

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.

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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

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## 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 Modernizing outdated, inefficient Federal building designs.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).

○