## E2SSB 5854 - H COMM AMD

By Committee on Technology, Energy & Communications

## NOT ADOPTED 04/14/2009

1 Strike everything after the enacting clause and insert the 2 following:

3 "NEW SECTION. **Sec. 1.** The legislature finds that energy efficiency is the cheapest, quickest, and cleanest way to meet rising 4 5 energy needs, confront climate change, and boost our economy. More 6 than thirty percent of Washington's greenhouse gas emissions come from 7 energy use in buildings. Making homes, businesses, and public 8 institutions more energy efficient will save money, create good local 9 jobs, enhance energy security, reduce pollution that causes global 10 warming, and speed economic recovery while reducing the need to invest 11 in costly new generation. Washington can spur its economy and assert 12 its regional and national clean energy leadership by putting efficiency 13 first. Washington can accomplish this by: Promoting super efficient, 14 low-energy use building codes; requiring disclosure of buildings' energy use to prospective buyers; making public buildings models of 15 16 energy efficiency; financing energy saving upgrades to existing buildings; and reducing utility bills for low-income households. 17

18 <u>NEW SECTION.</u> Sec. 2. The definitions in this section apply to 19 sections 1 through 3 and 5 through 8 of this act and RCW 19.27A.020 20 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 theWashington 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

1 association formed under chapter 24.06 RCW, a port district formed 2 under Title 53 RCW, or a water-sewer district formed under Title 57 3 RCW, that is engaged in the business of distributing electricity to one 4 or more retail electric customers in the state.

5 (4) "Cost-effectiveness" means that a project or resource is 6 forecast:

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(a) To be reliable and available within the time it is needed; and

8 (b) To meet or reduce the power demand of the intended consumers at 9 an estimated incremental system cost no greater than that of the least-10 cost similarly reliable and available alternative project or resource, 11 or any combination thereof.

12 (5)

(5) "Council" means the state building code council.

13 (6) "Department" means the department of community, trade, and14 economic development.

(7) "Embodied energy" means the total amount of fossil fuel energy 15 consumed to extract raw materials and to manufacture, assemble, 16 transport, and install the materials in a building and the life-cycle 17 cost benefits including the recyclability and energy efficiencies with 18 respect to building materials, taking into account the total sum of 19 current values for the costs of investment, capital, installation, 20 21 operating, maintenance, and replacement as estimated for the lifetime 22 of the product or project.

(8) "Energy consumption data" means the monthly amount of energy consumed by a customer as recorded by the applicable energy meter for the most recent twelve-month period.

26 (9) "Energy service company" has the same meaning as in RCW 27 43.19.670.

28 (10) "General administration" means the department of general 29 administration.

30 (11) "Greenhouse gas" and "greenhouse gases" includes carbon 31 dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, 32 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.

36 (13) "Investor-owned utility" means a corporation owned by 37 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.

3 (14) "Major facility" means any publicly owned or leased building,
4 or a group of such buildings at a single site, having ten thousand
5 square feet or more of conditioned floor space.

6 (15) "National energy performance rating" means the score provided 7 by the energy star program, to indicate the energy efficiency 8 performance of the building compared to similar buildings in that 9 climate as defined in the United States environmental protection agency 10 "ENERGY STAR® Performance Ratings Technical Methodology."

11 (16) "Net zero energy use" means a building with net energy 12 consumption of zero over a typical year.

13 (17) "Portfolio manager" means the United States environmental 14 protection agency's energy star portfolio manager or an equivalent tool 15 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.

18 (19) "Qualifying public agency" includes all state agencies,19 colleges, and universities.

(20) "Qualifying utility" means a consumer-owned or investor-owned
 gas or electric utility that serves more than twenty-five thousand
 customers in the state of Washington.

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(21) "Reporting public facility" means any of the following:

(a) A building or structure, or a group of buildings or structures
at a single site, owned by a qualifying public agency, that exceed ten
thousand square feet of conditioned space;

(b) Buildings, structures, or spaces leased by a qualifying public agency that exceeds ten thousand square feet of conditioned space, where the qualifying public agency purchases energy directly from the investor-owned or consumer-owned utility;

31 (c) A wastewater treatment facility owned by a qualifying public 32 agency; or

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(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.

<u>NEW SECT</u>ION. **Sec. 3.** (1) The department shall develop and 1 2 implement a strategic plan for enhancing energy efficiency in and reducing greenhouse gas emissions from homes, buildings, districts, and 3 4 The strategic plan must be used to help direct the neighborhoods. future code increases in RCW 19.27A.020, with targets for new buildings 5 6 consistent with section 5 of this act. The strategic plan will 7 identify barriers to achieving net zero energy use in homes and 8 buildings and identify how to overcome these barriers in future energy code updates and through complementary policies. 9

10 (2) The department must complete and release the strategic plan to 11 the legislature and the council by December 31, 2010, and update the 12 plan every three years.

