### CERTIFICATION OF ENROLLMENT

# ENGROSSED SECOND SUBSTITUTE SENATE BILL 5854

# 61st Legislature 2009 Regular Session

Passed by the Senate April 20, 2009 YEAS 27 NAYS 18  President of the Senate  Passed by the House April 14, 2009 YEAS 67 NAYS 30	I, Thomas Hoemann, Secretary of the Senate of the State of Washington do hereby certify that the attached is ENGROSSED SECOND SUBSTITUTE SENATE BILL 5854 as passed by the Senate and the House of Representatives on the dates hereometers of the set forth.		
		Speaker of the House of Representatives	Secretary
		Approved	FILED
	Secretary of State State of Washington		
Covernor of the State of Washington			

## ENGROSSED SECOND SUBSTITUTE SENATE BILL 5854

### AS AMENDED BY THE HOUSE

Passed Legislature - 2009 Regular Session

### State of Washington 61st Legislature 2009 Regular Session

By Senate Ways & Means (originally sponsored by Senators Kilmer, Pridemore, Ranker, Rockefeller, Marr, Fraser, Kohl-Welles, Kline, Murray, and Keiser)

READ FIRST TIME 03/02/09.

- 1 AN ACT Relating to reducing climate pollution in the built
- 2 environment; amending RCW 19.27A.020; adding new sections to chapter
- 3 19.27A RCW; and creating a new section.
- 4 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:
- 5 <u>NEW SECTION.</u> **Sec. 1.** The legislature finds that energy efficiency
- 6 is the cheapest, quickest, and cleanest way to meet rising energy
- 7 needs, confront climate change, and boost our economy. More than
- 8 thirty percent of Washington's greenhouse gas emissions come from
- 9 energy use in buildings. Making homes, businesses, and public
- 10 institutions more energy efficient will save money, create good local
- 11 jobs, enhance energy security, reduce pollution that causes global
- 12 warming, and speed economic recovery while reducing the need to invest
- in costly new generation. Washington can spur its economy and assert
- its regional and national clean energy leadership by putting efficiency
- 15 first. Washington can accomplish this by: Promoting super efficient,
- 16 low-energy use building codes; requiring disclosure of buildings'
- 17 energy use to prospective buyers; making public buildings models of
- 18 energy efficiency; financing energy saving upgrades to existing
- 19 buildings; and reducing utility bills for low-income households.

- NEW SECTION. **Sec. 2.** The definitions in this section apply to sections 1 through 3 and 5 through 8 of this act and RCW 19.27A.020 unless the context clearly requires otherwise.
  - (1) "Benchmark" means the energy used by a facility as recorded monthly for at least one year and the facility characteristics information inputs required for a portfolio manager.
- (2) "Conditioned space" means conditioned space, as defined in the Washington state energy code.
- (3) "Consumer-owned utility" includes a municipal electric utility formed under Title 35 RCW, a public utility district formed under Title 54 RCW, an irrigation district formed under chapter 87.03 RCW, a cooperative formed under chapter 23.86 RCW, a mutual corporation or association formed under chapter 24.06 RCW, a port district formed under Title 53 RCW, or a water-sewer district formed under Title 57 RCW, that is engaged in the business of distributing electricity to one or more retail electric customers in the state.
- 17 (4) "Cost-effectiveness" means that a project or resource is 18 forecast:
  - (a) To be reliable and available within the time it is needed; and
  - (b) To meet or reduce the power demand of the intended consumers at an estimated incremental system cost no greater than that of the least-cost similarly reliable and available alternative project or resource, or any combination thereof.
    - (5) "Council" means the state building code council.
  - (6) "Department" means the department of community, trade, and economic development.
  - (7) "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, taking into account 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.
- 35 (8) "Energy consumption data" means the monthly amount of energy 36 consumed by a customer as recorded by the applicable energy meter for 37 the most recent twelve-month period.

- 1 (9) "Energy service company" has the same meaning as in RCW 43.19.670.
- 3 (10) "General administration" means the department of general administration.

