

# Downtown Syracuse Category A Feasibility Study NYSERDA PON 4614

Onondaga County

Technical Lead: CHA Consulting

Anticipated completion of  
study/availability of final  
report: November 2021



## The Site & Beneficiaries

**Project will initially target several blocks of an existing commercial building district within the downtown area of the City of Syracuse.** Up to 35 downtown buildings are being targeted, many of which currently have an existing water source heat pump system with a boiler/tower configuration that would be replaced by the district system to provide a low carbon heating retrofit solution. These 35 buildings, collectively almost 10-million square feet, will be analyzed to explore district-style heat pumps. These 35 buildings have diverse occupancy patterns and thermal load profiles, consisting of office buildings, hotels, multifamily-residential, health clinics, and a secondary school. The analysis will quantify the peak of the composited thermal load and compare it to the sum of the individual peaks in order to assess the load-flattening benefits of aggregating into a district.

## Potential Thermal Resources

The primary opportunity will leverage a central plant that will manage a district heat pump loop that utilizes waste heat from the Onondaga County Water Environment Protection Department Metro Wastewater Treatment facility to provide heating and cooling services for commercial and municipal buildings in the central downtown, University Hill and Lakefront neighborhoods in Syracuse, NY. Metro treats and discharges an average of 62 million gallons per day (MGD) of tepid water (45 - 75°F) into Onondaga Lake.

## Potential Configuration

A district energy plant would utilize the wastewater outfall that is already deposited into the lake to transfer heat to a new closed-loop district system and deliver water between 70-80°F to participating buildings, allowing for the use of existing legacy water source heat pumps, high temperature water-to-water heat pumps and potentially domestic hot water heat pumps. Further expansion of the system could be facilitated by the upcoming I-81 infrastructure project.