S-0895.1

SENATE BILL 5485

State of Washington 62nd Legislature 2011 Regular Session

By Senators Hargrove and Ranker

Read first time 01/26/11. Referred to Committee on Environment, Water & Energy.

AN ACT Relating to maximizing the use of our state's natural resources; amending RCW 39.35.030, 39.35.040, 39.35.050, and 19.27.031; adding a new section to chapter 19.27 RCW; and creating a new section.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

NEW SECTION. **Sec. 1.** The legislature finds that research has shown the importance of reducing environmental impacts through building design. The primary focus on building designs has been an attempt to reduce energy requirements, primarily heating and cooling, over the course of a building's lifetime. However, what has been overlooked are opportunities to reduce greenhouse gas emissions and other environmental impacts at earlier stages in the building and construction design process. The selection of building materials and products, such as using wood and wood products in the design stage, provides substantial opportunities to reduce lifetime greenhouse gas emissions. A key component of life-cycle cost analysis is the energy expended in the extraction, transportation, manufacturing, and production of the building materials being considered in the construction of buildings.

Sec. 2. RCW 39.35.030 and 2001 c 214 s 16 are each amended to read as follows:

For the purposes of this chapter the following words and phrases shall have the following meanings unless the context clearly requires otherwise:

(1) "Public agency" means every state office, officer, board, commission, committee, bureau, department, and all political subdivisions of the state.

(2) "Department" means the state department of general administration.

(3) "Major facility" means any publicly owned or leased building having twenty-five thousand square feet or more of usable floor space.

(4) "Initial cost" means the moneys required for the capital construction or renovation of a major facility.

(5) "Renovation" means additions, alterations, or repairs within any twelve-month period which exceed fifty percent of the value of a major facility and which will affect any energy system.

(6) "Economic life" means the projected or anticipated useful life of a major facility as expressed by a term of years.

(7) "Energy management system" means a program, energy efficiency equipment, technology, device, or other measure including, but not limited to, a management, educational, or promotional program, smart appliance, meter reading system that provides energy information capability, computer software or hardware, communications equipment or hardware, thermostat or other control equipment, together with related administrative or operational programs, that allows identification and management of opportunities for improvement in the efficiency of energy use, including but not limited to a measure that allows:

(a) Energy consumers to obtain information about their energy usage and the cost of energy in connection with their usage;

(b) Interactive communication between energy consumers and their energy suppliers;

(c) Energy consumers to respond to energy price signals and to manage their purchase and use of energy; or

(d) For other kinds of dynamic, demand-side energy management.

(8) "Life-cycle cost" means the initial cost and cost of operation of a major facility over its economic life. This shall be calculated as the initial cost plus the operation, maintenance, and energy costs

over its economic life, reflecting anticipated increases in these costs discounted to present value at the current rate for borrowing public funds, as determined by the office of financial management. The energy cost projections used shall be those provided by the department. The department shall update these projections at least every two years.

(9) "Life-cycle cost analysis" includes, but is not limited to, the following elements:

(a) The coordination and positioning of a major facility on its physical site;

(b) The amount of embodied energy used in the building materials of a major facility;

(c) The amount and type of fenestration employed in a major facility;

((~~(c)~~)) (d) The amount of insulation incorporated into the design of a major facility;

((~~(d)~~)) (e) The variable occupancy and operating conditions of a major facility; and

((~~(e)~~)) (f) An energy-consumption analysis of a major facility.

(10) "Energy systems" means all utilities, including, but not limited to, heating, air-conditioning, ventilating, lighting, and the supplying of domestic hot water.

(11) "Energy-consumption analysis" means the evaluation of all energy systems and components by demand and type of energy including the internal energy load imposed on a major facility by its occupants, equipment, and components, and the external energy load imposed on a major facility by the climatic conditions of its location. An energy-consumption analysis of the operation of energy systems of a major facility shall include, but not be limited to, the following elements:

(a) The comparison of three or more system alternatives, at least one of which shall include renewable energy systems, and one of which shall comply at a minimum with the sustainable design guidelines of the United States green building council leadership in energy and environmental design silver standard or similar design standard as may be adopted by rule by the department;

(b) The simulation of each system over the entire range of operation of such facility for a year's operating period; and

(c) The evaluation of the energy consumption of component equipment

in each system considering the operation of such components at other than full or rated outputs.

The energy-consumption analysis shall be prepared by a professional engineer or licensed architect who may use computers or such other methods as are capable of producing predictable results.

(12) "Renewable energy systems" means methods of facility design and construction and types of equipment for the utilization of renewable energy sources including, but not limited to, hydroelectric power, active or passive solar space heating or cooling, domestic solar water heating, windmills, waste heat, biomass and/or refuse-derived fuels, photovoltaic devices, and geothermal energy.

(13) "Cogeneration" means the sequential generation of two or more forms of energy from a common fuel or energy source. Where these forms are electricity and thermal energy, then the operating and efficiency standards established by 18 C.F.R. Sec. 292.205 and the definitions established by 18 C.F.R. 292.202 (c) through (m) as of July 28, 1991, shall apply.

