

AMENDMENT NO. \_\_\_\_\_ Calendar No. \_\_\_\_\_

Purpose: In the nature of a substitute.

**IN THE SENATE OF THE UNITED STATES—112th Cong., 1st Sess.**

**S. 1000**

To promote energy savings in residential and commercial buildings and industry, and for other purposes.

Referred to the Committee on \_\_\_\_\_ and ordered to be printed

Ordered to lie on the table and to be printed

AMENDMENT IN THE NATURE OF A SUBSTITUTE intended to be proposed by \_\_\_\_\_

Viz:

1 Strike all after the enacting clause and insert the fol-  
2 lowing:

3 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

4 (a) **SHORT TITLE.**—This Act may be cited as the  
5 “Energy Savings and Industrial Competitiveness Act of  
6 2011”.

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

Sec. 1. Short title; table of contents.

**TITLE I—BUILDINGS**

**Subtitle A—Building Energy Codes**

Sec. 101. Greater energy efficiency in building codes.

**Subtitle B—Worker Training and Capacity Building**

## 2

Sec. 111. Building training and assessment centers.

TITLE II—BUILDING EFFICIENCY FINANCE

Sec. 201. Loan program for energy efficiency upgrades to existing buildings.

TITLE III—INDUSTRIAL EFFICIENCY AND COMPETITIVENESS

Subtitle A—Manufacturing Energy Efficiency

Sec. 301. State partnership industrial energy efficiency revolving loan program.

Sec. 302. Coordination of research and development of energy efficient technologies for industry.

Sec. 303. Energy efficient technologies assessment.

Sec. 304. Future of Industry program.

Sec. 305. Sustainable manufacturing initiative.

Sec. 306. Study of advanced energy technology manufacturing capabilities in the United States.

Sec. 307. Industrial Technologies steering committee.

Subtitle B—Supply Star

Sec. 311. Supply Star.

Subtitle C—Electric Motor Rebate Program

Sec. 321. Energy saving motor control rebate program.

Subtitle D—Transformer Rebate Program

Sec. 331. Energy efficient transformer rebate program.

TITLE IV—FEDERAL AGENCY ENERGY EFFICIENCY

Sec. 401. Adoption of personal computer power savings techniques by Federal agencies.

Sec. 402. Availability of funds for design updates.

Sec. 403. Best practices for advanced metering.

Sec. 404. Federal energy management and data collection standard.

Sec. 405. Electric vehicle charging infrastructure.

Sec. 406. Federal purchase requirement.

Sec. 407. Study on Federal data center consolidation.

TITLE V—MISCELLANEOUS

Sec. 501. Offsets.

Sec. 502. Budgetary effects.

Sec. 503. Advance appropriations required.

1                   **TITLE I—BUILDINGS**  
2   **Subtitle A—Building Energy Codes**  
3 **SEC. 101. GREATER ENERGY EFFICIENCY IN BUILDING**  
4                   **CODES.**

5           (a) IN GENERAL.—Section 304 of the Energy Con-  
6 servation and Production Act (42 U.S.C. 6833) is amend-  
7 ed to read as follows:

8 **“SEC. 304. UPDATING STATE BUILDING ENERGY EFFI-**  
9                   **CIENCY CODES.**

10           “(a) UPDATING NATIONAL MODEL BUILDING EN-  
11 ERGY CODES.—

12                   “(1) IN GENERAL.—The Secretary shall—

13                           “(A) support the development of national  
14 model building energy codes, including the up-  
15 dating of ASHRAE and IECC model building  
16 energy codes and standards;

17                           “(B) encourage and support the adoption  
18 of building energy codes by States, Indian  
19 tribes, and, as appropriate, by local govern-  
20 ments that meet or exceed the national model  
21 building energy codes, or achieve equivalent or  
22 greater energy savings; and

23                           “(C) support full compliance with the  
24 State and local codes.

25                   “(2) TARGETS.—

1           “(A) IN GENERAL.—The Secretary shall  
2 support the updating of the national model  
3 building energy codes for residential buildings  
4 and commercial buildings to enable the achieve-  
5 ment of energy savings targets established  
6 under subparagraph (B).

7           “(B) TARGETS.—

8           “(i) IN GENERAL.—The Secretary  
9 shall work with State, Indian tribes, local  
10 governments, nationally recognized code  
11 and standards developers, and other inter-  
12 ested parties to support the updating of  
13 national model building energy codes by es-  
14 tablishing 1 or more aggregate energy sav-  
15 ings targets to achieve the purposes of this  
16 section.

17           “(ii) SEPARATE TARGETS.—The Sec-  
18 retary may establish separate targets for  
19 commercial and residential buildings.

20           “(iii) BASELINES.—The baseline for  
21 updating national model codes shall be the  
22 2009 IECC for residential buildings and  
23 ASHRAE Standard 90.1–2010 for com-  
24 mercial buildings.

25           “(iv) SPECIFIC YEARS.—

1                   “(I) IN GENERAL.—Targets for  
2 specific years shall be established and  
3 revised by the Secretary through rule-  
4 making and coordinated with nation-  
5 ally recognized code and standards de-  
6 velopers at a level that—

7                   “(aa) is at the maximum  
8 level of energy efficiency that is  
9 technologically feasible and life-  
10 cycle cost effective, while ac-  
11 counting for the economic consid-  
12 erations under subparagraph  
13 (D);

14                   “(bb) is higher than the pre-  
15 ceding target; and

16                   “(cc) promotes the achieve-  
17 ment of commercial and residen-  
18 tial high-performance buildings  
19 (as defined in section 401 of the  
20 Energy Independence and Secu-  
21 rity Act of 2007 (42 U.S.C.  
22 17061)).

23                   “(II) INITIAL TARGETS.—Not  
24 later than 1 year after the date of en-  
25 actment of this clause, the Secretary

1 shall establish initial targets under  
2 this subparagraph.

3 “(III) DIFFERENT TARGET  
4 YEARS.—Subject to subclause (I),  
5 prior to the applicable year, the Sec-  
6 retary may set a different target year  
7 for any of model codes described in  
8 clause (i) if the Secretary determines  
9 that a higher target cannot be met.

10 “(IV) SMALL BUSINESS.—When  
11 establishing targets under this sub-  
12 paragraph through rulemaking, the  
13 Secretary shall ensure compliance  
14 with the Small Business Regulatory  
15 Enforcement Fairness Act of 1996 (5  
16 U.S.C. 601 note; Public Law 104–  
17 121).

18 “(C) APPLIANCE STANDARDS AND OTHER  
19 FACTORS AFFECTING BUILDING ENERGY USE.—  
20 In establishing building code targets under sub-  
21 paragraph (B), the Secretary shall develop and  
22 adjust the targets in recognition of potential  
23 savings and costs relating to—

1                   “(i) efficiency gains made in appli-  
2                   ances, lighting, windows, insulation, and  
3                   building envelope sealing;

4                   “(ii) advancement of distributed gen-  
5                   eration and on-site renewable power gen-  
6                   eration technologies;

7                   “(iii) equipment improvements for  
8                   heating, cooling, and ventilation systems;

9                   “(iv) building management systems  
10                  and SmartGrid technologies to reduce en-  
11                  ergy use; and

12                  “(v) other technologies, practices, and  
13                  building systems that the Secretary con-  
14                  siders appropriate regarding building plug  
15                  load and other energy uses.

16                  “(D) ECONOMIC CONSIDERATIONS.—In es-  
17                  tablishing and revising building code targets  
18                  under subparagraph (B), the Secretary shall  
19                  consider the economic feasibility of achieving  
20                  the proposed targets established under this sec-  
21                  tion and the potential costs and savings for con-  
22                  sumers and building owners, including a return  
23                  on investment analysis.

1           “(3) TECHNICAL ASSISTANCE TO MODEL CODE-  
2           SETTING AND STANDARD DEVELOPMENT ORGANIZA-  
3           TIONS.—

4           “(A) IN GENERAL.—The Secretary shall,  
5           on a timely basis, provide technical assistance  
6           to model code-setting and standard development  
7           organizations.

8           “(B) ASSISTANCE.—The assistance shall  
9           include, as requested by the organizations, tech-  
10          nical assistance in—

11           “(i) evaluating code or standards pro-  
12           posals or revisions;

13           “(ii) building energy analysis and de-  
14           sign tools;

15           “(iii) building demonstrations;

16           “(iv) developing definitions of energy  
17           use intensity and building types for use in  
18           model codes and standards or in evaluating  
19           the efficiency impacts of the codes and  
20           standards;

21           “(v) performance-based standards;

22           “(vi) evaluating economic consider-  
23           ations under paragraph (2)(D); and

24           “(vii) developing models of codes by  
25           Indian tribes in accordance with tribal law.

1           “(C) AMENDMENT PROPOSALS.—The Sec-  
2           retary may submit timely code and standard  
3           amendment proposals to the model code-setting  
4           and standard development organizations, with  
5           supporting evidence, sufficient to enable the  
6           model building energy codes and standards to  
7           meet the targets established under paragraph  
8           (2)(B).

