

Efficiency Vermont Residential New Construction Services

ENERGY CODE PLUS

VERMONT ENERGY STAR® HOMES

HIGH PERFORMANCE HOMES (PILOT)

TIER COMPARISON AND INCENTIVES

EFFICIENCY VERMONT RESIDENTIAL NEW CONSTRUCTION PROGRAM TIER COMPARISON AND INCENTIVES

Category*	Reference Standard	Residential New Construction Service Tiers		
	Residential Building Energy Standards (RBES) – VT Energy Code	Energy Code Plus Bronze	Vermont ENERGY STAR® Homes Silver	High Performance Homes Gold
Windows Maximum Weighted Average NFRC U-Factor	U-0.32	U-0.32	U-0.32	U-0.19
Doors Maximum Weighted Average NFRC U-Factor	U-0.32	U-0.32	U-0.32	U-0.25
Insulation Installation Minimum Installation Quality (using RESNET Grading System)	Per manufacturer's instructions	Grade II	Grade I	Grade I
Ceiling Insulation (flat) Minimum R-Value	R-49 (R-38 is allowed when full, uncompressed R-38 extends over the top plate at the eaves)	R-49 (R-38 is allowed when full, uncompressed R-38 extends over the top plate at the eaves)	R-49 (R-38 is allowed when full, uncompressed R-38 extends over the top plate at the eaves)	R-80
Ceiling Insulation (sloped) Minimum R-Value	R-49 (R-30 is allowed for up to 500 square feet or 20% of the total insulated ceiling area, whichever is less)	R-49 (R-30 is allowed for up to 500 square feet or 20% of the total insulated ceiling area, whichever is less)	R-49 (R-30 is allowed for up to 500 square feet or 20% of the total insulated ceiling area, whichever is less)	R-60
Wall Insulation (above grade & band joist) Minimum R-Value	R-20 or R-13 cavity + R-5 Continuous	R-20 or R-13 cavity + R-5 Continuous	R-20 or R-13 cavity + R-5 Continuous	R-40
Foundation Wall Insulation Minimum R-Value.	R-15 cont./R-20 cavity	R-15 cont./R-20 cavity	R-15 cont./R-20 cavity	R-30
Floor Insulation (exposed)	R-30	R-30	R-30	R-40
Slab Edge Insulation (when within 12" finished grade)	R-15 Must extend 4 ft	R-15 Must extend 4 ft	R-15 Must extend 4 ft	R-30 (Footings: ≥ R-8)
Insulation Under Heated Slab	R-15	R-15	R-15	R-30 (Unheated as well)
Heating & Cooling Equipment Minimum Efficiency	Meets Federal minimum standard	ENERGY STAR or equivalent	ENERGY STAR or equivalent	ENERGY STAR or equivalent* *Boilers must achieve minimum 94% AFUE
Air Leakage Maximum ACH50	5 ACH50 or pass visual inspection	4 ACH50 and pass Thermal Enclosure System Checklist	3 ACH50 and pass Thermal Enclosure System Checklist	1 ACH50 and pass Thermal Enclosure System Checklist
Heating & Cooling Distribution & Control	Programmable Thermostat – at least one required by RBES Ducts insulated to level of nearest insulated surface Duct Leakage Limits: 6 CFM per 100 sf of CFA Pipe insulation (min. R-3) Required in unconditioned spaces	Meets RBES If ducted system is used, ducts must be inside conditioned space.	Meets ENERGY STAR HVAC Checklist Requirements as applicable If ducted system is used, ducts must be inside conditioned space.	Custom approach depending on system chosen. Discuss with HVAC contractor and Efficiency Vermont Energy Consultant.

EFFICIENCY VERMONT RESIDENTIAL NEW CONSTRUCTION PROGRAM TIER COMPARISON AND INCENTIVES, continued

Category*	Reference Standard	Residential New Construction Service Tiers		
	Residential Building Energy Standards (RBES) – VT Energy Code	Energy Code Plus Bronze	Vermont ENERGY STAR® Homes Silver	High Performance Homes Gold
Water Heating Equipment	Meets Federal minimum standard	Meets Federal minimum standard	Meets Federal minimum standard	ENERGY STAR or equivalent Recommend Drainwater Heat Recovery
Ventilation	Whole-House: automated mechanical ventilation per code Local – Baths with 50cfm intermittent or 20cfm continuous	Meets RBES	Meets ASHRAE 62.2	Balanced ventilation with ≥80% recovery efficiency Meets ASHRAE 62.2 or Passive House standard for local and whole-house ventilation
Lighting (lamps in permanently installed fixtures)	50% high-efficiency bulbs	50% ENERGY STAR certified fixtures and/or bulbs	80% ENERGY STAR certified fixtures and/or bulbs	95% ENERGY STAR certified fixtures and/or bulbs
Appliances (Refrigerator, Dishwasher, Clothes Washer)	N/A	ENERGY STAR	ENERGY STAR	Refrigerator: CEE Tier 3 Dishwasher, standard: CEE Tier 2 Dishwasher, compact: CEE Tier 1 Clothes washers: CEE Tier 3
Durability Water Management	N/A	ENERGY STAR Water Management System Builder Checklist recommended	Meets ENERGY STAR Water Management System Builder Checklist	ENERGY STAR Water Management System Builder Checklist recommended
Home Energy Rating Index Score (HERS Index) lower scores equal greater energy-efficiency	≤75	≤75	Meet or exceed ENERGY STAR HERS Index threshold (varies by project)	No Threshold (most projects meeting prescriptive requirements above achieve +/- HERS 40)
Energy Code Compliance	Meet Energy Code and file RBES Certificates	Meet Energy Code and file RBES Certificates	Meet Energy Code and file RBES Certificates	Meet Energy Code and file RBES Certificates
Incentive Opportunities (see below for description)		Appliance Incentive, HERS Index Incentive	Appliance Incentive, HERS Index Incentive	Appliance Incentive, HERS Index Incentive, Monitoring Equipment

