



# HCR's Clean Energy Initiative

## Apartments at the Lyceum

### *A Case Study in Historic Preservation and Energy Innovation*

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 Developer, Community Services for Every1, leveraged \$525,000 in Clean Energy Initiative financing in a shining example of innovative urban renewal to transform a historic Catholic school into 42 energy-efficient affordable apartments while also creating a community service hub. All design work has celebrates the building's history, adhering to New York State Historic Preservation Office (SHPO) and the Department of the Interior's Standard's for Historic Preservation.

#### IMPACT

Critical energy improvements enabled the complete electrification of the building while meeting both historic preservation requirements and exceeding Energy Star Multifamily New Construction standards by over 25%.

#### SCOPE OF WORK

The development features the innovative adaptation of St. John Kanty Lyceum, serving households at 50-60% AMI, though many are expected to come in under 30% AMI, with 12 units designated for survivors of domestic violence. The project includes accessible units for residents with mobility, hearing, and visual impairments.

*This unique project showcases the successful integration of modern energy systems within historic architecture, demonstrating the flexibility of the CEI program while adhering to New York State Historic Preservation Office requirements.*



| Upgrades Enabled by CEI   |                             |                                       |
|---------------------------|-----------------------------|---------------------------------------|
| Building Detail           | Original Plans              | CEI-enabled Scope                     |
| Space Heating and Cooling | Electric                    | Electric – high efficiency heat pumps |
| Domestic Hot Water        | Natural Gas, Central Boiler | Electric – high efficiency heat pumps |
| Building Envelope         | R-13 exterior               | R-13 or better throughout             |
| Windows                   | U-value of 0.3              | U-value of 0.3                        |

## LESSONS LEARNED

The Apartments at the Lyceum was the first historic preservation project to participate in CEI. Particularly when decarbonizing an existing building that requires a sophisticated approach, it is crucial for developers to assemble a strong team, including sustainability experts, engineers, and contractors with experience in electrification and energy efficiency.



# 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  | <b>\$96,144/year</b>                                   | <b>\$93,662/year</b>   |

| 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  | <b>\$59,542/year</b>             | <b>\$58,211/year</b>  |

\*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



# HCR's Clean Energy Initiative

## Lion Factory

### *A Stand-Out Model for Sustainable Construction and Decarbonization in Affordable Housing*

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. Regan Development's adaptive reuse of the Lion Factory leveraged Clean Energy Initiative financing to transform a historic industrial building into 151 affordable housing units, achieving advanced levels of ENERGY STAR performance while preserving historical features.

#### **IMPACT**

Critical envelope improvements and installation of geothermal systems reduced operating costs by 48% while eliminating natural gas usage on-site, setting a precedent for future historic preservation projects.

#### **SCOPE OF WORK**

The development features the rehabilitation of a six-story, 215,000 square foot historic building originally constructed between 1884 and 1897. The project includes 145 deeply affordable units serving households earning 40% to 60% Area Median Income, with 25 units designated for survivors of domestic violence, plus 8,800 square feet of commercial space.

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.



| Upgrades Enabled by CEI |                                 |   |
|-------------------------|---------------------------------|---|
| Building Detail         | Original Plans                  | CEI-enabled Scope                                     |
| HVAC                    | Gas furnances & split system AC | Ground Source Heat Pump                               |
| Domestic Hot Water      | Standard gas hot water system   | Ground source heat pump domestic hot water            |
| Ventilation             | No ERV planned                  | ERV added to each unit                                |
| Windows                 | U-values between 0.34 - 0.40    | U-values between 0.25-0.27                            |
| Insulation              | At or above code                | Significant insulation improvements to exterior walls |

*This project is unique in its successful integration of clean energy systems within a historic structure, showcasing HCR’s dedication to both sustainability and preservation.*

**LESSONS LEARNED**

ERV systems were placed in conditioned spaces in mechanical rooms on each floor, protected from ambient outdoor temperatures. Thoughtful placement of ERV systems dramatically improves performance of the system.



