LUCAS MHA PARTNERS WITH SOFTWARE PROVIDER TO OBTAIN CONTINUOUS ENERGY MONITORING

SOLUTION OVERVIEW
As a large public housing authority with 32 properties and 2.3 million square feet in Toledo, Ohio, Lucas MHA needed an integrated solution to track and manage utility cost and consumption data across its portfolio and to meet Better Buildings Challenge goals. Lucas MHA previously tracked each utility company’s data on an internal spreadsheet by year, sorting the data for analysis at year-end. This process did not provide staff with comprehensive data analysis.

Additionally, Lucas MHA had entered into an Energy Performance Contract (EPC) with Johnson Controls, an energy services company (ESCO), to implement energy and water efficiency upgrades across 20 properties. The project’s scope included lighting and water improvements, HVAC equipment upgrades, and high-efficiency windows, all paid for from energy savings over time. This required providing the ESCO with copies of monthly utility bills as they are paid, as well as several years’ worth of historical utility bills to establish a baseline for energy savings. It became clear that Lucas MHA’s existing method of bill collection, recording, and filing would not meet the requirements of the EPC. The Authority needed a solution that provided analysis by billing period to monitor abnormal utility costs and track equipment failures, billing errors, and other common issues for a more accurate picture of energy and water use and savings.

Lucas MHA’s solution was to implement a continuous energy oversight tool called My Utility Cabinet (MUC). This tool puts all master-metered utility data in one place so staff can easily create comprehensive reports and analyze trends and anomalies in energy usage. The tool also helps staff streamline the reporting process by allowing them to build custom reports to track and analyze data. Lucas MHA uses these reports to comply with HUD regulatory reporting requirements, inform investment decisions, and plan portfolio-wide sustainability strategies.

ORGANIZATION TYPE
Affordable Housing

BARRIER
Lucas MHA’s utility data tracking system lacked in-depth data analysis capabilities for more accurate monitoring of usage and savings.

SOLUTION
Lucas MHA entered into an agreement with a third-party software provider to help obtain in-depth energy monitoring solutions.
and continuous energy monitoring of utility data, achieving better insight into the Authority’s energy performance for most of its 2.3 million square feet of affordable housing.

OUTCOME
Preliminary data shows that the initiative may be contributing to energy and water savings results: by the end of 2018, Lucas MHA had reduced its portfolio-wide energy use intensity by 10 percent and its water use intensity by 34 percent from a 2015 baseline.

PROCESS
To track energy savings towards the payback of the EPC – essential to enacting energy upgrades – Lucas MHA needed a system with the capacity for analysis, comparison, and evaluation.

Lucas MHA worked with AES, a utility brokerage and energy consultant, to create a solution. The Authority enrolled in AES’ My Utility Cabinet (MUC) service. The service provider collects Lucas MHA’s utility bills directly, maintains them in a database, and inputs the information into an online data management system. The provider also works directly with Lucas MHA’s utilities when issues arise.

The Lucas MHA implementation team conducted initial staff outreach and training when MUC was first brought online. Asset management and accounting staff are trained on the MUC system at hiring and as system upgrades are made.

Lucas MHA’s ESCO, Johnson Controls, is given direct access to the utility data it requires on a regular basis, saving staff reporting time and effort and ensuring contractual compliance.

To provide the analysis Lucas MHA needs to optimize energy consumption, the service provider collected and entered three years of historic utility data to establish a utility profile and create a baseline. With the data all in one place and available through an online portal, staff can more easily access both current and historical information and produce reports. The new system’s monitoring capabilities allow for alerts to go directly to agency staff so they can respond more quickly to problems such as equipment failures and energy consumption anomalies.

Staff also take advantage of the system’s “at-a-glance indicators,” consumption and cost dashboards on each property showing increases and decreases. These indicators can be viewed portfolio-wide or down to a single property, allowing for more detailed troubleshooting when it comes to pinpointing the source of sudden utility usage increases.

OUTREACH
Lucas MHA’s Asset Management Team receives weekly emails from the MUC system that they share with appropriate property staff regarding any problems detected through MUC. Staff are trained on the MUC system at hiring and as system upgrades are made.

https://betterbuildingssolutioncenter.energy.gov/implementation-models/lucas-mha-partners-software-provider-obtain-continuous-energy-monitoring
For more information, visit https://betterbuildingssolutioncenter.energy.gov
TOOLS AND RESOURCES
At-a-Glance Dashboard

The MUC tool shows aggregated utility data at the individual property level and provides an overview of annual trends on a portfolio-wide level.

In addition to standard utility consumption and cost reports, the MUC system allows users to create custom reports for analytics and trend analysis, providing both high-level overviews and drill-down capability. Lucas MHA staff has created customized reports to fulfill HUD data reporting requirements. Another customized report provides cost and consumption analysis by square footage, allowing a more consistent comparison of different properties’ energy consumption.

MEASURING SUCCESS
Lucas MHA will measure success by tracking reduced incidents of billing errors and equipment failures, and ultimately by measuring energy and cost savings as the Authority works towards its Better Buildings Challenge goal of a 20 percent reduction in energy consumption. With reliable utility data, Lucas MHA can fund future HUD-approved projects through utility savings. Lucas MHA will also measure success through reduced staff time devoted to collecting, recording, and reporting utility data.

OUTCOMES
The primary goal of this initiative is to accurately track and evaluate utility data, allowing for energy
and water savings through more effective analysis and management of utility consumption and costs. Preliminary data shows that the initiative may be contributing to energy and water savings results: by the end of 2018, Lucas MHA had reduced its portfolio-wide energy use intensity by 10 percent and its water use intensity by 34 percent from a 2015 baseline.

The MUC system’s rapid alert system reduces energy loss and associated costs that can result from data entry errors, system malfunctions, and/or extreme usage. Lucas MHA is now aware of problems before they become high-cost emergencies, which was not possible while relying on year-end audits.

One example of the MUC system’s positive impact occurred when Lucas MHA was notified by its water utility provider that they were unable to perform meter reads due to flooded pits. MUC staff contacted the utility for further information about the location and description of limitations to the meter reader and reached out to the appropriate property manager to help facilitate a solution.

Another goal of the continuous oversight initiative is to reduce staff time devoted to collecting and recording data. Time savings to the asset management team and accounting department can be seen in numerous ways. The MUC system streamlines monthly billing processes that save accounting staff time and houses historical data in the portal for easy access. The MUC system creates a payment batch that allows utility data to be uploaded directly into Lucas MHA’s accounting system for accounts payable processing. MUC staff also work directly with the utility on behalf of the Authority to fix billing issues rather than having accounting staff do this outreach. MUC staff monitor for missing bills and potential late fees if billing errors are not caught.
Lucas MHA Partners with Software Provider to Obtain Continuous Energy Monitoring - Better Buildings Solution Center

For more information, visit https://betterbuildingssolutioncenter.energy.gov