

Case Study: Weller Residence, Glenwood Springs

By Cam Burns/CLEER



No Name resident warms up to energy upgrades

A few winters ago, No Name resident Don Weller would huddle in his home.

"I lived in coats. I froze my butt off," he said. "I could have the fireplace blazing and the furnace rocking as fast as I could in the winter, and I could only get the living room up to 65 or 66. That was with everything blaring."

The problem was air leaks. The thin walls, ceiling, and floors of his wooden 1980 No Name Lane home had dozens of gaps that allowed any heat generated inside to leak out and cold air outside to flood in. The original insulation was rated R-15, a measure of thermal resistance. R-15, in layman's terms, is not very good, but it's not an uncommon level of insulation in many older homes.

"This house was always cold," Weller said. "It's got 17-foot-high ceilings in



Don Weller outside his No Name home. His formerly "leaky" house is now much more energy efficient and comfortable after several energy upgrades. Photos by Cam Burns

one part of the house and all the heat would convect upwards—the stack effect."

In late 2011, Steve Barbee, who runs a company called A Tight House LLC in Glenwood Springs, did an energy audit on Weller's home.

"When I did the blower door test on Don's house the air leakage was four times greater than what it should have been—it was as if a door was left open all the time," Barbee said.

In January 2012, Weller also took an energy auditing class recommended by Barbee. By taking the class, he got connected to a network

Lessons Learned

- Insulation is an easy, effective solution to both heating and cooling problems;
- Gas bills reduced by almost half
- The house is much more comfortable

The Upgrades

- Additional insulation to R-49
- Light boxes and insulation dams around soffit vents
- **Ceiling fan to address** rising warm air
- Insulating foam around gaps in the crawl space



of energy contractors and information about how to upgrade homes so they're more comfortable and waste less energy.

"I started going to all the meetings and then I found out they had rebates for energy upgrades," he said. The rebates—from the City of Glenwood Springs' Sustainability Program, which is managed by CLEER (Clean Energy Economy for the Region)—wouldn't cover all the work he wanted to do but they were enough of an incentive to spur Weller into action.

During 2012 Weller hired Barbee to blow cellulose insulation in the attic, which increased the R-value to R-49. Before he did that, Barbee added air block boxes around all the recessed lighting to stop the warm air escaping into the attic, and he added insulation dams around soffit vents. Weller also hired a contractor, Extreme Cleaning, to spray insulating foam around rim joists in the crawl spaces below the house. Additionally, Weller added a ceiling fan to simply push warm rising air back down into the main room.

Weller—whose house is split into two units—and his tenant Bill Henke spent the winter of 2012–13 seeing the results of the work.

"It's a different house now," Weller said. "Now it's warm and it stays warm."

As a bonus, the new attic insulation has also stopped a big dam of ice from forming on the northern edge of the roof. The ice would form, then on warm days melt, drip, then refreeze, creating a large frozen puddle in front of the garage.

Weller paid \$300 for the home energy assessment, \$2,300 for the foam and about \$3,500 for the insulation, boxes and dams. While the rebates totaling \$500 from CLEER via the City of Glenwood Springs' Sustainability Program and \$300 from Source Gas for the assessment, helped reduce the cost of the improvements, the main objective was to make the house livable.

"I had a \$700 gas bill when I first moved here," he said, acknowledging that at the time gas rates were higher, and that that amount of natural gas would translate to \$550–600 today. "Now I'm seeing \$300 bills. But for me, it's just a completely different home."

To learn more about rebates for energy efficiency upgrades and what you can do, contact CLEER at 704-9200.

Above: Weller points out the foam that was sprayed into the crawl space to stop cold air leaking in and warm air leaking out.

Below: he now uses a ceiling fan to push warm air back to the inhabited portion of his living room.



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