(3) The strategic plan must include recommendations to the councilon 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;

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(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;

30 (e) Recommend incentives, education, training programs and certifications, particularly state-approved training or certification 31 programs, 32 joint apprenticeship programs, or labor-management partnership programs that train workers for energy-efficiency projects 33 34 ensure proposed programs are designed to increase building to 35 professionals' ability to design, construct, and operate buildings that 36 will meet the seventy percent reduction in annual net energy 37 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;

3 (g) Address the limits of a prescriptive code in achieving net zero 4 energy use homes and buildings and propose a transition to performance-5 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;

14 (j) Develop strategies to develop and install district and 15 neighborhood-wide energy systems that help meet net zero energy use in 16 homes and buildings;

17 (k) Identify costs and benefits of energy efficiency measures on 18 residential and nonresidential construction; and

(1) Investigate methodologies and standards for the measurement ofthe amount of embodied energy used in building materials.

(4) The department and the council shall convene a work group with the affected parties to inform the initial development of the strategic plan.

24 **Sec. 4.** RCW 19.27A.020 and 1998 c 245 s 8 are each amended to read 25 as follows:

(1) ((No later than January 1, 1991,)) The state building code
council shall adopt rules to be known as the Washington state energy
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:

32 (a) Construct increasingly energy efficient homes and buildings
 33 that help achieve the broader goal of building zero fossil-fuel
 34 greenhouse gas emission homes and buildings by the year 2031;

35 <u>(b)</u> Require new buildings to meet a certain level of energy 36 efficiency, but allow flexibility in building design, construction, and 1 heating equipment efficiencies within that framework((. The Washington
2 state energy code shall be designed to)); and

3 (c) Allow space heating equipment efficiency to offset or
 4 substitute for building envelope thermal performance.

5 (3) The Washington state energy code shall take into account 6 regional climatic conditions. Climate zone 1 shall include all 7 counties not included in climate zone 2. Climate zone 2 includes: 8 Adams, Chelan, Douglas, Ferry, Grant, Kittitas, Lincoln, Okanogan, Pend 9 Oreille, Spokane, Stevens, and Whitman counties.

10 (4) The Washington state energy code for residential buildings 11 shall ((require:

12 (a) New residential buildings that are space heated with electric 13 resistance heating systems to achieve energy use equivalent to that 14 used in typical buildings constructed with:

15 (i) Ceilings insulated to a level of R-38. The code shall contain 16 an exception which permits single rafter or joist vaulted ceilings 17 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 18 includes insulation only), or constructed with two by four members, 19 20 R-13 insulation batts, R-3.2 insulated sheathing, and other normal 21 assembly components; in zone 2 walls insulated to a level of R-24 (R value includes insulation only), or constructed with two by six 22 members, R-22 insulation batts, R-3.2 insulated sheathing, and other 23 24 normal construction assembly components; for the purpose of determining equivalent thermal performance, the wall U-value shall be 0.058 in zone 25 1 and 0.044 in zone 2; 26

27 (iii) Below grade walls, insulated on the interior side, to a level 28 of R-19 or, if insulated on the exterior side, to a level of R-10 in 29 zone 1 and R-12 in zone 2 (R value includes insulation only);

30 (iv) Floors over unheated spaces insulated to a level of R-30 (R 31 value includes insulation only);

32 (v) Slab on grade floors insulated to a level of R-10 at the 33 perimeter;

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

35 (vii) In zone 1 the glazing area may be up to twenty-one percent of 36 floor area and in zone 2 the glazing area may be up to seventeen 37 percent of floor area where consideration of the thermal resistance 38 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

8 (viii) Exterior doors insulated to a level of R-5; or an exterior 9 wood door with a thermal resistance value of less than R-5 and values 10 for other components determined in accordance with the equivalent 11 thermal performance criteria of (a) of this subsection.

12 (b) New residential buildings which are space heated with all other 13 forms of space heating to achieve energy use equivalent to that used in 14 typical buildings constructed with:

15 (i) Ceilings insulated to a level of R-30 in zone 1 and R-38 in 2000 2 the code shall contain an exception which permits single rafter 2000 or joist vaulted ceilings insulated to a level of R-30 (R value 2000 includes insulation only);

19 (ii) Walls insulated to a level of R-19 (R value includes 20 insulation only), or constructed with two by four members, R-13 21 insulation batts, R-3.2 insulated sheathing, and other normal assembly 22 components;

23 (iii) Below grade walls, insulated on the interior side, to a level 24 of R-19 or, if insulated on the exterior side, to a level of R-10 in 25 zone 1 and R-12 in zone 2 (R value includes insulation only);