*This table represents a general comparison of program tiers. Refer to the Efficiency Vermont program “Requirements” for details and exceptions. For High Performance Homes questions, contact Efficiency Vermont.

APPLIANCE INCENTIVE (ALL THREE TIERS)

\$200 for installing at least two of the following appliances: CEE Tier 2 or 3 refrigerator/clothes washer; CEE Tier 1 dishwasher as found on www.cee1.org.

HOME ENERGY RATING INDEX INCENTIVE (ALL THREE TIERS)

Incentive for each point below HERS score of 60 for homes of 3,000 sq. ft. or less, or HERS 55 for homes greater than 3,000 sq. ft.; Vermont ENERGY STAR Homes, High Performance Homes tier, Gut Rehab projects: \$75/HERS point below threshold; Energy Code Plus: \$40/HERS point below threshold. \$1500 maximum. Incentive based on HERS index prior to addition of renewables.

A portion of the HERS-based incentive up to \$650 is paid by Vermont Gas Systems and up to \$375 is paid by WEC where qualifying homes are served by these utilities. Additional incentives from these utilities are described on the back of this page.

WHOLE-HOUSE MONITORING EQUIPMENT INCENTIVE (FOR HIGH PERFORMANCE HOMES TIER ONLY)

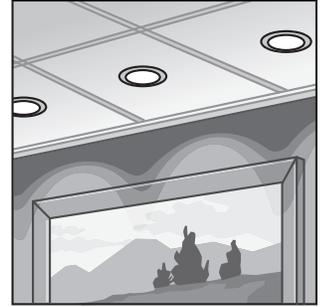
One whole-house monitoring system per site will be provided to qualifying projects meeting the High Performance Homes specification. Monitoring equipment can be used to track energy performance of various components of the home through a web-based interface.

ADDITIONAL INCENTIVES

EFFICIENCY VERMONT

Efficiency Vermont offers discounted pricing for ENERGY STAR certified products, including LED lighting at participating Vermont retailers.

Visit www.encyvermont.com to view all eligible product lists and rebate details.



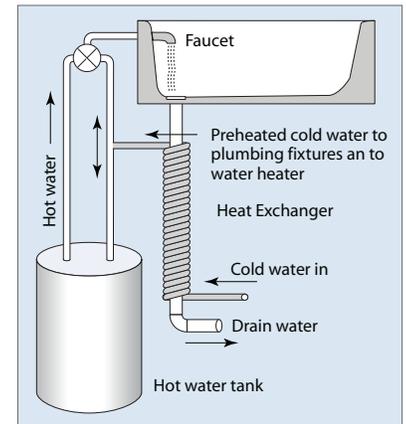
VERMONT GAS SYSTEMS

Vermont Gas Systems (VGS) provides an additional \$200 Drain Water Heat Recovery Rebate to qualifying residential customers.

Call the Efficiency Department at VGS at 802-863-8872 for details.

Any hot water that goes down the drain carries energy with it. That's typically 80–90% of the energy used to heat water in a home. Drain-water (or greywater) heat recovery systems capture this energy to preheat cold water entering the water heater or going to other water fixtures.

Source: www.energysavers.gov



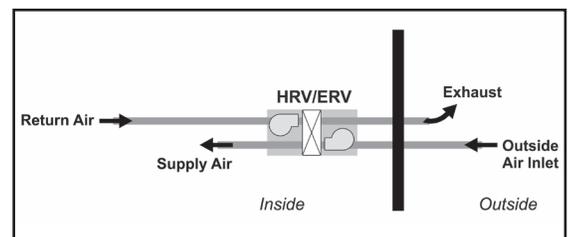
WASHINGTON ELECTRIC COOPERATIVE

Washington Electric Cooperative (WEC) provides the following rebates to WEC customers:

- \$300 for successful completion of any Efficiency Vermont Residential New Construction service tier. Efficiency Vermont notifies WEC when additional incentives are due.
- HRV/ERV installation incentive: \$500

Heat and energy recovery ventilation (HRV/ERV) systems provide a controlled way of ventilating a home while minimizing energy loss. They reduce the costs of heating ventilated air in the winter by transferring heat from the warm inside air being exhausted to the fresh (but cold) supply air. In the summer, the inside air cools the warmer supply air to reduce ventilation cooling costs.

Source: www.energysavers.gov



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