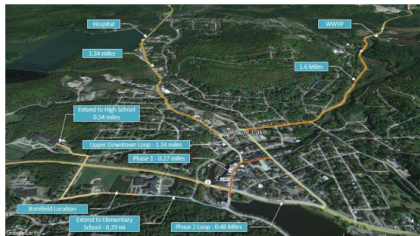


Saranac Lake Community Heat Pump System
Category A Feasibility Study
NYSERDA PON 4614

Franklin & Essex County

Technical Lead: CHA Consulting, Inc.



The Site & Beneficiaries

The study focuses on a site in the Village of Saranac Lake consisting of 31-acres near the Saranac River Dam. The proposed district consists of 85 buildings and approximately 920,000 square feet of conditioned space. The buildings considered comprise residential, retail, hotel, restaurant, municipal, education, and a supermarket. The study assesses overall system feasibility comparing the costs and benefits of a thermal energy network, electrification with heat pumps of individual buildings, and existing in-kind fossil fuel system replacements. The study will also include consideration of project expansion in phases across the entire Village community over the next 10 years, including segments extending to Saranac Lake High School, Petrova Elementary School, the Adirondack Medical Center, and the Saranac Lake wastewater plant.

As part of the project, Saranac Lake will assist impacted local companies, such as fuel delivery companies and HVAC contractors, on workforce development to adapt to servicing ground source heat pump systems.

Potential Thermal Resource

The feasibility study considers ground heat exchangers with vertical boreholes as a future primary source of heat. Saranac River and Lake Flower could serve as a secondary source of heat. The study also explores wastewater effluent heat recovery if the Saranac Lake Wastewater Treatment Plant connection is determined cost effective.

Potential Configuration

The study outlines a district system loop system with heat pumps and thermal energy derived from vertical boreholes. The Village of Saranac Lake will be responsible for operations and maintenance of the system. It would also incorporate select installation of air source heat pumps. The study predicts, with the help of incentives, the networked district geothermal system option has both the lowest carbon emissions and lifecycle costs.