

# HOUSE BILL REPORT

## ESSB 5485

---

**As Passed House - Amended:**  
April 7, 2011

**Title:** An act relating to maximizing the use of our state's natural resources.

**Brief Description:** Maximizing the use of our state's natural resources.

**Sponsors:** Senate Committee on Environment, Water & Energy (originally sponsored by Senators Hargrove and Ranker).

**Brief History:**

**Committee Activity:**

Environment: 3/17/11, 3/24/11 [DPA];

Capital Budget: 3/28/11, 3/29/11 [DPA(CB w/o ENVI)].

**Floor Activity:**

Passed House - Amended: 4/7/11, 91-1.

**Brief Summary of Engrossed Substitute Bill**  
**(As Amended by House)**

- Requires the University of Washington and Washington State University to conduct a review of other states' building codes, international standards, peer-reviewed research, and models and tools of life-cycle assessment, embodied energy, and embodied carbon in building materials and make certain recommendations to the Legislature.
- Requires the Department of General Administration to make recommendations to the Legislature for streamlining statutory requirements related to life-cycle cost analysis, energy conservation in design, and high performance of public buildings and make recommendations concerning the state's energy life-cycle cost analysis.

---

### HOUSE COMMITTEE ON ENVIRONMENT

**Majority Report:** Do pass as amended. Signed by 13 members: Representatives Uptegrove, Chair; Rolfes, Vice Chair; Short, Ranking Minority Member; Harris, Assistant Ranking Minority Member; Fitzgibbon, Jinkins, Morris, Moscoso, Nealey, Pearson, Takko, Taylor and Tharinger.

---

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

**Staff:** Courtney Barnes (786-7194).

---

## HOUSE COMMITTEE ON CAPITAL BUDGET

**Majority Report:** Do pass as amended by Committee on Capital Budget and without amendment by Committee on Environment. Signed by 10 members: Representatives Dunshee, Chair; Ormsby, Vice Chair; Zeiger, Assistant Ranking Minority Member; Asay, Jinkins, Lytton, Moeller, Pearson, Smith and Tharinger.

**Staff:** Steve Masse (786-7115).

### **Background:**

#### Washington State Building Code Council.

The Washington State Building Code Council (SBCC) establishes the minimum building, mechanical, fire, plumbing, and energy code requirements necessary to promote the health, safety, and welfare of the state's residents, by reviewing, developing, and adopting the State Building Code (SBC). The SBC establishes the minimum construction requirements for Washington. The SBC is comprised of various building, residential, fire, and other model codes adopted by the Legislature.

Under the State Energy Code, "embodied energy" means the total amount of fossil fuel energy consumed to extract raw materials and to manufacture, assemble, transport, and install the materials in a building and the life-cycle cost benefits including the recyclability and energy efficiencies with respect to building materials. The total sum of current values for the costs of investment, capital, installation, operating, maintenance, and replacement as estimated for the lifetime of the product or project is taken into account.

#### Life-cycle Cost Analysis of Public Facilities.

When a public agency determines that a major new facility should be built or renovated, a life-cycle cost analysis must be completed at the design phase of the project. A life-cycle cost analysis must conform to guidelines established by the Department of General Administration (GA). A "life-cycle cost" is the initial cost and cost of operation of a major facility over its economic life. "Economic life" means the projected or anticipated useful life of a major facility as expressed by a term of years. A life-cycle cost analysis includes, but is not limited to, the following:

- the coordination and positioning of a major facility on its physical site;
- the amount and type of fenestration employed in a major facility;
- the amount of insulation incorporated into the design of a major facility;
- the variable occupancy and operating conditions of a major facility; and
- an energy-consumption analysis of a major facility.

### **Summary of Amended Bill:**

The University of Washington (UW), led by the College of Built Environments, and Washington State University (WSU), led by the College of Engineering and Architecture, are

required to conduct a review of other states' existing building codes, international standards, peer-reviewed research, and models and tools of life-cycle assessment, embodied energy, and embodied carbon in building materials.

