

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 are required to demonstrate minimum 50% greenhouse gas reduction by completing an energy assessment (energy audit) - minimum ASHRAE level 2 assessment or retrofit energy modelling by a qualified professional and be submitted during design development stage.

	Climate Zone	Step Code Level		GHGI ¹ (kgCO ₂ e/m ²)	Whole Building Airtightness	Thermal Safety ² 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	Retrofit Energy Modelling ³ , OR ASHRAE level 2		50% reduction	-	Assessment only

- ✓ **Energy Modelling Simulation:** a minimum three (3) energy reports must be completed at Schematic Design, Building Permit and As-Built stages. Further details on required input and template, refer to the [BC Housing Step Code Energy Model Report Template](#).
- ✓ **Energy Conservation Measures:** Early design energy modelling report must evaluate various energy conservation measures (ECMs) including passive strategies and energy efficient systems strategies to find the most optimal, cost-effective combination for Building Energy Performance Targets.
- ✓ **Building Envelope First Design:** Whole-building airtightness testing and thermal bridging calculations (per the Building Envelope Thermal Bridging Guide) are required to ensure enclosure performance and enhance resilience. The Architectural Schematic Design Report must outline these strategies prior to Development Permit (DP) submission.
- ✓ **Thermal Safety Analysis:** Overheating analysis with cooling system OFF is required. Buildings without full mechanical cooling in the residential units (i.e. passively or partially cooled via tempered air) should not exceed 20 overheating hour limit through active and/or passive cooling strategies.

¹ BC Building Code equivalent to Zero Carbon Step Code

² Projects are required to meet applicable version of BC Building Code requirement

³ Applicable major retrofit involving multiple scopes

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 Developme	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 	✓	✓ ⁴
Thermal Safety (Overheating) Analysis	As a part of Energy Modelling or Energy Audit report	✓	✓
Sensitivity Analysis	As a part of Energy Modelling or Energy Audit report	✓	✓
Whole Building Airtightness Report	Provide a Report at Substantial (with as built energy report)	✓	
Passive Design Strategies & Thermal Bridging Calculation	Submit an Architectural Schematic Design report and verify the design with Building Envelope Thermal Bridging calculation as a part of energy modelling reports	✓	✓ ⁵
ASHRAE Level 2 Audit	Provide audit results in a report format		✓
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	✓	✓
Electrical Load Analysis (ELA)	Provide a report with building demand profile, site service capacities, and estimate the costs and schedule impacts	✓	✓ ⁵
Incentive Program	Provide relevant documentation to close out/ pay out process	✓	✓
Energy Star Portfolio Manager (ESPM) Set-Up	Prior to occupancy, an ESPM profile of the building(s) to be created (see: bchydro.com/powersmart/business/resources/energy-efficiency-benchmarking.html) and share profile to BC Housing as a “Read Only” permission level.	✓	✓
Sub Metering	Include in the mechanical drawing; required for major end uses (i.e. domestic hot water, commercial kitchen, etc)	✓	✓
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	✓	✓ ⁴
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	✓	✓ ⁴
Sustainable Water Management Strategies	Provide a narrative and any drawings/report to demonstrate	✓	

⁴ Major renovation only

⁵ Where possible; Applicability depends on the scope of work

