

**AMENDMENT OFFERED BY MR. WELCH OF  
VERMONT  
TO THE AMENDMENT IN THE NATURE OF A  
SUBSTITUTE FOR H.R. 8**

In subtitle A of title IV, add at the end the following new chapter:

1       **CHAPTER 8—AMERICAN RENEWABLE**  
2                   **ENERGY AND EFFICIENCY**

3   **SEC. 4181. SHORT TITLE.**

4       This chapter may be cited as the “American Renew-  
5 able Energy and Efficiency Act”.

6   **SEC. 4182. FEDERAL RENEWABLE ELECTRICITY STANDARD.**

7       Title VI of the Public Utility Regulatory Policies Act  
8 of 1978 (16 U.S.C. 2601 et seq.) is amended by adding  
9 after section 609 (7 U.S.C. 918c) the following:

10 **“SEC. 610. FEDERAL RENEWABLE ELECTRICITY STANDARD.**

11       “(a) FINDINGS.—Congress finds that—

12               “(1) the Federal renewable electricity standard  
13 established by this section establishes a market-  
14 based policy to create ongoing competition among  
15 renewable electricity generators across the United  
16 States and provide the greatest quantity of clean  
17 electricity for the lowest price; and

1           “(2) the United States has vast wind, solar, hy-  
2           dropower, biomass, and geothermal resources that—

3                   “(A) are renewable;

4                   “(B) are dispersed widely across different  
5           regions of the United States; and

6                   “(C) can be harnessed to generate a sig-  
7           nificant share of electricity in the United  
8           States.

9           “(b) DEFINITIONS.—In this section:

10           “(1) BROWNFIELD SITE GENERATION FACIL-  
11           ITY.—The term ‘brownfield site generation facility’  
12           means a facility that—

13                   “(A) generates renewable electricity; and

14                   “(B) occupies a brownfield site (as that  
15           term is defined in section 101 of the Com-  
16           prehensive Environmental Response, Compensa-  
17           tion, and Liability Act of 1980 (42 U.S.C.  
18           9601)).

19           “(2) DISTRIBUTED RENEWABLE GENERATION  
20           FACILITY.—The term ‘distributed renewable genera-  
21           tion facility’ means a facility that—

22                   “(A) generates renewable electricity;

23                   “(B) primarily serves one or more electric  
24           consumers at or near the facility site; and

1           “(C) has not more than 2 megawatts in  
2           capacity.

3           “(3) FEDERAL RENEWABLE ELECTRICITY  
4           CREDIT.—The term ‘Federal renewable electricity  
5           credit’ means a credit, representing 1 megawatt  
6           hour of renewable electricity, issued pursuant to sub-  
7           section (f).

8           “(4) INDIAN LAND.—The term ‘Indian land’  
9           means—

10           “(A) any land within the limits of any In-  
11           dian reservation, pueblo, or rancharia;

12           “(B) any land not within the limits of any  
13           Indian reservation, pueblo, or rancharia, title to  
14           which was on the date of enactment of this sec-  
15           tion held by—

16           “(i) the United States for the benefit  
17           of any Indian tribe or individual; or

18           “(ii) any Indian tribe or individual  
19           subject to restriction by the United States  
20           against alienation;

21           “(C) any dependent Indian community; or

22           “(D) any land conveyed under the Alaska  
23           Native Claims Settlement Act (43 U.S.C. 1601  
24           et seq.) to any Native Corporation (as that

1 term is defined in section 3 of that Act (43  
2 U.S.C. 1602)).

3 “(5) INDIAN TRIBE.—The term ‘Indian tribe’  
4 means any Indian tribe, band, nation, or other orga-  
5 nized group or community (including any Native vil-  
6 lage, Regional Corporation, or Village Corporation  
7 (as those terms are defined in section 3 of the Alas-  
8 ka Native Claims Settlement Act (43 U.S.C. 1602)))  
9 that is recognized as eligible for the special pro-  
10 grams and services provided by the United States to  
11 Indians because of their status as Indians.

12 “(6) QUALIFIED HYDROPOWER.—The term  
13 ‘qualified hydropower’ means—

14 “(A) energy produced from increased effi-  
15 ciency achieved, or additions of capacity made,  
16 on or after January 1, 2001, at a hydroelectric  
17 facility that—

18 “(i) was placed in service before that  
19 date; and

20 “(ii) does not include additional en-  
21 ergy generated as a result of operational  
22 changes not directly associated with effi-  
23 ciency improvements or capacity additions;  
24 or

1           “(B) energy produced from generating ca-  
2           capacity added to a dam on or after January 1,  
3           2001, if the Commission certifies that—

4                   “(i) the dam—

5                           “(I) was placed in service before  
6                           the date of enactment of this section;

7                           “(II) was operated for flood con-  
8                           trol, navigation, or water supply pur-  
9                           poses; and

10                          “(III) was not producing hydro-  
11                          electric power prior to the addition of  
12                          the capacity; and

13                          “(ii) the hydroelectric project installed  
14                          on the dam—

15                                  “(I) is licensed or is exempt from  
16                                  licensing by the Commission;

17                                  “(II) is in compliance with—

18    “(aa) the terms and condi-  
19    tions of the license or exemption;  
20    and

21    “(bb) other applicable legal  
22    requirements for the protection  
23    of environmental quality, includ-  
24    ing applicable fish passage re-  
25    quirements; and

1                   “(III) is operated so that the  
2                   water surface elevation at any given  
3                   location and time that would have oc-  
4                   curred in the absence of the hydro-  
5                   electric project is maintained, subject  
6                   to any license or exemption require-  
7                   ments that require changes in water  
8                   surface elevation for the purpose of  
9                   improving the environmental quality  
10                  of the affected waterway.

