# Sustainable Buildings for All (SB4A) Incentive Framework

Assessment Report

Marco de incentivos de Sustainable Buildings for All (SB4A): Informe de evaluación

人人享有可持續建築（SB4A）激勵框架：評估報告

Система стимулирования Экологическоестроительство для всех (SB4A): Отчет об оценке

Cơ cấu khuyến khích Công trình bền vững cho mọi người (SB4A): Báo cáo đánh giá

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State of Oregon
DEQ Department of Environmental Quality

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# Executive Summary

The Sustainable Buildings for All (SB4A) framework was developed by a coalition of sustainable building and equity experts and advocates (see Acknowledgements). The program seeks to incentivize, and therefore accelerate, the development of building projects that achieve high levels of environmental performance, social equity, and human and environmental health in alignment with the policies, plans, and goals of the State of Oregon and Oregon's local governments.

The framework was developed to support local governments throughout the state who are seeking strategies that can contribute to meeting their own climate, equity and health goals. It is not intended to provide an individual solution to these issues, but instead as one pathway that can complement additional strategies. While the model language and report use the City of Portland as a case study, SB4A is intended to provide a model framework that can be customized and adopted by local governments throughout the State of Oregon or beyond. Additionally, the framework is not meant to be static, but to provide a starting point for jurisdictions to adapt to their individual communities and to evolve over time. As written, any local jurisdiction that chooses to implement a pilot incentive program adapted from the SB4A framework would serve as the jurisdiction having authority (JHA), except where certain measures are regulated or governed by other state or federal jurisdictions.

SB4A has three primary goals:

1. **Climate Action:** accelerate transformational climate action by incentivizing low- and zero-carbon buildings, including both operational and embodied carbon.
2. **Equity and Racial Justice:** prioritize access to sustainable buildings, and the health and wealth benefits of the sustainable building industry for Black, Indigenous, and People of Color (BIPOC), rural, low-income and other frontline communities.
3. **Health of Humans and the Environment:** increase access to healthy buildings and sites for all; minimize the impacts of the built environment on the natural environment.

This report provides an assessment of the proposed SB4A framework. The assessment includes evaluation of the requirements proposed in SB4A compared to the goals, programs, and policies of the State of Oregon and the City of Portland, discussion about proposed incentives, applicability and adaptability for multiple jurisdictions, and considerations for local governments which may consider implementation of the framework.

Detailed evaluation of program performance requirements is organized in the body of the report according to the primary goals outlined by the SB4A framework (climate action, equity and racial justice, health of humans and the environment). Each section provides an overview of the goal and its relevance to sustainable building, details the performance and/or outcomes as required

by the proposed tiers, and identifies areas of alignment between the program and the goals of the State of Oregon and City of Portland.

**Key findings:**

- SB4A is in alignment and/or contributes to a number of State of Oregon and City of Portland policies, plans, and goals related to climate action, equity, racial justice, health of humans and health of the environment.
- Instituting the program as a pilot, as recommended by the SB4A coalition, allows local governments the flexibility to test the program, make adjustments or even terminate the program in the future.
- The proposed tier structure creates opportunity for projects with lower entry points to benefit from the program, while still incentivizing projects to reach toward the highest levels of performance in the building industry.
- Lessons learned from existing model programs are reflected in the proposed SB4A program including use of third-party certifications, guaranteed bonuses, penalties and height increases.
- Basing the program largely on third-party certifications removes the ambiguity of creating a new, unique set of sustainable building requirements and, therefore, the liability to local governments. Additionally, third-party verification will minimize the fiscal staffing impact to local governments and the burden on staff to conduct lengthy reviews.
- Holistic certifications (Living Building Challenge, Core Green Building Certification, LEED and Earth Advantage) that address a wide array of sustainability issues in the built environment are used as a basis for performance. This provides multiple benefits to jurisdictions in addition to reduced demand on local and regional utility systems. Some jurisdictions may find it useful to consider additional holistic certifications that may be an approved pathway for certain forms of funding, particularly for affordable housing, such as HUD Mortgage Incentive Premiums (MIP) financing incentives.
- Mandatory credits and credit thresholds ensure tiers 3 and 4 are addressing the main goals of the SB4A program.
- Requiring Zero Carbon and Zero Energy certifications in tiers 2, 3 and 4 (tier 1 projects are required to achieve zero carbon and net positive energy as part of the full Living Building Challenge certification) aligns with the urgent need to draw down carbon emissions and the importance of built environment actions as part of this approach as governments work toward their emissions reduction goals.
- The additional requirements emphasize the importance of integrating specific strategies to address equity and racial justice into the building design, development and construction process and government programs. Because these requirements are not reviewed by existing third-party certifications the burden will fall on the local governments and staff to review for compliance, however, many jurisdictions may already have review processes in place which address these specific requirements or that review of the requirements could reasonably be added.

- Additional outcomes may be considered to address equity and racial justice including apprenticeship and prevailing wage. Additional programs may be considered such as Earth Advantage Workforce Development Engagement.
- Proposed incentives are largely at no cost to local governments. Systems Development Charges (SDC) waivers and permitting assistance are the exception. SDC waivers will be a direct cost. Permitting assistance will require dedicated staff time to provide assistance to projects enrolled in the program. Depending on current staffing and work plans, this could range from redefining an existing role to the need to add a staff person. An important consideration for local governments regarding SDC waivers and permitting assistance is the finding that upfront cost was identified as a primary barrier by stakeholders across project types and professions to pursuing the certifications and performance standards included in the SB4A program. SDC waivers and permitting assistance were the most strongly preferred strategies to help address this barrier.
- As written, the program applies only to new construction and exterior alteration projects for single buildings, however, reuse of existing buildings and larger-scale community solutions are also important built environment climate strategies. It would be beneficial to determine ways in which the program can be adapted to also apply to interior renovation projects and large scale planned developments based on each jurisdictions existing processes for approval of these project types.
- As written, the program primarily applies only to urban and some suburban areas. It would be beneficial to consider alternative incentives and requirements which would allow the program to adapt for rural and other low-density locations as well.
- As written, the program applies only to buildings. Additional certifications or a parallel framework could be considered that addresses sites and community-scale projects including Sustainable Sites, Living Community Challenge and EcoDistricts.
- It should be noted that this program is not a stand-alone solution to address climate, equity and health goals related to the built environment, but instead provides a complementary pathway to other regulatory and incentive-based tools. Further emphasizing this point were opportunities for additional support, outside the scope of this framework, that were identified in some of the case studies including: Oregon Bureau of Labor and Industries (BOLI) requirement exceptions for affordable housing projects, grants for design and construction services to help fill the gap after the Energy Trust of Oregon incentive, an incentive or maintenance program to assist non-profit staff in maintaining the more complex systems involved in higher performing buildings, DEQ's greywater rules, and DEQ's rules that regulate Water Pollution Control Facilities.

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# Introduction

The built environment has a significant impact on people, natural systems and the planet. Buildings account for 30 percent of Oregon's consumption-based greenhouse gas emissions.[1] Nearly one-third of Oregon's waste stream is made up of construction and demolition waste.[2] The built environment affects human health and wellbeing through exposure to toxics in materials, proximity to polluters, indoor environmental quality and vulnerability during natural disasters.[3,4] In addition, the built environment (and the policies and codes which inform it) has played, and continues to play, a role in the structural inequities that exacerbate the impacts of the climate and health crises, and economic opportunities for BIPOC, low-income, rural and other frontline communities.[5,6,7,8,9]

Considering the scope and scale of these impacts, the built environment is key to addressing the climate, equity and health goals of the State of Oregon and local governments. SB4A contributes to or is in alignment with the following policies, plans and goals in place at the state level and at the City of Portland:

- City of Portland and Multnomah County Climate Action Plan[10]
- City of Portland Climate Emergency Declaration[11]
- City of Portland Deconstruction Ordinance[12]
- City of Portland Inclusionary Housing[13]
- City of Portland Low Carbon Concrete Initiative[14]
- City of Portland Planned Development Bonus[15]
- City of Portland Sustainable Consumption Plan[16]
- Governor's Executive Order 17-20: Accelerating efficiency in Oregon's built environment to reduce greenhouse gas emissions and address climate change[17]
- Governor's Executive Order 20-04: Directing state agencies to take actions to reduce and regulate greenhouse gas emissions[18]
- Healthier Together Oregon: 2020-2024 State Health Improvement Plan (Oregon Health Authority)[19]
- Oregon Climate Change Adaptation Framework[20]
- Oregon Global Warming Commission (OGWC) 2020 Biennial Report[21]
- Oregon Global Warming Commission (OGWC) TIGHGER Actions[22]
- State of Oregon Climate Equity Blueprint[23]
- State of Oregon Diversity, Equity, and Inclusion Action Plan[24]
- Strategic Plan for the Built Environment (Oregon DEQ)[25]
- Pacific Coast Collaborative Low Carbon Construction Task Force[26]
- Portland Clean Energy Fund[27]

Tables 1 and 2 provide an overview of where SB4A aligns with the identified State of Oregon and City of Portland policies, plans, and goals. These are discussed further in the Climate Action, Equity and Racial Justice, and Health of Humans and the Environment sections of this report and more detailed tables are provided in Appendix C and Appendix D.

**Table 1. Comparison of SB4A goals with State of Oregon policies, plans, and goals.**

| | Climate Action | Equity and Racial Justice | Health of Humans and the Environment |
|---|---|---|---|
| Governor's Executive Order 17-20 | ■ | | |
| Governor's Executive Order 20-04 | ■ | | |
| Healthier Together Oregon: 2020-2024 State Health Improvement Plan | ■ | ■ | ■ |
| Oregon Climate Change Adaptation Framework | ■ | ■ | ■ |
| OGWC 2020 Biennial Report | ■ | ■ | |
| OGWC TIGHGER Actions | ■ | ■ | ■ |
| State of Oregon Climate Equity Blueprint | | ■ | |
| State of Oregon Diversity, Equity, and Inclusion Action Plan | | ■ | |
| Strategic Plan for the Built Environment | ■ | ■ | ■ |
| Pacific Coast Collaborative Low Carbon Construction Task Force | ■ | | |

**Table 2. Comparison of SB4A goals with City of Portland policies, plans, and goals.**

| | Climate Action | Equity and Racial Justice | Health of Humans and the Environment |
|---|---|---|---|
| City of Portland and Multnomah County Climate Action Plan | ■ | ■ | ■ |
| Climate Emergency Declaration | ■ | ■ | ■ |
| Deconstruction Ordinance | ■ | | ■ |
| Inclusionary Housing | | ■ | |
| Low Carbon Concrete Initiative | ■ | | |
| Planned Development Bonus | ■ | ■ | |
| Portland Clean Energy Fund | ■ | ■ | ■ |
| Sustainable Consumption Plan | ■ | | ■ |

# Framework Overview

SB4A is an incentive program for building projects which achieve performance requirements related to climate, equity, racial justice, human health and environmental health. The SB4A coalition envisioned the framework as a pilot program. This format allows local governments the flexibility to test the program and make adjustments over time as lessons are learned from projects enrolled in the program, and the ability to phase out the program in the future.

## Requirements

The framework (see Table 3) is structured in four tiers providing multiple points of entry. Compliance pathways across all tiers address all three goals of the SB4A framework (climate action, equity and racial justice, health of humans and the environment) to varying degrees. Tier 4 is the lowest point of entry to qualify for the program. Each tier steps up in performance with tier 1 projects achieving the highest level of performance. Compliance is based on achievement of one or more sustainable building certifications and additional specified requirements. Each building certification is discussed in more detail in the Certifications section of this report.

### Certifications

Tiers 1 and 2 are based on the International Living Future Institute's (ILFI) Living Building Challenge (LBC)[28] and Core Green Building (Core)[29] certifications. Tier 1 projects must achieve LBC Living Certification. Tier 2 projects may select to pursue either LBC Petal Certification or Core Green Building Certification and must also pursue ILFI Zero Carbon[30].

Tiers 3 and 4 are based on LEED[31] certification and include mandatory requirements, credits or credit thresholds for compliance. The mandatory credits establish a baseline for carbon reduction, water use reduction, waste management, material transparency and air quality and design process. Tier 4 also has a compliance pathway which allows for Earth Advantage[32] certification for single family and affordable multifamily housing projects. This pathway also includes mandatory requirements, credits, or credit thresholds for compliance.

Mandatory LEED credits add up to 23 points for tier 4 and 41 points for tier 3, leaving 17 (out of 40) and 39 (out of 80) credits, respectively, to be selected by the project team. In addition, tier 3 requires ILFI Zero Carbon Certification while tier 4 requires Zero Energy Certification by either ILFI[33] or LEED[34].

Mandatory Earth Advantage credits add up to 47 points for single family and 62 points for multifamily leaving 302 (out of 349) and 102 (out of 164) credits, respectively, to be selected by the project team. In addition, the Earth Advantage compliance pathway requires projects to achieve Earth Advantage Net Zero Ready.

**Additional Requirements**

The additional requirements are centered on equity and racial justice factors that are largely not addressed in current building certifications on the market including contract equity, publicly accessible space, public art, affordable rents and ownership, and community engagement. In some cases, a factor is addressed in a certification, but the performance level specified in the additional requirements is beyond what is required by the certification and/or more specific to the State of Oregon. For example, LBC and Core require that twenty percent of design and/or construction contracts are registered Minority, Women, or Disadvantaged Business Enterprises (MWDBE). The additional requirements in tiers 1 and 2 require 40 and 30 percent, respectively, of design and construction contracts be held by registered COBID firms. In addition, at least half of these contracts must be Minority and/or Women owned businesses.

COBID is the State of Oregon's Certification Office for Business Inclusion and Diversity[35] which certifies Minority Business Enterprise (MBE), Women Business Enterprise (WBE), Service-Disabled Veteran Business Enterprise (SDVBE) and Emerging Small Business (ESB) firms.

Image Credit: GreenHammer

**Table 3. Sustainable Buildings for All framework proposed minimum requirements.**

| | Tier 1 | Tier 2 | Tier 3 | Tier 4 |
|---|---|---|---|---|
| **Certification(s) and mandatory credits or credit thresholds** | ILFI Living Building Challenge 4.0 (or later) Living Certification | ILFI Living Building Challenge 4.0 (or later) Petal Certification<br>**AND** ILFI ZERO Carbon Certification<br><br>**OR**<br><br>ILFI Core Green Building Certification<br>**AND** ILFI ZERO Carbon Certification | USGBC LEED v4 (or later) Platinum Certification including all mandatory credits and credit thresholds required under Tier 4,<br>**AND** the following mandatory or credit thresholds:<br>• MRc Building Life Cycle Impact Reduction – Option 2 EAc Optimize Energy Performance - minimum 30% energy savings<br>• EAc Enhanced Refrigerant Management (1 point)<br>• IEQc Enhanced IAQ strategies (1 additional point)<br>• Low Emitting Materials (1 additional point)<br>• Pilot Credit: Design for Enhanced Resilience<br>• Pilot Credit: Assessment and Planning for Resilience<br><br>**AND** ILFI Zero Carbon | USGBC LEED v4 (or later) Certification (any level) including the following mandatory or credit thresholds:<br>• EAc Optimize Energy Performance - minimum 20% energy savings<br>• IPc Integrative Process<br>• SSc Heat Island Reduction (2 points)<br>• WEc Outdoor Water Use Reduction (1 point)<br>• WEc Indoor Water Use Reduction (3 points)<br>• MRc BPDO – EPD (1 point)<br>• MRc BPDO – Material Ingredients (1 point)<br>• MRc Construction and Demolition Waste Management (2 points)<br>• IEQc Enhanced IAG strategies (1 point)<br>• IEQc Low Emitting Materials (2 points)<br><br>**AND** ILFI Zero Energy **OR** LEED Zero Energy |

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| | | | | *Single family and affordable multifamily housing projects may alternatively use the following compliance pathway:*<br><br>Earth Advantage Platinum for Single Family (SF) or Multifamily (MF) including the following mandatory requirements, credits, and credit thresholds:<br>• Minimum 25% better than energy code (SF) (MF)<br>• HVAC Commissioning (SF) (MF)<br>• Testing and balancing, ventilation, duct test, blower door (MF)<br>• 1.2.3 Weighted Average Unit Size (MF)<br>• 1.3.2 Reduced House Size (SF)<br>• 1.3.5 Accessible Design (SF)<br>• Low-Point Drain (MF: 3.1.5) (SF: 3.1.3)<br>• Low VOC and UF Interior Finishes (MF: 7.1.3-7.2.4) (SF: 7.1.2, 7.1.4, 7.2.2, 7.3.1, 7.4.7)<br>• Hard Surface (MR: 8.4.2, 25%) (SF: 7.4.1) |

| | | | | |
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| | | | | • Planned onsite and/or offsite renewable energy to offset 100% actual building consumption (MF: 10.1.2) (SF: 9.1.2)<br>• Minimum 5 additional land points beyond required<br><br>**AND** Earth Advantage Net Zero Ready |
| **Additional requirements** | 40% of all design **AND** construction contracts must be COBID, at least one-quarter of which must be Minority owned and an additional one-quarter must be Women and/or Minority owned businesses.<br><br>The project includes public space(s) and/or art.*<br><br>Minimum 20% of residential units are available at or below 80% MFI **OR** 10% at or below 60% MFI, as applicable.<br><br>Minimum of 20% of rentable commercial area is available at 10% below market rate, as applicable. | 30% of all design **AND** construction contracts must be COBID, at least one-quarter of which must be Minority owned and an additional one- must be Women and/or Minority owned businesses.<br><br>The project includes public space(s) and/or art.*<br><br>Minimum 10% of residential units are available at or below 80% MFI **OR** 5% at or below 60% MFI, as applicable.<br><br>Minimum of 10% of rentable commercial area is available at 10% below market rate, as applicable. | 20% of all design **AND** construction contracts must be COBID, at least one-quarter of which must be Minority owned and an additional one-quarter must be Women and/or Minority owned businesses.<br><br>The project includes public space(s) and/or art.*<br><br>Minimum 5% of residential units are available at or below 80% MFI **OR** 2.5% at or below 60% MFI, as applicable.<br><br>Minimum of 5% of rentable commercial area is available at a 10% below market rate, as applicable. | 10% of all design **AND** construction contracts must be COBID, at least one-quarter of which must be Minority owned and an additional one-quarter must be Women and/or Minority owned businesses.<br><br>The project includes public space(s) and/or art.* |

| | | | | |
|---|---|---|---|---|
| | **Community drives and/or leads the project.** Community engagement includes the requirements listed below. A report shall be submitted which demonstrates compliance.** | **Community is involved in the decision-making process.** Community engagement includes the requirements listed below. A report shall be submitted which demonstrates compliance.** | **Community is actively engaged and design responds to community input.** Community engagement includes the requirements listed below. A report shall be submitted which demonstrates compliance.** | **Community is informed about the project and community input is considered in design and operations.** Community engagement includes the requirements listed below. A report shall be submitted which demonstrates compliance.** |
| | • At least one community meeting is held before project design is revealed for tier 4. For tiers 1, 2, and 3 multiple community meetings should be held including at least one before project design is revealed. These meetings should assess community needs by gathering input and demonstrate how the feedback was incorporated into the project.<br>• Project use type, program, and design (including building, landscape, and public improvements) are shared with the community.<br>• Meetings and written information are accessible including language, time of meetings, services provided (e.g. childcare), and compensation (e.g. stipend, transit, and/or lived experience consultant wage commensurate with other professionals).<br>• Design strategy addresses displacement and disproportionate environmental impacts. | | | |

* Single family homes are exempt from the public space(s) and/or art requirement.
** In all tiers, the community engagement as listed in Table 3 is not required for single family homes. Instead, these projects are required to *inform the community about the project*.

