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{ REPORT
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ENERGY SAVINGS AND INDUSTRIAL COMPETITIVENESS
ACT

MAY 10, 2017.—Ordered to be printed

Ms. MURKOWSKI, from the Committee on Energy and Natural
Resources, submitted the following

R E P O R T

[To accompany S. 385]

The Committee on Energy and Natural Resources, to which was referred a bill (S. 385) to promote energy savings in residential buildings and industry, and for other purposes, having considered the same, reports favorably thereon without amendment and recommends that the bill do pass.

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PURPOSE

The purpose of S. 385 is to promote energy savings in residential buildings and industry.

BACKGROUND AND NEED

Since the 1973 oil embargo and every subsequent energy crisis, studies have shown that the U.S. could save energy and money by investing in energy efficiency measures. Today, efficient energy use and the deployment of more efficient technologies are critical to

U.S. economic competitiveness and job creation. In addition, efficient energy use reduces pollution that would be associated with energy production. Nevertheless, many existing energy efficiency technologies and programs have yet to be installed or implemented.

The National Academies released a 2010 study, entitled *Real Prospects for Energy Efficiency in the United States*, on the potential for energy efficiency in commercial and residential buildings, transportation, and manufacturing. The study found that energy efficiency could more than offset the Energy Information Administration's (EIA) projected increase in U.S. energy consumption through 2030.

S. 385, the Energy Savings and Industrial Competitiveness Act, proposes a national strategy to increase energy efficiency in the residential, commercial, federal, and industrial sectors of our economy. The legislation would use a variety of low-cost tools to reduce barriers to private sector efficiency investments and to promote the adoption of "off-the-shelf" technologies that will save money for consumers and businesses, make America more energy independent, the economy more competitive, and reduce environmental impacts. For most energy consuming appliances and equipment, more efficient models or technologies are commercially available today. Increased deployment of these alternatives would pay for themselves through energy savings and yield long-term benefits to consumers and to the nation.

EIA reports that commercial and residential buildings combined consumed 41 percent of all energy used in 2011. The U.S. industrial sector consumes more energy than any other sector of our economy, and the Federal Government is the largest single energy consumer in the nation. S. 385's provisions target these sectors for energy-efficiency upgrades, which will promote economic growth in all regions of the country.

LEGISLATIVE HISTORY

S. 385 was introduced by Senators Portman, Shaheen, Bennet, Collins, Coons, Franken, Heitkamp, Heller, Manchin, Warner, and Wicker on February 15, 2017.

In the 114th Congress, a similar bill, S. 720, was introduced by Senators Portman, Shaheen, Ayotte, Bennet, Cantwell, Collins, Coons, Franken, Heller, Hoeven, Manchin, Murkowski, Warner, and Wicker on March 11, 2015. The Committee on Energy and Natural Resources held a hearing on S. 720 on April 30, 2015 (S. Hrg. 114-166). In an open business session on July 30, 2015, the bill was favorably reported with amendments by the Committee (S. Rept. 114-130).

The text of S. 720 was included in S. 2012, the Energy Policy Modernization Act of 2016, an original bill that was reported by the Committee on Energy and Natural Resources on July 30, 2015 and passed by the Senate, as amended, on April 26, 2016.

Also, S. 535, a bill comprised of sections 131-133 (Better Buildings), section 141 (Energy Information for Commercial Buildings), and section 421 (Grid-enabled Water Heaters) of S. 720 was introduced by Senators Portman and Shaheen on February 23, 2015, and was placed on the Senate Calendar without reference to the Committee. It passed the Senate on March 27, 2015, and the House

of Representatives on April 21, 2015. It was signed by the President on April 30, 2015 (Public Law 114–11).

Section 121 of S. 720 (Coordination of Information on Assistance for Schools) was introduced as S. 600 by Senator Klobuchar on February 26, 2015. Section 431 (Requirements for Federal Buildings) and section 432 (Certification Systems for Federal Green Buildings) of S. 720 were introduced as S. 869 by Senator Hoeven on March 26, 2015. The Committee considered these S. 600 and S. 869, along with S. 720, at its April 30, 2015, legislative hearing on energy efficiency legislation (S. Hrg. 114–166).

Companion legislation to S. 720 was introduced in the House of Representatives by Representative McKinley on April 30, 2015, as H.R. 1277.

In the 113th Congress, four similar bills, S. 2262, S. 1392, S. 2074, and S. 761, were introduced by Senators Shaheen and Portman. S. 2262 was introduced on April 28, 2014, and S. 1392 was introduced on July 30, 2013. Cloture to end debate on S. 2262 was not invoked in the Senate on May 12, 2014. S. 1392 was considered by the Senate on September 19, 2013. S. 2074 and S. 761, were introduced on February 27, 2014, and April 18, 2013, respectively. The Committee held a hearing on S. 761 on April 23, 2013 (S. Hrg. 113–24), and it was favorably reported by the Committee on June 3, 2013 (S. Rept. 113–37).

In the 115th Congress, H.R. 1443 was introduced in the House of Representatives by Representative McKinley on March 9, 2017.

The Committee met in an open business session on March 30, 2017, and ordered S. 385 favorably reported.

COMMITTEE RECOMMENDATION

The Committee on Energy and Natural Resources, in an open business session on March 30, 2017, by a majority voice vote of a quorum present, recommends that the Senate pass S. 385. Senators Barrasso, Risch, Lee, and Flake requested that their votes be recorded as no.

SECTION-BY-SECTION ANALYSIS

Section 1. Short title; table of contents

Section 1 provides a short title and the table of contents.

Section 2. Definition of Secretary

Section 2 provides the definition of Secretary.

Title I—BUILDINGS

SUBTITLE A—BUILDING ENERGY CODES

Section 101. Greater energy efficiency in building codes

Section 101(a) amends section 303 of the Energy Conservation and Production Act (ECPA, Public Law 94–385, as amended) to add certain definitions. Section 101(b) amends section 304 of ECPA to require that the Secretary of Energy (Secretary) encourage and support the adoption of building energy codes by States, local governments, or Indian tribes that meet or exceed model building energy codes. Section 101(c) amends section 305 of ECPA to replace

the term “voluntary building energy code” with “model building energy code.” Section 101(d) amends section 307 of ECPA to require that the Secretary support the updating of model building energy codes.

SUBTITLE B—WORKER TRAINING AND CAPACITY BUILDING

Section 111. Building training and assessment centers

Section 111 directs the Secretary to provide grants to institutions of higher education and Tribal Colleges or Universities to establish building training and assessment centers.

Section 112. Career skills training

Section 112 directs the Secretary to provide grants to eligible entities to cover a portion of the cost of career skills training programs that lead to students receiving an industry-related certification for the installation of energy efficient building technologies.

SUBTITLE C—SCHOOL BUILDINGS

Section 121. Coordination of energy retrofitting assistance for schools

Section 121 directs the Department of Energy’s (DOE) Office of Energy Efficiency and Renewable Energy (EERE) to coordinate and disseminate information on existing Federal programs that may be used to help initiate, develop, and finance energy efficiency, renewable energy, and energy retrofitting projects for schools.

Title II—INDUSTRIAL EFFICIENCY AND COMPETITIVENESS

SUBTITLE A—MANUFACTURING ENERGY EFFICIENCY

Section 201. Purposes

Section 201 provides the purpose of this subtitle.

Section 202. Future of Industry program

Section 202(a) amends the heading of section 452 of Energy Independence and Security Act of 2007 (EISA) to add the “Future of Industry Program.” Section 202(b) amends section 452(a) of EISA to add a definition of “energy service provider.” Section 202(c) amends section 452(e) of the EISA to direct Industrial Research and Assessment Centers (IARCs) to coordinate with the Manufacturing Extension Partnership Centers of the National Institute of Standards and Technology and DOE’s Building Technologies Program, and to increase partnerships with the national laboratories and energy service and technology providers. This subsection further directs the Secretary to provide funding for outreach and coordination activities by the IARCs; to provide funding for workforce training purposes; and to establish an Advanced Manufacturing Steering Committee.

Section 203. Sustainable manufacturing initiative

Section 203 amends part E of title II of the Energy Policy and Conservation Act (EPCA, Public Law 109–163, as amended) to add a Sustainable Manufacturing Initiative which requires DOE’s

EERE to provide onsite technical assessments to manufacturers seeking efficiency opportunities and requires the Secretary to carry out a joint industry-government partnership program to research, develop, and demonstrate new sustainable manufacturing and industrial technologies and processes.

Section 204. Conforming amendments

Section 204 makes conforming changes to the Energy Policy Act of 2005.

SUBTITLE B—SUPPLY STAR

Section 211. Supply Star

Section 211 amends section 324A of the EPCA to establish a DOE pilot program in coordination with Energy Star to promote practices that maximize supply chain efficiency.

SUBTITLE C—EXTENDED PRODUCT REBATE PROGRAM

Section 221. Extended product system rebate program

Section 221 directs the Secretary to establish a rebate program to encourage the replacement of energy inefficient electric motors.

SUBTITLE D—TRANSFORMER REBATE PROGRAM

Section 231. Energy efficient transformer rebate program

Section 231 directs the Secretary to establish a rebate program to encourage the replacement of energy inefficient transformers.

Title III—FEDERAL AGENCY ENERGY EFFICIENCY

Section 301. Energy-efficient and energy-saving information technologies

Section 301 amends section 543 of the National Energy Conservation Policy Act (NECPA, Public Law 95–619, as amended) by adding a section that directs the Director of the Office of Management and Budget (OMB) to collaborate with each Federal agency to develop an implementation strategy for the maintenance, purchase, and use of energy-efficient and energy-saving information technologies.

Section 302. Energy efficient data centers

Section 303 amends section 453 of EISA to update the Voluntary National Information Program. It requires the Secretary to develop a metric for data center energy efficiency, and directs the Secretary, in consultation with the Director of OMB, to maintain a data center energy practitioner program and open data initiative for Federal data center energy usage.

Section 303. Budget-neutral demonstration program for energy and water conservation improvements at multifamily residential units

Section 303 directs the Secretary of Housing and Urban Development (HUD) to conduct a pilot project that demonstrates the use of budget-neutral, performance-based agreements for energy or water conservation improvements in HUD multifamily housing.

Title IV—REGULATORY PROVISIONS

SUBTITLE A—THIRD-PARTY CERTIFICATION UNDER ENERGY STAR PROGRAM

Section 401. Third-party certification under Energy Star program

Section 401 amends section 324A of EPCA to direct the Administrator to revise the certification requirements for Energy Star program partners that manufacture consumer, home, and office electronic products and have complied with all program requirements for at least 18 months.

SUBTITLE B—FEDERAL GREEN BUILDINGS

Section 411. High-performance green Federal buildings

Section 411 amends section 436(h) of EISA to require the Federal Director of the Office of Federal High-Performance Green Buildings, within the General Services Administration, to conduct an ongoing review of private sector green building certification systems and provide the Secretary with a list of certification systems most likely to encourage a comprehensive and environmentally sound approach to certification of green buildings.

SUBTITLE C—ENERGY PERFORMANCE REQUIREMENT FOR FEDERAL BUILDINGS

Section 421. Energy performance requirement for Federal buildings

Section 421 amends section 543 of NECPA to extend existing federal building energy efficiency improvement targets. As amended, section 543(a)(2) will provide for exclusions from the targets for buildings with energy intensive activities and impose reporting requirements for excluded buildings. As amended, section 543(f)(3) will require federal energy managers to complete comprehensive energy and water evaluation and recommissioning or retrocommissioning for 25 percent of the facilities of each agency for excluded buildings for which reporting is required to ensure that federal buildings are performing at their optimal level of energy efficiency. Not later than two years after the date of completion of each evaluation, each energy manager may implement energy- or water- saving measures identified in the evaluation or shall explain why the measures were not implemented.

Section 422. Federal building energy efficiency performance standards; certification system and level for green buildings

Section 422 amends section 303 of ECPA to expand the scope of existing energy standards for new federal buildings to cover major renovations.

Section 423. Enhanced energy efficiency underwriting

Section 423 requires the Secretary of HUD to develop and issue updated underwriting and appraisal guidelines for borrowers who voluntarily submit a qualified home energy report. The provision would cover any loan issued, insured, purchased, or securitized by the Federal Housing Administration and other federal agencies, or their successors. The updated guidelines would adjust underwriting criteria and valuation guidelines to account for expected energy

cost savings as an offset to other expenses and to account for present value of expected energy savings. If no qualified energy report is provided, no adjustment would be made. Lenders would be required to inform loan applicants of the costs and benefits of improving the energy efficiency of a home.

Title V—MISCELLANEOUS

Section 501. Budgetary effects

Section 501 states that for the purpose of complying with the Statutory Pay-As-You-Go Act of 2010, the budgetary effect of this legislation shall be determined by reference to the latest statement titled “Budgetary Effects of PAYGO Legislation” for this Act.

Section 502. Advance appropriations required

Section 502 provides that authorization of amounts under this Act and the amendments made by this Act shall be effective for any fiscal year only to the extent and in the amount provided in advance in appropriations Acts.

COST AND BUDGETARY CONSIDERATIONS

The Congressional Budget Office estimate of the costs of this measure has been requested but was not received at the time the report was filed. When the the Congressional Budget Office completes its cost estimate, it will be posted on the Internet at www.cbo.gov.

REGULATORY IMPACT EVALUATION

In compliance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee makes the following evaluation of the regulatory impact which would be incurred in carrying out the bill.

