

Healthy Communities

Zero Energy Ready Home Pathway to Decarbonization Williamsburg, VA | HealthyCommunitiesVA.com



"The DOE Zero Energy Ready Home is the pathway to decarbonization." Builder



PROJECT DATA

- Layout: 3 bdrm, 2.5 bath, 1 fl, 1,869 ft²
- Climate: IECC 4A, mixed-humid
- Completed: July 2021
- Category: Production

MODELED PERFORMANCE DATA

KEY FEATURES

- Walls: 2x6, 24" o.c., panelized, R-24 total: advanced framed. Cavity insulation is either flash and batt 1" open-cell spray foam + R-19 unfaced fiberglass or sprayed-in cellulose. R-3.5 coated OSB sheathing; fiber cement lap siding.
- **Roof:** Truss gable roof: plywood sheathing, self-adhered underlayment, 30-year architectural shingles, ridge vent, storage "cradle" built into trusses.
- HERS Index: without PV 45; with PV 1
- **Annual Energy Costs:** without PV \$1,150; with PV \$250
- Annual Energy Cost Savings: (vs typical new homes) without PV \$1,500; with PV \$2,450
- **Annual Energy Savings:** without PV 12,900 kWh; with PV 21,300 kWh
- Savings in the First 30 Years: without PV \$60,000; with PV \$99,400

CONTACT

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- Foundation: Unvented crawl space: poured concrete and CMU walls, R-10 EPS on interior, termite inspection strip. Exterior foundation drain. 8-mil poly vapor barrier.
- Windows: Double-pane, argon-filled, low-e2, vinyl frame, U=0.28, SHGC=0.22.
- Air Sealing: 0.67 ACH50. Open-cell foam in rim bands, over top plates, over garage, in cantilevers. Sill gaskets.
- Ventilation: ERV to air handler, MERV 8 or 13 filter. Bath fans humidity sensored.
- HVAC: Central air-source heat pump, 10 HSPF, 19.8 SEER. Ducts in crawl.
- Hot Water: Heat pump water heater, 50-gal, 3.42 COP.
- Lighting: 100% LED, motion sensors, day lighting.
- Appliances: ENERGY STAR dishwashers, clothes washer, clothes dryer, refrigerator.
- Solar: 6.1 kW rooftop panels. Passive solar design.
- Water Conservation: ENERGY STAR WaterSense-certified house, compact plumbing design.
- Energy Management System: Smart home system, PV monitoring system.
- Other: Accessible floor plan, hallways, doorways, showers. Low/no-VOC finishes, flooring.



Energy Efficiency & Renewable Energy



For more information on the **DOE Zero Energy Ready Home** program, go to http://energy.gov/eere/buildings/zero-energy-ready-home or scan the QR code.



Housing