9           “(D) ANALYSIS METHODOLOGY.—The Sec-  
10          retary shall make publicly available the entire  
11          calculation methodology (including input as-  
12          sumptions and data) used by the Secretary to  
13          estimate the energy savings of code or standard  
14          proposals and revisions.

15          “(4) DETERMINATION AND ESTABLISHMENT.—

16               “(A) REVISION OF MODEL BUILDING  
17               CODES AND STANDARDS.—If the provisions of  
18               the IECC or ASHRAE Standard 90.1 regard-  
19               ing building energy use are revised, the Sec-  
20               retary shall make a preliminary determination  
21               not later than 90 days after the date of the re-  
22               vision, and a final determination not later than  
23               1 year after the date of the revision, on whether  
24               the revision will—

1           “(i) improve energy efficiency in  
2 buildings compared to the existing national  
3 model building energy code; and

4           “(ii) meet the applicable targets under  
5 paragraph (2)(B).

6           “(B) CODES OR STANDARDS NOT MEETING  
7 TARGETS.—

8           “(i) IN GENERAL.—If the Secretary  
9 makes a preliminary determination under  
10 subparagraph (A)(ii) that a code or stand-  
11 ard does not meet the targets established  
12 under paragraph (2)(B), the Secretary  
13 may at the same time provide the model  
14 code or standard developer with proposed  
15 changes that would result in a model code  
16 that meets the targets and with supporting  
17 evidence, taking into consideration—

18           “(I) whether the modified code is  
19 technically feasible and life-cycle cost  
20 effective;

21           “(II) available appliances, tech-  
22 nologies, materials, and construction  
23 practices; and

24           “(III) the economic consider-  
25 ations under paragraph (2)(D).

## 11

1 “(ii) INCORPORATION OF CHANGES.—

2 “(I) IN GENERAL.—On receipt of  
3 the proposed changes, the model code  
4 or standard developer shall have an  
5 additional 180 days to incorporate  
6 changes into the model code or stand-  
7 ard.

8 “(II) FINAL DETERMINATION.—

9 A final determination under subpara-  
10 graph (A) shall be on the modified  
11 model code or standard.

12 “(C) POSITIVE DETERMINATIONS.—If the  
13 Secretary makes positive final determinations  
14 under clauses (i) and (ii) of subparagraph (A)  
15 or under clause (i) of subparagraph (A) if the  
16 applicable target has not been established, the  
17 revised IECC or ASHRAE Standard 90.1 shall  
18 be established as the relevant national model  
19 building energy code.

20 “(D) ESTABLISHMENT BY SECRETARY.—

21 “(i) IN GENERAL.—If the Secretary  
22 makes a negative final determination under  
23 subparagraph (A)(ii), the Secretary shall  
24 at the same time establish a modified na-  
25 tional model building energy code.



1 but may also consider other model  
2 codes or standards; and

3 “(IV) observe and protect the in-  
4 tellectual property rights of nationally  
5 recognized code and standards devel-  
6 opers.

7 “(5) ADMINISTRATION.—In carrying out this  
8 section, the Secretary shall—

9 “(A) publish notice of targets, determina-  
10 tions, and national model building energy codes  
11 under this section in the Federal Register to  
12 provide an explanation of and the basis for such  
13 actions, including any supporting modeling,  
14 data, assumptions, protocols, and cost-benefit  
15 analysis, including return on investment; and

16 “(B) provide an opportunity for public  
17 comment on targets, determinations, and na-  
18 tional model building energy codes under this  
19 section.

20 “(b) STATE AND INDIAN TRIBE CERTIFICATION OF  
21 BUILDING ENERGY CODE UPDATES.—

22 “(1) REVIEW AND UPDATING OF CODES BY  
23 EACH STATE AND INDIAN TRIBE.—

24 “(A) IN GENERAL.—Not later than 2 years  
25 after the date on which a national model build-

1           ing energy code is established or revised under  
2           subsection (a), each State and Indian tribe shall  
3           certify whether the State and Indian tribe, re-  
4           spectively, has reviewed and updated the energy  
5           provisions of the building code of the State and  
6           Indian tribe, respectively.

7           “(B) DEMONSTRATION.—The certification  
8           shall include a demonstration of whether the  
9           code provisions that are in effect throughout  
10          the State and Indian tribe—

11                   “(i) meet or exceed the revised model  
12                   code; or

13                   “(ii) achieve equivalent or greater en-  
14                   ergy savings.

15          “(C) NO MODEL CODE UPDATE.—If the  
16          Secretary fails to revise a national model build-  
17          ing energy code by the date specified in sub-  
18          section (a)(4), each State and Indian tribe  
19          shall, not later than 2 years after the specified  
20          date, certify whether the State and Indian tribe,  
21          respectively, has reviewed and updated the en-  
22          ergy provisions of the building code of the State  
23          and Indian tribe, respectively, to meet or exceed  
24          the target in subsection (a)(2).

1           “(2) VALIDATION BY SECRETARY.—Not later  
2 than 90 days after a State or Indian tribe certifi-  
3 cation under paragraph (1), the Secretary shall—

4           “(A) determine whether the code provi-  
5 sions of the State or Indian tribe, respectively,  
6 meet the criteria specified in paragraph (1);  
7 and

8           “(B) if the determination is positive, vali-  
9 date the certification.

10          “(c) IMPROVEMENTS IN COMPLIANCE WITH BUILD-  
11 ING ENERGY CODES.—

12          “(1) REQUIREMENT.—

13           “(A) IN GENERAL.—Not later than 3 years  
14 after the date of a certification under sub-  
15 section (b), each State and Indian tribe shall  
16 certify whether the State and Indian tribe, re-  
17 spectively, has—

18           “(i) achieved full compliance under  
19 paragraph (3) with the applicable certified  
20 State and Indian tribe building energy  
21 code or with the associated national model  
22 building energy code; or

23           “(ii) made significant progress under  
24 paragraph (4) toward achieving compliance  
25 with the applicable certified State and In-

1           dian tribe building energy code or with the  
2           associated national model building energy  
3           code.

4           “(B) REPEAT CERTIFICATIONS.—If the  
5           State or Indian tribe certifies progress toward  
6           achieving compliance, the State or Indian tribe  
7           shall repeat the certification until the State or  
8           Indian tribe certifies that the State or Indian  
9           tribe has achieved full compliance, respectively.

10          “(2) MEASUREMENT OF COMPLIANCE.—A cer-  
11          tification under paragraph (1) shall include docu-  
12          mentation of the rate of compliance based on—

13                 “(A) independent inspections of a random  
14                 sample of the buildings covered by the code in  
15                 the preceding year; or

16                 “(B) an alternative method that yields an  
17                 accurate measure of compliance.

18          “(3) ACHIEVEMENT OF COMPLIANCE.—A State  
19          or Indian tribe shall be considered to achieve full  
20          compliance under paragraph (1) if—

21                 “(A) at least 90 percent of building space  
22                 covered by the code in the preceding year sub-  
23                 stantially meets all the requirements of the ap-  
24                 plicable code specified in paragraph (1), or

1 achieves equivalent or greater energy savings  
2 level; or

3 “(B) the estimated excess energy use of  
4 buildings that did not meet the applicable code  
5 specified in paragraph (1) in the preceding  
6 year, compared to a baseline of comparable  
7 buildings that meet this code, is not more than  
8 5 percent of the estimated energy use of all  
9 buildings covered by this code during the pre-  
10 ceding year.

11 “(4) SIGNIFICANT PROGRESS TOWARD  
12 ACHIEVEMENT OF COMPLIANCE.—A State or Indian  
13 tribe shall be considered to have made significant  
14 progress toward achieving compliance for purposes  
15 of paragraph (1) if the State or Indian tribe—

16 “(A) has developed and is implementing a  
17 plan for achieving compliance during the 8-  
18 year-period beginning on the date of enactment  
19 of this paragraph, including annual targets for  
20 compliance and active training and enforcement  
21 programs; and

22 “(B) has met the most recent target under  
23 subparagraph (A).

1           “(5) VALIDATION BY SECRETARY.—Not later  
2 than 90 days after a State or Indian tribe certifi-  
3 cation under paragraph (1), the Secretary shall—

4           “(A) determine whether the State or In-  
5 dian tribe has demonstrated meeting the cri-  
6 teria of this subsection, including accurate  
7 measurement of compliance; and

8           “(B) if the determination is positive, vali-  
9 date the certification.

10          “(d) STATES OR INDIAN TRIBES THAT DO NOT  
11 MEET TARGETS.—

12           “(1) REPORTING.—A State or Indian tribe that  
13 has not made a certification required under sub-  
14 section (b) or (c) by the applicable deadline shall  
15 submit to the Secretary a report on—

16           “(A) the status of the State or Indian tribe  
17 with respect to meeting the requirements and  
18 submitting the certification; and

19           “(B) a plan for meeting the requirements  
20 and submitting the certification.

21          “(2) STATES OR INDIAN TRIBES OUT OF CON-  
22 FORMANCE.—Any State or Indian tribe for which  
23 the Secretary has not accepted a certification by a  
24 deadline under subsection (b) or (c) shall be consid-  
25 ered out of conformance with this section until such

1 time as the State or Indian tribe submits and the  
2 Secretary validates the required certification.