The bill is not a regulatory measure in the sense of imposing Government-established standards or significant economic responsibilities on private individuals and businesses. Also, compliance with voluntary programs, such as those designed to increase energy efficiency efforts, will require commitments of resources. Various grant and other assistance programs will require submission of documentation or plans as a condition for the assistance. The Committee believes that the effects are not undue and are reasonable in light of the benefits of the programs.

No personal information would be collected in administering the program. Therefore, there would be no impact on personal privacy.

Little, if any, additional paperwork would result from the enactment of the bill, as ordered reported.

CONGRESSIONALLY DIRECTED SPENDING

S. 385, as ordered reported, does not contain any congressionally directed spending items, limited tax benefits, or limited tariff benefits as defined in rule XLIV of the Standing Rules of the Senate.

EXECUTIVE COMMUNICATIONS

The views of the Administration on S. 720 are included in the testimony of Dr. Kathleen Hogan, Deputy Assistant Secretary of

Energy for Energy Efficiency, received by the Committee at its April 30, 2015, hearing, which follow, in pertinent part:

STATEMENT OF DR. KATHLEEN HOGAN, DEPUTY ASSISTANT SECRETARY FOR ENERGY EFFICIENCY, OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY, U.S. DEPARTMENT OF ENERGY

INTRODUCTION

Chairman Murkowski, Ranking Member Cantwell, and Members of the Committee, thank you for the opportunity to testify today on behalf of the Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy (EERE) regarding energy efficiency.

In support of the Administration's all-of-the-above approach to energy and the Climate Action Plan, EERE leads DOE efforts as the U.S. Government's primary clean energy and energy efficiency technology organization—working with some of the Nation's best innovators and businesses to support high-impact applied research, development, and demonstration (RD&D) activities in the three sectors under our purview: sustainable transportation, renewable power, and energy efficiency. With Congress's support, we implement a range of strategies aimed at reducing U.S. reliance on oil, saving American families and businesses money, creating jobs, and reducing pollution. We work to ensure that the clean energy and energy efficiency technologies of today and tomorrow are invented and manufactured in America.

As Deputy Assistant Secretary for Energy Efficiency in the Office of Energy Efficiency and Renewable Energy (EERE), I am responsible for overseeing DOE's portfolio of energy efficiency research, development, demonstration, and deployment activities. The Building Technologies, Advanced Manufacturing, Weatherization and Intergovernmental Programs, and Federal Energy Management Program Offices develop and help provide businesses, consumers, and government agencies with innovative, cost-effective energy-saving solutions to improve their energy efficiency—from higher-efficiency products, to new ways of designing homes and buildings, to new ways of improving the energy intensity and competitiveness of American manufacturers. EERE's energy efficiency portfolio also supports better integrating the built environment with our energy system to combat costly peaks in energy demand and to increase the capabilities and value of buildings and facilities.

Energy efficiency is a large, low-cost, and underutilized U.S. energy resource. Increased energy efficiency offers savings on energy bills, opportunities for more jobs, and improved industrial competitiveness, and it will lower air pollution. I am pleased to be here today and look forward to working with Congress, and this Committee in particular, to talk about how we can use energy efficiency as a tool to help address our Nation's energy challenges. My

statement today will address the energy efficiency bills currently before the Committee, and provide an update on DOE's energy efficiency portfolio, the challenges we are working to address, and the progress we are making.

ENERGY EFFICIENCY LEGISLATION

I have been asked to testify on 22 energy efficiency bills currently before the Committee. In my testimony, I will address:

- S. 720—Energy Savings and Industrial Competitiveness Act of 2015;
- S. 703—Weatherization Enhancement and Local Energy Efficiency Investment and Accountability Act. This bill reauthorizes the Weatherization Assistance Program from fiscal year 2016 through fiscal year 2020, and seeks to establish a competitive grant program to expand the number of low-income, single-family and multifamily homes that receive energy efficiency retrofits; and
- S. 858—Energy Savings Through Public-Private Partnerships Act of 2015. This bill seeks to encourage the use of Energy Savings performance contracts and Utility Energy Service Contracts in federal government buildings.

The Administration continues to review all of the legislation on the docket today and I am happy to answer questions more specifically on the 22 bills for the record. However, I will reiterate my appreciation for ongoing bipartisan efforts to promote energy efficiency and look forward to continuing to work with the Committee and the range of bill sponsors as legislation works its way through Congress.

The Administration continues its support for the underlying goals of S. 720—as many of the sections of S. 720 match those in S. 1392, the similar 2013 bill that the Administration supported. However, there are sufficient changes in S. 720 that warrant further review before a position on the full bill can be established. Many provisions of S. 720 would support the Administration's efforts to strengthen U.S. competitiveness through significant research and development investments in manufacturing innovation and productivity, such as the Department of Energy's Clean Energy Manufacturing Initiative, and complement key energy efficiency dimensions of the President's Climate Action Plan. The Department continues to review the changes in S. 720 and looks forward to working with the bill sponsors and this Committee to cut carbon pollution and begin to slow the effects of climate change.

In addition, the Department is still reviewing S. 703 and S. 858, and does not have a position on them at this time. DOE does, however, support the overall objective of S. 703 to reauthorize DOE's existing Weatherization Assistance Program (WAP) and the State Energy Program (SEP) and recommends that authorization also be provided for the Local Energy Program (LEP), as outlined in the FY 2016

Budget. WAP provides grants to states, territories, and some Indian tribes to improve the energy efficiency of the homes of low-income families. SEP provides funding and technical assistance to state and territory energy offices to help them advance their clean energy economy while contributing to national energy goals. The proposed LEP complements these programs, serving as a catalyst for developing creative and effective solutions through local-level projects. While DOE supports the reauthorization of WAP and SEP, we note that existing law authorizes appropriations for SEP at \$125 million per year. S. 703 would change the amount to \$75 million per year for Fiscal Years 2016 through 2020. The lowered amount for authorization for SEP may not be sufficient for States to complete projects contemplated under SEP, given the significant role of states in energy efficiency, renewable energy, and energy emergency planning across the U.S. In addition, DOE supports the intent of S. 858 to encourage the use of Energy Savings performance contracts and Utility Energy Service Contracts which permit federal agencies to implement energy efficiency, renewable energy and water-efficiency projects that save energy, reduce greenhouse gas emissions and save taxpayer dollars.

* * * * *

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of Rule XXVI of the Standing Rules of the Senate, changes in existing law made by the original bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

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ENERGY CONSERVATION AND PRODUCTION ACT

Public Law 94-385, as amended

* * * * *

**TITLE III—ENERGY CONSERVATION STANDARDS FOR
NEW BUILDINGS**

* * * * *

DEFINITIONS

SEC. 303. As used in this title

* * * * *

(6) The term “Federal building” means any building [to be constructed] *constructed or* altered by, or for the use of, any Federal agency. Such term shall include buildings built for the purpose of being leased by a Federal agency, and privatized military housing.

* * * * *

(13) The term “Federal building energy standards” means energy consumption objectives to be met without specification of the methods, materials, or equipment to be employed in achieving those objectives, but including statements of the requirements, criteria, and evaluation methods to be used, and any necessary commentary.

[(14) The term “voluntary building energy code” means a building energy code developed and updated through a consensus process among interested persons, such as that used by the Council of American Building Officials; the American Society of Heating, Refrigerating, and Air-Conditioning Engineers; or other appropriate organizations.]

(14) *MODEL BUILDING ENERGY CODE.—The term ‘model building energy code’ means a voluntary building energy code and standards developed and updated through a consensus process among interested persons, such as the IECC or the code used by—*

(A) *the Council of American Building Officials, or its legal successor, International Code Council, Inc.;*

(B) *the American Society of Heating, Refrigerating, and Air-Conditioning Engineers; or*

(C) *other appropriate organizations.*

(15) The term “CABO” means the Council of American Building Officials.

(16) The term “ASHRAE” means the American Society of Heating, Refrigerating, and Air-Conditioning Engineers.

(17) *IECC.—The term ‘IECC’ means the International Energy Conservation Code.*

(18) *INDIAN TRIBE.—The term ‘Indian tribe’ has the meaning given the term in section 4 of the Native American Housing Assistance and Self-Determination Act of 1996 (25 U.S.C. 4103).*

(19) *MAJOR RENOVATION.—The term ‘major renovation’ means a modification of building energy systems sufficiently extensive that the whole building can meet energy standards for new buildings, based on criteria to be established by the Secretary through notice and comment rulemaking.*

* * * * *

[SEC. 304. UPDATING STATE BUILDING ENERGY EFFICIENCY CODES.

[(a) CONSIDERATION AND DETERMINATION RESPECTING RESIDENTIAL BUILDING ENERGY CODES.—(1) Not later than 2 years after the date of the enactment of the Energy Policy Act of 1992, each State shall certify to the Secretary that it has reviewed the provisions of its residential building code regarding energy efficiency and made a determination as to whether it is appropriate for such State to revise such residential building code provisions to meet or exceed CABO Model Energy Code, 1992.

[(2) The determination referred to in paragraph (1) shall be—

[(A) made after public notice and hearing;

[(B) in writing;

[(C) based upon findings included in such determination and upon the evidence presented at the hearing; and

[(D) available to the public.

[(3) Each State may, to the extent consistent with otherwise applicable State law, revise the provisions of its residential building code regarding energy efficiency to meet or exceed CABO Model Energy Code, 1992, or may decline to make such revisions.

[(4) If a State makes a determination under paragraph (1) that it is not appropriate for such State to revise its residential building code, such State shall submit to the Secretary, in writing, the reasons for such determination, and such statement shall be available to the public.

[(5)(A) Whenever CABO Model Energy Code, 1992, (or any successor of such code) is revised, the Secretary shall, not later than 12 months after such revision, determine whether such revision would improve energy efficiency in residential buildings. The Secretary shall publish notice of such determination in the Federal Register.

[(B) If the Secretary makes an affirmative determination under subparagraph (A), each State shall, not later than 2 years after the date of the publication of such determination, certify that it has reviewed the provisions of its residential building code regarding energy efficiency and made a determination as to whether it is appropriate for such State to revise such residential building code provisions to meet or exceed the revised code for which the Secretary made such determination.

[(C) Paragraphs (2), (3), and (4) shall apply to any determination made under subparagraph (B).

[(b) CERTIFICATION OF COMMERCIAL BUILDING ENERGY CODE UPDATES.—(1) Not later than 2 years after the date of the enactment of the Energy Policy Act of 1992, each State shall certify to the Secretary that it has reviewed and updated the provisions of its commercial building code regarding energy efficiency. Such certification shall include a demonstration that such State's code provisions meet or exceed the requirements of ASHRAE Standard 90.1–1989.

[(2)(A) Whenever the provisions of ASHRAE Standard 90.1–1989 (or any successor standard) regarding energy efficiency in commercial buildings are revised, the Secretary shall, not later than 12 months after the date of such revision, determine whether such revision will improve energy efficiency in commercial buildings. The Secretary shall publish a notice of such determination in the Federal Register.

[(B)(i) If the Secretary makes an affirmative determination under subparagraph (A), each State shall, not later than 2 years after the date of the publication of such determination, certify that it has reviewed and updated the provisions of its commercial building code regarding energy efficiency in accordance with the revised standard for which such determination was made. Such certification shall include a demonstration that the provisions of such State's commercial building code regarding energy efficiency meet or exceed such revised standard.

[(ii) If the Secretary makes a determination under subparagraph (A) that such revised standard will not improve energy efficiency in commercial buildings, State commercial building code provisions regarding energy efficiency shall meet or exceed ASHRAE Standard 90.1-1989, or if such standard has been revised, the last revised standard for which the Secretary has made an affirmative determination under subparagraph (A).

[(c) EXTENSIONS.—The Secretary shall permit extensions of the deadlines for the certification requirements under subsections (a) and (b) if a State can demonstrate that it has made a good faith effort to comply with such requirements and that it has made significant progress in doing so.

[(d) TECHNICAL ASSISTANCE.—The Secretary shall provide technical assistance to States to implement the requirements of this section, and to improve and implement State residential and commercial building energy efficiency codes or to otherwise promote the design and construction of energy efficient buildings.

[(e) AVAILABILITY OF INCENTIVE FUNDING.—(1) The Secretary shall provide incentive funding to States to implement the requirements of this section, and to improve and implement State residential and commercial building energy efficiency codes, including increasing and verifying compliance with such codes. In determining whether, and in what amount, to provide incentive funding under this subsection, the Secretary shall consider the actions proposed by the State to implement the requirements of this section, to improve and implement residential and commercial building energy efficiency codes, and to promote building energy efficiency through the use of such codes.

[(2) Additional funding shall be provided under this subsection for implementation of a plan to achieve and document at least a 90 percent rate of compliance with residential and commercial building energy efficiency codes, based on energy performance—

[(A) to a State that has adopted and is implementing, on a statewide basis—

[(i) a residential building energy efficiency code that meets or exceeds the requirements of the 2004 International Energy Conservation Code, or any succeeding version of that code that has received an affirmative determination from the Secretary under subsection (a)(5)(A); and

[(ii) a commercial building energy efficiency code that meets or exceeds the requirements of the ASHRAE Standard 90.1-2004, or any succeeding version of that standard that has received an affirmative determination from the Secretary under subsection (b)(2)(A); or

[(B) in a State in which there is no statewide energy code either for residential buildings or for commercial buildings, to a local government that has adopted and is implementing residential and commercial building energy efficiency codes, as described in subparagraph (A).

[(3) Of the amounts made available under this subsection, the Secretary may use \$500,000 for each fiscal year to train State and local officials to implement codes described in paragraph (2).

