

# WALTON OUTREACH

## APPLIED SUSTAINABILITY CENTER



UNIVERSITY OF  
ARKANSAS  
SAM M. WALTON  
COLLEGE OF BUSINESS

Applied Sustainability Center

“Getting an energy assessment and sealing our duct work finally allowed us to achieve the results we were wanting to see on our utility bills!”

-Shannon Joyce



## An Energy Efficiency Success Story: The Joyce's Journey

### Project Overview:

First time homeowners Jeremy and Shannon Joyce purchased their ranch style home nestled on top of Mount Sequoyah in Fayetteville, Arkansas, seven years ago. With the lack of experience in home ownership, they chose form over function. Over the years, they have learned the importance of energy efficiency and have watched their utility bills steadily decline.

### Initial upgrades:

- Double pane windows (low E/Argon Gas) in 2005
- Bringing attic insulation up to R-38 in 2007
- Upgraded all of their appliances to EnergyStar
- Installed rain barrels for water conservation
- New furnace in November 2010
- Air conditioner in November 2010
- Hot water heater in May 2011
- Sealed duct work in June 2011

An energy assessment was performed on their home in May 2011. The results were shocking and showed that their duct work was leaking at 85%! Just 15% of the air moving through the system was actually entering their home. They immediately had their ductwork sealed and this has made an amazing difference, both financially as well as in the level of comfort in their home. Jeremy and Shannon realize that it pays to become aware of your home and your energy consumption. Knowing what is average for a home is key, and having something with which to compare your own utility bills helps in pinpointing problem areas. Without the energy assessment, Jeremy and Shannon would still be paying for energy that was escaping into the crawlspace and never entering their home. Shannon says, “moral of the story, do your energy assessment first!”

**Location: Fayetteville, Arkansas**

**Built: 1957**

**Size of home: 1950 sq. ft.**

**Occupants: 4**

**Average hours per day occupied: 20**

### **Electricity**

Average Electric Bill Pre Assessment: \$150/month

Average Electric Bill Post Assessment: \$94/month

**Savings: \$56/month (38%)**

Average Monthly Usage Pre Assessment: 1,743 kWh/month

Average Monthly Usage Post Assessment: 1,031 kWh/month

**Savings: 712 kWh/month (41%)**

National Average: 920 kWh/month

Arkansas Average: 1,107 kWh/month

Fayetteville Average: 1,100 kWh/month

### **Gas**

Average Gas Bill Pre Assessment: \$87/month

Average Gas Bill Post Assessment: \$50/month

**Savings: \$37/month (43%)**

Average Monthly Usage Post Assessment: 4,466 cf/month

Average Monthly Usage Pre Assessment: 9,363 cf/month

**Savings: 4,897 cf/month (53%)**

### **Water**

Average Water Consumption: 5,300 gallons/month

Fayetteville Average: 5,000 gallons/month

## **Strategies for Success**

- Turning up the thermostat to 75° or higher in the summer and down to 65° or lower in the winter.
- Turning the unit off when the home is not occupied. It only takes about an hour to warm or cool your home to the desired temperature.
- Installing a low-flow showerhead. Most new showerheads are low-flow (2.5 gpm).
- Changing light bulbs to CFL's. Use a marker to write the date installed helps to monitor the life length of the bulb.
- Turning the lights off when the room is not occupied.
- Drawing the shades in the summertime on all west facing windows.
- Unplugging any electrical cord that is not in use. Phantom power is the result of energy being pulled to an electrical component that is powered off.
- Putting electronics on a power strip and turning all units off while not in use.
- Weather stripping and insulation around doors and electrical outlets.
- Installed a dual-flush toilet.

## **Successes since June 2011**

A savings of \$675\* on their electric bill.

A savings of \$372\* on their gas bill.

A savings of 6,000\* gallons of water.

\*based on LY month/month energy bills

**Over \$1,000 in savings  
in only 11 months!**

**Joyce's are saving \$93/ month**