3 “(3) LOCAL GOVERNMENT.—In any State or  
4 Indian tribe that is out of conformance with this  
5 section, a local government may be considered in  
6 conformance with this section by meeting the certifi-  
7 cation requirements under subsections (b) and (c).

8 “(4) FEDERAL SUPPORT.—The Secretary shall,  
9 as appropriate, make conformance of a jurisdiction  
10 with this section a criterion in grants or other sup-  
11 port for code adoption and compliance activities for  
12 State and local governments and Indian tribes.

13 “(5) ANNUAL REPORTS BY SECRETARY.—

14 “(A) IN GENERAL.—The Secretary shall  
15 annually submit to Congress, and publish in the  
16 Federal Register, a report on—

17 “(i) the status of national model  
18 building energy codes;

19 “(ii) the status of code adoption and  
20 compliance in the States and Indian tribes;

21 “(iii) implementation of this section;  
22 and

23 “(iv) improvements in energy savings  
24 over time as result of the targets estab-  
25 lished under subsection (a)(2)(B).

1                   “(B) IMPACTS.—The report shall include  
2 estimates of impacts of past action under this  
3 section, and potential impacts of further action,  
4 on—

5                   “(i) upfront financial and construction  
6 costs, cost benefits and returns (using in-  
7 vestment analysis), and lifetime energy use  
8 for buildings;

9                   “(ii) resulting energy costs to individ-  
10 uals and businesses; and

11                   “(iii) resulting overall annual building  
12 ownership and operating costs.

13                   “(e) TECHNICAL ASSISTANCE TO STATES AND IN-  
14 DIAN TRIBES.—The Secretary shall provide technical as-  
15 sistance to States and Indian tribes to implement the re-  
16 quirements of this section, including procedures and tech-  
17 nical analysis for States and Indian tribes—

18                   “(1) to demonstrate that the code provisions of  
19 the States and Indian tribes achieve equivalent or  
20 greater energy savings than the national model  
21 building energy codes;

22                   “(2) to document the rate of compliance with a  
23 building energy code; and

24                   “(3) to improve and implement State residential  
25 and commercial building energy codes or otherwise

1 promote the design and construction of energy effi-  
2 cient buildings.

3 “(f) AVAILABILITY OF INCENTIVE FUNDING.—

4 “(1) IN GENERAL.—The Secretary shall provide  
5 incentive funding to States and Indian tribes—

6 “(A) to implement the requirements of this  
7 section;

8 “(B) to improve and implement residential  
9 and commercial building energy codes, including  
10 increasing and verifying compliance with the  
11 codes and training of State, tribal, and local  
12 building code officials to implement and enforce  
13 the codes; and

14 “(C) to promote building energy efficiency  
15 through the use of the codes.

16 “(2) ADDITIONAL FUNDING.—Additional fund-  
17 ing shall be provided under this subsection for im-  
18 plementation of a plan to achieve and document full  
19 compliance with residential and commercial building  
20 energy codes under subsection (c)—

21 “(A) to a State or Indian tribe that is in  
22 conformance with this section under subsection  
23 (d)(2); and

24 “(B) in a State or Indian tribe that is not  
25 eligible under subparagraph (A), to a local gov-

1           ernment that is in conformance with this sec-  
2           tion under subsection (d)(3).

3           “(3) TRAINING.—Of the amounts made avail-  
4           able under this subsection, the State may use  
5           amounts required, but not to exceed \$750,000 for a  
6           State, to train State and local building code officials  
7           to implement and enforce codes described in para-  
8           graph (2).

9           “(4) LOCAL GOVERNMENTS.—States may share  
10          grants under this subsection with local governments  
11          that implement and enforce the codes.

12          “(g) STRETCH CODES AND ADVANCED STAND-  
13          ARDS.—

14                 “(1) IN GENERAL.—The Secretary shall provide  
15                 technical and financial support for the development  
16                 of stretch codes and advanced standards for residen-  
17                 tial and commercial buildings for use as—

18                         “(A) an option for adoption as a building  
19                         energy code by local, tribal, or State govern-  
20                         ments; and

21                         “(B) guidelines for energy-efficient build-  
22                         ing design.

23                 “(2) TARGETS.—The stretch codes and ad-  
24                 vanced standards shall be designed—

1           “(A) to achieve substantial energy savings  
2           compared to the national model building energy  
3           codes; and

4           “(B) to meet targets under subsection  
5           (a)(2), if available, at least 3 to 6 years in ad-  
6           vance of the target years.

7           “(h) STUDIES.—The Secretary, in consultation with  
8           building science experts from the National Laboratories  
9           and institutions of higher education, designers and build-  
10          ers of energy-efficient residential and commercial build-  
11          ings, code officials, and other stakeholders, shall under-  
12          take a study of the feasibility, impact, economics, and  
13          merit of—

14           “(1) code improvements that would require that  
15           buildings be designed, sited, and constructed in a  
16           manner that makes the buildings more adaptable in  
17           the future to become zero-net-energy after initial  
18           construction, as advances are achieved in energy-sav-  
19           ing technologies;

20           “(2) code procedures to incorporate measured  
21           lifetimes, not just first-year energy use, in trade-offs  
22           and performance calculations; and

23           “(3) legislative options for increasing energy  
24           savings from building energy codes, including addi-  
25           tional incentives for effective State and local action,

1 and verification of compliance with and enforcement  
2 of a code other than by a State or local government.

3 “(i) AUTHORIZATION OF APPROPRIATIONS.—There  
4 are authorized to be appropriated to carry out this section  
5 \$200,000,000, to remain available until expended.”.

6 (b) DEFINITION OF IECC.—Section 303 of the En-  
7 ergy Conservation and Production Act (42 U.S.C. 6832)  
8 is amended by adding at the end the following:

9 “(17) IECC.—The term ‘IECC’ means the  
10 International Energy Conservation Code.”.

11 (c) CONFORMING AMENDMENT.—Section 307 of the  
12 Energy Conservation and Production Act (42 U.S.C.  
13 6836) is repealed.

## 14 **Subtitle B—Worker Training and** 15 **Capacity Building**

### 16 **SEC. 111. BUILDING TRAINING AND ASSESSMENT CENTERS.**

17 (a) IN GENERAL.—The Secretary of Energy shall  
18 provide grants to institutions of higher education (as de-  
19 fined in section 101 of the Higher Education Act of 1965  
20 (20 U.S.C. 1001)) and Tribal Colleges or Universities (as  
21 defined in section 316(b) of that Act (20 U.S.C. 1059c(b))  
22 to establish building training and assessment centers—

23 (1) to identify opportunities for optimizing en-  
24 ergy efficiency and environmental performance in  
25 buildings;

1           (2) to promote the application of emerging con-  
2           cepts and technologies in commercial and institu-  
3           tional buildings;

4           (3) to train engineers, architects, building sci-  
5           entists, building energy permitting and enforcement  
6           officials, and building technicians in energy-efficient  
7           design and operation;

8           (4) to assist institutions of higher education  
9           and Tribal Colleges or Universities in training build-  
10          ing technicians;

11          (5) to promote research and development for  
12          the use of alternative energy sources and distributed  
13          generation to supply heat and power for buildings,  
14          particularly energy-intensive buildings; and

15          (6) to coordinate with and assist State-accred-  
16          ited technical training centers, community colleges,  
17          Tribal Colleges or Universities, and local offices of  
18          the National Institute of Food and Agriculture and  
19          ensure appropriate services are provided under this  
20          section to each region of the United States.

21          (b) COORDINATION AND NONDUPLICATION.—

22           (1) IN GENERAL.—The Secretary shall coordi-  
23           nate the program with the Industrial Assessment  
24           Centers program and with other Federal programs  
25           to avoid duplication of effort.

1           (2) COLLOCATION.—To the maximum extent  
2           practicable, building, training, and assessment cen-  
3           ters established under this section shall be collocated  
4           with Industrial Assessment Centers.

5   **TITLE II—BUILDING EFFICIENCY**  
6                                   **FINANCE**

7   **SEC. 201. LOAN PROGRAM FOR ENERGY EFFICIENCY UP-**  
8                                   **GRADES TO EXISTING BUILDINGS.**

9           Title XVII of the Energy Policy Act of 2005 (42  
10          U.S.C. 16511 et seq.) is amended by adding at the end  
11          the following:

12   **“SEC. 1706. BUILDING RETROFIT FINANCING PROGRAM.**

13           “(a) DEFINITIONS.—In this section:

14                   “(1) CREDIT SUPPORT.—The term ‘credit sup-  
15                   port’ means a guarantee or commitment to issue a  
16                   guarantee or other forms of credit enhancement to  
17                   ameliorate risks for efficiency obligations.

18                   “(2) EFFICIENCY OBLIGATION.—The term ‘effi-  
19                   ciency obligation’ means a debt or repayment obliga-  
20                   tion incurred in connection with financing a project,  
21                   or a portfolio of such debt or payment obligations.

