SENATE BILL REPORT
SB 5732

As of January 26, 2022

Title: An act relating to green roofs on large commercial and multifamily buildings.

Brief Description: Concerning green roofs on large commercial and multifamily buildings.

Sponsors: Senators Das, Lovelett, Nguyen and Saldaña.

Brief History:
Committee Activity: Environment, Energy & Technology: 1/26/22.

Brief Summary of Bill

- Requires all new buildings 50,000 square feet or larger and designed after January 1, 2025, to cover 70 percent of the roof space with green roofing and solar panels.
- Provides a cash-in-lieu of constructing a green roof option at a rate of $50 per square foot, to fund climate resiliency activities in the jurisdiction where the building is located.
- Requires a cost-benefit analysis be conducted by the Washington State Institute for Public Policy to study the use of biosolar, agrivoltaic, and blue/green roof systems on buildings with a floor area of 10,000 to 50,000 square feet.

SENATE COMMITTEE ON ENVIRONMENT, ENERGY & TECHNOLOGY

Staff: Ashley Trunnell (786-7278)

Background: Building Code Council. The Washington State Building Code Council (SBCC) was created by the Legislature in 1974. The SBCC advises the Legislature on building code issues and develops the building codes used in Washington State. Building code language is developed by technical experts, council members, and staff.

This analysis was prepared by non-partisan legislative staff for the use of legislative members in their deliberations. This analysis is not part of the legislation nor does it constitute a statement of legislative intent.

Green Roofs. A green roof is a layer of vegetation planted over a waterproofing system that is installed on top of a flat or slightly-sloped roof. There are two main types of green roofs—extensive and intensive. Extensive green roofs have a growing medium that is between three and six inches thick, whereas an intensive green roof has a growing medium that is greater than six inches.

There are also several other types of roofing systems that incorporate green roofs, including:
- blue/green roofs which enhance the storm water runoff benefits of green roofs by including additional water storage space and slowly releasing the water it collects;
- biosolar roofs which combine solar panels with an underlying extensive green roof; and
- agrivoltaic roof systems which simultaneously use roof space for both solar photo voltaic panels and rooftop agriculture, typically with food producing or edible plants placed under solar panels.

The Washington State Institute for Public Policy. The Washington State Institute for Public Policy (WSIPP) is a nonpartisan research group that was created by the Legislature in 1983. WSIPP conducts applied policy research and cost-benefit analyses for the Legislature.

Summary of Bill: Green Roof and Solar Panel Requirements. All new commercial, industrial, and multifamily residential buildings over 50,000 square feet and designed after January 1, 2025, must include a green roof and solar panel combination covering 70 percent of the roof surface. Covered buildings must fulfill the requirement through one of the following four compliance options:
- one-half of the dedicated roof area consists of solar energy panels and one-half of the dedicated roof area consists of an intensive green roof;
- one-half of the dedicated roof area consists of a combination of solar energy panels above an extensive green roof and one-half of the dedicated roof area consists of an extensive green roof;
- one-quarter of the dedicated roof area consists of solar energy panels and three-quarters of the dedicated roof area consists of an extensive green roof; or
- one-quarter of the dedicated roof area consists of solar energy panels, one-half of the dedicated roof area consists of an extensive green roof, and one-quarter of the dedicated roof area consists of an intensive green roof producing food.

SBCC must develop rules to implement the green roof and solar requirements by December 31, 2024.

Project Standards. Each green and solar roof must be:
- designed and constructed by qualified teams of contractors that include engineers, landscape architects, architects, and at least one green roof professional;
- designed with a five-year maintenance plan;

- part of performance rating systems; and
- designed to facilitate inspections to ensure ongoing energy and environmental performance.

Cash-in-Lieu of Construction. Any building owner who is required to build a green roof and solar roof on their building may choose to opt out if they pay a fee. During the permitting process, the building owner can submit an application to their local permit office to receive a partial or complete exemption from the requirement. If the application is approved, the building owner must pay $50 per square foot of green or solar roof that is exempted.

If a building owner is granted a partial exemption, they must construct the remaining green and solar roof area in accordance with one of the four compliance options.

The payment for any exemption is collected by the local jurisdiction where the building is located. The funds collected must be expended by the local jurisdiction to fund climate resiliency programs.

Washington State Institute for Public Policy Cost-Benefit Analysis Study. WSIPP must conduct a cost-benefit analysis on the use of biosolar, agrivoltaic, and blue/green roof systems on buildings with a floor area of 10,000 to 50,000 square feet. WSIPP must consult with the Department of Ecology, Department of Commerce, and an organization that has experience conducting cost-benefit analyses on green roofing to prepare the report.

WSIPP must also prepare a report for the Legislature by January 1, 2025, on the average cost of constructing a green roof. This report must recommend changes for the cash-in-lieu of constructing a green roof fee to ensure it reflects the average actual cost of constructing a green roof. The report must assess the costs of the various compliance options for constructing a green and solar roof and recommend changes to ensure they are roughly equivalent.

Appropriation: The bill contains a section or sections to limit implementation to the availability of amounts appropriated for that specific purpose.

Fiscal Note: Requested on January 7, 2022.

Creates Committee/Commission/Task Force that includes Legislative members: No.

Effective Date: Ninety days after adjournment of session in which bill is passed.

Staff Summary of Public Testimony: PRO: Green roof policies have already been successfully implemented in other major cities throughout the United States. This green roof policy would provide economic and job opportunities for plant growers, construction workers, and green roof designers in Washington State. Requiring the installation of green

roofs would provide many benefits including reducing storm water runoff, reducing the urban heat island effect, improving air quality, increasing property values, and providing health benefits.

CON: Requiring the installation of green roofs would result in weight and structural challenges for buildings. Green roofs would also increase the costs of design, construction, and ongoing maintenance that could be passed to tenants. There should be more flexibility in the coverage requirement, as the 70 percent coverage requirement does not provide enough roof space for a building's mechanical equipment.

OTHER: We do not have the authority to implement the requirements of the bill and need more clarity on the effective dates in the bill. Roof space may not be able to accommodate 70 percent coverage by solar panels and green roof due to mechanical equipment that must be placed on the rooftop.

Persons Testifying: PRO: Senator Mona Das, Prime Sponsor; Steven Peck; Vanessa Keitges, Columbia Green Technologies; Bruce Wishart, Puget Soundkeeper; Elizabeth Morris; Jason Steinberg; Steven Peck, Green Roofs for Healthy Cities - industry association.

CON: Brent Ludeman, Building Industry Association of Washington (BIAW); Greg Hanon, NAIOP; Mike Ennis, Association of Washington Business; Kirsten Smith, American Institute of Architects - Washington Council.

OTHER: Stoyan Bumbalov, State Building Code Council.

Persons Signed In To Testify But Not Testifying: No one.