26 (iv) Floors over unheated spaces insulated to a level of R-19 in 27 zone 1 and R-30 in zone 2 (R value includes insulation only);

28 (v) Slab on grade floors insulated to a level of R-10 at the 29 perimeter;

30 (vi) Heat pumps with a minimum heating season performance factor 31 (HSPF) of 6.8 or with all other energy sources with a minimum annual 32 fuel utilization efficiency (AFUE) of seventy-eight percent;

33 (vii) Double glazed windows with values not more than U-0.65 in 34 zone 1 and U-0.60 in zone 2. The state building code council, in 35 consultation with the department of community, trade, and economic 36 development, shall review these U-values, and, if economically 37 justified for consumers, shall amend the Washington state energy code 1 to improve the U-values by December 1, 1993. The amendment shall not 2 take effect until July 1, 1994; and

3 (viii) In zone 1, the maximum glazing area shall be twenty-one 4 percent of the floor area. In zone 2 the maximum glazing area shall be 5 seventeen percent of the floor area. Throughout the state for the 6 purposes of determining equivalent thermal performance, the maximum 7 glazing area shall be fifteen percent of the floor area.

8 (c) The requirements of (b)(ii) of this subsection do not apply to 9 residences with log or solid timber walls with a minimum average 10 thickness of three and one-half inches and with space heat other than 11 electric resistance.

12 (d) The state building code council may approve an energy code for 13 pilot projects of residential construction that use innovative energy 14 efficiency technologies intended to result in savings that are greater 15 than those realized in the levels specified in this section.

16 (5) U-values for glazing shall be determined using the area weighted average of all glazing in the building. U-values for vertical 17 glazing shall be determined, certified, and labeled in accordance with 18 the appropriate national fenestration rating council (NFRC) standard, 19 as determined and adopted by the state building code council. 20 Certification of U-values shall be conducted by a certified, 21 independent agency licensed by the NFRC. The state building code 22 council may develop and adopt alternative methods of determining, 23 certifying, and labeling U-values for vertical glazing that may be used 24 25 by fenestration manufacturers if determined to be appropriate by the 26 council. The state building code council shall review and consider the adoption of the NFRC standards for determining, certifying, and 27 28 labeling U-values for doors and skylights when developed and published by the NFRC. The state building code council may develop and adopt 29 appropriate alternative methods for determining, certifying, and 30 31 labeling U-values for doors and skylights. U-values for doors and 32 skylights determined, certified, and labeled in accordance with the appropriate NFRC standard shall be acceptable for compliance with the 33 state energy code. Sealed insulation glass, where used, shall conform 34 to, or be in the process of being tested for, ASTM E-774-81 class A or 35 36 better)) be the 2006 edition of the Washington state energy code, or as

37 <u>amended by rule by the council</u>.

(((++))) (5) The minimum state energy code for new nonresidential
 buildings shall be the Washington state energy code, ((++++)) 2006
 edition, or as amended by the council by rule.

4 (((7))) (6)(a) Except as provided in (b) of this subsection, the
5 Washington state energy code for residential structures shall preempt
6 the residential energy code of each city, town, and county in the state
7 of Washington.

8 (b) The state energy code for residential structures does not 9 preempt a city, town, or county's energy code for residential 10 structures which exceeds the requirements of the state energy code 11 ((and which was adopted by the city, town, or county prior to March 1, 12 1990. Such cities, towns, or counties may not subsequently amend their 13 energy code for residential structures to exceed the requirements 14 adopted prior to March 1, 1990)).

(((+8))) (7) The state building code council shall consult with the 15 department of community, trade, and economic development as provided in 16 RCW 34.05.310 prior to publication of proposed rules. ((The department 17 18 of community, trade, and economic development shall review the proposed 19 rules for consistency with the guidelines adopted in subsection (4) of this section.)) The director of the department of community, trade, 20 21 and economic development shall recommend to the state building code 22 council any changes necessary to conform the proposed rules to the 23 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.

27 (9) The definitions in section 2 of this act apply throughout this
 28 section.

29 <u>NEW SECTION.</u> Sec. 5. (1) Except as provided in subsection (2) of 30 this section, residential and nonresidential construction permitted 31 under the 2031 state energy code must achieve a seventy percent 32 reduction in annual net energy consumption, using the adopted 2006 33 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

1 31, 2012, and every three years thereafter. If the council determines 2 that economic, technological, or process factors would significantly 3 impede adoption of or compliance with this subsection, the council may 4 defer the implementation of the proposed energy code update and shall 5 report its findings to the legislature by December 31st of the year 6 prior to the year in which those codes would otherwise be enacted.