(14) "Selected buildings" means educational, office, residential care, and correctional facilities that are designed to comply with the design standards analyzed and recommended by the department.

(15) "Design standards" means the heating, air-conditioning, ventilating, and renewable resource systems identified, analyzed, and recommended by the department as providing an efficient energy system or systems based on the economic life of the selected buildings.

(16) "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. "Embodied energy" includes the initial collection of the resource, refinement, transport, product manufacture, packaging, installation, maintenance, refurbishment, and eventual demolition and disposal or recycling.

Sec. 3. RCW 39.35.040 and 1994 c 242 s 2 are each amended to read as follows:

(1) Whenever a public agency determines that any major facility is to be constructed or renovated, such agency shall cause to be included in the design phase of such construction or renovation a provision that requires a life-cycle cost analysis ((~~conforming with~~)) that includes the calculation of the amount of embodied energy used in all building

materials and that conforms to the guidelines developed in RCW 39.35.050 to be prepared for such facility. Such analysis shall be approved by the agency prior to the commencement of actual construction or renovation. A public agency may accept the facility design if the agency is satisfied that the life-cycle cost analysis provides for: (a) An efficient energy system or systems based on the economic life of the major facility; and (b) due consideration of low embodied energy building materials.

(2) Nothing in this section prohibits the construction or renovation of major facilities which utilize renewable energy systems.

Sec. 4. RCW 39.35.050 and 2001 c 214 s 17 are each amended to read as follows:

The department, in consultation with affected public agencies, shall develop and issue guidelines for administering this chapter. The purpose of the guidelines is to define a procedure and method for performance of life-cycle cost analysis to promote the selection of low-life-cycle cost alternatives. At a minimum, the guidelines must contain provisions that:

(1) Address energy considerations during the planning phase of the project;

(2) Identify energy components and system alternatives including energy management systems, renewable energy systems, and cogeneration applications prior to commencing the energy consumption analysis;

(3) Establish a method for calculating the embodied energy used in building materials for construction of a major facility;

(4) Identify simplified methods to assure the lowest life-cycle cost alternatives for selected buildings with between twenty-five thousand and one hundred thousand square feet of usable floor area;

((~~(4)~~)) (5) Identify simplified methods to ensure low embodied energy building materials are used in the building design;

(6) Establish times during the design process for preparation, review, and approval or disapproval of the life-cycle cost analysis;

((~~(5)~~)) (7) Specify the assumptions to be used for escalation and inflation rates, equipment service lives, economic building lives, and maintenance costs;

((~~(6)~~)) (8) Determine life-cycle cost analysis format and submittal requirements to meet the provisions of chapter 201, Laws of 1991;

((~~(7)~~)) (9) Provide for review and approval of life-cycle cost analysis.

Sec. 5. RCW 19.27.031 and 2003 c 291 s 2 are each amended to read as follows:

Except as otherwise provided in this chapter, there shall be in effect in all counties and cities the state building code which shall consist of the following codes which are hereby adopted by reference:

(1)(a) The International Building Code, published by the International Code Council((~~[,]~~)), Inc.;

(b) The International Residential Code, published by the International Code Council, Inc.;

(c) The International Green Construction Code, published by the International Code Council, Inc.;

(2) The International Mechanical Code, published by the International Code Council((~~[,]~~)), Inc., except that the standards for liquified petroleum gas installations shall be NFPA 58 (Storage and Handling of Liquified Petroleum Gases) and ANSI Z223.1/NFPA 54 (National Fuel Gas Code);

(3) The International Fire Code, published by the International Code Council((~~[,]~~)), Inc., including those standards of the National Fire Protection Association specifically referenced in the International Fire Code: PROVIDED, That, notwithstanding any wording in this code, participants in religious ceremonies shall not be precluded from carrying hand-held candles;

(4) Except as provided in RCW 19.27.170, the Uniform Plumbing Code and Uniform Plumbing Code Standards, published by the International Association of Plumbing and Mechanical Officials: PROVIDED, That any provisions of such code affecting sewers or fuel gas piping are not adopted; and

(5) The rules adopted by the council establishing standards for making buildings and facilities accessible to and usable by ((~~the physically disabled~~)) individuals with disabilities or elderly persons as provided in RCW 70.92.100 through 70.92.160.

In case of conflict among the codes enumerated in subsections (1), (2), (3), and (4) of this section, the first named code shall govern over those following.

The codes enumerated in this section shall be adopted by the council as provided in RCW 19.27.074. The council shall solicit input from first responders to ensure that firefighter safety issues are addressed during the code adoption process.

The council may issue opinions relating to the codes at the request of a local official charged with the duty to enforce the enumerated codes.

NEW SECTION. **Sec. 6.** A new section is added to chapter 19.27 RCW to read as follows:

Pursuant to RCW 39.35.050 and the procedures established in RCW 19.27.074 the state building code council must review the state building code and adopt changes as necessary to promote the greater use of wood and wood products.

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