Public spaces may include any free, publicly accessible space including, but not limited to, park, plaza, community room, local market and sports court. Public art is defined by the City of Portland as original creative work, which is accessible to the public and/or public employees, and which has been approved as public art by the Regional Arts and Culture Council, acting on behalf of the City of Portland.[36]

Affordable rent and ownership requirements apply to both residential and commercial spaces, as is applicable to each project. For example, an office building that is partially occupied by the owner, partially occupied by rental tenants, and has retail space available for rent must comply with the minimum percentage of affordable commercial rents requirement within the tier they are pursuing for the tenant-occupied office and retail rental spaces. The project does not include housing, therefore does not need to comply with the residential affordable rent requirements.

Affordable rents and ownership for residential units are defined to align with the City of Portland's Inclusionary Housing requirements. An option is provided for projects to provide units which are available at either 80 percent at or below median family income (MFI) or 60 percent at or below MFI. The number of units required for projects opting to provide units at 60 percent at or below MFI is half the requirement when providing units at 80 at or below percent MFI. For commercial spaces affordability is defined to align with Prosper Portland's Affordable Commercial Tenanting Program[37] which offers rents at 10 percent below market rates for new class A commercial space.

Community engagement requirements are the same across all tiers with the exception of the role of community in project decision making. Community is not defined within this framework. Defining this will vary by each jurisdiction having authority. Communities' project role increases from tier 4 to tier 1 as follows:

- Tier 4: Community is **informed** about the project and community **input is considered** in design and operations.
- Tier 3: Community is **actively engaged** and **design responds to community input**.
- Tier 2: Community is **involved in the decision-making process**.
- Tier 1: Community **drives and/or leads the project**.

An example is provided below to demonstrate how a hypothetical project could approach compliance with each tier's community engagement requirements. This example is not intended to establish a 'correct' compliance pathway, but instead to demonstrate the difference between the tiers. How each project achieves the level of community engagement required for the respective tier they are pursuing will vary.

**Example Project:** A 4-over-1, 40-unit multifamily housing project with 5,000 rentable square feet of ground floor retail and outdoor space at the ground level and on the top floor. The project is located along a highly trafficked street in a neighborhood that has suffered from disinvestment including unpaved streets, incomplete sidewalks, and lack of green infrastructure. The community includes a large BIPOC population and has an active neighborhood community organization that advocates for the community and residents. A significant portion of the neighborhood population is renters living under median family income at risk of gentrification.

**Table 4. Example project compliance options with community engagement requirements.**

| Tier 1 | Tier 2 | Tier 3 | Tier 4 |
|---|---|---|---|
| In addition to the strategies utilized in tiers 2, 3 and 4, the following are incorporated into the community design approach.<br><br>Community members are in leadership roles on development and ownership team(s). | In addition to the strategies utilized in tiers 3 and 4, the following are incorporated into the community design approach.<br><br>The project engagement strategy includes community ambassadors in the design process. Ambassadors are trusted community members who are paid for their time to engage with their community for design input. Ambassadors are included in project decision-making impacting design decisions such as:<br>• Addressing energy burden and safety of residents during extreme weather events through MEP and envelope design.<br>• Determination of programming based on community needs (e.g. better access to fresh, healthy foods):<br>  • Local community grocer as retail tenant<br>  • Garden beds provided at upper-level outdoor space for residents | In addition to the strategies utilized in tier 4, the following are incorporated into the community design approach.<br><br>Multiple community workshops are held pre-design and during design to engage the community in the design process. Community input informs the project program and design including:<br>• Affordable units and leasable space exceed minimum required by tier to address community needs and displacement concerns.<br>• Free community space is provided on the ground floor.<br><br>Workshops include dedicated activities for children to contribute to the project. Additionally, engaging children allows parents to more fully participate.<br><br>Workshops are held at various times to accommodate different schedules in collaboration with neighborhood community organization. | One community meeting is held prior to completion of schematic design. The place and time of the meeting is determined with the neighborhood community organization to be most accessible for the greatest number of community members. Stipends are provided to compensate participants for their time and labor. Project use type and program are shared with community members. Participants are invited to share their input.<br><br>Meeting and follow up information is provided in English and Spanish. Follow up information includes project design and indicates how community input informed the design:<br>• Building: infill project on vacant lot does not replace existing housing, culturally-specific public art by a local artist<br>• Landscape: ground floor outdoor space, accessible to the public, includes many plants to address urban heat island |

| | | | |
|---|---|---|---|
| | • Community garden space provided at ground level for the public | Translators are on site, so community members can engage in multiple languages. | • Public improvements: complete sidewalks and bike lanes<br><br>A report outlining how community engagement approach complies with requirements is provided to the authority having jurisdiction. |

## Incentives

Each tier identifies progressing incentives which are awarded to projects that are enrolled in the SB4A program. Enrollment indicates that a project team is committing to pursuing a level of performance outlined in the framework and has indicated which tier. Formal enrollment procedures will be specific to each local government's processes.

The proposed incentives include floor area ratio (FAR) bonus, structure height bonus, deferral or waiver of systems development charges (SDCs), permitting assistance including municipal assistance and priority design and permitting review, and the ability to request additional zoning code exceptions. Municipal assistance means staff who provides dedicated streamlined guidance and technical support to project teams and jurisdiction staff (e.g., zoning code reviewers, design review boards) for design and permit review and processing. Priority design review and permitting means that qualifying projects are moved to the front of the queue for scheduling, review and processing.

**Table 5. Sustainable Buildings for All framework proposed incentives.**

<table>
<tr><th></th><th>Tier 1</th><th>Tier 2</th><th>Tier 3</th><th>Tier 4</th></tr>
<tr><td>FAR bonus</td><td>30%</td><td>25%</td><td>20%</td><td>15%</td></tr>
<tr><td>Height bonus</td><td colspan="2">30 feet</td><td colspan="2">15 feet</td></tr>
<tr><td>SDC waiver and deferral</td><td>100% waiver of all SDCs</td><td colspan="3">Pro-rated waiver of sewer and water SDCs equal to reduction of water being delivered from or entering the city water, stormwater, or sewer systems to/from the proposed project; deferred payment of all other SDCs</td></tr>
<tr><td>Permitting assistance</td><td colspan="2">Municipal Assistance<br>Priority Design Review<br>Priority Permitting</td><td colspan="2">Municipal Assistance</td></tr>
<tr><td>Zoning code exceptions</td><td colspan="4">A project qualifying for the program qualifies for the following zoning code exceptions:<ul><li>Permitted, prohibited, or conditional use provisions</li><li>Maximum size of use</li><li>Quantity of parking required</li><li>Standards for storage of solid-waste containers</li><li>Lot coverage standards</li><li>Standards for the location of access to parking</li><li>Standards for structural building overhangs and minor architectural encroachments</li><li>Additional exceptions as proposed on a per project basis and approved by design review</li></ul></td></tr>
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| | |
|---|---|
| | Applicant must demonstrate that the exception would result in a development that better meets the goals of the certification requirements and would not conflict with applicable Design Guidelines. |

The list of proposed incentives was selected based on review of other model frameworks (discussed further in the Model Frameworks section of this report), ILFI's Policy Leadership Toolkit,[38] incentives already offered by the City of Portland such as the Planned Development Bonus, and a survey of interested parties including developers, architects, engineers, contractors and sustainability specialists. The proposed incentives will need to be evaluated and potentially adapted by each local government interested in implementing the program. Incentives are discussed in more detail in the Incentives section of this report.

## Compliance

Finally, the program outlines compliance and penalties. The compliance schedule allows project teams up to 24 months after certificate of occupancy to demonstrate compliance. Exceptions are allowable to this time limit when extenuating circumstances can be documented. For example, COVID-19 causing buildings to sit largely empty during their typical performance period. In cases such as these, a jurisdiction should extend the compliance schedule accordingly.

Compliance may be demonstrated via the appropriate combination the following documentation for a given project:

- Proof of certification and/or final scorecards from third-party certifying body/bodies
- Documentation of compliance with COBID contracting requirements
- Report demonstrating compliance with community engagement requirements
- Documentation of compliance with public space(s) and/or art requirements
- Documentation of compliance with affordable rent requirements, as applicable

### Penalties

Because a project will be completed and have received incentives prior to being able to demonstrate full compliance (e.g., performance periods for energy and water requirements may not begin until after the building is occupied), financial penalties are proposed as a mechanism for jurisdictions having authority to hold projects accountable to deliver on the requirements of the program.

Projects which are found out of compliance are subject to a financial penalty totaling up to five percent of the construction value of the project as outlined in Table 6. These figures are adapted from the penalties of the Living Building Pilot Program offered by the City of Seattle. More

information about Seattle's program, including lessons learned regarding penalties is provided in the next section, Model Frameworks.

**Table 6. Sustainable Buildings for All framework penalty provisions.**

| Penalty | Non-compliance |
|---|---|
| Minimum 1.5% | If any of the requirements are not achieved in their entirety |
| Maximum 1% additional | If any of the operational and embodied carbon performance requirements of the applicable third-party certification (including mandatory credit and credit thresholds) of the associated tier are not achieved |
| Maximum 1% additional | If any of the equity requirements of the applicable third-party certification and additional requirements of the associated tier are not achieved |
| Maximum 0.5% additional | If any of the requirements (other than operational carbon, embodied carbon, and equity) of the applicable third-party certification (including mandatory credit and credit thresholds) of the associated tier are not achieved |
| Maximum 1% additional | If any project significantly fails to comply with the requirements of the applicable third-party certification and additional requirements of the associated tier |

# Model Frameworks

A pilot incentive program will not address all of the built environment impacts local governments are seeking to address on its own, however, it does provide one more tool in the toolbox. Along with building and zoning codes, design standards and performance requirements, an incentive program can help accelerate the number of building projects achieving higher levels of performance. Model incentive programs similar to SB4A have been adopted in Seattle and Shoreline, Washington, and Arlington County, Virginia. Each of these programs varies, but they each provide demonstrated insight into the potential of an incentive program like SB4A.

## Arlington County Green Building Density Incentive Program

Arlington County's Green Building Density Incentive Program[39] provides a tiered FAR bonus for LEED certification. An additional density bonus up to 0.05 is available for achieving Arlington Community Priority LEED credits. In addition, density above 0.55 may be requested for projects pursuing ILFI Zero Energy Certification in addition to at least LEED Gold certification and two Arlington Community Priority credits.

**Table 7. Summary of Arlington County's Green Building Density Incentive Program.**

| LEED v4 | FAR Bonus | Arlington Priority | Total FAR Available |
|---|---|---|---|
| **Platinum** | 0.50 | + up to 0.05 | 0.55 |
| **Gold** | 0.35 | + up to 0.05 | 0.40 |
| **Silver** | 0.25 | + up to 0.05 | 0.30 |

## Shoreline Deep Green Incentive Program

Shoreline's Deep Green Incentive Program[40] provides a tiered FAR bonus, reduces parking requirements, and allows for additional development code departures including lot coverage, use provisions, solid waste storage, structural building overhang, minor architectural encroachments and structure height for projects achieving various sustainable building certifications.

Failure to comply will result in a penalty up to five percent of the project construction value and payment of waived fees.

**Table 8. Summary of Shoreline's Deep Green Incentive Program.**

| Tier | Compliance Options | Density Bonus | Parking Reduction |
|---|---|---|---|
| **1** | LBC Living Certification<br>ILFI Living Community | 100% | 50% |
| **2** | LBC Petal Certification<br>Built Green Emerald Star | 75% | 35% |
| **3** | LEED Platinum<br>Built Green 5-Star<br>ILFI Zero Energy + Salmon Safe<br>PHIUS Zero + Salmon Safe | 50% | 20% |
| **4** | Built Green 4-Star<br>PHIUS+ | 25% | 5% |

## Seattle Living Building Pilot Program

Seattle's Living Building Pilot Program (LBPP)[41] provides FAR, height bonuses, and allows for additional zoning code departures including use provisions, residential density limits, maximum size of use, parking requirements, solid-waste standards, open space requirements parking access, structural building overhangs, and minor architectural encroachments for projects pursuing Living Building Challenge.

**Table 9. Summary of Seattle's Living Building Pilot Program Incentives.**

| | **Zones with height limits of 85 feet or less** | | **Zones with heigh limits greater than 85 feet** | |
|---|---|---|---|---|
| | **Residential** | **Non-residential** | **Residential** | **Non-residential** |
| **FAR bonus** | 25% | | | |
| **Height bonus** | 12.5 feet | 15 feet | 25 feet | 30 feet |

Projects may choose one of two compliance options:

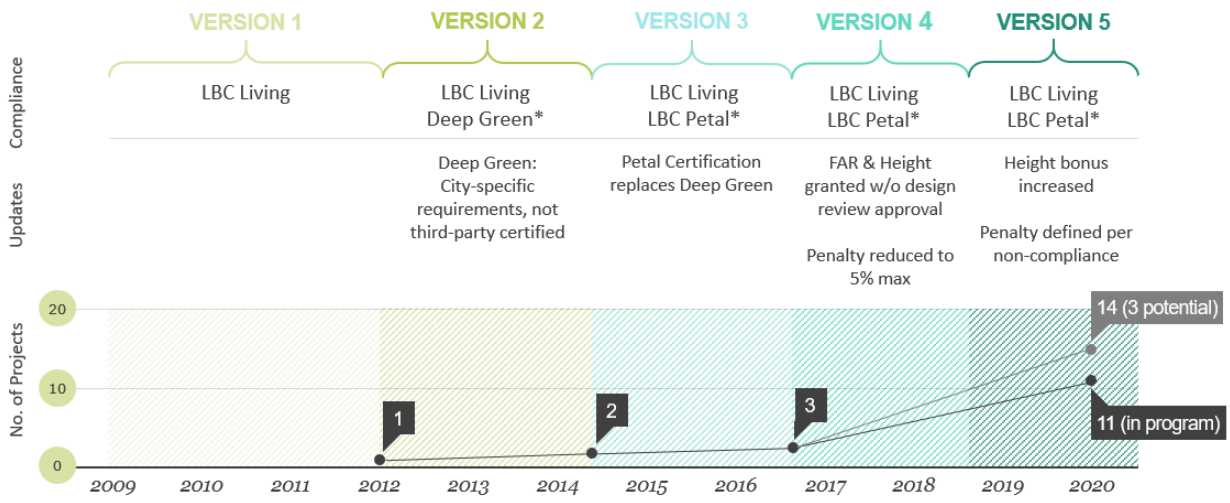
1. Living Building Challenge Full certification, **OR**
2. Living Building Challenge Petal certification, **AND**
    - Reduce total energy usage by 25 percent
    - Reduce potable water demand by using only non-potable water to meet demand for toilet and urinal flushing, irrigation, hose bib, cooling tower (make up water only) and water features, except to the extent other appliable local, state or federal law requires the use of potable water

Failure to comply will result in a penalty up to five percent of the project construction value.

## Lessons Learned

Established in 2009 and currently in its fifth version, Seattle's LBPP program offers significant insight into which aspects of their policy hindered or accelerated the number of projects pursuing Living Building Challenge in the City. As shown in the figure below, enrollment in the program did not significantly rise until the implementation of the fourth version.

**Figure 1. Timeline of Seattle's Living Building Pilot Program.**




A significant lesson learned in the first three versions of the program was the importance of basing compliance in third-party certifications. In version two, the city developed their own definition of 'deep green' and the associated performance requirements. Not only did this receive push back from the public, but it also placed the burden on city staff to conduct the compliance review. A change was made in version three to integrate third party certifications to alleviate these issues.

Two major changes in version four spurred increased enrollment: guaranteed FAR and height bonuses and reducing the penalty from 10 percent of construction cost to five percent. These two changes reduced financial risk for owners enough to justify potential increases in building construction cost to achieve the higher performance standards. Two additional, more minor changes were implemented in version five to fine tune the program. Recognizing that a 10-foot height increase did not fully allow for an additional floor, specifically not one that met the intent of the livability of a Living Building, the height bonus was increased to 12 and a half feet for residential projects and 15 feet for commercial projects in zones with height limits 85 feet or less and double each bonus in zones with height limits greater than 85 feet. Finally, the program detailed how the penalty would be applied for non-compliance. Providing minimums and maximums for specific areas of non-compliance such as energy and water.

