

110TH CONGRESS  
1ST SESSION

# H. R. 3237

To facilitate the transition to a smart electricity grid.

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## IN THE HOUSE OF REPRESENTATIVES

JULY 31, 2007

Mr. BOUCHER (for himself and Mr. DINGELL) introduced the following bill; which was referred to the Committee on Energy and Commerce, and in addition to the Committee on Science and Technology, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

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## A BILL

To facilitate the transition to a smart electricity grid.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

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

4 (a) SHORT TITLE.—This Act may be cited as the  
5 “Smart Grid Facilitation Act of 2007”.

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

Sec. 1. Short title; table of contents.

TITLE I—SMART GRID AND DEMAND RESPONSE

Subtitle A—Smart Grid

- Sec. 101. Statement of policy on modernization of electricity grid.  
 Sec. 102. Grid Modernization Commission.  
 Sec. 103. Grid assessment and report.  
 Sec. 104. Federal matching fund for smart grid investment costs.  
 Sec. 105. Smart Grid technology deployment.  
 Sec. 106. Smart Grid Information Requirements.  
 Sec. 107. State consideration of incentives for Smart Grid.  
 Sec. 108. DOE study of security attributes of Smart Grid systems.

Subtitle B—Demand Response

- Sec. 111. Electricity sector demand response.

1           **TITLE I—SMART GRID AND**  
 2                   **DEMAND RESPONSE**  
 3                   **Subtitle A—Smart Grid**

4   **SEC. 101. STATEMENT OF POLICY ON MODERNIZATION OF**  
 5                   **ELECTRICITY GRID.**

6           (a) SMART GRID CHARACTERISTICS.—It is the policy  
 7 of the United States to support the modernization of the  
 8 Nation’s electricity transmission and distribution system  
 9 to incorporate digital information and controls technology  
 10 and to share real-time pricing information with electricity  
 11 customers to achieve each of the following, which together  
 12 characterize a smart grid:

13                   (1) Increased reliability, security and efficiency  
 14                   of the electric grid.

15                   (2) Dynamic optimization of grid operations  
 16                   and resources, with full cyber-security.

17                   (3) Deployment and integration of distributed  
 18                   resources and generation.

1           (4) Development and incorporation of demand  
2 response demand-side resources, and energy effi-  
3 ciency resources.

4           (5) Deployment of “smart” technologies for me-  
5 tering, communications concerning grid operations  
6 and status, and distribution automation.

7           (6) Integration of “smart” appliances and con-  
8 sumer devices.

9           (7) Deployment and integration of renewable  
10 energy resources, both to the grid and on the cus-  
11 tomer side of the electric meter.

12           (8) Deployment and integration of advanced  
13 electricity storage and peak-sharing technologies, in-  
14 cluding plug-in electric and hybrid electric vehicles,  
15 and thermal-storage air conditioning.

16           (9) Provision to consumers of new information  
17 and control options.

18           (10) Continual environmental improvement in  
19 electricity production and distribution.

20           (11) Enhanced capacity and efficiency of elec-  
21 tricity networks, reduction of line losses, and main-  
22 tenance of power quality.

23       (b) SUPPORT.—The Secretary of Energy and the  
24 Federal Energy Regulatory Commission and other Federal  
25 agencies as appropriate shall undertake programs to sup-

1 port the development and demonstration of Smart Grid  
2 technologies and standards to maximize the achievement  
3 of these goals.

4 (c) BARRIERS.—It is further the policy of the United  
5 States that no State, State agency, or local government  
6 or instrumentality thereof should prohibit, or erect unrea-  
7 sonable barriers to, the deployment of smart grid tech-  
8 nologies on an electric utility’s distribution facilities, or  
9 unreasonably limit the services that may be provided using  
10 such technologies.

11 (d) INFORMATION.—It is further the policy of the  
12 United States that electricity purchasers are entitled to  
13 receive information about the varying value of electricity  
14 at different times and places, and that States shall not  
15 prohibit nor erect unreasonable barriers to the provision  
16 of such information flows to end users.

17 **SEC. 102. GRID MODERNIZATION COMMISSION.**

18 (a) ESTABLISHMENT AND MISSION.—

19 (1) ESTABLISHMENT.—The President shall es-  
20 tablish a Grid Modernization Commission composed  
21 of 9 members. Three members of the Commission  
22 shall be appointed by the President, and one each  
23 shall be appointed by the Speaker and minority lead-  
24 er of the United States House of Representatives  
25 and by the majority leader and minority leader of

1 the United States Senate. Two members shall be ap-  
2 pointed by the President from among persons rec-  
3 ommended by an association representing State util-  
4 ity regulatory commissioners. The President shall  
5 designate one Commissioner to serve as Chairperson.

6 (2) MISSION.—The mission of the Grid Mod-  
7 ernization Commission shall be to facilitate the  
8 adoption of Smart Grid standards, technologies, and  
9 practices across the Nation’s electricity grid to the  
10 point of general adoption and ongoing market sup-  
11 port in the United States electric sector. The Com-  
12 mission shall be responsible for monitoring develop-  
13 ments, encouraging progress toward common stand-  
14 ards and protocols, identifying barriers and pro-  
15 posing solutions, coordinating with all Federal de-  
16 partments and agencies, and coordinating ap-  
17 proaches on smart grid implementation with States  
18 and local governmental authorities.

19 (b) MEMBERSHIP.—The members appointed to the  
20 Commission shall, collectively, have qualifications in elec-  
21 tric utility operations and infrastructure, digital informa-  
22 tion and control technologies, security, market develop-  
23 ment, finance and utility regulation, energy efficiency, de-  
24 mand response, renewable energy, and consumer protec-  
25 tion.

1           (c) AUTHORITIES TO INTERVENE.—The Commission  
2 shall have the authority to intervene and represent itself  
3 before the Federal Energy Regulatory Commission and  
4 other Federal and State agencies as it deems necessary  
5 to accomplish its mission.

6           (d) TERMS OF OFFICE.—The term of office of each  
7 Commissioner shall be 5 years, and any member may be  
8 reappointed for not more than one additional term of 5  
9 years.

10          (e) TERMINATION.—Unless extended by Act of Con-  
11 gress, the Commission shall complete its work and cease  
12 its activities by January 1, 2020, or on such earlier date  
13 that the Commission determines that the proliferation,  
14 evolution, and adaptation of Smart Grid technologies no  
15 longer require Federal leadership and assistance.

