

## Solar Options: Sunshine Powered Sustainable Energy

Mike Correale of Solar Wind Technologies had a full house for his talk on applying solar energy to residences at the May “Learn Green to Live Green” lecture. Mike explained photovoltaic (PV) powered energy makes use of a variety of cell materials. Poly Crystalline has proven itself to be the most reliable and long lived material in collecting 80 percent of the sun’s energy that makes it through the atmosphere. Seventy-two cells make up a 3’x5’ module and 16 modules make up an array that could provide up to 600 volts of DC power. Once hooked up, the system provides high reliability and low maintenance, and usually comes with a 20 to 30 year guarantee.

Is your home a candidate for solar power? Consider these questions:

- Does the rear orientation face south with an east/west exposure free of shading from trees, houses and utility wires? Use Google Earth to view your roof line.
- Does the angle of the roof allow for optimum exposure?
- Does the area being considered receive a minimum of five hours of daily sun?
- Is there roof space for panel placement? (Panels can be split up onto different surfaces. Plan on 1 kilowatt-hour/square foot.)
- Can the roof strength bear the weight of a panel and hold in a 90 mph wind?
- Do you have homeowners association (HOA) restrictions to consider?
- Do you have the budget? Consider current average rate today 12.5 cents compared to 5 cents 11 years ago.

To stay abreast of rebates that might be applicable in your area, check the Database of State Incentives for Renewables & Efficiency at [www.sdireusa.org](http://www.sdireusa.org). Electric cooperatives don’t give rebates.

Options for using PV power are to be tied to the grid, tied to the grid with battery back-up or off the grid with a battery system. Batteries cost \$8,000 to \$9,000 and require maintenance and space. Texas net meter laws are vague. If your home generates excess power, the utility companies have the option of giving you credit, paying you at a lower rate/kilowatt-hour or giving no credit. You MUST have an interconnection agreement with your electric utility company or they could remove your meter and leave you without any power.

According to City of Plano Building Inspections Plan Review Supervisor Tony Han, the City of Plano requires three inspections for the installation of solar panels. The total cost of \$183 includes a rough electric inspection with a filed plan, a final electric inspection and a final building inspection.

Both Tony and Mike encouraged making the most of your energy regardless of how it is generated: add insulation to your attic, seal connections in your duct work and caulk leaks.

Watch for the next series of programs in the “Learn Green to Live Green” series starting in September 2010.