For the purposes of operationalizing the LBPP, the City of Seattle has a dedicated staff person. The Green Building Program Manager oversees the work associated with the LBPP in addition to their other duties related to green building at the city. Critical to this person's role is guiding project teams enrolled in the program and providing expertise to staff reviewing a project for compliance with all codes. For local governments this alleviates the need to train all staff in the program, but instead provides a point person who can provide support to staff as needed.

## Application to SB4A Framework

The proposed SB4A framework adopts some aspects and lessons learned from each of these existing frameworks:

- Third party certifications are the basis for each tier. These are discussed further in the Certifications section of this report.
- Tiers are used to provide multiple entry points into the program.
- FAR and height bonuses that affect the proforma of owners and developers are guaranteed.
- Additional zoning code exceptions that result in a project that better meets the performance requirements of the program and does not conflict with applicable Design Guidelines may be granted through Design Review.
- The maximum penalty is set at five percent of total construction cost and the minimum and maximum penalty values for various types of noncompliance are outlined.
- Projects enrolled in the program qualify for municipal support and, at certain tiers, expedited design review and permitting.

SB4A is unique in the following ways:

- Requiring specific credits or credit thresholds for projects pursuing LEED and Earth Advantage based tiers.
- Including additional requirements that address equity and racial justice factors that are not currently addressed in existing sustainable building certifications.
- Incentives include SDC waivers and deferrals.

# Certifications

SB4A identifies seven building certifications as pathways to qualify for incentives: Living Building Challenge, Core Green Building Certification (Core), LEED, Earth Advantage, ILFI Zero Carbon, ILFI Zero Energy and LEED Zero Energy.


Not all building certifications are the same. Some are very focused on addressing a particular issue. For example, the Fitwel[42] and WELL Building Standard[43] are focused on health and well-being while the ILFI Zero Carbon Certification is focused on climate change through addressing operational energy and embodied carbon. Other certifications are more holistic in their approach, Living Building Challenge, LEED and Earth Advantage for example.

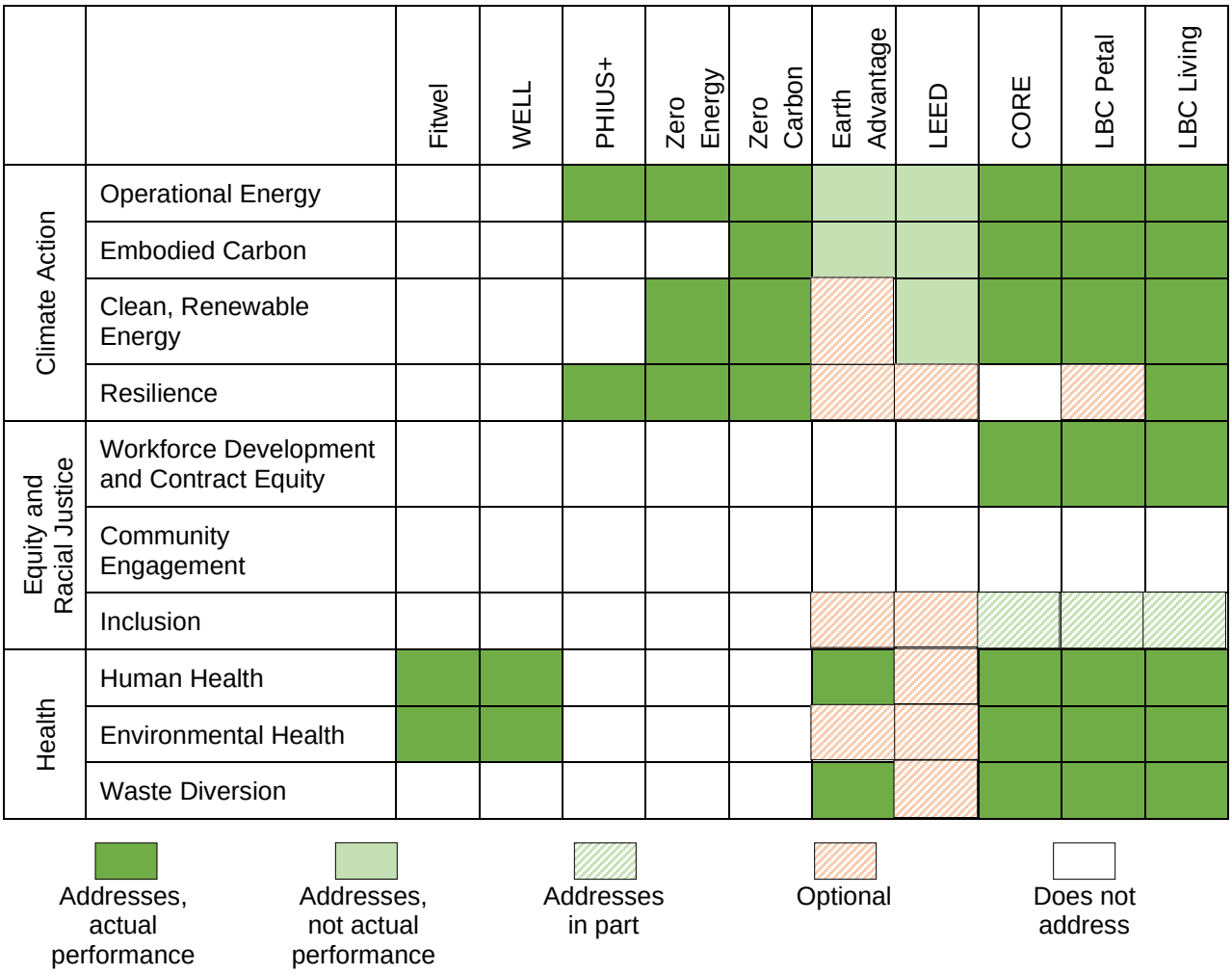
Some are checklists (LEED, Earth Advantage and WELL) with a variety of options to achieve a score, while others require a project to achieve all imperatives associated with a performance level (Living Building Challenge and Core) while providing some flexibility for how a project team complies with the requirements. Certifications like Living Building Challenge, Core, ILFI Zero Carbon, ILFI Zero Energy and PHIUS+[44] all require demonstrated actual performance, whereas LEED allows for certification based on modeled performance.

Figure 2 below compares some of the leading certifications on the market against the three goals of the SB4A program. This analysis is based on the requirements of each of these programs on their own, not as relative to the recommendations of the SB4A framework.

Based on this analysis, it makes sense that LBC, Core, LEED, and Earth Advantage certifications form the basis of the compliance required through SB4A. It also highlights the gaps in these programs because of optional, partial or non-performance-based criteria. Based on these gaps, it is clear why Zero Carbon and Zero Energy certifications, mandatory credits and credit thresholds, and additional equity requirements are necessary to achieve the goals of the program.

Each of the certifications included in the proposed SB4A framework are addressed in more detail following Figure 2.

**Figure 2. Comparison of SB4A goals with third-party sustainable building certifications.**




## Living Building Challenge and Core Green Building Certification

Living Building Challenge and the Core Green Building Certification are both operated by the International Living Future Institute (ILFI). ILFI's mission is to lead the transformation toward a civilization that is socially just, culturally rich and ecologically restorative. ILFI offers a number of certification programs including building certifications and transparency labels.

The Living Building Challenge (LBC) is the most advanced standard in the industry. It is comprised of twenty imperatives organized within seven petals, or performance areas, including Place, Water, Energy, Health & Happiness, Materials, Equity and Beauty. Ten of the 20 imperatives are considered core imperatives. These 10 make up the Core Green Building Certification and are required for any project pursuing Core Certification or LBC Certification. LBC projects can pursue either Living Certification or Petal Certification. Living Certification

requires completion of all 20 imperatives. Petal certification requires completion of all core imperatives and either the Water, Energy or Materials petal.

LBC and Core compliance is based on actual, rather than modeled, performance. Audits to verify compliance are based on at least 12 consecutive months of building operation.

**Figure 3. Summary Table of Living Building Challenge and Core Green Building Certifications.**

The Living Building Challenge is composed of 20 Imperatives grouped into seven petals. Some Imperatives are not required for all Typologies.

| PETAL | IMPERATIVE | TYPOLOGY: New Building | Existing Building | Interior | Landscape + Infrastructure |
|---|---|---|---|---|---|
| PLACE | 01 Ecology of Place | ■ | ▨ | | ■ |
| | 02 Urban Agriculture | ■ | ■ | | |
| | 03 Habitat Exchange | ■ | ■ | ■ | ■ |
| | 04 Human Scaled Living | ■ | ▨ | ▨ | |
| WATER | 05 Responsible Water Use | ■ | ■ | ▨ | ■ |
| | 06 Net Positive Water | ■ | ■ | | ■ |
| ENERGY | 07 Energy + Carbon Reduction | ■ | ■ | ▨ | ■ |
| | 08 Net Positive Energy | ■ | ■ | ■ | ■ |
| HEALTH + HAPPINESS | 09 Healthy Interior Environment | ■ | ■ | ■ | |
| | 10 Healthy Interior Performance | ■ | ■ | ■ | |
| | 11 Access to Nature | ■ | ■ | ■ | |
| MATERIALS | 12 Responsible Materials | ■ | ■ | ■ | ■ |
| | 13 Red List | ■ | ■ | ■ | ■ |
| | 14 Responsible Sourcing | ■ | ■ | ■ | ■ |
| | 15 Living Economy Sourcing | ■ | ■ | ■ | ■ |
| | 16 Net Positive Waste | ■ | ■ | ■ | ■ |
| EQUITY | 17 Universal Access | ■ | ▨ | ▨ | ▨ |
| | 18 Inclusion | ■ | ■ | ■ | ■ |
| BEAUTY | 19 Beauty + Biophilia | ■ | ■ | ■ | ■ |
| | 20 Education + Inspiration | ■ | ■ | ■ | ■ |

CORE IMPERATIVE
SCALE JUMPING ALLOWED
HANDPRINTING IMPERATIVE
IMPERATIVE REQUIRED FOR TYPOLOGY
REQUIREMENT DEPENDENT ON SCOPE
NOT REQUIRED FOR TYPOLOGY

## Leadership in Energy and Environmental Design (LEED)

The LEED rating system is operated by the United States Green Building Council (USGBC). USGBC's mission is to transform the way buildings and communities are designed, built and operated through LEED – enabling an environmentally and socially responsible environment that improves the quality of life.

LEED is the most widely used standard in the industry. For certification, projects comply with all prerequisites and must achieve points by completing requirements associated with credits across the nine focus areas: Integrative Process, Location and Transportation, Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, Innovation and Regional Priority. There are 110 total points possible. Four levels of certification are available including Certified (40-49 points), Silver (50-59 points), Gold (60-79 points) and Platinum (80+ points). There are minimum performance requirements set by the prerequisites, but performance achievement beyond the minimums is dependent on which credits each project team selects. Unless projects are pursuing credits which require demonstration of actual performance, credits and certification is awarded based on modeled, not actual, performance.

## Earth Advantage

Earth Advantage is a Portland, Oregon based non-profit organization whose mission is to accelerate the adoption of high performance and sustainable residential building practices using a three-pronged approach:

- Maintaining well-above-code building standards
- Providing green home data to the real estate market
- Providing training to key professionals

Earth Advantage building standard certification is a cost-effective rating system available to small, medium, and large residential and mostly residential mixed-use projects. The program certifies new and substantial renovation projects which are built to a minimum of 10 percent better than code. However, for SB4A, this minimum is 25 percent better than code. The certification addresses sustainability via five pillars (Energy, Health, Land, Materials and Water). A minimum number of points must be achieved in each pillar ensuring the projects are holistically addressing the sustainability requirements of the program. There are five certification levels: Silver, Gold, Platinum, Zero Energy Ready and Zero Energy. Silver, Gold and Platinum are awarded based on the number of points achieved.

## ILFI Zero Carbon

The Zero Carbon Certification is operated by ILFI. Zero Carbon Certification verifies that operational and embodied carbon emissions of a building project are neutral. To achieve certification, projects must reduce the operational energy use and embodied carbon emissions to at least the minimum standards specified by the program based on project type. Remaining operational energy use above zero must be offset by new renewable energy. All embodied carbon emissions associated with a project's materials and construction must be disclosed and offset through a one-time purchase. Projects cannot introduce any new combustion.

## ILFI Zero Energy

The Zero Energy Certification is operated by ILFI. To achieve certification, 100 percent of a project's energy needs on a net annual basis must be supplied by on-site renewable energy. Project teams must follow three key strategies: reduce operational energy through design, decarbonize all energy systems including elimination of all combustion and offset all remaining energy use through the production of renewable energy.

## LEED Zero Energy

LEED Zero Energy Certification is operated by USGBC. Projects pursuing LEED Zero Energy must be certified under a LEED BD+C or LEED O+M rating system, meet minimum occupancy requirements for the duration of the performance period, and provide 12 months of performance data. To achieve certification, a project must achieve a source energy use balance of zero for the performance period. The net zero energy balance is the total quantity of source energy and renewable energy that displaces non-renewable energy on the grid.

## Earth Advantage Zero Energy Ready

Earth Advantage Zero Energy Ready certification is operated by Earth Advantage. Projects pursuing Zero Energy Ready Certification must first meet the requirements of Earth Advantage Platinum. To achieve certification, a project must provide a site-specific solar layout and specifications that meet 100 percent (multifamily) or 90 percent (single family) of the buildings estimated usage. Estimated usage is based on a site confirmed energy model.

# SB4A Goal: Climate Action

Climate change is an existential threat. In just 2020 and 2021, Oregon saw severe wildfires which burned over one million acres and devastated entire towns; wildfire smoke clouded the state with the worst air quality in the world; an ice storm knocked out power to over 750,000 homes; and we experienced a once-in-a-millennium heat dome with record temperatures up to 116 degrees Fahrenheit. All of these events led to loss of life.

Buildings have a significant role to play in climate action strategy and this is not limited to operations alone. Buildings are responsible for 39 percent of global emissions[45], 30 percent of Oregon's consumption-based greenhouse gas emissions[46], and nearly half of all sector-based emissions in Multnomah County[47]. Building materials themselves account for 11 percent of global emissions[48] and 8 percent of Oregon's consumption-based greenhouse gas emissions[49].

Emissions from the building sector can be classified in two ways: operational carbon (or operational energy) and embodied carbon.

**Operational carbon** is defined as the emissions generated through the operation of a building. These are commonly classified in two ways:

- Direct (Scope 1) emissions from the combustion of fossil fuels or release of other chemicals on-site at a building.
- Indirect (Scope 2) emissions from the combustion of fossil fuels off-site to produce energy (typically electricity) used on-site at a building.

Buildings reduce their operational emissions through efficiency (i.e., using less energy to operate) and by using low- or zero-carbon energy sources like renewable electricity.

**Embodied carbon** describes all the emissions generated through the production and installation of building materials before a building begins to operate. Buildings reduce their embodied carbon by reusing existing buildings and materials, using materials more efficiently (i.e., using less), using materials made from renewable resources and using materials produced with renewable energy.

According to data shared by Architecture 2030,[50] embodied emissions will account for roughly 50 percent of the total emissions from building projects between now and 2060. Additionally, they report that 72 percent of building emissions between now and 2030 will be due to embodied carbon. Not only does this signify the importance of addressing building greenhouse gas emissions through both operational and embodied carbon, but it is also clear that the time value of embodied carbon makes it critical in addressing near-term emissions goals.

To address climate action, the Sustainable Buildings for All Pilot Program integrates varying levels of action related to reducing operational energy use intensity, embodied carbon, the transition to clean, renewable energy sources and resilience into the requirements for all tiers.

## Operational Energy

The tiers of the program are structured around increasing levels of energy efficiency, using established third-party programs like Living Building Challenge, LEED, Earth Advantage and the Zero Carbon and Zero Energy certifications from ILFI, USGBC and Earth Advantage. Lowering building energy use is the first step to reducing emissions and reducing energy cost burden. Before moving to strategies like installation of renewable energy systems, design and engineering strategies should reduce energy use intensity to the largest extent possible. All tiers of the program, with the exception of the Earth Advantage Pathway for tier 4, also require projects to verify their actual energy use.

## Embodied Carbon

The tiers also require increasing levels of assessment and reduction of embodied carbon. Because embodied carbon analysis is new to many owners, designers and builders, the lowest tier of the program does not require any action. Projects may elect to conduct a whole building Life Cycle Assessment (LCA) as part of their LEED or Earth Advantage certification, but it is not required. As incentive levels increase, projects must assess and demonstrate reductions in embodied carbon achieved by their designs. At the highest tier, projects must also offset the embodied carbon of their project through a one-time carbon offset purchase. The program relies on third-party standards for offset quality as established by the Living Building Challenge.

## Clean Renewable Energy

Each tier requires projects to use renewable energy to offset their remaining site energy-use. The program references standards set by ILFI, which requires high-quality, off-site renewables when on-site renewable energy can't offset all energy use. Qualifying renewable energy sources should be new, meaning they are contributing new renewable capacity on the local grid. At tier 4, project pursuing the Earth Advantage compliance pathway are required to be net zero ready. If installing solar, Earth Advantage allows for both on-site and off-site. For the LEED Zero program in tier 4, projects are able to use a wider range of utility green power products, Renewable Energy Certificates and carbon offsets to meet the requirements.

## Resilience

Some tiers also require projects to incorporate some aspect of resilient design into their building. Resilience in this context is defined as a building's ability to maintain some level of function during a critical event or a long-term change in climate or context. While zero energy buildings will mitigate the worst impacts of climate change, resilient buildings are still needed to maintain quality of life in a climate that is already changing. Resiliency strategies frequently overlap with energy efficiency strategies including passive envelope design, access to operable windows, and on-site renewable energy. At the highest tier, these strategies include access to food and drinking water.

