

DIRECTOR'S REPORT AND RECOMMENDATION

Living Building Pilot Program and Green Building Standards – 2015 Amendments

Introduction

From August, 2013, through January, 2015, the Department of Planning and Development (DPD) led a process to evaluate and propose revisions to the Living Building Pilot Program (“the Program”). This work responds to the City Council adopted Resolution 31400, adopted on June 6, 2013, directing DPD to:

- 1) Establish a technical advisory group (TAG) to advise the City on sustainable building practices by August 30, 2013;
- 2) Develop recommendations to revise the Living Building Program by December 31, 2013 (amendments were adopted in July 2014, ORD 124535); and
- 3) Develop recommendations to revise the Seattle Deep Green Program by December 31, 2014.

Resolution 31400 was adopted due to concerns about allowable departures, including those concerning floor area ratios and structure height, and the level of staff and consultant review and consultation for permitting these buildings. DPD convened a Living Building and Deep Green TAG to advise the City on an improved or replacement pilot program. This report provides a summary of the work completed with the TAG and the proposed amendments to the pilot program.

Proposal Summary

Informed by the work with the TAG, DPD recommends the following changes to the Land Use Code:

- *Project eligibility*: Link the Program directly to the International Living Future Institute's (ILFI) Living Building Challenge (LBC).
- *Land Use Code modifications and departures*: Allow Land Use Code modifications related to height and floor area ratio to be approved as a Director's decision.
- *Compliance and penalties*: Reduce the maximum penalty to five (5) percent of a project's construction value.
- *Passive House¹*: Add Passive House as an option to meet the green building performance standards required to access extra floor area and/or height in certain zones.

¹ A building constructed using Passive House principles is a very well-insulated, virtually air-tight building that is primarily heated by passive solar gain and internal gains from people, electrical equipment, etc., saving up to 90 percent of space heating costs. Unlike LEED or BuiltGreen, which takes into account various building components and systems for criteria scoring purposes, Passive House is focused solely on requirements that lead to energy efficiency/conservation outcomes that are significantly higher than the other options.

- *Green Building Requirements:* Reorganize and consolidate requirements in a new Land Use Code chapter and update the green building standards required to participate in the incentive zoning program be consistent in all zones (i.e. currently it varies between LEED Silver and LEED Gold depending on the neighborhood, but LEED Gold will become the new requirement for all projects participating in the program).

In addition, the TAG identified a number of opportunities beyond the Land Use Code for the City to promote the development of more living buildings. Those recommendations are described in more detail in the Proposed Land Use Code Changes section.

Background

The Program was adopted by the City Council in December 2009, amended in 2012 and again in July 2014, to facilitate the development of buildings that would either meet the LBC or alternative minimum standards (Deep Green). The Program was developed to provide flexibility for projects seeking LBC certification.

The LBC is a green building rating system created by the ILFI to recognize buildings meeting the highest level of sustainability. It is a sustainable building certification program that focuses on a performance-based approach to certification with the aim of producing buildings that are less harmful to the environment than conventional buildings and contribute positively to their surroundings. Version 3.0 of the Living Building Challenge requires buildings to meet 20 imperatives (i.e., requirements or prerequisites) within seven performance areas or petals: place, water, energy, health and happiness, materials, equity and beauty. In general, the imperatives require buildings to be built on non-environmentally sensitive sites, use recycled materials, generate as much or more electricity as they use through sustainable sources, capture as much rainwater as they use, treat wastewater on site, and meet standards for other elements.

In addition to the certification program, ILFI also offers Petal Recognition. The performance criteria for at least three of the seven areas, or "petals," (Place, Water, Energy, Health and Happiness, Materials, Equity, and Beauty) must be met in order to receive "Petal Recognition." Recognition is further contingent upon the development demonstrating compliance with at least one of the following petal categories: Water, Energy or Materials. Additionally, certification is based on achievement of a number of "imperative" categories to demonstrate that a building can have a positive effect on the non-built environment. Two imperatives; *01: Limits to Growth* and *20: Inspiration and Education*, must also be met.

