

# Grid-Interactive Efficient Building Demonstration at Solara Apartments

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## Abstract:

To meet New York State climate goals, more fully electrified buildings and distributed energy resources (DER) need to be connected to an increasingly constrained electric grid. As more DER come online, there will be greater opportunity to leverage these assets to provide grid services through flexibility. The partnership with Solara enables grid edge connectivity and control of site DER to demonstrate flexible modulation of energy use to address localized grid constraints. On-site DER includes solar photovoltaic (PV) energy, heat pumps, hot water thermal storage, electric vehicle charging, and mechanical ventilation. Three seasonal operating modes are being tested, including demand management to decrease site load during winter peak demand due to heat pump peak loading, high utilization to increase site load during spring and fall periods to increase feeder hosting capacity, and intraday flex to combine high utilization during summer highest PV production and demand management during highest peak demand. Benefits to the grid include increased hosting capacity, reduced peak demand, and reduced overload risk. Benefits to the site owner include a reduction in demand charges and additional revenue for the flexible capacity provided. Tenants will experience little to no impact on comfort and convenience while participating in events. The anticipated results will help determine the value and ability to implement flexible capabilities of multiple DER types across the Niagara Mohawk service territory.

## Presenter Biography:

**Mark Bremer** is a Lead Product Developer for Grid Services at National Grid focused on increasing the value of customer-owned distributed energy resources across NY and MA to provide targeted distribution grid services, enabling our clean energy future. Mark was formerly a sciences lecturer and campus sustainability leader at SUNY Polytechnic Institute where he spearheaded the Green Building Experiential Learning Collaborative, which utilized student-led certification projects of new and existing campus buildings as learning tools for individual credential development.

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