**Table 10. Climate action as addressed by each tier.**

| | Tier 1 | Tier 2 | Tier 3 | Tier 4 |
|---|---|---|---|---|
| **Operational Energy** | Net positive energy – project must produce 105% of energy needs based on actual performance. (LBC Imperative 8) | Minimum energy reduction required by project type (LBC Imperative 7):<br>• 35% (Interiors)<br>• 50% (Existing)<br>• 70% (New construction)<br><br>Net zero energy – project must produce 100% of energy needs based on actual performance. (ILFI Zero Carbon) | Minimum 30% energy savings. (EA credit Optimize Energy Performance)<br><br>Net zero energy – project must produce 100% of energy needs based on actual performance. (ILFI Zero Carbon)<br><br>Demonstrate efficient use of refrigerants using LEED methodology. (EA credit)<br><br>Verify actual energy use after 12 months of operation. (ILFI Zero Carbon) | **LEED Pathway:**<br><br>Minimum 20% energy savings. (EA credit Optimize Energy Performance)<br><br>Verify actual energy use after 12 months of operation. (ILFI or LEED Zero Energy)<br><br>**Earth Advantage Pathway:**<br><br>Minimum 25% better than energy code<br><br>Commissioning, testing and balancing |
| **Embodied Carbon** | Must account for, and offset, total embodied carbon emissions from construction, including the energy consumed through construction. (LBC Imperative 8)<br><br>Construction materials must be sourced from within the following distances from the project site (LBC Imperative 15): | 20% reduction in the embodied carbon of structure and enclosure for new and existing buildings. Carpet, ceiling tile, and gypsum board must have lower than industry average carbon footprint. (LBC Imperative 7)<br><br>20% of construction materials must be sourced from within 500km of the project site. (LBC Imperative 15) | Quantify embodied carbon of building structure and enclosure and document a reduction over baseline (MR credit Building Life Cycle Impact Reduction – Option 2)<br><br>10% reduction in the embodied carbon of structure and enclosure for new and existing buildings. (ILFI Zero Carbon) | **Earth Advantage Pathway:**<br><br>Small units (Weighted Average Unit Size or Reduced House Size) |

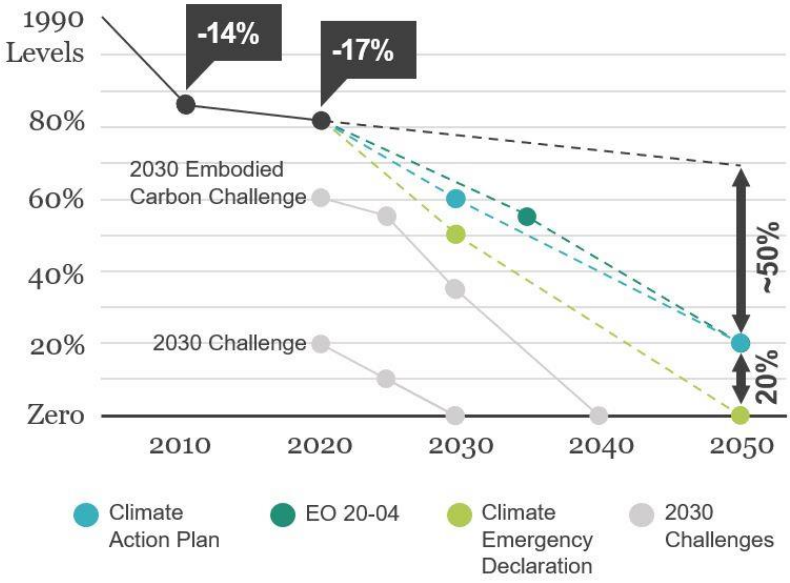
| | | | | |
|---|---|---|---|---|
| | • 20% (within 500 km)<br>• 30% (within 1000 km)<br>• 25% (within 5000 km) | | | |
| **Clean, Renewable Energy** | No on-site combustion is allowed. (LBC Imperative 8)<br><br>Meet 105% of energy needs with on and/or off-site renewable energy. (ILFI Zero Carbon) | No on-site combustion is allowed. (LBC Imperative 8)<br><br>Meet 100% of energy needs with on and/or off-site renewable energy. (ILFI Zero Carbon) | Meet 100% of energy needs with on and/or off-site renewable energy. (ILFI Zero Carbon) | **LEED Pathway:**<br><br>Meet 100% of energy needs with on and/or off-site renewable energy. (ILFI Zero Energy or LEED Zero Energy)<br><br>**Earth Advantage Pathway:**<br><br>Planned on and/or off-site renewable energy to meet 100% actual consumption. |
| **Resilience** | The building should be habitable for one week or otherwise support the local community in a disaster. (LBC Imperative 8)<br><br>Provide access to food per the following (LBC Imperative 2):<br>• Store at least a 2-week supply of food (residential projects).<br>• Provide access to food for 75% of full-time occupants for a minimum of 3 days (non-residential projects). | | Identify specific climate and resiliency risks for project and location. Incorporate mitigation features in design using LEED pilot credit framework. (Resiliency Assessment and Design pilot credits) | |

## State of Oregon and City of Portland Climate Action Policies, Plans and Goals

The City of Portland and Multnomah County Climate Action Plan and Governor's Executive Order 20-04 each set a 2050 greenhouse gas (GHG) emissions reduction target of 80% below 1990 levels by 2050 with differing interim goals.

The Climate Emergency Declaration, adopted by Portland City Council on June 30, 2020, further accelerates GHG reduction and targets carbon neutrality by 2050. Continuing to address emissions at our current trajectory leaves us approximately 50 percent over the state target, 70 percent over the City of Portland target by 2050, and further still over the targets identified by the IPCC and the Paris Climate Agreement.

**Figure 4. State of Oregon and City of Portland greenhouse gas emissions reduction targets.**




### State of Oregon

Executive Orders 17-20 and 20-04 established a range of directives for the State of Oregon. The SB4A framework aligns with key goals of both Executive Orders, most directly through incentivizing Net Zero Energy construction that exceeds the emissions reduction target in the order. Projects may also pursue strategies that promote walkable communities, transit, and electric vehicles, further supporting the state's goals.

The Oregon Global Warming Commission has outlined recommended action in their 2020 Biennial Report to the Legislature and proposed TIGHGER actions that address operational and embodied carbon, renewable energy, and resilience. The SB4A framework incentivizes building

projects to lead the way on a number of these strategies including, net zero energy and carbon buildings, life cycle analysis of buildings and building materials, building electrification, and use of battery storage.

Additional information can be found in Appendix C.

## City of Portland

The City of Portland's 2015 Climate Action Plan and 2020 Climate Emergency Declaration lay out the City's priorities in the face of the climate crisis. Since all tiers of SB4A require meeting a Net Zero Energy definition, the framework supports the city's Buildings and Energy Objective of increasing the amount of Net Zero Energy buildings. At the highest levels, projects must deploy on-site solar, increasing the amount of renewable generation within the city. A project that completes the SB4A process would align with the city's amended goal of a 50 percent reduction in emissions by 2030 and meet the 2050 goal of zero well ahead of schedule.

To incentivize energy-efficient construction, the city has also developed the Planned Development Bonus system, which awards FAR and height bonuses to projects that meet measured energy performance targets. The SB4A approach adopts this by using third-party rating systems as a verification approach, giving project teams more flexibility on the metered site energy use of their buildings, while requiring all actual energy use be offset with renewables.

Additional information can be found in Appendix D.

## Adaptability across the state

Across communities, buildings play a major role in emissions. While the relative impact of buildings, transportation and industry may vary across the state, the intent of SB4A is to provide a replicable framework. The emissions associated with electricity can vary greatly based on the mix of sources that supply a building. Some areas of Oregon, like Eugene, have high levels of hydropower, while parts of Portland have a higher percentage of fossil fuels. The relative balance between operational and embodied carbon may differ regionally, and local adaptations may want to balance the priority.

Higher levels of LEED certifications are typically easier to achieve for projects in relatively dense (more than 8 dwelling units per acre or near a commercial area) neighborhoods. However, deep savings in energy and carbon can be achieved in any location by any project type. Local adaptation of this policy may choose to focus on a lower required certification level but emphasize particular LEED credits that align with local policy goals.

# SB4A Goal: Equity and Racial Justice

Oregon has been a worldwide leader in environmental sustainability for over two decades. Innovating urban design and public transit, creating the first greenhouse gas emissions reduction strategy in the U.S., and leading the way on recycling and waste reduction. However, the benefits of Oregon's commitment to sustainability have not been equitably available to, and accessible by, all.

In fact, historic and continued systemic racism in policies, planning, and practices like redlining[51], urban renewal and disinvestment have led communities of color, low-income communities, and frontline communities to bear the greatest burdens of climate change. While higher-income households tend to produce higher carbon emissions[52], the impacts of those emissions tend to be concentrated in low-income communities and communities of color which are more often located in proximity to contaminated sites.[53]

These same communities do not see proportionate investments in green infrastructure and are less likely to live within a quarter mile of a bike route or frequent transit service, have a complete sidewalk system, or have a park nearby.[54] We see the impacts of this disinvestment in increased temperatures as high as seven degrees Celsius in formerly redlined neighborhoods compared to adjacent non-redlined neighborhoods.[55]

Impacted communities are often not a part of the decision-making processes that lead to these inequities. The Oregon Environmental Justice Task Force defines environmental justice as "equal protection from environmental and health hazards, and meaningful public participation in the decisions that affect the environment in which people live, work, learn, practice spirituality and play."[56]

In response to, and to center, these equity and racial justice issues the SB4A framework addresses workforce development and contract equity, community engagement and inclusion across all tiers.

### Workforce Development and Contract Equity

The tiers of the program are structured around increasing levels of COBID contract requirements. COBID requirements are often used by local governments so while this practice may be new to some private development teams, it is a widely used system by local governments and institutions to incorporate equity into their contracting processes. The tiers also require that at least one-quarter of the required COBID contracts be awarded to Minority-owned businesses and another quarter be awarded to Minority and/or Women-owned businesses, emphasizing the current gaps in representation for these groups in the built environment industry.

The higher tiers also require a Just label[57] which is a third-party verified social justice transparency label for businesses and organizations offered by the International Living Future Institute. The Just label evaluates for diversity, equity, safety, worker benefit, local benefit and stewardship.

## Community Engagement

The tiers of the program are structured around increasing levels of decision-making power for community in the design process moving from informed, to actively engaged, to involved in the decision-making process, to driving and/or leading the project. All tiers require projects to incorporate minimum requirements that address access, empowerment, displacement and disproportionate environmental impacts.

These requirements specifically address the definition of environmental justice by the EJTF that people are provided opportunities for "…meaningful public participation in the decisions that affect the environment in which people live, work, learn, practice spirituality and play."

This requirement is amended for single family homes. In place of the requirement as defined, single family home project teams are required to *inform the community about the project*.

## Inclusion

All tiers require projects to incorporate public space(s) and or public art. This requirement is amended for single family homes which are not required to complete this requirement. In addition, the tiers are structured around increasing levels of affordable rent and ownership requirements, with the exception of the lowest tier which does not include this requirement. The highest tiers also require that a percentage of total project cost be donated to a regional community-based nonprofit focused on equity and inclusion.

These criteria emphasize the importance of access to sustainable, healthy buildings for all by ensuring public access that does not restrict any groups (e.g., benches that are designed to prevent houseless people from sleeping are no allowable) and that affordable housing and commercial spaces are integrated into the fabric of every project.

**Table 11. Equity and racial justice as addressed by each tier.**

| | Tier 1 | Tier 2 | Tier 3 | Tier 4 |
|---|---|---|---|---|
| **Workforce Development and Contract Equity** | 40% of design **AND** construction contracts must be COBID. At least one-quarter of which must be Minority owned and an additional one-quarter must be Women and/or Minority owned businesses.<br><br>Just Label required for at least 2 project team members; additionally, at least 5 team members must complete an assessment. (LBC Imperative 18) | 30% of design **AND** construction contracts must be COBID. At least one-quarter of which must be Minority owned and an additional one-quarter must be Women and/or Minority owned businesses.<br><br>Just Label required for at least 2 project team members; additionally, at least 5 team members must complete an assessment. (LBC Imperative 18) | 20% of design **AND** construction contracts must be COBID. At least one-quarter of which must be Minority owned and an additional one-quarter must be Women and/or Minority owned businesses. | 10% of design **AND** construction contracts must be COBID. At least one-quarter of which must be Minority owned and an additional one-quarter must be Women and/or Minority owned businesses. |
| **Community Engagement** | Community drives and/or leads the project.** | Community is involved in the decision-making process.** | Community is actively engaged and design responds to community input.** | Community is informed about the project and community is considered in design and operations.** |
| | Project teams must submit a report which documents compliance with the following requirements:<br>• At least one community meeting is held before project design is revealed.<br>• Project use type, program, and design (building, landscape, and public improvements) are shared with the community.<br>• Meetings and written information are accessible including language, time of meetings, services provided (e.g. childcare), and compensation (e.g. transit pass, stipend).<br>• Design strategy addresses displacement and disproportionate environmental impacts. | | | |
| **Inclusion** | The project includes public space(s) and/or art.* | The project includes public space(s) and/or art.* | The project includes public space(s) and/or art.* | The project includes public space(s) and/or art.* |

| | | | | |
|---|---|---|---|---|
| | Minimum 20% of residential units are available for at or below 80% MFI **OR** 10% at or below 60% MFI, as applicable.<br><br>Public realm is enhanced and accessible to all members of society. (LBC Imperative 17)<br><br>0.1% of total project cost is donated to a regional community-based nonprofit focused on equity and inclusion. (LBC Imperative 18) | Minimum 10% of residential units are available for at or below 80% MFI **OR** 5% at or below 60% MFI, as applicable.<br><br>Public realm is enhanced and accessible to all members of society. (LBC Imperative 17)<br><br>0.1% of total project cost is donated to a regional community-based nonprofit focused on equity and inclusion. (LBC Imperative 18) | Minimum 5% of residential units are available for at or below 80% MFI **OR** 2.5% at or below 60% MFI, as applicable. | **Earth Advantage Pathway:**<br><br>Accessible Design (SF: 1.3.5) |

* Single family homes are exempt from the public space(s) and/or art requirement.
** In all tiers, the community engagement as listed in Table 11 is not required for single family homes. Instead, these projects are required to *inform the community about the project*.

# State of Oregon and City of Portland Equity and Racial Justice Policies, Plans and Goals

## State of Oregon

The State of Oregon Diversity, Equity, and Inclusion Plan directs state agencies to take actions to dismantle institutional and structural racism in state government. The SB4A framework aligns with a number of specific strategies in the plan which address workforce development, contract equity, and community engagement including equitable contracting and purchasing requirements, diversifying the workforce, creating an inclusive workplace, inclusive and accessible communications, and meaningful engagement.

The SB4A framework also aligns with a number of other state plans, programs and policies focused on workforce development, contract equity and community engagement including the 2020-2024 State Health Improvement Plan, Oregon Climate Change Adaptation Framework, Oregon Global Warming Commission 2020 Biennial Report, State of Oregon Climate Equity Blueprint and DEQ Strategic Plan for the Built Environment. Policies, strategies, and directives from these plans include investments in workforce development opportunities for priority populations and centering BIPOC-AI/AN communities in decision-making about land use planning and zoning in an effort to create safer, more accessible, affordable, and healthy neighborhoods. Additionally, the Oregon Global Warming Commission's proposed TIGHGER actions specifically address the need to go beyond cost-effective energy efficiency to ensure community benefits.

Additional information can be found in Appendix C.

## City of Portland

The City of Portland's 2015 Climate Action Plan and 2020 Climate Emergency Declaration prioritize development of initiatives that not only support workforce development and social equity contracting programs, but that direct resources to strengthen the capacity of firms owned by people of color, maximize career development opportunities, and create safe work environments. The plan and declaration also strongly support community engagements with impacted communities and prioritizes partnerships and actions that are led by the community, especially BIPOC and youth. The SB4A framework specifically addresses workforce development and contract equity, particularly for Minority and/or Women-owned businesses, includes the Just label as a required disclosure of businesses equity practices, and places a strong priority on community engagement that empowers the community to have a say in the projects that will impact them.

The city's Inclusionary Housing Program was developed to address the needs for thousands of new housing units to serve low and moderate-income households. The SB4A framework includes provisions that model those of the Inclusionary Housing Program at the highest tier and

includes lower thresholds for lower tiers. SB4A also follows the precedent of the Planned Development Bonus in which projects qualify for incentives by complying with a number of performance standards including offering affordable housing options in alignment with the Inclusionary Housing Program.

Additional information can be found in Appendix D.

