

Today there are numerous reasons to install a solar electric system. Systems are being installed for financial, environmental, technological and independence reasons.

Solar electric system owners can zero out their electric bills via a net metering agreement with participating utilities (such as PG&E) where retail rates are used to credit the electric bill during on-peak periods in the afternoon at 3 times the rate of night time rates. When the sun is out the electric meter spins backwards capturing these valuable energy credits. Billing is done on an annual cycle so credits accumulated during the sunny season can be carried over to offset winter electric usage.

In California there is rebate money and tax credits for new grid-tied photovoltaic (PV) systems that make the economics compelling for average and above average electricity users. This government sponsored buy down rebate is currently \$2,800 per kilowatt through 6/30/05 (it drops \$200 per kW every six months). The state tax credit is 7.5% through 12/31/05 (it is scheduled to be eliminated thereafter – this tax credit may be extended as part of the “Solarnator’s” million solar roofs initiative being worked on in the state legislature). These financial incentives reduce a PV system’s investment by 35% yielding typical payback times of 12 years for an 8% tax free annual rate of return! A home’s property value is improved more than the cost of the installed system and financed systems may have lower payments than paying the electric bill. As electric rates rise over time, PV system owners effectively save more money each year.

PV energy is quiet and wildlife friendly as there are no moving parts or pollution. A typically sized 3 kW PV system installed in a sunny location in Santa Clara County will help to eliminate more than 60 tons of CO2 emissions in avoided fossil fuel power plant emissions over a 30 year period. Solar helps to extent limited natural gas supplies. No water is needed to operate a PV system whereas on average 21 gallons of water are used for each kWh of electricity produced from the average mix of electric supply sources.

Installing solar power systems is good for the local economy as it generates jobs, and helps to increase the savings of PV system owners. The amount of solar energy that reaches the earth each minute is equivalent to what human’s use over an entire year. Solar energy is a largely an untapped potential if aggressively pursued will help to insure our societies future success, as the currently used non-renewable energy sources are causing unwanted global climate changes that is adversely affecting entire ecosystems which we intricately depend on.

No training is needed to operate a PV system as it is fully automatic turning on when the sun rises and off when it sets. The clean electricity generated from a grid-tied PV system is exported onto the electric grid for the neighbors to use. At night power is drawn from the grid. Thus no batteries are needed which reduces a system’s cost and increases its performance, since there are no losses due to battery charging cycles and there are no battery disposal or maintenance issues too. The only maintenance needed is to hose off the panels occasionally in the summer if they get dusty.