# A Case Study of the First Net Zero Carbon Affordable Multifamily Retrofit in New York State

## **Presenter: Ashley Wisse**

#### Additional Presenters:

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### Presenter Biographies and Experience:

Ashley joined New Ecology in 2012; she manages high-performance design, construction, and renovation of multi-family affordable housing throughout the Northeast and oversees a team of Project Managers and Energy Raters. Ashley is a LEED AP, Green Rater, Provider Quality Assurance Designee, Certified Energy Manager, Certified Passive House Consultant, and Certified Passive House Builder. She prioritizes the research of new technologies and the implementation of policy-based sustainability.

Ashley holds a BS in Civil Engineering from Syracuse University and a MS in Architectural Engineering from The Pennsylvania State University. Ashley is a LEED AP in: Building Design and Construction, Homes, Neighborhood Development, and Interior Design and Construction as well as a certified Provider Quality Assurance Designee for the LEED for Homes rating system. She is also a Certified Energy Manager, Certified Passive House Consultant, and Certified Passive House Builder.

Ashley has 14 years of professional experience in the Building Science industry and one full-time year of academic experience teaching undergraduate courses in Construction Management at the Wentworth Institute of Technology. Ashley also regularly teaches Penn State graduate school classes about Passive House methodology for affordable housing. Ashley has presented at conferences and events, including NESEA, AEE, CHAPA, and the Pennsylvania Housing Research Center.

## Abstract:

Colonial II was constructed in 1972 as a school/dormitory. In 1984, it was transformed into residential units designated for vulnerable populations. The building is currently owned and operated by the Rome Housing Authority. In March 2020, Beacon Communities, RHA, and NEI launched an effort to retrofit the building. This endeavor targeted submission to NYSERDA's Buildings of Excellence competition with a zero-carbon, affordable multifamily retrofit. The team optimized the design, construction, operations, sustainability, energy efficiency, certifications, and testing & verification. With a ribbon-cutting in March 2024, three team members are ready to share their lessons learned as a Case Study. This presentation will explore 1- constraints of a zero- carbon retrofit, including the addition of: geothermal, on-site PV, community solar, DHW ASHP, ERVs, increased insulation, and EV charging. 2- removal of the façade and replacement with EIFS. 3- changes and adaptations of ASHRAE 90.1 energy modeling results from a predesign model to the design BOE competition submission to the as- built results. 4-setbacks and adjustments to achieve a zero-carbon building. 5- certification challenges for NGBS and Energy Star MFNC: ASHRAE pathway