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- (11) "Greenhouse gas" and "greenhouse gases" includes carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.
- (12) "Investment grade energy audit" means an intensive engineering analysis of energy efficiency and management measures for the facility, net energy savings, and a cost-effectiveness determination.
- (13) "Investor-owned utility" means a corporation owned by investors that meets the definition of "corporation" as defined in RCW 80.04.010 and is engaged in distributing either electricity or natural gas, or both, to more than one retail electric customer in the state.
- 15 (14) "Major facility" means any publicly owned or leased building, 16 or a group of such buildings at a single site, having ten thousand 17 square feet or more of conditioned floor space.
  - (15) "National energy performance rating" means the score provided by the energy star program, to indicate the energy efficiency performance of the building compared to similar buildings in that climate as defined in the United States environmental protection agency "ENERGY STAR® Performance Ratings Technical Methodology."
  - (16) "Net zero energy use" means a building with net energy consumption of zero over a typical year.
  - (17) "Portfolio manager" means the United States environmental protection agency's energy star portfolio manager or an equivalent tool adopted by the department.
  - (18) "Preliminary energy audit" means a quick evaluation by an energy service company of the energy savings potential of a building.
- 30 (19) "Qualifying public agency" includes all state agencies, 31 colleges, and universities.
- 32 (20) "Qualifying utility" means a consumer-owned or investor-owned 33 gas or electric utility that serves more than twenty-five thousand 34 customers in the state of Washington.
  - (21) "Reporting public facility" means any of the following:
- 36 (a) A building or structure, or a group of buildings or structures 37 at a single site, owned by a qualifying public agency, that exceed ten 38 thousand square feet of conditioned space;

- 1 (b) Buildings, structures, or spaces leased by a qualifying public 2 agency that exceeds ten thousand square feet of conditioned space, 3 where the qualifying public agency purchases energy directly from the 4 investor-owned or consumer-owned utility;
  - (c) A wastewater treatment facility owned by a qualifying public agency; or
    - (d) Other facilities selected by the qualifying public agency.
  - (22) "State portfolio manager master account" means a portfolio manager account established to provide a single shared portfolio that includes reports for all the reporting public facilities.
    - NEW SECTION. Sec. 3. (1) To the extent that funding is appropriated specifically for the purposes of this section, the department shall develop and implement a strategic plan for enhancing energy efficiency in and reducing greenhouse gas emissions from homes, buildings, districts, and neighborhoods. The strategic plan must be used to help direct the future code increases in RCW 19.27A.020, with targets for new buildings consistent with section 5 of this act. The strategic plan will identify barriers to achieving net zero energy use in homes and buildings and identify how to overcome these barriers in future energy code updates and through complementary policies.
    - (2) The department must complete and release the strategic plan to the legislature and the council by December 31, 2010, and update the plan every three years.
    - (3) The strategic plan must include recommendations to the council on energy code upgrades. At a minimum, the strategic plan must:
    - (a) Consider development of aspirational codes separate from the state energy code that contain economically and technically feasible optional standards that could achieve higher energy efficiency for those builders that elected to follow the aspirational codes in lieu of or in addition to complying with the standards set forth in the state energy code;
    - (b) Determine the appropriate methodology to measure achievement of state energy code targets using the United States environmental protection agency's target finder program or equivalent methodology;
      - (c) Address the need for enhanced code training and enforcement;
    - (d) Include state strategies to support research, demonstration, and education programs designed to achieve a seventy percent reduction

in annual net energy consumption as specified in section 5 of this act and enhance energy efficiency and on-site renewable energy production in buildings;

