

The Rosenthal Family's Home Energy Upgrade



The Rosenthal family was considering purchasing a distressed property in Solvang that was in bad shape. All the windows were single paned, there was no burner for the water heater, no insulation and the furnace had been deemed unusable by the utility.

"I loved the property but we didn't know how we would pay to make the needed improvements. Then I attended an **emPowerSBC** workshop and learned about the rebates and financing. The program made it possible for me to go ahead and buy the home without having to worry about how I would pay to make repairs" said Kathy Rosenthal, the homeowner.



HOME PROFILE

Location: Solvang, CA

Year Home Built: 1971

Square Footage: 2,195

Number of Floors: 1 story ranch style

Energy Upgrade California Rebate: \$4,000

Federal Tax Credit: \$500

Monthly emPower Loan Payment: \$220

Total Modeled Energy Savings: 52%

ENERGY IMPROVEMENTS COMPLETED:

1. Whole House Air Sealing
2. Attic Insulation to R38
3. New Sealed and Insulated Duct System
4. Energy Efficient Furnace
5. Energy Efficient Hot Water Heater
6. Insulation of Water Pipes
7. Double Paned Vinyl Windows
8. Thermostatic Shower Valve
9. Fresh Air Ventilation System

PARTNERS:

emPowerSBC and Halsell Builders

"It was super easy to participate in emPower. Our contractor took care of everything. It was convenient to be able to choose from a list of approved contractors. I really appreciate the County offering this program!" Kathy Rosenthal, homeowner

Steps to the Rosenthal Family's Upgrade



1. Energy Assessment

The Rosentals worked with Halsell Builders to conduct a "whole-house" assessment. This type of assessment uses diagnostic tools like a blower door to help pinpoint areas for improvement and identify safety issues like gas leaks or equipment that isn't operating properly. The

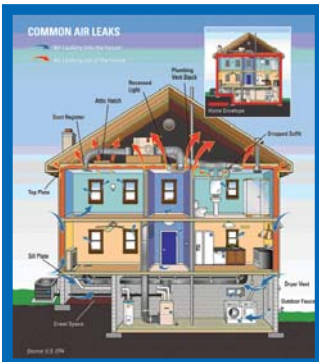
results of the assessment were also used to determine which upgrade measures were most cost effective



4. Heating and Air Conditioning

Older furnaces can lose up to 35% of the energy they burn in exhaust up their flues. Newer furnaces are much more efficient. The efficiency of furnaces is measured by "annual fuel utilization efficiency" (AFUE). Furnaces with an AFUE of 92%

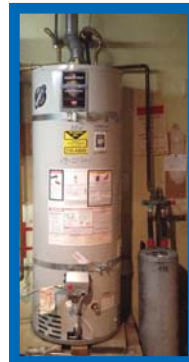
or higher are the most energy efficient. This home was retrofitted with a furnace that has an AFUE of 96%.



2. Air Sealing

Did you know that if you added up all the little cracks and crevices in your house it likely adds up to a hole the size of a hula-hoop? It's no wonder that a typical homeowner could save 20% on their heating and cooling costs just by sealing

up those holes and ducts. Sealing is one of the least expensive upgrades that you can make to improve comfort and efficiency.



5. Hot Water Heater

The energy efficiency of hot water heaters has improved greatly over the last few years. That's good news considering that hot water heater usage accounts for 25% of each energy dollar spent. When comparing water heaters look for the "Energy Factor." The higher the "Energy Factor" the more efficient the water heater. Gas water heaters have

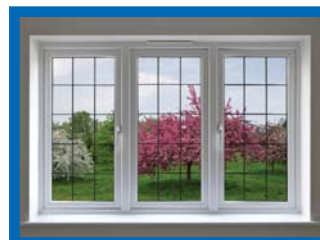
energy factors between 0.5 to around 0.7. Electric models range from 0.75 to 0.95. This home has a gas fired water heater with an Energy Factor of 96%.



3. Insulation

Proper insulation is key to a comfortable and efficient home. Poorly installed or lack of insulation can result in drafts and loss of home heating and cooling energy.

Many homes built prior to 1960 and 1970 have little or no insulation at all. By adding R38 insulation to the attic and insulating their ducts, the Rosentals were able to save energy, keep more comfortable and reduce noise from outside.



6. Windows

Did you know that on a chilly day, the cold glass surface of a window actually pulls heat away from your body? And during the summer, standard windows allow about 75%

of the sun's heat into your home. The Rosentals replaced their old, leaky windows with new double paned energy efficient vinyl windows to make their home more comfortable year round.