

Energy Savings Case Study

Chateau Roi Apartments



For Chateau Roi Apartments, providing tenants with maximum comfort and reduced energy costs is a high priority, which was why they sought incentives from Ameren Missouri's CommunitySavers® Multifamily Program when upgrading to high-efficiency equipment.

Project Summary

Since 60% or more of energy use in apartments is tied to heating, cooling, and water heating, these were the primary areas of focus to achieve maximum energy cost savings for Chateau Roi's tenants. Program Service Providers replaced electric resistance heat and central air conditioning with new high-efficiency Air Source Heat Pumps (ASHP) with variable speed blower motors, controlled by a brand-new smart thermostat. In kitchens and bathrooms, high-efficiency showerheads and faucet aerators were installed, and dirty filter alarms were added to keep HVAC equipment performing at peak efficiency. Tenants also received energy-efficient LED lighting throughout their homes, which provide a brighter living space while significantly cutting energy costs.

Technology

Heat pumps work by pumping heat into units during the winter and pumping it out during the summer. Throughout the year, heat pumps can use up to 50% less energy than traditional HVAC systems to keep apartments comfortable while saving big on energy costs.

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Smart or learning thermostats can reduce heating and cooling costs by up to 20% by optimizing system performance based on time of day, occupancy and more.

Efficient faucet aerators and showerheads improve water use efficiency and reduce demand on water heaters, saving energy. Apartment residents could save up to 700 gallons of water per year, or the amount needed for 45 showers!

Incentive

Because of the incredible reduction in energy use, Chateau Roi apartments earned more than \$192,000 in incentives to reduce the efficient equipment upgrade cost.

Outcome

While the Chateau Roi staff enjoy reduced maintenance costs and better equipment reliability, the apartment tenants stand to gain the most. From the increased comfort through the new ASHP with smart thermostat control, to the better lighting and water efficiency, tenants can experience it all while collectively saving more than \$25,000 in energy costs each year!

Project Details

Multifamily facility type:
Multi-story Complex

Energy-saving upgrades:
ASHP, In-Unit Lighting,
Water Heating, Smart
Thermostats

Annual energy cost savings:
\$25,268

Annual energy savings:
329,007 kWh

Total project costs:
\$225,653

Total incentives:
\$192,663

Payback:
1 year