

E2SHB 1747 - S COMM AMD

By Committee on Environment, Water & Energy

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

3 "NEW SECTION. **Sec. 1.** The legislature finds that energy
4 efficiency is the cheapest, quickest, and cleanest way to meet rising
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'
15 energy use to prospective buyers; making public buildings models of
16 energy efficiency; financing energy saving upgrades to existing
17 buildings; and reducing utility bills for low-income households.

18 NEW SECTION. **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.

21 (1) "Benchmark" means the energy used by a facility as recorded
22 monthly for at least one year and the facility characteristics
23 information inputs required for a portfolio manager.

24 (2) "Conditioned space" means conditioned space, as defined in the
25 Washington state energy code.

26 (3) "Consumer-owned utility" includes a municipal electric utility
27 formed under Title 35 RCW, a public utility district formed under Title
28 54 RCW, an irrigation district formed under chapter 87.03 RCW, a
29 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:

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

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

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

23 (8) "Energy consumption data" means the monthly amount of energy
24 consumed by a customer as recorded by the applicable energy meter for
25 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.

33 (12) "Investment grade energy audit" means an intensive engineering
34 analysis of energy efficiency and management measures for the facility,
35 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

1 80.04.010 and is engaged in distributing either electricity or natural
2 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.

16 (18) "Preliminary energy audit" means a quick evaluation by an
17 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 (20) "Qualifying utility" means a consumer-owned or investor-owned
21 gas or electric utility that serves more than twenty-five thousand
22 customers in the state of Washington.

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

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

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

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

33 (d) Other facilities selected by the qualifying public agency.

34 (22) "State portfolio manager master account" means a portfolio
35 manager account established to provide a single shared portfolio that
36 includes reports for all the reporting public facilities.

1 NEW SECTION. **Sec. 3.** (1) The department shall develop and
2 implement a strategic plan for enhancing energy efficiency in and
3 reducing greenhouse gas emissions from homes, buildings, districts, and
4 neighborhoods. The strategic plan must be used to help direct the
5 future code increases in RCW 19.27A.020, with targets for new buildings
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
9 code updates and through complementary policies.

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.

13 (3) The strategic plan must include recommendations to the council
14 on energy code upgrades. At a minimum, the strategic plan must:

15 (a) Consider development of aspirational codes separate from the
16 state energy code that contain economically and technically feasible
17 optional standards that could achieve higher energy efficiency for
18 those builders that elected to follow the aspirational codes in lieu of
19 or in addition to complying with the standards set forth in the state
20 energy code;

21 (b) Determine the appropriate methodology to measure achievement of
22 state energy code targets using the United States environmental
23 protection agency's target finder program or equivalent methodology;

24 (c) Address the need for enhanced code training and enforcement;

25 (d) Include state strategies to support research, demonstration,
26 and education programs designed to achieve a seventy percent reduction
27 in annual net energy consumption as specified in section 5 of this act
28 and enhance energy efficiency and on-site renewable energy production
29 in buildings;

30 (e) Recommend incentives, education, training programs and
31 certifications, particularly state-approved training or certification
32 programs, joint apprenticeship programs, or labor-management
33 partnership programs that train workers for energy-efficiency projects
34 to ensure proposed programs are designed to increase building
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;

1 (f) Address barriers for utilities to serve net zero energy homes
2 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;

6 (h) Identify financial mechanisms such as tax incentives, rebates,
7 and innovative financing to motivate energy consumers to take action to
8 increase energy efficiency and their use of on-site renewable energy.
9 Such incentives, rebates, or financing options may consider the role of
10 government programs as well as utility-sponsored programs;

11 (i) Address the adequacy of education and technical assistance,
12 including school curricula, technical training, and peer-to-peer
13 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

19 (l) Investigate methodologies and standards for the measurement of
20 the amount of embodied energy used in building materials.

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

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

26 (1) (~~No later than January 1, 1991,~~) The state building code
27 council shall adopt rules to be known as the Washington state energy
28 code as part of the state building code.

29 (2) The council shall follow the legislature's standards set forth
30 in this section to adopt rules to be known as the Washington state
31 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 (b) 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);~~

18 ~~(ii) In zone 1, walls insulated to a level of R 19 (R value~~
19 ~~includes insulation only), or constructed with two by four members,~~
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~~
22 ~~value includes insulation only), or constructed with two by six~~
23 ~~members, R 22 insulation batts, R 3.2 insulated sheathing, and other~~
24 ~~normal construction assembly components; for the purpose of determining~~
25 ~~equivalent thermal performance, the wall U value shall be 0.058 in zone~~
26 ~~1 and 0.044 in zone 2;~~

