

112TH CONGRESS
1ST SESSION

S. 963

To reduce energy costs, improve energy efficiency, and expand the use of renewable energy by Federal agencies, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MAY 12, 2011

Mr. CARPER introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

A BILL

To reduce energy costs, improve energy efficiency, and expand the use of renewable energy by Federal agencies, 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; TABLE OF CONTENTS.**

4 (a) SHORT TITLE.—This Act may be cited as the
5 “Reducing Federal Energy Dollars Act of 2011”.

6 (b) TABLE OF CONTENTS.—The table of contents of
7 this Act is as follows:

Sec. 1. Short title; table of contents.

Sec. 2. Definitions.

Sec. 3. Transparency and accountability of energy use by Federal facilities.

Sec. 4. Modernizing Federal building energy efficiency performance standards.

Sec. 5. Surveying renewable energy potential of Federal facilities.

- Sec. 6. Smart metering of Federal facilities.
 Sec. 7. Improving computer energy management at Federal agencies.
 Sec. 8. Broadening definition of renewable energy to include thermal.
 Sec. 9. Expanding use of energy savings performance contracts.
 Sec. 10. Modernizing outdated, inefficient Federal building designs.
 Sec. 11. Ongoing commissioning of Federal facilities.
 Sec. 12. Audit and report on Federal energy management.

1 **SEC. 2. DEFINITIONS.**

2 In this Act:

3 (1) EXECUTIVE AGENCY.—The term “Executive
 4 agency” has the meaning given the term in section
 5 105 of title 5, United States Code.

6 (2) SECRETARY.—The term “Secretary” means
 7 the Secretary of Energy.

8 **SEC. 3. TRANSPARENCY AND ACCOUNTABILITY OF ENERGY**

9 **USE BY FEDERAL FACILITIES.**

10 Section 543 of the National Energy Conservation
 11 Policy Act (42 U.S.C. 8253) is amended—

12 (1) by redesignating the second subsection (f)
 13 (as added by section 434(a) of the Energy Independ-
 14 ence and Security Act of 2007 (Public Law 110–
 15 140; 121 Stat. 1614)) as subsection (g); and

16 (2) in subsection (f), by adding at the end the
 17 following:

18 “(12) REPORTING ON COMMISSIONING AND EN-
 19 ERGY AND WATER SAVINGS MEASURES.—

20 “(A) IN GENERAL.—Each energy manager
 21 shall submit the evaluations, commissioning re-
 22 ports, plans, measurements, and verifications

1 obtained under paragraphs (3) and (5) to the
2 web-based system established under paragraph
3 (7) or to another publicly available web-based
4 system established by the Secretary.

5 “(B) STANDARDIZING REPORTING FOR-
6 MATS.—Not later than 1 year after the date of
7 enactment of this paragraph, the Secretary, in
8 consultation with the Administrator of General
9 Services, representatives of relevant professional
10 societies and industry associations, and other
11 relevant individuals, shall recognize or develop a
12 standardized format for obtaining and reporting
13 the information described in subparagraph (A).

14 “(13) ANNUAL REPORT ON FEDERAL BUILDING
15 ENERGY AND WATER CHARACTERISTICS.—Not later
16 than 1 year after the date of enactment of this para-
17 graph and annually thereafter, the Secretary shall
18 make available on a publicly available website a re-
19 port summarizing the energy and water use and
20 high-performance attributes of Federal buildings, in-
21 cluding—

22 “(A) data on energy use, water use, and
23 greenhouse gas emissions data by Department
24 of Energy climate zone, building type, primary

1 building use, department or agency, and build-
2 ing vintage;

3 “(B) data on total energy usage and en-
4 ergy usage by heating, ventilation, and air con-
5 ditioning, lighting, plug-loads, and other sub-
6 systems;

7 “(C) data on the energy, water, and green-
8 house gas emissions savings attributable to
9 compliance with relevant Federal law and the
10 baseline used for a determination of the sav-
11 ings;

12 “(D) a description of the requirements and
13 programs relating to energy use, water use, or
14 greenhouse gas emissions applicable to the de-
15 sign and operation of Federal buildings and the
16 outcomes of the requirements and programs, in-
17 cluding—

18 “(i) requirements and programs such
19 as green building and energy rating sys-
20 tems and energy codes and standards; and