[(4)(A) There are authorized to be appropriated to carry out this subsection—

[(i) \$25,000,000 for each of fiscal years 2006 through 2010; and

[(ii) such sums as are necessary for fiscal year 2011 and each fiscal year thereafter.

[(B) Funding provided to States under paragraph (2) for each fiscal year shall not exceed one-half of the excess of funding under this subsection over \$5,000,000 for the fiscal year.]

SEC. 304. UPDATING STATE BUILDING ENERGY EFFICIENCY CODES.

(a) *IN GENERAL.*—*The Secretary shall—*

(1) *encourage and support the adoption of building energy codes by States, Indian tribes, and, as appropriate, by local governments that meet or exceed the model building energy codes, or achieve equivalent or greater energy savings; and*

(2) *support full compliance with the State and local codes.*

(b) *STATE AND INDIAN TRIBE CERTIFICATION OF BUILDING ENERGY CODE UPDATES.*—

(1) *REVIEW AND UPDATING OF CODES BY EACH STATE AND INDIAN TRIBE.*—

(A) *IN GENERAL.*—*Not later than 2 years after the date on which a model building energy code is updated, each State or Indian tribe shall certify whether or not the State or Indian tribe, respectively, has reviewed and updated the energy provisions of the building code of the State or Indian tribe, respectively.*

(B) *DEMONSTRATION.*—*The certification shall include a demonstration of whether or not the energy savings for the code provisions that are in effect throughout the State or Indian tribal territory meet or exceed—*

(i) *the energy savings of the updated model building energy code; or*

(ii) *the targets established under section 307(b)(2).*

(C) *NO MODEL BUILDING ENERGY CODE UPDATE.*—*If a model building energy code is not updated by a target date established under section 307(b)(2)(D), each State or Indian tribe shall, not later than 2 years after the specified date, certify whether or not the State or Indian tribe, respectively, has reviewed and updated the energy provisions of the building code of the State or Indian tribe, respectively, to meet or exceed the target in section 307(b)(2).*

(2) *VALIDATION BY SECRETARY.*—*Not later than 90 days after a State or Indian tribe certification under paragraph (1), the Secretary shall—*

(A) *determine whether the code provisions of the State or Indian tribe, respectively, meet the criteria specified in paragraph (1); and*

(B) if the determination is positive, validate the certification.

(c) IMPROVEMENTS IN COMPLIANCE WITH BUILDING ENERGY CODES.—

(1) REQUIREMENT.—

(A) IN GENERAL.—Not later than 3 years after the date of a certification under subsection (b), each State and Indian tribe shall certify whether or not the State and Indian tribe, respectively, has—

(i) achieved full compliance under paragraph (3) with the applicable certified State and Indian tribe building energy code or with the associated model building energy code; or

(ii) made significant progress under paragraph (4) toward achieving compliance with the applicable certified State and Indian tribe building energy code or with the associated model building energy code.

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

(2) MEASUREMENT OF COMPLIANCE.—A certification under paragraph (1) shall include documentation of the rate of compliance based on—

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

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

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

(A) at least 90 percent of building space covered by the code in the preceding year substantially meets all the requirements of the applicable code specified in paragraph (1), or achieves equivalent or greater energy savings level; or

(B) the estimated excess energy use of buildings that did not meet the applicable code specified in paragraph (1) in the preceding year, compared to a baseline of comparable buildings that meet this code, is not more than 5 percent of the estimated energy use of all buildings covered by this code during the preceding year.

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

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

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

(5) *VALIDATION BY SECRETARY.*—Not later than 90 days after a State or Indian tribe certification under paragraph (1), the Secretary shall—

(A) determine whether the State or Indian tribe has demonstrated meeting the criteria of this subsection, including accurate measurement of compliance; and

(B) if the determination is positive, validate the certification.

(d) *STATES OR INDIAN TRIBES THAT DO NOT ACHIEVE COMPLIANCE.*—

(1) *REPORTING.*—A State or Indian tribe that has not made a certification required under subsection (b) or (c) by the applicable deadline shall submit to the Secretary a report on—

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

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

(2) *FEDERAL SUPPORT.*—For any State or Indian tribe for which the Secretary has not validated a certification by a deadline under subsection (b) or (c), the lack of the certification may be a consideration for Federal support authorized under this section for code adoption and compliance activities.

(3) *LOCAL GOVERNMENT.*—In any State or Indian tribe for which the Secretary has not validated a certification under subsection (b) or (c), a local government may be eligible for Federal support by meeting the certification requirements of subsections (b) and (c).

(4) *ANNUAL REPORTS BY SECRETARY.*—

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

(i) the status of model building energy codes;

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

(iii) implementation of this section; and

(iv) improvements in energy savings over time as result of the targets established under section 307(b)(2).

(B) *IMPACTS.*—The report shall include estimates of impacts of past action under this section, and potential impacts of further action, on—

(i) upfront financial and construction costs, cost benefits and returns (using investment analysis), and lifetime energy use for buildings;

(ii) resulting energy costs to individuals and businesses; and

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

(e) *TECHNICAL ASSISTANCE TO STATES AND INDIAN TRIBES.*—The Secretary shall provide technical assistance to States and Indian tribes to implement the goals and requirements of this section, including procedures and technical analysis for States and Indian tribes—

(1) to improve and implement State residential and commercial building energy codes;

(2) to demonstrate that the code provisions of the States and Indian tribes achieve equivalent or greater energy savings than the model building energy codes and targets;

(3) to document the rate of compliance with a building energy code; and

(4) to otherwise promote the design and construction of energy efficient buildings.

(f) AVAILABILITY OF INCENTIVE FUNDING.—

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

(A) to implement the requirements of this section;

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

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

(2) ADDITIONAL FUNDING.—Additional funding shall be provided under this subsection for implementation of a plan to achieve and document full compliance with residential and commercial building energy codes under subsection (c)—

(A) to a State or Indian tribe for which the Secretary has validated a certification under subsection (b) or (c); and

(B) in a State or Indian tribe that is not eligible under subparagraph (A), to a local government that is eligible under this section.

(3) TRAINING.—Of the amounts made available under this subsection, the State or Indian tribe may use amounts required, but not to exceed \$750,000 for a State, to train State and local building code officials to implement and enforce codes described in paragraph (2).

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

(g) STRETCH CODES AND ADVANCED STANDARDS.—

(1) IN GENERAL.—The Secretary shall provide technical and financial support for the development of stretch codes and advanced standards for residential and commercial buildings for use as—

(A) an option for adoption as a building energy code by local, tribal, or State governments; and

(B) guidelines for energy-efficient building design.

(2) TARGETS.—The stretch codes and advanced standards shall be designed—

(A) to achieve substantial energy savings compared to the model building energy codes; and

(B) to meet targets under section 307(b), if available, at least 3 to 6 years in advance of the target years.

(h) STUDIES.—The Secretary, in consultation with building science experts from the National Laboratories and institutions of higher education, designers and builders of energy-efficient residential and commercial buildings, code officials, and other stakeholders, shall undertake a study of the feasibility, impact, economics, and merit of—

(1) code improvements that would require that buildings be designed, sited, and constructed in a manner that makes the buildings more adaptable in the future to become zero-net-energy after initial construction, as advances are achieved in energy-saving technologies;

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

(3) legislative options for increasing energy savings from building energy codes, including additional incentives for effective State and local action, and verification of compliance with and enforcement of a code other than by a State or local government.

(i) **EFFECT ON OTHER LAWS.**—Nothing in this section or section 307 supersedes or modifies the application of sections 321 through 346 of the Energy Policy and Conservation Act (42 U.S.C. 6291 et seq.).

(j) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to carry out this section and section 307 \$200,000,000, to remain available until expended.”.

* * * * *

SEC. 305. FEDERAL BUILDING ENERGY EFFICIENCY STANDARDS.

(a)(1) **IN GENERAL.**—Not later than 2 years after the date of the enactment of the Energy Policy Act of 1992, the Secretary, after consulting with appropriate Federal agencies, CABO, ASHRAE, the National Association of Home Builders, the Illuminating Engineering Society, the American Institute of Architects, the National Conference of the States on Building Codes and Standards, and other appropriate persons, shall establish, by rule, Federal building energy standards that require in new Federal buildings those energy efficiency measures that are technologically feasible and economically justified. Such standards shall become effective no later than 1 year after such rule is issued.

(2) The standards established under paragraph (1) shall—

(A) contain energy saving and renewable energy specifications that meet or exceed the energy saving and renewable energy specifications of the 2004 International Energy Conservation Code (in the case of residential buildings) or ASHRAE Standard 90.1—2004 (in the case of commercial buildings);

(B) to the extent practicable, use the same format as the appropriate [voluntary building energy code] *model building energy code*; and

(C) consider, in consultation with the Environmental Protection Agency and other Federal agencies, and where appropriate contain, measures with regard to radon and other indoor air pollutants.

[(3)(A) Not later than 1 year after the date of enactment of this paragraph, the Secretary shall establish, by rule, revised Federal building energy efficiency performance standards that require that—

[(i) if life-cycle cost-effective for new Federal buildings—

[(I) the buildings be designed to achieve energy consumption levels that are at least 30 percent below the levels established in the version of the ASHRAE Standard or

the International Energy Conservation Code, as appropriate, that is in effect as of the date of enactment of this paragraph; and

【(II) sustainable design principles are applied to the siting, design, and construction of all new and replacement buildings;

【(ii) if water is used to achieve energy efficiency, water conservation technologies shall be applied to the extent that the technologies are life-cycle cost-effective; and

【(iii) if lifecycle cost-effective, as compared to other reasonably available technologies, not less than 30 percent of the hot water demand for each new Federal building or Federal building undergoing a major renovation be met through the installation and use of solar hot water heaters.

【(B) Not later than 1 year after the date of approval of each subsequent revision of the ASHRAE Standard or the International Energy Conservation Code, as appropriate, the Secretary shall determine, based on the cost-effectiveness of the requirements under the amendment, whether the revised standards established under this paragraph should be updated to reflect the amendment.】

(3) *REVISED FEDERAL BUILDING ENERGY EFFICIENCY PERFORMANCE STANDARDS; CERTIFICATION FOR GREEN BUILDINGS.—*

(A) *REVISED FEDERAL BUILDING ENERGY EFFICIENCY PERFORMANCE STANDARDS.—*

(i) *IN GENERAL.—Not later than 1 year after the date of enactment of the Energy Savings and Industrial Competitiveness Act of 2015, the Secretary shall establish, by rule, revised Federal building energy efficiency performance standards that require that—*

(I) *new Federal buildings and alterations and additions to existing Federal buildings—*

(aa) *meet or exceed the most recent revision of the International Energy Conservation Code (in the case of residential buildings) or ASHRAE Standard 90.1 (in the case of commercial buildings) as of the date of enactment of the Energy Savings and Industrial Competitiveness Act of 2015; and*

(bb) *meet or exceed the energy provisions of State and local building codes applicable to the building, if the codes are more stringent than the International Energy Conservation Code or ASHRAE Standard 90.1, as applicable;*

(II) *unless demonstrated not to be life-cycle cost effective for new Federal buildings and Federal buildings with major renovations—*

(aa) *the buildings be designed to achieve energy consumption levels that are at least 30 percent below the levels established in the version of the ASHRAE Standard or the International Energy Conservation Code, as appropriate, that is applied under subclause (I)(aa), including updates under subparagraph (B); and*

(bb) *sustainable design principles are applied to the location, siting, design, and construction of all*

new Federal buildings and replacement Federal buildings;

(III) if water is used to achieve energy efficiency, water conservation technologies shall be applied to the extent that the technologies are life-cycle cost effective; and

(IV) if life-cycle cost effective, as compared to other reasonably available technologies, not less than 30 percent of the hot water demand for each new Federal building or Federal building undergoing a major renovation be met through the installation and use of solar hot water heaters.

(ii) LIMITATION.—Clause (i)(I) shall not apply to unaltered portions of existing Federal buildings and systems that have been added to or altered.

(B) UPDATES.—Not later than 1 year after the date of approval of each subsequent revision of the ASHRAE Standard or the International Energy Conservation Code, as appropriate, the Secretary shall determine whether the revised standards established under subparagraph (A) should be updated to reflect the revisions, based on the energy savings and life-cycle cost-effectiveness of the revisions.

[(C) In the budget request] *(C) BUDGET REQUEST.—In the budget request of the Federal agency for each fiscal year and each report submitted by the Federal agency under section 548(a) of the National Energy Conservation Policy Act (42 U.S.C. 8258(a)), the head of each Federal agency shall include—*

* * * * *

[(D) Not later than 1 year after the date of enactment of the Energy Independence and Security Act of 2007, the Secretary shall establish, by rule, revised Federal building energy efficiency performance standards that require that:

[(i) For new Federal buildings and Federal buildings undergoing major renovations, with respect to which the Administrator of General Services is required to transmit a prospectus to Congress under section 3307 of title 40, United States Code, in the case of public buildings (as defined in section 3301 of title 40, United States Code), or of at least \$2,500,000 in costs adjusted annually for inflation for other buildings:

[(I) The buildings shall be designed so that the fossil fuel-generated energy consumption of the buildings is reduced, as compared with such energy consumption by a similar building in fiscal year 2003 (as measured by Commercial Buildings Energy Consumption Survey or Residential Energy Consumption Survey data from the Energy Information Agency), by the percentage specified in the following table:

[Fiscal Year	Percentage Reduction
[2010	55
[2015	65
[2020	80
[2025	90

Fiscal Year	Percentage Reduction
2030	100

[(II) Upon petition by an agency subject to this subparagraph, the Secretary may adjust the applicable numeric requirement under subclause (I) downward with respect to a specific building, if the head of the agency designing the building certifies in writing that meeting such requirement would be technically impracticable in light of the agency's specified functional needs for that building and the Secretary concurs with the agency's conclusion. This subclause shall not apply to the General Services Administration.

