



The Never Ending Project

Building Smart

Zach & Robin Krapfl

All too often people assume that living in a solar home means sacrificing comfort. If designed correctly, a home can be comfortable in the summer and winter, have ample natural day lighting, and minimize energy and natural resource consumption. Our home was designed to minimize energy consumption and increase comfort and livability. We built it with mass to help reduce significant daily temperature swings, an optimum number of south facing windows for passive solar heating, and an open floor plan aimed to minimize its footprint on the land.

The home was also designed to minimize water use, and to recycle grey water into an internal 90 foot planter system. While not really necessary for a successful solar home design, this additional detail added an exotic tropical element to an otherwise dry climate. It has allowed us to produce lemons and limes and bananas throughout the year, and our bird of paradise and jasmine to flower. Living in a 50% humidity micro climate in Colorado has been fantastic.

In a time when energy prices are rising and oil and gas are approaching peak production, we will all continue to feel pressure economically and environmentally. Building smart homes will help reduce our nation's energy use, as well as teach others how to conserve energy. As people become more accustomed to efficiency in design, they will become more creative and help find better ways to live and travel. Welcome to our home.

Year Built 2004
Home Size 2092 Sq.Ft.
Contractor:
Alpen Windows (see ad on page 15)
Zach Krapfl

ENERGY FEATURES

- 2kW Kyocera Grid Tied PV Array produces more electricity than needed
- Thermomax evacuated Tube Solar thermal provides 100% DHW
- Southern Orientation/ partially bermed construction for passive solar design heating and cooling
- Cellulose blown insulation R-50 Ceiling, R-28 Walls
- Modulating boilers for radiant Heated Floors
- Heat Mirror TC 88 Glass
- HRV regulates added humidity while minimizing heat loss in winter.
- CFL Lighting
- Energy Star Appliances
- Zoned heat with programmable thermostat

WATER FEATURES

- Grey water reuse system
- Interior Planter for grey water consumption
- Xeriscape

GREEN FEATURES

- Recycled and reused plastic decking
- BioShield Paints- Low VOC
- Natural Composting/ Worm bins



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