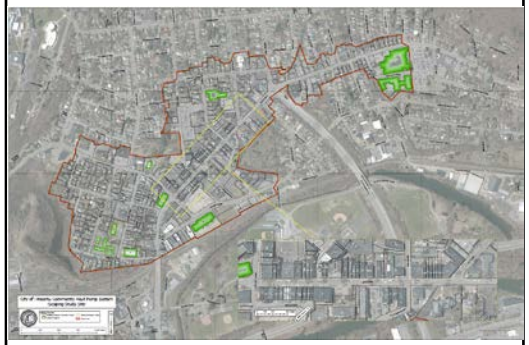
City of Oneonta
Category A Feasibility Study
NYSERDA PON 4614

Otsego County

Technical Lead: Ramboll

Anticipated completion of study/availability of final report: January 2022



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The Site & Beneficiaries

The majority of existing downtown buildings within the City of Oneonta with 316 buildings. Each building has its own individual heating system, mostly consisting of fossil fuel fired systems. These 316 buildings, collectively over 2.3-million square feet, will be analyzed to explore district-style heat pumps. These 316 buildings have diverse occupancy patterns and thermal load profiles, consisting of single-family residential, multifamily-residential, commercial office, hotel, healthcare, data center, restaurant, retail, supermarket, and others. The analysis will quantify the peak of the composited thermal load and compare 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 anticipated will leverage heat recovery heat pumps to move heat from one building to another, and supplemental thermal resources, if needed, could include ground-coupled boreholes, water body thermal resource (Susquehanna River), and/or sewage water.

Potential Configuration

The study will explore both options of a 4G design consisting of a central Thermal Building, which houses the heat pumps and from which hot water and chilled water will be distributed via conveyance pipes to the end-use buildings (simple radiators can be used in the end-use buildings), and a 5G design consisting of a heat pump installed at each building where such heat pump would extract heat from, or reject heat to, the district's closed-loop ambient-temperature water pipe. A district thermal system will be explored as an alternative to refurbishment of the existing natural gas utility network (Oneonta is the termination node for the DeRuyter natural gas pipeline, which is over 60 years old and identified by New York Gas and Electric (NYSEG) for replacement).