



Climate Choice Home

New Jersey ENERGY STAR® Homes are built better and performance-tested to prove it.

PROJECT INFORMATION

Program Name

- New Jersey ENERGY STAR Homes – New Jersey Climate Choice Home

- Renewable Energy Incentive Program

Customer

- Homes for Our Troops, on behalf of Marine Corporal Visnu Gonzalez

Location

- Hillsdale, New Jersey

About the Home

- 1,834 square feet
- 4 bedrooms
- 2 baths

Construction Highlights

- 5.25 kW solar system
- Pre-cast concrete insulated foundation walls with additional spray foam insulation
- Above grade Structural Insulated Panel (SIP) walls with additional insulate siding
- R-60 spray foam insulation in ceiling next to attic
- High performance ENERGY STAR qualified windows
- 18.5 energy efficiency ratio (EER) geothermal heat pump
- .90 energy factor electric water heater
- 21.6 seasonal energy efficiency ratio (SEER) air conditioner
- ENERGY STAR qualified appliances and ceiling fans
- LED and fluorescent lighting
- Low flow faucets and showerheads

Continued on next page.



Photo courtesy of William J. Martin

“We take our ability to move about freely for granted. Through *Homes for Our Troops*, my son will be able to have some mobility that he was not able to have while living in an institutional setting. We especially love the fact that Visnu can be a welcomed part of our community. He will have his own privacy, freedom and independence.”

Maria Elena Baez, Proud Mom of Corporal Visnu Gonzalez, United States Marine Corp

Background and Challenge

Homes for Our Troops is a non-profit organization that builds homes for severely injured military veterans at no cost to the veterans. The organization built a home for Marine Corporal Visnu Gonzalez in Hillsdale, NJ. While serving in Iraq, Corporal Visnu Gonzalez was shot by a sniper, a wound that severed his spinal cord and left him paralyzed. Because of Corporal Gonzalez's special needs, *Homes for Our Troops* sought to build a home that would be energy efficient, provide a healthy indoor environment, and also be practical for the wounded veteran. Consistent with the *Homes for Our Troops* goal of building homes as cost effectively as possible for veterans, organizations donated building materials, equipment, and services to *Homes for Our Troops* for Corporal Gonzalez's home. Volunteers also contributed their time and labor to make the construction process affordable. An additional benefit for *Homes for Our Troops* was the financial incentives they received from *New Jersey's Clean Energy Program*™.

Solution

Administered through the New Jersey Board of Public Utilities and *New Jersey's Clean Energy Program*, New Jersey ENERGY STAR Homes can be built in any size, style, or price range and are at least 15 to 35 percent more energy efficient than standard new homes. The highest level of this program, known as New Jersey Climate Choice Home, provides incentives for builders to construct these homes for maximum energy efficiency combined with renewable energy. The result is nearly net zero energy consumption. A New Jersey Climate Choice Home includes high-efficiency heating and cooling



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Construction Highlights (Cont.)

- Whole-house, mechanical Heat Recovery Ventilation (HRV) with controls
- Rainwater collection system for landscaping

NJCEP Incentives

- \$24,000 from the New Jersey ENERGY STAR Homes Program
- \$9,188 from the Renewable Energy Incentive Program
- Homes for Our Troops will also benefit from the sale of Solar Renewable Energy Certificates (SREC) with an approximate value of \$3,125/year, based on SREC trading values as of May 2010.

PROJECT SAVINGS

Estimated Annual Savings

- 9,024 kWh

Annual Emission Reductions

- 14,288 pounds of carbon dioxide eliminated

Environmental Benefits

- Savings are equivalent to the carbon dioxide emissions from 15.1 barrels of oil consumed per year

Solution (continued)

systems, high-quality windows and doors, well-sealed duct systems, improved air sealing and insulation, ENERGY STAR qualified appliances and lighting, and a renewable energy system. Based on the nationally recognized Home Energy Rating System (HERS) Index, the HERS rating for this New Jersey Climate Choice Home was 41 before adding solar panels and 21 including solar panels, as compared with the HERS ratings of traditionally built homes that hover around 100. The Gonzalez home was constructed to New Jersey Climate Choice Home standards, and also achieved United States Green Building Council LEED for Homes Platinum certification. The Gonzalez home is the first New Jersey Climate Choice Home to be built in New Jersey and one of the first in the nation to achieve this level of energy efficiency.



Photo courtesy of Homes for Our Troops

Corporal Visnu Gonzalez accepts the keys to his new home.

Benefits

The project was based on a “whole building” approach to result in a more energy efficient, comfortable, healthier, and more durable home. Corporal Gonzalez now has a home that is about 70% more energy efficient than a traditionally built home. This high performance new home, combined with the solar energy system, minimizes Corporal Gonzalez’s dependence on transitional energy sources to power his home. In addition to maximum energy efficiency, the home also provides superior indoor air quality, efficient use of water resources, use of recycled and sustainable materials, and more, as certified by LEED.

Charitable donations from outside organizations and the financial support from *New Jersey’s Clean Energy Program* allowed *Homes for Our Troops* to complete the project in a cost effective way while at the same time providing Corporal Gonzalez with an environmentally sound and more affordable home.

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