### Adaptability across the state

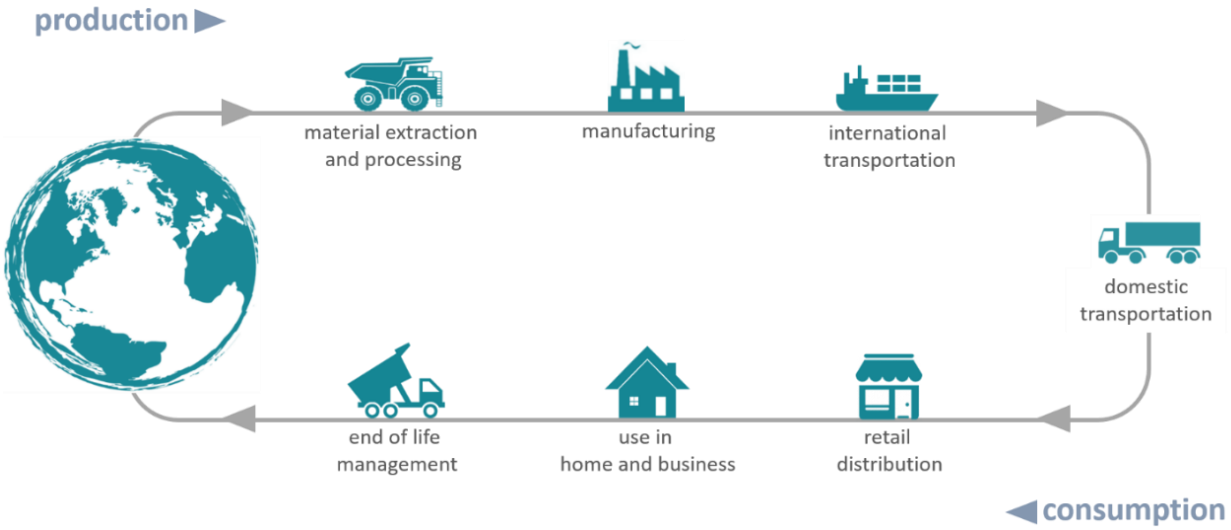
The issues of equity and racial justice are relevant throughout the State of Oregon and beyond. As is stated in the State of Oregon Diversity, Equity, and Inclusion Plan:

> *"For far too long, the longstanding systemic barriers built into government systems have left communities of color behind in accessing the programs and services that would offset the effects of history. Disparities in health, economics, education, and the criminal justice system are stark amongst communities of color compared to their white counterparts. Racial inequities exist across all community indicators of success.*
>
> *Across the U.S., there is an uneven focus between rural communities versus more urban areas. Narratives vary and the reality is of course more complex than any single narrative… Each of these narratives not only furthers a rural-urban divide, but also has real and immediate consequences by obscuring possibilities that exist in policy and solutions…*
>
> *Our shared prosperity is determined by how well every community and every resident does."*

# SB4A Goal: Health of Humans and the Environment

The built environment has a significant impact on the health of humans and the environment through exposure to toxics in materials, proximity to polluting industrial uses, indoor environmental quality and vulnerability during natural disasters. From the extraction and transport of materials, to manufacture of products, to construction of buildings and infrastructure, to exposure during use, and at deconstruction and end-of-life, we are constantly interacting with and impacted by the built environment.

**Figure 5. Life cycle of materials.**




There are many chemicals of concern used in modern building materials, furniture and equipment that are carcinogens, asthmagens, neurotoxicants, developmental toxicants and endocrine disruptors which may pose human health risks.[58]

These health effects are further exacerbated by climate change. According to the World Health Organization, climate change is expected to cause approximately 250,000 additional deaths per year between 2030 and 2050.[59] Additionally, people of color, low-income communities and frontline communities face the worst health impacts from the built environment including poor air quality and asthma,[60] poor water quality, increased exposure and vulnerability to urban heat islands[61] and the impacts of wildfire smoke.[62,63]

Climate change impacts to the environment and natural system outcomes can include loss of trees, vegetation, habitat fish, and wildlife, increased risk of insect infestations, reduction of wetlands, damage and mortality to vegetation and wildlife, increased landslides, increased erosion, turbidity and sediment in rivers and increased atmospheric carbon dioxide.[64]

To address the impacts that affect human and environmental health, the SB4A framework integrates strategies with varying levels of action across three categories: human health, environmental health and waste diversion.

### Human health

The tiers of the program are structured around increasing levels of material transparency and health. Lower tiers include baseline requirements to specify low-emitting materials. The LEED pathways also requires materials which disclose their ingredients and environmental impacts through the use of environmental product disclosures (EPDs).

Upper tiers require use of a specified number of materials that have a Declare[65] disclosure label, as well as materials that have achieved Living Product Certification (LPC).[66] Declare labels report all product ingredients, flag chemicals of concern, provide information about final assembly location, life expectancy, end-of-life options, and overall compliance with relevant requirements of LBC. LPC products reduce water and energy use, are produced free of toxins, and are produced from an ethical supply chain. Declare and LPC certifications are both operated by the International Living Future Institute.

The highest tier requires projects to avoid Red List[67] chemical classes in 90 percent of new materials. The ILFI Red List represents the “worst in class” materials, chemicals and elements which are prevalent in the building industry and are known to pose serious risks to human and ecosystem health. Projects at the highest tier are also required to provide access to healthy food for building occupants and/or the community and drinking water for one week for all regular building occupants through on-site water storage in the event of emergency.

### Environmental health

Environmental health is addressed through various levels of water use and responsible sourcing of materials. Water use is addressed in all tiers except for the lowest. Higher tiers set additional requirements for on-site treatment of water, allowable uses of potable water, and increasing levels of responsible sourcing of wood products which are FSC-certified, salvaged, or harvested on-site. FSC certification by the Forest Stewardship Council (FSC) signifies that wood products come from responsibly managed forests that provide environmental, social and economic benefit. The highest tier also requires projects to achieve net zero water, meeting all of the project’s water needs on site.

### Waste diversion

The tiers of the program are structured around increasing levels of waste diversion, except for the lowest tier which does not have a waste diversion requirement. The highest tier set diversion rates for specific materials while the other tiers require a bulk diversion rate of all materials.

**Table 12. Health of humans and the environment as addressed by each tier.**

| | Tier 1 | Tier 2 | Tier 3 | Tier 4 |
|---|---|---|---|---|
| **Human Health** | Avoid Red List chemical classes in 90% of new materials. (LBC Imperative 13)<br><br>Specify 1 Declare Label product per 200 square meters – minimum of 2, up to 40. (LBC Imperative 14)<br><br>Specify 1 Living Product Challenge product per 1000 square meters – minimum of 1, only 1 total for residential. (LBC Imperative 14)<br><br>Dedicate a portion of total project area to growing food. May also provide community access to healthy food that addresses a community need. (LBC Imperative 2)<br><br>Providing drinking water for one week for all regular building occupants through on-site water storage. (LBC Imperative 6) | Send disclosure advocacy letters to manufacturers regarding Red List chemicals. (LBC Imperative 12)<br><br>Specify 1 Declare Label product per 200 square meters – minimum of 2, up to 20. (LBC Imperative 14)<br><br>Specify 1 Living Product Challenge product. Not required for residential. (LBC Imperative 14) | Maximize use of low-VOC materials (IEQc Low Emitting Materials: Paints & Coatings)<br><br>Deploy additional filtration, source separation, monitoring and increased ventilation to promote indoor air quality. (IEQc Enhanced IAQ Strategies) | **LEED Pathway:**<br><br>Select products and materials that disclosure their ingredients and avoid toxic components (MRc BPDO – Material Ingredients)<br><br>Deploy filtration, source separation, monitoring, and/or increased ventilation to promote indoor air quality. (IEQc Enhanced IAQ Strategies)<br><br>Select low-VOC materials for the building interior. (IEQc Low Emitting Materials)<br><br>Utilize exterior materials that reduce the heat island effect and mitigate high temperatures of urban areas. (SSc Heat Island Reduction)<br><br>**Earth Advantage Pathway:**<br><br>Low VOC and UF interior finishes (MF: 7.1.3-7.2.4) (SF: 7.1.2, 7.1.4, 7.2.2, 7.3.1, 7.4.7) |

| | | | | |
|---|---|---|---|---|
| | | | | Hard Surface (MR: 8.4.2, 25%) (SF: 7.4.1)<br><br>Low-Point Drain (MF: 3.1.5) (SF:3.1.3). |
| **Environmental Health** | 80% of wood products must be FSC-Certified, salvaged, or harvested on site. (LBC Imperative 14)<br><br>Net positive water (LBC Imperative 6) includes:<br>• 100% of project's water needs supplied through natural closed-loop systems or recycling project water.<br>• No portable water for non-potable uses.<br>• Treat and manage all grey and black water | 50% of wood products must be FSC-Certified, salvaged, or harvested on site. (LBC Imperative 12)<br><br>Water use reduction (LBC Imperative 5):<br>• 30% (existing)<br>• 50% (new)<br><br>Treat all stormwater on site. (LBC Imperative 5)<br><br>No potable water for irrigation. (LBC Imperative 5) | 50% outdoor water use reduction (WEc Outdoor Water Use Reduction)<br><br>35% indoor water use reduction (WEc Indoor Water Use Reducation) | Earth Advantage Pathway:<br><br>Minimum 5 additional land points beyond required |
| **Waste Diversion** | Divert construction waste from the landfill at the following rates (LBC Imperative 16):<br>• 99% Metal<br>• 99% Paper and cardboard<br>• 100% Soil and biomass<br>• 95% Rigid foam, carpet, insulation<br>• 80% Demolition waste<br>• 90% All other | Divert minimum of 80% of construction waste from the landfill. (LBC Imperative 12) | Divert minimum of 75% of construction waste from the landfill. (MRc Construction and Demolition Waste Management) | |

# State of Oregon and City of Portland Health Policies, Plans and Goals

## State of Oregon

The 2020-2024 State Health Improvement Plan, Oregon Climate Change Adaptation Framework, Oregon Global Warming Commission TIGHGER Actions, DEQ's Strategic Plan for the Built Environment and DEQ's Toxics Reduction Strategy all address various aspects of human and environmental health. Many of the plans prioritize access to affordable, healthy and culturally appropriate foods and the use of green and blue infrastructure. DEQ's strategy documents focus on addressing toxicity of built environment materials and identifying gaps in building codes to addressing health, safety and welfare.

Additional information can be found in Appendix C.

## City of Portland

The City of Portland's Climate Action Plan, Climate Emergency Declaration, Portland Clean Energy Fund and Sustainable Consumption Plan prioritize enhancing natural systems and green infrastructure, water supply resilience, addressing fossil fuel infrastructure and freeway expansion, and funding regenerative agriculture projects which increase access to nutrient dense, low carbon foods to address human and environmental health.

Waste diversion is addressed by the Climate Action Plan, Deconstruction Ordinance and Sustainable Consumption Plan. These plans and policies focus on preventing the wasting of building materials through salvage and reuse, as well as providing resources to contractors.

Additional information can be found in Appendix D.

## Adaptability across the state

Every person around the state is interacting and coming in contact with the built environment and the impacts of the built environment every day. Whether directly (e.g., building materials in your home, proximity to pollution sources, workplace exposure) or indirectly (e.g., hazardous air quality due to climate change, resilience of your home during extreme weather events, environmental degradation due to material extraction and harvesting), we all face health impacts due to the built environment. For this reason, all communities can benefit from addressing the health impacts of the built environment.

# Incentives

The proposed incentives are a mix of zoning code bonuses, systems development charges (SDC), permitting assistance and zoning code exceptions. Proposed incentives are largely at no cost to local governments with the exception of SDC and permitting assistance incentives, and none includes disbursement of funds by local governments (e.g., fee-bate).

An important consideration for local governments regarding SDC waivers and permitting assistance is the finding that upfront soft costs were identified as a primary barrier by interested parties across project types and scales to pursuing the certifications and performance standards included in the SB4A program. SDC waivers and permitting assistance were the most strongly preferred strategies to help address this barrier.

### Zoning Code Bonuses

Zoning code bonuses include additional floor area ratio (FAR) from 15-30 percent and increased structure height of 15 or 30 feet. Additional area and height provide the ability for project teams to build more. For many projects this can mean increased leasable space (residential, office or retail), which can help to balance any increased design and construction costs associated with higher levels of performance. In some cases, a project type cannot support the additional FAR or height. Some reasons may include:

- Additional area and height not needed for the program/use type.
- Additional height would change the construction type of the project.
- Increasing costs beyond what is feasible.
- The additional energy and water demand required by the additional program is greater than can be supported on the site to achieve the performance requirements of the selected sustainability certification program.
- It would trigger higher wages beyond a project budget due to Oregon Bureau of Labor and Industries (BOLI) requirements. This is of particular concern for affordable housing projects.

The specific FAR and height bonuses were proposed based on lessons learned from Seattle's Living Building Pilot Program discussed in the Model Frameworks section of this report and similar incentives already in place in the City of Portland, specifically, the Inclusionary Housing Bonus and Planned Development Bonus. Projects in CM1, CM2, CM3, CME, and CMX zones which qualify for the inclusionary housing bonus either through mandatory or voluntary measures qualify for FAR bonuses ranging from 50-60 percent and heigh bonuses from 10-55 feet depending on the zone. CM1 and CME zones do not allow for height bonuses.[68]

Planned developments that are using the planned development bonus are required to meet four standards:

1. Affordable housing in compliance with Inclusionary Housing.
2. Publicly accessible plaza or park.
3. Energy efficient buildings achieving a 50 (residential) or 70 (all other) percent Energy Use Intensity reduction as defined by the Bureau of Planning and Sustainability.[69]
4. Must be approved through design review.

## Systems Development Charges (SDCs)

SDC incentives include deferral and waiver of systems development charges in relation to the level of performance achieved. Waiver rewards projects for higher performance which reduce demand on city systems. Deferral allows projects to reduce up front soft costs, which has been reported as the predominant barrier to pursuing higher performing building standards by projects of all types and scales.

Tiers 2, 3, and 4 each have varying levels of reduced demand on city water, stormwater, and sewer systems, therefore it is proposed that sewer and water SDCs are pro-rated, so projects receive a waiver of a proportion of the fees equal to the expected reduction. For example, a new construction project pursuing Core certification under tier 2 is required to reduce water us by 50 percent, so their water SDC would be discounted by 50 percent. Additionally, all other SDCs would be deferred.

Tier 1 projects pursuing full LBC certification operate at net zero water, are required to treat all water on site including stormwater, greywater and blackwater, include provisions to encourage human-powered transportation, and set aside land away from the project in an approved Land Trust. For these reasons, it is proposed that all SDCs are waived for tier 1 projects.

While not a direct cost to local governments, SDC waivers will decrease incoming funds. However, the decrease in incoming funds should be in relation to decrease on system demand compared to a project which were not pursuing a high-performance building certification.

## Permitting Assistance

Permitting assistance includes municipal assistance and priority design and permitting review.

Municipal assistance means staff who provides dedicated streamlined guidance and technical support to project teams and jurisdiction staff for design and permit review processing. This staff understands the certifications and additional requirements of the SB4A program and can assist projects through design review and entitlements. This role is modeled from the Green Building Program Manager position at City of Seattle which supports Seattle’s Living Building Pilot Program.

Priority design and review means that qualifying projects are moved to the front of the queue for scheduling, review and processing at no additional cost to the owner.

These incentives reward projects enrolled in the SB4A program for their leading work to develop building projects which achieve the highest levels of sustainability and equity in the built environment industry by reducing project timeline for design review and entitlements and, therefore, helping to reduce up front soft costs to the project. As stated in the SDC section, up front soft costs have been reported as the predominant barrier to pursuing high performing building standards by projects of all types and scales.

Any cost to local government to offer municipal assistance will be in the form of paid staff time. This cost will vary from one jurisdiction to another based on staff roles and work plans as currently defined and could range from redefining an existing role to adding a new staff person.

## Zoning Code Exceptions

Projects may also qualify for additional zoning code exceptions. Availability of additional zoning code exceptions acknowledges the unique needs of high-performance projects. For example, a project may need to extend beyond existing limitations for structural building overhangs in order to provide sufficient area for a solar array which can support the full energy demands of the project to comply with the selected building certification program.

The following menu zoning code exceptions are proposed based on the model frameworks in place in Seattle and Shoreline, Washington:

- Permitted, prohibited, or conditional use provisions
- Maximum size of use
- Quantity of parking required
- Standards for storage of solid-waste containers
- Lot coverage standards
- Standards for the location of access to parking
- Standards for structural building overhangs and minor architectural encroachments

This list of options, and how each is defined, will vary by each jurisdiction having authority based on their specific needs and existing standards. In addition, SB4A proposes that additional exceptions may be requested on a per project basis to allow flexibility for project teams to address unique circumstances.

For all exceptions, applicant must demonstrate the exception would result in a development that better meets the goals of the certification requirements and would not conflict with applicable Design Guidelines.

# Feasibility

Many feasibility studies have been completed in the past 15 years to evaluate the cost and benefits of sustainable development with a wide range of findings. This is to be expected across different sample sizes, building types and scales, locations and climates, different baseline buildings across clients, and the constantly changing costs of construction including labor and materials. In lieu of conducting another full feasibility study, this report provides a summary of existing feasibility studies and includes a number of case studies evaluating projects which are under construction or recently completed in the City of Portland.

In June 2021, the Oregon Department of Administrative Services, Oregon Department of Environmental Quality, and Oregon Department of Energy presented their findings from a review of 13 feasibility studies to the Oregon Sustainability Board.[70] The key findings included the following:

- Reported cost increases varied across performance levels:
    - LEED buildings were largely reported to have negligible cost increase
    - Zero carbon and zero energy reported 5-19 percent cost increase
    - LBC buildings reported 15-34 percent cost increase
- Most studies showed 30-35 percent reduction in energy use for LEED buildings with a payback of 17 years or less
- LBC buildings use no energy from the grid or water from municipal supply, reporting a payback of 18-30 years
- Additional benefits reported include:
    - Higher occupancy
    - Higher rent/sales premium
    - Lower operations and maintenance cost (except for LBC)

## Case studies

The following case studies highlight projects which are currently under construction or recently completed in the City of Portland which demonstrate high levels of environmental performance, social equity, or both. The projects include a range of use types and scales including low- and mid-rise office, multifamily housing, affordable multifamily housing, single family and a preschool.

These projects demonstrate that the requirements outlined in the SB4A program are already feasible for motivated owners and, with the proposed incentive structure, could be more widely adopted by additional development teams. There are also projects throughout the state demonstrating these levels of performance, so this framework is not limited to the City of Portland or Metro area.

## Case Study: Las Adelitas

Las Adelitas is four-story affordable and permanent supportive housing project. It is the outcome of a more than five-year community design process that transforms a former strip club site known for illegal gambling and human trafficking into a catalyst development named after feminist Mexican revolutionaries.