16          (f) COMPENSATION OF MEMBERS.—Each member of  
17 the Commission who is not an officer or employee of the  
18 Federal Government shall be compensated at a rate equal  
19 to the daily equivalent of the annual rate of basic pay pre-  
20 scribed for level III of the Executive Schedule under sec-  
21 tion 5315 of title 5, United States Code, for each day (in-  
22 cluding travel time) during which such member is engaged  
23 in the performance of the duties of the Commission. All  
24 members of the Commission who are officers or employees  
25 of the United States shall serve without compensation in

1 addition to that received for their services as officers or  
2 employees of the United States.

3 (g) TRAVEL EXPENSES.—The members of the Com-  
4 mission shall be allowed travel expenses, including per  
5 diem in lieu of subsistence, at rates authorized for employ-  
6 ees of agencies under subchapter I of chapter 57 of title  
7 5, United States Code, while away from their homes or  
8 regular places of business in the performance of services  
9 for the Commission.

10 (h) MEETINGS.—The Commission shall meet at the  
11 call of the Chairman. Commission meetings shall be open  
12 to the public, but as many as three Commissioners may  
13 meet in private without constituting a meeting requiring  
14 public access.

15 (i) APPLICABILITY OF FEDERAL ADVISORY COM-  
16 MITTEE ACT.—The Federal Advisory Committee Act (5  
17 U.S.C. App. 1 et seq.) shall not apply to the Commission.

18 (j) OFFICES AND STAFF.—The Secretary of Energy  
19 shall provide the Commission with offices in the Depart-  
20 ment of Energy and shall make available to the Commis-  
21 sion the expertise and staff resources of both the Office  
22 of Electricity Delivery and Energy Reliability and the Of-  
23 fice of Energy Efficiency and Renewable Energy.

24 (k) DETAIL OF GOVERNMENT EMPLOYEES.—Any  
25 Federal Government employee may be detailed to the

1 Commission without reimbursement, and such detail shall  
2 be without interruption or loss of civil service status or  
3 privilege.

4 (l) EXECUTIVE DIRECTOR.—The Secretary of En-  
5 ergy shall appoint an officer of the Senior Executive Serv-  
6 ice to serve as Executive Director to the Commission.

7 (m) PROCUREMENT OF TEMPORARY AND INTERMIT-  
8 TENT SERVICES.—The Chairman of the Commission may  
9 procure temporary and intermittent services under section  
10 3109(b) of title 5, United States Code, at rates for individ-  
11 uals which do not exceed the daily equivalent of the annual  
12 rate of basic pay prescribed for level V of the Executive  
13 Schedule under section 5316 of such title.

14 (n) INFORMATION FROM FEDERAL AGENCIES.—The  
15 Commission may secure directly from any Federal depart-  
16 ment or agency such information as the Commission con-  
17 siders necessary to carry out this Act. Upon request of  
18 the Chairman of the Commission, the head of such depart-  
19 ment or agency shall furnish such information to the Com-  
20 mission. The Commission shall maintain the same level of  
21 confidentiality for such information made available under  
22 this subsection as is required of the head of the depart-  
23 ment or agency from which the information was obtained.

24 (o) POSTAL SERVICES.—The Commission may use  
25 the United States mails in the same manner and under

1 the same conditions as other departments and agencies of  
2 the Federal Government.

3 **SEC. 103. GRID ASSESSMENT AND REPORT.**

4 (a) IN GENERAL.—The Grid Modernization Commis-  
5 sion shall undertake, and update on a biannual basis, an  
6 assessment of the progress toward modernizing the elec-  
7 tric system from generation to ultimate electricity con-  
8 sumption, including implementation of “smart grid” tech-  
9 nologies. The Commission shall prepare this assessment  
10 with input from stakeholders including but not limited to  
11 electric utilities, other Federal offices, States, companies  
12 involved in developing related technologies, the National  
13 Electric Reliability Organization recognized by the Federal  
14 Energy Regulatory Commission, electricity customers, and  
15 persons with special related expertise. The assessment  
16 shall include each of the following:

17 (1) An updated inventory of existing smart grid  
18 systems.

19 (2) A description of the condition of existing  
20 grid infrastructure and procedures for determining  
21 the need for new infrastructure.

22 (3) A description of any plans of States, utili-  
23 ties, or others to introduce smart grid systems and  
24 technologies.

1           (4) An assessment of constraints to deployment  
2 of smart grid technology and most important oppor-  
3 tunities for doing so, including the readiness or lack  
4 thereof of enabling technologies.

5           (5) An assessment of remaining potential bene-  
6 fits resulting from introduction of smart grid sys-  
7 tems, including benefits related to demand-side effi-  
8 ciencies, improved reliability, improved security, re-  
9 duced prices, and improved integration of renewable  
10 resources.

11          (6) Recommendations for legislative or regu-  
12 latory changes to remove barriers to and create in-  
13 centives for smart grid system implementation and  
14 to meet the policy goals of this title.

15          (7) An estimate of the potential costs required  
16 for modernization of the electricity grid, with speci-  
17 ficity relative to geographic areas and components of  
18 the grid, together with an assessment of whether the  
19 necessary funds would be available to meet such  
20 costs, and the sources of such funds.

21          (8) An assessment of ancillary benefits to other  
22 economic sectors or activities beyond the electricity  
23 sector, such as potential broadband service over  
24 power lines.

1           (9) An assessment of technologies, activities or  
2           opportunities in energy end use devices, customer  
3           premises, buildings, and power generation and stor-  
4           age devices that could accelerate or expand the im-  
5           pact and effectiveness of smart grid advances.

6           (10) An assessment of potential risks to per-  
7           sonal privacy, corporate confidentiality, and grid se-  
8           curity from the spread of smart grid technologies,  
9           and if so what additional measures and policies are  
10          needed to assure privacy and information protection  
11          for electric customers and grid partners, and cyber-  
12          security protection for extended grid systems.

13          (11) An assessment of the readiness of market  
14          forces to drive further implementation and evolution  
15          of “smart grid” technologies in the absence of gov-  
16          ernment leadership.

17          (12) Recommendations to the Secretary of En-  
18          ergy and other Federal officers on actions they  
19          should take to assist.

20          The Commission may request electric utilities to provide  
21          information relating to deployment and planned deploy-  
22          ment of smart grid systems and technologies. At the re-  
23          quest of the utility, the Commission shall maintain the  
24          confidentiality of utility-specific or specific security-related  
25          information. The Commission shall provide opportunities

1 for input and comment by interested persons, including  
2 representatives of electricity consumers, Smart Grid tech-  
3 nology service providers, the electric utility industry, and  
4 State and local government.

5 (b) STATE AND REGIONAL ASSESSMENT AND RE-  
6 PORT.—States or groups of States are encouraged to par-  
7 ticipate in the development of State or region-specific com-  
8 ponents of the assessment and report under subsection  
9 (a). Such State-specific components may address the as-  
10 sessment and reporting criteria above but also may include  
11 but not be limited to any of the following:

12 (1) Assessment of types of security threats to  
13 electricity delivery.

