

LEED® FOR HOMES PLATINUM



Net Zero Energy—Concrete Habitat for Humanity Home of the Future

Salt River Materials Group (SRMG) of Scottsdale spearheaded the project introduced at the **Greenbuild International Conference & Expo 2009** in Phoenix. Among 200 entries, the Habitat home was selected for the **Contemporary Living Desert Tour** and features a variety of green technologies.

The **Habitat for Humanity®** home utilizes **HercuWall®** instead of conventional wood-frame construction. By combining **HercuWall®** with conditioned attic space using spray foam insulation directly underneath the roof deck, and energy-efficient windows and HVAC equipment, this home has the essential elements to reach the coveted “Net Zero” energy designation. Exceeding Energy Star certification, the project’s additional “green” products contributed to an overall LEED® for Homes “Platinum” designation, meeting the highest U.S. standards. Eighty out of 126 points are required for Platinum certification and the Habitat home scored a massive 114.5.

Before considering the contribution of the solar system, heating and cooling costs for this home were **guaranteed not to exceed \$32 per month by Environments For Living® (MASCO)**. The HERS Index Score was finalized at negative four (-4). This is better than net-zero and depending



on the family’s energy usage habits, power could actually be put back on the grid. This project proves that highly energy efficient construction is practical even for entry level housing.

What is a HERS Rating?

A home energy rating involves an analysis of a home’s construction plans and onsite inspections. Based on the home’s plans, the Home Energy Rater uses an energy efficiency software package to perform an energy analysis of the home’s design. This analysis yields a projected, pre-construction **HERS Index**. Upon completion of the plan review, the rater will work with the builder to identify the energy efficiency improvements needed to ensure the house will meet **the specified** performance guidelines. The rater then conducts onsite inspections, typically including a blower door test (to test the leakiness of the house) and a duct test (to test the leakiness of the ducts). Results of these tests, along with inputs derived from the plan review, are used to generate the **HERS** Index score for the home.

The **HERS** Index is a scoring system established by the Residential Energy Services Network (RESNET) in which a home built to the specifications of the **HERS** Reference Home (based on the 2006 International Energy Conservation Code) scores a HERS Index of 100, while a net zero energy home scores a HERS Index of 0. The lower a home’s HERS Index, the more energy efficient it is in comparison to the HERS Reference Home.

Each 1-point decrease in the **HERS** Index corresponds to a 1% reduction in energy consumption compared to the HERS Reference Home. Thus a home with a HERS Index of 85 is 15% more energy efficient than the HERS Reference Home and a home with a **HERS** Index of 80 is 20% more energy efficient.

Source: www.energystar.gov

HERS

100

By definition, a home built to meet the 2006 Energy Code would be rated at 100.

85

ENERGY STAR rated home is only 15% more efficient than code built.

54

SRMG Home prior to solar component consideration.

0

NET-ZERO homes use ZERO energy for Heat & Air.

-4

SRMG Home final HERS SCORE is negative 4 which means the house generates more power than it uses for Heat & Air. INCREDIBLE!