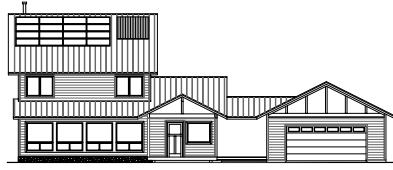


# Eco-Home at Hawk Ridge



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A solar model demonstrating energy efficiency, renewable energy and green building

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## Overview of Building Materials & Assemblies

### Building Design Profile

- 1290 square feet first floor, 750 square feet second floor (2040 ft<sup>2</sup> total)
- 2-car garage with storage room, attached via breezeway
- Site orientation along true north-south for solar gain
- One bedroom and full bath on first floor
- Two bedrooms, one study, and full bath on second floor

### Foundation

- Monolithic concrete slab with hydronic tubing and frost protected details
- 4" XPS (R-20) under the slab and vertically around perimeter
- 3" XPS (R-15) horizontal wing insulation

### Exterior Framed Walls

- 9 1/2" deep double stud walls (2x4 framing)
- Dense pack cellulose insulation (R-35)
- Structural fiberboard exterior sheathing (R-1)
- Cement fiber lap siding over continuous air barrier
- Interior gypsum board over continuous, sealed polyethylene vapor barrier
- Insulated rim board (R-13) w/3" closed cell foam insulation (R-18) – total R-31
- Triple pane windows with insulated fiberglass frames (avg overall U-value 0.2)

### Roof

- Standing seam metal roof and flashings, prefinished
- 30# roof felt and ice and water shield over OSB sheathing
- Engineered trusses with 16" heel height

- Blown cellulose attic insulation (R-60)
- Continuous soffit and ridge venting
- Interior gypsum board ceiling w/continuous, sealed polyethylene vapor barrier

### Renewable Energy Systems and HVAC

- 2 kW grid-tied solar photovoltaic array, roof mounted
- 16 tube solar thermal array, integrated with domestic hot water and heating
- Sub-soil heat exchange ground loop to pre-temper ventilation air
- Heat recovery mechanical ventilation with winter heated air distribution
- Efficient wood stove

### Environmentally Preferable Finishes and Materials

- Porcelain floor tile (long lasting, low toxicity, low impact material extraction)
- Floating cork floor (natural material harvested without killing the tree)
- Formaldehyde-free MDF cabinet interiors (recycled wood fiber, non-toxic)
- Shetka Stone countertops (recycled, regionally produced product)
- FSC-certified wood floor (sustainably harvested renewable resource)
- Low or no-VOC interior paints (low toxicity, no off-gassing)
- Cellulose insulation (high post-consumer recycled content)
- Metal roof (recycled content, recyclable)
- Fiber cement siding (exceptional durability)
- Reclaimed lumber at porch and interior columns