

Green Features of 2446 NW Dorion Way

- The award-winning design is one of only a handful of LEED Platinum-certified homes in Central Oregon. It received a final HERS rating of 41 (meaning it's expected to be about 60% more energy-efficient than a home built to standard US building code).
- The home was named the National Association of Home Builders' Green Building Project of the Year for 2009 for luxury/custom homes.
- The home is also ranked as a High Performance Home by the Oregon Dept. of Energy, is Earth Advantage-certified and is an Energy Star home.
- The 10-panel Sunpower 210 high-efficiency 210 watt, 2.1 KW photovoltaic array provides an estimated 2,709 Kwh annually (about 30% of the home's overall electricity).
- The closed-loop solar hot-water system supplies about 80% of the energy needed to heat the home's water.
- The front elevation of the home faces south to take advantage of the passive warming value of winter sunlight. Overhangs are designed to let light in during the winter and shade the home's interior in summer. The solarium has operable doors and windows so the homeowner can control the amount of heat they allow to enter the living space at different times of day.
- The roof system incorporates DuPont Tyvek AtticWrap, a vapor-permeable air and water barrier designed to provide superior attic insulation for improved energy efficiency and attic moisture control.
- The home was also wrapped with Tyvek weather wrap, window wrap and door wrap to seal it from air leaks and create additional weather resistance.
- The home features staggered-stud wall framing; and the wood joints and penetrations were sealed with foam before zero-volatile-organic-compound (VOC) fiberglass insulation was blown in. Blown-in-blanket (BIB) insulation is more insulating than standard fiberglass batt insulation. This BIB contains recycled glass and is manufactured within 500 miles of Bend.
- The house is framed in Forest Stewardship Council (FSC)-certified wood from Warm Springs Forestry Products.
- Wide four-foot eaves, which incorporate a continuous soffit vent system, allow protection from overheating in summer, while the eaves at the south-facing windows are two feet to bring winter sunlight deep into the house.
- The eight-zone hydronic in-floor heating system (aka radiant floor heat) is fueled by a Weil-McLain Ultra Condensing high-efficiency natural-gas boiler (which is low NOx-certified and is rated at 98% efficient). Thermostats and controls for the system are designed to respond to the inside and outside air temperatures. The controls regulate the fluid entering the system based on a balance between the outside air temperature and the temperature of the fluid exiting the floor system. This variable control eliminates overheating and improves the overall energy efficiency of the system. Standard radiant floor systems only operate at a single fluid temperature, usually 120 degrees.

- The in-floor heating system is integrated with an UltimateAir RecoupAerator 200DX whole-house ventilation system, which includes an energy-recovery ventilator (ERV) to extract heat from stale air before exhausting it to the outside. The ERV has a MERV 12 clean-air filtration system. Four-inch ERV ducts bring in fresh air and remove the stale air.
- The house has all solid-surface flooring, including cork, slate, travertine tile, EcoTmber FSC pre-engineered hickory and EcoTimber woven bamboo floors. Using only hard surfaces reduces dust buildup over time, which increases indoor air quality. When tile is used over a radiant floor heating system, the conductive nature of the tile increases the heating efficiency of the floor.
- The flooring sits atop five inches of cement slab that collects heat from the sun in the winter. "Thermal mass" helps store the heat for release when the sun goes down and moderates the tendency for overheating during the day. Combining thermal mass to collect passive solar heat enhances the efficiency and comfort of passive solar heating.
- The Alpine vinyl windows are all low-E and low-U (U factor .32) high-efficiency windows that are strategically placed to produce passive solar benefits. They also provide abundant year-round daylight and reduce heat gain in summer by providing cross-ventilation and night cooling.
- The Hunter Douglas Duette Architella top-down, bottom-up honeycomb shades, which are Greenguard-certified, provide additional insulation.
- Electric lighting includes LED recessed cans in high-traffic areas & dedicated fluorescent fixtures in utility areas. Compact fluorescent bulbs are used throughout the home.
- The passive solar sunroom features a reclaimed double-hung window.
- Solatubes were installed in the master bathroom and master closet to provide additional natural light. The Solatube in the master bath includes a light kit, replacing a standard light fixture in the shower.
- The interior incorporates low- or no-VOC paints, finishes and sealants. The wall paint has 0 grams per liter of VOC, which greatly reduces harmful chemicals inside the home and improves air quality.
- The Caroma high-efficiency dual-flush toilets, which provide both full-flush and half-flush options, use about half the water of conventional toilets.
- The countertops in the kitchen, master bath and upstairs bathroom are made of PaperStone, a heavy-duty, composite made from 100% post-consumer recycled paper and PetroFree resins.
- The stainless-steel refrigerator and dishwasher are Energy Star rated.
- The xeriscape landscape plan, which incorporates native plants and no lawn turf, requires no irrigation. A dry-creek bed directs rainwater from the roof to the plants.
- A number of fruit-producing trees (including apple, cherry and plum) have been planted, along with strawberry, raspberry and rhubarb plants.
- Many materials used in the home were extracted, manufactured and shipped from within 500 miles of Bend, including the foundation aggregate, FSC framing materials, FSC interior trim, fiberglass wall and ceiling insulation, Skyblend sub-tops and PaperStone FSC countertops.