22                   “(3) PROJECT.—The term ‘project’ means the  
23                   installation and implementation of efficiency, ad-  
24                   vanced metering, distributed generation, or renew-  
25                   able energy technologies and measures in a building

1 (or in multiple buildings on a given property) that  
2 are expected to increase the energy efficiency of the  
3 building (including fixtures) in accordance with cri-  
4 teria established by the Secretary.

5 “(b) ELIGIBLE PROJECTS.—

6 “(1) IN GENERAL.—Notwithstanding sections  
7 1703 and 1705, the Secretary may provide credit  
8 support under this section, in accordance with sec-  
9 tion 1702.

10 “(2) INCLUSIONS.—Buildings eligible for credit  
11 support under this section include commercial, mul-  
12 tifamily residential, industrial, municipal, govern-  
13 ment, institution of higher education, school, and  
14 hospital facilities that satisfy criteria established by  
15 the Secretary.

16 “(c) GUIDELINES.—

17 “(1) IN GENERAL.—Not later than 180 days  
18 after the date of enactment of this section, the Sec-  
19 retary shall—

20 “(A) establish guidelines for credit support  
21 provided under this section; and

22 “(B) publish the guidelines in the Federal  
23 Register; and

24 “(C) provide for an opportunity for public  
25 comment on the guidelines.



1 creditors in buildings eligible for credit  
2 support;

3 “(ii) remedies available to the Sec-  
4 retary under chapter 176 of title 28,  
5 United States Code, in the event of default  
6 on the efficiency obligation by the bor-  
7 rower; and

8 “(iii) measures to limit the exposure  
9 of the Secretary to financial risk in the  
10 event of default, such as—

11 “(I) the collection of a credit sub-  
12 sidy fee from the borrower as a loan  
13 loss reserve, taking into account the  
14 limitation on credit support under  
15 subsection (d);

16 “(II) minimum debt-to-income  
17 levels of the borrower;

18 “(III) minimum levels of value  
19 relative to outstanding mortgage or  
20 other debt on a building eligible for  
21 credit support;

22 “(IV) allowable thresholds for the  
23 percent of the efficiency obligation rel-  
24 ative to the amount of any mortgage  
25 or other debt on an eligible building;

1                   “(V) analysis of historic and an-  
2                   ticipated occupancy levels and rental  
3                   income of an eligible building;

4                   “(VI) requirements of third-party  
5                   contractors to guarantee energy sav-  
6                   ings that will result from a retrofit  
7                   project, and whether financing on the  
8                   efficiency obligation will amortize  
9                   from the energy savings;

10                  “(VII) requirements that the ret-  
11                  rofit project incorporate protocols to  
12                  measure and verify energy savings;  
13                  and

14                  “(VIII) recovery of payments  
15                  equally by the Secretary and the ret-  
16                  rofit.

17                  “(3) EFFICIENCY OBLIGATIONS.—The financing  
18                  mechanisms qualified by the Secretary under para-  
19                  graph (2)(B) may include—

20                         “(A) loans, including loans made by the  
21                         Federal Financing Bank;

22                         “(B) power purchase agreements, including  
23                         energy efficiency power purchase agreements;

24                         “(C) energy services agreements, including  
25                         energy performance contracts;

1           “(D) property assessed clean energy bonds  
2           and other tax assessment-based financing mech-  
3           anisms;

4           “(E) aggregate on-meter agreements that  
5           finance retrofit projects; and

6           “(F) any other efficiency obligations the  
7           Secretary determines to be appropriate.

8           “(4) PRIORITIES.—In carrying out this section,  
9           the Secretary shall prioritize—

10           “(A) the maximization of energy savings  
11           with the available credit support funding;

12           “(B) the establishment of a clear applica-  
13           tion and approval process that allows private  
14           building owners, lenders, and investors to rea-  
15           sonably expect to receive credit support for  
16           projects that conform to guidelines;

17           “(C) the distribution of projects receiving  
18           credit support under this section across States  
19           or geographical regions of the United States;  
20           and

21           “(D) projects designed to achieve whole-  
22           building retrofits.

23           “(d) LIMITATION.—Notwithstanding section 1702(c),  
24           the Secretary shall not issue credit support under this sec-  
25           tion in an amount that exceeds—

1           “(1) 90 percent of the principal amount of the  
2           efficiency obligation that is the subject of the credit  
3           support; or

4           “(2) \$10,000,000 for any single project.

5           “(e) AGGREGATION OF PROJECTS.—To the extent  
6           provided in the guidelines developed in accordance with  
7           subsection (c), the Secretary may issue credit support on  
8           a portfolio, or pool of projects, that are not required to  
9           be geographically contiguous, if each efficiency obligation  
10          in the pool fulfills the requirements described in this sec-  
11          tion.

12          “(f) APPLICATION.—

13           “(1) IN GENERAL.—To be eligible to receive  
14           credit support under this section, the applicant shall  
15           submit to the Secretary an application at such time,  
16           in such manner, and containing such information as  
17           the Secretary determines to be necessary.

18           “(2) CONTENTS.—An application submitted  
19           under this section shall include assurances by the  
20           applicant that—

21           “(A) each contractor carrying out the  
22           project meets minimum experience level criteria,  
23           including local retrofit experience, as deter-  
24           mined by the Secretary;

1           “(B) the project is reasonably expected to  
2 achieve energy savings, as set forth in the appli-  
3 cation using any methodology that meets the  
4 standards described in the program guidelines;

5           “(C) the project meets any technical cri-  
6 teria described in the program guidelines;

7           “(D) the recipient of the credit support  
8 and the parties to the efficiency obligation will  
9 provide the Secretary with—

10           “(i) any information the Secretary re-  
11 quests to assess the energy savings that re-  
12 sult from the project, including historical  
13 energy usage data, a simulation-based  
14 benchmark, and detailed descriptions of  
15 the building work, as described in the pro-  
16 gram guidelines; and

17           “(ii) permission to access information  
18 relating to building operations and usage  
19 for the period described in the program  
20 guidelines; and

21           “(E) any other assurances that the Sec-  
22 retary determines to be necessary.

23           “(3) DETERMINATION.—Not later than 90 days  
24 after receiving an application, the Secretary shall

1 make a final determination on the application, which  
2 may include requests for additional information.

3 “(g) FEES.—

4 “(1) IN GENERAL.—In addition to the fees re-  
5 quired by section 1702(h)(1), the Secretary may  
6 charge reasonable fees for credit support provided  
7 under this section.

8 “(2) AVAILABILITY.—Fees collected under this  
9 section shall be subject to section 1702(h)(2).

10 “(h) UNDERWRITING.—The Secretary may delegate  
11 the underwriting activities under this section to 1 or more  
12 entities that the Secretary determines to be qualified.

13 “(i) REPORT.—Not later than 1 year after com-  
14 mencement of the program, the Secretary shall submit to  
15 the appropriate committees of Congress a report that de-  
16 scribes in reasonable detail—

17 “(1) the manner in which this section is being  
18 carried out;

19 “(2) the number and type of projects sup-  
20 ported;

21 “(3) the types of funding mechanisms used to  
22 provide credit support to projects;

23 “(4) the energy savings expected to result from  
24 projects supported by this section;

1           “(5) any tracking efforts the Secretary is using  
2           to calculate the actual energy savings produced by  
3           the projects; and

4           “(6) any plans to improve the tracking efforts  
5           described in paragraph (5).

6           “(j) FUNDING.—

7           “(1) AUTHORIZATION OF APPROPRIATIONS.—  
8           There is authorized to be appropriated to the Sec-  
9           retary to carry out this section \$400,000,000 for the  
10          period of fiscal years 2012 through 2021, to remain  
11          available until expended.

12          “(2) ADMINISTRATIVE COSTS.—Not more than  
13          1 percent of any amounts made available to the Sec-  
14          retary under paragraph (1) may be used by the Sec-  
15          retary for administrative costs incurred in carrying  
16          out this section.”.

17 **TITLE III—INDUSTRIAL EFFI-**  
18 **CIENCY AND COMPETITIVE-**  
19 **NESS**

20 **Subtitle A—Manufacturing Energy**  
21 **Efficiency**

22 **SEC. 301. STATE PARTNERSHIP INDUSTRIAL ENERGY EFFI-**  
23 **CIENCY REVOLVING LOAN PROGRAM.**

24          Section 399A of the Energy Policy and Conservation  
25 Act (42 U.S.C. 6371h–1) is amended—

1 (1) in the section heading, by inserting “**AND**  
2 **INDUSTRY**” before the period at the end;

3 (2) by redesignating subsections (h) and (i) as  
4 subsections (i) and (j), respectively; and

5 (3) by inserting after subsection (g) the fol-  
6 lowing:

7 “(h) STATE PARTNERSHIP INDUSTRIAL ENERGY EF-  
8 FICIENCY REVOLVING LOAN PROGRAM.—

9 “(1) IN GENERAL.—The Secretary shall carry  
10 out a program under which the Secretary shall pro-  
11 vide grants to eligible lenders to pay the Federal  
12 share of creating a revolving loan program under  
13 which loans are provided to commercial and indus-  
14 trial manufacturers to implement commercially avail-  
15 able technologies or processes that significantly—

16 “(A) reduce systems energy intensity, in-  
17 cluding the use of energy-intensive feedstocks;  
18 and

19 “(B) improve the industrial competitive-  
20 ness of the United States.

