



# QSR SUCCESS SNAPSHOT

**Quick Service Restaurant**  
28000 Bradley Rd, Sun City, CA  
92586

4,800 square feet  
Hours of Operation: 24 hour  
Lobby Hours: 5am to Midnight  
Mediterranean Climate (Mild winters, hot and dry summers)

## Overview

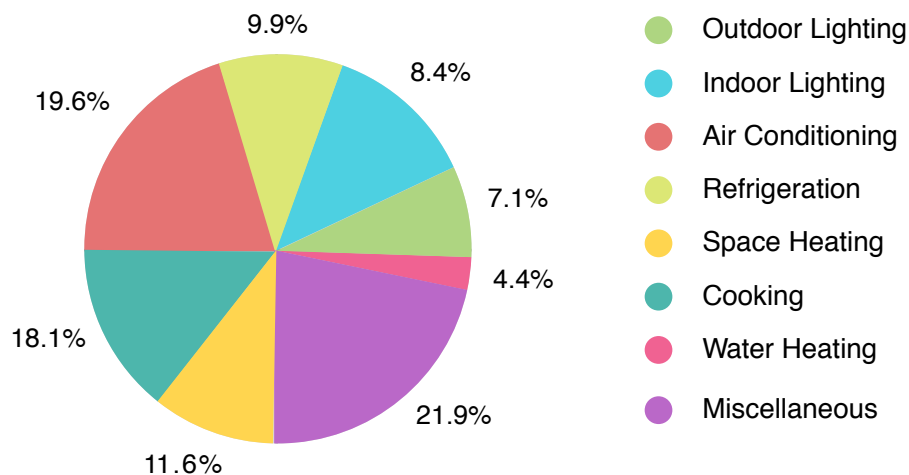
With a median household income of \$54,903, the citizens of Sun City are the typical middle class clientele who have always been the foundation of the franchisee's success.

## Challenge

As a 24 hour store, Sun City uses a substantial amount of energy every hour of the day. For the first four billing cycles of the year, in addition to a Southern California Edison rate increase, kilowatt usage was up 7.5%. The franchisee refused to watch as these costs cut into margins.

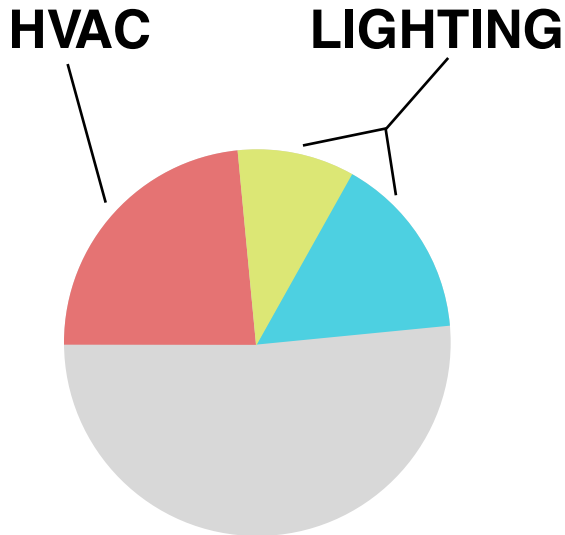
**The franchisee took a look at the data to identify potential energy savings opportunities.**

Example QSR Energy Use Distribution



## Post Review

After reviewing industry data and information from Southern California Edison, it became apparent that HVAC & lighting presented the largest opportunity for savings. On average, these two areas represented 46.7% of the total utility bill.



**46.7%**  
of total utility bill

## Contact

Nimbus 9 had been in contact with the Sun City franchisee to share the success that other franchisees in Southern California were experiencing with the Nimbus 9 QSR Solution.

In order to map out the potential savings, Nimbus 9 conducted a full audit at no cost as well as a formal proposal outlining the minimum achievable savings and all associated costs.

With a projected 33 month return on investment, the economics made sense. The franchisee, however, wanted to consult with other owners to understand their experiences and confirm the validity of the projected savings.

## Solution

**Nimbus<sup>9</sup>** QSR Solution

## Scope

In order to deliver a comprehensive solution, every light fixture on the property was upgraded to LEDs with embedded Nimbus 9 Controls. This whole property Lighting Control solution included:

- Parking Lot Lights
- Exterior Wall Lighting
- Lobby Fixtures
- Kitchen and Back of House
- Refrigerator and Freezer
- Restrooms
- Signage (Directionals, Road, and Monument)
- DT Menu Boards

## Comprehensive Control Strategies

**Daylight Harvesting:** Adjusting artificial light levels based on the prevalence of natural light. During daylight hours appropriate fixtures operate at 15% of their full light level.

**Occupancy Sensors:** Crew Room, Stock Rooms, and Restrooms maintain a minimum light level when unoccupied. Occupancy Sensors bring light levels up to full light when occupied.

