

Solar **HOME** **MakeOver**



THE
Santiago Family

RESIDENTIAL EDITION



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What is a Solar Home Makeover?

Simply stated, a solar home make-over harnesses the power of the sun through the use of solar panels to provide your home with an efficient, clean and renewable energy source.

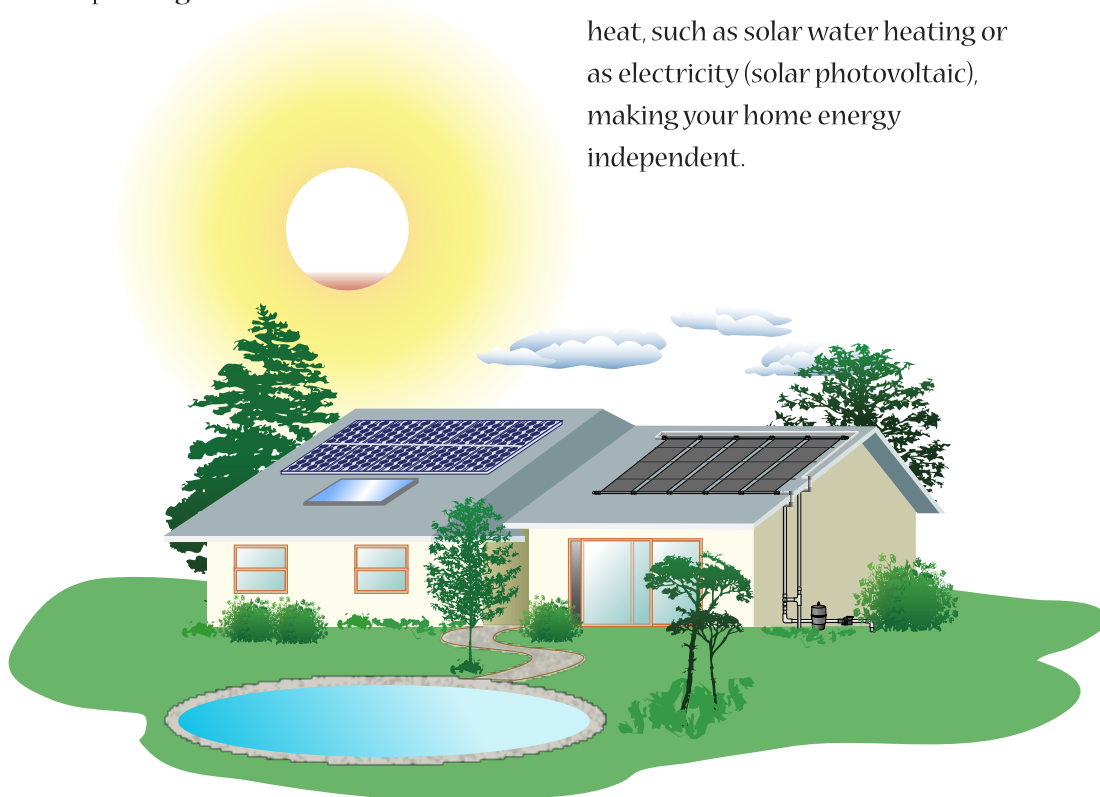
Every homeowner has their own reasons for converting to renewable energy options like solar. These range from protection against the sharp increases in electric rates to environmental concerns such as curtailing their family's contribution of greenhouse gasses. For the Santiago Family, the idea to "go solar" stemmed from a recent article covered by a mainstream magazine and an impending move to Florida.

*"We recently read an article in **Good Housekeeping** about a zero net energy home. They weren't paying an electric bill every month-can you believe that? We wanted that-or at least something like it."*

Not every homeowner can live completely off-grid, but like the Santiago Family, adding even a few solar components is a good start.

"For us, the idea of converting to solar was not a hard reach. We were already moving to the 'Sunshine State' and building a new home, why not take advantage of the sun's free energy?"

The sun's rays produce free energy that is converted into a form of heat, such as solar water heating or as electricity (solar photovoltaic), making your home energy independent.



What Systems Are Available?

The Santiago Family has chosen an array of solar equipment for their home including:



SOLAR SKY LIGHTS supply a daylighting system that saves energy by using a natural light source.