21 “(2) ELIGIBLE LENDERS.—To be eligible to re-  
22 ceive cost-matched Federal funds under this sub-  
23 section, a lender shall—

1           “(A) be a community and economic devel-  
2           opment lender that the Secretary certifies meets  
3           the requirements of this subsection;

4           “(B) lead a partnership that includes par-  
5           ticipation by, at a minimum—

6                     “(i) a State government agency; and

7                     “(ii) a private financial institution or  
8           other provider of loan capital;

9           “(C) submit an application to the Sec-  
10          retary, and receive the approval of the Sec-  
11          retary, for cost-matched Federal funds to carry  
12          out a loan program described in paragraph (1);  
13          and

14          “(D) ensure that non-Federal funds are  
15          provided to match, on at least a dollar-for-dol-  
16          lar basis, the amount of Federal funds that are  
17          provided to carry out a revolving loan program  
18          described in paragraph (1).

19          “(3) AWARD.—The amount of cost-matched  
20          Federal funds provided to an eligible lender shall not  
21          exceed \$100,000,000 for any fiscal year.

22          “(4) RECAPTURE OF AWARDS.—

23                     “(A) IN GENERAL.—An eligible lender that  
24          receives an award under paragraph (1) shall be  
25          required to repay to the Secretary an amount

1 of cost-match Federal funds, as determined by  
2 the Secretary under subparagraph (B), if the  
3 eligible lender is unable or unwilling to operate  
4 a program described in this subsection for a pe-  
5 riod of not less than 10 years beginning on the  
6 date on which the eligible lender first receives  
7 funds made available through the award.

8 “(B) DETERMINATION BY SECRETARY.—  
9 The Secretary shall determine the amount of  
10 cost-match Federal funds that an eligible lender  
11 shall be required to repay to the Secretary  
12 under subparagraph (A) based on the consider-  
13 ation by the Secretary of—

14 “(i) the amount of non-Federal funds  
15 matched by the eligible lender;

16 “(ii) the amount of loan losses in-  
17 curred by the revolving loan program de-  
18 scribed in paragraph (1); and

19 “(iii) any other appropriate factor, as  
20 determined by the Secretary.

21 “(C) USE OF RECAPTURED COST-MATCH  
22 FEDERAL FUNDS.—The Secretary may dis-  
23 tribute to eligible lenders under this subsection  
24 each amount received by the Secretary under  
25 this paragraph.

1           “(5) ELIGIBLE PROJECTS.—A program for  
2           which cost-matched Federal funds are provided  
3           under this subsection shall be designed to accelerate  
4           the implementation of industrial and commercial ap-  
5           plications of technologies or processes (including dis-  
6           tributed generation, applications or technologies that  
7           use sensors, meters, software, and information net-  
8           works, controls, and drives or that have been in-  
9           stalled pursuant to an energy savings performance  
10          contract, project, or strategy) that—

11                   “(A) improve energy efficiency, including  
12                   improvements in efficiency and use of water,  
13                   power factor, or load management;

14                   “(B) enhance the industrial competitive-  
15                   ness of the United States; and

16                   “(C) achieve such other goals as the Sec-  
17                   retary determines to be appropriate.

18          “(6) EVALUATION.—The Secretary shall evalu-  
19          ate applications for cost-matched Federal funds  
20          under this subsection on the basis of—

21                   “(A) the description of the program to be  
22                   carried out with the cost-matched Federal  
23                   funds;

1 “(B) the commitment to provide non-Fed-  
2 eral funds in accordance with paragraph  
3 (2)(D);

4 “(C) program sustainability over a 10-year  
5 period;

6 “(D) the capability of the applicant;

7 “(E) the quantity of energy savings or en-  
8 ergy feedstock minimization;

9 “(F) the advancement of the goal under  
10 this Act of 25-percent energy avoidance;

11 “(G) the ability to fund energy efficient  
12 projects not later than 120 days after the date  
13 of the grant award; and

14 “(H) such other factors as the Secretary  
15 determines appropriate.

16 “(7) AUTHORIZATION OF APPROPRIATIONS.—  
17 There are authorized to be appropriated to carry out  
18 this subsection, [“\$400,000,000 for each of fiscal  
19 years 2012 through 2021”].”.

20 **SEC. 302. COORDINATION OF RESEARCH AND DEVELOP-**  
21 **MENT OF ENERGY EFFICIENT TECH-**  
22 **NOLOGIES FOR INDUSTRY.**

23 (a) IN GENERAL.—As part of the research and devel-  
24 opment activities of the Industrial Technologies Program  
25 of the Department of Energy, the Secretary shall estab-

1 lish, as appropriate, collaborative research and develop-  
2 ment partnerships with other programs within the Office  
3 of Energy Efficiency and Renewable Energy (including the  
4 Building Technologies Program), the Office of Electricity  
5 Delivery and Energy Reliability, and the Office of Science  
6 that—

7           (1) leverage the research and development ex-  
8           pertise of those programs to promote early stage en-  
9           ergy efficiency technology development;

10           (2) support the use of innovative manufacturing  
11           processes and applied research for development,  
12           demonstration, and commercialization of new tech-  
13           nologies and processes to improve efficiency (includ-  
14           ing improvements in efficient use of water), reduce  
15           emissions, reduce industrial waste, and improve in-  
16           dustrial cost-competitiveness; and

17           (3) apply the knowledge and expertise of the In-  
18           dustrial Technologies Program to help achieve the  
19           program goals of the other programs.

20           (b) REPORTS.—Not later than 2 years after the date  
21 of enactment of this Act and biennially thereafter, the Sec-  
22 retary shall submit to Congress a report that describes  
23 actions taken to carry out subsection (a) and the results  
24 of those actions.

1 **SEC. 303. ENERGY EFFICIENT TECHNOLOGIES ASSESS-**  
2 **MENT.**

3 (a) IN GENERAL.—Not later than 60 days after the  
4 date of enactment of this Act, the Secretary shall com-  
5 mence an assessment of commercially available, cost com-  
6 petitive energy efficiency technologies that are not widely  
7 implemented within the United States for the energy-in-  
8 tensive industries of—

- 9 (1) steel;
- 10 (2) aluminum;
- 11 (3) forest and paper products;
- 12 (4) food processing;
- 13 (5) metal casting;
- 14 (6) glass;
- 15 (7) chemicals;
- 16 (8) petroleum refining;
- 17 (9) cement;
- 18 (10) industrial gases;
- 19 (11) information and communication tech-  
20 nologies; and
- 21 (12) other industries that (as determined by the  
22 Secretary)—
  - 23 (A) use large quantities of energy;
  - 24 (B) emit large quantities of greenhouse  
25 gases; or

1 (C) use a rapidly increasing quantity of en-  
2 ergy.

3 (b) REPORT.—Not later than 1 year after the date  
4 of enactment of this Act, the Secretary shall publish a re-  
5 port, in collaboration with affected energy-intensive indus-  
6 tries, based on the assessment conducted under subsection  
7 (a), that contains—

8 (1) a detailed inventory describing the cost, en-  
9 ergy, and greenhouse gas emission savings of each  
10 technology described in subsection (a);

11 (2) for each technology, the total cost, energy,  
12 water, and greenhouse gas emissions savings if the  
13 technology is implemented throughout the industry  
14 of the United States;

15 (3) for each industry, an assessment of total  
16 possible cost, energy, and greenhouse gas emissions  
17 savings possible if state-of-the art, cost-competitive,  
18 commercial energy efficiency technologies were  
19 adopted;

20 (4) for each industry, a comparison to the Eu-  
21 ropean Union, Japan, and other appropriate coun-  
22 tries of energy efficiency technology adoption rates,  
23 as determined by the Secretary, including an exam-  
24 ination of the policy structures in those countries

1 that promote investments in energy efficiency tech-  
2 nologies;

3 (5) recommendations on how to create and re-  
4 tain jobs in the United States through private sector  
5 collaboration of energy service providers and energy-  
6 intensive industries; and

7 (6) an assessment of energy savings available  
8 from increased use of recycled material in energy-in-  
9 tensive manufacturing processes.

10 **SEC. 304. FUTURE OF INDUSTRY PROGRAM.**

11 (a) IN GENERAL.—Section 452 of the Energy Inde-  
12 pendence and Security Act of 2007 (42 U.S.C. 17111) is  
13 amended by striking the section heading and inserting the  
14 following: “**FUTURE OF INDUSTRY PROGRAM**”.

15 (b) DEFINITION OF ENERGY SERVICE PROVIDER.—  
16 Section 452(a) of the Energy Independence and Security  
17 Act of 2007 (42 U.S.C. 17111(a)) is amended—

18 (1) by redesignating paragraphs (3) through  
19 (5) as paragraphs (4) through (6), respectively; and

20 (2) by inserting after paragraph (3):

21 “(5) ENERGY SERVICE PROVIDER.—The term  
22 ‘energy service provider’ means any private company  
23 or similar entity providing technology or services to  
24 improve energy efficiency in an energy-intensive in-  
25 dustry.”.

