Residential Solar Electric Project Case Study

Site Information

Site Name: Francis Residence

City: The Woodlands, TX

Solar System Description

Renewable Energy Systems:
4.14 KW DC Solar Electric System,

Installer: Alternative Power Solutions

Date Installed: January 2011

System Cost (at todays prices): $24,000

Approximate Energy Provided: Solar Electric – 360 KWh per month

Approximate Cost Savings at 10 cents/kwh: The solar PV systems saves the home owner approximately $36/month or 15% off this homes standard electric bill. This system qualified the homeowner for a $3,300 tax credit, a $8,300 rebate from Entergy, increase the property value by $8,700, and will produce over $30,000 worth of solar energy during its lifetime.

Environmental Benefits:
This system will also save the environment over 163,000 lbs of co^2 emissions over 30 years.

Description of Installation:
The grid-tie 4.14 KW Solar PV system consists of 18 Schuco 230 Watt panels which are south and west facing. The panels are attached to the rafters of the asphalt shingled roof. This system uses 18 Enphase Micro grid tie inverters to make the power conversion from DC to AC electricity at the panel itself. The micro-inverters reduce the standard current loss in the solar system.