[(III) Sustainable design principles shall be applied to the siting, design, and construction of such buildings. Not later than 90 days after the date of enactment of the Energy Independence and Security Act of 2007, the Secretary, after reviewing the findings of the Federal Director under section 436(h) of that Act, in consultation with the Administrator of General Services, and in consultation with the Secretary of Defense for considerations relating to those facilities under the custody and control of the Department of Defense, shall identify a certification system and level for green buildings that the Secretary determines to be the most likely to encourage a comprehensive and environmentally-sound approach to certification of green buildings. The identification of the certification system and level shall be based on a review of the Federal Director's findings under section 436(h) of the Energy Independence and Security Act of 2007 and the criteria specified in clause (iii), shall identify the highest level the Secretary determines is appropriate above the minimum level required for certification under the system selected, and shall achieve results at least comparable to the system used by and highest level referenced by the General Services Administration as of the date of enactment of the Energy Independence and Security Act of 2007. Within 90 days of the completion of each study required by clause (iv), the Secretary, in consultation with the Administrator of General Services, and in consultation with the Secretary of Defense for considerations relating to those facilities under the custody and control of the Department of Defense, shall review and update the certification system and level, taking into account the conclusions of such study.

[(ii) In establishing criteria for identifying major renovations that are subject to the requirements of this subparagraph, the Secretary shall take into account the scope, degree, and types of renovations that are likely to provide

significant opportunities for substantial improvements in energy efficiency.

[(iii) In identifying the green building certification system and level, the Secretary shall take into consideration—

[(I) the ability and availability of assessors and auditors to independently verify the criteria and measurement of metrics at the scale necessary to implement this subparagraph;

[(II) the ability of the applicable certification organization to collect and reflect public comment;

[(III) the ability of the standard to be developed and revised through a consensus-based process;

[(IV) an evaluation of the robustness of the criteria for a high-performance green building, which shall give credit for promoting—

[(aa) efficient and sustainable use of water, energy, and other natural resources;

[(bb) use of renewable energy sources;

[(cc) improved indoor environmental quality through enhanced indoor air quality, thermal comfort, acoustics, day lighting, pollutant source control, and use of low-emission materials and building system controls; and

[(dd) such other criteria as the Secretary determines to be appropriate; and

[(V) national recognition within the building industry.

[(iv) At least once every 5 years, and in accordance with section 436 of the Energy Independence and Security Act of 2007, the Administrator of General Services shall conduct a study to evaluate and compare available third-party green building certification systems and levels, taking into account the criteria listed in clause (iii).

[(v) The Secretary may by rule allow Federal agencies to develop internal certification processes, using certified professionals, in lieu of certification by the certification entity identified under clause (i)(III). The Secretary shall include in any such rule guidelines to ensure that the certification process results in buildings meeting the applicable certification system and level identified under clause (i)(III). An agency employing an internal certification process must continue to obtain external certification by the certification entity identified under clause (i)(III) for at least 5 percent of the total number of buildings certified annually by the agency.

[(vi) With respect to privatized military housing, the Secretary of Defense, after consultation with the Secretary may, through rulemaking, develop alternative criteria to those established by subclauses (I) and (III) of clause (i) that achieve an equivalent result in terms of energy savings, sustainable design, and green building performance.

[(vii) In addition to any use of water conservation technologies otherwise required by this section, water conservation technologies shall be applied to the extent that the technologies are life-cycle cost-effective.

(D) CERTIFICATION FOR GREEN BUILDINGS.—

(i) **SUSTAINABLE DESIGN PRINCIPLES.**—Sustainable design principles shall be applied to the siting, design, and construction of buildings covered by this subparagraph.

(ii) **SELECTION OF CERTIFICATION SYSTEMS.**—The Secretary, after reviewing the findings of the Federal Director under section 436(h) of the Energy Independence and Security Act of 2007 (42 U.S.C. 17092(h)), in consultation with the Administrator of General Services, and in consultation with the Secretary of Defense relating to those facilities under the custody and control of the Department of Defense, shall determine those certification systems for green commercial and residential buildings that the Secretary determines to be the most likely to encourage a comprehensive and environmentally sound approach to certification of green buildings.

(iii) **BASIS FOR SELECTION.**—The determination of the certification systems under clause (ii) shall be based on ongoing review of the findings of the Federal Director under section 436(h) of the Energy Independence and Security Act of 2007 (42 U.S.C. 17092(h)) and the criteria described in clause (v).

(iv) **ADMINISTRATION.**—In determining certification systems under this subparagraph, the Secretary shall—

(I) make a separate determination for all or part of each system; and

(II) confirm that the criteria used to support the selection of building products, materials, brands, and technologies—

(aa) are based on relevant technical data;

(bb) use and reward evaluation of health, safety, and environmental risks and impacts across the lifecycle of the building product, material, brand, or technology, including methodologies generally accepted by the applicable scientific disciplines;

(cc) as practicable, give preference to performance standards instead of prescriptive measures; and

(dd) reward continual improvements in the lifecycle management of health, safety, and environmental risks and impacts.

(v) **CONSIDERATIONS.**—In determining the green building certification systems under this subparagraph, the Secretary shall take into consideration—

(I) the ability and availability of assessors and auditors to independently verify the criteria and measurement of metrics at the scale necessary to implement this subparagraph;

(II) the ability of the applicable certification organization to collect and reflect public comment;

(III) the ability of the standard to be developed and revised through a consensus-based process;

(IV) an evaluation of the robustness of the criteria for a high-performance green building, which shall give credit for promoting—

(aa) efficient and sustainable use of water, energy, and other natural resources;

(bb) use of renewable energy sources;

(cc) improved indoor environmental quality through enhanced indoor air quality, thermal comfort, acoustics, day lighting, pollutant source control, and use of low-emission materials and building system controls;

(dd)(AA) the sourcing of grown, harvested, or mined materials; and

(BB)certifications of responsible sourcing, such as certifications provided by the Forest Stewardship Council, the Sustainable Forestry Initiative, the American Tree Farm System, or the Programme for the Endorsement of Forest Certification; and

(ee) such other criteria as the Secretary determines to be appropriate; and

(V) national recognition within the building industry.

(vi) **REVIEW.**—The Secretary, in consultation with the Administrator of General Services and the Secretary of Defense, shall conduct an ongoing review to evaluate and compare private sector green building certification systems, taking into account—

(I) the criteria described in clause (v); and

(II) the identification made by the Federal Director under section 436(h) of the Energy Independence and Security Act of 2007 (42 U.S.C. 17092(h)).

(vii) **EXCLUSIONS.**—

(I) **IN GENERAL.**—Subject to subclause (II), if a certification system fails to meet the review requirements of clause (v), the Secretary shall—

(aa) identify the portions of the system, whether prerequisites, credits, points, or otherwise, that meet the review criteria of clause (v);

(bb) determine the portions of the system that are suitable for use; and

(cc) exclude all other portions of the system from identification and use.

(II) **ENTIRE SYSTEMS.**—The Secretary shall exclude an entire system from use if an exclusion under subclause (I)—

(aa) impedes the integrated use of the system;

(bb) creates disparate review criteria or unequal point access for competing materials; or

(cc) increases agency costs of the use.

(viii) **INTERNAL CERTIFICATION PROCESSES.**—The Secretary may by rule allow Federal agencies to develop internal certification processes, using certified professionals, in lieu of certification by certification entities identified under clause (ii).

(ix) **PRIVATIZED MILITARY HOUSING.**—With respect to privatized military housing, the Secretary of Defense, after consultation with the Secretary may, through rulemaking,

develop alternative certification systems and levels than the systems and levels identified under clause (ii) that achieve an equivalent result in terms of energy savings, sustainable design, and green building performance.

(x) WATER CONSERVATION TECHNOLOGIES.—In addition to any use of water conservation technologies otherwise required by this section, water conservation technologies shall be applied to the extent that the technologies are life-cycle cost-effective.

(xi) EFFECTIVE DATE.—

(I) DETERMINATIONS MADE AFTER DECEMBER 31, 2017.—The amendments made by section 432(b)(1)(C) of Energy Savings and Industrial Competitiveness Act shall apply to any determination made by a Federal agency after December 31, 2017.

(II) DETERMINATIONS MADE ON OR BEFORE DECEMBER 31, 2017.—This subparagraph (as in effect on the day before the date of enactment of Energy Savings and Industrial Competitiveness Act) shall apply to any use of a certification system for green commercial and residential buildings by a Federal agency on or before December 31, 2017.

(b) REPORT ON COMPARATIVE STANDARDS.—The Secretary shall identify and describe, in the report required under section 308, the basis for any substantive difference between the Federal building energy standards established under this section (including differences in treatment of energy efficiency and renewable energy) and the appropriate **voluntary building energy code** *model building energy code*.

[(c) PERIODIC REVIEW.—The Secretary shall periodically, but not less than once every 5 years, review the Federal building energy standards established under this section and shall, if significant energy savings would result, upgrade such standards to include all new energy efficiency and renewable energy measures that are technologically feasible and economically justified.**]**

[(d) INTERIM STANDARDS.—Interim energy performance standards for new Federal buildings issued by the Secretary under this title as it existed before the date of the enactment of the Energy Policy Act of 1992 shall remain in effect until the standards established under subsection (a) become effective.**]**

(c) PERIODIC REVIEW.—The Secretary shall—

(1) once every 5 years, review the Federal building energy standards established under this section; and

(2) on completion of a review under paragraph (1), if the Secretary determines that significant energy savings would result, upgrade the standards to include all new energy efficiency and renewable energy measures that are technologically feasible and economically justified.

* * * * *

[SEC. 307. SUPPORT FOR VOLUNTARY BUILDING ENERGY CODES.

[(a) IN GENERAL.—Not later than 1 year after the date of the enactment of the Energy Policy Act of 1992, the Secretary, after consulting with the Secretary of Housing and Urban Development, the Secretary of Veterans Affairs, other appropriate Federal agencies,

CABO, ASHRAE, the National Conference of States on Building Codes and Standards, and any other appropriate building codes and standards organization, shall support the upgrading of voluntary building energy codes for new residential and commercial buildings. Such support shall include—

【(1) a compilation of data and other information regarding building energy efficiency standards and codes in the possession of the Federal Government, State and local governments, and industry organizations;

【(2) assistance in improving the technical basis for such standards and codes;

【(3) assistance in determining the cost-effectiveness and the technical feasibility of the energy efficiency measures included in such standards and codes; and

【(4) assistance in identifying appropriate measures with regard to radon and other indoor air pollutants.

【(b) REVIEW.—The Secretary shall periodically review the technical and economic basis of voluntary building energy codes and, based upon ongoing research activities—

【(1) recommend amendments to such codes including measures with regard to radon and other indoor air pollutants;

【(2) seek adoption of all technologically feasible and economically justified energy efficiency measures; and

【(3) otherwise participate in any industry process for review and modification of such codes.】

SEC. 307. SUPPORT FOR MODEL BUILDING ENERGY CODES.

(a) *IN GENERAL.*—The Secretary shall support the updating of model building energy codes.

(b) *TARGETS.*—

(1) *IN GENERAL.*—The Secretary shall support the updating of the model building energy codes to enable the achievement of aggregate energy savings targets established under paragraph (2).

(2) *TARGETS.*—

(A) *IN GENERAL.*—The Secretary shall work with State, Indian tribes, local governments, nationally recognized code and standards developers, and other interested parties to support the updating of model building energy codes by establishing one or more aggregate energy savings targets to achieve the purposes of this section.

(B) *SEPARATE TARGETS.*—The Secretary may establish separate targets for commercial and residential buildings.

(C) *BASELINES.*—The baseline for updating model building energy codes shall be the 2009 IECC for residential buildings and ASHRAE Standard 90.1—2010 for commercial buildings.

(D) *SPECIFIC YEARS.*—

(i) *IN GENERAL.*—Targets for specific years shall be established and revised by the Secretary through rule-making and coordinated with nationally recognized code and standards developers at a level that—

(I) is at the maximum level of energy efficiency that is technologically feasible and life-cycle cost effective, while accounting for the economic considerations under paragraph (4);

(II) is higher than the preceding target; and
 (III) promotes the achievement of commercial and residential high-performance buildings through high performance energy efficiency (within the meaning of section 401 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17061)).

(ii) INITIAL TARGETS.—Not later than 1 year after the date of enactment of this clause, the Secretary shall establish initial targets under this subparagraph.

(iii) DIFFERENT TARGET YEARS.—Subject to clause (i), prior to the applicable year, the Secretary may set a later target year for any of the model building energy codes described in subparagraph (A) if the Secretary determines that a target cannot be met.

(iv) SMALL BUSINESS.—When establishing targets under this paragraph through rulemaking, the Secretary shall ensure compliance with the Small Business Regulatory Enforcement Fairness Act of 1996 (5 U.S.C. 601 note; Public Law 104–121).

(3) APPLIANCE STANDARDS AND OTHER FACTORS AFFECTING BUILDING ENERGY USE.—In establishing building code targets under paragraph (2), the Secretary shall develop and adjust the targets in recognition of potential savings and costs relating to—

(A) efficiency gains made in appliances, lighting, windows, insulation, and building envelope sealing;

(B) advancement of distributed generation and on-site renewable power generation technologies;

(C) equipment improvements for heating, cooling, and ventilation systems;

(D) building management systems and SmartGrid technologies to reduce energy use; and

(E) other technologies, practices, and building systems that the Secretary considers appropriate regarding building plug load and other energy uses.

