



CopperTree
Analytics

Case Study

Building Optimization Using Data Analytics

Results

\$108,183 Energy Savings

- Reduced energy use across key mechanical systems
- Improved occupant comfort and HVAC stability
- Increased operational efficiency through continuous monitoring
- Faster detection and resolution of system issues resolution of system inefficiencies

The Solution

Through a Managed Services framework, system data was continuously analyzed to identify inefficiencies and implement targeted ECMs, including condenser water pump optimization through refined setpoints, chilled water pump speed reductions via adjusted flow and differential pressure, AHU supply and return fan optimization using zone demand resets, economizer damper corrections aligned to outdoor air conditions, and chilled water pump set optimization to improve overall system efficiency.

Client Overview

A premier high-rise commercial complex located in downtown Los Angeles, renowned for its modern infrastructure and commitment to sustainable building operations, partnered with CopperTree Analytics. Together, the teams launched a data-driven collaboration focused on optimizing the building's energy performance, reducing operational costs, and improving occupant comfort through smart building technology and ongoing performance management.

The Challenge

The team encountered several challenges typical of large, multi-system commercial buildings:

- High baseline energy consumption across hydronic and air-handling systems due to non-optimized control sequences.
- Complex high-rise system dynamics, requiring coordinated optimization to avoid disruptions across multiple floors.
- Inconsistent equipment operation, including pumps and air-handling units running at unnecessarily high speeds.
- Economizer inefficiencies, where dampers operated outside optimal temperature ranges, causing excessive mechanical cooling.
- Limited visibility into real-time equipment performance trends before analytics integration.

These challenges increased operating costs and risked occupant discomfort, requiring optimization strategies that could be implemented without disrupting building operations.