CASE STUDY

CopperTree Analytics

Connecting **Buildings** | Connecting **People**

Resolving Fan Operational Inefficiencies for an International Corporate Headquarters

CLIENT **OVERVIEW**

The international headquarters for a banking and financial services institution had already initiated large-scale equipment retrofitting as apart of implementing sustainability measures. Collaboration with CopperTree Analytics began as an additional measure for discovering operational inefficiencies and proposing further sustainability action for the client. With the client's campus of buildings making up over 1M sq.ft. of conditioned space, building data analytics would prove to be essential for efficient operational monitoring.

BENEFITS

The solution proposed by Kaizen resulted in the following benefits to the building:

- US$15,000 in annual potential savings
- 125,000 kWh of annual energy savings
- 54.1 metrics tons of avoided yearly CO2e emissions

THE PROJECT

CopperTree was engaged to work with an international banking and financial services institution to analyze both office and customer services spaces at their international headquarters.

THE CHALLENGE

Upon implementing the building into Kaizen, insights were generated for both supply and return fans in the buildings air handling units. These insights related to the fans operating consistently at speeds of 100% and operating outside of scheduled hours, leading to potential annual costs of over US$15,000. Upon further investigation, we found the return and supply fans to have been put into "manual-mode" to constantly operate at top speeds. In this situation, the challenge was to address the operational sequencing of each type of fan to achieve cost savings and efficient operation.

THE SOLUTION

For the supply fans, the result was to develop operational sequencing which would allow the use of a lower speed on the available VFD drives, therefore saving a substantial amount of energy. However, the return fans did not operate on a VFD drive. Despite this, we were still able to implement improved operational sequencing which would ensure the return fans would operate within scheduled hours, therefore positively contributing to the client's sustainability initiatives.