

Appendix H PHB Affordable Housing Green Building Policy

Portland Policy Document adopted by City Council.

A. Purpose

The objective of the PHB Green Building Policy is to ensure that construction funded by the Portland Housing Bureau (PHB) advances environmental, social and economic goals to:

1. Improve tenant health;
2. Reduce operations and maintenance costs;
3. Provide equitable access to high performance buildings;
4. Maximize public investment benefits;
5. Protect air, water, and other natural resources;
6. Implement the Climate Action Plan of the City of Portland and Multnomah County.

B. Definitions

The following definitions are applicable to this policy only.

1. "Blower Door Test" means a test to measure air tightness using diagnostic equipment to depressurize the conditioned space. Testing shall be performed by a certified technician.
2. "Certification" means the application and completion of the requirements of a PHB approved third-party verification system by an accredited agency that results in the issue of a certificate.
3. "Earth Advantage" means the green building rating system administered by the Portland-based non-profit Earth Advantage to evaluate the environmental performance of a building.
4. "Eco-Charrette" means a 4-8 hour interactive brainstorming and team-building exercise that generates and targets sustainability goals for the project. It should be designed to explore the synergies and cost benefits of various sustainable design strategies that are specific to the project. The Eco-Charrette should include the entire development team, including the owner, developer, architect, engineers, contractors, green building consultants, and other consultants, but at least three design professionals, and led by a qualified green building consultant with expertise in planning and facilitation of Eco-Charrettes. An Eco-Charrette may qualify for funding from the ETO as an early design assistance meeting.
5. "Energy Use Intensity (EUI)" means energy use of a building expressed as energy used per square foot of building per year. It is calculated by dividing the total gross energy in kbtu consumed in a 1-year period by the total Gross Floor Area of a building (kbtu/sfyear).
6. "ETO" means Energy Trust of Oregon.
7. "EPA" means the Environmental Protection Agency.
8. "EV Charging Station" means the design and construction of a parking space with Electric Vehicle Supply Equipment (EVSE) that supplies electric energy for the recharging of electric vehicles with at least a Level 2 charger.
9. "EV Ready" means the design and construction of a parking space with the necessary infrastructure, including conduit, wiring and any special circuitry needed to easily receive the installation of a Level 2 charger.
10. "Gross Floor Area" means the total building square footage, measured to the outside surface of the conditioned space at the exterior walls of the building. It includes units, lobbies, common areas, bike storage rooms, management offices, breakrooms, restrooms, elevator shafts, stairwells, storage rooms, mechanical equipment rooms, and

other support space. It does not include exterior spaces such as balconies, porches, terraces, covered walkways, loading docks, or covered parking.

11. “Indoor Air Quality (IAQ)” means the quality of the air in and around buildings as it relates to the health and comfort of the building occupants.

12. “LCCA tool” means the Life Cycle Cost Analysis tool being developed and tested for use in Oregon by Earth Advantage. The tool uses specific building design data to more accurately and consistently measure and compare the construction and operation costs of various green building strategies. The tool and analysis are intended to allow the development team to make better informed, data-driven design decisions.

13. “Leadership in Energy and Environmental Design (LEED)” means the green building rating system developed by the United States Green Building Council (USGBC) to evaluate the environmental performance of a building.

14. “Net Zero Energy” means that the total amount of energy consumed by a building on an annual basis is equal to the amount of renewable energy produced on site.

15. “Net Water Consumption” means the amount of municipal water used inside a building, not including water used outside of a building for irrigation or from hose bibs.

16. “New Construction” means any project that is not a Rehabilitation Project.

17. “PHB” means Portland Housing Bureau.

18. “PHB Funded” means any project receiving PHB Funding.

19. “PHB Funding” means anything of financial value made available to a project at the discretion of the Portland Housing Bureau including cash, land, fee waivers or exemptions, in-kind, applied to a project’s construction or rehabilitation budget.

20. “PHB Project” means any project, whether new construction or rehabilitation, that has twenty or more residential units and receives at least 10% of its funding from the Portland Housing Bureau.

