



CASE STUDY
Akins Ford Dealership

“The value is hard to describe until you see it...”



The Akins cousins weren't necessarily trying to go green when they brought the light of day into their Georgia auto dealership. New skylights were just one of several technologies included in an energy system overhaul designed for one simple purpose: reducing the utility bills.

“As we got going,” says Chris Akins, part-owner of Akins Ford, “we could see there was some benefit to going green. But the first thing out of the gate was to decrease energy use and save money.” The dealership's old lights and furnaces were guzzling electricity and natural gas to the tune of \$30,000 monthly.

The Akins knew something needed to change. They hired Frazier Service Company, based in Atlanta, to audit their energy use. Frazier confirmed that the dealership could cut overhead enormously if they invested in an energy system retrofit.

Finding the Right Solution

“They weren't quite sure what they needed,” says Steven Hawn, a contractor with Frazier. “They knew they were spending exorbitant amounts of money on energy. We showed them the areas they could improve.” Hawn recommended a new high-efficiency HVAC system,

new waste-oil-powered furnaces and boilers, and a complete overhaul of the lighting system, including efficient fluorescent highbay fixtures and high performance modern skylights.

The Akins sought out second and third opinions and confirmed the value of these updates. They hired Frazier Service Company to implement the suggested changes. Akins Ford replaced their HVAC system with 13 SEER rated units and added Dual fuel furnaces. They installed a state-of-the-art, computer-controlled Energy Management System to ensure they're only using energy when they need it. But the most obvious and dazzling difference came with the lighting retrofit.

The facility's old, yellowed fiberglass skylights let in a lot of heat, but were so dim that the facility needed to run more than 3,000 460-Watt metal halide lights full-time. That meant the dealership was footing three big bills for their lighting: they paid to run the lighting, paid to replace the metal halide when they burnt out, and paid to cool the facility down from all the heat the lighting generated.

To address these problems, Steven Hawn of Frazier Service Company suggested a combination of 219-

Watt T5 highbay fluorescent light fixtures and high-quality prismatic lens skylights. The new fluorescent lights would be fitted with automatic dimmers, so the facility could take advantage of maximum daylight whenever it was available. As for the skylights, Steven Hawn recommended Sunoptics® prismatic domes. In his time professionally surveying and installing high-performance skylights, Hawn has concluded that of all the daylighting options on the modern market, “Sunoptics casts the best overall light patterns and provides the best ambient light exposure.” The patented prismatic lenses throw wider, more even light coverage than old-fashioned flat-panel skylights, which only cast light straight down. The hard plastic double dome lets in plenty of daylight, but blocks UV radiation and heat—key features especially in the hot Georgia summers.

The Akins did their own research to be sure they wanted to invest in these smart design features, which they said cost more up front than more basic daylighting options. Ultimately, a year of independent research and observation supported Hawn's recommendation: the prismatic skylights would outperform the competition. That meant a bigger payback. The Akins cousins decided

to make the investment. "We knew we had to spend money to save money," Chris Akins said. "So we went with the best product out there."

They Saved Money from the Start

They did save money—even up front, as it turned out. Prismatic lens skylights are designed to take in the maximum light cast by the sun and redistribute it evenly. Careful layout of the skylights on the ceiling eliminates dark corners, hotspots and glare. The superior photometric distribution of the Sunoptics system meant the Akins dealership only needed to place 97 strategic skylights to bathe their whole space in beautiful, high-quality ambient daylight. The next alternative daylighting option would have required at least 140 skylights. So, ultimately, the dealership spent less on materials and installation for the Sunoptics' domes than they would have with an alternative.

In addition to the skylights, the dealership replaced all of their old metal halide lights and ballasts with T5 highbays fitted with automated dimming ballasts. Photocontrols fitted beneath the skylights take footcandle readings of the daylight being brought into the space and then communicate to the dimmer controls on the fluorescent highbays. The new lights dim and brighten in response to the amount of sunlight coming in, seamlessly complementing the daylight to provide steady illumination of at least 45 to 55 footcandles through the whole space. On a sunny day in the morning, daylight bounced through the new skylights casts 70-80% of the total light in the Akins' facility. As the afternoon wears on, and when it's cloudy, the skylights still produce 50-60% of the light needed to operate the dealership. Only at night are the new fluorescent lights running at full capacity.

All of These Changes Helped to Cut the Energy Bills—By More Than Half

Before the retrofit, Akins Ford was spending over 30,000 monthly to run their operation. "Their latest bill was \$12,400," said Hawn. "Outstanding."

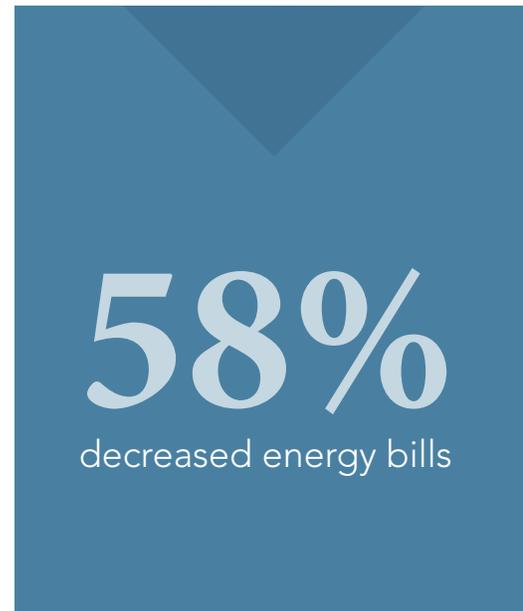
Daylight harvesting accounts for only a portion of these savings, of course—an estimated 10%. But daylight provides many advantages in addition to slashing overhead. Studies have shown that worker productivity and morale improve under natural light. According to a recent report by Eneref Institute (www.eneref.org), the human performance gains achieved with daylighting sometimes make for even greater financial payback than the energy savings. High-quality, silent, flicker-free natural light elevates the atmosphere of any space—for employees, management and clients alike.

A Noticeable Change

Customers at Akins Ford have certainly noticed the change. "They drop off their vehicles for service and say 'Wow! It's so much brighter,'" Akins says.

"The value is hard to describe until you see it," Hawn adds. "Seeing is believing."

The Akins are certain the prismatic skylights were an excellent decision. They're so pleased with the new lighting that they have a second retrofit on the drawing board. They'll open up a tile ceiling and install more Sunoptics skylights. Where? In the showroom, of course. Natural daylight's flawless color rendering will show the new cars in their best light—literally.





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