



HCR's Clean Energy Initiative

Ithaca Housing Authority: *A Case Study in Flexibility and Sustainability*

HCR is working to put affordable housing projects on the path to meeting the goals of New York State's Climate Leadership and Community Protection Act, which mandates an 85% reduction in greenhouse gas emissions by 2050, compared to New York State's 1990 carbon emission levels.

The Ithaca Housing Authority utilized \$1.5 million in Clean Energy Initiative financing in a groundbreaking effort to transform a 118-unit townhouse complex into an all-electric model of sustainability and affordability.

IMPACT

Critical envelope improvements to the three buildings reduced operating costs and the need for natural gas on-site, setting a precedent for future projects.

SCOPE OF WORK

The development features three buildings— the newly constructed Northside, and the moderately rehabilitated Southview Gardens and Overlook Terrace. The Northside building is slated to achieve advanced levels of Energy Star Certification.

Originally planned with natural gas systems, the development's use of CEI funding facilitated a transition to highly efficient all-electric systems, in line with the State's Climate Leadership and Community Protection Act goals.

This project is unique in its implementation of all-electric systems in both new construction and moderate rehabilitation units, showcasing the flexibility of the CEI program and HCR's dedication to sustainability.



The success of the Ithaca Housing Authority’s project is an example of the potential for replicating similar achievements in future developments as HCR works to integrate these strategies into all its projects.

Northside Building Scope of Work and Building Specifications		
Building Detail	Original Plans	CEI-enabled Scope
Heating and Cooling	Gas furnaces per apartment & split system AC	Ducted <i>electric</i> air-source heat pumps per apartment
Domestic Hot Water	Standard <i>gas</i> hot water system	<i>Electric</i> heat pump hot water heaters
Envelope	R-5 exterior insulation, R-21 foam interior insulation	Addition of double hung highly insulated windows and doors with advanced air sealing
Operating Costs	\$96,144/year	\$93,662/year

Southview and Overlook Buildings Scope of Work and Building Specifications		
Building Detail	Original Plans	CEI-enabled Scope
Heating and Cooling	Ducted <i>gas</i> furnace	Ducted <i>electric</i> air-source heat pumps per apartment*
Domestic Hot Water	<i>Gas</i> instant water heaters	<i>Electric</i> heat pump hot water heaters**
Operating Costs	\$59,542/year	\$58,211/year

*The operation of heat pumps is very different from previous systems tenants and operations staff have encountered. Efficient operation will depend highly on set points, which is why training and educational materials are critical.

**Heat pump hot water heaters generate cold air during operation which must be considered in design.

LESSONS LEARNED

Lessons learned from this pioneering endeavor include the importance of early and frequent engagement with utility providers to navigate the complexities of electrification.



Scan this QR Code to learn more about the HCR Clean Energy Initiative Program