



Residential Solar Electric Project Case Study

Site Information

Site Name: Cruces Residence

City: Friendswood, TX

Solar System Description

Renewable Energy Systems: 3.15 KW DC
Solar Electric Sys.

32 Sf Collector/60 Gallon Solar Water Heating
System

Installer: Alternative Power Solutions

Date Installed: November 2009

System Cost (Solar Electric at todays prices): \$19,000

Approximate Energy Provided: Solar Electric – 315 KWh per month
Solar Water Heating – Produces 120 gallons of hot water/day

Approximate Cost Savings at 13 cents/kwh: The solar PV systems saves the home owner approximately \$41/month or 24% off this homes standard electric bill. This system qualified the homeowner for a \$7,000 tax credit, a \$7,800 rebate from TNMP, increase the property value by \$9,800, and will produce over \$47,500 worth of solar energy during its lifetime.

The solar water heating systems save the homeowners another \$50 per month since the home is all electric. That equated to another 39% savings monthly.

An Attic Breeze Solar attic fan was installed on the home that is projected to save the home another 15% on its annual energy bills due to the reduction in heat passed from the attic to the home interior.

Description of Installation:

The grid-tie 3.15 KW Solar PV system consists of 18 Suntech 175 Watt panels which are southern facing. The panel racking system is attached to the rafters of the home. This system uses 1 PVP 3000 central grid tie inverters to make the power conversion from DC to AC electricity.

The solar water heating system consists of one 32Sf water heating collectors and one 60 gallon solar storage tank. This is an AET solar Drain-back water heating system.

