

111TH CONGRESS  
2D SESSION

# S. 3079

To assist in the creation of new jobs by providing financial incentives for owners of commercial buildings and multifamily residential buildings to retrofit their buildings with energy efficient building equipment and materials, and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

MARCH 4, 2010

Mr. MERKLEY (for himself, Mr. PRYOR, Mr. BROWN of Ohio, Ms. STABENOW, Mr. SANDERS, and Mr. CARDIN) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

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## A BILL

To assist in the creation of new jobs by providing financial incentives for owners of commercial buildings and multifamily residential buildings to retrofit their buildings with energy efficient building equipment and materials, 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,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Building Star Energy  
5 Efficiency Act of 2010”.

1 **SEC. 2. DEFINITIONS.**

2 In this Act:

3 (1) ASHRAE.—The term “ASHRAE” means  
4 the American Society of Heating, Refrigerating and  
5 Air-Conditioning Engineers.

6 (2) BUILDING ENVELOPE INSULATION.—The  
7 term “building envelope insulation” means thermal  
8 insulation for a building envelope (other than a low  
9 slope roof), as defined in ASHRAE Standard 90.1–  
10 2007 or 2009 IECC, as appropriate.

11 (3) CHILLER TONNAGE DOWNSIZING.—The  
12 term “chiller tonnage downsizing” means the quan-  
13 tity by which the tonnage rating of a replaced chiller  
14 exceeds the tonnage rating of a qualified replace-  
15 ment chiller.

16 (4) CLIMATE ZONE.—The term “climate zone”  
17 means a climate zone specified in ASHRAE Stand-  
18 ard 90.1–2007.

19 (5) COMMERCIAL BUILDING.—

20 (A) IN GENERAL.—The term “commercial  
21 building” means a building that—

22 (i) is located in the United States;

23 and

24 (ii) was in existence on December 31,  
25 2009.

1 (B) EXCLUSIONS.—The term “commercial  
2 building” does not include—

3 (i) a federally owned building; or

4 (ii) a residential building.

5 (6) DUCT.—The term “duct” means HVAC  
6 ducts with respect to which pressure testing has  
7 been performed and, if necessary, leakage remedi-  
8 ated, in accordance with sections 503.2.7.1.2 and  
9 503.2.7.1.3 of the 2009 IECC.

10 (7) DUCT INSULATION.—The term “duct insu-  
11 lation” means thermal insulation of a HVAC duct.

12 (8) HVAC.—The term “HVAC” means heat-  
13 ing, ventilation, and air conditioning.

14 (9) IECC.—The term “IECC” means the  
15 International Energy Conservation Code.

16 (10) MECHANICAL INSULATION.—The term  
17 “mechanical insulation” means thermal insulation  
18 installed, in accordance with applicable Federal,  
19 State, and local law, on mechanical piping and me-  
20 chanical equipment.

21 (11) MULTIFAMILY RESIDENTIAL BUILDING.—

22 (A) IN GENERAL.—The term “multifamily  
23 residential building” means a structure of 5 or  
24 more dwelling units that—

1 (i) is located in the United States;

2 and

3 (ii) was in existence on December 31,

4 2009.

5 (B) EXCLUSION.—The term “multifamily  
6 residential building” does not include a feder-  
7 ally owned building.

8 (12) NFRC.—The term “NFRC” means the  
9 National Fenestration Rating Council.

10 (13) PROGRAM.—The term “program” means  
11 the Building Star Energy Efficiency Rebate Pro-  
12 gram of 2010 established under section 3.

13 (14) QUALIFIED BOILER.—The term “qualified  
14 boiler” means a new natural gas-fired, oil-fired, or  
15 wood or wood pellet boiler that—

16 (A) has a capacity of not less than  
17 300,000, and not more than 5,000,000, Btu per  
18 hour;

19 (B) replaces an operational boiler in a  
20 commercial building or multifamily residential  
21 building; and

22 (C) meets or exceeds—

23 (i) in the case of a natural gas-fired  
24 boiler, 90 percent thermal efficiency;

1 (ii) in the case of an oil-fired boiler,  
2 85 percent thermal efficiency; and

3 (iii) in the case of a wood or wood pel-  
4 let boiler, 75 percent thermal efficiency.

5 (15) QUALIFIED BUILDING ENVELOPE INSULA-  
6 TION.—The term “qualified building envelope insula-  
7 tion” means the installation or repair of building en-  
8 velope insulation to meet or exceed ASHRAE Stand-  
9 ard 90.1–2007 or 2009 IECC in a commercial build-  
10 ing or multifamily residential building.

11 (16) QUALIFIED ENERGY AUDIT.—The term  
12 “qualified energy audit” means an ASHRAE Level  
13 II energy audit or equivalent of a commercial build-  
14 ing or multifamily residential building that is de-  
15 signed to identify all cost-effective energy efficiency  
16 measures.

17 (17) QUALIFIED ENERGY-EFFICIENT BUILDING  
18 OPERATION AND MAINTENANCE TRAINING.—The  
19 term “qualified energy-efficient building operation  
20 and maintenance training” means—

21 (A) the training of a superintendent or op-  
22 erator of a commercial building or multifamily  
23 residential building; and

24 (B) resultant—

1 (i) Level 1 or Level 2 Building Oper-  
 2 ator Certification for commercial building  
 3 operators; or

4 (ii) certification as a Multifamily  
 5 Building Operator by the Building Per-  
 6 formance Institute for residential building  
 7 operators.

