



Case Study: East Third Street Professional Building, Rifle

By Cam Burns/CLEER



Roof Insulation Nets Rifle Building a 44 Percent Drop in Natural Gas for Winter Heating

The owners of a Rifle building who didn't expect to see much of a change in their building's energy efficiency through the installation of better insulation have—in recent months—had a pleasant surprise.

The owners of East Third Professional, LLC, a 6,000-square-foot, single-story 1898 office building in downtown Rifle, saw their natural gas (for heating) use go down by about 44 percent after the building got an extra layer of insulation while the roof was being replaced in 2011.

"The numbers for our gas use are much lower," said Tracey Langhorne, who manages East Third Professional for its three owners (her husband Michael Langhorne, Chris Manera, and Jeff Johnson). "That was very noticeable."

Between December 2010 and May 2011, the East Third Professional



Michael and Tracey Langhorne in front the East Third Professional building in downtown Rifle. Photos by Cam Burns

building burned through 1,498 "therms" of natural gas for heating. A therm is a unit of heat energy—roughly the same amount of heat that is produced by burning 100 cubic feet of natural gas. After the insulation was added in October 2011, and during the same portion of the year (December 2011 to May 2012), natural gas use in the building dropped a whopping 991 therms, a cost savings of \$452.56.

"We are really happy with it," Langhorne said. "Any time you can save, it's worth doing."

Ironically, the huge savings in natural gas came about because of other

energy efficiency efforts going on at the building.

According to Langhorne, East Third Professional's adventures in natural gas efficiency started when she got a postcard from a local contractor—regarding light bulbs. The card noted that T-12 lights were "going away, and that we'd no longer be able to buy the bulbs," she said.

Lessons Learned

- Insulation upgrades are affordable and can generate significant savings
- Rebates are available for most lighting retrofits, commercial and residential

The Upgrades

- Increase levels of insulation
- Improved, energy-efficient lighting
- **\$450 savings in just five months**

On June 30, 2012, new ballast efficiency standards mandated by the U.S. Environmental Protection Agency went into effect, halting the manufacture of most models of the T-12 lamps that used the ballasts. Savvy contractors, well aware of the upcoming ban and the available rebates, started getting the word out to potential customers.

"I'd also been reading that Garfield Clean Energy had rebate money," Langhorne said. "So we thought it'd be a good time to replace the lights because we could save some money."

In May 2011, Rifle Electric replaced fourteen T-12 fixtures and fluorescent lamps with T-8 lamps. The job cost \$1,950, but working with Erica Sparhawk, program manager at CLEER, which manages Garfield Clean Energy's programs, Langhorne and East Third Professional were able to secure a rebate of \$1,062 from Garfield Clean Energy and a rebate of \$498 from Xcel Energy.

According to Langhorne, the new retrofitted lighting was only in part of the building because the primary lights had already been converted during prior remodels.

This small lighting upgrade is estimated to generate savings of around \$150 a year, and every little bit helps when you face a hot spring and summer and increased use of the air-conditioner.

However, Langhorne stayed in touch with Sparhawk while they applied for rebates, and when the latter heard about the new roof that was in the works, she outlined a number of measures that would add to the effi-

ciency of the building, including air-sealing, weather stripping, and capping some abandoned evaporative coolers. She also suggested measures like better windows and occupancy sensors, which turn lights off when no one's in a room. While East Third Professional's budget didn't allow for some measures, Sparhawk did convince East Third Professional that they should get additional insulation added to the roof during construction when the attic was accessible. Sparhawk also knew that the insulation work would be eligible for a rebate.

Insulation is one of the cheapest and most effective ways of decreasing a building's energy consumption, especially in northern latitudes. Homebuilders and contractors who have experimented with insulation have found they can easily cut energy use by a third and often by half by adding insulation in the right places.

In October 2011, CJ Construction replaced the roof and added insulation at East Third Professional. The insulation portion of the work cost \$10,500 and Garfield Clean Energy provided a rebate of \$3,778 for the project.

"It was absolutely helpful to work with Erica," Langhorne said. "She did so much of the process for us. She knew the [rebate] system, which was really nice. And she had the contacts. Erica knew what she was doing. We were going to have to replace the roof anyway. It was a real



Building coowner Chris Menara (pointing) enjoys the upgraded lighting in his office in the East Third Professional building.

bonus getting those funds toward the insulation."

Langhorne said East Third Professional's owners hope to do other measures when their budget allows, but for now she's pleased with the results. East Third Professional's occupants are a little more comfortable now that cold drafts have been sealed up on the roof and they saving about \$500 a year.

"It's a great example of a business taking advantage of a capital improvement—in this case a new roof—to make some changes and add insulation, remove old rooftop units to reduce air leakage, and make energy savings happen," Sparhawk said.

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