

111TH CONGRESS
1ST SESSION

H. R. 1778

To provide for the establishment of national energy and environmental building retrofit policies for both residential and commercial buildings, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MARCH 30, 2009

Mr. WELCH (for himself, Mr. VAN HOLLEN, Mr. PATRICK J. MURPHY of Pennsylvania, Mrs. MALONEY, Mr. HONDA, Ms. KILPATRICK of Michigan, Mr. CARSON of Indiana, Mrs. DAHLKEMPER, Mr. PALLONE, Mr. ISRAEL, Mr. COHEN, Mr. CUMMINGS, Mr. LANGEVIN, Mr. ELLISON, Mr. HINCHEY, Mr. TONKO, Mr. BLUMENAUER, Ms. SHEA-PORTER, Mrs. CHRISTENSEN, Mr. BRALEY of Iowa, Mr. GEORGE MILLER of California, Mr. TEAGUE, Mr. DELAHUNT, Mr. INSLEE, Mr. COURTNEY, Mr. HEINRICH, Mr. CARNAHAN, Mr. HIMES, Mr. PERLMUTTER, Mrs. CAPPS, Mr. MASSA, and Mr. POLIS of Colorado) introduced the following bill; which was referred to the Committee on Energy and Commerce, and in addition to the Committee on Financial Services, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

A BILL

To provide for the establishment of national energy and environmental building retrofit policies for both residential and commercial buildings, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “Retrofit for Energy
3 and Environmental Performance (REEP) Program Act”.

4 **SEC. 2. FINDINGS.**

5 The Congress finds that—

6 (1) buildings are responsible for 39 percent of
7 all energy consumption, 72 percent of all electricity
8 consumption, and 55 percent of natural gas use in
9 the United States;

10 (2) buildings are responsible for 38 percent of
11 all carbon dioxide emissions in the United States;

12 (3) energy efficiency in buildings can readily be
13 improved in most cases using existing technologies
14 to reduce building energy consumption by 25 percent
15 or more;

16 (4) buildings represent 14 percent of potable
17 water use in the United States, also amenable to sig-
18 nificant efficiency improvement;

19 (5) Home Performance with Energy Star in
20 Vermont and many other States, as well as indi-
21 vidual retrofits of commercial buildings, show that
22 such savings are possible and economical; and

23 (6) expanding the residential and commercial
24 efficiency industries will create jobs directly in per-
25 forming retrofits and indirectly through reduced en-
26 ergy bills to consumers.

1 **SEC. 3. BUILDING RETROFIT PROGRAM.**

2 (a) DEFINITIONS.—For purposes of this section:

3 (1) ADMINISTRATOR.—The term “Adminis-
4 trator” means the Administrator of the Environ-
5 mental Protection Agency.

6 (2) PERFORMANCE-BASED BUILDING RETROFIT
7 PROGRAM.—The term “performance-based building
8 retrofit program” means a program that determines
9 success in energy efficiency based on actual meas-
10 ured savings after a retrofit is complete.

11 (3) PRESCRIPTIVE BUILDING RETROFIT PRO-
12 GRAM.—The term “prescriptive building retrofit pro-
13 gram” means a program that projects success in en-
14 ergy efficiency based on the known effectiveness of
15 measures prescribed to be included in a retrofit.

16 (4) STATE.—The term “State” means the sev-
17 eral States, the District of Columbia, the Common-
18 wealth of Puerto Rico, the United States Virgin Is-
19 lands, Guam, American Samoa, the Commonwealth
20 of the Northern Mariana Islands, and any other
21 commonwealth, territory, or possession of the United
22 States.

23 (5) STATE ENERGY PROGRAM.—The term
24 “State Energy Program” means the program under
25 part D of title III of the Energy Policy and Con-
26 servation Act (42 U.S.C. 6321 et seq.)

1 (b) ESTABLISHMENT.—The Administrator shall de-
2 velop and implement, in consultation with the Secretary
3 of Energy, standards for a national energy and environ-
4 mental building retrofit policy for single-family and multi-
5 family residences. The Secretary of Energy shall develop
6 and implement, in consultation with the Administrator,
7 standards for a national energy and environmental build-
8 ing retrofit policy for commercial buildings. The programs
9 to implement the residential and commercial policies based
10 on the standards developed under this section shall to-
11 gether be known as the Retrofit for Energy and Environ-
12 mental Performance (REEP) program.

13 (c) PROGRAM DESIGN.—

14 (1) PURPOSE.—The purpose of the REEP pro-
15 gram is to facilitate the retrofitting of existing build-
16 ings across the United States to achieve maximum
17 cost-effective energy efficiency improvements and
18 significant improvements in water use and other en-
19 vironmental attributes.