14 (2) Energy assurance and response plans to ad-  
15 dress security threats.

16 (3) Plans for introduction of smart grid sys-  
17 tems and technologies over 3, 5, and 10 year plan-  
18 ning horizons.

19 The Commission may make grants to States that begin  
20 development of a State or Regional Plan within 180 days  
21 after the enactment of this Act to offset up to one-half  
22 of the costs required to develop such plans.

23 (c) SMART GRID REPORT.—Based on its completed  
24 initial assessment under subsection (a), the Commission  
25 shall submit a report to Congress and the President not

1 later than 2 years after the date of enactment of this Act  
2 and subsequent reports every 2 years thereafter. Each re-  
3 port shall include recommendations to the President and  
4 to the Congress on actions necessary to modernize the  
5 electricity grid. The Commission shall annually update  
6 and revise its report and as well as conduct ongoing moni-  
7 toring and evaluation activities.

8 (d) CONSULTATION AND PUBLIC INPUT.—The Com-  
9 mission shall consult with the Secretary of Energy and  
10 the Federal Energy Regulatory Commission on technical  
11 issues associated with advanced electricity grid tech-  
12 nologies. The Commission shall to the extent feasible pro-  
13 vide for broad and frequent input from stakeholders and  
14 the general public

15 (e) INTEROPERABILITY PROTOCOLS AND MODEL  
16 STANDARDS FOR INFORMATION MANAGEMENT.—

17 (1) IN GENERAL.—The Grid Modernization  
18 Commission shall work with Smart Grid stake-  
19 holders to lead towards the earliest feasible develop-  
20 ment of flexible, uniform, and consensus protocols or  
21 model standards for information management among  
22 and interoperability of smart grid devices and sys-  
23 tems. Such protocols and model standards shall  
24 allow such devices to communicate and function over  
25 multiple technologies, including wireless, cable, sat-

1 elite, broadband-over-power line, and telephone.  
2 Such protocols and model standards should align  
3 policy, business, and technology approaches in a way  
4 that enables all electric resources, including demand  
5 side resources, to contribute to an efficient, reliable  
6 electricity network, on an automated basis, as appro-  
7 priate.

8 (2) SCOPE OF PROTOCOLS AND MODEL STAND-  
9 ARDS.—The protocols and model standards shall ac-  
10 commodate centralized and distributed generation,  
11 transmission and distribution resources, including  
12 advanced technologies to improve the efficiency and  
13 reliability of the electric power transmission and dis-  
14 tributions system, renewable generation, energy stor-  
15 age, energy efficiency, and demand response and en-  
16 abling devices and systems.

17 (3) ESTABLISHMENT OF WORKING GROUP.—  
18 Not later than 90 days after the date of enactment  
19 of this Act the Commission shall establish a working  
20 group comprised of electric industry experts, to be  
21 appointed by the Chairman, to assist in developing  
22 the protocols and model standards described in this  
23 subsection and guide the Federal participation in  
24 that process. Members appointed to the working  
25 group shall represent the various sectors of the elec-

1       tricity industry, including sectors relating to the  
2       generation, transmission, distribution and end-user.

3           (4) DEVELOPMENT OF PROTOCOLS AND MODEL  
4       STANDARDS.—In developing the protocols and model  
5       standards, the working group shall consult with ex-  
6       pert groups such as the Gridwise Architecture Coun-  
7       cil, the Institute of Electrical and Electronics Engi-  
8       neers, other electric industry groups, customer and  
9       manufacturer groups, and any appropriate Federal  
10      and State agencies. The proposed protocols and  
11      model standards shall be made available in the pub-  
12      lic domain, except to the extent they may allow or  
13      create threats to grid reliability and security.

14           (5) PROPOSAL FOR PROTOCOLS AND MODEL  
15      STANDARDS.—

16           (A) IN GENERAL.—Not later than 1 year  
17      after the date of enactment of this Act, the  
18      working group shall submit to the Commission  
19      recommendations concerning development of  
20      proposed protocols and model standards and  
21      recommendations for Federal support in the im-  
22      plementation of such protocols and model  
23      standards.

24           (B) REVIEW BY THE COMMISSION.—On re-  
25      ceipt of the recommendations under subpara-

1 graph (A), the Commission shall take such ac-  
2 tion as necessary to encourage the adoption of  
3 the protocols and model standards and their im-  
4 plementation.

5 (C) PUBLICATION OF PROTOCOLS AND  
6 MODEL STANDARDS.—The Commission shall  
7 publish, not later than 3 years after the date of  
8 the enactment of this Act, and every two years  
9 thereafter, a report on the status of interoper-  
10 ability of smart grid technologies, and the avail-  
11 ability of protocols and model standards to  
12 allow such interoperability.

13 (f) AUTHORIZATION OF APPROPRIATIONS.—There  
14 are authorized to be appropriated to carry out the pur-  
15 poses of this section the sum of \$25,000,000 for each of  
16 the fiscal years 2008 through 2012, and such sums as may  
17 be necessary thereafter through fiscal year 2018.

18 **SEC. 104. FEDERAL MATCHING FUND FOR SMART GRID IN-**  
19 **VESTMENT COSTS.**

20 (a) MATCHING FUND.—The Secretary of Energy  
21 shall establish a Smart Grid Investment Matching Grant  
22 Program to provide reimbursement of one-fourth of quali-  
23 fying Smart Grid investments.

1 (b) QUALIFYING INVESTMENTS.—Qualifying Smart  
2 Grid investments may include any of the following made  
3 on or after the date of enactment of this Act:

4 (1) In the case of appliances covered for pur-  
5 poses of establishing energy conservation standards  
6 under part B of title III of the Energy Policy and  
7 Conservation Act of 1975 (42 U.S.C. 6291 and fol-  
8 lowing), the documented expenditures incurred by a  
9 manufacturer of such appliances associated with  
10 purchasing or designing, creating the ability to man-  
11 ufacture, and manufacturing and installing for one  
12 calendar year, internal devices that allow the appli-  
13 ance to engage in Smart Grid functions.

14 (2) In the case of specialized electricity-using  
15 equipment, including motors and drivers, installed in  
16 industrial or commercial applications, the docu-  
17 mented expenditures incurred by its owner or its  
18 manufacturer of installing devices or modifying that  
19 equipment to engage in Smart Grid functions.

20 (3) In the case of transmission and distribution  
21 equipment fitted with monitoring and communica-  
22 tions devices to enable smart grid functions, the docu-  
23 mented expenditures incurred by the electric utility  
24 to purchase and install such monitoring and commu-  
25 nications devices.

