

Portland Clean Energy Fund

Multifamily Guidelines & Eligible Measures for SP25: PHB Affordable Housing Preservation

Document Overview

The Portland Clean Energy Community Benefits Fund (PCEF) invests in climate action projects, in alignment with the City's climate action goals, that support environmental justice and environmental, social, and economic benefits for all Portlanders. This document is a resource for multifamily preservation projects funded under Strategic Program 25, outlining project requirements, quality assurance processes, and measures that are eligible for PCEF funding.

Revised March 17, 2025.

Program Framework

Measure Requirements

1. At least 70% of a project's PCEF award must be spent on energy efficiency or renewable energy (EE/RE) measures.
2. The 30% non-energy allowance is intended to first cover required upgrades that enable or improve EE/RE measures. Once that has been satisfied, funds remaining in the 30% may be used for other life/health/safety measures needed in the home.
3. The 70% EE/RE measures must appear on the eligible measures list or be program approved.
4. At a minimum, any EE/RE measure must increase energy efficiency by at least 10% over the replaced equipment or existing conditions.
5. Installations must comply with PCEF Installation Checklists. PCEF Eligible Measures are intended for use as one part of the PCEF quality assurance process, by PCEF grantees and contractors, and with scope approval from PCEF.
6. Program approval is required for the installation of non-electric equipment or for switching from a ducted to a non-ducted heating system.
7. PCEF will only fund the following measures if installed as part of a comprehensive energy efficiency scope which includes mechanical upgrades not on this list: **windows, doors, lighting and appliances**. Scopes must be program approved.
8. Related soft costs such as engineering and design work specific to the PCEF funded measures may be included within the PCEF budget for those measures, within reason and as approved by PCEF.



Quality Assurance Process

9. PCEF Eligible Measures are intended for use as one part of the PCEF process, by PCEF grantees and contractors.
10. Installations must comply with the PCEF Installation Checklists provided by PCEF.
11. For each project site, grantee and contractor will be required to submit a scope of work for PCEF-funded measures that demonstrate the proposed project will meet the requirements as outlined in the PCEF Installation Checklists. Scope of work may include (but is not limited to) the following:
 - a) Building description, including number of floors, units, configuration and use.
 - b) Bid or contractor proposal for planned clean energy upgrades including weatherization, HVAC upgrades, plumbing, venting, and electrification.
 - c) Material specifications including quantity, manufacturer, model numbers, etc.
 - d) Additional documentation as requested.
12. Projects may be subject to additional quality assurance checks as part of PHB’s construction monitoring and disbursement process.

Eligible Energy Efficiency Measures

Weatherization

All available opportunities for weatherization upgrades should be evaluated and pursued prior to proposing HVAC upgrades to ensure proper HVAC equipment sizing.

Attic Insulation and Air Sealing

- Complete checklist for vented attic OR unvented attic.
- Install R-49 or greater OR fill the cavity.
- Air seal all gaps, cracks, seams, and penetrations between conditioned and unconditioned space.
- Exhaust fan requirements can be bypassed if installing ERV system.

Included in 70% EE/RE Cost	Included in 30% Non-Energy Costs (Not Exhaustive)
<ul style="list-style-type: none"> • Carpentry for air leakage reduction (e.g., building stem walls between attic/ crawl hatch doors) • Insulation removal due to mold or vermin as required for installation of attic insulation. • Access door rebuilding or drop-down stair cover. 	<ul style="list-style-type: none"> • Roof replacement. • Sealing roof leaks to address attic water intrusion • Storage platform – (raised to accommodate insulation installed to code R-value). • Asbestos mitigation. • Knob and tube wiring decommissioning as required for installation of attic insulation

Floor Insulation and Air Sealing

- Complete checklist of vented crawlspace OR unvented crawlspace.
- Install R-30 or greater, OR fill the cavity.
- Air seal all gaps, cracks, seams, and penetrations between conditioned and unconditioned space.

Included in 70% EE/RE Cost	Included in 30% Non-Energy Costs (Not Exhaustive)
<ul style="list-style-type: none"> • Floor register sealing where there are penetrations to unconditioned spaces. • Carpentry for air leakage reduction (e.g., building stem walls between a basement and crawlspace) • Include elements needed to meet code (e.g. install ignition barriers over foam insulation). • Additional vent installation in crawlspace. • Insulation removal due to vermin or mold. • Dryer or exhaust fan venting (including permit fees). • Radon test provided to occupant at end of project. 	<ul style="list-style-type: none"> • Asbestos-containing insulation removal. • Radon mitigation system when radon level equals 4 pCi/L or more. • Water mitigation for wet crawlspace.

Wall Insulation

- Complete checklist for framed wall insulation, masonry wall insulation AND/OR basement wall insulation, as applicable.
- For Exterior Wall: R-11 or fill cavity, All heated exterior walls must be insulated
- For Knee Wall: R-15 for 2x4 cavities R-21 for 2x6 cavities
- For Rim Joist: R-15
- Homes or buildings with vinyl, aluminum, asbestos or stucco siding/exterior, wall insulation should be installed from the interior.

