Economics of Solar Energy Systems

Grid connected solar electric (photovoltaic or PV) systems provide significant economic benefits to homeowners. There are several ways to consider the benefits of these highly reliable systems:

Solar is a hedge against future electric rate increases.
According to the U.S. Department of Energy, national average electric rates have increased 5% per year since 1970, and this trend is expected to continue through 2030. This means that today’s $100 monthly electric bill will likely be $160 in 10 years and $340 in 25 years. With 25 years of guaranteed production, a solar energy system allows a homeowner to “pre-pay” for their electricity at a fixed rate.

Solar adds value to a home.
As long as the system is installed in an aesthetically pleasing way, solar immediately adds resale value to a home. In fact, the exact value is very easy to quantify. The panels are guaranteed to produce power for 25 years. At any given time the remaining production under warranty can be calculated and multiplied by the current electric rate (with escalation, if desired) to come up with an accurate value that the system adds to the home. A solar equipped home has lower operating costs (monthly bills) than a comparable non-solar home.

Solar pays back.
Over its lifetime a solar energy system will typically provide electric bill savings equal to 2-3 times the initial price of the system.

Solar provides a significant return on investment.
Solar provides a significant, reliable, and long lasting return on investment. Consider that returns from investments in the stock market or savings accounts are taxable income. The investment in solar provides electric bill savings, which are not taxable. To compare an investment in solar to other investments, it is important consider the value of the electric bill savings in pre-tax dollars. Depending on state rebates and local electric rates, the 25 year electric bill savings from an investment in solar typically provides a 10% to 20% average annual return on the initial investment.

When financed, solar can provide immediate savings.
By financing solar in a 30 year mortgage or other secured loan, the net loan cost (after tax benefits) is often equal to or less than the first year monthly electric bill savings. This means that the homeowner is “cash positive” on the investment from day one. Additionally, the loan is a fixed payment, while electric rates are always increasing.

Specific economic returns of solar energy systems vary by geographic location and are affected by state and utility rebates, current and future electric rates, and average sunlight for an area. Contact your Ready Solar representative for more information about specific locations.