



Alliance Green Builders

Casa Aguila | Ramona, CA | AllianceGreenBuilders.com



Photos courtesy of Alliance Green Builders

"Living in a Zero Energy Ready Home has changed our lives." Home owner



PROJECT DATA

- **Layout:** 4 bdrm, 5 bath, 1 fl, 3,129 ft²
- **Climate:** IECC 3B, hot-dry
- **Completed:** April 2016
- **Category:** custom for buyer

MODELED PERFORMANCE DATA

- **CA Energy Design Rating:** without PV 43, with PV and batteries -92 CA EDR
- **Projected Annual Energy Costs:** without PV \$1,000, with PV \$-9,900
- **Projected Annual Energy Cost Savings:** (vs typical new homes) without PV \$1,400, with PV \$11,700
- **Annual Energy Savings:** without PV 9,800 kWh, with PV 64,500 kWh

CONTACT

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KEY FEATURES

- **Walls:** 2x6 16" o.c. double-stud advanced framed walls with R-56 blown cellulose. 3-coat stucco, over liquid-applied weather-resistant barrier. Phase-change material under drywall.
- **Roof:** Synthetic underlayment; standing seam metal roof with 0.52 SRI.
- **Attic:** 2x8 rafters filled with dense-blown cellulose and topped with OSB roof decking, liquid waterproofing, then 6" SIPs; phase-change material behind dropped ceiling drywall.
- **Foundation:** Slab-on-grade; 1" R-5 EPS rigid foam and vapor barrier under slab.
- **Windows:** Triple-pane, tilt-and-turn R-5 windows with impact-resistant glass; U=0.20, SHGC=0.30.
- **Air Sealing:** 0.32 ACH 50.
- **Ventilation:** HRV with humidity control.
- **HVAC:** Radiant floor heat; fan coil cooling, ducted mini-split heat pump.
- **Hot Water:** Solar and air-to-water heat pump for space and DHW; backup heat pump WH.
- **Lighting:** 100% LED.
- **Appliances:** ENERGY STAR clothes washer, refrigerator, dishwasher, ceiling fans.
- **Solar:** 22.1-kW PV (three dual-axis trackers); 3.2-kW wind turbine. 40-kW battery storage.
- **Water Conservation:** Four 10,000-gal rainwater cisterns for potable water. Four 10,000-gal storm water tanks + one 10,000-gal greywater tank for irrigation and fire suppression. First residential black water treatment permit in San Diego.
- **Energy Management System:** Tracks energy and water usage and production.
- **Other:** Two electric vehicle charging stations; low-VOC products; VOC-trapping drywall.