Included in 70% EE/RE Cost	Included in 30% Non-Energy Costs (Not Exhaustive)
<ul style="list-style-type: none"> • Lead paint testing/Lead safe practices as required for Lead RRP License. • Siding removal for traditional wall insulation installation. • Re-installation of siding/new siding if removed siding breaks. Leave primed & paint ready. • Drywall hole patching/texturing/painting if wall installation is not feasible from exterior. • Carpentry needed for hatch door air sealing. • Insulation removal. 	<ul style="list-style-type: none"> • Mitigating water leaks and water intrusion. • Dry rot repair. • Knob and tube decommissioning. • Siding replacement. • Knob and tube wiring decommissioning as required for installation of attic insulation

Windows

- Complete checklist for windows.
- Replacement window must be [Northern Climate Energy Star](#) 0.26 U value or better.
- Replace single-pane or double-pane windows.

Included in 70% EE/RE Cost	Included in 30% Non-Energy Costs (Not Exhaustive)
<ul style="list-style-type: none"> • Dry rot repair as required for door or window replacement. 	<ul style="list-style-type: none"> • Installing new windows that are larger than the original size.

Low E Storm Windows

- For historic buildings or buildings with unchangeable facades, interior Energy Star Low E Storm Windows are acceptable to meet the minimum efficiency U-value requirement.

- Energy Star certified Low-E
- Storm windows must be permanently installed and in the same opening type as existing prime windows. Exterior storm windows must be oriented with the low-e coating facing interior of site.
- Frames must not make direct contact with metal-framed prime windows.

Included in 70% EE/RE Cost	Included in 30% Non-Energy Costs (Not Exhaustive)
<ul style="list-style-type: none"> • There are no additional costs included. 	<ul style="list-style-type: none"> • N/A

Heating, Ventilation, and Air Conditioning (HVAC)

Duct sealing must be included in all proposed HVAC upgrades. PCEF will prioritize funding for Duct Sealing and repair above HVAC upgrades.

Duct Sealing, Repair, and Insulation

- Complete checklist for duct sealing.
- The entire length of the duct system (e.g., in the attic, basement, or crawlspace) shall be inspected and damaged ducts shall be repaired or replaced. Flexible ducts with excessive length shall be cut to proper length and sharp bends shall be corrected so bends are greater than or equal to one duct diameter radius.
- All ducts in the unconditioned space should be properly sealed and insulated.

Included in 70% EE/RE Cost	Included in 30% Non-Energy Costs (Not Exhaustive)
<ul style="list-style-type: none"> • Seal interior register penetrations to unconditioned spaces. • Replacing panned returns in unconditioned crawlspaces or attics to modern ducting in unconditioned space. • Sealing & insulating ducts in the unconditioned space. 	<ul style="list-style-type: none"> • Asbestos tape mitigation on ductwork (unconditioned space) as required for duct sealing.

Ductless Heat Pump

- Complete checklist for ducted heat pumps.
- Choose inverter-driven, variable-speed heat pumps, sized with a heat load calculation for the area served.
- Perform and document a load calculation. Match the system capacity to the calculation as closely as possible.
- Controls must be set with an auxiliary heat lockout setting when available.
- Where possible, decommission existing electric resistance or gas heating system.
- If adding heat pump coil to an existing gas furnace – contact PCEF administrator or QA provider.

Included in 70% EE/RE Cost	Included in 30% Non-Energy Costs (Not Exhaustive)
<ul style="list-style-type: none"> • There are no additional costs included. 	<ul style="list-style-type: none"> • N/A

Ducted Heat Pump

- Complete checklist for ductless heat pumps.
- Choose inverter-driven, variable-speed heat pumps, sized with a heat load calculation for the area served.
- Perform and document a load calculation. Match the system capacity to the calculation as closely as possible.

Included in 70% EE/RE Cost	Included in 30% Non-Energy Costs (Not Exhaustive)
<ul style="list-style-type: none"> Electrical, including Panel/Service upgrades as required for installation of system selected when fuel switching. 	<ul style="list-style-type: none"> Asbestos removal as required for HVAC replacement (e.g., material attached to components being replaced).

ERV/HRV

- Complete checklist for ERV/HRV.
- Minimum SRE of 80%.
- Commissioning required.

Included in 70% EE/RE Cost	Included in 30% Non-Energy Costs (Not Exhaustive)
<ul style="list-style-type: none"> There are no additional costs included. 	<ul style="list-style-type: none"> N/A

HVAC Controls or Smart Thermostat

- Use heat pump proprietary control system where appropriate.