(4) ECONOMIC CONSIDERATIONS.—In establishing and revising building code targets under paragraph (2), the Secretary shall consider the economic feasibility of achieving the proposed targets established under this section and the potential costs and savings for consumers and building owners, including a return on investment analysis.

(c) TECHNICAL ASSISTANCE TO MODEL BUILDING ENERGY CODE-SETTING AND STANDARD DEVELOPMENT ORGANIZATIONS.—

(1) IN GENERAL.—The Secretary shall, on a timely basis, provide technical assistance to model building energy code-setting and standard development organizations consistent with the goals of this section.

(2) ASSISTANCE.—The assistance shall include, as requested by the organizations, technical assistance in—

(A) evaluating code or standards proposals or revisions;

(B) building energy analysis and design tools;

(C) building demonstrations;

(D) developing definitions of energy use intensity and building types for use in model building energy codes to

evaluate the efficiency impacts of the model building energy codes;

(E) performance-based standards;

(F) evaluating economic considerations under subsection (b)(4); and

(G) developing model building energy codes by Indian tribes in accordance with tribal law.

(3) **AMENDMENT PROPOSALS.**—The Secretary may submit timely model building energy code amendment proposals to the model building energy code-setting and standard development organizations, with supporting evidence, sufficient to enable the model building energy codes to meet the targets established under subsection (b)(2).

(4) **ANALYSIS METHODOLOGY.**—The Secretary shall make publicly available the entire calculation methodology (including input assumptions and data) used by the Secretary to estimate the energy savings of code or standard proposals and revisions.

(d) **DETERMINATION.**—

(1) **REVISION OF MODEL BUILDING ENERGY CODES.**—If the provisions of the IECC or ASHRAE Standard 90.1 regarding building energy use are revised, the Secretary shall make a preliminary determination not later than 90 days after the date of the revision, and a final determination not later than 15 months after the date of the revision, on whether or not the revision will—

(A) improve energy efficiency in buildings compared to the existing model building energy code; and

(B) meet the applicable targets under subsection (b)(2).

(2) **CODES OR STANDARDS NOT MEETING TARGETS.**—

(A) **IN GENERAL.**—If the Secretary makes a preliminary determination under paragraph (1)(B) that a code or standard does not meet the targets established under subsection (b)(2), the Secretary may at the same time provide the model building energy code or standard developer with proposed changes that would result in a model building energy code that meets the targets and with supporting evidence, taking into consideration—

(i) whether the modified code is technically feasible and life-cycle cost effective;

(ii) available appliances, technologies, materials, and construction practices; and

(iii) the economic considerations under subsection (b)(4).

(B) **INCORPORATION OF CHANGES.**—

(i) **IN GENERAL.**—On receipt of the proposed changes, the model building energy code or standard developer shall have an additional 270 days to accept or reject the proposed changes of the Secretary to the model building energy code or standard for the Secretary to make a final determination.

(ii) **FINAL DETERMINATION.**—A final determination under paragraph (1) shall be on the modified model building energy code or standard.

(e) **ADMINISTRATION.**—In carrying out this section, the Secretary shall—

(1) *publish notice of targets and supporting analysis and determinations under this section in the Federal Register to provide an explanation of and the basis for such actions, including any supporting modeling, data, assumptions, protocols, and cost-benefit analysis, including return on investment; and*

(2) *provide an opportunity for public comment on targets and supporting analysis and determinations under this section.*

(f) *VOLUNTARY CODES AND STANDARDS.—Notwithstanding any other provision of this section, any model building code or standard established under section 304 shall not be binding on a State, local government, or Indian tribe as a matter of Federal law.*

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ENERGY INDEPENDENCE AND SECURITY ACT OF 2007

Public Law 110-140, as amended

* * * * *

SEC. 436. HIGH-PERFORMANCE GREEN FEDERAL BUILDINGS.

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(h) IDENTIFICATION OF CERTIFICATION **【SYSTEM】 SYSTEMS.—**

【(1) IN GENERAL.—For the purpose of this section, not later than 60 days after the date of enactment of this Act, the Federal Director shall identify and shall provide to the Secretary pursuant to section 305(a)(3)(D) of the Energy Conservation and Production Act (42 U.S.C. 6834(a)(3)(D)), a certification system that the Director determines to be the most likely to encourage a comprehensive and environmentally-sound approach to certification of green buildings.】

(1) IN GENERAL.—Based on an ongoing review, the Federal Director shall identify and shall provide to the Secretary pursuant to section 305(a)(3)(D) of the Energy Conservation and Production Act (42 U.S.C. 6834(a)(3)(D)), a list of those certification systems that the Director identifies as the most likely to encourage a comprehensive and environmentally sound approach to certification of green buildings.

(2) BASIS.—The **【system】 systems** identified under paragraph (1) shall be based on—

【(A) a study completed every 5 years and provided to the Secretary pursuant to section 305(a)(3)(D) of that Act, which shall be carried out by the Federal Director to compare and evaluate standards;】

(A) an ongoing review provided to the Secretary pursuant to section 305(a)(3)(D) of the Energy Conservation and Production Act (42 U.S.C. 6834(a)(3)(D)), which shall—

(i) be carried out by the Federal Director to compare and evaluate standards; and

(ii) allow any developer or administrator of a rating system or certification system to be included in the review;

(B) the ability and availability of assessors and auditors to independently verify the criteria and measurement of metrics at the scale necessary to implement this subtitle;

(C) the ability of the applicable standard-setting organization to collect and reflect public comment;

(D) the ability of the standard to be developed and revised through a consensus-based process;

(E) an evaluation of the robustness of the criteria for a high-performance green building, which shall give credit for promoting— (i) efficient and sustainable use of water, energy, and other natural resources; (ii) use of renewable energy sources; (iii) improved indoor environmental quality through enhanced indoor air quality, thermal comfort, acoustics, day lighting, pollutant source control, and use of low-emission materials and building system controls; (iv) reduced impacts from transportation through building location and site design that promote access by public transportation; and (v) such other criteria as the Federal Director determines to be appropriate; **[and]**

(F) national recognition within the building industry~~【.】~~;

(G) a finding that, for all credits addressing the sourcing of grown, harvested, or mined materials, the system rewards the use of products that have obtained certifications of responsible sourcing, such as certifications provided by the Sustainable Forestry Initiative, the Forest Stewardship Council, the American Tree Farm System, or the Programme for the Endorsement of Forest Certification; and

(H) a finding that the system incorporates life-cycle assessment as a credit pathway.

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SEC. 452. [ENERGY-INTENSIVE INDUSTRIES PROGRAM.] FUTURE OF INDUSTRY PROGRAM.

(a) DEFINITIONS.—In this section:

* * * * *

【(3)】 (4) **ENERGY SERVICE PROVIDER.**—*The term ‘energy service provider’ means any business providing technology or services to improve the energy efficiency, water efficiency, power factor, or load management of a manufacturing site or other industrial process in an energy-intensive industry, or any utility operating under a utility energy service project.*

【(3)】 (4) **FEEDSTOCK.**—The term “feedstock” means the raw material supplied for use in manufacturing, chemical, and biological processes.

【(4)】 (5) **PARTNERSHIP.**—The term “partnership” means an energy efficiency partnership established under subsection (c)(1)(A).

【(5)】 (6) **PROGRAM.**—The term “program” means the energy-intensive industries program established under subsection (b).

(b) ESTABLISHMENT OF PROGRAM.—The Secretary shall establish a program under which the Secretary, in cooperation with energy-intensive industries and national industry trade associations representing the energy-intensive industries, shall support, research, develop, and promote the use of new materials processes, tech-

nologies, and techniques to optimize energy efficiency and the economic competitiveness of the United States' industrial and commercial sectors.

* * * * *

(e) INSTITUTION OF HIGHER EDUCATION-BASED INDUSTRIAL RESEARCH AND ASSESSMENT CENTERS.—**【The Secretary】**

(1) *IN GENERAL.*—*The Secretary shall provide funding to institution of higher education-based industrial research and assessment centers, whose purpose shall be—*

【(1)】 (A) to identify opportunities for optimizing energy efficiency and environmental performance, *including assessments of sustainable manufacturing goals and the implementation of information technology advancements for supply chain analysis, logistics, system monitoring, industrial and manufacturing processes, and other purposes;*

【(2)】 (B) to promote applications of emerging concepts and technologies in small- and medium-sized manufacturers;

【(3)】 (C) to promote research and development for the use of alternative energy sources to supply heat, power, and new feedstocks for energy-intensive industries;

【(4)】 (D) to coordinate with appropriate Federal and State research offices, and provide a clearinghouse for industrial process and energy efficiency technical assistance resources; and

【(5)】 (E) to coordinate with State-accredited technical training centers and community colleges, while ensuring appropriate services to all regions of the United States.

(2) *COORDINATION.*—*To increase the value and capabilities of the industrial research and assessment centers, the centers shall—*

(A) *coordinate with Manufacturing Extension Partnership Centers of the National Institute of Standards and Technology;*

(B) *coordinate with the Building Technologies Program of the Department of Energy to provide building assessment services to manufacturers;*

(C) *increase partnerships with the National Laboratories of the Department of Energy to leverage the expertise and technologies of the National Laboratories for national industrial and manufacturing needs;*

(D) *increase partnerships with energy service providers and technology providers to leverage private sector expertise and accelerate deployment of new and existing technologies and processes for energy efficiency, power factor, and load management;*

(E) *identify opportunities for reducing greenhouse gas emissions; and*

(F) *promote sustainable manufacturing practices for small- and medium-sized manufacturers.*

(3) *OUTREACH.*—*The Secretary shall provide funding for—*

(A) *outreach activities by the industrial research and assessment centers to inform small- and medium-sized manufacturers of the information, technologies, and services available; and*

(B) coordination activities by each industrial research and assessment center to leverage efforts with—

- (i) Federal and State efforts;*
- (ii) the efforts of utilities and energy service providers;*
- (iii) the efforts of regional energy efficiency organizations; and*
- (iv) the efforts of other industrial research and assessment centers.*

(4) WORKFORCE TRAINING.—

(A) IN GENERAL.—The Secretary shall pay the Federal share of associated internship programs under which students work with or for industries, manufacturers, and energy service providers to implement the recommendations of industrial research and assessment centers.

(B) FEDERAL SHARE.—The Federal share of the cost of carrying out internship programs described in subparagraph (A) shall be 50 percent.

(5) SMALL BUSINESS LOANS.—The Administrator of the Small Business Administration shall, to the maximum extent practicable, expedite consideration of applications from eligible small business concerns for loans under the Small Business Act (15 U.S.C. 631 et seq.) to implement recommendations of industrial research and assessment centers established under paragraph (1).

(6) ADVANCED MANUFACTURING STEERING COMMITTEE.—The Secretary shall establish an advisory steering committee to provide recommendations to the Secretary on planning and implementation of the Advanced Manufacturing Office of the Department of Energy.

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SEC. 453. ENERGY EFFICIENCY FOR DATA CENTER BUILDINGS.

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(b) VOLUNTARY NATIONAL INFORMATION PROGRAM.—

(1) IN GENERAL.—Not later than 90 days after the date of enactment of this Act, the Secretary and the Administrator of the Environmental Protection Agency shall, after consulting with information technology industry and other interested parties, initiate a voluntary national information program for those types of data centers and data center equipment and facilities that are widely used and for which there is a potential for significant data center energy savings as a result of the program.

(2) REQUIREMENTS.—The program described in paragraph (1) shall—

(A) address data center efficiency holistically, reflecting the total energy consumption of data centers as whole systems, including both equipment and facilities;

(B) consider prior work and studies undertaken in this area, including by the Environmental Protection Agency and the Department of Energy;

(C) consistent with the objectives described in paragraph (1), determine the type of data center and data center equipment and facilities to be covered under the program;

(D) produce specifications, measurements, best practices, and benchmarks that will enable data center operators to make more informed decisions about the energy efficiency and costs of data centers, and that take into account—

(i) the performance and use of servers, data storage devices, and other information technology equipment;

(ii) the efficiency of heating, ventilation, and air conditioning, cooling, and power conditioning systems, provided that no modification shall be required of a standard then in effect under the Energy Policy and Conservation Act (42 U.S.C. 6201 et seq.) for any covered heating, ventilation, air-conditioning, cooling or power-conditioning product;

(iii) energy savings from the adoption of software and data management techniques; and

(iv) other factors determined by **the organization** *an organization* described in subsection (c);

(E) allow for creation of separate specifications, measurements, and benchmarks based on data center size and function, as well as other appropriate characteristics;

(F) advance the design and implementation of efficiency technologies to the maximum extent economically practical;

(G) provide to data center operators in the private sector and the Federal Government information about best practices and purchasing decisions that reduce the energy consumption of data centers; and

(H) publish the information described in subparagraph (G), which may be disseminated through catalogs, trade publications, the Internet, or other mechanisms, that will allow data center operators to assess the energy consumption and potential cost savings of alternative data centers and data center equipment and facilities.

[(3) PROCEDURES.—The program described in paragraph (1) shall be developed in consultation with and coordinated by the organization described in subsection (c) according to commonly accepted procedures for the development of specifications, measurements, and benchmarks.]

[(c) DATA CENTER EFFICIENCY ORGANIZATION.—

[(1) IN GENERAL.—After the establishment of the program described in subsection (b), the Secretary and the Administrator shall jointly designate an information technology industry organization to consult with and to coordinate the program.]