20 (2) FEDERAL RESOURCES.—The REEP pro-
21 gram shall utilize Federal personnel and resources
22 as needed for development, design, program mate-
23 rials, administration, seed capital, and other activi-
24 ties and support.

1 (3) ASSISTANCE TO STATES.—The REEP pro-
2 gram shall provide Federal financial assistance to
3 States, to be administered through the State Energy
4 Program, for management and the accomplishment
5 of the program’s objectives at the individual building
6 level, through local agencies as appropriate, in ac-
7 cordance with standards and requirements estab-
8 lished under this section.

9 (4) STATE AND LOCAL ASSISTANCE.—State and
10 local agencies may offer free or low-cost building au-
11 dits, incentives, technical assistance, training, incen-
12 tive financing, and other forms of assistance to indi-
13 vidual building owners under the standards and
14 guidelines developed for the REEP program in ac-
15 cordance with this section, as well as promotion and
16 management of the REEP program.

17 (5) STRUCTURE OF PROGRAM OPERATIONS.—
18 State and local agencies shall have broad flexibility
19 in the structure of REEP program operations and
20 in the choice of retrofit agencies or contractors.

21 (d) FEDERAL ADMINISTRATION.—

22 (1) EXISTING PROGRAMS.—In creating and op-
23 erating the residential REEP program—

24 (A) the Administrator shall make appro-
25 priate use of existing programs, including the

1 Energy Star program and in particular the En-
2 vironmental Protection Agency Energy Star for
3 Buildings program; and

4 (B) the Secretary of Energy shall make
5 appropriate use of existing programs, including
6 delegating authority to the Director of Commer-
7 cial High-Performance Green Buildings ap-
8 pointed under section 421 of the Energy Inde-
9 pendence and Security Act of 2007 (42 U.S.C.
10 17081), who shall designate and provide fund-
11 ing to support a High-Performance Green
12 Building Partnership Consortium pursuant to
13 such section to support efforts under this Act.

14 (2) CONSULTATION AND COORDINATION.—The
15 Administrator and the Secretary of Energy shall
16 consult with and coordinate with the Secretary of
17 Housing and Urban Development in carrying out the
18 REEP program.

19 (3) ADMINISTRATION OF FUNDING.—The Sec-
20 retary of Energy shall administer the financing for
21 the REEP program, providing funds to and adminis-
22 tration through State Energy Offices under the
23 State Energy Program, or through such existing
24 State offices or entities regulated by the State that
25 the Governor of the State designates to carry out

1 the purposes of this Act. The Secretary shall ensure
2 accountability for funds dispensed, including meas-
3 urement and verification of energy, water, and envi-
4 ronmental savings achieved.

5 (4) ASSISTANCE.—The Administrator and the
6 Secretary of Energy shall provide consultation and
7 assistance to State and local agencies for the estab-
8 lishment of revolving loan funds or other forms of fi-
9 nancial assistance under this section.

10 (e) STATE AND LOCAL ADMINISTRATION.—

11 (1) DELEGATION.—The State Energy Office or
12 designated State agency described in subsection
13 (d)(3) may delegate performance of appropriate ele-
14 ments of the REEP program, upon their request
15 and subject to State law, to counties, municipalities,
16 appropriate public agencies, and other divisions of
17 local government, as well as to entities regulated by
18 the State. The State shall ensure accountability for
19 expended funds provided under this section, and
20 shall maintain responsibility for meeting the stand-
21 ards and requirements of the REEP program.

22 (2) EMPLOYMENT.—States and local govern-
23 ment entities may employ public or regulated inves-
24 tor-owned utilities, building auditors and inspectors,
25 contractors, nonprofit organizations, and other enti-

1 ties to perform audits and retrofit services under
2 this section.

3 (f) ELEMENTS OF REEP PROGRAM.—The elements
4 of the REEP program shall include the following:

5 (1) The Administrator and the Secretary of En-
6 ergy shall establish goals and standards for accom-
7 plishing the purpose stated in subsection (c)(1), and
8 shall annually review and, as appropriate, revise
9 such goals and standards.

10 (2) Residential Energy Services Network
11 (RESNET) certification of building energy and envi-
12 ronment auditors, inspectors, and raters, or an
13 equivalent certification system as determined by the
14 Administrator.

15 (3) Building Performance Institute (BPI) cer-
16 tification or licensing by States of building energy
17 and environmental retrofit contractors, or an equiva-
18 lent certification or licensing system as determined
19 by the Administrator.

