

# Community Housing Partners Energy Solutions



## THE CHALLENGE

The main challenge in conditioning small, low-load dwelling units in garden-style multifamily buildings, particularly in mixed-humid climates, is the difficulty conventional HVAC systems face in handling peak heating and cooling loads, while also managing moisture during shoulder seasons. Improving building envelopes can worsen moisture retention, affecting comfort, air quality, and durability. To address this, the project plans to integrate advanced HVAC technologies such as Energy Recovery Ventilators (ERV), variable-speed heat pumps, and systems that separate latent and sensible cooling. It also aims to address ventilation standards by managing incoming air contaminants, especially excess moisture, which can cause health and durability issues when ventilation systems introduce more moisture than the cooling systems can remove.

## THE GOAL

The goal of this project is to address HVAC challenges in small, low-load multifamily dwellings in mixed-humid climates by integrating advanced technologies such as Energy Recovery Ventilators (ERVs), variable-speed heat pumps, and systems that separate latent and sensible cooling needs.

The project aims to improve ventilation and moisture management, particularly where mechanical ventilation introduces more moisture than can be removed by cooling systems, which can lead to health and durability issues. By combining weatherization techniques with innovative mechanical systems, CHP seeks to enhance energy efficiency, improve indoor air quality, and reduce reliance on in-wall dehumidifiers. The project will be closely monitored to evaluate real-world performance, with the aim of creating scalable solutions for similar weatherization projects in humid climates across the region. Ultimately, CHP aims to set a precedent for future weatherization efforts, improve sustainability and comfort, and empower other providers to adopt these solutions for healthier, more efficient multifamily housing.



The **Virginia Energy Efficiency Council**, a member-based 501c3, launched the Energizing Efficiency Campaign in 2023 to further the mission of advancing EE across the state by showcasing incredible work being done in our communities and inspiring others to act. Learn more at [VAEEC.org/Energizing-Efficiency-Campaign](https://VAEEC.org/Energizing-Efficiency-Campaign).