8 (18) QUALIFIED ENERGY MONITORING AND  
 9 MANAGEMENT SYSTEM.—The term “qualified energy  
 10 monitoring and management system” means a sys-  
 11 tem that—

12 (A) is installed in a commercial building or  
 13 multifamily residential building;

14 (B) uses a combination of computers, com-  
 15 puter software, control equipment, and instru-  
 16 mentation to monitor and manage or submeter  
 17 the energy use of a building, such as heating,  
 18 ventilation, air conditioning, and lighting;

19 (C) provides reporting of information to  
 20 the building owner or operator to enable refine-  
 21 ment of building operation and energy usage;  
 22 and

23 (D) is covered by a service contract with a  
 24 duration of not less than 1 year for system  
 25 monitoring or maintenance, including all main-

1           tenance recommended by the equipment manu-  
2           facturer.

3           (19) QUALIFIED EXTERIOR LIGHTING.—The  
4           term “qualified exterior lighting” means exterior  
5           lighting that—

6                   (A) replaces operational exterior lighting at  
7                   a commercial building or multifamily residential  
8                   building; and

9                   (B) achieves a reduction of 20 percent or  
10                  more in annual energy use as compared to the  
11                  lighting that was replaced, as determined in ac-  
12                  cordance with section 3(c)(7)(B).

13          (20) QUALIFIED FURNACE.—The term “quali-  
14          fied furnace” means a new natural gas furnace or a  
15          wood or wood pellet furnace that—

16                  (A) replaces an operational furnace in a  
17                  commercial building or multifamily residential  
18                  building;

19                  (B) in the case of natural gas, meets or ex-  
20                  ceeds 90 percent thermal efficiency; and

21                  (C) in the case of a wood or wood pellet  
22                  furnace, meets or exceeds 75 percent thermal  
23                  efficiency.

24          (21) QUALIFIED HIGH-EFFICIENCY WINDOW  
25          FILMS AND SCREENS.—The term “qualified high-ef-

1 efficiency window films and screens” means window  
2 films and screens that—

3 (A) are permanently affixed to windows or  
4 window frames in a commercial building or  
5 multifamily residential building;

6 (B) have a Luminous Efficacy (which is  
7 Visible Light Transmittance, as certified to  
8 NRFC standards divided by SHGC) of 1.1 or  
9 greater; and

10 (C) have a SHGC that meets or is better  
11 than the applicable requirements of the fol-  
12 lowing table (as certified to NFRC standards):

Climate Zones	1	2	3	4	5	6	7	8
SHGC .....	.25	.25	.25	.40	.40	.40	.45	.45.

13 (22) QUALIFIED HVAC TESTING, BALANCING,  
14 AND DUCT SEALING.—The term “qualified HVAC  
15 testing, balancing, and duct sealing” means work  
16 performed in a commercial building or multifamily  
17 residential building by individuals with an ANSI-ac-  
18 credited certification in HVAC testing—

19 (A) to pressure-test HVAC ducts;

20 (B) to balance air flow; and

21 (C) to identify all leaking ducts and reme-  
22 diate the leakage to the appropriate leakage



1 class, in accordance with sections 503.2.7.1.2  
2 and 503.2.7.1.3 of the 2009 IECC.

3 (23) QUALIFIED INTERIOR LIGHTING.—The  
4 term “qualified interior lighting” means new interior  
5 lighting that—

6 (A) replaces operational interior lighting in  
7 a commercial building or multifamily residential  
8 building; and

9 (B) achieves an installed power reduction  
10 of 25 percent or more as compared to the in-  
11 stalled power of the lighting that was replaced,  
12 as determined in accordance with section  
13 3(e)(6)(B).

14 (24) QUALIFIED LOW SLOPE ROOF INSULA-  
15 TION.—The term “qualified low slope roof insula-  
16 tion” means a retrofit that—

17 (A) adds new insulation to a roof on a  
18 commercial building or multifamily residential  
19 building if the roof insulation is entirely above  
20 deck, as defined in ASHRAE Standard 90.1–  
21 2007 or 2009 IECC; and

22 (B) meets or exceeds the R-values for the  
23 applicable climate zone in the following table:

Climate Zones	1	2	3	4	5	6	7	8
R-Value .....	20	25	25	25	25	30	35	35.

1 (25) QUALIFIED MECHANICAL INSULATION.—

2 The term “qualified mechanical insulation” means  
3 the installation or repair of mechanical or duct insu-  
4 lation to meet or exceed ASHRAE Standard 90.1–  
5 2007 or 2009 IECC in a commercial building or  
6 multifamily residential building.

7 (26) QUALIFIED REPLACEMENT CHILLER.—The  
8 term “qualified replacement chiller” means a water-  
9 cooled chiller that—

10 (A) is certified to meet efficiency standards  
11 effective on January 1, 2010, as defined in  
12 table 6.8.1c in Addendum M to Standard 90.1–  
13 2007 of ASHRAE; and

14 (B) replaces a chiller that—

15 (i) was installed before January 1,  
16 1993;

17 (ii) uses chlorofluorocarbon refrig-  
18 erant; and

19 (iii) until replaced by a new chiller,  
20 has remained in operation and used for  
21 cooling a commercial building.

22 (27) QUALIFIED RETRO COMMISSIONING  
23 STUDY.—The term “qualified retro commissioning  
24 study” means a commissioning study of building en-  
25 ergy systems that is—

1 (A) conducted consistent with the guide-  
2 lines in the Retro Commissioning Guide for  
3 Building Owners prepared for—

4 (i) the Environmental Protection  
5 Agency; or

6 (ii) the document entitled “California  
7 Commissioning Guide: Existing Buildings”  
8 published by the California Commissioning  
9 Collaborative; and

10 (B) performed by a service provider with—

11 (i) an ASHRAE Commissioning Proc-  
12 ess Management Professional certification;

13 or

14 (ii) a Building Commissioning Asso-  
15 ciation Certified Commissioning Profes-  
16 sional certification.