The Program facilitates the development of innovative green buildings to:

- Reduce environmental impacts;
- Test new technologies; and

- Serve as a model for development throughout the region and country.

The existing Program allows departures from the Land Use Code through Design Review in recognition that the LBC requires the highest levels of sustainability. The Program was adopted through ordinances that amended the Code as follows:

- 2010: The original legislation implementing the Living Building Pilot program (Ordinance 123206).
- 2012: “Seattle Deep Green” tailored the Living Building Challenge to Seattle by providing developers with the option—or a pathway—to meet 60% of the Living Building Challenge requirements while meeting Seattle’s energy use, water use, and storm water management requirements (Ordinance 123942).
- 2014: The program was amended (Ordinance 124535) to:
- Eliminate the existing Seattle Deep Green option;
 - Revise the minimum energy use requirements to align with the new Seattle Energy Code;
 - Clarify that independent third-party report is required to verify compliance with LBC;
 - Modify and/or remove available design review departures; and
 - Increase the maximum penalty for projects failing to demonstrate full compliance.

Broad Goals of the Pilot Program

The City of Seattle has a long history of environmental stewardship. Environmental goals are embedded in much of the City's current work across most departments. One of the City's goals is to protect, conserve and enhance the region’s environmental resources by setting a community standard of sustainable building practices. The Program is one of the tools to further the City’s commitment to environmental, economic and social stewardship.

Role of the TAG:

The Living Building and Seattle Deep Green TAG was convened by DPD to evaluate and propose revisions to the Program. Membership included industry professionals who have technical knowledge, experience, and interest in sustainable development, as well as a representative of a community organization.

This expertise and feedback was used to inform DPD’s decision-making process and recommendations to the Mayor and City Council. The work focused on evaluating and developing recommendations regarding the following:

- *Project eligibility*: What are the minimum requirements that projects must meet to participate in the Program? Should these be based on already established third-party certification standards or should the City develop their own standards (i.e. continue to use the Deep Green approach)?
- *Land Use Code flexibility and incentives*: What flexibility is needed to meet minimum Program requirements and what incentives might attract participation in the Program?
- *Compliance and penalties*: How should compliance be evaluated? What is the appropriate approach to enforcement? Specifically, what level of penalty will ensure that applicants will strive to fully comply with program requirements (rather than paying the penalty in lieu of complying) while not setting a penalty so high that it provides a disincentive to participation in the program?
- *Process and procedures*: What is the appropriate review process for pilot projects and what is the role of the TAG in that process, if any?

The main goal of this process, which was formulated with input from the TAG, was to improve the accessibility and use of the Program in order to continue to encourage development of very high performing green buildings.

Based on discussions with the TAG, the following principles were identified and informed all subsequent discussions:

- Pilot projects must be innovative – high performing green buildings should perform better over time due to their adaptability to new technologies, as opposed to incremental green improvements.
- Pilot program requirements should become standard leading to permanent changes to existing policies and code requirements.
- Incentives and flexibility beyond what the Land Use Code currently provides for are needed to increase participation in the pilot program.
- Creating (or making permanent) a new or Seattle-specific green building standard rating system is not desirable.

The main conclusion that emerged was that the Land Use Code does not present significant barriers to developing Living Buildings. The TAG also concluded that Land Use Code incentives by themselves are not sufficient to attract new projects into the Program. The two priority areas that the TAG recommends focusing on to increase participation and interest in the Program include the following:

- Working with local, state and federal policy makers to allow more flexibility and innovation in water reuse and stormwater management.
- Providing financial incentives to offset the increased upfront costs associated with deep green development (often described as a 5-10% premium that is not typically covered by lending institutions, increasing the equity investment needed from the developer).

More details on these recommendations are included on pages 10-11.