[(2) REQUIREMENTS.—The organization designated under paragraph (1), whether preexisting or formed specifically for the purposes of subsection (b), shall—

[(A) consist of interested parties that have expertise in energy efficiency and in the development, operation, and functionality of computer data centers, information technology equipment, and software, as well as representatives of hardware manufacturers, data center operators, and facility managers;

[(B) obtain and address input from Department of Energy National Laboratories or any college, university, research institution, industry association, company, or public

interest group with applicable expertise in any of the areas listed in paragraph (1);

[(C) follow commonly accepted procedures for the development of specifications and accredited standards development processes; (

[(D) have a mission to develop and promote energy efficiency for data centers and information technology; and

[(E) have the primary responsibility to consult in the development and publishing of the information, measurements, and benchmarks described in subsection (b) and transmission of the information to the Secretary and the Administrator for consideration under subsection (d).

[(d) MEASUREMENTS AND SPECIFICATIONS.—

[(1) IN GENERAL.—The Secretary and the Administrator shall consider the specifications, measurements, and benchmarks described in subsection (b) for use by the Federal Energy Management Program, the Energy Star Program, and other efficiency programs of the Department of Energy and Environmental Protection Agency, respectively.

[(2) REJECTIONS.—If the Secretary or the Administrator rejects 1 or more specifications, measurements, or benchmarks described in subsection (b), the rejection shall be made consistent with section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note; Public Law 104–113).

[(3) DETERMINATION OF IMPRACTICABILITY.—A determination that a specification, measurement, or benchmark described in subsection (b) is impractical may include consideration of the maximum efficiency that is technologically feasible and economically justified.

[(e) MONITORING.—The Secretary and the Administrator shall—

[(1) monitor and evaluate the efforts to develop the program described in subsection (b); and

[(2) not later than 3 years after the date of enactment of this Act, make a determination as to whether the program is consistent with the objectives of subsection (b).

[(f) ALTERNATIVE SYSTEM.—If the Secretary and the Administrator make a determination under subsection (e) that a voluntary national information program for data centers consistent with the objectives of subsection (b) has not been developed, the Secretary and the Administrator shall, after consultation with the National Institute of Standards and Technology and not later than 2 years after the determination, develop and implement the program under subsection (b).

[(g) PROTECTION OF PROPRIETARY INFORMATION.—The Secretary, the Administrator, or the data center efficiency organization shall not disclose any proprietary information or trade secrets provided by any individual or company for the purposes of carrying out this section or the program established under this section.]

(c) STAKEHOLDER INVOLVEMENT.—

(1) IN GENERAL.—The Secretary and the Administrator shall carry out subsection (b) in consultation with the information technology industry and other key stakeholders, with the goal of producing results that accurately reflect the best knowledge in the most pertinent domains.

(2) *CONSIDERATIONS.*—In carrying out consultation described in paragraph (1), the Secretary and the Administrator shall pay particular attention to organizations that—

(A) have members with expertise in energy efficiency and in the development, operation, and functionality of data centers, information technology equipment, and software, including representatives of hardware manufacturers, data center operators, and facility managers;

(B) obtain and address input from the National Laboratories (as that term is defined in section 2 of the Energy Policy Act of 2005 (42 U.S.C. 15801)) or any institution of higher education, research institution, industry association, company, or public interest group with applicable expertise;

(C) follow—

(i) commonly accepted procedures for the development of specifications; and

(ii) accredited standards development processes; or

(D) have a mission to promote energy efficiency for data centers and information technology.

(d) *MEASUREMENTS AND SPECIFICATIONS.*—The Secretary and the Administrator shall consider and assess the adequacy of the specifications, measurements, and benchmarks described in subsection (b) for use by the Federal Energy Management Program, the Energy Star Program, and other efficiency programs of the Department of Energy or the Environmental Protection Agency.

(e) *STUDY.*—The Secretary, in consultation with the Administrator, not later than 18 months after the date of enactment of the Energy Policy Modernization Act of 2015, shall make available to the public an update to the report submitted to Congress pursuant to section 1 of the Act of December 20, 2006 (Public Law 109–431; 120 Stat. 2920), entitled ‘Report to Congress on Server and Data Center Energy Efficiency’ and dated August 2, 2007, that provides—

(1) a comparison and gap analysis of the estimates and projections contained in the original report with new data regarding the period from 2007 through 2016;

(2) an analysis considering the impact of information technologies, including virtualization and cloud computing, in the public and private sectors;

(3) an evaluation of the impact of the combination of cloud platforms, mobile devices, social media, and big data on data center energy usage;

(4) an evaluation of water usage in data centers and recommendations for reductions in such water usage; and

(5) updated projections and recommendations for best practices through fiscal year 2022.

(f) *DATA CENTER ENERGY PRACTITIONER PROGRAM.*—

(1) *IN GENERAL.*—The Secretary, in consultation with key stakeholders and the Director of the Office of Management and Budget, shall maintain a data center energy practitioner program that provides for the certification of energy practitioners qualified to evaluate the energy usage and efficiency opportunities in Federal data centers.

(2) *EVALUATIONS.*—Each Federal agency shall consider having the data centers of the agency evaluated once every 4 years by energy practitioners certified pursuant to the program, when-

ever practicable using certified practitioners employed by the agency.

(g) OPEN DATA INITIATIVE.—

(1) IN GENERAL.—The Secretary, in consultation with key stakeholders and the Director of the Office of Management and Budget, shall establish an open data initiative for Federal data center energy usage data, with the purpose of making the data available and accessible in a manner that encourages further data center innovation, optimization, and consolidation.

(2) CONSIDERATION.—In establishing the initiative under paragraph (1), the Secretary shall consider using the online Data Center Maturity Model.

(h) INTERNATIONAL SPECIFICATIONS AND METRICS.—The Secretary, in consultation with key stakeholders, shall actively participate in efforts to harmonize global specifications and metrics for data center energy and water efficiency.

(i) DATA CENTER UTILIZATION METRIC.—The Secretary, in collaboration with key stakeholders, shall facilitate in the development of an efficiency metric that measures the energy efficiency of a data center (including equipment and facilities).

(j) PROTECTION OF PROPRIETARY INFORMATION.—The Secretary and the Administrator shall not disclose any proprietary information or trade secrets provided by any individual or company for the purposes of carrying out this section or the programs and initiatives established under this section.

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ENERGY POLICY ACT OF 2005

Public Law 109-58, as amended

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[(SEC. 106. VOLUNTARY COMMITMENTS TO REDUCE INDUSTRIAL ENERGY INTENSITY.]

[(a) DEFINITION OF ENERGY INTENSITY.—In this section, the term “energy intensity” means the primary energy consumed for each unit of physical output in an industrial process.]

[(b) VOLUNTARY AGREEMENTS.—The Secretary may enter into voluntary agreements with one or more persons in industrial sectors that consume significant quantities of primary energy for each unit of physical output to reduce the energy intensity of the production activities of the persons.]

[(c) GOAL.—Voluntary agreements under this section shall have as a goal the reduction of energy intensity by not less than 2.5 percent each year during the period of calendar years 2007 through 2016.]

[(d) RECOGNITION.—The Secretary, in cooperation with other appropriate Federal agencies, shall develop mechanisms to recognize and publicize the achievements of participants in voluntary agreements under this section.]

[(e) TECHNICAL ASSISTANCE.—A person that enters into an agreement under this section and continues to make a good faith effort to achieve the energy efficiency goals specified in the agreement shall be eligible to receive from the Secretary a grant or technical

assistance, as appropriate, to assist in the achievement of those goals.

[(f) REPORT.—Not later than each of June 30, 2012, and June 30, 2017, the Secretary shall submit to Congress a report that—

[(1) evaluates the success of the voluntary agreements under this section; and

[(2) provides independent verification of a sample of the energy savings estimates provided by participating firms.]

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ENERGY POLICY ACT OF 1992

Public Law 102–486, as amended

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[(SEC. 131. ENERGY EFFICIENCY IN INDUSTRIAL FACILITIES.

[(a) GRANT PROGRAM.—

[(1) IN GENERAL.—The Secretary shall make grants to industry associations to support programs to improve energy efficiency in industry. In order to be eligible for a grant under this subsection, an industry association shall establish a voluntary energy efficiency improvement target program.

[(2) AWARDING OF GRANTS.—The Secretary shall request project proposals and provide annual grants on a competitive basis. In evaluating grant proposals under this subsection, the Secretary shall consider—

- [(A) potential energy savings;
- [(B) potential environmental benefits;
- [(C) the degree of cost sharing;
- [(D) the degree to which new and innovative technologies will be encouraged;
- [(E) the level of industry involvement;
- [(F) estimated project cost-effectiveness; and
- [(G) the degree to which progress toward the energy improvement targets can be monitored.

[(3) ELIGIBLE PROJECTS.—Projects eligible for grants under this subsection may include the following:

- [(A) Workshops.
- [(B) Training seminars.
- [(C) Handbooks.
- [(D) Newsletters.
- [(E) Data bases.
- [(F) Other activities approved by the Secretary.

[(4) LIMITATION ON COST SHARING.—Grants provided under this subsection shall not exceed \$250,000 and each grant shall not exceed 75 percent of the total cost of the project for which the grant is made.

[(5) AUTHORIZATION.—There are authorized to be appropriated such sums as are necessary to carry out this subsection.

[(b) AWARD PROGRAM.—The Secretary shall establish an annual award program to recognize those industry associations or individual industrial companies that have significantly improved their energy efficiency.

[(c) REPORT ON INDUSTRIAL REPORTING AND VOLUNTARY TARGETS.—Not later than one year after the date of the enactment of this Act, the Secretary shall, in consultation with affected industries, evaluate and report to the Congress regarding the establishment of Federally mandated energy efficiency reporting requirements and voluntary energy efficiency improvement targets for energy intensive industries. Such report shall include an evaluation of the costs and benefits of such reporting requirements and voluntary energy efficiency improvement targets, and recommendations regarding the role of such activities in improving energy efficiency in energy intensive industries.]

[SEC. 132. PROCESS ORIENTED INDUSTRIAL ENERGY EFFICIENCY.

[(a) DEFINITIONS.—For the purposes of this section—

[(1) the term “covered industry” means the food and food products industry, lumber and wood products industry, petroleum and coal products industry, and all other manufacturing industries specified in Standard Industrial Classification Codes 20 through 39 (or successor classification codes);

[(2) the term “process-oriented industrial assessment” means—

[(A) the identification of opportunities in the production process (from the introduction of materials to final packaging of the product for shipping) for—

[(i) improving energy efficiency;

[(ii) reducing environmental impact; and

[(iii) designing technological improvements to increase competitiveness and achieve cost-effective product quality enhancement;

[(B) the identification of opportunities for improving the energy efficiency of lighting, heating, ventilation, air conditioning, and the associated building envelope; and

[(C) the identification of cost-effective opportunities for using renewable energy technology in the production process and in the systems described in subparagraph (B); and

[(3) the term “utility” means any person, State agency (including any municipality), or Federal agency, which sells electric or gas energy to retail customers.

[(b) GRANT PROGRAM.—

[(1) USE OF FUNDS.—The Secretary shall, to the extent funds are made available for such purpose, make grants to States which, consistent with State law, shall be used for the following purposes:

[(A) To promote, through appropriate institutions such as universities, nonprofit organizations, State and local government entities, technical centers, utilities, and trade organizations, the use of energy-efficient technologies in covered industries.

[(B) To establish programs to train individuals (on an industry-by-industry basis) in conducting process-oriented industrial assessments and to encourage the use of such trained assessors.

[(C) To assist utilities in developing, testing, and evaluating energy efficiency programs and technologies for industrial customers in covered industries.

【(2) CONSULTATION.—States receiving grants under this subsection shall consult with utilities and representatives of affected industries, as appropriate, in determining the most effective use of such funds consistent with the requirements of paragraph (1).

【(3) ELIGIBILITY CRITERIA.—Not later than 1 year after the date of the enactment of this Act, the Secretary shall establish eligibility criteria for grants made pursuant to this subsection. Such criteria shall require a State applying for a grant to demonstrate that such State—

【(A) pursuant to section 111(a) of the Public Utility and Regulatory Policies Act of 1978 (16 U.S.C. 2621(a)), has considered and made a determination regarding the implementation of the standards specified in paragraphs (7) and (8) of section 111(d) of such Act (with respect to integrated resources planning and investments in conservation and demand management); and

【(B) by legislation or regulation—

【(i) allows utilities to recover the costs prudently incurred in providing process-oriented industrial assessments; and

【(ii) encourages utilities to provide to covered industries—

【(I) process-oriented industrial assessments; and

【(II) financial incentives for implementing energy efficiency improvements.

【(4) ALLOCATION OF FUNDS.—Grants made pursuant to this subsection shall be allocated each fiscal year among States meeting the criteria specified in paragraph (3) who have submitted applications 60 days before the first day of such fiscal year. Such allocation shall be made in accordance with a formula to be prescribed by the Secretary based on each State's share of value added in industry (as determined by the Census of Manufacturers) as a percentage of the value added by all such States.

【(5) RENEWAL OF GRANTS.—A grant under this subsection may continue to be renewed after 2 consecutive fiscal years during which a State receives a grant under this subsection, subject to the availability of funds, if—

【(A) the Secretary determines that the funds made available to the State during the previous 2 years were used in a manner required under paragraph (1); and

【(B) such State demonstrates, in a manner prescribed by the Secretary, utility participation in programs established pursuant to this subsection.

