

2020 BUILT GREEN® Single Family for New Homes Verification Checklist



This is a component of our quality assurance process; its implementation increases the credibility of certification. For the five percent of projects randomly chosen to undergo verification, it is a requirement for certification.

We ask that this be completed at the time of the blower door test—it should not take more than 15 minutes. Please choose any 20 of the visibly inspectible items from the list below. If you're unable to complete the 20 items, please complete as many items as you're able.

When conducting your verification, please take a photo of items verified with your mobile device, and upload with your completed form to the BUILT GREEN® Portal in a zip folder named Visual Verification. Given the EnerGuide program already has photo requirements, this process is not intended to be onerous.

Project Address: _____

Builder: _____

Date: _____

These 12 items are verified for the EnerGuide program, so you likely have, or will be, checking these already.

- 1.2.16 All windows in home are ENERGY STAR labelled (or equivalent) (2 points).
- 1.3.3 Install high efficiency, sealed combustion heating appliance, with a minimum 94% AFUE (2 points), or 95% AFUE (3 points), or 96% AFUE and above (4 points).
- 1.2.3 Install heat pumps to supply majority of space heating and cooling loads:
 - ground/water with minimum COP of 4 and SEER 15; OR
 - air source heat pump (ASHP) meeting minimum requirements: for split-system minimum 8.5 HSPF and minimum SEER 15. Or for single package system minimum 8.2 HSPF and minimum SEER 15.
- 1.3.8.1 Install sealed combustion direct vent (two pipe) tank system (2 points), or condensing DHW tank system (3 points).
- 1.3.8.2 Install ENERGY STAR rated "tankless" hot water heater (EF >0.80 for 2 points; EF >0.90 for 3 points).
- 1.3.8.3 Install high efficiency boiler domestic hot water system (AFUE 92 for 2 points; 95 or better for 3 points).
- 1.3.8.4 Install heat pump based DHW heating system (ground, water, or air sourced, EF of 1.5 for 2 points; EF of 2 for 3 points) to supply a minimum of 35% of the peak DHW heating load and 70% of the total DHW energy load.
- 1.3.8.5 Install high-efficiency electrical domestic hot water system (standby loss in watts: 5% better than NECB 2011 for 2 points; 10% better for 3 points).
- 1.4.3 Refrigerator is an ENERGY STAR labelled product.
- 1.4.4 Dishwasher is an ENERGY STAR labelled product.
- 1.4.5 Clothes washer or combo washer dryer is an ENERGY STAR labelled product.
- 1.6.1 ENERGY STAR lighting or LED used in kitchen, living room, main hallways, and main bath (1 point), or interior and exterior lighting uses ENERGY STAR bulbs or LED (2 points).

Other:

- 1.2.1 Install additional insulation on exterior of above-grade walls, above insulation amounts already required by code: add R5 for 2 points or R10 for 4 points.
- 1.2.13 Install weather-stripped and insulated (R20 minimum for 1 point and R28 for 2 points) manufactured interior attic hatch, or no interior attic access.
- 1.3.2 Install a zoned heating system. Either a) from a single HVAC source utilizing two or more programmable, thermostatically controlled zones; or b) zoning separate systems through separate programmable thermostats. (2 zones = 2 points; 3 zones = 3 points; 4 zones = 4 points).

- 1.3.5 Install a programmable thermostat with set back and continuous fan for 1 point, programmable thermostat WIFI that can be controlled by a smart phone or app for 2 points, and programmable thermostat with WIFI with learning capable for 3 points.
- 1.3.6 Install HVAC appliance with variable speed fan (i.e. brushless DC electrically commutated motors: ECM).
- 1.3.9 Insulate hot water lines with flexible pipe insulation for first six feet from the hot water tank, including the heat trap (1 point) or all hot water lines (2 points).
- 1.3.10 Install drain water heat recovery (DWHR) units on the main drain stack to recover heat from shower drain water. DWHR units must be CSA certified to B55.1 and B55.2: 1 point for units less than 42% efficient and 2 points for units greater than, or equal to, 42% efficient. Additional point if unit is fully insulated (1 point).
- 1.3.11 Install an EPA or CSA certified high-efficiency wood stove or pellet stove with a minimum efficiency of 72% (1 point) or 85% (2 points).
- 1.3.12 Install fireplace fan kit to circulate warm air into room (1 point per fan, maximum 3 points).
- 1.4.1 Electric oven is convection based.
- 1.4.2 Electric range/cooktop is induction based.
- 1.4.6 Clothes dryer is ENERGY STAR labelled (1 point) and has an energy performance "auto sense" dry setting, which utilizes a humidity sensor for energy efficiency (1 additional point).
- 1.5.1 Home is built "solar ready", following the guidelines from Natural Resources Canada (NRCAN) or the Canadian Solar Industries Association (CanSIA): solar ready for domestic hot water (1 point) and / or solar ready for photovoltaic (1 point).
- 1.5.2 Install active solar hot water heating system, sized for 30% of DHW load (5 points), 50% (6 points), or 80% (8 points).
- 1.5.3 Install photovoltaic electrical generation system, sized for 20% of electric load (3 points), 30% (5 points), 50% (6 points), or 80% (8 points).
- 1.5.4 Home is built ready for plug-in electric vehicles: 1 point for 240V plug in the vehicle parking area, 2 points for a certified charging station.
- 1.6.3 Install interior motion sensor light switches. 1 point per switch, to a maximum of 3 points.
- 1.6.6 Install and operate a home automation system that is capable of monitoring and adjusting (max. 4 points):
 - (i) heating, cooling, and humidity (2 points);
 - (ii) lighting greater than 4 locations/rooms (1 point);
 - (iii) if system can be controlled through a Wi-Fi, a smart phone, or app (1 point);
 - (iv) all lighting and/or blinds to adjust to hourly sun schedule (1 point);
 - (v) Domestic Hot Water (1 point);
 - (vi) a "vacation or away" mode that can turn off all non-essential electrical loads (1 point);
 - (vii) and learning capability (1 point).
- 2.1.9 Dimensional lumber from a third-party certified, sustainably harvested source used for floor framing (CSA, SFI, or FSC).
- 2.1.12 Use manufactured wood products for floor joists instead of dimensional lumber (1 point), from third-party certified, sustainably harvested sources (CSA, SFI, or FSC for 2 points). The use of third-party certified subfloor sheathing for 1 extra point.
- 2.2.12 Solid countertops are made from durable materials such as granite, concrete, glass, metal, or local natural stone, for all kitchen counters (2 points), or all other countertop areas (1 point), or both (3 points total). Countertops have 30% or higher recycled content (1 additional point).
- 2.3.9 Exterior trim materials made from alternatives to solid lumber.
- 2.3.15 Install durable flooring (e.g. laminate, finished concrete, tile, hardwood, etc.) in all high-traffic areas (halls, kitchen, living space) (1 point), more than 30% of all indoor flooring (2 points), more than 60% of all indoor flooring (3 points), or more than 90% of all indoor flooring (4 points).

