

# SiteSage® Case Study

## At Arby's, Energy Management and Food Safety Go Together Like Roast Beef and Curly Fries



In 2012 Arby's, a leading global quick-service restaurant company, decided to deploy remotely controlled thermostats across its company-owned restaurants in a bid to get energy costs under control, as well as to ensure proper comfort among their guests.

After reviewing the products on the market, Arby's selected four products for pilot testing. Among them was Powerhouse Dynamics' SiteSage®. What immediately distinguished SiteSage from the other products was that it was capable of much more than remote thermostat control- it also offered other capabilities that interested Arby's, including:

- ✓ Central equipment monitoring
- ✓ Patented analytics to uncover hidden inefficiencies
- ✓ Food safety protection via real time temperature monitoring
- ✓ Enterprise level benchmarking of facilities and equipment

These added capabilities played a key role in Arby's eventual selection of SiteSage. For example, at a demonstration of the system about two weeks after installation, SiteSage was able to show Arby's that the outdoor lighting system at the pilot location, which was on a timer, was being turned off at noon rather than midnight, and that their walk-in freezer compressor was never turning off, with temperatures sometimes exceeding the levels required for food safety.

After several more weeks of testing, Arby's was even more impressed with the systems and decided that SiteSage was the best choice for moving into the next stage of the trial – a 23 restaurant rollout in the Minneapolis area.

Stage 2 of the pilot also proved successful, leading Arby's to roll the system out across all 860 company-owned U.S. restaurants, on a very aggressive timetable. With the help of Arby's chosen deployment partner, the rollout was completed just five months later.



### At a Glance

**Challenge:** Get energy costs under control

**Locations:** 1,000 company-owned restaurants

**Scope:** HVAC control & management, food safety monitoring

**Time to deploy:** Five months

### Results:

**15% aggregate energy savings**

**21% electricity savings**

*"We have been very impressed by the capabilities [of SiteSage]. Not only will the system enable us to get HVAC costs under control in the restaurants where they have been installed, but they will also help identify problems with both rooftop cooling units and refrigeration equipment."*

Scott Boatwright,  
SVP Operations,  
Arby's Restaurant Group, Inc.

## The SiteSage Platform at Arby's

At Arby's, the SiteSage system delivers HVAC controls and HVAC diagnostics, along with food safety alerting and reporting. In addition to managing the wireless thermostats, SiteSage monitors the energy use of each HVAC unit at the breaker panel, and also monitors temperature in the supply and return ducts. SiteSage algorithms alert Arby's management team to a range of issues with the HVAC units, including compressors that are short cycling, economizers that are not working, and units that are not able to reach the second stage of cooling. Arby's has created thermostat setting "templates" that can be pushed down to restaurants at a regional level or other basis with the touch of a button, avoiding the need to program each thermostat individually.



The system also monitors temperatures in all walk-in refrigerators and freezers. Managers are alerted when temperatures approach or exceed food safety limits for periods of time set by corporate, to make sure that corrective action can be taken before food safety or product quality is compromised. Managers can also set up weekly reports identifying equipment that shows signs of needing attention. Arby's has been so pleased with this enhancement to their rigorous food safety program that they recently decided to expand SiteSage temperature monitoring to additional kitchen equipment, starting with their most important asset: roast beef warmers.

Ovens with embedded SiteSage sensors are now recording and reporting oven temperatures and activities, protecting food safety and ensuring optimal product quality. And HACCP (food safety) reports can now be automatically generated, eliminating the need for staff to manually record information.

Another tool streamlining restaurant operations is the SiteSage Assets module. This software enables Arby's to record and track the condition of every piece of HVAC equipment in all of their locations, with easy data access and updates completed by technicians through a mobile app. Equipment performance, manufacturer, model, age, and more are tracked and scores generated, making prioritizing replacements and choosing the best equipment based on past performance a snap.

## Results

As expected, SiteSage has been instrumental in identifying HVAC and refrigeration equipment problems at many locations; in some cases leading to the replacement of units that simply could not keep up with heating or cooling demands. Issues found at Arby's include detecting failed or failing compressors on rooftop units (RTUs), finding RTU supply air temperatures that were too high due to insufficient coolant levels, and alerting on walk-in refrigeration units drifting above the desired temperature thresholds.

In March, 2016 **Arby's reported that restaurant energy use company-wide has been reduced by more than 15%, including a 21% reduction in electric use at the company-owned restaurants**, thanks to its energy conservation program. Arby's credits Powerhouse Dynamics as a contributor to this impressive savings achievement, and expects to achieve a 20% reduction by the end of 2020.