

BC Housing Sustainability Checklist

This checklist has been prepared to give partners and design teams an overview of required energy and sustainability measures on BC Housing funded projects beyond meeting building code requirements. It is not intended to replace a careful review of our standards. For further details, please refer to [BC Housing Design Guidelines and Construction Standards Section 2 – Energy and Environmental Design and Technical Bulletin No. 3-2023](#).

Building and Energy Performance Target

All new construction and redevelopment projects are required to meet or exceed performance limits according to their building type and climate zone in the table below. The energy and greenhouse gas intensity (GHGI) target should be verified through a mandatory energy modelling, performed by an experienced Energy Modeller.

All renovation projects should complete an energy assessment (energy audit) - minimum ASHRAE level 2 assessment or equivalent by a qualified professional and be submitted during design development stage to demonstrate 50% of GHG emission. An energy modelling and thermal comfort evaluation are required for all major retrofit projects.

	Climate Zone	Step Code Level		GHGI (kgCO ₂ e/m ²)	Whole Building Airtightness	Thermal Comfort Limit
		< 7 storeys	≥ 7 storeys			
New build Part 3	4	Step 4	Step 3	3.0	2.0 L/s*m ² @75 Pa	20 overheating hours
	5	Step 3	Step 3	5.0		
	6, 7, 8	Step 3	Step 3	6.0		
New build Part 9	All region	Step 4		3.0	1.5 ACH	
Retrofit	All region	ASHRAE level 2		50% reduction	-	Assessment only

- ✓ **Energy Modelling Simulation:** Building and energy modelling is mandatory for new construction and major retrofit projects. For new construction projects, minimum three (3) energy reports are to be completed at schematic design, building permit and as built stages. Further details on required input and template, refer to the Sample Energy Modelling Report Guideline.
- ✓ **Energy Conservation Measures:** At early design stage, energy modelling report should provide various energy conservation measures (ECMs) with passive strategies and energy efficient systems, so that the design team find the most optimal, cost-effective combination to meet step code target.
- ✓ **Building Enclosure:** For new buildings, whole building airtightness testing in accordance with Provincial Energy Step Code and Thermal Bridging Guide calculations of envelope assembly are required to achieve thermal function of building enclosure.
- ✓ **Thermal Comfort Evaluation:** All passively cooled building (i.e. buildings with mechanical cooling in living room only) requires a thermal comfort evaluation with 2020 weather file and sensitivity analysis with the projected 2050 weather file to compare with the thermal comfort analysis in order to reduce overheating risk.
- ✓ **Construction, Renovation and Demolition (C&D) Waste Management:** All new construction, demolition, and renovation/ capital improvement projects must achieve a C&D waste diversion target. Refer to [sustainable waste management](#) for further details.

Sustainability Requirement Checklist

Details can be found in the BC Housing Design Guideline and Construction Standard Section 2 – Energy and Environmental Design.

Item	Submittal Requirement	New Development	Renovation
Energy efficiency			
Energy Modelling Report	Provide Reports at: <ul style="list-style-type: none"> Schematic Report (before Design Development stage) Building Permit Report (after mechanical peer review) As Built Report with airtightness testing report 	✓	✓
ASHRAE Level 2 Audit	Provide audit results in report format		✓
Whole Building Airtightness Report	Provide a Report at Substantial (with as built energy report)	✓	
Thermal Comfort Evaluation	As a part of Energy Modelling or Energy Audit report	✓	✓
Sensitivity Analysis	As a part of Energy Modelling or Energy Audit report	✓	✓
Passive Design Strategies	As a part of Architectural Schematic Design report	✓	✓*
Energy Conservation Measures (ECM)	Provide list of ECM options into design proposal and include them as a part of energy modelling or energy audit report	✓	✓
Incentive Program	Provide relevant documentation for each funding program	✓	✓
Energy Star Portfolio Manager Sign-Up	Prior to occupancy, an Energy Star Portfolio Manager profile of the building(s) to be created (see: bchydro.com/powersmart/business/resources/energy-efficiency-benchmarking.html). To support implementation of future benchmarking reporting requirements, applicants may share the property profile with BC Housing as a “Read Only” permission level.	✓	✓
Sub Metering	Include in the mechanical drawing	✓	✓*
Water efficiency			
Low flow fixtures and water efficient appliances	Include in the mechanical drawing/ specification	✓	✓
Building Level Water Metering	Include in the mechanical drawing	✓	
Material and Resources			
Construction, Renovation and Demolition (C&D) Waste Management	Submit Contractor’s Waste Management Form at demolition, 50% construction and substantial completion	✓	✓
Low Emitting Material	Provide a narrative and any drawings/report to demonstrate	✓	✓*
Sustainable Site Management			
Construction Activity Pollution prevention	Provide a narrative and any drawings/report to demonstrate	✓	✓
Heat Island Reduction; native or drought resistant landscape	Provide a narrative and any drawings/report to demonstrate	✓	✓*
Sustainable Water Management Strategies	Provide a narrative and any drawings/report to demonstrate	✓	

*where possible; Applicability depends on the scope of work