1           (c) INDUSTRY-SPECIFIC ROAD MAPS.—Section  
2 452(c)(2) of the Energy Independence and Security Act  
3 of 2007 (42 U.S.C. 17111(c)(2)) is amended—

4           (1) in subparagraph (E), by striking “and” at  
5 the end;

6           (2) by redesignating subparagraph (F) as sub-  
7 paragraph (G); and

8           (3) by inserting after subparagraph (E) the fol-  
9 lowing:

10                   “(F) research to establish (through the In-  
11 dustrial Technologies Program and in collabora-  
12 tion with energy-intensive industries) a road  
13 map process under which—

14                           “(i) industry-specific studies are con-  
15 ducted to determine the intensity of energy  
16 use, greenhouse gas emissions, and waste  
17 and operating costs, by process and sub-  
18 process;

19                           “(ii) near-, mid-, and long-term tar-  
20 gets of opportunity are established for syn-  
21 ergistic improvements in efficiency, sus-  
22 tainability, and resilience; and

23                           “(iii) public-private actionable plans  
24 are created to achieve roadmap goals;  
25 and”.

1 (d) INDUSTRIAL RESEARCH AND ASSESSMENT CEN-  
2 TERS.—

3 (1) IN GENERAL.—Section 452(e) of the En-  
4 ergy Independence and Security Act of 2007 (42  
5 U.S.C. 17111(e)) is amended—

6 (A) by redesignating paragraphs (1)  
7 through (5) as subparagraphs (A) through (E),  
8 respectively, and indenting appropriately;

9 (B) by striking “The Secretary” and in-  
10 sserting the following:

11 “(1) IN GENERAL.—The Secretary”;

12 (C) in subparagraph (A) (as redesignated  
13 by subparagraph (A)), by inserting before the  
14 semicolon at the end the following: “, including  
15 assessments of sustainable manufacturing goals  
16 and the implementation of information tech-  
17 nology advancements for supply chain analysis,  
18 logistics, system monitoring, industrial and  
19 manufacturing processes, and other purposes”;  
20 and

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

22 “(2) CENTERS OF EXCELLENCE.—

23 “(A) IN GENERAL.—The Secretary shall  
24 establish a Center of Excellence at up to 10 of  
25 the highest performing industrial research and

1 assessment centers, as determined by the Sec-  
2 retary.

3 “(B) DUTIES.—A Center of Excellence  
4 shall coordinate with and advise the industrial  
5 research and assessment centers located in the  
6 region of the Center of Excellence.

7 “(C) FUNDING.—Subject to the availability  
8 of appropriations, of the funds made available  
9 under subsection (f), the Secretary shall use to  
10 support each Center of Excellence not less than  
11 \$500,000 for fiscal year 2012 and each fiscal  
12 year thereafter, as determined by the Secretary.

13 “(3) EXPANSION OF CENTERS.—The Secretary  
14 shall provide funding to establish additional indus-  
15 trial research and assessment centers at institutions  
16 of higher education that do not have industrial re-  
17 search and assessment centers established under  
18 paragraph (1), taking into account the size of, and  
19 potential energy efficiency savings for, the manufac-  
20 turing base within the region of the proposed center.

21 “(4) COORDINATION.—

22 “(A) IN GENERAL.—To increase the value  
23 and capabilities of the industrial research and  
24 assessment centers, the centers shall—

1                   “(i) coordinate with Manufacturing  
2                   Extension Partnership Centers of the Na-  
3                   tional Institute of Standards and Tech-  
4                   nology;

5                   “(ii) coordinate with the Building  
6                   Technologies Program of the Department  
7                   of Energy to provide building assessment  
8                   services to manufacturers;

9                   “(iii) increase partnerships with the  
10                  National Laboratories of the Department  
11                  of Energy to leverage the expertise and  
12                  technologies of the National Laboratories  
13                  for national industrial and manufacturing  
14                  needs;

15                  “(iv) increase partnerships with en-  
16                  ergy service providers and technology pro-  
17                  viders to leverage private sector expertise  
18                  and accelerate deployment of new and ex-  
19                  isting technologies and processes for en-  
20                  ergy efficiency, power factor, and load  
21                  management;

22                  “(v) identify opportunities for reduc-  
23                  ing greenhouse gas emissions; and

1                   “(vi) promote sustainable manufac-  
2                   turing practices for small- and medium-  
3                   sized manufacturers.

4                   “(5) OUTREACH.—The Secretary shall provide  
5 funding for—

6                   “(A) outreach activities by the industrial  
7                   research and assessment centers to inform  
8                   small- and medium-sized manufacturers of the  
9                   information, technologies, and services avail-  
10                  able; and

11                  “(B) a full-time equivalent employee at  
12                  each center of excellence whose primary mission  
13                  shall be to coordinate and leverage the efforts  
14                  of the center with—

15                         “(i) Federal and State efforts;

16                         “(ii) the efforts of utilities and energy  
17                         service providers;

18                         “(iii) the efforts of regional energy ef-  
19                         ficiency organizations; and

20                         “(iv) the efforts of other centers in  
21                         the region of the center of excellence.

22                   “(6) WORKFORCE TRAINING.—

23                   “(A) IN GENERAL.—The Secretary shall  
24                   pay the Federal share of associated internship  
25                   programs under which students work with or

1 for industries, manufacturers, and energy serv-  
2 ice providers to implement the recommendations  
3 of industrial research and assessment centers.

4 “(B) FEDERAL SHARE.—The Federal  
5 share of the cost of carrying out internship pro-  
6 grams described in subparagraph (A) shall be  
7 50 percent.

8 “(C) FUNDING.—Subject to the availability  
9 of appropriations, of the funds made available  
10 under subsection (f), the Secretary shall use to  
11 carry out this paragraph not less than  
12 \$5,000,000 for fiscal year 2012 and each fiscal  
13 year thereafter.

14 “(7) SMALL BUSINESS LOANS.—The Adminis-  
15 trator of the Small Business Administration shall, to  
16 the maximum practicable, expedite consideration of  
17 applications from eligible small business concerns for  
18 loans under the Small Business Act (15 U.S.C. 631  
19 et seq.) to implement recommendations of industrial  
20 research and assessment centers established under  
21 paragraph (1).”.

22 **SEC. 305. SUSTAINABLE MANUFACTURING INITIATIVE.**

23 (a) IN GENERAL.—Part E of title III of the Energy  
24 Policy and Conservation Act (42 U.S.C. 6341) is amended  
25 by adding at the end the following:

1 **“SEC. 376. SUSTAINABLE MANUFACTURING INITIATIVE.**

2       “(a) IN GENERAL.—As part of the Industrial Tech-  
3 nologies Program of the Department of Energy, the Sec-  
4 retary shall carry out a sustainable manufacturing initia-  
5 tive under which the Secretary, on the request of a manu-  
6 facturer, shall conduct onsite technical assessments to  
7 identify opportunities for—

8               “(1) maximizing the energy efficiency of indus-  
9 trial processes and cross-cutting systems;

10              “(2) preventing pollution and minimizing waste;

11              “(3) improving efficient use of water in manu-  
12 facturing processes;

13              “(4) conserving natural resources; and

14              “(5) achieving such other goals as the Secretary  
15 determines to be appropriate.

16       “(b) COORDINATION.—The Secretary shall carry out  
17 the initiative in coordination with the private sector and  
18 appropriate agencies, including the National Institute of  
19 Standards and Technology to accelerate adoption of new  
20 and existing technologies or processes that improve energy  
21 efficiency.

22       “(c) RESEARCH AND DEVELOPMENT PROGRAM FOR  
23 SUSTAINABLE MANUFACTURING AND INDUSTRIAL TECH-  
24 NOLOGIES AND PROCESSES.—As part of the Industrial  
25 Technologies Program of the Department of Energy, the  
26 Secretary shall carry out a joint industry-government

1 partnership program to research, develop, and dem-  
2 onstrate new sustainable manufacturing and industrial  
3 technologies and processes that maximize the energy effi-  
4 ciency of industrial systems, reduce pollution, and con-  
5 serve natural resources.

6 “(d) AUTHORIZATION OF APPROPRIATIONS.—There  
7 is authorized to be to carry out this section \$10,000,000  
8 for the period of fiscal years 2012 through 2021.”.

9 (b) TABLE OF CONTENTS.—The table of contents of  
10 the Energy Policy and Conservation Act (42 U.S.C. prec.  
11 6201) is amended by adding at the end of the items relat-  
12 ing to part E of title III the following:

“Sec. 376. Sustainable manufacturing initiative.”.

