

# 2009-10 CARD Case Study

CARD: Commercial Audit & Retrofit Demonstration



## The Pit Stop

Business co-owner: Steve Kyle  
410 W. 1st Street  
Glenwood Springs, Colorado

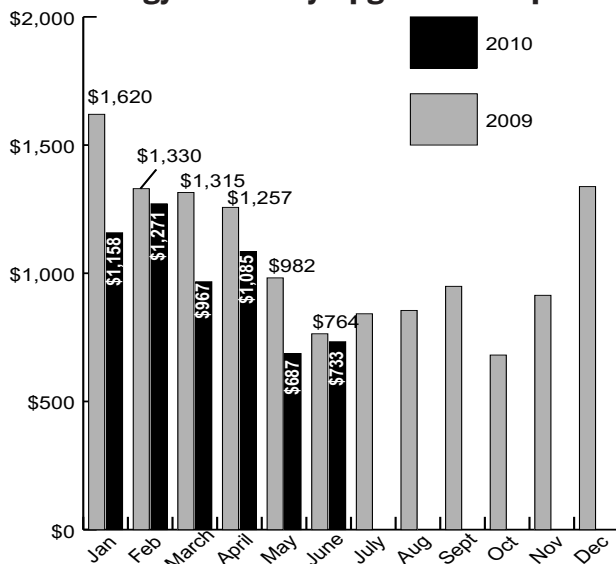
On a toasty 91-degree afternoon outside, it's cool, comfortable and relatively quiet inside the offices of The Pit Stop, a busy automotive service business in Glenwood Springs. That was not the case last summer, when the offices were noisy from the use of four fans, a freestanding swamp cooler and a 15-year-old larger swamp cooler unit.

Now the office has one, energy-efficient indirect evaporative cooler. The programmable cooler installed in May keeps the indoor office temperature comfortably in the 70s, compared to temps in the 80s at last summer's peak. Employees and office computers are working more productively now, and customers aren't complaining about the heat.

"There is a night and day difference," said The Pit Stop Vice President Steve Kyle. "It's a more professional work space, by far."

Better yet, the cooling upgrades and a variety of other efficiency projects done by The Pit Stop have yielded impressive savings on the company's electric bills. In the first six months of 2010, the business saved \$1,328 on electric bills compared to the same months in 2009.

**Monthly electric bills drop after energy efficiency upgrades completed**



Case study and photos by Suzie Romig



The Pit Stop office manager Annette Manzanaras and co-owner Steve Kyle are more comfortable and productive in the cooler office this summer.

After applying in 2009 to the Garfield New Energy Communities Initiative CARD project, or Commercial Audit and Retrofit Demonstration, The Pit Stop was selected to receive a free energy audit and rebates totaling \$6,558. The shop, which opened in 1983, was one of six businesses in Glenwood Springs chosen based on business variety and a high potential for energy savings.

The energy audit, done by Schmuesser Gordon Meyer engineers of Glenwood Springs, resulted in a prioritized list of energy upgrades that focused on lighting, heating, cooling and auto service equipment. The cost of electric efficiency measures were offset by the CARD rebate; other measures that will lower natural gas use showed a short enough payback that Kyle pursued those too. In total, the business spent about \$15,000 on efficiency upgrades.

Lighting changes were a key target. In the adjacent auto bays of the detail shop, the employees work under long rows of bright fluorescent lights. Inefficient T-12 ballasts were replaced with more efficient T-8 lighting. Lighting ballasts also were upgraded in the office and oil change bays.

Another suggestion from the audit, an energy-saving vending miser, was added to the soda machine so the cooling system does not run as much when the

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Rows of more efficient T-8 lighting in the auto bays replaced inefficient T-12 ballasts.

machine is not used. At \$170, vending misers deliver an energy-savings payback in a year or less.

The audit also spotted leaky connections on the shop's pneumatic lines. The Pit Stop's automotive technicians repaired the lines so that compressors operating power equipment and running some functions in the car washes would not have to stay on as often. Kyle said the connections had started to leak gradually over time without anyone noticing, but now he notices the compressor running less often.

The audit also analyzed The Pit Stop's heating systems, which use three boilers spread over the property. The oldest boiler -- circa 1987 -- was estimated to be operating at 35 percent efficiency.

The Pit Stop replaced the energy-hogging boiler, which heats the car wash bay floors, with a 90 percent efficient model. The company also replaced an old, leaky 200-gallon hot water tank with a better-insulated model that helps keep the boiler from coming on as often.

### Quick Facts

#### Costs for rebate-funded measures

Total retrofit cost: \$12,035

CARD rebate: \$6,558

Owner investment: \$5,477

**Savings** in first six months: \$1,368

#### Funded energy efficiency measures:

Office and work bay lighting: \$8,575

Indirect evaporative cooler for office: \$3,290

Vending Miser: \$170

Repair air leaks on pneumatic lines: \$0, done in-house

The upgrades cut the natural gas usage approximately in half for the first month, so Kyle hopes to upgrade the other two boilers one day.

And to help conserve heat in the detail auto bays during winter, The Pit Stop installed a man-sized door so that the workers will not have to raise and lower the large auto bay doors just to go in or out.

The boiler, hot water tank and man-sized door jobs didn't benefit from a CARD rebate, Kyle said, but they made sense because the payback on energy savings will quickly recoup the investment costs.

Kyle suggests other local business owners order an energy audit and look into energy upgrades.

"It's an interesting and beneficial process. It was very useful because there are some technologies out there that we didn't even know existed," Kyle said.

With the recession causing customers to stretch their auto tires, oil changes and maintenance further, Kyle has to watch his business budget too. "We have to be more and more efficient all the time," he said.

The 2009-10 Glenwood Springs CARD, Commercial Audit & Retrofit Demonstration, is a project of the Garfield New Energy Communities Initiative, which is managed by CLEER: Clean Energy Economy for the Region.

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