Image Credit: Salazar Architects

**Project Type:** Affordable Multifamily Housing

**Owner/developer:** Hacienda CDC and Living Cully

**Project team:** Salazar Architect, DCI Engineers, MFIA, PLACE, M. Thraikill Architect, A3 Acoustics, LMC Construction

**Building Area:** 194,424 square feet, including 11,540 square feet of community area

**Units:** 142 affordable apartments, including 18 permanent supportive housing units

**Total cost (hard and soft):** $58 million ($300 per square foot)

The project is currently on track to achieve Earth Advantage Platinum and includes a large roof-top Oregon Community Solar PV array and a digital-justice focused electric vehicle (EV) program. Along with new affordable housing, public plaza and a pedestrian friendly streetscape with mid-block crosswalk, the development brings housing justice without displacement to NE Cully, one of Portland's most diverse and rapidly gentrifying neighborhoods.

Clad in metal and cementitious panel siding, the design draws inspiration from the triangular form of the site and from vernacular and modernist buildings in the Americas that have large surfaces, overlapping forms and bold contrasting colors. The interior design incorporates both cultural and trauma informed design elements. It has a mix of studio, one, two and three-

bedroom affordable apartments with a community room, offices, early learning classroom and large Community Hall. The public plaza incorporates mural art, areas for events and performances, a temporary food cart zone and space for a future playground.

The community design process was initiated in 2015 by Living Cully, an innovative collaboration of four community-based organizations who work to improve the quality of life for low-income BIPOC communities. Living Cully partner Verde, with Salazar Architect and the Center for Public Interest Design, led workshops to design a temporary outdoor plaza and help educate and empower local school-age kids as future community leaders. Then, in 2016, Salazar Architect explored an adaptive re-use strategy to house Living Cully's offices and community-focused businesses, but the rehabilitation cost was too high. In 2017 Living Cully partner Hacienda CDC took the lead and the focus shifted toward mixed-use affordable housing. The Salazar Architect team led hands-on workshops with immigrant Latinx and African Muslim families, and open houses with neighborhood residents and allied organizations, provided culturally specific input that helped guide the design of the apartments, Community Hall, public plaza and streetscape.

As part of their certification, Earth Advantage is that recognizing the community based engagement workshops and activities conducted by the project team enhanced the culture, heritage and identity of the built environment for future residents, employees and visitors. This recognition is achieved through additional points awarded for innovation credits in the Earth Advantage program.

**Table 13. Evaluation of Las Adelitas compared to SB4A program.**

| | | Tier 1 | Tier 2 | Tier 3 | Tier 4 |
|---|---|---|---|---|---|
| Certification(s) and mandatory credits or credit thresholds | | | | | |
| Additional requirements | COBID contracts | | | | |
| | Public space(s) and/or art | | | | |
| | Affordable rents and ownership | | | | |
| | Community engagement | | | | |

Las Adelitas is a model project for the additional equity-based requirements, but as it stands in the proposed SB4A requirements the project would not qualify for the program. While Las Adelitas performs in the highest tier for additional requirements and is on track to achieve Earth Advantage Platinum, the project is not pursuing Earth Advantage Net Zero Ready and,

therefore, does not reach any tier for certification. More robust SDC waivers could possibly help the team financially to complete the Net Zero Ready requirements depending on the total value waived.

According to the project team, the project did benefit from the city's existing affordable housing SDC waiver program and the Portland Housing Bureau's assistance processes. Again, more robust SDC waivers may have helped the project achieve the seven additional points required for Earth Advantage Platinum certification. The project would have also benefitted from priority review and zoning code exceptions. Design and permitting review add significant time to the project. This soft cost savings could allow for that money to be reallocated to project features which serve the goals of the project and community.

Additional flexibility in the zoning code would have been useful to the project where the well-intentioned 'good design' policies do not apply to the context or needs of a project. For Las Adelitas this included the minimum requirement for street frontage to be occupied. Two of the streets along the project are highly trafficked and industrial, making these inhospitable to residential entries and uses when the space could have been better utilized as parking. Additionally, certain Community Design Standards which may be utilized by some projects to not go through design review assume one cultural norm (e.g., formal cornices a top a building) that is not compatible with a more diverse cultural view and the goals of this project.

Additional FAR and height would not have been useful to the project, because an additional floor would have triggered higher wages due to BOLI requirements. While the project could have utilized an additional floor, the proforma could not support the higher wages. Another limited factor due to BOLI requirements was that the inclusion of a true community serving commercial space could not be accommodated due to the triggering higher wages.

The project team noted a few additional incentives that could be useful including exceptions to BOLI requirements for affordable housing, a grant for design and construction services that helps fill the gap after the Energy Trust of Oregon incentive, and an incentive or maintenance program to assist non-profit staff in maintaining the more complex systems involved in higher performing buildings. These incentives are outside the scope of this report but should be noted as additional opportunities which may support more sustainable and equitable development.

## Case Study: Meyer Memorial Trust

Meyer Memorial Trust's new headquarters building was completed in October 2020. The space features office for more than 40 employees, a library, educational garden and convening space for collaboration. The project has won numerous awards including the AIA 2022 COTE Top Ten Award, the Canadian Wood Council's Wood Design and Building 2022 Top Ten Award, Gray Magazine's 2021 Design for Good Award, AIA Oregon's 2030 Award and Honor Award in 20121, IIDA Oregon Chapter's 2021 Design Excellence Award, and the Forest Stewardship Council's 2020 Leadership Award in Design & Building.

**Project Type:** Office

**Owner/developer:** Meyer Memorial Trust

**Project team:** Lever Architecture

**Building Area:** 19,800 square feet

**Hard cost:** $10.8 million ($545 per square foot)

The new headquarters of the Meyer Memorial Trust, an equity-based foundation focused on the well-being of Oregon's people and environment, would have been an excellent candidate for the SB4A framework. The project had ambitious equity and environmental goals and succeeded in showing how a project can significantly exceed business-as-usual practices. The project's sustainable and equitable achievements include:

- LEED v4 NC Platinum Certification
- A 50kW on-site solar array
- Met Energy Trust of Oregon Path to Net Zero performance levels
- 47% of construction contracts held by Minority and/or Women-owned businesses (80% of subcontract value)
- 100% of wood sourced from Oregon, 85% from sustainably managed forests

**Table 14. Evaluation of Meyer Memorial Trust compared to SB4A program.**

| | | Tier 1 | Tier 2 | Tier 3 | Tier 4 |
|---|---|---|---|---|---|
| Certification(s) and mandatory credits or credit thresholds | | | | | |
| Additional requirements | COBID contracts | | | | |
| | Public space(s) and/or art | | | | |
| | Affordable rents and ownership | N/A | N/A | N/A | N/A |
| | Community engagement | | | | |

Addressing historic inequities in Portland was a guiding principle, influencing both the project location in the Albina neighborhood and a focus on diverse representation and equitable outcomes of both design and operation. The achievements of this project greatly exceed the scope and intent of the SB4A framework.

The project scored 84 points under the LEED v4 NC rating system, one of the highest point totals recorded nationally under that version. While not all proposed credits in SB4A were achieved, the project could have easily incorporated the covered credits with a minimal (<$10,000) cost premium. The building is also all-electric and purchased Renewable Energy Certificates (RECs) to offset electric use not covered by the on-site array. The project would be eligible to pursue LEED Zero Energy if desired.

## Case Study: New Day School, Kishalay Building

New Day School is a preschool is southeast Portland based in Neo-Humanist philosophy, which aims to help children see interconnections and develop deep love and respect for all. Green Hammer worked with the New Day School to transform the existing Kishalay Building into a net zero energy classroom. The project completed ILFI's Zero Carbon Certification.

Image Credit: Green Hammer

**Project Type:** Pre-school

**Owner/developer:** New Day School

**Project team:** Green Hammer, KPGG Engineers, Lovett Deconstruction

**Building Area:** 3,040 square feet

**Total cost (hard and soft):** $784,000 ($260 per square foot)

The Kishalay Building's transformation process began in the summer of 2019 with a deconstruction phase led by Lovett Deconstruction. Over half of the existing structure was reused including the slab-on-grade foundation, greatly reducing the overall embodied carbon footprint of the project.

The design intent of the school is five-fold: achieve sustainable design and net zero energy, facilitate security, foster community, connect to the outdoors and create a sense of tranquility. The design decisions were inspired by biophilic design principles that recognize humans' innate reverence for natural shapes and forms.

The school was a sanctuary for students and families during the 2020 wildfire season because the building was well sealed, and the ventilation system could be turned off to keep out the smoke. In the first year of operation, the rooftop solar system provided all the electricity needs for both the Kinashay and Mahavidya buildings at the school.

**Table 15. Evaluation of New Day School, Kishalay Building compared to SB4A program.**

| | | Tier 1 | Tier 2 | Tier 3 | Tier 4 |
|---|---|---|---|---|---|
| Certification(s) and mandatory credits or credit thresholds | | | | | |
| Additional requirements | COBID contracts | | | | |
| | Public space(s) and/or art | | | | |
| | Affordable rents and ownership | N/A | N/A | N/A | N/A |
| | Community engagement | | | | |

The Kishalay Building very nearly qualifies for tier 4 of the SB4A program with a few exceptions. The project does not incorporate public space(s) or art and does not fully meet the community engagement requirements. However, incorporating art (perhaps from the students or a parent) and completing the remaining community engagement strategies (hold a meeting, share design with the community and make this information accessible, and write a report to document community engagement compliance) would not have been a significant cost or time expense to the project.

The project complies with some of the requirements of tiers 2 and 3, but not fully. The project would need to have also pursued either LBC Petal certification, Core Green Building certification, or LEED Platinum certification. The proposed SB4A incentives would likely have made this feasible for the project.

According to the project team, the permitting assistance and priority review incentive would have been beneficial to this project, however the other incentives would not have been necessary.

## Case Study: PAE Living Building

The PAE Living Building embodies PAE's vision to help solve the planet's energy and water challenge. Set to be the world's first developer-driven Living Building, the five-story, mixed use building demonstrates replicable and cost-effective solutions for sustainable design projects while revitalizing the community.

Image Credit: PAE Engineers

**Project Type:** Office

**Developer/owner:** Edlen & Co, 1st & Pine LLC

**Project team:** ZGF Architects, PAE Engineers, Walsh Construction

**Building Area:** 58,000 square feet

**Hard Cost:** $25.2 million ($435 per square foot)

The PAE Living Building is set to be the first full Living Building Challenge certified project in Portland. It is designed to achieve the following extremely high-performance targets:

- Achieve the city's 2050 renewable energy targets 30 years ahead of schedule.

- 19.5 EUI which is 81 percent better than Architecture 2030 targets. A typical office building built to code in Portland has an EUI of 41.5 EUI.
- 105 percent of the building's energy use is provided by onsite and offsite renewable energy.
- 100 percent of the building's water needs are collected and treated on site.
- Sustainable building materials include Pacific Northwest-sourced cross-laminated timber certified by the Forest Stewardship Council (FSC).
- First-of-its-kind multistory vacuum-flush compostable toilets reduce water use and transform waste into a rich nutrient source.
- Cost-neutral seismic upgrades allow the structure to be designed to withstand Category IV, same as hospitals and fire stations.

**Table 16. Evaluation of PAE Living Building compared to SB4A program.**

| | | Tier 1 | Tier 2 | Tier 3 | Tier 4 |
|---|---|---|---|---|---|
| Certification(s) and mandatory credits or credit thresholds | | | | | |
| Additional requirements | COBID contracts | | | | |
| | Public space(s) and/or art | | | | |
| | Affordable rents and ownership | | | | |
| | Community engagement | | | | |

The PAE Living Building performs at the highest level of sustainability in the building industry, landing it firmly in tier 1 for certifications. Across the additional equity-focused requirements, it lands across the board from tier 4 to tier 1. The project does not achieve any tier for COBID contracts; however, this is due to this information not being tracked on the project. It was noted that if the team had been pursuing an incentive program like the SB4A framework with this requirement, the team could have likely met this requirement for at least the tier 4 level.

The lobby of the PAE Living Building honors 12,000+ years of Native American history. The carving in the lobby is by Toma Villa. It was commissioned with an open invitation to Toma to create a piece that honored the history of Native Americans on the site. The carving is a reflection of the tribes' traditions around the winds of the Columbia River gorge and the connection to the renewable energy that is produced there today, similar to the renewable energy that powers the PAE Living Building.

The project does not offer affordable (below market rate) rents, which tier 4 does not require.

The project team had ongoing discussions with the Old Town Neighborhood Association. Association members joined some of the design meetings to provide input.

According to the project team, all of the incentives may have been helpful to the project. In particular, the SDC, permitting assistance, priority review, and zoning code exceptions incentives. The FAR and height bonus possibly could have been utilized, however, the project is already significantly water-constrained, so it may have been a challenge to support another floor of office occupancy. With the off-site exception to meet net positive energy, energy use of an additional floor would not have been a limiting factor. The project team noted that an additional floor of leasable office space would have helped the proforma and certainly would have been explored as an option.

A few zoning code exceptions were particularly important for the PAE Living Building including:

- PV visibility exceptions
- Sidewalk setback requirement
- Windows on a zero lot line
- Green roof requirement

If the team were able to adjust their approach to the additional equity-focused requirements to achieve tier 1, the PAE Living Building would qualify for a full SDC waiver. This would provide a significant cost savings to the project which may have helped the project team tackle the additional equity requirements they did not in the project as it stands today.

Permitting assistance and priority review may have been able to provide the most value to the project, possibly reducing the timeline by months creating significant soft cost savings.

It was noted that there were additional constraining factors that, although not in scope for this framework and report, could have provided significant benefit to the project both in achieving the very high standards of the Living Building Challenge and in project cost. More flexibility in DEQ's greywater rules to allow for high strength greywater, such as for dishwashers, would enable high performance offices and other day use facilities which are pursuing onsite water reuse. Additionally, Chapter 340, Division 45 rules that regulate Water Pollution Control Facilities (WPCF) could be updated to include categories and criteria for smaller, decentralized systems. Currently the smallest system in the rule is <1,000,000 gallons per day which is vastly greater than the 450 gallons per day (approximately the size of 1-2 residential homes) which supports the PAE Living Building. Associated fees should also be right-sized to accommodate these smaller, decentralized systems which would assist in the cost barriers for more projects to pursue high performance building certifications like the Living Building Challenge.

## Case Study: Richmond Residence

Image Credit: Green Hammer

**Project Type:** Single Family Home

**Owner/developer:** Private homeowner

**Project team:** Green Hammer, Landline Design

**Building Area:** 1,757 square feet

**Cost:** Confidential

The Richmond Residence is a zero energy and zero water home in Portland that is ‘right-sized’ for a couple interested in minimizing their environmental footprint. The home includes a community-oriented front porch, the gable roof allows ample south-facing exposure for a productive solar array, and triple-pane windows are thoughtfully placed to take in generous natural light while meeting energy efficiency goals. The project is pursuing ILFI’s Zero Carbon Certification.

**Table 17. Evaluation of Richmond Residence compared to SB4A program.**

| | | Tier 1 | Tier 2 | Tier 3 | Tier 4 |
|---|---|---|---|---|---|
| Certification(s) and mandatory credits or credit thresholds | | | | | |
| Additional requirements | COBID contracts | | | | |
| | Public space(s) and/or art | N/A | | | |
| | Affordable rents and ownership | N/A | N/A | N/A | N/A |
| | Community engagement | | | | |

As it stands in the proposed SB4A requirements the Richmond Residence would not qualify for the program because they did not complete the community engagement requirement. However, if the project had been pursuing the program, the team could have easily completed the community engagement requirements for single family homes by informing the community about the project.

Assuming the project would have done so, the Richmond Residence nearly qualifies for tier 3. The limiting factor is that the project would also need to pursue LEED Platinum certification including the mandatory credits and credit thresholds. The proposed SB4A incentives would likely have made this feasible for the project, though the project would likely have chosen to pursue Earth Advantage certification over LEED. In this case, the project could have qualified for the program in tier 4 because Earth Advantage Platinum is a compliance pathway available for single family homes.

According to the project team, the SDC, permitting assistance, priority review, and zoning code exceptions incentives would have been beneficial to this project, however, the FAR and height bonuses would not have been useful. In particular, permitting assistance would have been extremely beneficial. The project was initially not referred to the appropriate desk for review leading to the addition of costly requirements that were unanticipated. Having a dedicated staff person with expertise in high-performance projects to shepherd these projects through the review process would be very valuable.

## Case Study: Tillamook Row

Tillamook Row is a 16-unit zero energy community that represents the future of green building and urban housing. The pocket neighborhood located in North Portland is meeting a growing demand for multi-generational housing and is the first zero energy community serving renters in Portland. It was designed with accessibility, community connection, health and wellbeing, and environmental responsibility in mind.


Image Credit: Green Hammer

**Project Type:** Multi-family housing

**Owner/developer:** BCMC Tillamook, LLC

**Project team:** Green Hammer, Dyer Studio, The Structural Department, Medium Landscape Architecture

**Building Area:** 23,400 total square feet, individual units range from 750 square feet to 1,320 square feet, with a 2,000 square foot common house

**Units:** 16 townhomes

**Total cost (hard and soft):** $6.4 million ($273 per square foot)

Tillamook Row is situated among single-family residential homes and along North Williams Avenue, an important public transit and bike route. Green Hammer's design build team used observations of neighborhood building forms and typologies as a jumping-off point, the ultimate goal being a multifamily development that is welcoming to the community.

Tillamook Row includes a mix of unit types (from 1-bedroom, 750 square-foot to 4-bedroom, 1,320-square-foot) and ownership models (owner and rental units), promoting a diverse resident community. An all-electric development, Tillamook Row is an extremely energy-efficient project generating all of its energy needs over the course of a year with an on-site 82-kilowatt solar array. All of the buildings at Tillamook Row have a super-insulated exterior shell designed to reduce the building's heating and cooling loads by 80%. Additional features such as triple-pane windows, state-of-the-art technologies, and energy-efficient appliances and fixtures mean residents will have low-to-no energy costs. The technologies and design solutions incorporated into Tillamook Row are available to all developers, designers and builders, yet are not commonly utilized.