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- (e) Recommend incentives, education, training programs and certifications, particularly state-approved training or certification programs, joint apprenticeship programs, or labor-management partnership programs that train workers for energy-efficiency projects to ensure proposed programs are designed to increase building professionals' ability to design, construct, and operate buildings that will meet the seventy percent reduction in annual net energy consumption as specified in section 5 of this act;
- (f) Address barriers for utilities to serve net zero energy homes and buildings and policies to overcome those barriers;
- 14 (g) Address the limits of a prescriptive code in achieving net zero 15 energy use homes and buildings and propose a transition to performance-16 based codes;
  - (h) Identify financial mechanisms such as tax incentives, rebates, and innovative financing to motivate energy consumers to take action to increase energy efficiency and their use of on-site renewable energy. Such incentives, rebates, or financing options may consider the role of government programs as well as utility-sponsored programs;
- (i) Address the adequacy of education and technical assistance, including school curricula, technical training, and peer-to-peer exchanges for professional and trade audiences;
  - (j) Develop strategies to develop and install district and neighborhood-wide energy systems that help meet net zero energy use in homes and buildings;
  - (k) Identify costs and benefits of energy efficiency measures on residential and nonresidential construction; and
- 30 (1) Investigate methodologies and standards for the measurement of 31 the amount of embodied energy used in building materials.
- 32 (4) The department and the council shall convene a work group with 33 the affected parties to inform the initial development of the strategic 34 plan.
- 35 **Sec. 4.** RCW 19.27A.020 and 1998 c 245 s 8 are each amended to read as follows:

- 1 (1) ((No later than January 1, 1991,)) The state building code 2 council shall adopt rules to be known as the Washington state energy 3 code as part of the state building code.
  - (2) The council shall follow the legislature's standards set forth in this section to adopt rules to be known as the Washington state energy code. The Washington state energy code shall be designed to:
  - (a) Construct increasingly energy efficient homes and buildings that help achieve the broader goal of building zero fossil-fuel greenhouse gas emission homes and buildings by the year 2031;
  - (b) Require new buildings to meet a certain level of energy efficiency, but allow flexibility in building design, construction, and heating equipment efficiencies within that framework((. The Washington state energy code shall be designed to)); and
  - (c) Allow space heating equipment efficiency to offset or substitute for building envelope thermal performance.
  - (3) The Washington state energy code shall take into account regional climatic conditions. Climate zone 1 shall include all counties not included in climate zone 2. Climate zone 2 includes: Adams, Chelan, Douglas, Ferry, Grant, Kittitas, Lincoln, Okanogan, Pend Oreille, Spokane, Stevens, and Whitman counties.
  - (4) The Washington state energy code for residential buildings shall ((require:
  - (a) New residential buildings that are space heated with electric resistance heating systems to achieve energy use equivalent to that used in typical buildings constructed with:
  - (i) Ceilings insulated to a level of R-38. The code shall contain an exception which permits single rafter or joist vaulted ceilings insulated to a level of R-30 (R value includes insulation only);
  - (ii) In zone 1, walls insulated to a level of R-19 (R value includes insulation only), or constructed with two by four members, R-13 insulation batts, R-3.2 insulated sheathing, and other normal assembly components; in zone 2 walls insulated to a level of R-24 (R value includes insulation only), or constructed with two by six members, R-22 insulation batts, R-3.2 insulated sheathing, and other normal construction assembly components; for the purpose of determining equivalent thermal performance, the wall U-value shall be 0.058 in zone 1 and 0.044 in zone 2;

(iii) Below grade walls, insulated on the interior side, to a level of R-19 or, if insulated on the exterior side, to a level of R-10 in zone 1 and R-12 in zone 2 (R value includes insulation only);

(iv) Floors over unheated spaces insulated to a level of R-30 (R value includes insulation only);

(v) Slab on grade floors insulated to a level of R-10 at the perimeter;

(vi) Double glazed windows with values not more than U-0.4;

(vii) In zone 1 the glazing area may be up to twenty-one percent of floor area and in zone 2 the glazing area may be up to seventeen percent of floor area where consideration of the thermal resistance values for other building components and solar heat gains through the glazing result in thermal performance equivalent to that achieved with thermal resistance values for other components determined in accordance with the equivalent thermal performance criteria of (a) of this subsection and glazing area equal to fifteen percent of the floor area. Throughout the state for the purposes of determining equivalent thermal performance, the maximum glazing area shall be fifteen percent of the floor area; and

(viii) Exterior doors insulated to a level of R-5; or an exterior wood door with a thermal resistance value of less than R-5 and values for other components determined in accordance with the equivalent thermal performance criteria of (a) of this subsection.