21 “(ii) outcomes such as energy, water,
22 and greenhouse gas emissions savings;

23 “(E) a description of the use of design or
24 technological features that contribute to reduc-

1 tions in energy and water use, including fea-
2 tures relating to—

- 3 “(i) building controls;
- 4 “(ii) heating and cooling;
- 5 “(iii) ventilation;
- 6 “(iv) efficient lighting;
- 7 “(v) lighting controls;
- 8 “(vi) daylighting;
- 9 “(vii) plumbing fixtures;
- 10 “(viii) building envelopes;
- 11 “(ix) orientation;
- 12 “(x) site selection;
- 13 “(xi) integrated design;
- 14 “(xii) building information modeling;
- 15 “(xiii) commissioning; and
- 16 “(xiv) other matters determined ap-
17 propriate for inclusion by the Secretary;
- 18 “(F) a description of any lessons learned
19 from and case studies included in the informa-
20 tion submitted under paragraph (12); and
- 21 “(G) a description of the characteristics of
22 high-performance buildings and high-perform-
23 ance green buildings (as defined in section 401
24 of the Energy Independence and Security Act

1 of 2007 (42 U.S.C. 17061)), including with re-
 2 spect to—

- 3 “(i) indoor environmental quality;
 4 “(ii) air and water pollution;
 5 “(iii) waste generation;
 6 “(iv) impacts on transportation due to
 7 building location and site design;
 8 “(v) safety, security, and resiliency at-
 9 tributes;
 10 “(vi) historic preservation;
 11 “(vii) operation and functionality
 12 characteristics; and
 13 “(viii) additional information deter-
 14 mined appropriate for inclusion by the Sec-
 15 retary.”.

16 **SEC. 4. MODERNIZING FEDERAL BUILDING ENERGY EFFI-**
 17 **CENCY PERFORMANCE STANDARDS.**

18 Section 305 of the Energy Conservation and Produc-
 19 tion Act (42 U.S.C. 6834) is amended—

20 (1) by striking subsection (b) and inserting the
 21 following:

22 “(b) REVISED FEDERAL BUILDING ENERGY STAND-
 23 ARDS.—

24 “(1) AFFIRMATIVE DETERMINATION THAT RE-
 25 VISION WILL IMPROVE ENERGY EFFICIENCY.—

1 “(A) IN GENERAL.—If the Secretary elects
2 not to update the Federal building energy effi-
3 ciency performance standard under subsection
4 (a)(3)(B) and an affirmative determination has
5 been published under section 304(b)(2)(A), the
6 appropriate Federal building energy efficiency
7 performance standard for all projects receiving
8 congressional approval following the affirmative
9 determination shall be the standard or code re-
10 ceiving the affirmative determination and any
11 additional criteria necessary to achieve energy
12 consumption levels described in subsection
13 (a)(3)(A)(i)(I).

14 “(B) SAVINGS.—To determine the nec-
15 essary savings required under the revised Fed-
16 eral building energy performance standard, an
17 Executive agency (as defined in section 105 of
18 title 5, United States Code) (referred to in this
19 subsection as an ‘Executive agency’) shall use
20 the savings identified in the affirmative deter-
21 mination over ASHRAE Standard 90.1–2004
22 or the 2004 International Conservation Code.

23 “(C) CRITERIA.—Absent additional criteria
24 from the Secretary to achieve the energy con-
25 sumption levels described in subsection

1 (a)(3)(A)(i)(I), an Executive agency shall con-
2 sult with ASHRAE, the International Code
3 Council, the project design team, and others as
4 necessary to incorporate the criteria necessary
5 to achieve the required energy consumption lev-
6 els into contracts and designs.

7 “(2) NO AFFIRMATIVE DETERMINATION THAT
8 REVISION WILL IMPROVE ENERGY EFFICIENCY.—

9 “(A) IN GENERAL.—If the Secretary elects
10 not to update the Federal building energy effi-
11 ciency performance standard under subsection
12 (a)(3)(B) and no affirmative determination has
13 been published under section 304(b)(2)(A), the
14 appropriate Federal building energy efficiency
15 performance standard for all projects receiving
16 congressional approval following the election by
17 the Secretary not to update the standard shall
18 be the standard or code that triggered a deter-
19 mination under subsection (a)(3)(B) and any
20 additional criteria necessary to achieve energy
21 consumption levels that are at least 30 percent
22 below the revised standard.