Proposed Land Use Code Changes:

Project eligibility

A key question that dominated discussions with the TAG is whether the Program's requirements should be tied directly to a third-party certification program, such as the International Living Future Institute's LBC, or if Seattle should develop alternative criteria to more fully develop the "Seattle Deep Green" program. The TAG concluded that existing third-party programs offer appropriate and sufficient criteria to achieve high performing development. Creating standards that are distinct from existing third-party programs would require significant staff time and resources to implement as a new program would need to be developed, program support would need to be provided and verification would need to be conducted.

The TAG further recommended that the City's Program directly link to the LBC. Green building certification programs are typically voluntary for projects that exceed far beyond the minimum code requirements to incorporate green building practices. As described by ILFI, "The Living Building Challenge sets substantially higher performance requirements across a more comprehensive set of criteria than required by regulation, or any rating system currently in use."²

A benefit of using the standards established by a third-party is that it reduces the burden on policy makers to create their own criteria. Third-party standards also provide criteria that have been tested and that may already be familiar to the local building industry. In using ILFI's standards in the context of the pilot program the City can determine how best to utilize the criteria on a permanent basis as buildings are completed.

To date, two projects have enrolled in the Program: the Bullitt Center and the Stone34 project. The Bullitt Center pursued full LBC (achieved in April 2015), whereas the Stone34 project is pursuing the requirements of the Seattle Deep Green program, which was removed from the Land Use Code in the preceding update of the ordinance (#124535) based on input from the TAG. DPD has reviewed the staff resources required for the two pilot projects against comparable projects not enrolled in the Program. The project that chose the Deep Green pathway required significantly more staff time and resources to determine baselines and measurement procedures, than a typical, comparable project that was not enrolled in the Program. Staff experience with review of these two projects contributed to the recommendation to link the Program more directly to the LBC and simplify the compliance requirements in order to minimize the impact on staff resources. Two additional projects are in the early stages of planning (one office and one hotel development).

² Cascadia Region Green Building Council, *Code, Regulatory and Systemic Barriers Affecting Living Building Projects*. 2009. <http://living-future.org/ilfi/ideas-action/research/building-codes/code-regulatory-and-systemic-barriers-affecting-living>

DPD Proposal:

In order to participate in the Program, a project would be required to:

- Seek full LBC certification or LBC Petal Recognition plus Seattle specific energy and water conservation requirements;
- Use the Energy Use Intensity (EUI) targets established in the Seattle Energy Code's Target Performance Path;
- EUI, as demonstrated after one year of full occupancy, must be 25 percent below the EUI targets set in the Energy Code's Target Performance Path or EUI established by the Director;
- Simplify the requirements for water use;
- Participate in Seattle's Design Review Program; and
- Be located outside the shoreline jurisdiction.

Enrollment will be expanded to allow 20 qualifying projects through December 2025. In addition to the two projects mentioned above, two additional projects are in the process of enrolling.

Incentives and departures

In addition to the general Design Review departure criteria, departures are available to projects participating in the Program when an applicant demonstrates that approval of a departure would better meet the goals of the LBC or would not conflict with adopted design guidelines. Both the TAG and separate discussions with developers emphasized that economic feasibility and incentives are necessary to stimulate innovation and encourage higher levels of innovation due to the increased financial risk that results from the initial capital investment in equipment and materials. Developers expressed concern with additional costs associated with living buildings and perceive the existing permitting process to be a barrier to adopting green building techniques.

This proposal recommends modifying the Program to allow some of the existing departures, such as additional height or floor area, to be approved by the Director as a Type I decision (no appeal), as opposed to discretionary Type II decision (appealable to the City's Hearing Examiner), in order to provide an economic incentive as well as more certainty in the approval process. The intent of this change is provide additional economic benefit to offset the increased developer equity contribution associated with participation in the Program as the additional floor area or height should increase a development's leasable area. The proposed Program modifications would provide applicants with a clear, predictable incentive, allowing both the City and community transparency regarding Program benefits.

Design Review departures unrelated to height or floor area would be pursued through the existing Design Review process.