(b) New residential buildings which are space-heated with all other forms of space heating to achieve energy use equivalent to that used in typical buildings constructed with:

(i) Ceilings insulated to a level of R-30 in zone 1 and R-38 in zone 2 the code shall contain an exception which permits single rafter or joist vaulted ceilings insulated to a level of R-30 (R value includes insulation only);

(ii) Walls insulated to a level of R-19 (R value includes insulation only), or constructed with two by four members, R-13 insulation batts, R-3.2 insulated sheathing, and other normal assembly components;

(iii) Below grade walls, insulated on the interior side, to a level of R-19 or, if insulated on the exterior side, to a level of R-10 in zone 1 and R-12 in zone 2 (R value includes insulation only);

(iv) Floors over unheated spaces insulated to a level of R-19 in zone 1 and R-30 in zone 2 (R value includes insulation only);

(v) Slab on grade floors insulated to a level of R-10 at the perimeter:

(vi) Heat pumps with a minimum heating season performance factor (HSPF) of 6.8 or with all other energy sources with a minimum annual fuel utilization efficiency (AFUE) of seventy-eight percent;

(vii) Double glazed windows with values not more than U-0.65 in zone 1 and U-0.60 in zone 2. The state building code council, in consultation with the department of community, trade, and economic development, shall review these U-values, and, if economically justified for consumers, shall amend the Washington state energy code to improve the U-values by December 1, 1993. The amendment shall not take effect until July 1, 1994; and

(viii) In zone 1, the maximum glazing area shall be twenty-one percent of the floor area. In zone 2 the maximum glazing area shall be seventeen percent of the floor area. Throughout the state for the purposes of determining equivalent thermal performance, the maximum glazing area shall be fifteen percent of the floor area.

(c) The requirements of (b)(ii) of this subsection do not apply to residences with log or solid timber walls with a minimum average thickness of three and one half inches and with space heat other than electric resistance.

(d) The state building code council may approve an energy code for pilot projects of residential construction that use innovative energy efficiency technologies intended to result in savings that are greater than those realized in the levels specified in this section.

(5) U-values for glazing shall be determined using the area weighted average of all glazing in the building. U-values for vertical glazing shall be determined, certified, and labeled in accordance with the appropriate national fenestration rating council (NFRC) standard, as determined and adopted by the state building code council. Certification of U-values shall be conducted by a certified, independent agency licensed by the NFRC. The state building code council may develop and adopt alternative methods of determining, certifying, and labeling U-values for vertical glazing that may be used by fenestration manufacturers if determined to be appropriate by the council. The state building code council shall review and consider the

adoption of the NFRC standards for determining, certifying, and labeling U-values for doors and skylights when developed and published by the NFRC. The state building code council may develop and adopt appropriate alternative methods for determining, certifying, and labeling U-values for doors and skylights. U-values for doors and skylights determined, certified, and labeled in accordance with the appropriate NFRC standard shall be acceptable for compliance with the state energy code. Sealed insulation glass, where used, shall conform to, or be in the process of being tested for, ASTM E-774-81 class A or better)) be the 2006 edition of the Washington state energy code, or as amended by rule by the council.

 $((\frac{(6)}{(6)}))$  The minimum state energy code for new nonresidential buildings shall be the Washington state energy code,  $((\frac{1986}{)})$  2006 edition, or as amended by the council by rule.

((+7))) <u>(6)</u>(a) Except as provided in (b) of this subsection, the Washington state energy code for residential structures shall preempt the residential energy code of each city, town, and county in the state of Washington.

(b) The state energy code for residential structures does not preempt a city, town, or county's energy code for residential structures which exceeds the requirements of the state energy code and which was adopted by the city, town, or county prior to March 1, 1990. Such cities, towns, or counties may not subsequently amend their energy code for residential structures to exceed the requirements adopted prior to March 1, 1990.