The Santiagos chose to add sky lights in their kitchen – an area that families gather most in the house.



SOLAR VENT FAN The vent fan pulls the heat right out of the Santiago's attic; it can lower temperatures by as much as 50°.



SOLAR POOL HEATERS produce up to 100% of the pool heating needs for a family. Because they live in Florida, the Santiagos have extended their swimming season nearly year-round with this addition.



DIGITAL CONTROL SYSTEMS control the pool and spa water temperature from remote locations. Portable and fixed mount styles.



SOLAR WATER HEATERS provide instant hot water from a collector on your roof that is heated by the sun and a storage tank (your current or an additional water heater). This hot water can be used for showers, washing machines, dishwashers and in the kitchen sink. The SWH purchased by the Santiago Family provides up to 90% of the family's hot water needs.



INSTANT HOT WATER System delivers hot water in 15-30 seconds without wasting a single drop of

water and by using only a fraction of a penny's worth of electricity. Saves an average of 20-30% on water & sewer fees.



SOLAR ELECTRIC or photovoltaic cells are used to convert the sun's energy into electricity for your home. The Santiagos have installed a 4.5 kWatt panel system that is large enough to reduce the electric bills by at least \$65/month. The real value of the system is in meeting the survival needs for the family during storm-related power outages. Basic appliances in their home can still run for several days due to battery back-up in the garage.

Solar Savings



1

Solar Water Heater

- Solar Efficiency: 50-65%
- Cost per sq. ft: \$85.00
- Energy Output:
200 watt-hrs/sq. ft./day
- Typical Payback 3-6 years

2

Solar Electricity

- Solar Efficiency: 10-25%
- Cost per sq. ft: \$90.00
- Energy Output:
100 watt-hrs/sq. ft./day
- Typical Payback 10+ years

3

Solar Pool Heater

- Solar Efficiency: 55-70%
- Cost per sq. ft: \$9.00
- Energy Output:
300 watt-hrs/sq. ft./day
- Typical Payback 1-3 years

With all the above additions to their home, the Santiagos can expect to save an average of **\$200 per month!**

"It used to be when we were kids, I'm bigger than you. Now, I show my friends the electric bill and say, I'm smaller than you... I like to show that I am not handing over all my money to Progress Energy!" - Pedro Santiago

Affordability

The Santiagos have upgraded their home at exactly the right time to take advantage of existing Federal and Florida State incentives to lower the total cost of the systems and make each more affordable.

The total price for the Santiago's Solar Home Makeover is \$54,600, including the solar water heating, solar pool heating, 4.5 kW solar photovoltaic (electricity) system, solar skylights and solar fan. Of the \$54,600 spent, Pedro will receive

\$18,600 (or 34 %) back in Federal incentives and Florida rebates.

"It's a no-brainer. Put money back into your own home so that when you are too old to work, your electric bill will be \$50 instead of \$500 and you can still afford to pay it."

Price before Solar Incentives:	\$54,600.00
Florida rebate for solar PV	-\$14,000.00
Federal tax incentive for solar PV	-\$2,000.00
Federal tax incentive for solar water heater	-\$2,000.00
Florida rebate for solar water heater	-\$500.00
Florida rebate for solar pool heater	-\$100.00
Real Price of the System:	\$36,000.00

Did you know?

- According to The Appraisal Journal, for every \$1 in annual energy savings, \$20.73 is added to a home's resale value. For the Santiago home, we estimate his upgrades result in nearly a \$50,000 appraisal value increase!
- Many mortgage finance companies such as Fannie Mae offer Green Mortgages where the financing of energy efficient upgrades is rolled into your total mortgage.
- A typical water heater emits 2 tons of carbon dioxide each year. That's equivalent to TWO passenger cars driving 10,000/year.

How Do I Get Started?

Visit <http://solardirect.com/solarhome.pdf> today to learn more about what solar can do for you. We also have energy consultants available to speak with you about upgrading your home with solar. Visit us on the web at www.solardirect.com or call toll free at 1-800-333-9276.

Solar Direct would like to thank Pedro Santiago and his family for graciously opening their home and sharing their story.

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