- 3.1.1 Install pleated media filter on HVAC system with minimum MERV rating of 7 (for 1 point) or 12 (for 2 points).
- 3.2 Install a thermostat / HRV controller that indicates the need for the air filter to be changed or cleaned.
- 3.3 No combustion-based fireplaces are provided, or all gas fireplaces are sealed and have electronic ignition.
- 3.4 Provide a minimum of one Carbon Monoxide (CO) detector per floor.
- 3.11 Low-formaldehyde sub-floor sheathing (third-party certified to less than 0.09 ppm for particle board or 0.11 ppm for MDF) or sub-floor made from substance material that is formaldehyde-free, such as concrete.
- 3.25 House is carpet free: all flooring surfaces are hard (including stairs).
- 4.1 All ductwork is thoroughly sealed along all seams, joints, connections, penetrations, etc., in accordance with local prevailing code and industry best practice (2 points) or test/verify duct leakage to be less than 8 cfm (at 25 Pa) per 100 ft² of conditioned floor area (2 additional points).
- 4.4 Install a programmable timer or humidistat-controlled ventilation fan.
- 4.5 Install an active Heat Recovery Ventilator or Energy Recovery Ventilator (HRV or ERV) and verify balanced installation for 1 point; 2 points for more than 65% (Sensible Recovery Efficiency); 3 points for more than 80%.
- 4.6 Install permanent (de)humidification control (ERVs are considered acceptable).
- 5.8 Install permanent recycling center for the homeowner with two or more 26L bins (for 1 point), or four or more 26L bins (for 2 points) located in or conveniently close to the kitchen. Equivalent bin configurations will be accepted where aligned with local recycling program requirements.
- 5.9 Provide convenient onsite facilities to homeowner to encourage collection of compost materials or on-site composting. For example, storage bin in kitchen or separator where local composting programs exist; or wormery or backyard compost bin.
- 6.1.1 Install ultra-efficient toilets with average flow rates less than, or equal to, 3L/flush (0.8 GPF) for 2 points each (up to 6 points).
- 6.1.2 Install efficient toilets or dual-flush toilets with average flow rates less than, or equal to, 4.8L/flush (1.28 GPF) for 1 point each (up to 3 points).
- 6.1.4 Install hot water recirculation system with all hot water lines insulated (2 points) with local activation/call switches installed at all points of use (additional 2 points), or point-of-use instant DHW system (1 point each; maximum 4 points).
- 6.1.5 Install low-flow faucets for all lavatories (less than 5.7 lpm) for 2 points, and all showers and tub/showers (less than 7.6 lpm) for 1 additional point.
- 6.1.6 Provide ENERGY STAR clothes washers: front loading (3 points), top loading or laundry centre (combo washer/dryer) (2 points), or combo ventless (4 points). Alternatively, the integrated water factor (IWF) can be calculated, and if it's below the maximum IWF, 3 points will be awarded.
 - Front loading >2.5 cu ft capacity, maximum IWF of 3.7;
 - Top loading >2.5 cu ft capacity, maximum IWF of 4.3;
 - Washers <2.5 cu ft capacity, maximum IWF of 4.2.
- 6.1.13 Builder attaches water barrel with insect screen to downspout. Water barrel should also have a drain spout and overflow spout (1 point).
- 6.1.14 Provide a rainwater collection cistern (minimum 750L) to offset either indoor (e.g. toilet flushing) or outdoor (e.g. irrigation) domestic water usage (3 points for above grade; 5 points for below grade).

By signing this form, you agree that the items checked have been verified. Neither the builder nor the Energy Advisor accepts legal liability for those items that do not meet the checklist item as verified herein.

Builder Representative

Energy Advisor

Date of Verification

*Built Green Canada pays \$30 per audit to the Energy Advisor, who is asked to submit invoices via email to info@builtgreencanada.ca