

Case Study: Mason Place

The Results

- Reduced annual electricity usage by 18% and summer usage by 27%.
- Reduced electricity usage by 14% at times of peak demand, reducing the demand charge by \$2500.
- Saved over \$14,000, 17% of their total electricity bill.
- Lowered greenhouse gas emissions by 58 metric tons of CO₂e, the equivalent of about 70 acres of forest.
- Savings achieved despite the fact that the summer was significantly warmer than the previous (21% more cooling degree days compared to the previous summer).

About Mason Place

- Affordable senior housing
- Downtown Boston
- Built in 1918
- Masonry, full basement and flat roof
- 134,915 sq. ft.
- 127 apartments on nine floors

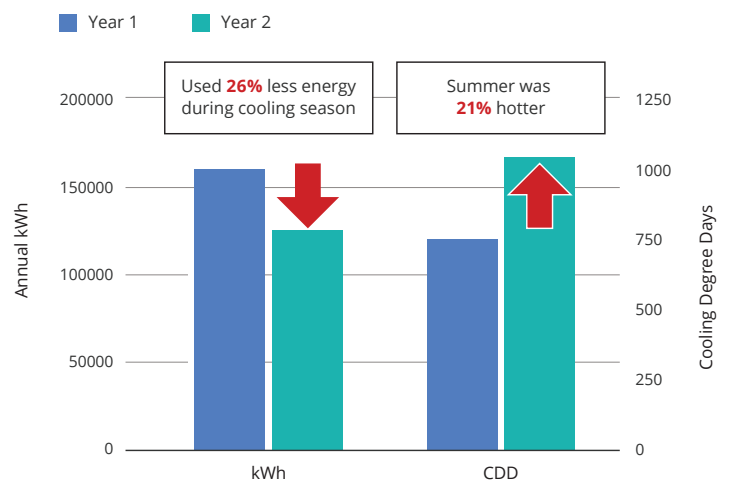
	Annual Usage (kWh)	Peak Demand (kW)	Carbon Reduction (mtCO ₂ e)	Dollars
Before Embue	449,840	882	318	\$ 81,810
After Embue	368,240	762	260	\$ 67,641
Difference	-81,600	-119	-58	\$ -14,1697
	-17%	-14%	-18%	-17%

Big Summer Savings (June – Sept)

- Energy savings (total kWh used): 26%
- Demand Savings: 22% kW during peak periods
- Total Dollars: 24% decrease
- Cooling Degree Days up 21% from previous year

In summary:
26% less energy usage despite a 21% heat increase.

kWh Saved Compared to Heat Increase



Severe overheating and overcooling in apartments causing discomfort and energy waste

Heating and cooling in Mason Place's 127 apartments was controlled by mechanical thermostats mounted directly on in-apartment fan coil units. Temperature readings were never accurate, so units were overheating and overcooling. The result was wasted energy, wide temperature oscillations, extremely low humidity in the winter and high humidity in the summer.

Embue intelligent thermostats and smart building solution delivers accurate, consistent temperature and cost savings

Mason Place worked with a trusted partner, Rethinking Power Management (RPM), to install Embue's building intelligence system. New smart thermostats were installed in each unit that enable setpoint limits to be remotely set and schedules to be implemented on a property-wide or per-apartment basis. The thermostats prevent excessive heating and cooling because they are thermally isolated from the fan coil units. The entire property is managed via Embue Super™, a dashboard that gives owners and managers control over and information about the building's equipment and indoor environment.

Central equipment monitoring and control delivers significant, immediate savings

Embue connects to central equipment via ModBus to operate the entire building as a system. With significantly improved thermostatic control in the apartments, the entire building's heating and cooling load was reduced, which allowed the central equipment to run more economically and with an annual cost savings of \$14,200, or a decrease of 17% from the previous year. Mason Place's property managers also find seasonal switchover easy with Embue Super, which provides the ability to change all thermostats from heat to cool (or vice versa), with a single command when the central equipment is switched over.

Cloud-based building intelligence solution.

Embue enables property owners and managers to reduce energy usage, operational waste and infrastructure risk. With Embue, smart apartment amenities can be offered quickly, easily and with fast ROI, including energy savings of 18%. Embue's end-to-end solution is ideal for all existing and new construction multifamily building styles.

Property owners

- Improve building and operational efficiency
- Save on energy costs
- Avoid property damage
- Improve NOI and market value
- Take advantage of energy incentives and green mortgages



Embue 44 Portland St., 4th Floor, Worcester, MA 01608 | 617-314-6260 | www.embue.com
info@embue.com

© 2023 Embue. Embue is a trademark of Embue. All other trademarks and registered trademarks are the property of their respective holder. Product specifications are subject to change without notice. All rights reserved.

Remote management and monitoring of a wide range of devices.

Embue provides deep integration with devices that are core to apartment building operations including thermostats, electrical outlets, temperature/humidity/occupancy sensors, and water leak detectors. Embue can control low voltage and line voltage HVAC equipment, hydronic valves, window or sleeve air conditioners, fan coil units and electric heat.

Alerts catch issues early.

With Embue, you can catch problems earlier than you can by "walking the property" through actionable alerts for mold risk, water leaks and early warning of impending HVAC failure.

Energy savings through automation.

Embue's occupancy sensing provides automatic setbacks to save energy when residents are out. Flexible setpoint limit control prevents heating and cooling waste and protects the building from temperature extremes.

Easy installation as a retrofit, during renovation, or at construction.

Embue can be up and running in as little as 30 days.

Privacy assured.

Embue is safe, secure and private, using a building-wide wireless mesh network separate from each renter's WiFi. With no dependency on the renter's internet connection, apartment vacancy and turnover are painless.

Improve NOI and increase asset value.

Improve NOI by expense reductions, rent uplift and reduced vacancy rates. Increased operating income directly translates into increased asset value.

Improve resident satisfaction by offering smart home amenities.

With Embue Remote™, residents can remotely access apartment controls via their smartphone anytime, anywhere.

Qualify for green mortgages and energy incentives.

Take advantage of energy incentives and cost-effective mortgages, saving up to 40 basis points through FannieMae, FreddieMac and HUD green mortgages.

Managers

- Reduce legwork by property staff
- Manage, control, automate and report on temperature, humidity and water leaks.
- Quickly and easily satisfy tenant issues
- Residents control heating and cooling remotely
- Integrate with IoT devices for a smart home experience