Residents enjoy a wide range of shared amenities, including a common courtyard and garden space, woodshop, gym, shared bike parking and storage, and a 2,000-square-foot common house, which is open to residents as a place to share meals, exercise and host gatherings. The common house is equipped with a battery back-up system that can store power generated from its rooftop solar array. The battery back-up system coupled with a 3,600-gallon rainwater storage cistern allows Tillamook Row to remain resilient during utility disruptions with some additional capacity to serve neighbors in need.

The community's accessibility for residents was another priority. Tillamook Row was designed for residents to stay in the community as they age. There are no-step entrances, wide hallways and doors, and ground floor bedroom suites. The community is within close proximity to public transit, grocers, restaurants and a hospital, making it easier to live a car-free lifestyle.

**Table 18. Evaluation of Tillamook Row compared to SB4A program.**

| | | Tier 1 | Tier 2 | Tier 3 | Tier 4 |
|---|---|---|---|---|---|
| Certification(s) and mandatory credits or credit thresholds | | | | | |
| Additional requirements | COBID contracts | | | | |
| | Public space(s) and/or art | | | | |
| | Affordable rents and ownership | | | | |
| | Community engagement | | | | |

With a few additional measures Tillamook Row would qualify for the SB4A program in tier 4. To achieve the certification requirement the project would also need to pursue LEED certification,

at any level, including the mandatory credits and credit thresholds. The proposed SB4A incentives would likely have made this feasible for the project.

The community was informed about the project including the project use, program, and design. However, the project did not hold a community meeting or specifically address displacement and disproportionate environmental impacts. If these requirements were in place at the time of project design, these requirements could have been met without significant impact to the project timeline or budget.

According to the project team, the SDC, permitting assistance, priority review and zoning code exceptions incentives would have been beneficial to this project, however, the FAR and height bonuses would not have been useful. In particular, permitting assistance would have been extremely beneficial. The project included a metal roof for cost-effective and durable installation of the solar PV array; however, the project resides in a historic and conservation district. Even though the project was initially slated for Type II design review, the lack of precedent of a metal roof in a historic and conservation district triggered a presentation to the Historic Design Commission. Having a dedicated staff person with expertise in high-performance projects to streamline challenges unique to these projects through the review process would be very valuable.

# Appendix A: Terms

**Asthmagen:** A substance that can cause asthma in exposed people.

**Black, Indigenous, and People of Color (BIPOC):** A term which stems from people of color (POC) to highlight the unique experiences that Indigenous and Black people have, specifically within a United States context. (Race Forward, The BIPOC Project)

**Carcinogen:** An agent with the capacity to cause cancer in humans. (National Human Genome Research Institute)

**Consumption-based greenhouse gas emissions (CBEI) inventory:** An estimation of the quantity of gases contributing to climate change that are associated with consumption (economic final demand). A consumption-based inventory is sometimes contrasted with a territorial inventory. A territorial inventory estimates the emissions that physically originate within a community (e.g., Oregon). In contrast, many of Oregon's consumption-based emissions occur in other states and countries, in the course of producing goods and services for consumption in Oregon. (Oregon DEQ)

**Developmental toxicant:** Agents which interfere with proper growth or health of a child acting at any point from conception to puberty. (Fred Hutchinson Cancer Research Center)

**Displacement:** The forced relocation of existing residents and businesses. (Planopedia)

**Embodied carbon:** The greenhouse gas (GHG) emissions arising from the manufacturing, transportation, installation, maintenance, and disposal of building materials. (Carbon Leadership Forum)

**Energy Use Intensity (EUI):** The energy use of a building in kBTU/sf/year. It is an indicator of a building's operational efficiency. (AIA California)

**End-of-life:** The point at which a product or material is no longer useful to the person possessing it and is either discarded or abandoned. (Oregon DEQ)

**Endocrine disruptor:** Chemicals, both natural and man-made, which may mimic or interfere with the body's hormones (endocrine system). These chemicals are linked with developmental, reproductive, brain, immune, and other problems. (National Institute of Environmental Health Services)

**Environmental Justice:** Equal protection from environmental and health hazards, and meaningful participation in decisions that affect the environment in which people live, work, learn, practice spirituality, and play. EJ communities include minority and low-income communities, tribal communities, and other communities traditionally underrepresented in public process. Underrepresented communities may include those with significant populations of youth, the elderly, or those with physical or mental disabilities. (Oregon Environmental Justice Task Force)

**Environmental Product Declaration (EPD):** An independently verified and registered document that communicates transparent and comparable information about the life cycle impacts of a product.

**Equity:** Acknowledges that not all people, or all communities, are starting from the same place due to historic and current systems of oppression. Equity is the effort to provide different levels of support based on an individual's or group's needs in order to achieve fairness in outcomes. Equity actionably empowers communities most impacted by systemic oppression and requires the redistribution of resources, power, and opportunity to those communities. (State of Oregon, Diversity, Equity, and Inclusion Action Plan)

**Frontline communities:** Also known as "Climate Vulnerable Communities." Those that experience "first and worst" the consequences of climate change. These are often communities of color, immigrants, rural communities, low-income communities, Tribal and indigenous people who have long been excluded from the policy and funding decisions and processes used to address climate change. (EcoTrust, APEN)

**Gentrification:** A process of neighborhood change that includes economic change in a historically disinvested neighborhood - by means of real estate investment and new higher-income residents moving in - as well as demographic change - not only in terms of income level, but also in terms of changes in education level or racial make-up of residents. (Urban Displacement Project)

**Greenhouse Gases (GHG):** Gases that trap heat in the atmosphere, especially carbon dioxide.

**Life Cycle Assessment (LCA):** A standardized process used to estimate the impact that a product or process has over the whole of its lifespan including extraction of raw materials, production, transport, use, and disposal. (Oregon DEQ)

**Neurotoxicant:** Substances capable of causing adverse effects in the central and peripheral nervous system, and in sense organs. (Risctox)

**Resilience:** The ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions. (IPCC)

# Appendix B: Sustainable Buildings for All framework policy language

**Sustainable Buildings for All (SB4A) Pilot Program**

**1. Application**

1. **Enrollment period.** The enrollment period for the Sustainable Buildings for All Pilot Program expires on the earlier of *[date TBD: 10 years from the date of adoption]*, or when applications meeting the minimum standards defined in Subsection 2 and the associated table have been submitted for *[# TBD: 20]* pilot projects.
2. **Application requirements.** In order to qualify for the Sustainable Buildings for All Pilot Program, an applicant shall submit a complete Design Review Application pursuant to *[relevant code for jurisdiction having authority]*. Application shall demonstrate how the project will meet the provisions of Subsection 2 and applicable design guidelines.

2. **Minimum standards.** A project shall qualify for the Sustainable Buildings for All Pilot Program if it is reviewed in accordance with the full design review process provided in *[relevant code for jurisdiction having authority]*, and demonstrates compliance with one of the following tiered packages.

    1. **Tier 1 – ILFI Living Building Challenge 4.0 (or later) Living Certification:** achieve all of the Imperatives of the International Living Future Institute's (ILFI) Living Building Challenge 4.0 (or later) Certification; AND the additional requirements as listed in Table 1 for Subsection 2.

    2. **Tier 2 -** Select Compliance Pathway 2.a or 2.b.
        a. **Compliance Pathway 2.a – ILFI Living Building Challenge 4.0 (or later) Petal Certification AND ILFI Zero Carbon Certification**: achieve all ten of the Core Imperatives of the International Living Future Institute's (ILFI) Living Building Challenge 4.0 (or later) Certification, and either the Water, Energy, or Materials Petal; AND the International Living Future Institute's (ILFI) Zero Carbon Certification; AND the additional requirements as listed in Table 1 for Subsection 2.
        b. **Compliance Pathway 2.b – ILFI Core Certification AND ILFI Zero Carbon Certification**: achieve all of the ten Core Imperatives of the International Living Future Institute's (ILFI) Core Building Certification; AND the International Living Future Institute's (ILFI) Zero Carbon Certification; AND the additional requirements as listed in Table Table 1 for Subsection 2.

3. **Tier 3 – USGBC LEED v4 (or later) Platinum Certification AND ILFI Zero Carbon Certification**: achieve Platinum-level Certification of the United States Green Building Council's (USGBC) LEED v4 (or Later) including the mandatory credits and credit thresholds as listed in Table 1 for Subsection 2.; AND the International Living Future Institute's (ILFI) Zero Carbon Certification; AND the additional requirements as listed in Table 1 for Subsection 2.

4. **Tier 4 – USGBC LEED v4 (or later) Certification AND ILFI Zero Energy Certification or USGBC Zero Energy Certification**: achieve Certification of the United States Green Building Council's (USGBC) LEED v4 (or Later) including the mandatory credits and credit thresholds as listed in Table 1 for Subsection 2.; AND the International Living Future Institute's (ILFI) Zero Energy Certification OR the United States Green Building Council's (USGBC) Zero Energy Certification; AND the additional requirements as listed in Table 1 for Subsection 2.

**Table *TBD*. Sustainable Buildings for All framework proposed minimum requirements.**

| | Tier 1 | Tier 2 | Tier 3 | Tier 4 |
|---|---|---|---|---|
| **Certification(s) and mandatory credits or credit thresholds** | ILFI Living Building Challenge 4.0 (or later) Living Certification | ILFI Living Building Challenge 4.0 (or later) Petal Certification<br>**AND** ILFI ZERO Carbon Certification<br><br>**OR**<br><br>ILFI Core Green Building Certification<br>**AND** ILFI ZERO Carbon Certification | USGBC LEED v4 (or later) Platinum Certification including all mandatory credits and credit thresholds required under Tier 4,<br>**AND** the following mandatory or credit thresholds:<br>• EAc Optimize Energy Performance - minimum 30% energy savings<br>• MRc Building Life Cycle Impact Reduction – Option 2<br>• EAc Enhanced Refrigerant Management (1 point)<br>• IEQc Enhanced IAQ strategies (1 additional point)<br>• Low Emitting Materials (1 additional point)<br>• Pilot Credit: Design for Enhanced Resilience<br>• Pilot Credit: Assessment and Planning for Resilience<br><br>**AND** ILFI Zero Carbon | USGBC LEED v4 (or later) Certification (any level) including the following mandatory or credit thresholds:<br>• EAc Optimize Energy Performance - minimum 20% energy savings<br>• IPc Integrative Process<br>• SSc Heat Island Reduction (2 points)<br>• WEc Outdoor Water Use Reduction (1 point)<br>• WEc Indoor Water Use Reduction (3 points)<br>• MRc BPDO – EPD (1 point)<br>• MRc BPDO – Material Ingredients (1 point)<br>• MRc Construction and Demolition Waste Management (2 points)<br>• IEQc Enhanced IAG strategies (1 point)<br>• IEQc Low Emitting Materials (2 points)<br><br>**AND** ILFI Zero Energy **OR** LEED Zero Energy |

| | | | | |
|---|---|---|---|---|
| | | | | *Single family and affordable multifamily housing projects may alternatively use the following compliance pathway:*<br><br>Earth Advantage Platinum for Single Family (SF) or Multifamily (MF) including the following mandatory requirements, credits, and credit thresholds:<br>• Minimum 25% better than energy code (SF) (MF)<br>• HVAC Commissioning (SF) (MF)<br>• Testing and balancing, ventilation, duct test, blower door (MF)<br>• 1.2.3 Weighted Average Unit Size (MF)<br>• 1.3.2 Reduced House Size (SF)<br>• 1.3.5 Accessible Design (SF)<br>• Low-Point Drain (MF: 3.1.5) (SF: 3.1.3)<br>• Low VOC and UF Interior Finishes (MF: 7.1.3-7.2.4) (SF: 7.1.2, 7.1.4, 7.2.2, 7.3.1, 7.4.7) |

| | | | | |
|---|---|---|---|---|
| | | | | • Hard Surface (MR: 8.4.2, 25%) (SF: 7.4.1)<br>• Planned onsite and/or offsite renewable energy to offset 100% actual building consumption (MF: 10.1.2) (SF: 9.1.2)<br>• Minimum 5 additional land points beyond required<br><br>**AND** Earth Advantage Net Zero Ready |
| **Additional requirements** | 40% of all design **AND** construction contracts must be COBID, at least one-quarter of which must be Minority owned and an additional one-quarter must be Women and/or Minority owned businesses.<br><br>The project includes public space(s) and/or art.*<br><br>Minimum 20% of residential units are available at or below 80% MFI **OR** 10% at or below 60% MFI, as applicable.<br><br>Minimum of 20% of rentable commercial area is available | 30% of all design **AND** construction contracts must be COBID, at least one-quarter of which must be Minority owned and an additional one-quarter must be Women and/or Minority owned businesses.<br><br>The project includes public space(s) and/or art.*<br><br>Minimum 10% of residential units are available at or below 80% MFI **OR** 5% at or below 60% MFI, as applicable.<br><br>Minimum of 10% of rentable commercial area is available | 20% of all design **AND** construction contracts must be COBID, at least one-quarter of which must be Minority owned and an additional one-quarter must be Women and/or Minority owned businesses.<br><br>The project includes public space(s) and/or art.*<br><br>Minimum 5% of residential units are available at or below 80% MFI **OR** 2.5% at or below 60% MFI, as applicable.<br><br>Minimum of 5% of rentable commercial area is available at | 10% of all design **AND** construction contracts must be COBID, at least one-quarter of which must be Minority owned and an additional one-quarter must be Women and/or Minority owned businesses.<br><br>The project includes public space(s) and/or art.* |

| | | | | |
|---|---|---|---|---|
| | at 10% below market rate, as applicable.<br><br>**Community drives and/or leads the project**. Community engagement includes the requirements listed below. A report shall be submitted which demonstrates compliance.** | at 10% below market rate, as applicable.<br><br>**Community is involved in the decision-making process.** Community engagement includes the requirements listed below. A report shall be submitted which demonstrates compliance.** | a 10% below market rate, as applicable.<br><br>**Community is actively engaged and design responds to community input.** Community engagement includes the requirements listed below. A report shall be submitted which demonstrates compliance.** | **Community is informed about the project and community input is considered in design and operations.** Community engagement includes the requirements listed below. A report shall be submitted which demonstrates compliance.** |
| | • At least one community meeting is held before project design is revealed for tier 4. For tiers 1, 2, and 3 multiple community meetings should be held including at least one before project design is revealed. These meetings should assess community needs by gathering input and demonstrate how the feedback was incorporated into the project.<br>• Project use type, program, and design (including building, landscape, and public improvements) are shared with the community.<br>• Meetings and written information are accessible including language, time of meetings, services provided (e.g. childcare), and compensation (e.g. stipend, transit, and/or lived experience consultant wage commensurate with other professionals).<br>• Design strategy addresses displacement and disproportionate environmental impacts. | | | |

* Single family homes are exempt from the public space(s) and/or art requirement.
** In all tiers, the community engagement as listed in Table *TBD* is not required for single family homes. Instead, these projects are required to *inform the community about the project*.

**3. Incentives.** A project qualifying for the Sustainable Buildings for All pilot program qualifies for all of the incentives within the qualifying compliance pathway tier as listed in this subsection.

1. **Zoning code bonuses.** In accordance with the tables below, projects qualifying for the Sustainable Buildings for All Program qualify for additional floor area and additional structure height beyond otherwise applicable maximums.
   a. Additional floor area beyond otherwise applicable maximum:

| **Tier 1** | **Tier 2** | **Tier 3** | **Tier 4** |
|---|---|---|---|
| 30% | 25% | 20% | 15% |

   b. Additional structure height beyond otherwise applicable maximum:

| **Tier 1** | **Tier 2** | **Tier 3** | **Tier 4** |
|---|---|---|---|
| 30 feet | | 15 feet | |

2. **Systems development charges.** In accordance with the table below, projects qualifying for the Sustainable Buildings for All Program qualify for (in whole or in part) deferred or waived systems development charges.

| **Tier 1** | **Tier 2** | **Tier 3** | **Tier 4** |
|---|---|---|---|
| 100% waiver of all SDCs | Pro-rated waive of Sewer and Water SDCs equal to reduction of water being delivered from or entering the city water, stormwater, or sewer systems to/from the proposed project; deferred payments of all other SDCs | | |

3. **Permitting assistance.** In accordance with the table below, projects qualifying for the Sustainable Buildings for All Program qualify for permitting assistance.
   a. **Municipal assistance.** Staff who provides dedicated streamlined guidance and technical support to project teams and jurisdiction staff for design and permit review and processing.
   b. **Priority design review.** Priority means that qualifying projects are moved to the front of the queue for scheduling, review, and processing.
   c. **Priority permitting.** Priority means that qualifying projects are moved to the front of the queue for scheduling, review, and processing.

| Tier 1 | Tier 2 | Tier 3 | Tier 4 |
|---|---|---|---|
| Municipal Assistance<br>Priority Design Review<br>Priority Permitting Review | | Municipal Assistance | |

4. **Zoning code exceptions.** A project qualifying for the Sustainable Buildings for All Pilot Program qualifies for additional exceptions from Title 33. Applicant must demonstrate that the exception would result in a development that better meets the goals of the Certification requirements and would not conflict with applicable Design Guidelines. Exceptions may be granted for the following, but are not limited to:
    a. Permitted, prohibited, or conditional use provisions;
    b. Maximum size of use;
    c. Quantity of parking required;
    d. Standards for storage of solid-waste containers;
    e. Lot coverage standards;
    f. Standards for the location of access to parking;
    g. Standards for structural building overhangs and minor architectural encroachments;
    h. Additional exceptions as proposed on a per project basis and approved by design review.