DPD proposal:

The following incentives (Land Use Code modifications) will be available to any project enrolled in the Program:

- Increased height (up to 10 feet in zones with height limits up to 45 feet; 20 feet in zones with height limits over 45 feet); and

- 15 percent floor area ratio increase.

The following Design Review departures would continue to be available to any project enrolled in the Program if the applicant demonstrates that the project would result in a development that better meets the intent of adopted design guidelines or that better meets the goals of the Pilot Program, and would not conflict with adopted design guidelines:

- Residential density limits;
- Reduction in quantity of parking;
- Permitted, prohibited or conditional use provisions for accessory uses that would directly address an imperative of the LBC;
- Maximum size of use;
- Standards for storage of solid-waste containers;
- Quantity of open space required for major office projects in Downtown zones;
- Standards for the location of access to parking in Downtown zones; and
- Structural building overhangs and minor architectural encroachments

Compliance and penalties

While the goal of the Program has always been to encourage buildings that meet the LBC, DPD recognizes that the LBC is an innovative and ambitious program. Penalizing a project that strives to meet these goals but falls slightly short may deter future interest and participation in the Program.

The amendments to the Program, adopted in July 2014, increased the maximum penalty for noncompliance from 5 percent of a project's construction value to 10 percent. Noted at the public hearing, and reiterated in discussions with both the TAG and developers, the penalty may act as a disincentive to participation in the program. In recent discussions with project teams considering participating, the 10% penalty is the main concern raised and in some cases may be the deciding factor. Indications from both projects that have participated in the program are that they are on track to meet Program requirements.

DPD proposal:

Maximum Penalty for Non-compliance:

DPD proposes reducing the maximum penalty from 10 percent to 5 percent of a project's construction value. DPD will continue to evaluate whether the penalty is sufficient as more projects enroll and achieve compliance. If it is demonstrated that the penalty is not high enough to ensure that projects fully comply with the requirements, DPD will consider recommending an increase to the penalty maximum.

Minimum Program Standards:

- *LBC Certification & Petal Recognition:*

Projects participating in the Program are expected to meet LBC certification. However, achieving ILFI's "Petal Recognition" demonstrates a significant improvement over existing code requirements.

- *Energy Use Intensity target:*

Actual Energy Use Intensity (EUI)³, as demonstrated after one year of full occupancy, must be 25 percent below the EUI targets set in the Energy Code's Target Performance Path or EUI established by the Director. Target Performance Path is an optional energy code compliance path that allows the design team, contractor and owner to determine the most effective methods to achieve energy efficiency. Rather than complying with all the details of the Seattle Energy Code, applicants will be permitted to submit an energy model demonstrating that the proposed building will meet an assigned energy use target. Subsequently, the building must operate within that predicted energy use level for a full year after occupancy. This requirement would provide the City with actual project examples to understand the requirement's effectiveness.

As outlined in the City's Climate Action Plan (CAP), building energy use accounts for more than 20% of Seattle's greenhouse gas emissions (GHG). Making sure energy comes from clean, low-carbon sources and improving the overall energy efficiency of buildings are essential to reducing our GHG emissions and achieving the goals outlined in the CAP. Tying the Program requirement to the EUI targets set in the Energy Code will simplify the process for applicants and staff in determining and measuring project performance.

- *Water — No use of potable water for non-potable purposes:*

The LBC requires that 100 percent of a project's water use must come from captured precipitation or closed loop water system that accounts for downstream ecosystem impacts, or by recycling water from on-site use. Water is required to be purified without the use of chemicals. Further, 100 percent of both stormwater and used- water discharge must be managed onsite. Setting a requirement that no potable⁴ water may be used for non-potable uses will require project teams to incorporate strategies to capture stormwater through rainwater harvesting⁵ and reuse water through greywater harvesting.⁶ In addition to potentially reducing utility costs, reusing rainwater and greywater also

³ EUI is a common measure used to normalize a building's annual energy performance as a function of its size. The EUI is expressed as units of energy, per square foot, per year (kBtu/SF/year). Generally, a low EUI signifies good energy performance. However, it is important to note that some building types are more energy intensive than others and will consistently have higher EUIs.