23 “(B) CRITERIA.—Absent additional cri-
24 teria from the Secretary to achieve energy con-
25 sumption levels 30 percent lower than the re-

1 vised standard, an Executive agency shall con-
2 sult with ASHRAE, the International Code
3 Council, the project design team, and others as
4 necessary to incorporate the criteria necessary
5 to achieve the required energy consumption lev-
6 els into contracts and designs.

7 “(C) COMPLIANCE.—If a revised Federal
8 building energy performance standard is estab-
9 lished under this paragraph, the requirements
10 of subsection (a)(3)(A)(i)(I) shall be considered
11 to be satisfied.

12 “(3) APPROVAL PRIOR TO REVISION.—If a
13 project receives congressional approval prior to a re-
14 vision of the Federal building energy efficiency per-
15 formance standard, an Executive agency may use
16 the most current Federal building energy efficiency
17 performance standard.”; and

18 (2) by striking subsection (d).

19 **SEC. 5. SURVEYING RENEWABLE ENERGY POTENTIAL OF**
20 **FEDERAL FACILITIES.**

21 (a) IN GENERAL.—Not later than 1 year after the
22 date of enactment of this Act, the Secretary, in consulta-
23 tion with the Secretary of Defense and the Administrator
24 of General Services, shall promulgate regulations that es-
25 tablish appropriate methods and procedures for use by Ex-

1 executive agencies to implement (unless inconsistent with
 2 the mission of the Executive agencies or impracticable due
 3 to environmental constraints) the identification of all po-
 4 tential locations at Federal facilities of the Executive
 5 agencies for renewable energy projects (including available
 6 land, building roofs, and parking structures).

7 (b) IDENTIFICATION OF POTENTIAL LOCATIONS.—
 8 Not later than 2 years after the date of the promulgation
 9 of regulations under subsection (a), each Executive agency
 10 shall complete the report of the Executive agency that
 11 identifies potential locations described in subsection (a).

12 **SEC. 6. SMART METERING OF FEDERAL FACILITIES.**

13 Section 543(e) of the National Energy Conservation
 14 Policy Act (42 U.S.C. 8253(e)) is amended—

15 (1) in paragraph (1)—

16 (A) by designating the first, second, third,
 17 and fourth sentences as subparagraphs (A),
 18 (B), (C), and (E), respectively; and

19 (B) by inserting after subparagraph (C)
 20 (as so designated) the following:

21 “(D) WHOLE BUILDING SMART METERS
 22 AND SMART SUBMETERS.—

23 “(i) IN GENERAL.—Each agency shall
 24 use—

1 “(I) whole building smart meters
2 for all Federal buildings, owned or
3 leased, with a gross square footage of
4 30,000 square feet or more; and

5 “(II) smart submeters for sub-
6 systems that use 30 percent or more
7 of whole building energy.

8 “(ii) FREQUENCY.—The advanced me-
9 ters and advanced metering devices shall,
10 to the maximum extent practicable, provide
11 data at least daily and measure at least
12 hourly consumption of electricity in the
13 Federal buildings of the agency.”; and

14 (2) in paragraph (3), by inserting “and updated
15 annually thereafter,” after “paragraph (2)”.

16 **SEC. 7. IMPROVING COMPUTER ENERGY MANAGEMENT AT**
17 **FEDERAL AGENCIES.**

18 (a) IN GENERAL.—Not later than 1 year after the
19 date of enactment of this Act, the Secretary, in consulta-
20 tion with the Secretary of Defense, the Secretary of Vet-
21 erans Affairs, and the Administrator of General Services,
22 shall issue guidance for Executive agencies to employ ad-
23 vanced tools allowing energy savings through the use of
24 computer hardware, energy efficiency software, and power
25 management tools.

1 (b) REPORTS ON PLANS AND SAVINGS.—Not later
 2 than 180 days after the date of the issuance of the guid-
 3 ance under subsection (a), each Executive agency shall
 4 submit to the Secretary a report that describes—

5 (1) the plan of the Executive agency for imple-
 6 menting the guidance within the Executive agency;
 7 and

8 (2) estimated energy and financial savings from
 9 employing the tools described in subsection (a).

