



**Year Built** 1928, remodeled 2005

**Home Size** 1403 Sq.Ft. above ground, 500 Sq.Ft. basement

**Contractors:**

**Alpen Windows** (see ad on page 15)

**Aqua Care** (see ad on page 51)

Robert Ross/Terra Verde

John Martini/Jim Walker

Independent Power Systems

## The Toor-Colvin Home

### Efficiency First and Foremost

Will Toor & Mariella Colvin

When our second child was born, we decided that we would expand our home (which was about 1400 square feet including the basement), so that each of our kids could have their own bedroom. We wanted to try to reuse as much of the existing home as possible, and to minimize the energy consumption of our home. We were also motivated to make the home healthier, as we had old windows and siding with peeling lead paint we wanted to remove.

Our first hope was to build a passive solar home. Unfortunately, we could not figure out a good way to provide adequate solar mass, given the fact that we were leaving the existing basement, foundation, and first floor, so we aimed for a solar tempered home with good insulation, high performance windows tuned to the directions, well designed overhangs, and a hydronic heating system.

**“After the Amendment 37 rebates and the federal tax credits, our net cost for the system is about \$2,000”.**

Given our limited budget, we were not interested in paying for architectural frills, fancy fixtures, expensive countertops, etc., -but we were willing to pay more up front for greater energy efficiency, and considered paying more for other “green” aspects on a case by case basis.

After the remodel was complete, we worked with Independent Power to install a 1.67 kW solar system. Since we had already replaced all of our bulbs with CFLs, gotten a fairly efficient refrigerator, and got rid of the dryer, we had our electricity use down to 180-240 KWH per month. In the first few months of operation of our solar system, we have been very close to net 0 on electricity. After the Amendment 37 rebates and the federal tax credits, our net cost for the system is about \$2,000.

Overall, we are very happy with our new home. It is much brighter, cooler in the summer, and warmer in the winter. We do still have a few more plans. We pre-plumbed for solar domestic hot water, and are planning to install a system with one collector and an 80 gallon tank this fall. After tax credits, our cost will be about \$3,000.



The Toor-Colvin Family

#### ENERGY FEATURES

- 1.67kW PV system
- Solar thermal
- All fluorescent/CFL lighting
- Whole house ventilation with heat recovery heat exchanger
- Solar tempered design
- Domestic solar hot water
- Hydronic heating system; Energy Star boiler
- “Healthy Soy” foam insulation
- High performance windows

#### WATER FEATURES

- Low water use toilet

#### GREEN FEATURES

- Water-based floor finishes
- Mostly no VOC interior paints some low-VOC
- FSC certified lumber for decks and doors
- Bamboo wood flooring
- Engineered lumber for floor joints and roof

#### RE-USE/SALVAGE FEATURES

- Re-furbished floor
- Tub, vanity, sinks, screen door from ReSource