable, Net-Negative Carbon Neighborhood

This project aims to reduce utility costs, provide vocational development opportunities and improve living conditions for low-income veteran residents by creating a net-negative carbon neighborhood that minimizes energy consumption and captures carbon emissions.



## Performance

### Key Performance Indicators

- Carbon emissions reduction
- Decreased energy consumption
- Residents' views on comfort and new technology

## The Value

### For Residents

- Reduce energy costs through energy-efficient buildings
- Educate residents on sustainable farming practices and technology
- Enhance the comfort and health of residents in low-income housing

### For the Community

- Reduce energy consumption, lowering carbon emissions
- Serve as a model for sustainable development
- Create a replicable blueprint for sustainable practices in housing and agriculture.

## Key Partners

### PROJECT LEAD

Knoxville Community Development Corporation

### ADDITIONAL PARTNERS

Electric Power Research Institute (EPRI)

Oak Ridge National Laboratory (ORNL)

Tennessee Valley Authority

US Department of Energy



## Timeline

November 2024

Install instrumentation in the veterans housing complex

December 2024

Begin data collection on energy consumption and development of carbon capture mechanisms

August/September 2025

Complete the development of the carbon capture system and install it on the ag pod

November 2025

Complete the installation and start gathering comprehensive data

2026

Analyze and report on the collected data and explore the potential of additional infrastructure like a greenhouse



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