## 4. Compliance

1. No later than 24 months after issuance of a final certificate of occupancy, the owner shall submit all compliance documents to the *[jurisdiction having authority]*. Compliance documents may include, but are not limited to:
    a. Proof of certification and/or final scorecards from third-party certifying body/bodies.
    b. Documentatino of compliance with COBID contracting requirements.
    c. Report demonstrating compliance with community engagement requirements.
    d. Documentation of compliance with public space(s) and/or art requirements.
    e. Documentation of compliance with affordable rent requirements, as applicable.

2. If the *[jurisdiction having authority]* determines that the submitted compliance documents provide satisfactory evidence that the project complies with the standards contained in Subsection 2, the *[jurisdiction having authority]* shall send the owner a written statement that the project has complied with the standards of the Sustainable Buildings for All pilot program.

3. If the *[jurisdiction having authority]* determines that the project does not comply with the standards in Subsection 2, the *[jurisdiction having authority]* shall notify the owner in writing of the aspects in which the project does not comply.

a. Within 90 days after the *[jurisdiction having authority]* notifies the owner of the aspects in which the project does not comply, or such longer period as the *[jurisdiction having authority]* may allow for good cause, the owner may submit supplemental compliance documents demonstrating how the project complies or has been brought into compliance with the standards in Subsection 2.
b. If the owner fails to submit the supplemental compliance document required by Subsection 4.3.a, the *[jurisdiction having authority]* shall determine that the project has failed to demonstrate compliance, and the owner shall be subject to the penalties in Subsection 5.

4. Components of the project that are included in order to comply with the minimum standards of the applicable Sustainable Buildings for All pilot program tier shall remain for the life of the project.

## 5. **Penalties**

1. Failure to submit the compliance documents required by Subsection 4 by the date required is subject to a penalty of $500 per day from the date the documents were due to the date it is received by the *[jurisdiction having authority].*

2. Failure to demonstrate compliance with the provisions contained in Subsection 2 is subject to a maximum penalty of five percent of the construction value set forth in the building permit for the structure based on the extent of noncompliance with the standards contained in Subsection 2, outlined as follows:
    a. A minimum penalty of one and one-half percent will be applied if any of the provisions contained in Subsection 2 are not achieved in their entirety.
    b. A maximum additional penalty of one percent will be applied if any of the operational carbon and embodied carbon performance requirements of the applicable third-party certification and additional requirements of the associated tier are not achieved.
    c. A maximum additional penalty of one percent will be applied if any of the equity requirements of the applicable third-party certification and additional requirements of the associated tier are not achieved.
    d. A maximum additional penalty of one-half percent will be applied if any of the mandatory credits or credit thresholds (other than those related to carbon and equity) of the applicable third-party certification of the associated tier are not achieved.
    e. A maximum additional penalty of one percent will be applied if a project significantly fails to comply with the requirements of the applicable third-party certification and additional requirements of the associated tier.

# Appendix C: Detailed Comparison – State of Oregon

**SB4A climate action goals**

| | Operational Carbon | Embodied Carbon | Clean, renewable energy | Resilience |
|---|---|---|---|---|
| **Governor's Executive Order 17-20** | Amend state building code to require newly constructed residential buildings to achieve at least equivalent performance levels with 2017 US DOE Zero Energy Ready Standard by October 1, 2023.<br><br>Amend state building code to require, by October 1, 2022, that newly constructed commercial buildings will achieve at least equivalent performance levels with ASHRAE 189.1. | DAS and ODOE are directed to analyze feasible options with the Department of Environmental Quality that would lower the embodied carbon of building materials in new construction of state buildings. | Amend state building code to require all newly constructed state buildings to be ready for installation of solar panels and related technologies by October 1, 2020 for residential and October 1, 2022 for commercial. | |
| **Governor's Executive Order 20-04** | Reduce state GHG emissions at least 45 percent below 1990 emissions levels by 2035; and at least 80 percent below 1990 emissions levels by 2050. | | | |
| **HTO: 2020-2024 State Health Improvement Plan** | | | | Build climate resilience among priority populations. |

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| **Oregon Climate Change Adaptation Framework** | | | | Conduct vulnerability and risk assessment for critical buildings, transportation, utilities, water systems, energy systems, and other infrastructure. Include an analysis of community disparity to identify and serve underrepresented and underserved populations.<br><br>Maximize energy efficiency and smart-grid technologies. Maximize electric energy resilience by supporting diversification of supply to the Western grid. |
| **OGWC 2020 Biennial Report** | Establish stronger codes and incentives to reduce GHG emissions in new and existing buildings.<br><br>Codify new appliance energy efficiency standards developed by ODOE.<br><br>Allow cities and counties to adopt the state Reach Code as the mandatory base code for buildings in their jurisdiction.<br><br>Adopt Existing Building Audit and Retrofit Carbon Code. | Establish a framework for measuring embodied carbon for both whole building and specific building materials.<br><br>Pass legislation to restrict the use of hydrofluorocarbons (HFCs) in new products sold in Oregon. | Accelerate the process for adoption of new building codes to require all new garage structures to be pre-plumbed during construction for conduit that can support recharging at all parking spaces, and develop rules for including charging infrastructure in existing building stock. | Mandate that 100 percent of the state's electricity come from clean (zero emitting) energy sources by 2040. |

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| **OGWC TIGHGER Actions** | Improve the energy efficiency of industrial facilities not covered by the Climate Protection Program.<br><br>Deploy smart grids and microgrids.<br><br>Deploy zero emissions district heating and cooling.<br><br>Require new buildings to be net zero emissions.<br><br>Implement a GHG performance requirement of existing buildings.<br><br>Install electric heat pumps. | Increase reuse of existing buildings and materials.<br><br>Embodied carbon measurement, disclosure, and performance requirements for construction materials including concrete, asphalt, steel, and wood products.<br><br>Embodied carbon measurement, disclosure, and performance requirements for buildings and infrastructure – includes new and existing buildings<br><br>Require alternative refrigerants and refrigerant management | Revise building codes to include charging stations.<br><br>Increase the number of public EV charging stations.<br><br>Increase building integrated solar adoption.<br><br>Increase adoption rate of community solar PV projects. | Enhance energy storage.<br><br>Ensure backup power is clean – replacing diesel backup generators with battery storage. |
| **Oregon DEQ's Strategic Plan for the Built Environment** | | Accelerate the uptake of transparency disclosures and actions to reduce embodied carbon of materials in the built environment.<br><br>Identify opportunities to reduce the carbon impacts of building materials in building codes.<br><br>Promote maintenance and reuse of existing building, | | Support and/or subsidize resilience upgrades to promote healthy indoor environmental quality in extreme weather conditions. |

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| | | infrastructure, and material stock.<br><br>Map the life cycle impacts of materials produced and consumed in Oregon. | | |
| **Pacific Coast Collaborative Low Carbon Construction Task Force** | | Advance low carbon materials and methods in building construction projects. | | |

**SB4A equity and racial justice goals**

| | **Workforce Development and Contract Equity** | **Community Engagement** | **Inclusion** |
|---|---|---|---|
| **HTO: 2020-2024 State Health Improvement Plan** | Expand culturally responsive community-based mentoring.<br><br>Invest in workforce development and higher education opportunities for priority populations.<br><br>Strengthen economic development, employment, and small business growth in underserved communities. | Ensure state agencies engage priority populations to co-create investments, policies, projects and agency initiatives.<br><br>Center BIPOC-AI/AN communities in decision-making about land use planning and zoning in an effort to create safer, more accessible, affordable, and healthy neighborhoods.<br><br>Provide safe, accessible, and high-quality community gathering places, such as parks and community buildings. | |

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| | | Increase affordable housing with close access to active and public transportation options. | |
| **Oregon Climate Change Adaptation Framework** | Increase the diversity of the State's workforce engaged in climate work. | Actively engage with priority communities in a coordinated and well-resourced way so that underrepresented voices are centered in the development of climate policies, programs, and public investments. | |
| **OGWC 2020 Biennial Report** | Expand clean energy training and technical assistance programs. Trainings should include union labor and give priority to diversity and equity in the workforce, including communities of color and historically underserved communities. | All agencies should adopt a climate equity framework and follow guidance from the EJTF, Racial Justice Council, and the OHA's Climate Equity Blueprint to improve their policy and program decision-making and implementation including increasing representation of traditionally underrepresented communities on all RACs to inform the design of new programs. | |
| **OGWC TIGHGER Actions** | | | Go beyond cost-effective energy efficiency and ensure community benefits |
| **State of Oregon Climate Equity Blueprint** | | Prioritize funding and capacity-building for community-based organizations.<br><br>Use accessible and inclusive engagement strategies.<br><br>Create opportunities for communities to lead change. | |

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| **State of Oregon DEI Action Plan** | Apply equitable contracting and purchasing practices to promote recovery and community economic development for minority-owned, women-owned, service-disabled veteran-owned and emerging small businesses.<br><br>Diversify the workforce and create an inclusive workplace including: intentional and purposeful recruitment, hiring, and retention of culturally and ethnically diverse staff; creation of a leadership pipeline; ensuring a safe, inclusive, accessible, and belonging work environment for all. | Inclusive communications for maximum transparency and accountability. Communications should be accessible in difference languages.<br><br>Community engagements means meaningfully engaging Oregonians in discussions, decision-making, and implementation of the parts of government that affect their lives. | |
| **Oregon DEQ's Strategic Plan for the Built Environment** | Extend producer responsibility for producers of materials used in the built environment.<br><br>Extend producer responsibility for owners, developers, and designers of buildings and infrastructure.<br><br>Provide funding and/or technical assistance to community-based, community-led housing projects. | | |
| | | Work with communities to establish a regular mode of communication and a feedback and accountability process.<br><br>Incorporate lived experience and traditional knowledge into processes.<br><br>Respond to and support community priorities for housing projects and initiatives. | |

**SB4A health of humans and the environment goals**

| | Human Health | Environmental Health | Waste Diversion |
|---|---|---|---|
| **HTO: 2020-2024 State Health Improvement Plan** | Declare institutional racism as a public health crisis.<br><br>Increase access to affordable, healthy, and culturally appropriate foods for BIPOC-AI/AN and low-income communities. | | |
| **Oregon Climate Change Adaptation Framework** | Promote the use of green infrastructure. | | |
| **OGWC TIGHGER Actions** | Expand local food production/expand markets for local food production and consumption. | Deploy green and blue infrastructure.<br><br>Increase urban forests. | |
| **Oregon DEQ's Strategic Plan for the Built Environment** | Accelerate the uptake of transparency disclosures and actions to reduce toxicity of materials in the built environment.<br><br>Develop a specification guide for clean materials and products.<br><br>Review buildings codes to identify opportunities to address current gaps in health, safety, and welfare of new and existing residential buildings, and to reduce excess materials. | | |

# Appendix D: Detailed Comparison – City of Portland

**SB4A climate action goals**

| | Operational Carbon | Embodied Carbon | Clean, renewable energy | Resilience |
|---|---|---|---|---|
| **City of Portland and Multnomah County Climate Action Plan** | Establish long-term partnerships to coordinate equitable access to energy-efficiency resources, incentives, assistance, financing, outreach, education and other tools to residents and businesses. Support neighborhood efforts, including ecodistricts, to improve energy performance of buildings.<br><br>Build market demand for net-zero energy buildings through incentives, education, demonstration projects, partnerships, and recognition.<br><br>Evaluate options as part of SDC methodologies to promote housing affordability, reduce environmental impacts, and fund capital projects that | Promote rehabilitation, adaptive reuse, and energy and seismic upgrades of buildings to conserve natural and historic resources, reduce waste, and improve public safety. | Add another 15 megawatts of installed solar PV capacity. Motivate and assist households and businesses throughout the community to install solar. Revisit City solar access policy and regulations, recognizing changing conditions due to proliferation of residential rooftop solar energy systems.<br><br>Support the development of community solar projects that benefit all residents, particularly communities of color and low-income populations. | Strengthen emergency management capacity to prepare for and respond to heat, floods, landslides, and other emergencies in culturally appropriate ways. Develop response plans that minimize impacts on populations most vulnerable to weather-related emergencies. Increase the capabilities of volunteer and service organizations and safety net providers to help respond. |

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| | meet climate action objectives. | | | |
| **Climate Emergency Declaration** | Reduce GHG emissions by at least 50 percent below 1990 targets by 2030; net zero by 2050.<br><br>Address inequitable impact of energy costs for lower-income residents. | Reduce carbon emissions from the building and transportation sectors including development of net zero carbon buildings and addressing carbon emissions from the consumption of materials | | Develop a citywide natural disaster resilience and recovery strategy that prioritizes frontline communities. |
| **Deconstruction Ordinance** | | Requires all single-dwelling structures (houses and duplexes) built in 1940 or earlier in all zones to be fully deconstructed instead of mechanically demolished. | | |
| **Low Carbon Concrete Initiative** | | Phase 1: all Portland Cement Concrete must have a product-specific Type III EPD<br><br>Phase 2: collect data on various concrete mixes and conduct pilot projects to test low-carbon concrete mixes<br><br>Phase 3: establish and publish GWP thresholds | | |
| **Planned Development Bonus** | Planned developments which are utilizing the planned development bonus must demonstrate that the | | | |

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| | building(s) will achieve a design EUI reduction of 50 percent (residential) or 70 percent (all other uses) | | | |
| **Portland Clean Energy Fund** | | | Priority funding category (40-60 percent): clean energy projects, including renewable energy and energy efficiency projects. | |
| **Sustainable Consumption Plan** | Encourage low-carbon business and production practices.<br><br>Explore opportunity for new clean energy program to specifically target industrial facilities to shift to renewable energy and renewable process fuels. | Increase use of low-embodied carbon materials in new construction.<br><br>Preserve existing buildings, promote adaptive reuse and low-embodied carbon tenant improvements.<br><br>Land use planning for density and smaller housing units. (Plays a key roles in establishing conditions for urban consumption, because smaller housing equals less consumption.)<br><br>Reduce sales and use of high-impact products. | | |

**SB4A equity and racial justice goals**

| | Workforce Development and Contract Equity | Community Engagement | Inclusion |
|---|---|---|---|
| **City of Portland and Multnomah County Climate Action Plan** | Create cross-bureau initiatives to support workforce development that build upon existing social equity contracting programs, policies, and resources to strengthen the capacity of firms owned by people of color and nonprofits serving underrepresented and underserved adults and youth to help implement Climate Action Plan policies.<br><br>Maximize career development opportunities, especially for low-income populations, communities of color and youth, in the fields of energy, green building, transportation, brownfield, and Superfund remediation and redevelopment, planning, and natural resources. | Support use of tools and strategies to engage impacted communities, minimize harms and hazards and ensure economic, social, and environmental benefits are shared by low-income populations and communities of color. | |
| **Climate Emergency Declaration** | Develop climate safe work environments with labor organizations. | Residents and community organizations rise to the climate challenge through their own initiatives.<br><br>Advance climate justice actions that are led by the community, particularly frontline and youth organizations.<br><br>Prioritize partnerships for climate justice and action with BIPOC and youth organizations, engaging frontline | |

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| | | communities, and to ensure an equitable process that meets community needs, including funding their participation. | |
| **Inclusionary Housing** | | For buildings with 20 or more units, 20 percent of units must be affordable at 80 percent MFI if located within the Central City and Gateway Plan Districts (15 percent for all other locations). Alternatively, 10 percent of unites must be affordable at 60 percent MFI if located within the Central City and Gateway Plan Districts (8 percent for all other locations).<br><br>Additional alternate options include building new affordable units off-site, designating off-site units in an existing building, or paying a fee-in-lieu. | |
| **Planned Development Bonus** | | Projects must comply with the inclusionary housing requirements by providing affordable housing or paying into the affordable housing fund. | |
| **Portland Clean Energy Fund** | Priority funding category (20-25 percent): clean energy jobs training; programs that promote economic, social, and environmental benefits.<br><br>At least 20 percent of funds shall be awarded to non-profit organizations with a stated mission and proven track record of programs that benefit economically disadvantaged | Supports community-driven clean energy solutions and jobs. | All PCEF projects prioritize Portland's underserved populations and neighborhoods, including communities of color and low-income residents.<br><br>Geographic diversity of funding. |

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| | community members, including people of color, women, people with disabilities, and the chronically unemployed.<br><br>Recipients of funds must agree to the Workforce and Contractor Equity Agreements developed by the Committee.<br><br>Wage standards for projects funded by PCEF shall be no less protective of workers than those contained in the State of Oregon's Energy Efficiency and Sustainable Technology Act, ORS 470.560(2)(g). | | |

**SB4A health of humans and the environment goals**

| | **Human Health** | **Environmental Health** | **Waste Diversion** |
|---|---|---|---|
| **City of Portland and Multnomah County Climate Action Plan** | Explore and develop innovative, participatory outreach strategies and partnerships with public utilities, businesses, and diverse community organizations to protect and enhance natural systems and green infrastructure, reduce impervious area and provide information on the human health and ecological well-being benefits of such actions.<br><br>Increase the resilience of Portland's water supply to drier summers by expanding the capacity of groundwater systems and ensuring water is used efficiently by homes, businesses, and in public facilities. | | Provide technical assistance and resources to contractors to meet Portland's construction and demolition debris requirements, giving priority to salvage and reuse activities. |

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| **Climate Emergency Declaration** | Address fossil fuel infrastructure, freeway expansion, and tree canopy/green infrastructure. | | |
| **Deconstruction Ordinance** | | | Ensures that valuable materials are salvaged for reuse instead of landfilled |
| **Portland Clean Energy Fund** | Priority funding category (10-15 percent): regenerative agriculture and green infrastructure projects. | | |
| **Sustainable Consumption Plan** | Increase access to nutrient dense, low carbon foods for all.<br><br>Promote healthy, low-toxicity, and low-carbon workplace practices for businesses and service providers, prioritizing support for small, emergent, and women or minority businesses. | | Prevent the wasting of building materials. |

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