17 (28) QUALIFIED SERVICE ON COOLING SYS-  
18 TEMS.—

19 (A) IN GENERAL.—The term “qualified  
20 service on cooling systems” means periodic  
21 maintenance service on a central air conditioner  
22 that—

23 (i) is located in a commercial building  
24 or multifamily residential building; and

1 (ii) has a capacity of not less than 2  
2 tons.

3 (B) INCLUSIONS.—The term “qualified  
4 service on cooling systems” includes—

5 (i) a cleaning of a condenser coil;

6 (ii) a check of system pressure;

7 (iii) an inspection and replacement of  
8 a filter;

9 (iv) an inspection and replacement of  
10 a belt;

11 (v) an inspection and repair of an  
12 economizer;

13 (vi) an inspection of a contractor;

14 (vii) an inspection of an evaporator;

15 (viii) an evaluation of a compressor  
16 ampere draw;

17 (ix) an evaluation of supply motor  
18 amp draw;

19 (x) an evaluation of a condenser fan  
20 amp draw;

21 (xi) an evaluation of liquid line tem-  
22 perature;

23 (xii) an evaluation of suction pressure  
24 and temperature;

- 1 (xiii) an evaluation of oil level and  
2 pressure;
- 3 (xiv) an inspection of low pressure  
4 controls and high pressure controls;
- 5 (xv) an evaluation of crankcase heater  
6 operation;
- 7 (xvi) a cleaning of chiller condenser  
8 tubes;
- 9 (xvii) a cleaning of chiller evaporator  
10 tubes; or
- 11 (xviii) a check, and if necessary, cor-  
12 rection of a refrigerant charge and system  
13 airflow to conform to manufacturer speci-  
14 fications.

15 (29) QUALIFIED SERVICE ON SPACE HEATING  
16 EQUIPMENT.—

17 (A) IN GENERAL.—The term “qualified  
18 service on space heating equipment” means the  
19 periodic maintenance service on a boiler, unit  
20 heaters make-up air unit, heat pump, furnace,  
21 or industrial space heating equipment with  
22 forced or induced draft combustion that is lo-  
23 cated in a commercial or multifamily residential  
24 building.

1 (B) INCLUSIONS.—The term “qualified  
2 service on space heating equipment” includes—

3 (i) cleaning all heat exchange surfaces  
4 and checking and calibrating all system  
5 controls; and

6 (ii) combustion efficiency tests and  
7 stack temperature measurements con-  
8 ducted before and after the service.

9 (30) QUALIFIED UNITARY AIR CONDITIONER.—  
10 The term “qualified unitary air conditioner” means  
11 a new 3 phase unitary air conditioner that—

12 (A) replaces an operational air conditioner  
13 or heat pump in a commercial building or mul-  
14 tifamily residential building; and

15 (B) meets or exceeds Consortium for En-  
16 ergy Efficiency Tier 1 efficiency standards as in  
17 effect on January 1, 2010.

18 (31) QUALIFIED UNITARY HEAT PUMP.—The  
19 term “qualified unitary heat pump” means a new 3  
20 phase unitary heat pump that—

21 (A) replaces an operational air conditioner  
22 or heat pump in a commercial building or mul-  
23 tifamily residential building; and

1 (B) meets or exceeds Consortium for En-  
2 ergy Efficiency Tier 1 level of efficiency as in  
3 effect on January 1, 2010.

4 (32) QUALIFIED VARIABLE SPEED DRIVE.—The  
5 term “qualified variable speed drive” means a new  
6 electronic variable speed drive that—

7 (A) is added to an operational motor in  
8 a—

- 9 (i) chilled water pump;  
10 (ii) cooling tower fan;  
11 (iii) fume hood exhaust or makeup  
12 fan;  
13 (iv) hot water pump;  
14 (v) exhaust fan;  
15 (vi) chiller compressor; or  
16 (vii) supply, return, or exhaust fan on  
17 a variable-air volume unit that is located in  
18 a commercial building or multifamily resi-  
19 dential building and operates not less than  
20 2,000 hours annually;

21 (B) is controlled automatically by a build-  
22 ing automation system, process control system,  
23 or local controller driven by differential pres-  
24 sure, flow, temperature, or another variable sig-  
25 nal; and

1 (C) incorporates a series reactor for power  
2 factor correction.

3 (33) QUALIFIED WATER HEATER.—The term  
4 “qualified water heater” means a new natural gas or  
5 electric storage water heater with a capacity of  
6 75,000 Btu/hour or greater, or a tankless water  
7 heater with a capacity of 200,000 Btu/hour or great-  
8 er, that replaces an operational water heater in a  
9 commercial building or multifamily residential build-  
10 ing and meets or exceeds—

11 (A) in the case of a natural gas water  
12 heater, 90 percent thermal efficiency;

13 (B) in the case of an electric water heat-  
14 er—

15 (i) a 2.5 Coefficient of Performance;

16 or

17 (ii) a 2.0 Energy Factor; and

18 (C) in the case of a wood or wood pellet  
19 water heater, 75 percent thermal efficiency.

20 (34) SECRETARY.—The term “Secretary”  
21 means the Secretary of Energy.

22 (35) SHGC.—The term “SHGC” means the  
23 Solar Heat Gain Coefficient.



1           (36) TIER 1 QUALIFIED WINDOW.—The term  
 2           “tier 1 qualified window” means a new window  
 3           that—

4                   (A) replaces an existing window in a com-  
 5           mercial building or multifamily residential  
 6           building; and

7                   (B) meets or is better than—

8                           (i) the applicable U-factor and SHGC  
 9           requirements (both certified to NFRC  
 10          standards) in the following table:

Climate Zones	1	2	3	4	5	6	7	8
U-Factor .....	.57	.57	.40	.35	.35	.35	.35	.35
SHGC .....	.25	.25	.25	.40	.40	.40	.45	.45

11                   ; and

12                           (ii) in the case of a window with im-  
 13          pact-rated glazing in climate zone 1, a U-  
 14          factor of 1.20.

