

## Energy Upgrades

*Ivan Blackmon*

Welcome to FM Project Profile, an interview-style series in which a restaurateur spotlights a major facilities project. By discussing one of their most memorable facilities jobs, our members hope to share insight and inspiration. This month's profile features Ivan Blackmon, the Director of Facilities and Construction for Wendco Corp. (Wendy's). He shares his insight on an energy-upgrade project in Alabama.

A Wendy's redesign incorporates innovative energy-efficient changes

How long have you been the Director of Facilities and Construction at Wendco? 16 years and four months.

How long ago did Wendco decide to scrape and rebuild your first Mobile, Ala., Wendy's store? Wendco decided to rebuild the Bel Air restaurant in 2014, given the age of their restaurant and Wendy's remodel program. Wendco used Wendy's Ultra-Modern Design for the scrape and rebuild projects in Mobile.

What upgrades were done to increase the energy efficiency of the building? Wendy's prototype drawings for new builds include LED lights throughout the building and the exterior. Wendco was one of the first Wendy's franchisees to use exterior LED parking lot lights and LED interior lights.

We scraped and rebuilt two restaurants in Mobile in 2015. The main difference between the two buildings was Wendy's new HVAC design incorporating Trane's ultra-high efficiency HVAC (IEER 20) and Halton's lower ventilation hoods.

Because of the lower ventilation rate and the ability of the Trane EFlex unit to handle high volumes of outside air, Wendy's was able to eliminate the dedicated make-up air unit, thereby saving capital and operating costs.

What savings did you see after making these changes? The test restaurant saved more than 47,000 kWh over the control restaurant in the first 10 months of operation. We are projecting more than 55,000 kWh of annual savings. With the 18 percent increase in electric rates, this is more than \$6,000 in annual energy savings. Comparing the test site before and after the scrape and rebuild, the electric usage has been reduced by 26 percent. Remember, that is also with increased foot traffic with the re-opening of the new build. That's like getting three months of free electricity compared to the old restaurant.

On your second scrape and rebuild in Mobile, what additional equipment and design changes were made? The main difference between the two buildings was Wendy's new HVAC design incorporating Trane's ultra-high efficiency HVAC (IEER 20) and Halton's lower ventilation hoods. These hoods lowered the ventilation rate by 29 percent.

When did Trane contact you about their new higher-efficiency A /C units and Halton hood design? Trane approached the Wendco Group in early summer 2015 about testing the new HVAC system. Wendy's had already been testing Halton's new hoods and Trane's ultrahigh efficiency HVAC unit.

How much did the new hoods reduce air flow ? Wendy's and Halton redesigned and tested the hood, resulting in a reduction of 29 percent, from 4140 CFM to 2920 CFM, with no loss in capture.

What additional costs did the new HVAC unit and the hoods incur? The elimination of the dedicated make-up air unit more than made up for the difference between the standard efficiency and ultra-high efficiency HVAC units. The hoods cost slightly more, but the cost savings from eliminating some of the duct work by eliminating the dedicated MUA resulted in a near wash in increased capital investment. As maintenance professionals, we must help our clients and customers understand the benefit of looking at the total cost of ownership: the return on investment versus the difference in initial cost.

Did you receive any rebates for improving your energy efficiency? Alabama Power did not offer any rebates for these upgrades. However, they have been great partners in the testing and validation of our energy savings and in helping Wendco get started with the Better Buildings Challenge.

How did the Department of Energy get involved with the project, and what was the outcome? Wendy's joined the U.S. Department of Energy's Better Building Challenge in late 2015. They were the third restaurant company to join the challenge. In mid-2016, Wendco was the first foodservice franchisee to join. Wendy's, Wendco and now a number of other Wendy's franchisees are part of the Better Buildings Challenge, totaling more than 520 restaurants. We have set a goal to reduce our energy per transaction demand by 20 percent over the next 10 years.

This new HVAC system is showing that, when combined with the other energy upgrades, it can have a marked impact on energy savings and the bottom line. Wendco is proud to be a member of the Better Buildings Alliance, and our Mobile restaurant is our showcase project. Visit [betterbuildingsolutioncenter.energy.gov/partners/wendys-company](http://betterbuildingsolutioncenter.energy.gov/partners/wendys-company) for more information.

Wendy's is showing a 6 percent decrease in energy use since 2012. More than one-third of the restaurants are showing greater than a 15 percent reduction in energy use.

How many other stores have been built using the energy-upgraded equipment? Wendco has completed 22 stores with some level of LED upgrades. Seven have 100 percent LED signs, interior and exterior LSI ind and ILT. Also at this point, Wendco has also completed 25 of our locations with LED parking lot light upgrades.

Have the warranty terms changed with the new HVACs? There is no change in warranty coverage with the new HVAC units.

Are all Wendy's, corporate and franchise, using the new HVAC design? Wendy's has standardized on the new HVAC design for all new restaurants.

Do you anticipate lower repair and maintenance expenses with the new equipment?  
Long-term, yes.

What are your thoughts on future energy-saving ideas that can be implemented in your restaurants? Wendy's has completed more than 1,100 energy upgrade projects, in addition to an HVAC replacement program. Beyond the LED lights for interior and exterior, the conversion of walk-in cooler and freezer motors to EC motors has proven to be very successful.

Ivan Blackmon has been a Florida and Alabama state licensed HVACR contractor for more than 16 years and has been in the restaurant facilities environment for more than 30 years. He is the Director of Facilities and Construction for Wendco Corp. (Wendy's), based in Pensacola, Fla. He is now focused on ways to conserve energy in the restaurant industry and is working on water conservation for Wendy's.