21. “Rehabilitation Project” means any project involving a building that is in existence on or before the date of application for funding to the PHB. For PHB-owned projects the effective date will be the date PHB purchased the building.

22. “Solar Ready” means the design and construction of a building with the necessary infrastructure to easily receive a solar energy system (domestic hot water or electric) in the future. Projects must meet the Energy Trust of Oregon’s Solar Ready Commercial Design and Construction Requirements. https://insider.energytrust.org/wpcontent/uploads/nb_solarready_comm_design_construction_req.pdf

C. Goals

The Long-Term Goals of the PHB Green Building Policy are:

1. Energy: Achieve Net Zero Energy for PHB funded buildings by or before the year 2050. To that end, the table below indicates a potential timeline, to be reviewed annually.

Year	2025	2030	2035	2040	2045	2050
Net EUI	23	18	12	8	4	0

2. Water: Achieve a 50% reduction in net water consumption for PHB funded buildings by or before the year 2040. To that end, the table below indicates a potential timeline, to be reviewed annually.

Year	2025	2030	2035	2040
Net Water Consumption	35%	40%	45%	50%

Reduction				
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3. IAQ: Enhance indoor air quality by reducing sources of indoor contaminants and pollutants, and increasing ventilation and fresh air supply.

D. Applicability

The PHB Green Building Policy (the “Policy”) applies to construction and rehabilitation projects of affordable multifamily residential and mixed-use buildings that:

1. Have a minimum of 20 units and;
2. Receive at least 10% of total project funding (including property disposition and PHB owned and leased property) from the Portland Housing Bureau (PHB), or are owned by PHB and;
3. Execute a covenant with PHB per 30.01.090 City Subsidy Projects- Long Term Affordability Requirements.

This Policy applies to all such projects having received an award letter from PHB on or after this Policy’s effective date. Following are requirements of this Policy. However, this Policy explicitly acknowledges the need for flexibility, workability and cost reduction. In enforcing this Policy, PHB will collaborate with development teams to achieve these goals.

E. Green Building Policy

1. New Construction

a. Certification. New Construction PHB Projects must receive 3rd party Certification from either LEED OR Earth Advantage as follows:

- (1) For projects seeking LEED Certification:
 - a. Projects that are 3 stories and under, LEED Homes Lowrise is required.
 - b. Projects that are 4 to 8 stories, LEED for Homes Multifamily Midrise is required.
 - c. Projects that are 8 stories and over, LEED BD+C New Construction or LEED Homes Multifamily Midrise is required.

OR

- (2) For projects seeking Earth Advantage Certification, Earth Advantage Multifamily is required.

As part of this Policy’s Certification requirement for new construction, the following must be met:

- b. Energy Consumption
 - (1) Net EUI for residential area, including efficiency and generation:

Year	2017	2020
Net EUI	30	28

(2) Solar Energy. A Solar Feasibility Study must be completed by a qualified professional per the guidelines of the Energy Trust of Oregon and, if a solar energy system is determined to be feasible per those guidelines, the project must be constructed to include either a solar energy system or be Solar Ready construction. Solar energy systems may be either thermal or electric.

(3) EV Charging

- (a) Project must include Electric Vehicle (EV) charging stations at 4% of the parking spaces on site (rounded up) or be EV ready at 10% of the parking spaces on site (rounded up).
- (b) Overall electrical capacity: Size electrical infrastructure (electrical service, panels, etc.) to provide a simultaneous Level 2 charge to vehicles in 20% of the parking spaces, to the extent possible without increasing the size of the transformer required for the project.