20 (4) Building Performance Institute, Residential
21 Energy Services Network, or other appropriate in-
22 formation on equipment and procedures, as deter-
23 mined by the Administrator, that contractors can
24 use to test the energy and environmental efficiency
25 of buildings effectively (such as infrared photog-

1 raphy and pressurized testing, and tests for water
2 use and indoor air quality).

3 (5) Provision of clear and effective materials to
4 describe the testing and retrofit processes for typical
5 buildings.

6 (6) Suggested guidelines for offering and man-
7 aging prescriptive building retrofit programs and
8 performance-based building retrofit programs for
9 residential and commercial buildings.

10 (7) Suggested guidelines for applying
11 retrocommissioning principles to improve a build-
12 ing's operations and maintenance procedures.

13 (8) Determination of energy savings in a per-
14 formance-based building retrofit program through—

15 (A) for residential buildings, comparison of
16 before and after retrofit scores on the Home
17 Energy Rating System (HERS) Index, where
18 the final score is produced by an objective third
19 party;

20 (B) for commercial buildings, Environ-
21 mental Protection Agency Portfolio Manager
22 benchmarks; or

23 (C) for either residential or commercial
24 buildings, use of an Administrator-approved
25 simulation program, subject to appropriate soft-

1 ware standards and verification of at least 15
2 percent of all work done.

3 (9) Suggested guidelines for utilizing the En-
4 ergy Star Portfolio Manager, the Home Energy Rat-
5 ing System (HERS) rating system, Home Perform-
6 ance with Energy Star program approvals, and any
7 other tools associated with the retrofit program.

8 (10) Requirements and guidelines for post-ret-
9 rofit inspection and confirmation of work and energy
10 savings.

11 (11) Detailed descriptions of funding options
12 for the benefit of State and local governments, along
13 with model forms, accounting aids, agreements, and
14 guides to best practices.

15 (12) Guidelines for obtaining certification of
16 buildings after retrofit as Energy Star buildings, as-
17 signing Home Energy Rating System (HERS) rat-
18 ing, and completing applicable building performance
19 labels.

20 (13) Sample materials for publicizing the pro-
21 gram to building owners, including public service an-
22 nouncements and advertisements.

23 (14) Processes for tracking the numbers and lo-
24 cations of buildings retrofitted under the REEP pro-

1 gram, with information on projected and actual sav-
2 ings of energy and its value over time.

3 (15) A requirement that building retrofits con-
4 ducted pursuant to a REEP program, as appro-
5 priate, especially in all air-conditioned buildings,
6 shall use roofing materials that demonstrate—

7 (A) on residential single family homes and
8 other buildings with slanted roofs—

9 (i) for fiberglass asphalt-shingle roof-
10 ing, an initial solar reflectance of 0.3 or
11 higher; or

12 (ii) for all other roofing materials, an
13 initial solar reflectance of 0.4 or higher;
14 and

15 (B) on commercial buildings and all build-
16 ings with flat roofs, roofing materials with—

17 (i) an initial solar reflectance of 0.7 or
18 higher;

19 (ii) a solar reflectance value 3 years
20 after installation (“h” solar reflectance) of
21 0.55 or higher; and

22 (iii) a thermal emittance of 0.8 or
23 higher.

1 (g) REQUIREMENTS.—As a condition of receiving
2 funding for the REEP program appropriated pursuant to
3 this section, a State shall—

4 (1) adopt the standards for training, certifi-
5 cation of contractors, certification of buildings, and
6 post-retrofit inspection as developed by the Adminis-
7 trator and the Secretary of Energy for residential
8 and commercial buildings, respectively, except as
9 necessary to match local conditions, needs, efficiency
10 opportunities, or other local factors, or to accord
11 with State laws or regulations, and then only after
12 60 days have expired after the State provides notice
13 to the Administrator or the Secretary of Energy, as
14 appropriate, of the need for such variance; and

15 (2) establish fiscal controls and accounting pro-
16 cedures (which conform to generally accepted gov-
17 ernment accounting principles) sufficient to ensure
18 proper accounting during appropriate accounting pe-
19 riods for payments received and disbursements, and
20 for fund balances.

21 The Secretary of Energy shall conduct or require each
22 State to have such independent financial audits of REEP-
23 related funding as the Secretary of Energy considers nec-
24 essary or appropriate to carry out the purposes of this
25 section.

