



# FOCUS ON CASE STUDIES:

## EXPRESS BUILDING TUNE-UP

### The Background

Libraries consume significant amounts of energy to not only preserve books, artifacts, and other forms of media, but also provide a comfortable environment for patrons and staff. The city of Milwaukee's Center Street Library was interested in improving the overall function of its 16,150 square-foot facility. It had equipment running during the evening hours and wanted to find solutions to become more energy-efficient. Other libraries in the Milwaukee area were focusing on building tune-ups, so the Center Street Library was open and committed to making the necessary changes, as well.

### The Approach

The Center Street Library went through a vetting process to determine if it was an ideal fit for Focus on Energy's Express Building Tune-Up. This initiative offered a cost-benefit analysis and building audit to recalibrate the mechanical equipment.

The audit revealed an outside air damper was starting to slip, leaving the actuator stuck in an open position. ASHRAE's 62.1 calculation helped determine the correct amount of air needed for the space and several field measurements determined the air temperature entering the building was higher than necessary. The Center Street Library was advised to close the damper or adjust the building automation system.

### The Solution

The Center Street Library's actuator was found to be disconnected from the open damper shaft. By reconnecting and closing the outdoor air damper, the actuator was able to stop the excess outside air from entering. The audit also investigated proper economizer controls to leverage cooler outside air instead of paying to mechanically cool the air when the outdoor air conditions are favorable.

Additionally, the project explored optimized boiler controls and implemented hot water temperature reset from 180°F to 140°F based on outside air temperature. This process saves natural gas while improving interior comfort levels.

Conducting a building tune-up is ineffective unless you follow through with the necessary changes. The Center Street Library diligently conducted and monitored those changes and, as a result, enjoys improved comfort and control of the facility.

### Project Breakdown:

- **Measures Completed:**
  - Outside air intake optimization
  - Hot water supply reset
  - Schedule optimization
  - Economizer optimization
- **Estimated Project Cost:** \$10,000
- **Annual Energy Cost Savings:** \$5,200
- **Focus on Energy Incentive:** \$7,030
- **Payback:** 0.57 Years

“The Center Street Library was an exceptional candidate for the Express Building Tune-Up. The library was excited to have the resources and support to improve the state of the facility, including increasing occupant comfort and energy efficiency.”

**Farhan Khatri**  
Regional Manager  
Edison Energy, LLC  
Trade Ally

## REDUCING ENERGY WASTE ACROSS WISCONSIN

Focus on Energy, Wisconsin utilities' statewide program for energy efficiency and renewable energy, helps eligible residents and businesses save energy and money while protecting the environment. Focus on Energy information, resources and financial incentives help to implement energy efficiency and renewable energy projects that otherwise would not be completed.

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