(4) Multifamily Program Registration. Developer to register the project in the Multifamily Market Solutions Offering Program administered by the Energy Trust of Oregon.

c. Water Consumption. New construction must meet the EPA Act 1992 Reduction for Water Consumption for the residential area, not including irrigation:

Year 2017 2020

Net Water Consumption Reduction 28% 30%

d. Indoor Air Quality/ Health

(1) Clean Air

- (a) Interior Paints, Interior Coatings, Site-applied Sealants, Insulation, and Flooring to meet California Section 01350 Specification or South Coast Air Quality Management District (SCAQMD) 1113.
<http://www.calrecycle.ca.gov/greenbuilding/specs/section01350/>
- (b) Composite Wood Products to meet the California Environmental Protection Agency's Air Resources Board, Air Toxics Control Measure for Composite Wood requirements for ultra-low-emitting formaldehyde resins or no added urea formaldehyde resins.
- (c) Establish a smoke free policy prohibiting smoking and the use of e-cigarettes indoors. Such policy must be submitted to PHB as part of Compliance requirements and must also be incorporated in the project's property management requirements.

(2) Ventilation and Fresh Air

- (a) Supply and exhaust must be balanced in each unit.
- (b) Exhaust from bathrooms and kitchens must exhaust directly to the outdoors. Heat recovery may be included but recirculating exhaust is not acceptable.
- (c) Comply with ASHRE 62.2-2010.

e. Baseline Requirements

(1) Design

- (a) Eco-Charrette. Project development team to hold an Eco-Charrette by the middle of the schematic design phase.
- (b) Cost/Benefit Analysis: Project team to perform a cost/benefit analysis using the PHB approved LCCA Tool. LCCA summary sheet to be submitted at the end of the design development phase to PHB and/or at

other project milestones as appropriate. LCCA tool is an informational tool intended to assist teams in making better informed design decisions and PHB in making better informed investments.

- (c) Coordination with Asset Management: The design team to meet with the property/asset manager for the project at the end of Schematic Design and at the end of Design Development, at a minimum, to review proposed design strategies.
- (d) Coordination of Contract Documents: All green building measures to be incorporated into the Contract Documents (Drawings, Specifications, and Contractor Scope of Work).

(2) Construction

- (a) Preconstruction Meeting. The design team to hold a preconstruction meeting with the general contractor and key subcontractors to review the green building requirements of the project.
- (b) Periodic Testing and Inspections. The following periodic testing and inspections to be performed by a LEED Green/Energy/HERS rater or Earth Advantage multifamily certifier, with the project superintendent and appropriate subcontractors, to ensure construction meets the green building design requirements to perform as designed. Specifically, the inspections are to confirm the thermal enclosure of the building envelope and the air sealing and insulation at both the building envelope and the units. The inspector is to notify the team of any deficiencies as soon as they are found and follow up with a written report.
 - (i.) Rough-in Inspection
 - Prior to slab pour if residential units on ground floor; photo documentation from the general contractor is acceptable.
 - At completion of framing on first level with residential units, with sheathing, and 20-50% of mechanical, electrical, plumbing and fire rough in.
 - (ii.) Framing Inspection
 - At start of air-sealing, prior to insulation.
 - At top-off and prior to ceiling on top floor.
 - (iii.) Pre-Drywall Inspection
 - After air sealing and insulation on each floor (all units) at exterior walls.
 - After air sealing and insulation at all showers and baths located at exterior walls.
 - After air sealing at demising walls.
 - (iv.) Preliminary Blower Door Tests
 - After installation of drywall, exterior windows and doors, and through-wall HVAC units.
 - Test 1-2 high risk units: top floor corner, abutting and elevator or stairwell, units with pocket doors.
 - (v.) Final Inspection
 - After punch list, testing and balancing of mechanical systems, then flow testing in units and common areas.
 - Blower Door Tests.
 - Measure verification of units and common areas.
 - After installation of landscaping if irrigation included.
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(3) Completion- Third Party Commissioning

- (a) Commissioning agent must be certified by BCA, ACG, ASHRAE or similar.
- (b) Document the project requirements to meet this Policy.
- (c) Develop and incorporate commissioning requirements into the construction documents.
- (d) Develop and utilize a commissioning plan.
- (e) Verify that the installation and performance of the systems meet the basis of design and the requirements of this Policy. At a minimum, the following systems to be tested and verified:
 - (i.) HVAC (active and passive)
 - (ii.) Domestic hot water systems
 - (iii.) Renewable energy systems
 - (iv.) Plumbing/Water Conservation Systems.
- (f) Provide a commissioning report to the owner and PHB within four weeks after commissioning.

