

**University of Rochester  
Category A Feasibility Study  
NYSERDA PON 4614**

Monroe County

Technical Lead: Wendel

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



V1 6/2021

**The Site & Beneficiaries**

**University of Rochester is an existing educational campus** with 181 buildings. An existing district steam system is being transitioned to hot water distribution piping infrastructure. A subset cluster of five buildings, collectively over 700,000 square feet, will be analyzed to explore district-style heat pumps. These five buildings have diverse occupancy patterns and thermal load profiles, consisting of dormitories, student centers, and library. 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 and/or sewage water.

**Potential Configuration**

Will explore 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). Benefits of this configuration include: opportunity to integrate with existing thermal infrastructure and use the heat pumps as the first-call (reserving the fossil fuel systems as supplement to meet extreme peaks, or for systemwide redundancy for resilience); focusing the location where electric infrastructure upgrades are needed to meet the expanded electrification demand to occur at the Thermal Building (as opposed to at the end-use buildings) to minimize disruption to mission-focused activities during construction, and cost containment.