1 (h) FINANCIAL OPTIONS TO SUPPORT REEP PRO-
2 GRAM.—The Secretary of Energy and the Administrator
3 shall support the implementation through State REEP
4 programs of alternate means of creating incentives for, or
5 reducing financial barriers to, improved energy and envi-
6 ronmental performance in buildings, consistent with this
7 section, including—

8 (1) implementing prescriptive building retrofit
9 programs and performance-based building retrofit
10 programs;

11 (2) providing credit enhancement, interest rate
12 subsidies, or other credit support;

13 (3) providing initial capital for public revolving
14 fund financing of retrofits, with repayments by bene-
15 ficiary building owners over time through their tax
16 payments, calibrated to create net positive cash flow
17 to the building owner;

18 (4) providing funds to support utility-operated
19 retrofit programs with repayments over time
20 through utility rates, calibrated to create net positive
21 cash flow to the building owner, and transferable
22 from one building owner to the next with the build-
23 ing's utility services; and

1 (5) other means proposed by State and local
2 agencies, subject to the approval of the Secretary of
3 Energy.

4 (i) FEDERAL FINANCIAL SUPPORT.—

5 (1) IN GENERAL.—Financial support shall be
6 provided to a State Energy Program, for the specific
7 purpose of supporting the REEP program.

8 (2) ALLOCATION OF FUNDING.—

9 (A) INITIAL YEAR.—The Secretary of En-
10 ergy shall allocate amounts appropriated during
11 the initial year of the REEP program among
12 the States in accordance with the State Energy
13 Program formula under section 363 of the En-
14 ergy Policy and Conservation Act (42 U.S.C.
15 6323).

16 (B) SUBSEQUENT YEARS.—In the second
17 year of the REEP program and thereafter, the
18 Secretary of Energy shall allocate amounts
19 among the States as follows:

20 (i) $\frac{1}{2}$ of available or appropriated
21 funds shall be allocated among the States
22 in accordance with the State Energy Pro-
23 gram formula described in subparagraph
24 (A).

1 (ii) 1/2 of available or appropriated
2 funds shall be allocated among the States
3 in accordance with the relative building en-
4 ergy efficiency and environmental perform-
5 ance of the various States in retrofitting
6 buildings in accordance with this section
7 during the preceding year, with higher allo-
8 cations going to States showing greater
9 success in improving energy and environ-
10 mental performance of the buildings retro-
11 fitted in that State during that preceding
12 year.

13 (3) FORMS OF SUPPORT.—State and local
14 REEP programs may make per-building direct ex-
15 penditures for retrofit improvements, or their equiv-
16 alent in indirect financial support, from Federal
17 funds as follows:

18 (A) RESIDENTIAL PROGRAM.—

19 (i) AWARDS.—For residential build-
20 ings, a program may provide—

21 (I) \$500 to support a free or low-
22 cost detailed building energy audit
23 that prescribes energy-reducing meas-
24 ures, with such amount fully recover-
25 able from the recipient if the pre-

1 scribed measures are not performed,
2 within 1 year after completion of the
3 audit, sufficiently to enable the build-
4 ing to achieve at least a 20 percent
5 reduction in energy use;

6 (II) a total of \$1,000 for meas-
7 ures, prescribed in an audit conducted
8 under subclause (I), designed to re-
9 duce energy consumption by more
10 than 10 percent, and \$2,000 for
11 measures prescribed in such an audit,
12 designed to reduce energy consump-
13 tion by more than 20 percent;

14 (III) \$3,000 for demonstrated
15 savings of 20 percent, pursuant to a
16 performance-based building retrofit
17 program; and

18 (IV) \$150 for each additional
19 percentage point of energy savings
20 achieved beyond savings for which
21 funding is provided under subclause
22 (II) or (III).

23 Funding shall not be provided under
24 clauses (II) and (III) for the same energy
25 savings.

1 (ii) MAXIMUM PERCENTAGE.—Awards
2 under clause (i) shall not to exceed 50 per-
3 cent of retrofit costs for each building.

4 (iii) ADDITIONAL AWARDS.—Addi-
5 tional awards may be provided, for build-
6 ings achieving at least 20 percent energy
7 savings using funding provided under
8 clause (i), as follows:

9 (I) WATER.—Grants of \$600
10 may be made for measures projected
11 or measured (using an appropriate
12 method approved by the Adminis-
13 trator) to achieve at least 35 percent
14 potable water savings through equip-
15 ment or systems with an estimated
16 service life of not less than seven
17 years, and an additional \$20 may be
18 provided for each additional one per-
19 cent of such savings, up to a max-
20 imum total grant of \$1,200.

21 (II) RENEWABLE ENERGY USE.—
22 For cost-effective use of renewable en-
23 ergy, an award of up to \$2,000 may
24 be provided for uses with respect to
25 which Federal tax credits are not

1 available, and the Administrator shall
2 develop relevant standards for docu-
3 menting compliance.

