



Photos courtesy of Daniel Colombini

“Our allergy-induced breathing issues have ... largely disappeared due to improved indoor air quality.” Homeowners



## PROJECT DATA

- **Layout:** 3 bdrm, 4 bath, 2 fl + bsmt, 3,585 ft<sup>2</sup>
- **Climate:** IECC 4A, mixed-humid
- **Completed:** June 2023
- **Category:** Custom

### MODELED PERFORMANCE DATA

- **ERI:** without PV 30; with PV -9
- **Annual Energy Costs:** without PV \$2,200; with PV \$200
- **Annual Energy Cost Savings:** (versus typical new homes) without PV \$6,300; with PV \$8,950
- **Annual Energy Savings:** without PV 28,550 kWh; with PV 44,360 kWh
- **Savings in the First 30 Years:** without PV \$262,900; with PV \$373,950

## CONTACT

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## KEY FEATURES

- **Walls:** 12" Larsen trusses and 2x4 16" o.c., R-57 total: R-12 mineral wool batt, 5/8" OSB, 12" Larsen truss with R-42 dense-pack cellulose, hemlock siding.
- **Roof:** Gable Larsen truss and rafter roof, 16" o.c., 5/8" OSB, synthetic underlayment, architectural shingles.
- **Attic:** Unvented attic. Dense-packed cellulose under roof deck.
- **Foundation:** Insulated basement and unvented crawlspace, 4" R-20 XPS under slab; foundation walls insulated to R-40.
- **Windows:** Triple-pane windows, U=0.17, SHGC=0.49, low-e, argon-fill. Roof overhangs, porches, and pergolas designed for intentional permanent shading.
- **Air Sealing:** 0.64 ACH50; taped and sealed sheathing; blower door testing during construction.
- **Ventilation:** ERV, MERV 13 filters, separate ducts.
- **HVAC:** Central air-source heat pump, 9.0 HSPF, 16.0 SEER, variable refrigerant flow. Passive solar design.
- **Hot Water:** Heat pump water heater, 50-gal, 3.88 EEF. Adaptive recirculation.
- **Lighting and Appliances:** ENERGY STAR appliances; induction cooktop.
- **Solar:** 13.2 kW PV, 32 kWh batteries.
- **Energy Management System:** Solar array monitored via an app.
- **Other:** Passive House Zero certified; LEED platinum. WUFI modeling. Reused wood from existing home. Reused part of foundation. Battery backup offers resilience during frequent power outages.