((\(\frac{(\frac{8}{})}\))) (7) The state building code council shall consult with the department of community, trade, and economic development as provided in RCW 34.05.310 prior to publication of proposed rules. ((The department of community, trade, and economic development shall review the proposed rules for consistency with the guidelines adopted in subsection (4) of this section.)) The director of the department of community, trade, and economic development shall recommend to the state building code council any changes necessary to conform the proposed rules to the requirements of this section.

(8) The state building code council shall evaluate and consider adoption of the international energy conservation code in Washington state in place of the existing state energy code.

- 1 (9) The definitions in section 2 of this act apply throughout this section.
  - NEW SECTION. Sec. 5. (1) Except as provided in subsection (2) of this section, residential and nonresidential construction permitted under the 2031 state energy code must achieve a seventy percent reduction in annual net energy consumption, using the adopted 2006 Washington state energy code as a baseline.
  - (2) The council shall adopt state energy codes from 2013 through 2031 that incrementally move towards achieving the seventy percent reduction in annual net energy consumption as specified in subsection (1) of this section. The council shall report its progress by December 31, 2012, and every three years thereafter. If the council determines that economic, technological, or process factors would significantly impede adoption of or compliance with this subsection, the council may defer the implementation of the proposed energy code update and shall report its findings to the legislature by December 31st of the year prior to the year in which those codes would otherwise be enacted.
  - NEW SECTION. Sec. 6. (1) On and after January 1, 2010, qualifying utilities shall maintain records of the energy consumption data of all nonresidential and qualifying public agency buildings to which they provide service. This data must be maintained for at least the most recent twelve months in a format compatible for uploading to the United States environmental protection agency's energy star portfolio manager.
  - (2) On and after January 1, 2010, upon the written authorization or secure electronic authorization of a nonresidential building owner or operator, a qualifying utility shall upload the energy consumption data for the accounts specified by the owner or operator for a building to the United States environmental protection agency's energy star portfolio manager in a form that does not disclose personally identifying information.
  - (3) In carrying out the requirements of this section, a qualifying utility shall use any method for providing the specified data in order to maximize efficiency and minimize overall program cost. Qualifying utilities are encouraged to consult with the United States environmental protection agency and their customers in developing reasonable reporting options.

1 (4) Disclosure of nonpublic nonresidential benchmarking data and 2 ratings required under subsection (5) of this section will be phased in 3 as follows:

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- (a) By January 1, 2011, for buildings greater than fifty thousand square feet; and
- (b) By January 1, 2012, for buildings greater than ten thousand square feet.
- (5) Based on the size guidelines in subsection (4) of this section, a building owner or operator, or their agent, of a nonresidential building shall disclose the United States environmental protection agency's energy star portfolio manager benchmarking data and ratings to a prospective buyer, lessee, or lender for the most recent continuously occupied twelve-month period. A building owner or operator, or their agent, who delivers United States environmental protection agency's energy star portfolio manager benchmarking data and ratings to a prospective buyer, lessee, or lender is not required to provide additional information regarding energy consumption, and the information is deemed to be adequate to inform the prospective buyer, lessee, or lender regarding the United States environmental protection agency's energy star portfolio manager benchmarking data and ratings for the most recent twelve-month period for the building that is being sold, leased, financed, or refinanced.
- (6) Notwithstanding subsections (4) and (5) of this section, nothing in this section increases or decreases the duties, if any, of a building owner, operator, or their agent under this chapter or alters the duty of a seller, agent, or broker to disclose the existence of a material fact affecting the real property.
- NEW SECTION. Sec. 7. By December 31, 2009, to the extent that 28 29 funding is appropriated specifically for the purposes of this section, the department shall develop and recommend to the legislature a 30 31 methodology to determine an energy performance score for residential 32 buildings and an implementation strategy to use such information to improve the energy efficiency of the state's existing housing supply. 33 34 In developing its strategy, the department shall seek input from 35 providers of residential energy audits, utilities, building 36 contractors, mixed use developers, the residential real estate 37 industry, and real estate listing and form providers.

