

## **SOLUTION AT A GLANCE: COLUMBIA ASSOCIATION: DECARBONIZATION WITH HEAT PUMP WATER HEATERS**

### **SECTOR**

Commercial

### **BARRIER**

Identifying or evaluating energy-saving technologies

### **TOOL TYPE**

Case Study

### **BUILDING TYPE**

Other, Recreation, Health club

### **TECHNOLOGY**

Decarbonization, Technology Strategies, Heat Pumps, Zero energy/ZE ready

### **OVERVIEW**

Columbia Association (CA) is a nonprofit community services corporation that manages 500,000 square feet of public facilities in Columbia, Maryland. CA leveraged resources and technical assistance from the Better Buildings Low Carbon Pilot to assess water heaters at Kendall Ridge Pool, a community facility built in 1996. The energy team at CA replaced a large propane water heater with two smaller heat pump water heaters and tested it during the popular summer pool season. The energy team at CA was motivated to complete the heat pump retrofit to eliminate a source of on-site fossil fuel combustion and utilize a high-efficiency heat pump technology at the site.

The existing water heater serviced a bathhouse for the Kendall Ridge community pool. The site included a 65-gallon propane water heater which consumed 243 gallons per hour at 120 degrees F and produced 251,000 Btu/hour. It was replaced by two 50-gallon hybrid water heaters which ensured more storage and lowered individual electric demand requirements. Additionally, installers were able to utilize existing 30-amp, 240-volt circuits in the electrical panel and pulled new circuits to the tanks, so no changes to the existing electrical panels were required. Columbia Association plumbed the two smaller tanks in series to provide for additional hot water volume to the facility.

Since installation, the system has met expectations for hot water supply for the bathhouse, showers, and lavatories.

The cost of the project was as follows:

Project	Cost
Two Hybrid Water Heaters	\$3,000
Plumbing Work	\$2,000
Electrical Work	\$3,000

While the pool is only open in the summer season, CA believes that the fossil fuel reduction is worth the investment. Moving away from propane reduces costs and management complications associated with this fuel for the facility. CA's electricity supply is bundled with wind renewable energy credits so the energy used by the new heat pumps has a greenhouse gas emissions offset. Once this project is complete, CA plans to pursue similar replacements throughout its portfolio. The organization has other facilities with natural gas or propane-fired tank water heaters, and hybrid heat pump water heaters will be their first choice for future installations. Future plans for Kendall Ridge Pool include removing a propane spa heater and replacing it with a heat pump, which will completely eliminate fossil fuel use at the facility.



Columbia Association  @ColumbiaAssn · Oct 26

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Over the summer, CA replaced a propane water heater with high efficiency hybrid heat pump water heaters at the Kendall Ridge Pool. Just one of the ways we're transitioning to clean energy options for our community.

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