



# Case Study: Seventh Day Adventist Church, Rifle

By Bob Ward/CLEER Correspondent



## Rifle Church Sees the Light with New Lamps, Ballasts, and Solar Photovoltaic Power

Members of Rifle's Seventh Day Adventist Church are literally seeing a new kind of light after upgrading their light fixtures with modern, energy-efficient technology.

Seeking to save money on their utility bills, church board members contacted Garfield Clean Energy and signed up for the Garfield Clean Energy Challenge. As a participant in that program, they received energy coaching services, which helped them get lined up with a free lighting audit from Franklin Energy, the company that manages Xcel Energy's Small Business Lighting program.

The church also took advantage of a low-cost full-building audit that Xcel Energy provides its customers.

### The Upgrades

- Lighting was upgraded with more efficient ballasts and bulbs
- The more efficient lighting makes the church more appealing and can improve experience
- Large solar-electric system was installed on the roof
- **\$870 a year savings on electricity**



Ron Cloninger in front of the Seventh Day Adventist Church in Rifle.  
Photo by Cam Burns

The two reports indicated the church could significantly reduce its power consumption by turning down their programmable thermostats even more and installing more efficient lighting.

Unfortunately, the thermostat idea was a non-starter, said Elder Ron Cloninger.

"We would turn down the temperature if it weren't for the piano," he explained. "Below 60, it goes out of tune."

That left lighting as the preferred target. And the church took the advice to heart, spending \$5,404 on a building-wide overhaul.

In the sanctuary, energy-efficient compact fluorescent bulbs replaced

the old incandescent lights. In the building's hallways, classrooms and restrooms, energy-saving T-8 electronic ballast lights replaced the old, power-hungry T-12 magnetic ballast lights. Motion sensors in the restrooms now ensure that the lights come on only when needed. The church also upgraded its exit signs to LED models.

Accurate Electric of Rifle did the work in August 2011 and, following

### Lessons Learned

- The most effective energy upgrades aren't always obvious
- Energy audits are key to identifying specific upgrades



Left: Elaine Cloninger under the new lights in the kitchen. Right: Ron Cloninger checking out the solar production meter at the back of the church. On this particular day (March 22, 2012), it was producing 9.1 kilowatts. Inset: One of the new interior LED exit signs. Photos by Bob Ward

the advice of Energy Coach Erica Sparhawk of Clean Energy Economy for the Region (CLEER), the church sought rebates to offset the installation costs.

When all was said and done, Garfield Clean Energy provided \$2,749 and Xcel Energy, the church's electric utility, kicked in \$1,574 toward the lighting project, leaving the church's out-of-pocket costs at just \$1,081.

"The rebates available make energy efficiency projects very attractive," said Sparhawk. "Even without all the rebates, the savings keep these projects attractive."

In the six months since the work was performed, the church has used 4,360 kilowatt-hours less than it did in the same period the year before. In dollars and cents, that will come to about \$870 in annual savings.

But the benefits don't end there. Church members who attend board meetings or teach classes in the building's meeting rooms report the

new lights are easier on the eyes and ears than the old, flickering fluorescents.

"When we had board meetings, you'd have to sit there for three hours under those buzzing lights," recalled Cloninger's wife, Elaine. "Everybody's happy with these new ones."

Following the success of the lighting project, church members became interested in the idea of solar generation, and eventually hired Sol Energy of Carbondale to install three banks of photovoltaic panels on the church's south-facing roof.

Using money from a trust devoted to the church's buildings, church officials spent nearly \$40,000. Rebates were available for the installation itself bringing the net-cost down to \$30,103, and the church is still receiving 9 cents from Xcel for every kilowatt-hour the panels generate, and that benefit will last for 10 years, totaling approximately \$13,000 at the end of that period. Furthermore,

through a process known as "net metering," the church reduces its own electrical bills whenever the panels contribute power to the electrical grid.

"It's an unbelievable deal," said Ron Cloninger.

At this point, the Seventh Day Adventist Church is saving money every month on its power bills, and board members also feel they've done the right thing by conserving energy and investing in clean, renewable power.

As Ron Cloninger said, energy conservation was "the right thing to do at the right time for us, and the right thing for the nation."

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