

# Air-Source Heat Pump Heating and Cooling

## Tom and Nancy's Historic Downtown Ithaca Boarding House



### From Gas-Fired Steam Boiler to Multi-Zone ASHP w/ ASHP Hot Water Heater

2016 Downtown Ithaca Case Study



"I like that I can control the temperature of my room. This is actually the first place I've lived in Ithaca where the heat doesn't go out in the wintertime."

- Carolyn, Tenant

#### Project Specifics:

Area of Home:	3,700 square feet
Age of Home:	Built in 1821
Installer Partner:	Outside of HeatSmart Tompkins Installer Partner Network
Other Info:	Historic Federal Style Boarding House/Apartment Building

#### New Systems:

#### Multi-Zone Air-Source Heat Pump & Air-Source Heat Pump Hot Water Heater

Tom and Nancy's new multi-zone air-source heat pump replaced their historic boarding house's old gas-fired steam boiler. The heat pump now provides comfort to their tenants year-round, without detracting from the historic nature of the house.

HeatSmart Tompkins Board Member Tom and his wife Nancy are local homeowners and current landlords. Concerned about the impact of fossil fuels on the climate yet wanting to provide the amenities of heating and cooling and year-round comfort to their tenants, Tom and Nancy decided to install a multi-zone air-source heat pump for cleaner heating and cooling. They also installed an air-source heat pump hot water heater to heat the water in the historic boarding house's six apartments.

## Cost / Usage:

It now costs \$5,550 / year to run the air-source heat pump system for all heating and cooling in the apartments, as well as the air-source heat pump hot water heater for domestic hot water.

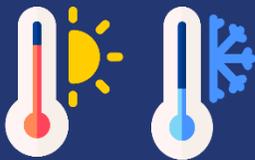
## Project Cost (reflects 2016 incentives):

Cost Category	Project Cost	Incentives	Current ASHP Incentive
Installation of Multi-Zone ASHP & ASHP Hot Water Heater	\$42,000	In 2016, ASHP installation incentives did not yet exist. However, current incentives would've decreased these costs.	\$1,000 per 10,000 BTUs.

### Project Specifications

3 Mitsubishi compressors with branch boxes feeding 11 heads  
GE Geospring Air-Source Heat Pump Hot Water Heater  
New wiring to all three compressors; Chase ways were built to conceal line sets

## Project Highlights:



Year-Round Comfort for Building's Tenants



Cleaner, Reliable Heating and Cooling



Maintained Historic Nature of House

Local landlords Tom and Nancy decided to decrease their carbon footprint and that of their tenants by installing a multi-zone air-source heat pump and an air-source heat pump hot water heater just before converting their seasonal B&B into an apartment building. Their multi-zone air-source heat pump has a total of three Mitsubishi compressors, which provide reliable heating and cooling to heat pump heads throughout the entire building, on all floors.

Tom and Nancy went through the installation process with an installer company outside of the HeatSmart network of trusted installer partners. Unfortunately, they did not have a good experience with the company and would not recommend them to other customers. Besides his poor installation experience with the company, Tom has only had positive experiences with his heat pump system and would recommend them to others who would like to decrease their carbon emissions in favor a greener energy alternative.

The before and after cost comparisons of this case study are misleading because at the same time as the heat pumps were installed, Tom and Nancy ceased their seasonal B&B operation and converted the house into 6 year-round apartments which brought on greater heating and cooling needs.

For questions about this project or program, contact:

**607-500-HEAT** or visit **HeatSmartTompkins.org**