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~~

1 ~~glazing result in thermal performance equivalent to that achieved with~~
2 ~~thermal resistance values for other components determined in accordance~~
3 ~~with the equivalent thermal performance criteria of (a) of this~~
4 ~~subsection and glazing area equal to fifteen percent of the floor area.~~
5 ~~Throughout the state for the purposes of determining equivalent thermal~~
6 ~~performance, the maximum glazing area shall be fifteen percent of the~~
7 ~~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~~
16 ~~zone 2 the code shall contain an exception which permits single rafter~~
17 ~~or joist vaulted ceilings insulated to a level of R-30 (R-value~~
18 ~~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~~
17 ~~weighted average of all glazing in the building. U values for vertical~~
18 ~~glazing shall be determined, certified, and labeled in accordance with~~
19 ~~the appropriate national fenestration rating council (NFRC) standard,~~
20 ~~as determined and adopted by the state building code council.~~
21 ~~Certification of U values shall be conducted by a certified,~~
22 ~~independent agency licensed by the NFRC. The state building code~~
23 ~~council may develop and adopt alternative methods of determining,~~
24 ~~certifying, and labeling U values for vertical glazing that may be used~~
25 ~~by fenestration manufacturers if determined to be appropriate by the~~
26 ~~council. The state building code council shall review and consider the~~
27 ~~adoption of the NFRC standards for determining, certifying, and~~
28 ~~labeling U values for doors and skylights when developed and published~~
29 ~~by the NFRC. The state building code council may develop and adopt~~
30 ~~appropriate alternative methods for determining, certifying, and~~
31 ~~labeling U values for doors and skylights. U values for doors and~~
32 ~~skylights determined, certified, and labeled in accordance with the~~
33 ~~appropriate NFRC standard shall be acceptable for compliance with the~~
34 ~~state energy code. Sealed insulation glass, where used, shall conform~~
35 ~~to, or be in the process of being tested for, ASTM E 774-81 class A or~~
36 ~~better)) be the 2006 edition of the Washington state energy code, or as~~
37 ~~amended by rule by the council.~~

1 ~~((+6))~~ (5) The minimum state energy code for new nonresidential
2 buildings shall be the Washington state energy code, ~~((1986))~~ 2006
3 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)).~~

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

24 (8) The state building code council shall evaluate and consider
25 adoption of the international energy conservation code in Washington
26 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 NEW SECTION. 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.

34 (2) The council shall adopt state energy codes from 2013 through
35 2031 that incrementally move towards achieving the seventy percent
36 reduction in annual net energy consumption as specified in subsection
37 (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 NEW SECTION. **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.

13 (2) On and after January 1, 2010, upon the written authorization or
14 secure electronic authorization of a nonresidential building owner or
15 operator, a qualifying utility shall upload the energy consumption data
16 for the accounts specified by the owner or operator for a building to
17 the United States environmental protection agency's energy star
18 portfolio manager in a form that does not disclose personally
19 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
22 to maximize efficiency and minimize overall program cost. Qualifying
23 utilities are encouraged to consult with the United States
24 environmental protection agency and their customers in developing
25 reasonable reporting options.

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

29 (a) By January 1, 2011, for buildings greater than fifty thousand
30 square feet; and

31 (b) By January 1, 2012, for buildings greater than ten thousand
32 square feet.

33 (5) Based on the size guidelines in subsection (4) of this section,
34 a building owner or operator, or their agent, of a nonresidential
35 building shall disclose the United States environmental protection
36 agency's energy star portfolio manager benchmarking data and ratings to
37 a prospective buyer, lessee, or lender for the most recent continuously

1 occupied twelve-month period. A building owner or operator, or their
2 agent, who delivers United States environmental protection agency's
3 energy star portfolio manager benchmarking data and ratings to a
4 prospective buyer, lessee, or lender is not required to provide
5 additional information regarding energy consumption, and the
6 information is deemed to be adequate to inform the prospective buyer,
7 lessee, or lender regarding the United States environmental protection
8 agency's energy star portfolio manager benchmarking data and ratings
9 for the most recent twelve-month period for the building that is being
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 NEW SECTION. **Sec. 7.** By December 31, 2009, the department shall
17 recommend to the legislature a methodology to determine an energy
18 performance score for residential buildings and an implementation
19 strategy to use such information to improve the energy efficiency of
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
23 residential real estate industry, and real estate listing and form
24 providers.

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

27 (a) Create an energy benchmark for each reporting public facility
28 using a portfolio manager;

29 (b) Report to general administration, the environmental protection
30 agency national energy performance rating for each reporting public
31 facility included in the technical requirements for this rating; and

32 (c) Link all portfolio manager accounts to the state portfolio
33 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.

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

28 (7) Schools are strongly encouraged to follow the provisions in
29 subsections (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 review
38 of facilities not covered by the national energy performance rating.

1 Based on this review, general administration shall develop a portfolio
2 of additional facilities that require preliminary energy audits. For
3 these facilities, the qualifying public agency, in consultation with
4 general administration, shall undertake a preliminary energy audit by
5 July 1, 2012. If potential cost-effective energy savings are
6 identified, an investment grade energy audit must be completed by July
7 1, 2013.

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

E2SHB 1747 - S COMM AMD

By Committee on Environment, Water & Energy

10 On page 1, line 2 of the title, after "environment;" strike the
11 remainder of the title and insert "amending RCW 19.27A.020; adding new
12 sections to chapter 19.27A RCW; and creating a new section."

--- END ---