1           (4) In the case of metering devices, sensors,  
2           control devices, and other devices integrated with  
3           and attached to an electric utility system that are  
4           capable of engaging in Smart Grid functions, the  
5           documented expenditures incurred by the electric  
6           utility and its customers to purchase and install  
7           such devices.

8           (5) In the case of software that enables devices  
9           or computers to engage in Smart Grid functions, the  
10          documented purchase costs of the software.

11          (6) In the case of entities that operate or co-  
12          ordinate operations of regional electric grids, the  
13          documented expenditures for purchasing and install-  
14          ing such equipment that allows Smart Grid func-  
15          tions to operate and be combined or coordinated  
16          among multiple electric utilities and between that re-  
17          gion and other regions.

18          (7) In the case of persons or entities other than  
19          electric utilities owning and operating a distributed  
20          electricity generator, the documented expenditures of  
21          enabling that generator to be monitored, controlled,  
22          or otherwise integrated into grid operations and elec-  
23          tricity flows on the grid utilizing Smart Grid func-  
24          tions.

1           (8) In the case of electric or hybrid-electric ve-  
2           hicles, the documented expenses for devices that  
3           allow the vehicle to engage in Smart Grid functions.

4           (9) The documented expenditures related to  
5           purchasing and implementing Smart Grid functions  
6           in such other cases as the Secretary of Energy shall  
7           identify. In making such grants, the Secretary shall  
8           seek to reward innovation and early adaptation, even  
9           if success is not complete, rather than deployment of  
10          proven and commercially viable technologies.

11          (c) INVESTMENTS NOT INCLUDED.—Qualifying  
12          Smart Grid investments do not include any of the fol-  
13          lowing:

14           (1) Expenditures for electricity generation,  
15           transmission, or distribution infrastructure or equip-  
16           ment not directly related to enabling Smart Grid  
17           functions.

18           (2) After the effective date of a standard under  
19           paragraph (21) of section 111(d) of the Public Util-  
20           ity Regulatory Policies Act of 1978 (relating to  
21           Smart Grid information), an investment that is not  
22           in compliance with such standard.

23           (3) After the development and publication by  
24           the Commission of protocols and model standards  
25           for interoperability of smart grid devices and tech-

1 nologies, an investment that fails to incorporate any  
2 of such protocols or model standards.

3 (4) Expenditures for physical interconnection of  
4 generators or other devices to the grid except those  
5 that are directly related to enabling Smart Grid  
6 functions.

7 (5) Expenditures for ongoing salaries, benefits,  
8 or personnel costs not incurred in the initial installa-  
9 tion, training, or start up of smart grid functions.

10 (6) Expenditures for travel, lodging, meals or  
11 other personal costs.

12 (7) Ongoing or routine operation, billing, cus-  
13 tomer relations, security, and maintenance expendi-  
14 tures.

15 (8) Such other expenditures that the Secretary  
16 of Energy determines not to be Qualifying Smart  
17 Grid Investments by reason of the lack of the ability  
18 to perform smart grid functions or lack of direct re-  
19 lationship to smart grid functions.

20 (d) SMART GRID FUNCTIONS.—The term “smart  
21 grid functions” means any of the following:

22 (1) The ability to develop, store, send and re-  
23 ceive digital information concerning electricity use,  
24 costs, prices, time of use, nature of use, storage, or  
25 other information relevant to device, grid, or utility

1 operations, to or from or by means of the electric  
2 utility system, through one or a combination of de-  
3 vices and technologies.

4 (2) The ability to develop, store, send and re-  
5 ceive digital information concerning electricity use,  
6 costs, prices, time or use, nature of use, storage, or  
7 other information relevant to device, grid, or utility  
8 operations to or from a computer or other control  
9 device.

10 (3) The ability to measure or monitor electricity  
11 use as a function of time of day, power quality char-  
12 acteristics such as voltage level, current, cycles per  
13 second, or source or type of generation and to store,  
14 synthesize or report that information by digital  
15 means.

16 (4) The ability to sense and localize disruptions  
17 or changes in power flows on the grid and commu-  
18 nicate such information instantaneously and auto-  
19 matically for purposes of enabling automatic protec-  
20 tive responses to sustain reliability and security of  
21 grid operations.

22 (5) The ability to detect, prevent, communicate  
23 with regard to, respond to, or recover from system  
24 security threats, including cyber-security threats and

1 terrorism, using digital information, media, and de-  
2 vices.

3 (6) The ability of any appliance or machine to  
4 respond to such signals, measurements, or commu-  
5 nications automatically or in a manner programmed  
6 by its owner or operator without independent human  
7 intervention.

8 (7) The ability to use digital information to op-  
9 erate functionalities on the electric utility grid that  
10 were previously electro-mechanical or manual.

11 (8) The ability to use digital controls to manage  
12 and modify electricity demand, enable congestion  
13 management, assist in voltage control, provide oper-  
14 ating reserves, and provide frequency regulation.

15 (9) Such other functions as the Secretary of  
16 Energy may identify as being necessary or useful to  
17 the operation of a Smart Grid.

18 (e) OFFICE.—The Secretary of Energy shall—

19 (1) establish an Office to administer the Smart  
20 Grid Investment Grant Program, assuring that ex-  
21 pert resources from the Commission on Grid Mod-  
22 ernization, the Office of Energy Distribution and  
23 Electricity Reliability, and the Office of Energy Effi-  
24 ciency and Renewable Energy are fully available to  
25 advise on its administration and actions;

1           (2) appoint a Senior Executive Service officer  
2           to direct the Office, together with such personnel as  
3           are required to administer the Smart Grid Invest-  
4           ment Grant program;

5           (3) establish and publish in the Federal Reg-  
6           ister, within 180 days after the enactment of this  
7           Act procedures by which applicants who have made  
8           qualifying Smart Grid investments can seek and ob-  
9           tain reimbursement of one-fourth of their docu-  
10          mented expenditures;

11          (4) establish procedures to assure that there is  
12          no duplication or multiple reimbursement for the  
13          same investment or costs, that the reimbursement  
14          goes to the party making the actual expenditures for  
15          Qualifying Smart Grid Investments, and that the  
16          grants made have significant effect in encouraging  
17          and facilitating the development of a smart grid;

18          (5) maintain public records of reimbursements  
19          made, recipients, and qualifying Smart Grid invest-  
20          ments which have received reimbursements;

21          (6) establish procedures to provide, in cases  
22          deemed by the Secretary to be warranted, advance  
23          payment of moneys up to the full amount of the pro-  
24          jected eventual reimbursement, to creditworthy ap-  
25          plicants whose ability to make Qualifying Smart

1 Grid Investments may be hindered by lack of initial  
2 capital, in lieu of any later reimbursement for which  
3 that applicant qualifies, and subject to full return of  
4 the advance payment in the event that the Quali-  
5 fying Smart Grid investment is not made;

6 (7) establish procedures to provide, in the event  
7 appropriated moneys in any year are insufficient to  
8 provide reimbursements for qualifying Smart Grid  
9 investments, that such reimbursement would be  
10 made in the next fiscal year or whenever funds are  
11 again sufficient, with the condition that the insuffi-  
12 ciency of funds to reimburse Qualifying Smart Grid  
13 Investments from moneys appropriated for that pur-  
14 pose does not create a Federal obligation to that ap-  
15 plicant; and

16 (8) have and exercise the discretion to deny  
17 grants for investments that do not qualify in the  
18 reasonable judgement of the Secretary.