13 **SEC. 306. STUDY OF ADVANCED ENERGY TECHNOLOGY**  
14 **MANUFACTURING CAPABILITIES IN THE**  
15 **UNITED STATES.**

16 (a) IN GENERAL.—Not later than 60 days after the  
17 date of enactment of this Act, the Secretary shall enter  
18 into an arrangement with the National Academy of  
19 Sciences under which the Academy shall conduct a study  
20 of the development of advanced manufacturing capabilities  
21 for various energy technologies, including—

22 (1) an assessment of the manufacturing supply  
23 chains of established and emerging industries;

24 (2) an analysis of—

1 (A) the manner in which supply chains  
2 have changed over the 25-year period ending on  
3 the date of enactment of this Act;

4 (B) current trends in supply chains; and

5 (C) the energy intensity of each part of the  
6 supply chain and opportunities for improve-  
7 ment;

8 (3) for each technology or manufacturing sec-  
9 tor, an analysis of which sections of the supply chain  
10 are critical for the United States to retain or develop  
11 to be competitive in the manufacturing of the tech-  
12 nology;

13 (4) an assessment of which emerging energy  
14 technologies the United States should focus on to  
15 create or enhance manufacturing capabilities; and

16 (5) recommendations on leveraging the exper-  
17 tise of energy efficiency and renewable energy user  
18 facilities so that best materials and manufacturing  
19 practices are designed and implemented.

20 (b) REPORT.—Not later than 2 years after the date  
21 on which the Secretary enters into the agreement with the  
22 Academy described in subsection (a), the Academy shall  
23 submit to the Committee on Energy and Natural Re-  
24 sources of the Senate, the Committee on Energy and Com-  
25 merce of the House of Representatives, and the Secretary

1 a report describing the results of the study required under  
2 this section, including any findings and recommendations.

3 **SEC. 307. INDUSTRIAL TECHNOLOGIES STEERING COM-**  
4 **MITTEE.**

5 The Secretary shall establish an advisory steering  
6 committee that includes national trade associations rep-  
7 resenting energy-intensive industries or energy service  
8 providers to provide recommendations to the Secretary on  
9 planning and implementation of the Industrial Tech-  
10 nologies Program of the Department of Energy.

11 **Subtitle B—Supply Star**

12 **SEC. 311. SUPPLY STAR.**

13 Part B of title III of the Energy Policy and Conserva-  
14 tion Act (42 U.S.C. 6291) is amended by inserting after  
15 section 324A (42 U.S.C. 6294a) the following:

16 **“SEC. 324B. SUPPLY STAR PROGRAM.**

17 “(a) IN GENERAL.—There is established within the  
18 Department of Energy a Supply Star program to identify  
19 and promote practices, recognize companies, and, as ap-  
20 propriate, recognize products that use highly efficient sup-  
21 ply chains in a manner that conserves energy, water, and  
22 other resources.

23 “(b) COORDINATION.—In carrying out the program  
24 described in subsection (a), the Secretary shall—

1           “(1) consult with other appropriate agencies;  
2           and

3           “(2) coordinate efforts with the Energy Star  
4           program established under section 324A.

5           “(c) DUTIES.—In carrying out the Supply Star pro-  
6           gram described in subsection (a), the Secretary shall—

7           “(1) promote practices, recognize companies,  
8           and, as appropriate, recognize products that comply  
9           with the Supply Star program as the preferred prac-  
10          tices, companies, and products in the marketplace  
11          for maximizing supply chain efficiency;

12          “(2) work to enhance industry and public  
13          awareness of the Supply Star program;

14          “(3) collect and disseminate data on supply  
15          chain energy resource consumption;

16          “(4) develop and disseminate metrics, proc-  
17          esses, and analytical tools (including software) for  
18          evaluating supply chain energy resource use;

19          “(5) develop guidance at the sector level for im-  
20          proving supply chain efficiency;

21          “(6) work with domestic and international orga-  
22          nizations to harmonize approaches to analyzing sup-  
23          ply chain efficiency, including the development of a  
24          consistent set of tools, templates, calculators, and  
25          databases; and

1           “(7) work with industry, including small busi-  
2           nesses, to improve supply chain efficiency through  
3           activities that include—

4                   “(A) developing and sharing best practices;  
5           and

6                   “(B) providing opportunities to benchmark  
7           supply chain efficiency.

8           “(d) EVALUATION.—In any evaluation of supply  
9           chain efficiency carried out by the Secretary with respect  
10          to a specific product, the Secretary shall consider energy  
11          consumption and resource use throughout the entire  
12          lifecycle of a product, including production, transport,  
13          packaging, use, and disposal.

14          “(e) GRANTS AND INCENTIVES.—

15                   “(1) IN GENERAL.—The Secretary may award  
16          grants or other forms of incentives on a competitive  
17          basis to eligible entities, as determined by the Sec-  
18          retary, for the purposes of—

19                           “(A) studying supply chain energy resource  
20          efficiency; and

21                           “(B) demonstrating and achieving reduc-  
22          tions in the energy resource consumption of  
23          commercial products through changes and im-  
24          provements to the production supply and dis-  
25          tribution chain of the products.

1           “(2) USE OF INFORMATION.—Any information  
2           or data generated as a result of the grants or incen-  
3           tives described in paragraph (1) shall be used to in-  
4           form the development of the Supply Star Program.

5           “(f) TRAINING.—The Secretary shall use funds to  
6           support professional training programs to develop and  
7           communicate methods, practices, and tools for improving  
8           supply chain efficiency.

9           “(g) EFFECT OF IMPACT ON CLIMATE CHANGE.—  
10          For purposes of this section, the impact on climate change  
11          shall not be a factor in determining supply chain effi-  
12          ciency.

13          “(h) EFFECT OF OUTSOURCING OF AMERICAN  
14          JOBS.—For purposes of this section, the outsourcing of  
15          American jobs in the production of a product shall not  
16          count as a positive factor in determining supply chain effi-  
17          ciency.

18          “(i) AUTHORIZATION OF APPROPRIATIONS.—There  
19          are authorized to be appropriated to carry out this section  
20          \$10,000,000 for the period of fiscal years 2012 through  
21          2021.”.

1     **Subtitle C—Electric Motor Rebate**  
2                                     **Program**

3     **SEC. 321. ENERGY SAVING MOTOR CONTROL REBATE PRO-**  
4                                     **GRAM.**

5             (a) ESTABLISHMENT.—Not later than January 1,  
6 2012, the Secretary of Energy (referred to in this section  
7 as the “Secretary”) shall establish a program to provide  
8 rebates for expenditures made by entities for the purchase  
9 and installation of a new constant speed electric motor  
10 control that reduces motor energy use by not less than  
11 5 percent.

12            (b) REQUIREMENTS.—

13                 (1) APPLICATION.—To be eligible to receive a  
14 rebate under this section, an entity shall submit to  
15 the Secretary an application in such form, at such  
16 time, and containing such information as the Sec-  
17 retary may require, including—

18                         (A) demonstrated evidence that the entity  
19 purchased a constant speed electric motor con-  
20 trol that reduces motor energy use by not less  
21 than 5 percent; and

22                         (B) the physical nameplate of the installed  
23 motor of the entity to which the energy saving  
24 motor control is attached.



1 (b) ESTABLISHMENT.—Not later than January 1,  
2 2012, the Secretary of Energy (referred to in this section  
3 as the “Secretary”) shall establish a program to provide  
4 rebates for expenditures made by owners of commercial  
5 buildings and multifamily residential buildings for the pur-  
6 chase and installation of a new energy efficient trans-  
7 formers.

8 (c) REQUIREMENTS.—

9 (1) APPLICATION.—To be eligible to receive a  
10 rebate under this section, an owner shall submit to  
11 the Secretary an application in such form, at such  
12 time, and containing such information as the Sec-  
13 retary may require, including demonstrated evidence  
14 that the owner purchased a qualified transformer.

15 (2) AUTHORIZED AMOUNT OF REBATE.—For  
16 qualified transformers, rebates, in dollars per kilo-  
17 volt-ampere (referred to in this paragraph as  
18 “kVA”) shall be—

19 (A) for 3-phase transformers—

20 (i) with a capacity of not greater than  
21 10 kVA, \$15;

22 (ii) with a capacity of not less than 10  
23 kVA and not greater than 100 kVA, the  
24 difference between 15 and the quotient ob-  
25 tained by dividing—

- 1 (I) the difference between—  
2 (aa) the capacity of the  
3 transformer in kVA; and  
4 (bb) 10; by  
5 (II) 9; and  
6 (iii) with a capacity greater than or  
7 equal to 100 kVA, \$5; and  
8 (B) for single-phase transformers, 75 per-  
9 cent of the rebate for a 3-phase transformer of  
10 the same capacity.

11 (d) AUTHORIZATION OF APPROPRIATIONS.—There is  
12 authorized to be appropriated to carry out this section  
13 \$5,000,000 for each of fiscal years 2012 through 2013,  
14 to remain available until expended.

15 **TITLE IV—FEDERAL AGENCY**  
16 **ENERGY EFFICIENCY**

17 **SEC. 401. ADOPTION OF PERSONAL COMPUTER POWER**  
18 **SAVINGS TECHNIQUES BY FEDERAL AGEN-**  
19 **CIES.**

20 (a) IN GENERAL.—Not later than 360 days after the  
21 date of enactment of this Act, the Secretary of Energy,  
22 in consultation with the Secretary of Defense, the Sec-  
23 retary of Veterans Affairs, and the Administrator of Gen-  
24 eral Services, shall issue guidance for Federal agencies to  
25 employ advanced tools allowing energy savings through

1 the use of computer hardware, energy efficiency software,  
2 and power management tools.