(4) Operations

- (a) Third Party Commissioning at year seven. Commissioning agent must be certified by BCA, ACG, ASHRAE or similar. Verify that the performance of the systems meet the basis of design. Provide a report to the owner and to PHB. At a minimum, the following systems to be tested and verified:
 - (i.) HVAC (active and passive)
 - (ii.) Domestic hot water systems
- (b) Operations and Maintenance (O&M) Trainings. The general contractor and/or design team will provide O&M Trainings with maintenance staff, to be video taped and the video left on site with the project manuals.
- (c) O&M Manual. The O&M Manual is to include:
 - (i.) A summary of features and benefits related to the sustainable systems employed in the project.
 - (ii.) Lists of potential service vendors for major systems and equipment and the contact information of the commissioning agent.
- (d) Tenant Education. The design team/general contractor to provide tenant education on the building and unitized systems and tenant controls, to be video taped and left on site with the property manager.

2. Rehabilitation

Rehabilitation Projects must be certified for at least a silver certification from either LEED or Earth Advantage, depending on the extent and scope of work, at the discretion of the PHB HIPP Team Manager, based on a recommendation of the Senior Construction Coordinator. Rehabilitation projects do not need to comply with the requirements for new construction above in E.1.

F. Compliance

1. Application.

Upon receipt of the PHB award letter, the developer shall submit or cause to be submitted an application for third party certification pursuant to this Policy.

2. Payment.

All costs related to the certification including but not limited to application, certification, and testing shall be borne by the developer. PHB in its sole discretion may determine which costs, if any, are reimbursable through any PHB funding.

3. Progress Reports.

As applicable, the developer shall submit a LEED Checklist or Earth Advantage Points Worksheet each time they are updated to PHB indicating:

- a. Progress towards meeting the requirements of this Policy;
- b. Likelihood that the respective certification requirements will be met or exceeded;
- c. Any issues or circumstances that may prevent the developer from meeting this Policy or certification requirements.

During the progress report period, PHB shall assess progress toward certification and meeting the requirements of this Policy. If PHB determines that insufficient progress has been made or that certification is threatened, PHB and the developer shall in good faith collaborate to address any identified issues. Developer's failure to collaborate in good faith or refusal to address identified issues shall constitute a default as defined in developer's loan agreement and/or promissory note and PHB shall have the right to exercise any/all remedies contained therein.

4. Final Report.

- a. Within five (5) business days of receiving notification of LEED or Earth Advantage certification approval or denial, developer shall submit such certification or denial to PHB.

5. Determination.

a. Compliance

If the developer's required LEED or Earth Advantage certification is approved, and the requirements of this Policy are met, developer will be deemed to have complied with this Policy.

b. Non-Compliance Request for Waiver

If a developer's request for certification is denied by LEED or Earth Advantage, or the project did not meet the requirements of this Policy, developer may, within ten (10) business days of receiving such notice, submit to PHB a Request for Waiver from this Policy. A Waiver must be submitted in writing and contain:

- (1) Final LEED or Earth Advantage certification application, documentation and response from the certifying agency.
- (2) An explanation of the efforts and accomplishments made by the developer to achieve certification and meet all Policy requirements.
- (3) An explanation of the practical or economic infeasibility of implementing green building design or construction techniques that if implemented would otherwise have resulted in certification.
- (4) Any other supporting documentation or information the developer wishes to submit.

Within 30 (thirty) days of receiving the Request for Waiver, the PHB HIPP Team Manager shall make a determination on the Waiver request.

6. Penalty for Non-Compliance.

If the Request for Waiver is denied, the Developer will pay a penalty of \$5000 to PHB.

G. Amendments to Policy

1. The Administrative Rules shall be approved through City Council, however the Director of the PHB or a designee shall have authority to make changes to this Portland Policy Document as is necessary to meet current program requirements throughout the year.
2. This Policy will be reviewed annually.

End of Policy