19 (f) AUTHORIZATION OF APPROPRIATIONS.—There  
20 are authorized to be appropriated to the Secretary of En-  
21 ergy the sums of—

22 (1) \$10,000,000 for each of fiscal years 2008  
23 through 2012 to provide for administration of the  
24 Smart Grid Investment Matching Fund; and

1           (2) \$250,000,000 for fiscal year 2008 and  
2           \$500,000,000 for each of fiscal years 2009 through  
3           2012 to provide reimbursements of one-fourth of  
4           Qualifying Smart Grid Investments.

5 **SEC. 105. SMART GRID TECHNOLOGY DEPLOYMENT.**

6           (a) POWER GRID DIGITAL INFORMATION TECH-  
7 NOLOGY.—The Secretary of Energy shall conduct pro-  
8 grams to—

9           (1) deploy advanced techniques for measuring  
10          peak load reductions and energy efficiency savings  
11          on customer premises from smart metering, demand  
12          response, distributed generation and electricity stor-  
13          age systems;

14          (2) implement means for demand response, dis-  
15          tributed generation, and storage to provide ancillary  
16          services;

17          (3) advance the use of wide-area measurement  
18          networks including data mining, visualization, ad-  
19          vanced computing, and secure and dependable com-  
20          munications in a highly distributed environment; and

21          (4) implement reliability technologies in a grid  
22          control room environment against a representative  
23          set of local outage and wide area blackout scenarios.

24           (b) SMART GRID REGIONAL DEMONSTRATION PRO-  
25 GRAM.—

1           (1) ESTABLISHMENT OF PROGRAM.—The Sec-  
2       retary of Energy shall establish a program of dem-  
3       onstration projects specifically focused on advanced  
4       technologies for power grid sensing, communications,  
5       analysis, and power flow control, including the inte-  
6       gration of demand-side resources into grid manage-  
7       ment. The goals of this program shall be to—

8           (A) demonstrate the potential benefits of  
9       concentrated investments in advanced grid tech-  
10      nologies on a regional grid;

11          (B) facilitate the commercial transition  
12      from the current power transmission and dis-  
13      tribution system technologies to advanced tech-  
14      nologies; and

15          (C) facilitate the integration of advanced  
16      technologies in existing electric networks to im-  
17      prove system performance, power flow control  
18      and reliability.

19       (2) DEMONSTRATION PROJECTS.—The Sec-  
20      retary shall establish Smart Grid demonstration  
21      projects for not more than 5 electric utility systems  
22      of various types and sizes under this subsection.  
23      Such demonstration projects shall be undertaken in  
24      cooperation with the electric utility. Under such  
25      demonstration projects, financial assistance shall be

1 available to cover not more than one-half of the  
2 qualifying Smart Grid technology investments made  
3 by the electric utility. Any project receiving financial  
4 assistance under this section shall not be eligible to  
5 receive financial assistance (including loan guaran-  
6 tees) under any other Federal program.

7 (c) AUTHORIZATION.—

8 (1) POWER GRID DIGITAL INFORMATION TECH-  
9 NOLOGY PROGRAMS.—There are authorized to be ap-  
10 propriated to carry out subsection (a) such sums as  
11 are necessary for each of the fiscal years 2008  
12 through 2012.

13 (2) SMART GRID REGIONAL DEMONSTRATION  
14 PROGRAM.—There is authorized to be appropriated  
15 to carry out subsection (b) \$20,000,000 for each of  
16 the fiscal years 2008 through 2012.

17 **SEC. 106. SMART GRID INFORMATION REQUIREMENTS.**

18 (a) FINDINGS.—Congress finds that Smart Grid  
19 technologies will require, for their optimum use by elec-  
20 tricity consumers, that such consumers have access to in-  
21 formation on prices, use, and other factors in possession  
22 of their utilities or electricity suppliers, in order to assist  
23 the customers in optimizing their electricity use and lim-  
24 iting the associated environmental impacts.

1 (b) DEVELOPMENT OF RULES.—The Commission on  
2 Grid Modernization shall within one year of its initial  
3 meeting develop and declare a standard for the collection,  
4 presentation and delivery of information to electricity pur-  
5 chasers as required by the standard under section  
6 111(d)(21) of the Public Utility Regulatory Policies Act  
7 of 1978. Such standard shall provide purchasers with dif-  
8 ferent access options for such information. Such standard  
9 shall be developed with input from the Secretary of En-  
10 ergy, the Federal Energy Regulatory Commission, the Ad-  
11 ministrator of the Environmental Protection Agency,  
12 States, and stakeholders representing, but not limited to,  
13 electric utilities, energy efficiency and demand response  
14 experts, environmental organizations and consumer orga-  
15 nizations.

16 (c) APPLICATION OF SMART GRID INFORMATION  
17 STANDARD TO FEDERAL ENTITIES AND WHOLESALE  
18 MARKETS.—Within 60 days of the declaration of the  
19 standard under subsection (b), the Federal Energy Regu-  
20 latory Commission shall propose a rule under which all  
21 public utilities, with respect to federally jurisdictional sales  
22 for resale of electricity in interstate commerce, and all ap-  
23 proved regional transmission organizations subject to its  
24 jurisdiction, will implement those elements of the Smart  
25 Grid information standard developed pursuant to this sec-

1 tion that the Commission determines to be relevant and  
2 to add value for purchasers of wholesale power or those  
3 utilizing interstate transmission. The Tennessee Valley  
4 Authority, Bonneville Power Administration, and Federal  
5 power administrations shall, within 90 days of the adop-  
6 tion of a final rule by the Commission, adopt it for their  
7 own sales or transmission of electricity.