15           (37) TIER 2 QUALIFIED WINDOW.—The term  
 16           “tier 2 qualified window” means a new window  
 17           that—

18                   (A) replaces an existing window in a com-  
 19           mercial building or multifamily residential  
 20           building; and

21                   (B) meets or is better than—

1 (i) the applicable U-factor and SHGC  
 2 requirements (both certified to NFRC  
 3 standards) in the following table:

Climate Zones	1	2	3	4	5	6	7	8
U-Factor .....	.32	.32	.30	.30	.30	.30	.30	.30
SHGC .....	.25	.25	.25	.26	.26	.35	.45	.45

4 ; and

5 (ii) in the case of a window with im-  
 6 pact-rated glazing in climate zone 1, a U-  
 7 factor of 1.20.

8 **SEC. 3. BUILDING STAR PROGRAM.**

9 (a) ESTABLISHMENT.—There is established in the  
 10 Department of Energy a program to be known as the  
 11 “Building Star Energy Efficiency Rebate Program of  
 12 2010” under which the Secretary, in accordance with this  
 13 section, shall issue rebates to building owners to offset a  
 14 portion of the cost of purchasing and installing qualifying  
 15 equipment or materials or undertaking qualifying services  
 16 to enhance the energy efficiency of existing commercial  
 17 buildings and multifamily residential buildings.

18 (b) REBATES FOR BUILDING ENVELOPE ENERGY  
 19 EFFICIENCY MEASURES.—Rebates for the purchase and  
 20 installation of qualifying insulation, windows, and quali-  
 21 fied high-efficiency window films and screens in commer-  
 22 cial or multifamily residential buildings shall be available  
 23 in the following amounts:

1           (1) BUILDING ENVELOPE INSULATION.—For  
 2 qualified building envelope insulation, a rebate of  
 3 \$0.60 per square foot of insulated area.

4           (2) LOW SLOPE ROOFING INSULATION.—For  
 5 qualified low slope roofing insulation, a rebate of  
 6 \$0.80 per square foot of insulated roof area over  
 7 conditioned space.

8           (3) MECHANICAL INSULATION.—For qualified  
 9 mechanical insulation, rebates shall be the amounts  
 10 specified in the following table:

Piping and Equipment Applications	Rebate
2" Iron Pipe Size and below .....	\$2.50 per equivalent lineal foot
2" to 12" Iron Pipe Size .....	\$5.00 per equivalent lineal foot
Above 12" Iron Pipe Size and equip- ment.	\$5.00 per square foot
HVAC Duct Applications .....	\$1.00 per square foot.

11           (4) WINDOWS.—

12           (A) TIER 1 QUALIFIED WINDOWS.—For  
 13 Tier 1 qualified windows, a rebate of \$150 per  
 14 window.

15           (B) TIER 2 QUALIFIED WINDOWS.—For  
 16 Tier 2 qualified windows, a rebate of \$300 per  
 17 window.

18           (5) HIGH-EFFICIENCY WINDOW FILMS AND  
 19 SCREENS.—For qualified high-efficiency window  
 20 films and screens, a rebate of \$1.00 per square foot

1 of treated glass enclosing a mechanically conditioned  
 2 space.

3 (c) REBATES FOR ELIGIBLE EQUIPMENT INSTALLA-  
 4 TION.—Rebates for the purchase and installation of quali-  
 5 fying new energy efficient equipment in commercial build-  
 6 ings or multifamily residential buildings shall be available  
 7 in the following amounts:

8 (1) BOILERS.—For qualified boilers, rebates  
 9 shall be the amounts specified in the following table:

Boiler Fuel	Rebate
Natural Gas-fired .....	\$10 per thousand Btu per hour capac- ity
Oil-fired .....	\$3 per thousand Btu per hour capacity
Wood or wood pellet boiler .....	\$___ per thousand Btu per hour ca- pacity.

10 (2) FURNACES.—For qualified furnaces, re-  
 11 bates of \$5 per thousand Btu per hour of capacity.

12 (3) WATER HEATERS.—For qualified water  
 13 heaters, rebates shall be the amounts specified in the  
 14 following table:

Energy Source	Rebate
Natural Gas .....	\$8 per thousand Btu per hour capacity
Electricity .....	\$20 per thousand Btu per hour of heat pump capacity
Wood or wood pellet water heater .....	\$___ per thousand Btu per hour ca- pacity.

15 (4) UNITARY AIR CONDITIONERS AND HEAT  
 16 PUMPS.—For qualified unitary air conditioners and

1 qualified unitary heat pumps, rebates shall be the  
 2 amounts specified in the following table:

Efficiency Level	Rebate
Consortium on Energy Efficiency Tier 1 efficiency standards (as in effect on January 1, 2010).	\$100 per ton cooling capacity
Consortium of Energy Efficiency Tier 2 efficiency standards (as in effect on January 1, 2010).	\$200 per ton cooling capacity.

3 (5) VARIABLE SPEED DRIVES FOR MOTORS.—  
 4 For qualified variable speed drives, rebates shall be  
 5 the amounts specified in the following table:

Power Controlled (horsepower)	Rebate Level
<10 hp .....	\$120/hp
10-100 hp .....	\$80/hp
>100 hp .....	\$40/hp.

6 (6) INTERIOR LIGHTING.—

7 (A) IN GENERAL.—For qualified interior  
 8 lighting, subject to subparagraphs (B) and (C),  
 9 rebates based on reduced lighting power shall  
 10 be the amounts specified in the following table:

25% or greater reduction in installed lighting power (as adjusted)	\$0.25 per square foot of illuminated floor area affected
40% or greater reduction in installed lighting power (as adjusted)	\$0.50 per square foot of illuminated floor area affected.