【(6) COORDINATION WITH OTHER FEDERAL PROGRAMS.—In carrying out the functions described in paragraph (1), States shall, to the extent practicable, coordinate such functions with activities and programs conducted by the Energy Analysis and Diagnostic Centers of the Department of Energy and the Manufacturing Technology Centers of the National Institute of Standards and Technology.

【(c) OTHER FEDERAL ASSISTANCE.—

[(1) ASSESSMENT CRITERIA.—Not later than 2 years after the date of the enactment of this Act, the Secretary shall, by contract with nonprofit organizations with expertise in process-oriented industrial energy efficiency technologies, establish and, as appropriate, update criteria for conducting process-oriented industrial assessments on an industry-by-industry basis. Such criteria shall be made available to State and local government, public utility commissions, utilities, representatives of affected process-oriented industries, and other interested parties.]

[(2) DIRECTORY.—The Secretary shall establish a nationwide directory of organizations offering industrial energy efficiency assessments, technologies, and services consistent with the purposes of this section. Such directory shall be made available to State governments, public utility commissions, utilities, industry representatives, and other interested parties.]

[(3) AWARD PROGRAM.—The Secretary shall establish an annual award program to recognize utilities operating outstanding or innovative industrial energy efficiency technology assistance programs.]

[(4) MEETINGS.—In order to further the purposes of this section, the Secretary shall convene annual meetings of parties interested in process-oriented industrial assessments, including representatives of State government, public utility commissions, utilities, and affected process-oriented industries.]

[(d) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated such sums as may be necessary to carry out the purposes of this section.]

SEC. 133. INDUSTRIAL INSULATION AND AUDIT GUIDELINES.

[(a) VOLUNTARY GUIDELINES FOR ENERGY EFFICIENCY AUDITING AND INSULATING.—Not later than 18 months after the date of the enactment of this Act, the Secretary, after consultation with utilities, major industrial energy consumers, and representatives of the insulation industry, shall establish voluntary guidelines for—

[(1) the conduct of energy efficiency audits of industrial facilities to identify cost-effective opportunities to increase energy efficiency; and

[(2) the installation of insulation to achieve cost-effective increases in energy efficiency in industrial facilities.]

[(b) EDUCATIONAL AND TECHNICAL ASSISTANCE.—The Secretary shall conduct a program of educational and technical assistance to promote the use of the voluntary guidelines established under subsection (a).]

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SEC. 2101. GENERAL IMPROVED ENERGY EFFICIENCY.

(a) PROGRAM DIRECTION.—The Secretary shall conduct a 5-year program, in accordance with sections 3001 and 3002 of this Act, on cost effective technologies to improve energy efficiency and increase the use of renewable energy in the buildings, industrial, and utility sectors. Such program shall include a broad range of technological approaches, and shall include field demonstrations of sufficient scale and number to prove technical and economic viability to meet the goals stated in section 2001. Such program shall include the activities required under [sections 2102, 2103, 2104, 2105, 2106, 2107, and 2108] *sections 2102, 2104, 2105, 2106, and 2108 of this*

Act and sections 376 of the Energy Policy and Conservation Act and ongoing activities of a similar nature at the Department of Energy. Such program shall also include the activities conducted pursuant to the Steel and Aluminum Energy Conservation and Technology Competitiveness Act of 1988 (Public Law 100-680) and the Department of Energy Metal Casting Competitiveness Research Act of 1990 (Public Law 101-425).

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[SEC. 2103. PULP AND PAPER.

[(a) PROGRAM DIRECTION.—The Secretary shall conduct a 5-year program, in accordance with sections 3001 and 3002 of this Act, on advanced pulp and paper technologies. Such program shall include activities on energy generation technologies, boilers, combustion processes, pulping processes (excluding de-inking), chemical recovery, causticizing, source reduction processes, and other related technologies that can improve the energy efficiency of, and reduce the adverse environmental impacts of, pulp and papermaking operations. This section does not authorize projects involving the combustion of waste paper, other than gasification.

[(b) PROPOSALS.—Within 180 days after the date of enactment of this Act, the Secretary shall solicit proposals for conducting activities under this section.]

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[SEC. 2107. IMPROVING EFFICIENCY IN ENERGY INTENSIVE INDUSTRIES.

[(a) SECRETARIAL ACTION.—The Secretary, in accordance with sections 3001 and 3002 of this Act, shall—

[(1) pursue a research, development, demonstration and commercial application program intended to improve energy efficiency and productivity in energy-intensive industries and industrial processes; and

[(2) undertake joint ventures to encourage the commercialization of technologies developed under paragraph (1).

[(b) JOINT VENTURES.—(1) The Secretary shall—

[(A) conduct a competitive solicitation for proposals from private firms and investors for such joint ventures under subsection (a)(2); and

[(B) provide financial assistance to at least five such joint ventures.

[(2) The purpose of the joint ventures shall be to design, test, and demonstrate changes to industrial processes that will result in improved energy efficiency and productivity. The joint ventures may also demonstrate other improvements of benefit to such industries so long as demonstration of energy efficiency improvements is the principal objective of the joint venture.

[(3) In evaluating proposals for financial assistance and joint ventures under this section, the Secretary shall consider—

[(A) whether the activities conducted under this section improve the quality and energy efficiency of industries or industrial processes;

[(B) the regional distribution of the energy-intensive industries and industrial processes; and

[(C) whether the proposed joint venture project would be located in the region which has the energy-intensive industry and industrial processes that would benefit from the project.]

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ENERGY POLICY AND CONSERVATION ACT

Public Law 94-163, as amended

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ENERGY STAR PROGRAM

SEC. 324a. (a) IN GENERAL.— * * *

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(e) *THIRD-PARTY CERTIFICATION.*—

(1) *IN GENERAL.*—Subject to paragraph (2), not later than 180 days after the date of enactment of this subsection, the Administrator shall revise the certification requirements for the labeling of consumer, home, and office electronic products for program partners that have complied with all requirements of the Energy Star program for a period of at least 18 months.

(2) *ADMINISTRATION.*—In the case of a program partner described in paragraph (1), the new requirements under paragraph (1)—

(A) shall not require third-party certification for a product to be listed; but

(B) may require that test data and other product information be submitted to facilitate product listing and performance verification for a sample of products.

(3) *THIRD PARTIES.*—Nothing in this subsection prevents the Administrator from using third parties in the course of the administration of the Energy Star program.

(4) *TERMINATION.*—

(A) *IN GENERAL.*—Subject to subparagraph (B), an exemption from third-party certification provided to a program partner under paragraph (1) shall terminate if the program partner is found to have violated program requirements with respect to at least 2 separate models during a 2-year period.

(B) *RESUMPTION.*—A termination for a program partner under subparagraph (A) shall cease if the program partner complies with all Energy Star program requirements for a period of at least 3 years.

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SEC. 324B. SUPPLY STAR PROGRAM.

(a) *IN GENERAL.*—There is established within the Department of Energy a Supply Star program to identify and promote practices, recognize companies, and, as appropriate, recognize products that use highly efficient supply chains in a manner that conserves energy, water, and other resources.

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

- (1) consult with other appropriate agencies; and
- (2) coordinate efforts with the Energy Star program established under section 324A.

(c) *DUTIES.*—In carrying out the Supply Star program described in subsection (a), the Secretary shall—

- (1) promote practices, recognize companies, and, as appropriate, recognize products that comply with the Supply Star program as the preferred practices, companies, and products in the marketplace for maximizing supply chain efficiency;
- (2) work to enhance industry and public awareness of the Supply Star program;
- (3) collect and disseminate data on supply chain energy resource consumption;
- (4) develop and disseminate metrics, processes, and analytical tools (including software) for evaluating supply chain energy resource use;
- (5) develop guidance at the sector level for improving supply chain efficiency;
- (6) work with domestic and international organizations to harmonize approaches to analyzing supply chain efficiency, including the development of a consistent set of tools, templates, calculators, and databases; and
- (7) work with industry, including small businesses, to improve supply chain efficiency through activities that include—
 - (A) developing and sharing best practices; and
 - (B) providing opportunities to benchmark supply chain efficiency.

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

(e) *GRANTS AND INCENTIVES.*—

- (1) *IN GENERAL.*—The Secretary may award grants or other forms of incentives on a competitive basis to eligible entities, as determined by the Secretary, for the purposes of—
 - (A) studying supply chain energy resource efficiency; and
 - (B) demonstrating and achieving reductions in the energy resource consumption of commercial products through changes and improvements to the production supply and distribution chain of the products.

(2) *USE OF INFORMATION.*—Any information or data generated as a result of the grants or incentives described in paragraph (1) shall be used to inform the development of the Supply Star Program.

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

(g) *EFFECT OF OUTSOURCING OF AMERICAN JOBS.*—For purposes of this section, the outsourcing of American jobs in the production of a product shall not count as a positive factor in determining supply chain efficiency.

(h) *AUTHORIZATION OF APPROPRIATIONS.*—*There is authorized to be appropriated to carry out this section \$10,000,000 for the period of fiscal years 2018 through 2027.*

* * * * *

SEC. 376. SUSTAINABLE MANUFACTURING INITIATIVE.

(a) *IN GENERAL.*—*As part of the Office of Energy Efficiency and Renewable Energy, the Secretary, on the request of a manufacturer, shall conduct on-site technical assessments to identify opportunities for—*

- (1) *maximizing the energy efficiency of industrial processes and cross-cutting systems;*
- (2) *preventing pollution and minimizing waste;*
- (3) *improving efficient use of water in manufacturing processes;*
- (4) *conserving natural resources; and*
- (5) *achieving such other goals as the Secretary determines to be appropriate.*

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

(c) *RESEARCH AND DEVELOPMENT PROGRAM FOR SUSTAINABLE MANUFACTURING AND INDUSTRIAL TECHNOLOGIES AND PROCESSES.*—*As part of the industrial efficiency programs of the Department of Energy, the Secretary shall carry out a joint industry-government partnership program to research, develop, and demonstrate new sustainable manufacturing and industrial technologies and processes that maximize the energy efficiency of industrial plants, reduce pollution, and conserve natural resources.*

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NATIONAL ENERGY CONSERVATION POLICY ACT

Public Law 95–619, as amended

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ISEC. 543. ENERGY MANAGEMENT REQUIREMENTS.

[(a) ENERGY PERFORMANCE REQUIREMENT FOR FEDERAL BUILDINGS.—(1) Subject to paragraph (2), each agency shall apply energy conservation measures to, and shall improve the design for the construction of, the Federal buildings of the agency (including each industrial or laboratory facility) so that the energy consumption per gross square foot of the Federal buildings of the agency in fiscal years 2006 through 2015 is reduced, as compared with the energy consumption per gross square foot of the Federal buildings of the agency in fiscal year 2003, by the percentage specified in the following table:

Fiscal Year	Percentage Reduction
2006	2
2007	4

Fiscal Year	Percentage Reduction
2008	9
2009	12
2010	15
2011	18
2012	21
2013	24
2014	27
2015	30

[(2) An agency may exclude from the requirements of paragraph (1) any building, and the associated energy consumption and gross square footage, in which energy intensive activities are carried out. Each agency shall identify and list in each report made under section 548(a) the buildings designated by it for such exclusion.]

[(3) Not later than December 31, 2014, the Secretary shall review the results of the implementation of the energy performance requirement established under paragraph (1) and submit to Congress recommendations concerning energy performance requirements for fiscal years 2016 through 2025.]

(a) *ENERGY PERFORMANCE REQUIREMENT FOR FEDERAL BUILDINGS.*—

(1) *REQUIREMENT.*—*Subject to paragraph (2), each agency shall apply energy conservation measures to, and shall improve the design for the construction of, the Federal buildings of the agency (including each industrial or laboratory facility) so that the energy consumption per gross square foot of the Federal buildings of the agency in fiscal years 2006 through 2017 is reduced, as compared with the energy consumption per gross square foot of the Federal buildings of the agency in fiscal year 2003, by the percentage specified in the following table:*

Fiscal Year	Percentage Reduction
2006	2
2007	4
2008	9
2009	12
2010	15
2011	18
2012	21
2013	24
2014	27
2015	30
2016	33
2017	36

(2) *EXCLUSION FOR BUILDINGS WITH ENERGY INTENSIVE ACTIVITIES.*—

(A) *IN GENERAL.*—*An agency may exclude from the requirements of paragraph (1) any building (including the associated energy consumption and gross square footage) in which energy intensive activities are carried out.*

(B) *REPORTS.*—*Each agency shall identify and list in each report made under section 548(a) the buildings designated by the agency for exclusion under subparagraph (A).*

(3) *REVIEW.*—*Not later than December 31, 2017, the Secretary shall—*

(A) review the results of the implementation of the energy performance requirements established under paragraph (1); and

(B) based on the review conducted under subparagraph (A), submit to Congress a report that addresses the feasibility of requiring each agency to apply energy conservation measures to, and improve the design for the construction of, the Federal buildings of the agency (including each industrial or laboratory facility) so that the energy consumption per gross square foot of the Federal buildings of the agency in each of fiscal years 2018 through 2030 is reduced, as compared with the energy consumption per gross square foot of the Federal buildings of the agency in the prior fiscal year, by 3 percent.

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(f) USE OF ENERGY AND WATER EFFICIENCY MEASURES IN FEDERAL BUILDINGS.—

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(E) ONGOING COMMISSIONING.—The term ‘ongoing commissioning’ means an ongoing process of commissioning using monitored data, the primary goal of which is to ensure continuous optimum performance of a facility, in accordance with design or operating needs, over the useful life of the facility, while meeting facility occupancy requirements.

