

WALTON OUTREACH

APPLIED SUSTAINABILITY CENTER



“The sun is very powerful. Solar panels generate power even on cloudy and rainy days—as long as we have daylight, we have solar power.”

-Scharmel Roussel



An Energy Efficiency Success Story:

Scharmel’s Solar Solution

Project Overview:

Scharmel Roussel’s journey of energy conservation began by moving from a 2-story house in Little Rock to a smaller 1,300 square foot patio home, custom-built in 2004 with energy efficient appliances, energy efficient windows, low-flow shower heads and low-flow toilets. In 2009, Scharmel took advantage of the federal and state rebates for solar installation and had 20 solar panels installed on her roof. Her total investment was only \$7,126 (38% of cost with rebates and incentives). She chose solar because Arkansas has an enormous solar potential and having a south-facing roof is a benefit in capturing solar energy. “An added benefit to solar versus wind is that the panels have no moving parts so

there is nothing to repair or replace,” said Roussel. As solar panels feed energy into the grid, Scharmel receives credits on her electricity bill. Credits carry forward from month to month until the end of the year. Some months the panels have produced twice the energy that Scharmel has consumed. She has had six electricity bills in a row in 2012 in which she has had zero energy consumed. Currently she has a positive credit with Entergy. Roussel says, “The electricity meter runs backwards most days and this makes my investment worth every penny.”

Location: Little Rock, Arkansas

Built: 2004

Size of home: 1,300 sq. ft.

Occupants: 1

Average hours per day occupied: 18-20

Energy Resources: Electricity (Entergy), Gas (CenterPoint),
Water

Average kWh consumed: 141 kWh

Total cost for panels and installation: \$18,596

Rebate on federal tax return – 30%
\$5,578 over 2-year period (two tax returns - 2010 & 2011)

Rebate from Arkansas Energy Office for net metering:
\$5,892 over 12-month period for \$1.50 for every kWh pro-
duced over first year; first year's total production was
3,936 kWh

Actual cost for Scharmel's solar panels: \$7,126 (38% of
total)

Average electricity bill before solar panel installation
- \$84.30 for 710 kWh consumed

June 8, 2012 electricity bill
- \$7.94 – includes taxes and fees;
299 kWh from company grid to home
315 kWh from home to company grid

Six electricity bills in a row in 2012 have been for 0 (zero)
energy consumed.



Strategies for Success

- Replaced water heater with tankless water heater.
- Added 4" more cellulose insulation to attic.
- Installed custom foam plug in attic door stairwell.
- Replaced bulbs with CFL and LED bulbs as traditional bulbs burned out; marked outlets with dates to track lifetime of each bulb.
- Adjusted thermostat to 68 in winter and 76 in summer.
- Installed foam socket seals behind plugs and light switches.
- Plugged items into power strips; un-plugged items not in use.
- Installed 20 solar panels on roof.