8 **SEC. 107. STATE CONSIDERATION OF INCENTIVES FOR**  
9 **SMART GRID.**

10 (a) CONSIDERATION OF ADDITIONAL STANDARDS.—  
11 Section 111(d) of the Public Utility Regulatory Policies  
12 Act of 1978 (16 U.S.C. 2621(d)) is amended by adding  
13 at the end:

14 “(18) UTILITY INVESTMENT IN SMART GRID IN-  
15 VESTMENTS.—Each electric utility shall prior to un-  
16 dertaking investments in non-advanced grid tech-  
17 nologies demonstrate that alternative investments in  
18 advanced grid technologies have been considered, in-  
19 cluding from a standpoint of cost-effectiveness,  
20 where such cost-effectiveness considers costs and  
21 benefits on a life-cycle basis.

22 “(19) UTILITY COST OF SMART GRID INVEST-  
23 MENTS.—Each electric utility shall be permitted  
24 to—

1           “(A) recover from ratepayers the capital  
2           and operating expenditures and other costs of  
3           the utility for qualified smart grid system, in-  
4           cluding a reasonable rate of return on the cap-  
5           ital expenditures of the utility for a qualified  
6           smart grid system, and

7           “(B) recover in a timely manner the re-  
8           maining book-value costs of equipment rendered  
9           obsolete by the deployment of a qualified smart  
10          grid system, based on the remaining depreciable  
11          life of the obsolete equipment.

12          “(20) RATE DESIGN MODIFICATIONS TO PRO-  
13          MOTE ENERGY EFFICIENCY INVESTMENTS.—

14                 “(A) IN GENERAL.—The rates allowed to  
15                 be charged by any electric utility shall—

16                         “(i) align utility incentives with the  
17                         delivery of cost-effective energy efficiency;  
18                         and

19                         “(ii) promote energy efficiency invest-  
20                         ments.

21                 “(B) POLICY OPTIONS.—In complying with  
22                 subparagraph (A), each State regulatory au-  
23                 thority and each nonregulated utility shall con-  
24                 sider—

1           “(i) removing the throughput incen-  
2           tive and other regulatory and management  
3           disincentives to energy efficiency;

4           “(ii) providing utility incentives for  
5           the successful management of energy effi-  
6           ciency programs;

7           “(iii) including the impact on adoption  
8           of energy efficiency as 1 of the goals of re-  
9           tail rate design, recognizing that energy ef-  
10          ficiency must be balanced with other objec-  
11          tives;

12          “(iv) adopting rate designs that en-  
13          courage energy efficiency for each cus-  
14          tomer class; and

15          “(v) allowing timely recovery of en-  
16          ergy efficiency-related costs.

17          “(21) SMART GRID INFORMATION.—

18                 “(A) STANDARD.—All electricity pur-  
19                 chasers shall be provided direct access, both in  
20                 written and electronic machine-readable form,  
21                 to information from their electricity provider as  
22                 provided in subparagraph (B).

23                 “(B) INFORMATION.—Information pro-  
24                 vided under this section shall conform to the  
25                 standardized rules issued by the Commission on

1           Grid Modernization under section 106(b) of the  
2           Smart Grid Facilitation Act of 2007 and shall  
3           include:

4                   “(i) PRICES.—Purchasers and other  
5                   interested persons shall be provided with  
6                   information on—

7                           “(I) time-based electricity prices  
8                           in the wholesale electricity market;  
9                           and

10                           “(II) time-based electricity retail  
11                           prices or rates that are available to  
12                           the purchasers.

13                   “(ii) USAGE.—Purchasers shall be  
14                   provided with the number of electricity  
15                   units, expressed in kwh, purchased by  
16                   them

17                           “(iii) INTERVALS AND PROJEC-  
18                           TIONS.—Updates of information on prices  
19                           and usage shall be offered on not less than  
20                           a daily basis, shall include hourly price and  
21                           use information, where available, and shall  
22                           include a day-ahead projection of such  
23                           price information to the extent available.

24                   “(iv) SOURCES.—Purchasers and  
25                   other interested person shall be provided

1 with written information on the sources of  
2 the power provided by the utility, to the  
3 extent it can be determined, by type of  
4 generation, including greenhouse gas emis-  
5 sions and criteria pollutants associated  
6 each type of generation, for intervals dur-  
7 ing which such information is available on  
8 a cost-effective basis, but not less than  
9 monthly.

10 “(C) ACCESS.—Purchasers shall be able to  
11 access their own information at any time  
12 through the internet and on other means of  
13 communication elected by that utility for Smart  
14 Grid applications. Other interested persons  
15 shall be able to access information not specific  
16 to any purchaser through the Internet. Infor-  
17 mation specific to any purchaser shall be pro-  
18 vided solely to that purchaser.”.

19 (b) RECONSIDERATION OF CERTAIN STANDARDS.—  
20 Section 112 of the Public Utility Regulatory Policies Act  
21 of 1978 (16 U.S.C. 2622) is amended by adding the fol-  
22 lowing at the end thereof:

23 “(g) RECONSIDERATION OF PRIOR TIME-OF-DAY  
24 AND COMMUNICATION STANDARDS.—Not later than 1  
25 year after the enactment of this subsection, each State

1 regulatory authority (with respect to each electric utility  
2 for which it has ratemaking authority) and each nonregu-  
3 lated utility shall commence a reconsideration under sec-  
4 tion 111, or set a hearing date for reconsideration, with  
5 respect to the standards established by paragraphs (3)  
6 and (14) of section 111(d) to take into account Smart  
7 Grid technologies. Not later than 2 years after the date  
8 of the enactment of this subsection, each State regulatory  
9 authority (with respect to each electric utility for which  
10 it has ratemaking authority), and each nonregulated elec-  
11 tric utility, shall complete the reconsideration, and shall  
12 make the determination, referred to in section 111 with  
13 respect to the standards established by paragraphs (3)  
14 and (14) of section 111(d).”.

15 (c) COMPLIANCE.—

16 (1) TIME LIMITATIONS.—Section 112(b) of the  
17 Public Utility Regulatory Policies Act of 1978 (16  
18 U.S.C. 2622(b)) is amended by adding the following  
19 at the end thereof:

20 “(6)(A) Not later than 1 year after the enact-  
21 ment of this paragraph, but not less than 3 years  
22 after the conclusion of any prior review of such  
23 standards, each State regulatory authority (with re-  
24 spect to each electric utility for which it has rate-  
25 making authority) and each nonregulated utility

1 shall commence the consideration referred to in sec-  
2 tion 111, or set a hearing date for consideration,  
3 with respect to the standards established by para-  
4 graphs (18) through (20) of section 111(d). Not  
5 later than 6 months after the promulgation of rules  
6 by the Commission on Grid Modernization under  
7 section 106(b) of the Smart Grid Facilitation Act of  
8 2007, each State regulatory authority (with respect  
9 to each electric utility for which it has ratemaking  
10 authority) and each nonregulated utility shall com-  
11 mence the consideration referred to in section 111,  
12 or set a hearing date for consideration, with respect  
13 to the standard established by paragraph (21) of  
14 section 111(d).