7 <u>NEW SECTION.</u> Sec. 6. (1) On and after January 1, 2010, qualifying 8 utilities shall maintain records of the energy consumption data of all 9 nonresidential and qualifying public agency buildings to which they 10 provide service. This data must be maintained for at least the most 11 recent twelve months in a format compatible for uploading to the United 12 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.

20 (3) In carrying out the requirements of this section, a qualifying 21 utility shall use any method for providing the specified data in order to maximize efficiency and minimize overall program cost. Qualifying 22 23 utilities are encouraged to consult with the United States 24 environmental protection agency and their customers in developing 25 reasonable reporting options.

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

(a) By January 1, 2011, for buildings greater than fifty thousandsquare feet; and

31 (b) By January 1, 2012, for buildings greater than ten thousand 32 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 1 2 agent, who delivers United States environmental protection agency's energy star portfolio manager benchmarking data and ratings to a 3 4 prospective buyer, lessee, or lender is not required to provide 5 additional information regarding energy consumption, and the information is deemed to be adequate to inform the prospective buyer, б 7 lessee, or lender regarding the United States environmental protection 8 agency's energy star portfolio manager benchmarking data and ratings for the most recent twelve-month period for the building that is being 9 10 sold, leased, financed, or refinanced.

11 (6) Notwithstanding subsections (4) and (5) of this section, 12 nothing in this section increases or decreases the duties, if any, of 13 a building owner, operator, or their agent under this chapter or alters 14 the duty of a seller, agent, or broker to disclose the existence of a 15 material fact affecting the real property.

16 <u>NEW SECTION.</u> Sec. 7. By December 31, 2009, the department shall recommend to the legislature a methodology to determine an energy 17 performance score for residential buildings and an implementation 18 strategy to use such information to improve the energy efficiency of 19 20 the state's existing housing supply. In developing its strategy, the 21 department shall seek input from providers of residential energy 22 audits, utilities, building contractors, mixed use developers, the residential real estate industry, and real estate listing and form 23 24 providers.

25 <u>NEW SECTION.</u> Sec. 8. (1) By July 1, 2010, each qualifying public 26 agency shall:

(a) Create an energy benchmark for each reporting public facilityusing 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

32 (c) Link all portfolio manager accounts to the state portfolio33 manager master account to facilitate public reporting.

34 (2) By January 1, 2010, general administration shall establish a
 35 state portfolio manager master account. The account must be designed
 36 to provide shared reporting for all reporting public facilities.

1 (3) By July 1, 2010, general administration shall select a 2 standardized portfolio manager report for reporting public facilities. 3 General administration, in collaboration with the United States 4 environmental protection agency, shall make the standard report of each 5 reporting public facility available to the public through the portfolio 6 manager web site.

7 (4) General administration shall prepare a biennial report
8 summarizing the statewide portfolio manager master account reporting
9 data. The first report must be completed by December 1, 2012.
10 Subsequent reporting shall be completed every two years thereafter.

11 (5) By July 1, 2010, general administration shall develop a 12 technical assistance program to facilitate the implementation of a 13 preliminary audit and the investment grade energy audit. General 14 administration shall design the technical assistance program to utilize 15 audit services provided by utilities or energy services contracting 16 companies when possible.

(6) For each reporting public facility with a national energy 17 performance rating score below fifty, the qualifying public agency, in 18 19 consultation with general administration, shall undertake a preliminary energy audit by July 1, 2011. If potential cost-effective energy 20 21 savings are identified, an investment grade energy audit must be 22 completed by July 1, 2013. Implementation of cost-effective energy 23 conservation measures are required by July 1, 2016. For a major facility that is leased by a state agency, college, or university, 24 energy audits and implementation of cost-effective energy conservation 25 26 measures are required only for that portion of the facility that is 27 leased by the state agency, college, or university.

(7) Schools are strongly encouraged to follow the provisions insubsections (1) through (6) of this section.

30 (8) The director of the department of general administration, in 31 consultation with the affected state agencies and the office of 32 financial management, shall review the cost and delivery of agency 33 programs to determine the viability of relocation when a facility 34 leased by the state has a national energy performance rating score 35 below fifty. The department of general administration shall establish 36 a process to determine viability.

37 (9) By July 1, 2011, general administration shall conduct a review38 of facilities not covered by the national energy performance rating.

Based on this review, general administration shall develop a portfolio of additional facilities that require preliminary energy audits. For these facilities, the qualifying public agency, in consultation with general administration, shall undertake a preliminary energy audit by July 1, 2012. If potential cost-effective energy savings are identified, an investment grade energy audit must be completed by July 1, 2013.

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

10 <u>NEW SECTION.</u> Sec. 10. Provisions of sections 3, 7, and 8 of this 11 act shall be in effect only during fiscal periods in which specific 12 appropriations are provided referencing this act or chapter number and 13 the relevant section number."

14 Correct the title.

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