[(E)] (F) PAYBACK PERIOD.—

(i) IN GENERAL.—Subject to clause (ii), the term “payback period”, with respect to a measure, means a value equal to the quotient obtained by dividing—

(I) the estimated initial implementation cost of the measure (other than financing costs); by

(II) the annual cost savings resulting from the measure, including—

(aa) net savings in estimated energy and water costs; and

(bb) operations, maintenance, repair, replacement, and other direct costs.

(ii) MODIFICATIONS AND EXCEPTIONS.—The Secretary, in guidelines issued pursuant to paragraph (6), may make such modifications and provide such exceptions to the calculation of the payback period of a measure as the Secretary determines to be appropriate to achieve the purposes of this Act.

[(F)] (G) RECOMMISSIONING.—The term “recommissioning” means a process—

(i) of commissioning a facility or system beyond the project development and warranty phases of the facility or system; and

(ii) the primary goal of which is to ensure optimum performance of a facility, in accordance with design or current operating needs, over the useful life of the facility, while meeting building occupancy requirements.

[(G)] (H) RETROCOMMISSIONING.—The term “retrocommissioning” means a process of commissioning a

facility or system that was not commissioned at the time of construction of the facility or system.

(2) FACILITY ENERGY MANAGERS.—

(A) IN GENERAL.—Each Federal agency shall designate an energy manager responsible for implementing this subsection and reducing energy use at each facility that meets criteria under subparagraph (B).

(B) COVERED FACILITIES.—The Secretary shall develop criteria, after consultation with affected agencies, energy efficiency advocates, and energy and utility service providers, that cover, at a minimum, Federal facilities, including central utility plants and distribution systems and other energy intensive operations, that constitute at least 75 percent of facility energy use at each agency.

(C) ENERGY MANAGEMENT SYSTEM.—*An energy manager designated under subparagraph (A) shall consider use of a system to manage energy use at the facility and certification of the facility in accordance with the International Organization for Standardization standard numbered 50001 and entitled ‘Energy Management Systems’.*

[(3) ENERGY AND WATER EVALUATIONS.—

[(A) EVALUATIONS.—Effective beginning on the date that is 180 days after the date of enactment of this subsection and annually thereafter, energy managers shall complete, for each calendar year, a comprehensive energy and water evaluation for approximately 25 percent of the facilities of each agency that meet the criteria under paragraph (2)(B) in a manner that ensures that an evaluation of each such facility is completed at least once every 4 years.

[(B) RECOMMISSIONING AND RETROCOMMISSIONING.—As part of the evaluation under subparagraph (A), the energy manager shall identify and assess recommissioning measures (or, if the facility has never been commissioned, retrocommissioning measures) for each such facility.]

[(4) IMPLEMENTATION OF IDENTIFIED ENERGY AND WATER EFFICIENCY MEASURES.—Not later than 2 years after the completion of each evaluation under paragraph (3), each energy manager may—

[(A) implement any energy- or water-saving measure that the Federal agency identified in the evaluation conducted under paragraph (3) that is life cycle cost-effective; and

[(B) bundle individual measures of varying paybacks together into combined projects.]

(3) ENERGY AND WATER EVALUATIONS AND COMMISSIONING.—

(A) EVALUATIONS.—*Except as provided in subparagraph (B), effective beginning on the date that is 180 days after the date of enactment of the Energy Savings and Industrial Competitiveness Act of 2015, and annually thereafter, each energy manager shall complete, for each calendar year, a comprehensive energy and water evaluation and recommissioning or retrocommissioning for approximately 25 percent of the facilities of each agency that meet the criteria under paragraph (2)(B) in a manner that ensures that an evaluation of each facility is completed at least once every 4 years.*

(B) *EXCEPTIONS.*—An evaluation and recommissioning shall not be required under subparagraph (A) with respect to a facility that—

(i) has had a comprehensive energy and water evaluation during the 8-year period preceding the date of the evaluation;

(ii)(I) has been commissioned, recommissioned, or retrocommissioned during the 10-year period preceding the date of the evaluation; or

(II) is under ongoing commissioning;

(iii) has not had a major change in function or use since the previous evaluation and commissioning;

(iv) has been benchmarked with public disclosure under paragraph (8) within the year preceding the evaluation; and

(v)(I) based on the benchmarking, has achieved at a facility level the most recent cumulative energy savings target under subsection (a) compared to the earlier of—

(aa) the date of the most recent evaluation; or

(bb) the date—

(AA) of the most recent commissioning, recommissioning, or retrocommissioning; or

(BB) on which ongoing commissioning began; or

(II) has a long-term contract in place guaranteeing energy savings at least as great as the energy savings target under subclause (I).

(4) *IMPLEMENTATION OF IDENTIFIED ENERGY AND WATER EFFICIENCY MEASURES.*—

(A) *IN GENERAL.*—Not later than 2 years after the date of completion of each evaluation under paragraph (3), each energy manager may—

(i) implement any energy- or water-saving measure that the Federal agency identified in the evaluation conducted under paragraph (3) that is life-cycle cost effective; and

(ii) bundle individual measures of varying paybacks together into combined projects.

(B) *MEASURES NOT IMPLEMENTED.*—The energy manager shall, as part of the certification system under paragraph (7), explain the reasons why any life-cycle cost effective measures were not implemented under subparagraph (A) using guidelines developed by the Secretary.

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(7) *WEB-BASED CERTIFICATION.*—

(A) *IN GENERAL.*—For each facility that meets the criteria established by the Secretary under paragraph (2)(B), the energy manager shall use the web-based tracking system under subparagraph (B)—

(i) to certify compliance with the requirements for—
(I) energy and water evaluations under paragraph (3);

(II) implementation of identified energy and water measures under paragraph (4); and

(III) follow-up on implemented measures under paragraph (5); and
 (ii) to publish energy and water consumption data on an individual facility basis.

(B) DEPLOYMENT.—

(i) IN GENERAL.—Not later than 1 year after the date of enactment of this subsection, the Secretary shall develop and deploy a web-based tracking system required under this paragraph in a manner that tracks, at a minimum—

- (I) the covered facilities;
- (II) the status of meeting the requirements specified in subparagraph (A);
- (III) the estimated cost and savings for measures required to be implemented in a facility;
- (IV) the measured savings and persistence of savings for implemented measures; and
- (V) the benchmarking information disclosed under paragraph (8)(C).

(ii) EASE OF COMPLIANCE.—The Secretary shall ensure that energy manager compliance with the requirements in this paragraph, to the maximum extent practicable—

- (I) can be accomplished with the use of streamlined procedures and templates that minimize the time demands on Federal employees; and
- (II) is coordinated with other applicable energy reporting requirements.

(C) AVAILABILITY.—

(i) IN GENERAL.—Subject to clause (ii), the Secretary shall make the web-based tracking system required under this paragraph available to Congress, other Federal agencies, and the public through the Internet.

(ii) EXEMPTIONS.—At the request of a Federal agency, the Secretary may exempt specific data for specific facilities from disclosure under clause (i) for national security purposes.

(iii) SUMMARY REPORT.—The Secretary shall make available a report that summarizes the information tracked under subparagraph (B)(i) by each agency and, as applicable, by each type of measure.

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(g) LARGE CAPITAL ENERGY INVESTMENTS.—

(1) IN GENERAL.—Each Federal agency shall ensure that any large capital energy investment in an existing building that is not a major renovation but involves replacement of installed equipment (such as heating and cooling systems), or involves renovation, rehabilitation, expansion, or remodeling of existing space, employs the most energy efficient designs, systems, equipment, and controls that are life-cycle cost effective.

(2) PROCESS FOR REVIEW OF INVESTMENT DECISIONS.—Not later than 180 days after the date of enactment of this subsection, each Federal agency shall—

- (A) develop a process for reviewing each decision made on a large capital energy investment described in para-

graph (1) to ensure that the requirements of this subsection are met; and

(B) report to the Director of the Office of Management and Budget on the process established.

(3) COMPLIANCE REPORT.—Not later than 1 year after the date of enactment of this subsection, the Director of the Office of Management and Budget shall evaluate and report to Congress on the compliance of each agency with this subsection.

(h) *FEDERAL IMPLEMENTATION STRATEGY FOR ENERGY EFFICIENT AND ENERGY SAVING INFORMATION TECHNOLOGIES.*—

(1) *DEFINITIONS.*—*In this subsection:*

(A) *DIRECTOR.*—*The term ‘Director’ means the Director of the Office of Management and Budget.*

(B) *INFORMATION TECHNOLOGY.*—*The term ‘information technology’ has the meaning given the term in section 11101 of title 40, United States Code.*

(2) *DEVELOPMENT OF IMPLEMENTATION STRATEGY.*—*Not later than 1 year after the date of enactment of this subsection, each Federal agency shall collaborate with the Director to develop an implementation strategy (including best-practices and measurement and verification techniques) for the maintenance, purchase, and use by the Federal agency of energy-efficient and energy-saving information technologies.*

(3) *ADMINISTRATION.*—*In developing an implementation strategy, each Federal agency shall consider—*

(A) *advanced metering infrastructure;*

(B) *energy efficient data center strategies and methods of increasing asset and infrastructure utilization;*

(C) *advanced power management tools;*

(D) *building information modeling, including building energy management; and*

(E) *secure telework and travel substitution tools.*

(4) *PERFORMANCE GOALS.*—

(A) *IN GENERAL.*—*Not later than September 30, 2017, the Director, in consultation with the Secretary, shall establish performance goals for evaluating the efforts of Federal agencies in improving the maintenance, purchase, and use of energy-efficient and energy-saving information technology systems.*

(B) *BEST PRACTICES.*—*The Chief Information Officers Council established under section 3603 of title 44, United States Code, shall supplement the performance goals established under this paragraph with recommendations on best practices for the attainment of the performance goals, to include a requirement for agencies to consider the use of—*

(i) *energy savings performance contracting; and*

(ii) *utility energy services contracting.*

(5) *REPORTS.*—

(A) *AGENCY REPORTS.*—*Each Federal agency subject to the requirements of this subsection shall include in the report of the agency under section 527 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17143) a description of the efforts and results of the agency under this subsection.*

(B) OMB GOVERNMENT EFFICIENCY REPORTS AND SCORECARDS.—Effective beginning not later than October 1, 2017, the Director shall include in the annual report and scorecard of the Director required under section 528 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17144) a description of the efforts and results of Federal agencies under this subsection.

(C) USE OF EXISTING REPORTING STRUCTURES.—The Director may require Federal agencies to submit any information required to be submitted under this subsection through reporting structures in use as of the date of enactment of the Energy Savings and Industrial Competitiveness Act.

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FINANCIAL INSTITUTIONS REFORM, RECOVERY, AND ENFORCEMENT ACT OF 1989

Public Law 101-73, as amended

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SEC. 1110. FUNCTIONS OF THE FEDERAL FINANCIAL INSTITUTIONS REGULATORY AGENCIES RELATING TO APPRAISAL STANDARDS.

Each Federal financial institutions regulatory agency and the Resolution Trust Corporation shall prescribe appropriate standards for the performance of real estate appraisals in connection with federally related transactions under the jurisdiction of each such agency or instrumentality. These rules shall require, at a minimum—

- (1) that real estate appraisals be performed in accordance with generally accepted appraisal standards as evidenced by the appraisal standards promulgated by the Appraisal Standards Board of the Appraisal Foundation;
- (2) that such appraisals shall be written appraisals[; and];
- (3) that such appraisals shall be subject to appropriate review for compliance with the Uniform Standards of Professional Appraisal Practice[.]; and
- (4) that State certified and licensed appraisers have timely access, whenever practicable, to information from the property owner and the lender that may be relevant in developing an opinion of value regarding the energy- and water-saving improvements or features of a property, such as—
 - (A) labels or ratings of buildings;
 - (B) installed appliances, measures, systems or technologies;
 - (C) blueprints;
 - (D) construction costs;
 - (E) financial or other incentives regarding energy- and water-efficient components and systems installed in a property;
 - (F) utility bills;
 - (G) energy consumption and benchmarking data; and

(H) third-party verifications or representations of energy and water efficiency performance of a property, observing all financial privacy requirements adhered to by certified and licensed appraisers, including section 501 of the Gramm-Leach-Bliley Act (15 U.S.C. 6801).

Unless a property owner consents to a lender, an appraiser, in carrying out the requirements of paragraph (4), shall not have access to the commercial or financial information of the owner that is privileged or confidential.

Each such agency or instrumentality may require compliance with additional standards if it makes a determination in writing that such additional standards are required in order to properly carry out its statutory responsibilities.

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SEC. 1113. TRANSACTIONS REQUIRING THE SERVICES OF A STATE CERTIFIED APPRAISER.

In determining whether an appraisal in connection with a federally related transaction shall be performed by a State certified appraiser, an agency or instrumentality under this title shall consider whether transactions, either individually or collectively, are of sufficient financial or public policy importance to the United States that an individual who performs an appraisal in connection with such transactions should be a State certified appraiser, except that—

(1) a State certified appraiser shall be required for all federally related transactions having a value of \$1,000,000 or more, or any real property on which the appraiser makes adjustments using an energy efficiency report; and

(2) 1-to-4 unit, single family residential appraisals may be performed by State licensed appraisers unless the size and complexity requires a State certified appraiser, where a complex 1-to-4 unit single family residential appraisal means an appraisal for which the property to be appraised, the form of ownership, the property characteristics, or the market conditions are atypical, or an appraisal on which the appraiser makes adjustments using an energy efficiency report.

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