# BOYS & GIRLS CLUBS OF CENTRAL ALABAMA

3821 John Williamson Dr., Hueytown, AL 35023

**ENERGY & WATER EFFICIENCY PROGRAM OVERVIEW**

September 2015

## Project Overview

The Hueytown Boys & Girls Club has a heated indoor pool, which is a great asset, but can be expensive to maintain. A pool blanket was purchased and installed on the pool surface whenever the pool is unoccupied to prevent evaporation losses, saving water, pool chemicals, and pool heating energy.

Existing 400W metal halide gymnasium lighting was replaced with new 240W LED fixtures with dimming controls, and most fluorescent lighting was also replaced with LED. The new lighting in the gym turns on instantly, whereas the old metal halide lighting took several minutes to warm up to full brightness. Thus the club can turn off lighting in the gym when it's not in use without having to worry about the long warm-up period.

Other improvements include occupancy-based lighting controls throughout, adding a timer to the domestic hot water circulating loop, 0.5 GPM aerators for faucets, and new 1.5-GPM showerheads.

## Site Details

- Average daily attendance of 164
- 28,539 square feet
- Constructed in 1990

## Energy & Water Benchmarks

- $59,000 in baseline utilities cost
- 10 million Btu of energy per member per year
- 3,695 gallons of water per member per year

## Improvements

- Invested $77,061 (including $15,000 club investment), or $2.70 per sq. ft.
- Predicted return on investment (ROI) of 16%
- Actual savings – after 5 months – of over $2,945, and 18% energy savings

| Projects Implemented | Predicted Annual Savings | | | | | Project Cost | Projected Return on Investment |
|---|---|---|---|---|---|---|---|
| | Water (CCF) | Costs | Million Btu (Site) | Million Btu (Source) | $CO_2$ Emissions (tonnes) | | |
| High-priority lighting efficiency upgrades & lighting controls | - | $7,420 | 171 | 536 | 24.3 | $60,605 | 12% |
| Install Web-based smart thermostats on HVAC systems | - | $1,612 | 77 | 120 | 5.5 | $5,301 | 30% |
| Install a pool blanket when pool not in use to eliminate evaporation losses | 131 | $5,824 | 180 | 180 | 8.4 | $10,855 | 54% |
| Install timer on domestic hot water circulating pump | - | $265 | 19 | 20 | 1.0 | $300 | 88% |
| **Projected Total Savings, Cost, & ROI** | **25%** | **21%** | **21%** | **19%** | **20%** | **$77,061** | **16%** |

ENERGY & WATER EFFICIENCY PROGRAM

BOYS & GIRLS CLUBS OF AMERICA · Southface

**About the Boys & Girls Clubs of America Energy & Water Efficiency Grant Program (BGCA EWEP):** The Southeast Region of BGCA was selected to participate in an important pilot program to demonstrate the economic and environmental benefits of high-impact energy and water efficiency improvements in club facilities. Funded by The JPB Foundation, the program's ultimate goals were to reduce club utility expenses by 20 percent annually and to improve conditions in existing facilities, so they may be better used in support of BGCA's mission.

## Project Highlights

Figure 1: Pool without Blanket

The new pool blanket (below) eliminates evaporation losses of water and energy when the pool is unoccupied.

Figure 2: Pool with Pool Blanket Installed

Figure 3: Old Timeclock Control for Outdoor Lighting

Outdoor lighting was previously controlled by a mechanical timeclock, requiring manual seasonal adjustments.

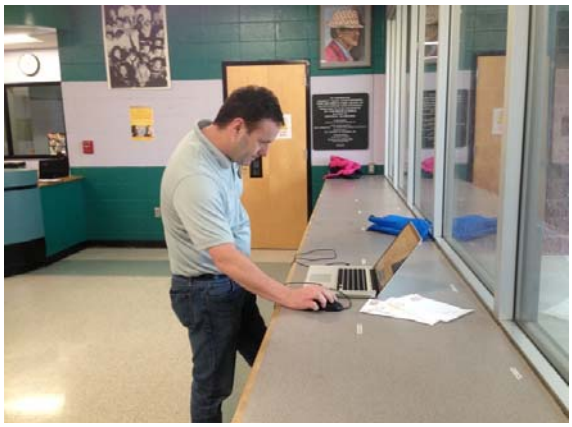

Figure 4: Online Control of New Thermostats

HVAC systems are now controllable online or via smartphone using the new thermostats with integral occupancy sensors. These include online monitoring capabilities of outside temperature, indoor temperature, indoor setpoint, occupancy status, and operating schedules.

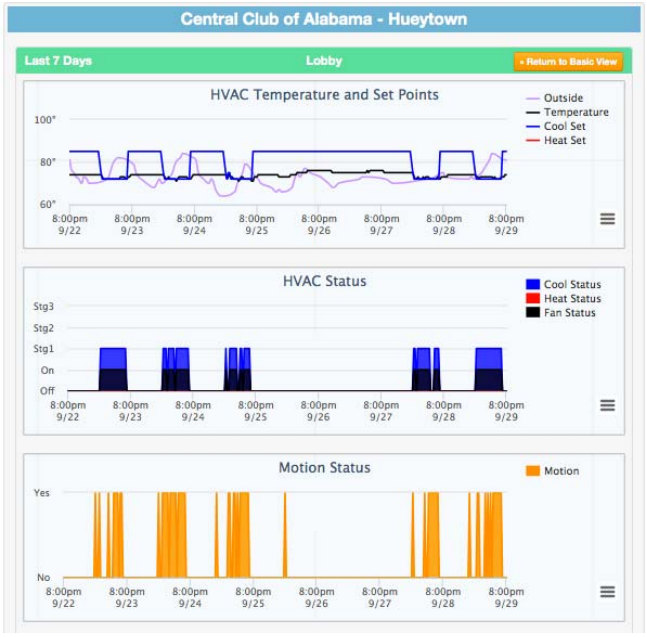


Figure 5: Smart Web-Based Thermostat Trends