**Contact Sensors:** Minimum light levels are maintained in the Freezer and Refrigerator. Light levels increase to full light when door is opened. Light levels revert to minimum level after a set amount of time expires.

**High End Trim:** Full light levels are limited to 85% to capture additional savings without disrupting atmosphere.

**Smart HVAC:** Internet enabled Smart Thermostats allow coordination of control strategies across HVAC and Lighting loads from one software platform.

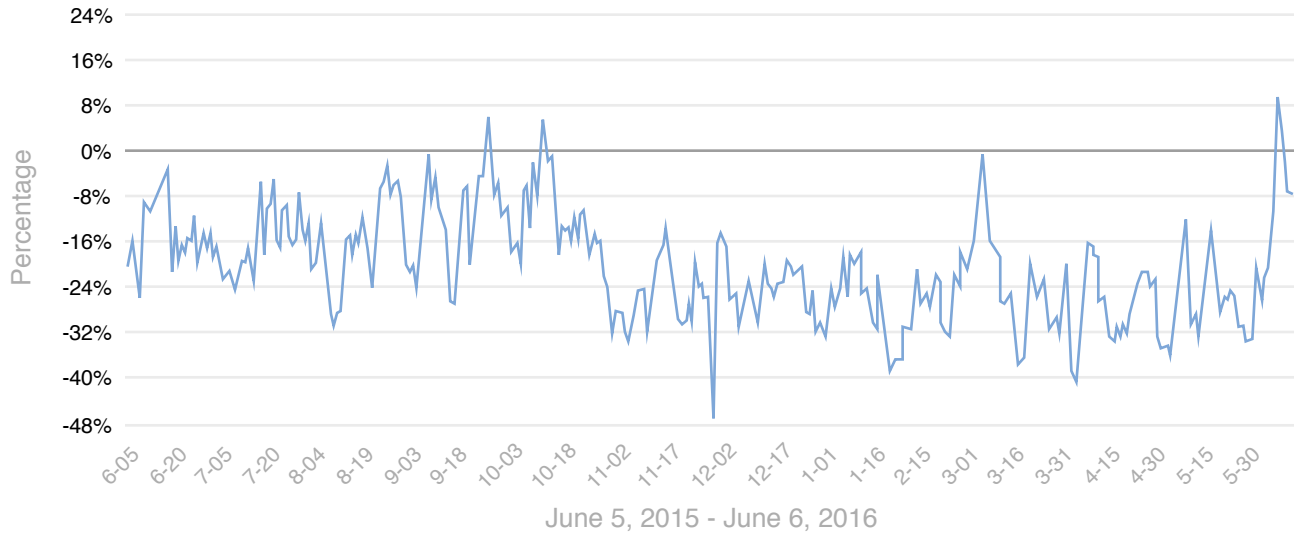
This combination of energy efficient fixtures coupled with advanced control strategies means that the store at Sun City always has the appropriate level of artificial light based on need and environmental conditions.

By tuning the Nimbus 9 Controls platform to use exactly the right amount of electricity for artificial light, the franchisee has been able to achieve significant savings.

## Results

Since installing the Nimbus 9 QSR Solution in June of 2015, Sun City has experienced a 133,362 kilowatt reduction in usage. This equates to a 20.38% reduction in total kWh used over the previous year.

## YoY kWh Usage Delta



The actual cost savings from June 5th, 2015 to date is \$24,005 (blended kWh rate of \$.18). At the current trend, the ROI will be 22 months (including utility rebates).

## YOY Cost Savings

# \$24,005

blended kWh cost of \$.18

Beyond the cost savings, the energy efficiency of the QSR package results in true environmental benefits. As of June 6th, 2016, Sun City has reduced CO2 emissions by 93.7 metric tons, the same amount of CO2 sequestered by 89 acres of forest. This represents 100,013 pounds of coal not burned or 217 barrels of oil not consumed.\*

The cherry on the top for this franchisee has been the visibility into their daily energy consumption provided by Nimbus 9's real-time Energy Insights.

\* CO<sub>2</sub> equivalencies derived from epa.gov greenhouse gas equivalencies calculator.



*I am ecstatic about the results. From a cost savings perspective, Nimbus 9 has delivered on everything they promised and more. When we turned the system on, we immediately saw daily reductions in energy use of 15%-25%, depending on the outside temperature. In terms of the lighting quality, the entire property is brighter and the parking lot lights & Signage really stand out from the freeway.*

*What I didn't expect was the phenomenal insights that Nimbus 9 provides. Two weeks after installing the system I received an automated alert for one of the HVAC units. When our HVAC technician came out, he found one of the fan motors on the kitchen unit running in reverse. After a second automated alert, the technician found the dining room unit had thrown a belt. The notifications that the Nimbus 9 system provides allow us to quickly address maintenance problems before they become really expensive.*



- Sun City Franchisee