3 (b) REPORTS ON PLANS AND SAVINGS.—Not later  
4 than 180 days after the date of the issuance of the guid-  
5 ance under subsection (a), each Federal agency shall sub-  
6 mit to the Secretary of Energy a report that describes—

7 (1) the plan of the agency for implementing the  
8 guidance within the agency; and

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

11 **SEC. 402. AVAILABILITY OF FUNDS FOR DESIGN UPDATES.**

12 Section 3307 of title 40, United States Code, is  
13 amended—

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

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

18 “(d) AVAILABILITY OF FUNDS FOR DESIGN UP-  
19 DATES.—

20 “(1) IN GENERAL.—Subject to paragraph (2),  
21 for any project for which congressional approval is  
22 received under subsection (a) and for which the de-  
23 sign has been substantially completed but construc-  
24 tion has not begun, the Administrator of General  
25 Services may use appropriated funds to update the

1 project design to meet applicable Federal building  
2 energy efficiency standards established under section  
3 305 of the Energy Conservation and Production Act  
4 (42 U.S.C. 6834) and other requirements estab-  
5 lished under section 3312.

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

12 **SEC. 403. BEST PRACTICES FOR ADVANCED METERING.**

13 Section 543(e) of the National Energy Conservation  
14 Policy Act (42 U.S.C. 8253(e) is amended by striking  
15 paragraph (3) and inserting the following:

16 “(3) PLAN.—

17 “(A) IN GENERAL.—Not later than 180  
18 days after the date on which guidelines are es-  
19 tablished under paragraph (2), in a report sub-  
20 mitted by the agency under section 548(a), each  
21 agency shall submit to the Secretary a plan de-  
22 scribing the manner in which the agency will  
23 implement the requirements of paragraph (1),  
24 including—

1                   “(i) how the agency will designate  
2                   personnel primarily responsible for achiev-  
3                   ing the requirements; and

4                   “(ii) a demonstration by the agency,  
5                   complete with documentation, of any find-  
6                   ing that advanced meters or advanced me-  
7                   tering devices (as those terms are used in  
8                   paragraph (1)), are not practicable.

9                   “(B) UPDATES.—Reports submitted under  
10                  subparagraph (A) shall be updated annually.

11                  “(4) BEST PRACTICES REPORT.—

12                  “(A) IN GENERAL.—Not later than 180  
13                  days after the date of enactment of the Energy  
14                  Savings and Industrial Competitiveness Act of  
15                  2011, the Secretary of Energy, in consultation  
16                  with the Secretary of Defense and the Adminis-  
17                  trator of General Services, shall develop, and  
18                  issue a report on, best practices for the use of  
19                  advanced metering of energy use in Federal fa-  
20                  cilities, buildings, and equipment by Federal  
21                  agencies.

22                  “(B) UPDATING.—The report described  
23                  under subparagraph (A) shall be updated annu-  
24                  ally.

1                   “(C) COMPONENTS.—The report shall in-  
2                   clude, at a minimum—

3                   “(i) summaries and analysis of the re-  
4                   ports by agencies under paragraph (3);

5                   “(ii) recommendations on standard re-  
6                   quirements or guidelines for automated en-  
7                   ergy management systems, including—

8                   “(I) potential common commu-  
9                   nications standards to allow data  
10                  sharing and reporting;

11                  “(II) means of facilitating contin-  
12                  uous commissioning of buildings and  
13                  evidence-based maintenance of build-  
14                  ings and building systems; and

15                  “(III) standards for sufficient  
16                  levels of security and protection  
17                  against cyber threats to ensure sys-  
18                  tems cannot be controlled by unau-  
19                  thorized persons; and

20                  “(iii) an analysis of—

21                  “(I) the types of advanced meter-  
22                  ing and monitoring systems being pi-  
23                  loted, tested, or installed in Federal  
24                  buildings; and



1                                   “(III) follow-up on implemented  
2                                   measures under paragraph (5); and  
3                                   “(ii) to publish energy and water con-  
4                                   sumption data on an individual facility  
5                                   basis.”.

6 **SEC. 405. ELECTRIC VEHICLE CHARGING INFRASTRUC-**  
7                                   **TURE.**

8           Section 804(4) of the National Energy Conservation  
9 Policy Act (42 U.S.C. 8287c(4)) is amended—

10                   (1) in subparagraph (A), by striking “or” after  
11 the semicolon;

12                   (2) in subparagraph (B), by striking the period  
13 at the end and inserting “; or”; and

14                   (3) by adding at the end the following:

15                                   “(C) a measure to support the use of elec-  
16                                   tric vehicles or the fueling or charging infra-  
17                                   structure necessary for electric vehicles.”.

18 **SEC. 406. FEDERAL PURCHASE REQUIREMENT.**

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

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

23                   (2) by redesignating subsection (d) as sub-  
24                   section (e); and

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

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

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

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

11 **SEC. 407. STUDY ON FEDERAL DATA CENTER CONSOLIDA-**  
12 **TION.**

13          (a) IN GENERAL.—The Secretary of Energy shall  
14          conduct a study on the feasibility of a government-wide  
15          data center consolidation, with an overall Federal target  
16          of a minimum of 800 Federal data center closures by Oc-  
17          tober 1, 2015.

18          (b) COORDINATION.—In conducting the study, the  
19          Secretary shall coordinate with Federal data center pro-  
20          gram managers, facilities managers, and sustainability of-  
21          ficers.

22          (c) REPORT.—Not later than 1 year after the date  
23          of enactment of this Act, the Secretary shall submit to  
24          Congress a report that describes the results of the study,

1 including a description of agency best practices in data  
2 center consolidation.

### 3 **TITLE V—MISCELLANEOUS**

#### 4 **SEC. 501. OFFSETS.**

5 (a) **ZERO-NET ENERGY COMMERCIAL BUILDINGS**  
6 **INITIATIVE.**—Section 422(f) of the Energy Independence  
7 and Security Act of 2007 (42 U.S.C. 17082(f)) is amend-  
8 ed by striking paragraphs (2) through (4) and inserting  
9 the following:

10 “(2) \$50,000,000 for each of fiscal years 2009  
11 through 2012;

12 “(3) \$100,000,000 for fiscal year 2013; and

13 “(4) \$200,000,000 for each of fiscal years 2014  
14 through 2018.”.

15 (b) **ENERGY SUSTAINABILITY AND EFFICIENCY**  
16 **GRANTS AND LOANS FOR INSTITUTIONS.**—Section  
17 399A(i) of the Energy Policy and Conservation Act (42  
18 U.S.C. 6371h–1(i)) is amended—

19 (1) in paragraph (1), by striking “through  
20 2013” and inserting “and 2010, \$100,000,000 for  
21 each of fiscal years 2011 and 2012, and  
22 \$250,000,000 for fiscal year 2013”; and

23 (2) in paragraph (2), by striking “through  
24 2013” and inserting “and 2010, \$100,000,000 for

1 each of fiscal years 2011 and 2012, and  
2 \$500,000,000 for fiscal year 2013”.

3 (c) ENERGY-INTENSIVE INDUSTRIES PROGRAM.—

4 Section 452(f)(1) of the Energy Independence and Secu-  
5 rity Act of 2007 (42 U.S.C. 17111(f)(1)) is amended—

6 (1) in subparagraph (D), by striking  
7 “\$202,000,000” and inserting “\$165,000,000”; and

8 (2) in subparagraph (E), by striking  
9 “\$208,000,000” and inserting “\$165,000,000”.

10 (d) LOANS TO ALASKA CLEAN COAL FACILITIES.—

11 (1) FISCAL YEAR 2012.—Section 609(d) of the  
12 Public Utility Regulatory Policies Act of 1978 (7  
13 U.S.C. 918c(d)) is amended by striking “2012” and  
14 inserting “2011”.

15 (2) FISCAL YEAR 2013.—The amount otherwise  
16 made available to carry out section 412 of the En-  
17 ergy Policy Act of 2005 (42 U.S.C. 15972) shall be  
18 reduced by \$75,000,000 for fiscal year 2013.

19 **SEC. 502. BUDGETARY EFFECTS.**

20 The budgetary effects of this Act, for the purpose of  
21 complying with the Statutory Pay-As-You-Go-Act of 2010,  
22 shall be determined by reference to the latest statement  
23 titled “Budgetary Effects of PAYGO Legislation” for this  
24 Act, submitted for printing in the Congressional Record  
25 by the Chairman of the Senate Budget Committee, pro-

1 vided that such statement has been submitted prior to the  
2 vote on passage.

3 **SEC. 503. ADVANCE APPROPRIATIONS REQUIRED.**

4       The authorization of amounts under this Act and the  
5 amendments made by this Act shall be effective for any  
6 fiscal year only to the extent and in the amount provided  
7 in advance in appropriations Acts.