11 (B) CALCULATION.—Reductions in in-  
 12 stalled lighting power resulting from installation  
 13 of qualified interior lighting shall be calculated  
 14 by determining the difference between—

1 (i) the product obtained by multi-  
2 plying—

3 (I) the quantity of installed  
4 power (kW) for existing interior light-  
5 ing; and

6 (II) the applicable control factor;  
7 and

8 (ii) the product obtained by multi-  
9 plying—

10 (I) the quantity of installed  
11 power (kW) of the replacement inte-  
12 rior lighting system; and

13 (II) the applicable control factor.

14 (C) CONTROL FACTORS.—For purposes of  
15 subparagraph (B), control factors for installed  
16 lighting controls shall be—

17 (i) for manual dimming controls, 0.9;

18 (ii) for occupancy sensors, 0.9;

19 (iii) for programmable multilevel dim-  
20 ming controls, 0.9;

21 (iv) for programmable multilevel dim-  
22 ming controls with programmable time  
23 scheduling, 0.85; and

24 (v) for daylight dimming controls,  
25 0.75.

## 1 (7) EXTERIOR LIGHTING.—

2 (A) IN GENERAL.—For qualified exterior  
 3 lighting, subject to subparagraphs (B) and (C),  
 4 rebates based on reduced energy usage shall be  
 5 the amounts specified in the following table:

20 % or greater reduction in calculated annual energy usage	\$0.40 per kWh reduction in calculated annual energy usage
40% or greater reduction in calculated annual energy usage	\$1.00 per kWh reduction in calculated annual energy usage.

6 (B) CALCULATION.—Reductions in annual  
 7 energy usage resulting from installation of  
 8 qualified exterior lighting shall be calculated by  
 9 determining the difference between—

10 (i) the product obtained by multi-  
 11 plying—

12 (I) the quantity of installed  
 13 power (kW) for existing exterior light-  
 14 ing;

15 (II) 4,000 operating hours per  
 16 year; and

17 (III) the applicable control fac-  
 18 tor; and

19 (ii) the product obtained by multi-  
 20 plying—

1 (I) the quantity of installed  
2 power (kW) of the replacement exte-  
3 rior lighting system;

4 (II) 4,000 operating hours per  
5 year; and

6 (III) the applicable control fac-  
7 tor.

8 (C) CONTROL FACTORS.—For purposes of  
9 subparagraph (B), control factors for installed  
10 lighting controls shall be—

11 (i) for 7-day time controls (with a  
12 provision for holiday schedule) if lighting is  
13 switched off a minimum of 4 hours per  
14 night, 0.75;

15 (ii) for motion sensors if lighting  
16 power is reduced by at least 40 percent  
17 after no activity has been detected for at  
18 least 20 minutes, 0.75; and

19 (iii) for remote monitoring and multi-  
20 level lighting controls, 0.60.

21 (8) QUALIFIED REPLACEMENT CHILLERS.—

22 (A) IN GENERAL.—For qualified replace-  
23 ment chillers, rebates shall be the sum of—

24 (i) the product obtained by multi-  
25 plying—



- 1 (I) \$150; and  
2 (II) the tonnage rating of the re-  
3 placed chiller; and  
4 (ii) if all chilled water distribution  
5 pumps connected to the qualified replace-  
6 ment chiller include variable frequency  
7 drives, the product obtained by multi-  
8 plying—  
9 (I) \$100; and  
10 (II) any chiller tonnage  
11 downsizing.

12 (B) AUDITS.—As a condition of receiving a  
13 rebate for a qualified replacement chiller, an  
14 audit with requirements determined by the Sec-  
15 retary (not later than 45 days after the date of  
16 enactment of this Act) shall be performed on a  
17 building prior to installation of the qualified re-  
18 placement chiller that identifies cost-effective  
19 energy-saving measures, particularly measures  
20 that could contribute to chiller tonnage  
21 downsizing.

22 (d) REBATES FOR ELIGIBLE ENERGY EFFICIENCY  
23 SERVICES.—Rebates for qualifying services to enhance the  
24 energy efficiency of commercial or multifamily residential  
25 buildings shall be available in the following amounts:

1           (1) ENERGY AUDIT AND RETRO COMMISSIONING  
2 STUDY.—

3           (A) IN GENERAL.—For qualified energy  
4 audits or qualified retro commissioning studies,  
5 subject to subparagraph (B), a rebate equal to  
6 the lesser of—

7                   (i) \$0.05 per square foot of audited or  
8 commissioned building space; or

9                   (ii) 50 percent of the cost of the audit  
10 or study.

11           (B) AVOIDANCE OF DUPLICATION.—Re-  
12 bates shall not be made for energy audits and  
13 retro commissioning studies under subpara-  
14 graph (A) for the same building.

15           (2) ENERGY-EFFICIENT BUILDING OPERATIONS  
16 AND MAINTENANCE TRAINING.—For qualified en-  
17 ergy-efficient building operation and maintenance  
18 training, a rebate of \$2,000 per individual trained  
19 and certified.

20           (3) SERVICE ON SPACE HEATING EQUIP-  
21 MENT.—For qualified service on space heating  
22 equipment, a rebate of \$100 per unit serviced.

23           (4) SERVICE ON COOLING SYSTEMS.—For  
24 qualified service on cooling systems, a rebate equal  
25 to the lesser of—

1 (A) \$2 per ton of nameplate capacity of  
2 the serviced cooling system; and

3 (B) 50 percent of the total service cost.