10 **SEC. 8. BROADENING DEFINITION OF RENEWABLE ENERGY**
 11 **TO INCLUDE THERMAL.**

12 Section 203 of the Energy Policy Act of 2005 (42
 13 U.S.C. 15852) is amended—

14 (1) in subsection (a), in the matter preceding
 15 paragraph (1), by striking “electric”;

16 (2) by redesignating subsection (d) as sub-
 17 section (e); and

18 (3) by inserting after subsection (c) the fol-
 19 lowing:

20 “(d) SEPARATE CALCULATION.—Renewable energy
 21 produced at a Federal facility, on Federal land, or on In-
 22 dian land (as defined in section 2601 of the Energy Policy
 23 Act of 1992 (25 U.S.C. 3501))—

24 “(1) shall be calculated separately from renew-
 25 able energy used; and

1 “(2) may be used individually or in combination
2 to comply with subsection (a).”.

3 **SEC. 9. EXPANDING USE OF ENERGY SAVINGS PERFORM-**
4 **ANCE CONTRACTS.**

5 (a) **AUTHORITY TO ENTER INTO CONTRACTS.**—Sec-
6 tion 801(a)(1) of the National Energy Conservation Policy
7 Act (42 U.S.C. 8287(a)(1)) is amended in the first sen-
8 tence by inserting before the period at the end the fol-
9 lowing: “, including savings and benefits involving non-
10 building applications”.

11 (b) **PAYMENT OF COSTS.**—Section 802 of the Na-
12 tional Energy Conservation Policy Act (42 U.S.C. 8287a)
13 is amended by inserting before the period at the end the
14 following: “or the use of fuel purchased with those funds”.

15 (c) **DEFINITIONS.**—

16 (1) **ENERGY SAVINGS.**—Section 804(2) of the
17 National Energy Conservation Policy Act (42 U.S.C.
18 8287e(2)) is amended—

19 (A) in subparagraph (A), by striking “or
20 other federally owned facilities” each place it
21 appears and inserting “, other federally owned
22 facilities, or other buildings or facilities at
23 which an Executive agency pays for utilities”;

24 (B) in subparagraph (C)—

1 (i) by inserting “(including new hydroelectric generation at Federal dams
2 that do not have hydroelectric generation
3 facilities)” after “cogeneration”; and

4 (ii) by striking “and” after the semi-
5 colon at the end;

6 (C) in subparagraph (D), by striking the
7 period at the end and inserting “; and”; and

8 (D) by adding at the end the following:

9 “(E) the increased efficient use of non-
10 building applications; and

11 “(F) the savings realized from reduced fuel
12 use, including secondary savings.”.

13 (2) NONBUILDING APPLICATION; SECONDARY
14 SAVINGS.—Section 804 of the National Energy Con-
15 servation Policy Act (42 U.S.C. 8287c) is amended
16 by adding at the end the following:

17 “(5) NONBUILDING APPLICATION.—The term
18 ‘nonbuilding application’ means—

19 “(A) any class of vehicles, devices, or
20 equipment that is transportable under the
21 power of the applicable vehicle, device, or equip-
22 ment by land, sea, or air and that consumes en-
23 ergy from any fuel source for the purpose of—

24 “(i) that transportation; or
25

1 “(ii) maintaining a controlled environ-
2 ment within the vehicle, device, or equip-
3 ment; and

4 “(B) any federally owned equipment used
5 to generate electricity or transport water.

6 “(6) SECONDARY SAVINGS.—The term ‘sec-
7 ondary savings’ means additional energy or cost sav-
8 ings that are a direct consequence of the energy sav-
9 ings that result from the energy efficiency improve-
10 ments that are financed and implemented pursuant
11 to an energy savings performance contract.”.

12 (d) GUIDANCE.—Not later than 1 year after the date
13 of enactment of this Act, the Director of the Office of
14 Management and Budget, in consultation with the Sec-
15 retary, the Secretary of Defense, and the Administrator
16 of General Services, shall issue guidance and rules to Ex-
17 ecutive agencies to implement the amendments made by
18 this section.