Included in 70% EE/RE Cost	Included in 30% Non-Energy Costs (Not Exhaustive)
<ul style="list-style-type: none"> There are no additional costs included. 	<ul style="list-style-type: none"> N/A

Water Heating

Heat Pump Water Heaters

- Complete checklist for heat pump water heaters.
- Heat pump water heater should be Energy Star certified
- Unit must replace existing electric resistance or natural gas water heater

Included in 70% EE/RE Cost	Included in 30% Non-Energy Costs (Not Exhaustive)
<ul style="list-style-type: none"> Electrical outlets or circuits, as needed for water heater installation. Heat pump water heater cold exhaust ducting in conditioned space. Condensate pump. Electrical panel replacement if replacing gas water heating. 	<ul style="list-style-type: none"> N/A

Low Flow Fixtures

- Replace/install hot water fixtures (e.g., faucets, showerheads) that meet [WaterSense](#) standards.

Included in 70% EE/RE Cost	Included in 30% Non-Energy Costs (Not Exhaustive)
<ul style="list-style-type: none"> There are no additional costs included. 	<ul style="list-style-type: none"> N/A

Lighting and Appliances

Lighting (Common Area or Exterior Only)

- Replace existing light fixtures with LEDs.
- Must include occupancy sensors or control system.
- Must replace existing HID lighting

Included in 70% EE/RE Cost	Included in 30% Non-Energy Costs (Not Exhaustive)
<ul style="list-style-type: none">• There are no additional costs included.	<ul style="list-style-type: none">• N/A

Commercial Clothes Washer Minimum Requirements

- Replace existing common area washers with MEF of 2.2 or greater and IWF of 4.0 or less.
- Must be frontloading and used in common area only.

Included in 70% EE/RE Cost	Included in 30% Non-Energy Costs (Not Exhaustive)
<ul style="list-style-type: none">• There are no additional costs included.	<ul style="list-style-type: none">• N/A

Clothes Washers and Dryers Minimum Requirements

- Replace existing in-unit clothes washers or dryers with ENERGY STAR certified in-unit clothes washers.

Included in 70% EE/RE Cost	Included in 30% Non-Energy Costs (Not Exhaustive)
<ul style="list-style-type: none">• There are no additional costs included.	<ul style="list-style-type: none">• N/A

Refrigerators Minimum Requirements

- Replace existing in-unit refrigerator with model on the ENERGY STAR 5.0 certified list

Included in 70% EE/RE Cost	Included in 30% Non-Energy Costs (Not Exhaustive)
<ul style="list-style-type: none">• There are no additional costs included.	<ul style="list-style-type: none">• N/A

Other Eligible Measures

Renewables and Electric Vehicle Chargers

Rooftop Solar, with or without Battery Storage

- Renewables system purchases must be predominantly manufactured in the United States unless such a product is unavailable, or the cost is prohibitive.
- System design and installation must comply with [Energy Trust of Oregon Solar + Storage Design and Installation Requirements V21.0](#), excluding requirements for systems to be grid-tied and for projects to submit through the PowerClerk system. To receive funds from PCEF, projects do not need to participate in Energy Trust programs.
- Grantees should plan for other needed improvements (e.g., electrical panel upgrades, security measures, and/or fire containment walls) and propose these in their scope.

- Projects must secure building and electrical permits as required and obtain final approvals for these permits.
- If adding battery storage, projects must complete analysis to identify critical building loads to be served, the site areas the battery system will back up, and the capacity of the battery system.

Included in 70% EE/RE Cost	Included in 30% Non-Energy Costs (Not Exhaustive)
<ul style="list-style-type: none"> • Electrical, including panel/service upgrades as required for installation of system selected. 	<ul style="list-style-type: none"> • Security measures to protect system from vandalism. • Structural upgrades as needed for a solar installation. • Roof replacement.

Level II Electric Vehicle Battery Charger

- New charger must be on one of the following lists:
 - ENERGY STAR Electric Vehicle Service Equipment (EVSE) [Version 1.2](#) or newer.
 - Portland General Electric qualified products list ([residential](#) | [commercial](#))
 - Pacific Power vetted products list ([residential](#) | [multifamily](#) | [commercial](#))
- PCEF encourages but does not require charger to be equipped with networking capabilities.
- PCEF encourages projects to incorporate ADA accessibility considerations for at least a portion of installed EVSEs.
- Charger must be 240V designed for electric vehicle charging and include a retractable cord.
- For EVSE in publicly accessible locations, PCEF encourages grantees to consider the following security measures: retractable cords, lights, cameras, fencing.
- EVSE must be fully installed and operational.

Energy Modelling & Feasibility

- Costs of energy modelling associated with estimating energy savings specifically for PCEF-funded measures.
- Clean energy feasibility studies for PCEF-funded measures, if not funded by other sources.

Included in 70% EE/RE Cost	Included in 30% Non-Energy Costs (Not Exhaustive)
<ul style="list-style-type: none"> • There are no additional costs included. 	<ul style="list-style-type: none"> • N/A