4 (5) ENERGY MONITORING AND MANAGEMENT  
5 SYSTEMS.—

6 (A) INSTALLATION.—For qualified energy  
7 monitoring and management systems installed  
8 in a commercial building or multifamily residen-  
9 tial building that have analog controls (pneu-  
10 matic or electronic), or if no control system ex-  
11 ists, a rebate equal to the lesser of—

12 (i) \$0.45 per square foot of building  
13 space covered by the qualified energy mon-  
14 itoring and management system; or

15 (ii) 50 percent of the total installation  
16 and commissioning costs.

17 (B) UPGRADING.—For upgrading an exist-  
18 ing energy monitoring and management system  
19 in a commercial building or multifamily residen-  
20 tial building to add submetering to all major in-  
21 dividual loads, such as heating, ventilation, air  
22 conditioning, and lighting, a rebate equal to the  
23 lesser of—

1 (i) \$0.15 per square foot of building  
2 space covered by the energy management  
3 system, or

4 (ii) 50 percent of the total installation  
5 cost.

6 (6) HVAC TESTING, BALANCING, AND DUCT  
7 SEALING.—For qualified HVAC testing, balancing,  
8 and duct sealing, a rebate of \$0.75 per square foot  
9 of duct surface tested, balanced, and if necessary,  
10 sealed.

11 (e) ADMINISTRATION.—

12 (1) ELIGIBILITY PERIOD.—A rebate issued  
13 under the program shall be provided only in connec-  
14 tion with qualifying equipment installations or serv-  
15 ices provided during the period beginning on the  
16 date of enactment of this Act and ending on Decem-  
17 ber 31, 2011.

18 (2) COMBINATION WITH OTHER INCENTIVES.—  
19 The availability or use of a Federal, State, local,  
20 utility, or other incentive for any qualifying equip-  
21 ment installation or service shall not affect eligibility  
22 for rebates under the program.

23 (3) ADDITIONAL FEES.—A dealer, equipment  
24 installer, or service provider may not charge a per-  
25 son purchasing goods or services any additional fees

1 associated with applying for a rebate under the pro-  
2 gram.

3 (4) LIMITATION ON TOTAL REBATES ISSUED.—

4 The total value of rebates issued under the program  
5 may not exceed the amounts made available for the  
6 program.

7 (5) MAXIMUM REBATE.—The amount of any re-  
8 bate paid to an applicant for any qualified measure  
9 under this section shall be the lesser of—

10 (A) the amount determined under sub-  
11 section (b), (c), or (d); or

12 (B)  $\frac{1}{2}$  of the cost actually incurred by the  
13 applicant building owner to complete the meas-  
14 ure that is eligible for the rebate.

15 (f) IMPLEMENTATION.—Notwithstanding section 553  
16 of title 5, United States Code, not later than 30 days after  
17 the date of enactment of this Act, the Secretary shall, in  
18 consultation with the Secretary of the Treasury, establish  
19 rules and procedures to implement the program, including  
20 rules and procedures for—

21 (1) building owners or designees to submit ap-  
22 plications (including forms) that—

23 (A) specify the proposed measures that  
24 qualify for a rebate and the total rebate re-  
25 quested; and

1 (B) require that the work be completed by  
2 licensed contractors or service providers in com-  
3 pliance with all applicable Federal, State and  
4 local building codes and standards;

5 (2) the Secretary—

6 (A) to consider applications; and

7 (B) to the extent that the Secretary deter-  
8 mines that proposed measures will qualify for  
9 rebates under this section if undertaken and  
10 that there are sufficient uncommitted funds to  
11 carry out the program, to issue confirmations to  
12 applicants that rebates will be made if proposed  
13 measures are completed;

14 (3) an applicant—

15 (A) to certify, following completion of the  
16 measures identified in the application, that the  
17 measures undertaken qualify for rebate under  
18 this section; and

19 (B) to complete the measures described in  
20 the application, and submit a certification, not  
21 later than—

22 (i) 180 days after the date of receipt  
23 of a confirmation; or

1 (ii) in the case of a qualified replace-  
2 ment chiller, 360 days after the date of re-  
3 ceipt of a confirmation;

4 (4) appropriate verification by the Secretary of  
5 eligibility for a rebate prior to payment;

6 (5) verification and payment of rebates by elec-  
7 tronic transfer of funds or other means that ensure  
8 that the payment occurs not later than 30 days after  
9 the date of submission of certification that measures  
10 described in the application have been completed;

11 (6) certification by the installer, as part of the  
12 certification under paragraph (3), that any refriger-  
13 erants, toxic materials, and other hazards have been  
14 removed and disposed of in accordance with all ap-  
15 plicable Federal, State, and local laws;

16 (7) field inspections by the Federal Government  
17 of at least 10 percent of the projects for which re-  
18 bates are received under the program; and

19 (8) compliance monitoring and enforcement.

20 (g) CIVIL PENALTIES.—

21 (1) IN GENERAL.—Any person who knowingly  
22 makes a false or misleading statement in an applica-  
23 tion or certification under this section shall be liable  
24 to the United States for a civil penalty in an amount  
25 equal to not more than the higher of—

1 (A) \$15,000 for each violation; or

2 (B) the amount that is equal to 3 times  
3 the value of any associated rebate received  
4 under this section.

5 (2) ADMINISTRATION.—In carrying out this  
6 subsection, the Secretary—

7 (A) may assess and compromise penalties  
8 described in paragraph (1);

9 (B) may require from any entity the  
10 records and inspections necessary to carry out  
11 the program; and

12 (C) shall consider the severity of the viola-  
13 tion and the intent and history of the person  
14 committing a violation in determining the  
15 amount of a penalty.