- NEW SECTION. Sec. 8. (1) The requirements of this section apply to the department of general administration and other qualifying state agencies only to the extent that specific appropriations are provided to those agencies referencing this act or chapter number and this section.
  - (2) By July 1, 2010, each qualifying public agency shall:
  - (a) Create an energy benchmark for each reporting public facility using a portfolio manager;
  - (b) Report to general administration, the environmental protection agency national energy performance rating for each reporting public facility included in the technical requirements for this rating; and
  - (c) Link all portfolio manager accounts to the state portfolio manager master account to facilitate public reporting.
  - (3) By January 1, 2010, general administration shall establish a state portfolio manager master account. The account must be designed to provide shared reporting for all reporting public facilities.
  - (4) By July 1, 2010, general administration shall select a standardized portfolio manager report for reporting public facilities. General administration, in collaboration with the United States environmental protection agency, shall make the standard report of each reporting public facility available to the public through the portfolio manager web site.
  - (5) General administration shall prepare a biennial report summarizing the statewide portfolio manager master account reporting data. The first report must be completed by December 1, 2012. Subsequent reporting shall be completed every two years thereafter.
  - (6) By July 1, 2010, general administration shall develop a technical assistance program to facilitate the implementation of a preliminary audit and the investment grade energy audit. General administration shall design the technical assistance program to utilize audit services provided by utilities or energy services contracting companies when possible.
  - (7) For a reporting public facility that is leased by the state with a national energy performance rating score below seventy-five, a qualifying public agency may not enter into a new lease or lease renewal on or after January 1, 2010, unless:
- 37 (a) A preliminary audit has been conducted within the last two 38 years; and

(b) The owner or lessor agrees to perform an investment grade audit and implement any cost-effective energy conservation measures within the first two years of the lease agreement if the preliminary audit has identified potential cost-effective energy conservation measures.

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- (8)(a) Except as provided in (b) of this subsection, for each 5 reporting public facility with a national energy performance rating 6 7 score below fifty, the qualifying public agency, in consultation with 8 general administration, shall undertake a preliminary energy audit by 9 July 1, 2011. If potential cost-effective energy savings are 10 identified, an investment grade energy audit must be completed by July 1, 2013. Implementation of cost-effective energy conservation measures 11 12 are required by July 1, 2016. For a major facility that is leased by 13 agency, college, or university, energy audits state and implementation of cost-effective energy conservation measures are 14 required only for that portion of the facility that is leased by the 15 state agency, college, or university. 16
  - (b) A reporting public facility that is leased by the state is deemed in compliance with (a) of this subsection if the qualifying public agency has already complied with the requirements of subsection (7) of this section.
  - (9) Schools are strongly encouraged to follow the provisions in subsections (2) through (8) of this section.
  - (10) The director of the department of general administration, in consultation with the affected state agencies and the office of financial management, shall review the cost and delivery of agency programs to determine the viability of relocation when a facility leased by the state has a national energy performance rating score below fifty. The department of general administration shall establish a process to determine viability.
  - (11) General administration, in consultation with the office of financial management, shall develop a waiver process for the requirements in subsection (7) of this section. The director of the office of financial management, in consultation with general administration, may waive the requirements in subsection (7) of this section if the director determines that compliance is not costeffective or feasible. The director of the office of financial management shall consider the review conducted by the department of

general administration on the viability of relocation as established in subsection (10) of this section, if applicable, prior to waiving the requirements in subsection (7) of this section.

(12) By July 1, 2011, general administration shall conduct a review 4 of facilities not covered by the national energy performance rating. 5 Based on this review, general administration shall develop a portfolio 6 of additional facilities that require preliminary energy audits. For 7 8 these facilities, the qualifying public agency, in consultation with general administration, shall undertake a preliminary energy audit by 9 10 July 1, 2012. If potential cost-effective energy savings are identified, an investment grade energy audit must be completed by July 11 12 1, 2013.

NEW SECTION. Sec. 9. Sections 2, 3, and 5 through 8 of this act are each added to chapter 19.27A RCW.

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