15 “(B) Not later than 2 years after the date of  
16 the enactment of the this paragraph, but not less  
17 than 4 years after the conclusion of any prior review  
18 of such standard, each State regulatory authority  
19 (with respect to each electric utility for which it has  
20 ratemaking authority), and each nonregulated elec-  
21 tric utility, shall complete the consideration, and  
22 shall make the determination, referred to in section  
23 111 with respect to each standard established by  
24 paragraphs (18) through (20) of section 111(d). Not  
25 later than 18 months after the promulgation of rules

1 by the Commission on Grid Modernization under  
2 section 106(b) of the Smart Grid Facilitation Act of  
3 2007 each State regulatory authority (with respect  
4 to each electric utility for which it has ratemaking  
5 authority), and each nonregulated electric utility,  
6 shall complete the consideration, and shall make the  
7 determination, referred to in section 111 with re-  
8 spect to each standard established by paragraph  
9 (21) of section 111(d).”.

10 (2) FAILURE TO COMPLY.—Section 112(c) of  
11 such Act is amended by adding the following at the  
12 end: “In the case of the standards established by  
13 paragraphs (18) through (21) of section 111(d), the  
14 reference contained in this subsection to the date of  
15 enactment of this Act shall be deemed to be a ref-  
16 erence to the date of enactment of such para-  
17 graphs.”.

18 (3) PRIOR STATE ACTIONS.—Section 112(d) of  
19 such Act is amended by inserting “and paragraphs  
20 (18) through (20)” before “of such 111(d)”.

21 **SEC. 108. DOE STUDY OF SECURITY ATTRIBUTES OF SMART**  
22 **GRID SYSTEMS.**

23 (a) DOE STUDY.—The Secretary of Energy shall,  
24 within 6 months after the Grid Modernization Commission  
25 completes its first biennial assessment and report under

1 section 103 of the Smart Grid Facilitation Act of 2007,  
2 submit a report to Congress that provides a quantitative  
3 assessment and determination of the existing and poten-  
4 tial impacts of the deployment of Smart Grid systems on  
5 improving the security of the Nation's electricity infra-  
6 structure and operating capability. The report shall in-  
7 clude but not be limited to specific recommendations on  
8 each of the following:

9 (1) How smart grid systems can help in making  
10 the Nation's electricity system less vulnerable to dis-  
11 ruptions due to intentional acts against the system.

12 (2) How smart grid systems can help in restor-  
13 ing the integrity of the Nation's electricity system  
14 subsequent to disruptions.

15 (3) How smart grid systems can facilitate emer-  
16 gency communications and control of the Nation's  
17 electricity system during times of localized or nation-  
18 wide emergency.

19 (b) CONSULTATION.—The Secretary shall consult  
20 with other Federal agencies in the development of the re-  
21 port under this section, including but not limited to the  
22 Secretary of Homeland Security, the Federal Energy Reg-  
23 ulatory Commission and the Electric Reliability Organiza-  
24 tion certified by the Commission under section 215(c) of  
25 the Federal Power Act (16 U.S.C. 824 o) as added by

1 section 1211 of the Energy Policy Act of 2005 (Public  
2 Law 109–58; 119 Stat. 941)

3 (c) FUNDING.—The Secretary shall fund demonstra-  
4 tion projects for the purpose of demonstrating the findings  
5 of the report under this section. Not more than  
6 \$10,000,000 are authorized to be appropriated for such  
7 projects.

## 8 **Subtitle B—Demand Response**

### 9 **SEC. 111. ELECTRICITY SECTOR DEMAND RESPONSE.**

10 (a) AMENDMENT OF NECPA.—Title V of the Na-  
11 tional Energy Conservation Policy Act (42 U.S.C. 8201  
12 and following) is amended by adding the following new  
13 part at the end thereof:

#### 14 **“PART 5—PEAK DEMAND REDUCTION**

##### 15 **“SEC. 571. DEFINITIONS.**

16 “(a) SECRETARY.—As used in this part, the term  
17 ‘Secretary’ means the Secretary of Energy.

18 “(b) FEDERAL AGENCY.—As used in this part, the  
19 term ‘Federal agency’ has the same meaning as provided  
20 by section 551 of this Act.

##### 21 **“SEC. 572. FEDERAL ELECTRICITY PEAK DEMAND REDUC-** 22 **TION STANDARD.**

23 “(a) 2008 AGENCY ANNUAL ENERGY PLAN.—Each  
24 Federal agency shall prepare, and include in its annual

1 report under section 548(a) of this Act, each of the fol-  
 2 lowing:

3 “(1) A determination of the agency’s aggregate  
 4 electricity demand during the system peak hours for  
 5 the utilities providing electricity service to its facili-  
 6 ties during 2006 and 2007.

7 “(2) A forecast for each year through 2018 of  
 8 the projected growth in such peak demand in light  
 9 of projected growth of facilities, staff, activities, elec-  
 10 tric intensity of activities, and other relevant factors.

11 “(b) FEDERAL ELECTRICITY PEAK DEMAND REDUC-  
 12 TION STANDARD.—

13 “(1) IN GENERAL.—Except as provided in para-  
 14 graph (2), for calendar year 2009 and each calendar  
 15 year thereafter, each Federal agency shall reduce its  
 16 aggregate peak electricity demand or make such  
 17 amounts of electricity demand available in the form  
 18 of demand response, by the percentage amount spec-  
 19 ified in the Federal Electricity Peak Demand Reduc-  
 20 tion Standard set forth in the following table:

**“Federal Electricity Peak Demand Reduction Standard**

<b>Calendar Year</b>	<b>Reduction of Peak Demand Forecast</b>
2009 .....	2 percent of the peak demand forecast for cal- endar year 2009
2010 .....	4 percent of the peak demand forecast for cal- endar year 2010
2011 .....	6 percent of the peak demand forecast for cal- endar year 2011

**“Federal Electricity Peak Demand Reduction Standard—**  
Continued

<b>Calendar Year</b>	<b>Reduction of Peak Demand Forecast</b>
2012 .....	8 percent of the peak demand forecast for calendar year 2012
2013 .....	10 percent of the peak demand forecast for calendar year 2013
2014 .....	12 percent of the peak demand forecast for calendar year 2014
2015 .....	14 percent of the peak demand forecast for calendar year 2015
2016 .....	16 percent of the peak demand forecast for calendar year 2016
2017 .....	18 percent of the peak demand forecast for calendar year 2017
2018 and each calendar year thereafter.	20 percent of the peak demand forecast for the applicable calendar year

1       In the table above, the term ‘forecast’ refers to the  
2       forecast set forth in the 2008 report under section  
3       548(a) of this Act as updated in accordance with  
4       subsection in (c)(1)(C).