16 (h) INFORMATION TO BUILDING OWNERS, SERVICE  
17 PROVIDERS, AND EQUIPMENT INSTALLERS.—

18 (1) IN GENERAL.—Not later than 30 days after  
19 the date of enactment of this Act, the Secretary  
20 shall make available on an Internet website and  
21 through other means determined by the Secretary,  
22 information about the program, including informa-  
23 tion on—

24 (A) how to determine whether particular  
25 efficiency measures are eligible for a rebate;



1 (B) how to participate in the program, in-  
2 cluding how to apply for rebates; and

3 (C) the equipment and services meeting  
4 the requirements of the program.

5 (2) UPDATING.—The Secretary shall update, as  
6 appropriate, the information required under para-  
7 graph (1).

8 (i) REPORT TO CONGRESS.—Not later than 60 days  
9 after the termination date described in subsection (e)(1),  
10 the Secretary shall submit to the Committee on Energy  
11 and Commerce of the House of Representatives and the  
12 Committee on Energy and Natural Resources of the Sen-  
13 ate a report describing the efficacy of the program, includ-  
14 ing—

15 (1) a description of program results, includ-  
16 ing—

17 (A) the total number and value of rebates  
18 issued for installation of new energy efficient  
19 equipment by category of equipment;

20 (B) the total number and value of rebates  
21 issued for services rendered by category of serv-  
22 ice; and

23 (C) the geographic distribution of activities  
24 for which rebates were issued;

1           (2) an estimate of the overall increase in energy  
2 efficiency as a result of the program, expressed in  
3 terms of percentage improvement by—

4                   (A) type of equipment;

5                   (B) total annual energy savings; and

6                   (C) total annual greenhouse gas reduc-  
7 tions; and

8           (3) an estimate of the overall jobs created and  
9 economic growth achieved as a result of the pro-  
10 gram.

11 **SEC. 4. STATE-BASED FINANCING ASSISTANCE FOR COM-**  
12 **MERCIAL BUILDING RETROFITS.**

13 (a) DEFINITIONS.—In this section:

14           (1) BUILDING STAR ENERGY RETROFIT PRO-  
15 GRAM.—The term “Building Star energy retrofit  
16 program” means the Building Star energy retrofit  
17 program established under section 3.

18           (2) ELIGIBLE PARTICIPANT.—The term “eligi-  
19 ble participant” means a building owner, apartment  
20 complex owner, residential cooperative association,  
21 or condominium association that—

22                   (A) meets the eligibility requirements es-  
23 tablished by a qualified loan program delivery  
24 entity designated by the building owner; and

1 (B) receives financial assistance from the  
2 qualified loan program delivery entity to carry  
3 out energy efficiency or renewable energy im-  
4 provements to an existing building in accord-  
5 ance with the Building Star energy retrofit pro-  
6 gram established under section 3.

7 (3) PROGRAM.—The term “program” means  
8 the Building Star Energy Efficiency Loan Program  
9 established under subsection (b).

10 (4) QUALIFIED LOAN PROGRAM MECHANISM.—  
11 The term “qualified loan program mechanism”  
12 means a loan program that is—

13 (A) administered by a qualified program  
14 delivery entity; and

15 (B) principally funded—

16 (i) by funds provided by or overseen  
17 by a State; or

18 (ii) through the energy loan program  
19 of the Federal National Mortgage Associa-  
20 tion.

21 (5) QUALIFIED PROGRAM DELIVERY ENTITY.—  
22 The term “qualified program delivery entity” means  
23 a State, political subdivision of a State, tribal gov-  
24 ernment, energy utility, natural gas utility, nonprofit  
25 or community-based organization, energy service

1 company, retailer, or any other qualified entity  
2 that—

3 (A) meets the eligibility requirements of  
4 this section; and

5 (B) is approved by the State that admin-  
6 isters the program in the State.

7 (b) ESTABLISHMENT.—The Secretary shall establish  
8 a Building Star Energy Efficiency Loan Program under  
9 which the Secretary shall make grants to States to support  
10 financial assistance provided by qualified program delivery  
11 entities for making, to existing buildings, energy efficiency  
12 and renewable energy improvements that qualify under the  
13 Building Star energy retrofit program.

14 (c) ELIGIBILITY OF QUALIFIED PROGRAM DELIVERY  
15 ENTITIES.—To be eligible to participate in the program,  
16 a qualified program delivery entity shall—

17 (1) offer a financing product under which eligi-  
18 ble participants may pay over time for the cost to  
19 the eligible participant (after all applicable Federal,  
20 State, local, and other rebates or incentives are ap-  
21 plied) of making improvements described in section  
22 3;

23 (2) require all financed improvements to be per-  
24 formed by contractors in a manner that meets min-

1       imum standards that are at least as stringent as the  
2       standards established under section 3; and

3           (3) establish standard underwriting criteria to  
4       determine the eligibility of program applicants,  
5       which criteria shall be consistent with commercially  
6       recognized best practices applicable to the form of fi-  
7       nancial assistance being provided (as determined by  
8       the designated entity administering the program in  
9       the State).

10       (d) ALLOCATION.—In making funds available to  
11       States for each fiscal year under this section, the Sec-  
12       retary shall use the formula used to allocate funds to  
13       States to carry out State energy conservation plans estab-  
14       lished under part D of title III of the Energy Policy and  
15       Conservation Act (42 U.S.C. 6321 et seq.).

16       (e) QUALIFIED PROGRAM DELIVERY ENTITIES.—Be-  
17       fore making a grant to a State under this section, the Sec-  
18       retary shall require the Governor of the State to provide  
19       to the Secretary a letter of assurance that the State—

20           (1) has 1 or more qualified program delivery  
21       entities that meet the requirements of this section;

22           (2) has established a qualified loan program  
23       mechanism that—

1 (A) includes a methodology to ensure cred-  
2 ible energy savings or renewable energy genera-  
3 tion;

4 (B) incorporates an effective repayment  
5 mechanism, which may include—

6 (i) on-utility-bill repayment;

7 (ii) tax assessment or other form of  
8 property assessment financing;

9 (iii) municipal service charges;

10 (iv) energy or energy efficiency serv-  
11 ices contracts;

12 (v) energy efficiency power purchase  
13 agreements; or

14 (vi) alternative contractual repayment  
15 mechanisms that have been demonstrated  
16 to have appropriate risk mitigation fea-  
17 tures; and

18 (3) will provide, in a timely manner, all infor-  
19 mation regarding the administration of the program  
20 as the Secretary may require to permit the Secretary  
21 to meet the reporting requirements of subsection (h).