19 **SEC. 10. MODERNIZING OUTDATED, INEFFICIENT FEDERAL**
20 **BUILDING DESIGNS.**

21 Section 3307, of title 40, United States Code, is
22 amended—

23 (1) by redesignating subsections (d) through (h)
24 as subsections (e) through (i), respectively; and

1 (2) by inserting after subsection (c) the fol-
2 lowing:

3 “(d) AVAILABILITY OF FUNDS FOR DESIGN UP-
4 DATES.—

5 “(1) IN GENERAL.—Subject to paragraph (2),
6 for any project for which congressional approval is
7 received under subsection (a) and for which the de-
8 sign has been substantially completed but construc-
9 tion has not begun, the Administrator of General
10 Services may use appropriated funds to update the
11 project design to meet applicable Federal building
12 energy efficiency standards established under section
13 305 of the Energy Conservation and Production Act
14 (42 U.S.C. 6834) and other requirements estab-
15 lished under section 3312.

16 “(2) LIMITATION.—The use of funds under
17 paragraph (1) shall not exceed 125 percent of the
18 estimated energy or other cost savings associated
19 with the updates as determined by a life-cycle cost
20 analysis under section 544 of the National Energy
21 Conservation Policy Act (42 U.S.C. 8254).”.

22 **SEC. 11. ONGOING COMMISSIONING OF FEDERAL FACILI-**
23 **TIES.**

24 (a) IN GENERAL.—Section 3312 of title 40, United
25 States Code, is amended—

1 (1) by redesignating subsections (c) through (g)
2 as subsections (d) through (h), respectively; and

3 (2) by inserting after subsection (b) the fol-
4 lowing:

5 “(c) ONGOING COMMISSIONING WITHIN THE FED-
6 ERAL BUILDING STOCK.—

7 “(1) IN GENERAL.—Not later than 1 year after
8 the date of enactment of the Reducing Federal En-
9 ergy Dollars Act of 2011, the Administrator and the
10 Secretary of Energy shall incorporate commissioning
11 and recommissioning standards (as those terms are
12 defined in section 543(f) of the National Energy
13 Conservation Policy Act (42 U.S.C. 8253(f))), for all
14 real property that—

15 “(A) is more than \$10,000,000 in value;

16 “(B) has more than 50,000 square feet; or

17 “(C) has energy intensity of more than \$2
18 per square foot and an area of more than
19 10,000 square feet (or energy expenditures
20 greater than \$20,000 per year).

21 “(2) REGULATIONS.—Not later than 1 year
22 after the date of enactment of the Reducing Federal
23 Energy Dollars Act of 2011, the Administrator and
24 the Secretary of Energy shall promulgate such regu-
25 lations as are necessary to carry out this subsection,

1 including prospective Federal leases that meets the
2 requirements of subparagraph (A), (B), or (C) of
3 paragraph (1).”.

4 (b) CONFORMING AMENDMENTS.—Section 3312 of
5 title 40, United States Code, is amended—

6 (1) in subsection (e)(1) (as redesignated by
7 subsection (a)(1)), in the matter preceding subpara-
8 graph (A), by striking “and (c)” and inserting “and
9 (d)”;

10 (2) in the first sentence of subsection (f) (as so
11 redesignated), by striking “and (c)” and inserting
12 “and (d)”;

13 (3) in subsection (g) (as so redesignated), by
14 striking “subsection (b), (c), or (d) or for failure to
15 carry out any recommendation under subsection (e)”
16 and inserting “subsection (b), (d), or (e) or for fail-
17 ure to carry out any recommendation under sub-
18 section (f)”.

19 **SEC. 12. AUDIT AND REPORT ON FEDERAL ENERGY MAN-**
20 **AGEMENT.**

21 (a) AUDIT.—Not later than 1 year after the date of
22 enactment of this Act, the Comptroller General of the
23 United States shall carry out an audit to determine—

24 (1) the overall progress and efficacy of Federal
25 energy management efforts;

1 (2) progress made towards energy consumption
2 reduction and management goals established by law
3 or Executive order;

4 (3) financial cost savings associated with Fed-
5 eral energy consumption and intensity reduction ef-
6 forts; and

7 (4) considerations for Congress to streamline
8 Federal energy management requirements estab-
9 lished by law or Executive order.

10 (b) REPORT.—Not later than 90 days after the date
11 described in subsection (a), the Comptroller General of the
12 United States shall submit to the appropriate committees
13 of Congress a report that contains a description of the
14 results of the audit carried out under subsection (a).

○