⁴ Potable water is clean water — satisfactory for drinking, culinary and domestic purposes, and meets the drinking water standards established by the Washington State Department of Health.

⁵ Rainwater harvesting is the capture and storage of rainwater and is considered the cleanest form of harvested water.

⁶ Greywater harvesting is the capture and storage of water that has already been used for non-sewage purposes — from baths and showers to washing machines, sinks and vehicle washing run-off. Reuse of greywater triggers more code requirements and design regulations than the use of rainwater. Some applications are restricted by local building codes.

contributes to a reduction of combined sewer overflows and demand on the City's potable water.

This simplified Program requirement is clearer for Program applicants and will significantly reduce the staff time needed to review and verify project performance. The City's new requirements would be based on the LBC's for the life of the pilot program.

Compliance:

Applicants must submit a third-party report demonstrating compliance within two years after issuance of a final Certificate of Occupancy (i.e. the outcome of the certification review by ILFI). This may include retro-commissioning to identify and resolve any problems that may have been encountered during design and construction. The applicant may request an extension if they outline the reason for the request and demonstrate what alterations are needed to bring the project into compliance.

Other Green Building Options

Builtgreen, LEED, and Evergreen certification are all currently provided as options for meeting green building provisions currently included in the Land Use Code. DPD proposes adding Passive House (aka Passiv Haus) as an option. Currently, to qualify for the higher floor area ratio (FAR) limit in multifamily zones, projects must meet green building performance standards by earning a LEED Silver or a Built Green 4-star rating. LEED Gold would become the standard. DPD has had requests from developers to use the Passive House standard as an alternative green building standard.

DPD proposes a new Land Use Code chapter to consolidate requirements related to green building performance as a condition of a permit. The intent of this modification is to make it easier to understand the requirements for green building standards and the process for demonstrating that a project meets those standards. Changes will be made to several sections of the Land Use Code to move green building standards into a new chapter, Green Building Requirements.

The proposal adds new definitions for Green Building Standards A and B and allows the Director to establish by rule, procedures for determining whether a proposed or final project meets those standards.

Green Building Standard A can be achieved for a development that meets all of the imperatives in the International Living Future Institute's (ILFI) full Living Building Challenge™ (LBC) certification, version 3.0; or all of the following:

1. Attain at least three of the seven performance areas, or "petals," (Place, Water, Energy, Health and Happiness, Materials, Equity, and Beauty) of the ILFI's Petal certification program. At a minimum the criteria for at least one of the following petals must be met: Energy, Water, or Materials;
2. Total building energy use shall be 75 percent or less of the energy use targets established in the Seattle Energy Code's Target Performance Path, Section C402.1.5; and
3. No potable water shall be used for nonpotable uses, subject to approval by Public Health- Seattle and King County.

Green Building Standard B can be achieved for a development that meets the standards specified to achieve one of the following:

1. A Gold certificate either for LEED for New Construction v4 or for LEED for Homes v4, according to the criteria in the U.S. Green Building Council's LEED Green Building Rating System.
2. A 4-Star rating either for BuiltGreen Multi-Family New Construction Version 2009 or BuiltGreen Single-Family/Townhome New Construction Version 2014, at the election of the applicant, according to the criteria in the Master Builders Association of King and Snohomish Counties Rating System.
3. A Passive House certificate, according to the criteria in the Passive House Institute US's (PHIUS) 2014 rater checklist.
4. A Net Zero Energy certification according to the criteria in the ILFI's LBC, version 3.0.
5. Meets the standards for the evergreen Sustainable Development Standard version 2.2 according to the State of Washington Department of Commerce Rating System.
6. A substantially equivalent standard, as approved by the Director. The owner must submit a written request and documentation demonstrating to the Director how the proposed standard is equivalent to the standards listed above.

The proposed changes will make the standards consistent across all zones.

DPD Recommendation

The proposed amendments are consistent with the TAG's goals and policies. DPD recommends approval of the proposed amendments.