22 (f) USE OF GRANT FUNDS.—Grant funds made  
23 available to States under the program may be used to sup-  
24 port financing products offered by qualified program deliv-  
25 ery entities to eligible participants, by providing—

- 1 (1) interest rate reductions;
- 2 (2) loan loss reserves or other forms of credit
- 3 enhancement;
- 4 (3) revolving loan funds from which qualified
- 5 program delivery entities may offer direct loans; or
- 6 (4) other debt instruments or financial products
- 7 necessary—
  - 8 (A) to maximize leverage provided through
  - 9 available funds; and
  - 10 (B) to support widespread deployment of
  - 11 energy efficiency and renewable energy finance
  - 12 programs.

13 (g) USE OF REPAYMENT FUNDS.—In the case of a  
14 revolving loan fund established by a State described in  
15 subsection (f)(3), a qualified program delivery entity may  
16 use funds repaid by eligible participants under the pro-  
17 gram to provide financial assistance for additional eligible  
18 participants to make improvements described in sub-  
19 section (b) in a manner that is consistent with this section  
20 or other such criteria as are prescribed by the State.

21 (h) PROGRAM EVALUATION.—Not later than 180  
22 days after the date of enactment of this Act, the Secretary  
23 shall submit to Congress a program evaluation that de-  
24 scribes—

1 (1) how many eligible participants have partici-  
2 pated in the program;

3 (2) how many jobs have been created through  
4 the program, directly and indirectly;

5 (3) what steps could be taken to promote fur-  
6 ther deployment of energy efficiency and renewable  
7 energy retrofits;

8 (4) the quantity of verifiable energy savings, re-  
9 newable energy deployment, homeowner energy bill  
10 savings, and other benefits of the program; and

11 (5) the performance of the programs carried  
12 out by qualified program delivery entities under this  
13 section, including information on the rate of default  
14 and repayment.

15 **SEC. 5. FEDERAL FINANCING ASSISTANCE FOR COMMER-**  
16 **CIAL BUILDING RETROFITS.**

17 (a) IN GENERAL.—Section 1705(a) of the Energy  
18 Policy Act of 2005 (42 U.S.C. 16516(a)) is amended by  
19 adding at the end the following:

20 “(4) Energy efficiency projects, including  
21 projects to retrofit residential, commercial, and in-  
22 dustrial buildings, facilities, and equipment, includ-  
23 ing financing programs that finance the retrofitting  
24 of residential, commercial, and industrial buildings,  
25 facilities, and equipment.”.



1 (b) CREDIT SUPPORT FOR FINANCING PROGRAMS.—  
2 Section 1705 of the Energy Policy Act of 2005 (42 U.S.C.  
3 16516) is amended—

4 (1) by redesignating subsection (e) as sub-  
5 section (f); and

6 (2) by inserting after subsection (d) the fol-  
7 lowing:

8 “(e) CREDIT SUPPORT FOR FINANCING PRO-  
9 GRAMS.—

10 “(1) IN GENERAL.—In the case of programs  
11 that finance the retrofitting of residential, commer-  
12 cial, and industrial buildings, facilities, and equip-  
13 ment described in subsection (a)(4), the Secretary  
14 may—

15 “(A) offer loan guarantees for portfolios of  
16 debt obligations; and

17 “(B) purchase or make commitments to  
18 purchase portfolios of debt obligations.

19 “(2) TERM.—Notwithstanding section 1702(f),  
20 the term of any debt obligation that receives credit  
21 support under this subsection shall require full re-  
22 payment over a period not to exceed the lesser of—

23 “(A) 30 years; and

24 “(B) the projected weighted average useful  
25 life of the measure or system financed by the

1 debt obligation or portfolio of debt obligations  
2 (as determined by the Secretary).

3 “(3) UNDERWRITING.—The Secretary may—

4 “(A) delegate underwriting responsibility  
5 for portfolios of debt obligations under the sub-  
6 section to financial institutions that meet quali-  
7 fications determined by the Secretary; and

8 “(B) determine an appropriate percentage  
9 of loans in a portfolio to review in order to con-  
10 firm sound underwriting.

11 “(4) ADMINISTRATION.—Subsections (c) and  
12 (d)(3) of section 1702 shall not apply to loan guar-  
13 antees made under this subsection.”.

14 (c) TERMINATION OF EFFECTIVENESS.—The author-  
15 ity provided by this section and the amendments made by  
16 this section terminates effective on the date that is 2 years  
17 after the date of enactment of this Act.

18 **SEC. 6. AUTHORIZATION OF APPROPRIATIONS.**

19 There are authorized to be appropriated to the Sec-  
20 retary to carry out this Act and the amendments made  
21 by this Act \$6,000,000,000 for the period of fiscal years  
22 2010 and 2011, to remain available until expended, of  
23 which—

24 (1) not less than \$600,000,000 or 10 percent of  
25 the amount made available for a fiscal year (which-

1       ever is less) shall be used to carry out the financing  
2       program established under section 4; and

3               (2) not more than \$360,000,000 or 6 percent  
4       of the amount made available for a fiscal year  
5       (whichever is less) shall be used to administer this  
6       Act and the amendments made by this Act.

○