5               “(2) EXCEPTION.—The standard under this  
6       subsection shall not apply to any activity of a Fed-  
7       eral agency relating to defense or national security  
8       if compliance with the standard would have an ad-  
9       verse mission impact on the activity, as determined  
10       by the Secretary of Defense or the Secretary of  
11       Homeland Security.

12       “(c) IMPLEMENTATION OF STANDARD.—

13               “(1) IN GENERAL.—Not later than January 1,  
14       2010, and each calendar year thereafter, each Fed-  
15       eral agency shall include in the annual energy plan  
16       of the Federal agency each of the following:

1           “(A) An assessment of whether the Fed-  
2           eral agency was in compliance with the stand-  
3           ard under subsection (b) for the preceding year.

4           “(B) A description of—

5                   “(i) the method by which the Federal  
6                   agency proposes to comply with the stand-  
7                   ard for the following calendar year;

8                   “(ii) the factors relied on by the head  
9                   of the Federal agency in determining  
10                  whether to participate in demand response  
11                  programs offered by an electric utility or  
12                  others during the preceding calendar year;  
13                  and

14                  “(iii) if the Federal agency did not  
15                  participate in a demand response program  
16                  offered by each utility providing electric  
17                  service to facilities of the agency during  
18                  the preceding calendar year, an expla-  
19                  nation for the decision by the head of the  
20                  Federal agency to not participate.

21           “(C) An update of the agency’s prior fore-  
22           cast for the remaining years in the period until  
23           2018.

24           “(2) AVAILABILITY TO PUBLIC.—Not later than  
25           January 1, 2010, and each calendar year thereafter,

1 the head of each Federal agency shall make available  
2 to the public a description of each provision included  
3 in the annual energy plan of the Federal agency de-  
4 scribed in subparagraphs (A) through (C) of para-  
5 graph (1).

6 “(d) MODIFICATIONS TO FEDERAL ENERGY MAN-  
7 AGEMENT PROGRAM.—The Secretary shall make any  
8 modification to the Federal Energy Management Program  
9 of the Department of Energy that the Secretary deter-  
10 mines to be necessary to—

11 “(1) incorporate the standard established under  
12 subsection (b) into the Federal Energy Management  
13 Program;

14 “(2) assist any Federal agency to comply with  
15 the standard established under subsection (b)  
16 through any appropriate means, including con-  
17 ducting 1 or more demonstration projects at Federal  
18 facilities.

19 “(e) ANNUAL REPORT.—Not later than March 1,  
20 2010, and annually thereafter, the Secretary shall submit  
21 to Congress a report that evaluates the success of agencies  
22 in meeting the standard established under subsection (b)  
23 and the success of the Federal Energy Management Pro-  
24 gram in assisting agencies with meeting the standard, and  
25 the costs and benefits of such participation.

1 **“SEC. 573. NATIONAL ACTION PLAN FOR DEMAND RE-**  
2 **SPONSE.**

3 “(a) NATIONAL ASSESSMENT AND REPORT.—The  
4 Grid Modernization Commission established under subtitle  
5 A of the Smart Grid Facilitation Act of 2007 shall conduct  
6 a National Assessment of Demand Response. The Com-  
7 mission shall, within 18 months of the date on which the  
8 full Commission first meets, submit a Report to Congress  
9 that includes each of the following:

10 “(1) Estimation of nationwide demand response  
11 potential in 5 and 10 year horizons, including data  
12 on a State-by-State basis, and a methodology for up-  
13 dates of such estimates on an annual basis.

14 “(2) Estimation of how much of this potential  
15 can be achieved within 5 and 10 years after the en-  
16 actment of this Act accompanied by specific policy  
17 recommendations that if implemented can achieve  
18 the estimated potential. Such recommendations shall  
19 include options for funding and/or incentives for the  
20 development of demand response resources. The  
21 Commission shall seek to take advantage of pre-  
22 existing research and ongoing work, and shall as-  
23 sume that there is no duplication of effort. The  
24 Commission shall further note any barriers to de-  
25 mand response programs that are flexible , non-dis-  
26 criminatory, and fairly compensatory for the services

1 and benefits made available and shall provide rec-  
2 ommendations for overcoming such barriers.

3 “(b) NATIONAL ACTION PLAN ON DEMAND RE-  
4 SPONSE.—The Grid Modernization Commission shall fur-  
5 ther develop and implement a National Action Plan on De-  
6 mand Response. Such Plan shall be completed within one  
7 year after the completion of the National Assessment of  
8 Demand Response, and shall meet each of the following  
9 objectives:

10 “(1) Provision of adequate technical assistance  
11 to States to allow them to maximize the amount of  
12 demand response resources that can be developed  
13 and deployed.

14 “(2) Implementation of a national communica-  
15 tions program that includes broad-based customer  
16 education and support.

17 “(3) Development and dissemination of tools,  
18 information and other support mechanisms for use  
19 by customers, states, utilities and demand response  
20 providers.

21 “(c) AUTHORIZATION.—There are authorized to be  
22 appropriated to carry out this section not more than  
23 \$10,000,000 for each of the fiscal years 2008 and 2009  
24 and \$20,000,000 for each of the fiscal years 2010 through  
25 2020.



1 Agency, including the Energy Star Program, will in-  
2 corporate and encourage end-use efficiency, demand  
3 response and ‘smart grid’ systems and technologies,  
4 including but not limited to each of the following:

5 “(A) Requirements that appliances and  
6 other equipment are capable of manually and  
7 automatically receiving and acting upon pricing  
8 and control information and or instructions pro-  
9 vided by the customer, a load serving entity or  
10 a third-party designated by the customer.

11 “(B) Requirements for time-based valu-  
12 ation of kilowatt hour reductions in planning  
13 and evaluation of energy efficiency programs.

14 “(C) Education and communication, in-  
15 cluding to state energy officials and state regu-  
16 lators, that build awareness of demand response  
17 and smart grid systems and technologies and  
18 their existing and potential relationship to such  
19 Agency programs.

20 “(b) FUNDING.—There are authorized to be appro-  
21 priated to carry out this section for fiscal year 2010, to  
22 remain available until expended.”.

23 (b) TABLE OF CONTENTS.—The table of contents for  
24 such Act is amended by adding the following after the  
25 items relating to part 4 of title V:

“PART 5—PEAK DEMAND REDUCTION

“Sec. 571. Definitions.

“Sec. 572. Federal Electricity Peak Demand Reduction Standard.

“Sec. 573. National action plan for demand response.

“Sec. 574. Study of environmental attributes and impacts of demand response  
and smart grid systems.”.