# HCR's Clean Energy Initiative

## Steamboat Square Revitalization

### *A Case Study in Historic Retrofit and Environmental Justice*

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 developer, the Albany Housing Authority leveraged \$1.1 million in Clean Energy Initiative financing in a shining example of environmental justice to transform a historic high-rise building into an all-electric model of mixed-use affordable housing, achieving the highest tier of NYSERDA's Multifamily Performance Program.

### IMPACT

Critical envelope improvements and ground-source heat pump installation reduced energy use by 45% while eliminating natural gas on-site, setting a precedent for the future revitalization of over 300 additional apartments in the community.

### SCOPE OF WORK

The development features the innovative retrofit of 20 Rensselaer Street, one of four historic high-rise buildings in Albany's walkable Capital South neighborhood. The project includes 88 one- and two-bedroom apartments, with 74% of units serving households at 50% AMI and 16% reserved for homeless households.

*This groundbreaking project showcases the successful integration of all-electric systems in a historic brick building, demonstrating the flexibility of the CEI program while improving resident comfort through noise mitigation and fresh air systems.*



| Upgrades Enabled by CEI |                                     |  |
|-------------------------|-------------------------------------|--|
| Building Detail         | Original Plans                      | CEI-enabled Scope  |
| Air Conditioning        | Central <i>gas</i> space heating    | High efficiency heating and cooling with ERV                                       |
| Domestic Hot Water      | Central <i>gas</i> hot water system | <i>Central</i> water-to-water heat pump water heater w/ electric resistance backup |
| Envelope                | R-5 Insulation                      | R-6 Insulation and Air Sealing   |
| Roof Insulation         | R-30 Insulation                     | R-49 Insulation  |
| Geothermal              | None                                | 2 ground wellfields for ground source heat pump                                    |

## LESSONS LEARNED

Key to the success of this project was early coordination with all subcontractors to ensure a tight building envelope. The pairing of CEI with other decarbonization incentives enabled the project to pursue highly innovative solutions.





# HCR's Clean Energy Initiative

## Tailor Square:

### *Rochester's Historic Hickey Freeman Factory Becomes a Shining Example of Innovative Urban Renewal*

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.

Rochester's **Tailor Square** is a testament to innovative urban renewal. The project is putting \$2.8 million in Clean Energy Initiative funds, along with an array of local, state, and federal resources to work redeveloping the historic Hickey Freeman factory in Rochester into a vibrant mixed-use senior community featuring 134 affordable apartments, with one-third set aside for seniors in need of supportive services.

### IMPACT

Tailor Square's holistic approach to sustainability, which includes critical envelope improvements, whole building electrification, and renewable energy integration, is poised to yield significant long-term cost savings.

### SCOPE OF WORK

The project's historical significance as the long-time home of the Hickey Freeman men's apparel company adds a layer of complexity to its redevelopment. While 77,000 square feet will be retained by Hickey Freeman for manufacturing space, the remainder is being transformed into affordable homes, all while adhering to state and federal historic preservation standards.

CEI funding facilitated a bold shift from central gas to electric systems by embracing ground source heat pumps for space conditioning and domestic hot water, freeing up space for solar panels.



| Upgrades Enabled by CEI                |   |   |
|--|---|---|
| Building Detail                        | Original Plans  | CEI-enabled Scope   |
| Heating, Cooling, & Domestic Hot Water | Natural Gas Central Boiler  | Ground Source Heat Pump*  |
| Building Envelope                      | Foam insulation only to be added under windows; roof insulation of R-30 | Foam insulation on entire exterior wall; roof insulation improved to R-49 |
| Windows                                | U-value of 0.35   | U-value of 0.30   |
| Ventilation                            | No ERV planned  | ERV added to each unit  |
| Renewables                             | None Planned  | Solar to offset on-site energy costs                                      |

\*Selected scope item as geothermal frees up roof space to take advantage of solar for additional renewable energy.

## LESSONS LEARNED

Taylor Square stands as a pioneering example of adaptive reuse, achieving ambitious decarbonization goals while navigating regulatory hurdles and financing complexities. It sets a benchmark for future urban renewal projects in New York, demonstrating the viability of sustainable, mixed-income housing models that prioritize both environmental stewardship and community affordability.



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