4 (B) COMMERCIAL PROGRAM.—

5 (i) AWARDS.—For commercial build-
6 ings, a program may provide—

7 (I) \$1,000 to support a free or
8 low-cost building audit of energy-re-
9 duction potential that prescribes en-
10 ergy efficiency improvements and im-
11 provements of other building at-
12 tributes, with such amount fully re-
13 coverable from the recipient if the pre-
14 scribed improvements are not per-
15 formed, within 1 year after completion
16 of the audit, sufficiently to enable the
17 building to achieve at least a 20 per-
18 cent reduction in energy use;

19 (II) \$0.15 per square foot of ret-
20 rofit area for demonstrated energy use
21 reductions from 20 percent to 30 per-
22 cent;

23 (III) \$0.75 per square foot for
24 demonstrated energy use reductions
25 from 30 percent to 40 percent;

1 (IV) \$1.60 per square foot for
2 demonstrated energy use reductions
3 from 40 percent to 50 percent; and

4 (V) \$2.50 per square foot for
5 demonstrated energy use reductions
6 exceeding 50 percent.

7 (ii) LIMITATION.—Amounts provided
8 under subclauses (II) through (V) of clause
9 (i) combined shall not exceed 50 percent of
10 the total retrofit cost of a building.

11 (iii) ADDITIONAL AWARDS.—Addi-
12 tional awards may be provided, for build-
13 ings achieving at least 20 percent energy
14 savings using funding provided under
15 clause (i), as follows:

16 (I) WATER.—Grants may be
17 made for whole building potable water
18 use reduction (using an appropriate
19 method approved by the Secretary of
20 Energy) for up to 50 percent of the
21 total retrofit cost, including amounts
22 up to—

23 (aa) \$24.00 per thousand
24 gallons per year of potable water
25 savings of 40 percent or more;

1 (bb) \$27.00 per thousand
2 gallons per year of potable water
3 savings of 50 percent or more;
4 and

5 (cc) \$30.00 per thousand
6 gallons per year of potable water
7 savings of 60 percent or more.

8 (II) RENEWABLE ENERGY USE.—
9 For cost-effective use of renewable en-
10 ergy, an award of up to \$10,000 may
11 be provided for uses with respect to
12 which Federal tax credits are not
13 available, and the Secretary of Energy
14 shall develop relevant standards for
15 documenting compliance.

16 (III) ENVIRONMENTAL IMPROVE-
17 MENTS.—For other environmental im-
18 provements relating to—

19 (aa) indoor air quality;

20 (bb) natural lighting;

21 (cc) use of renewable mate-
22 rials; and

23 (dd) any other such im-
24 provements, as determined by the
25 Secretary of Energy, that do not

1 result in a decrease in energy ef-
2 ficiency,
3 an award of up to \$1,000 for improve-
4 ments in each such category.

5 (C) HISTORIC BUILDINGS.—Notwith-
6 standing subparagraphs (A) and (B), a building
7 in or eligible for the National Register of His-
8 toric Places shall be eligible for awards under
9 this paragraph in amounts up to 120 percent of
10 the amounts set forth in subparagraphs (A) and
11 (B).

12 (D) SUPPLEMENTAL SUPPORT.—State and
13 local governments may supplement the per-
14 building expenditures under this paragraph
15 with funding from other sources.

16 (j) SOURCES OF FEDERAL FUNDS.—

17 (1) ADDITIONAL STATE ENERGY PROGRAM
18 FUNDS.—Any appropriated funding provided to a
19 State Energy Program that is not specifically re-
20 quired to be expended for a different federally des-
21 ignated purpose may be used to support a REEP
22 program.

23 (2) PROGRAM ADMINISTRATION.—State Energy
24 Offices or designated State agencies may expend up

1 to 10 percent of funding provided under this section
2 for program administration.

3 (3) AUTHORIZATION OF APPROPRIATIONS.—

4 There are authorized to be appropriated for the pur-
5 poses of this section, for each of fiscal years 2010,
6 2011, 2012, and 2013—

7 (A) \$2,500,000,000 and such additional
8 sums as may be necessary to the Secretary of
9 Energy for distribution to State Energy Offices
10 and other designated State agencies in accord-
11 ance with this section;

12 (B) \$200,000,000 to the Administrator for
13 program administration costs;

14 (C) \$200,000,000 to the Secretary of En-
15 ergy for program administration costs; and

16 (D) \$50,000,000 to the Secretary of Hous-
17 ing and Urban Development for program ad-
18 ministration costs.

○