This review must identify:

- if the standards and models are developed according to a recognized consensus-based process;
- if the standards and models could be implemented as part of building standards or building codes; and
- the scope of life-cycle accounting that the standards and models address.

By September 1, 2012, the UW and WSU are required to submit their review to the Legislature and make recommendations to the Legislature for methodologies to:

- determine if a standard, model, or tool using life-cycle assessment can be sufficiently developed to be incorporated into the SBC;
- develop a comprehensive guideline using common and consistent metrics for the embodied energy, carbon, and life-cycle accounting of building materials; and
- incorporate into every project the ongoing monitoring, verification, and reporting of a high performance public building's actual performance over its life cycle.

In developing its recommendations, the UW and WSU must seek input from organizations representing design and construction professionals, academics, building materials industries, and life-cycle assessment experts.

By December 1, 2012, the GA is required to make recommendations to the Legislature for streamlining current statutory requirements for life-cycle cost analysis, energy conservation in design, and high performance of public buildings. The GA must make recommendations on what statutory revisions, if any, are needed to the state's energy life-cycle cost analysis to account for comprehensive life-cycle impacts of carbon emissions. In making its recommendations to the Legislature, the GA is required to use the report prepared by the UW and WSU.

**Appropriation:** None.

**Fiscal Note:** Available. New fiscal note requested on March 29, 2011.

**Effective Date of Amended Bill:** The bill takes effect 90 days after adjournment of the session in which the bill is passed. However, the bill is null and void unless funded in the budget.

**Staff Summary of Public Testimony (Environment):**

(In support) The bill addresses important environmental issues, especially greenhouse gas emissions. The built environment has a significant impact on greenhouse gas emissions. The bill would require recommendations on embodied energy in primary building materials. The bill takes a scientific approach to provide information on the impact of building materials on the environment. The bill does not mandate the use of wood in buildings, but ultimately the hope is that more wood and other local materials would be used in constructing new

buildings. The CBE is willing to conduct the study required by the bill and could undertake the work without creating an advantage or preference for certain materials.

(With concerns) The direction of the bill has improved as it has been amended, but the bill still needs some revisions. The study on embodied energy is a good idea, but there is concern about the cost of requiring a study given the state's current financial challenges. The bill's intent section is biased towards wood, and this bias should be removed. The bill should be amended to address the study standards for embodied energy, instead of presuming that there is a common and consistent metric for embodied energy in building materials. In addition to embodied energy, the study should also account for life-cycle impacts.

(Opposed) The bill is clearly written to promote the use of wood. The bill selectively considers only a small percentage of a project's total environmental impacts over the life of the building. The bill does not account for the operational and use phases of a building's life. The bill gives preferential treatment for wood. Embodied energy is being studied at the federal level, and the state should wait for the federal study to be completed. The bill is not timely given the current budget situation. If a life-cycle study is going to be conducted, all building materials should be evaluated fairly without prescribing an outcome.

**Staff Summary of Public Testimony (Capital Budget):**

(In support) The life-cycle assessment is a good tool to compare the total costs of products from cradle to grave. The CBE currently does life-cycle costs assessments on wood products, from which the UW can use existing information.

(Opposed) If this is done by the UW, most of their work is related to wood products and discriminates against other building materials, like concrete. The life-cycle cost assessment should use any objective information, and the review results should be considered carefully before being implemented.

**Persons Testifying (Environment):** (In support) Jim Fridley, University of Washington; and Debra Munguia, Washington Forest Protection Association.

(With concerns) Stan Bowman, American Institute of Architects Washington Council.

(Opposed) Bruce Chattin, Washington Aggregates and Concrete Association; and Tonia Sorrell-Neal, Washington State Conference of Mason Contractors.

**Persons Testifying (Capital Budget):** (In support) Stan Bowman, American Institute of Architects Washington Council; Debora Mungia, Washington Forest Protection Association; and Elaine Oneil, University of Washington.

(Opposed) Bruce Chattin, Washington Aggregates and Concrete Association.

**Persons Signed In To Testify But Not Testifying (Environment):** None.

**Persons Signed In To Testify But Not Testifying (Capital Budget):** None.