

## Solar Panels

I had a solar panel system installed on the roof of my home on Sunrise Court. I have been asked by a few residents to explain what I have and why I did it. Photovoltaic (PV) systems use solar electric panels to directly convert the sun's energy into electricity. This conversion of sunlight to electricity occurs without moving parts, is silent and pollution free in its operation. The solar electricity generated is Direct Current (DC) and electronic equipment called convertors are used to convert the power to utility grade Alternating Current (AC) electricity for use directly in the home. The solar electricity is used to run everything in your house during the day and any excess generated is routed back to JCP&L for a credit that is used at night and cloudy days. If there is an excess (meaning you did not use as much power as you produced), the power is sold back to the utility company at the same rate at which you are charged and given back to you as a credit if



and when you need it. The switching from your solar system to the power company's grid is seamless; you never know its happening. There is no sound or anything you have to do. Different types of photovoltaic products are available today from numerous manufacturers. The supply of PV collectors worldwide has increased from 20 to 30 percent annually to keep up with the demand for this renewable energy technology. Photovoltaic modules are usually rigid, rectangular devices ranging in size from 2' by 4' to as large as 4' by 8'. Rigid PV modules typically have a glass cover. All types of PV module construction have been rigorously tested to survive storm and hail damage and are resistant to degradation from ultra-violet rays. The existing meter all homes have

is the one from JCP&L. With a home solar power system you'll upgrade to a net meter to measure how much electricity you use and how much you produce. If your home solar power system produces more power than you use, the JCP&L meter actually spins backwards, and keeps track of credits. As you use more electricity, you will first use up any credits that you have before using and paying for additional electricity. The company I use guarantees me the system they installed on my roof will supply at least 98% of my electric needs or I will receive a rebate.



The solar panels and all the remaining system pieces, including racking, wiring, meter and safety shut-offs, also called the "balance of system" (BOS) are guaranteed for at least 18 years. The inverters at my house are installed in the garage, on a wall and out of the way. The

most efficient solar systems are installed on South facing roofs but East and West will work but more panels may be needed. There are different ways to pay for the installation with different benefits. For not much down or monthly payments for two years you can get almost free electricity for life. Or for a significant amount down you can get free electricity and something called SREC's, 'Solar Renewable Energy Credits'. These credits are earned for every 1000 Kilowatt hours you generate with your system and are sold back to the utilities through a broker to fulfill their state requirement to generate solar power. The SREC's are going for approximately \$600 at the present time but they are expected to slightly decrease each year over a 15 year period. If your system is designed correctly you should generate an average of 12 SREC's a year. There are a few companies installing these systems in New Jersey so do a search

on the web or Yellow Pages. Wow, I can't believe I wrote that! Does anyone use the Yellow Pages anymore?

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