11                 “(7) QUALIFIED RENEWABLE BIOMASS.—The  
12                 term ‘qualified renewable biomass’ means renewable  
13                 biomass that, when combusted, yields, on a weight-  
14                 ed-average basis, a 50-percent reduction in lifecycle  
15                 greenhouse gas emissions (as defined in section  
16                 4154(a) of the North American Energy Security and  
17                 Infrastructure Act of 2015) per unit of useful en-  
18                 ergy, as compared to the operation of a combined  
19                 cycle natural gas electric generating facility using  
20                 the most efficient commercially available technology,  
21                 when calculated over a 20-year life cycle.

22                 “(8) RENEWABLE BIOMASS.—The term ‘renew-  
23                 able biomass’ means—

1           “(A) crops, crop byproducts, or crop resi-  
2           dues harvested from actively managed or fallow  
3           agricultural land that is—

4                   “(i) nonforested; and

5                   “(ii) cleared prior to the date of en-  
6           actment of this section;

7           “(B) planted trees, brush, slash, and all  
8           residues from an actively managed tree farm lo-  
9           cated on non-Federal land cleared prior to the  
10          date of enactment of this section;

11          “(C) precommercial-sized thinnings, slash,  
12          brush, and residue from milled trees, from for-  
13          ested land that is not—

14                   “(i) old-growth or mature forest;

15                   “(ii) identified under a State natural  
16          heritage program as rare, imperiled, or  
17          critically imperiled; or

18                   “(iii) Federal land;

19          “(D) algae;

20          “(E) nonhazardous plant matter derived  
21          from waste—

22                   “(i) including separated yard waste,  
23          landscape right-of-way trimmings, or food  
24          waste; but

1           “(ii) not including municipal solid  
2           waste, recyclable waste paper, painted,  
3           treated or pressurized wood, or wood con-  
4           taminated with plastic or metals;

5           “(F) animal waste or animal byproducts,  
6           including products of animal waste digesters;

7           “(G) vegetative matter removed from with-  
8           in 200 yards of any manmade structure or  
9           campground;

10          “(H) slash and precommercial-sized  
11          thinnings harvested—

12                 “(i) in environmentally sustainable  
13                 quantities, as determined by the appro-  
14                 priate Federal land manager; and

15                 “(ii) from National Forest System  
16                 land or public lands (as defined in section  
17                 103 of the Federal Land Policy and Man-  
18                 agement Act of 1976 (43 U.S.C. 1702)),  
19                 other than—

20                         “(I) components of the National  
21                         Wilderness Preservation System es-  
22                         tablished under the Wilderness Act  
23                         (16 U.S.C. 1131 et seq.);



1                   “(II) Wilderness Study Areas, as  
2                   identified by the Bureau of Land  
3                   Management;

4                   “(III) inventoried roadless areas  
5                   and all unroaded areas of at least  
6                   5,000 acres;

7                   “(IV) old growth and late seral  
8                   stands;

9                   “(V) components of the National  
10                  Landscape Conservation System ad-  
11                  ministered by the Bureau of Land  
12                  Management; and

13                  “(VI) national monuments; and

14                  “(I) forest thinnings sourced as part of  
15                  catastrophic wildfire risk mitigation activities.

16                  “(9) RENEWABLE ELECTRICITY.—The term ‘re-  
17                  newable electricity’ means electricity generated (in-  
18                  cluding by means of a fuel cell) from a renewable en-  
19                  ergy resource.

20                  “(10) RENEWABLE ENERGY RESOURCE.—The  
21                  term ‘renewable energy resource’ means each of the  
22                  following:

23                         “(A) Wind energy.

24                         “(B) Solar energy.

25                         “(C) Geothermal energy.

1 “(D) Qualified renewable biomass.

2 “(E) Biogas derived from qualified renew-  
3 able biomass.

4 “(F) Biofuels derived from qualified re-  
5 newable biomass.

6 “(G) Qualified hydropower.

7 “(H) Marine and hydrokinetic renewable  
8 energy (as defined in section 632 of the Energy  
9 Independence and Security Act of 2007 (42  
10 U.S.C. 17211)).

11 “(I) Landfill gas.

12 “(11) RETAIL ELECTRIC SUPPLIER.—

13 “(A) IN GENERAL.—The term ‘retail elec-  
14 tric supplier’ means, for any calendar year, an  
15 electric utility that sells not fewer than  
16 1,000,000 megawatt hours of electric energy to  
17 electric consumers for purposes other than re-  
18 sale during the preceding calendar year.

19 “(B) INCLUSIONS AND LIMITATIONS.—For  
20 purposes of determining whether an electric  
21 utility qualifies as a retail electric supplier  
22 under subparagraph (A)—

23 “(i) the sales made by any affiliate of  
24 the electric utility to electric consumers,  
25 other than sales to lessees or tenants of

1 the affiliate, for purposes other than resale  
2 shall be considered to be sales made by the  
3 electric utility; and

4 “(ii) sales made by the electric utility  
5 to an affiliate, lessee, or tenant of the elec-  
6 tric utility shall not be treated as sales to  
7 electric consumers.

8 “(C) AFFILIATE.—In this paragraph, the  
9 term ‘affiliate’ when used in relation to a per-  
10 son, means another person that directly or indi-  
11 rectly owns or controls, is owned or controlled  
12 by, or is under common ownership or control  
13 with, that person, as determined under regula-  
14 tions promulgated by the Commission.

15 “(12) RETAIL ELECTRIC SUPPLIER’S BASE  
16 QUANTITY.—The term ‘retail electric supplier’s base  
17 quantity’ means the total quantity of electric energy  
18 sold by the retail electric supplier, expressed in  
19 megawatt hours, to electric customers for purposes  
20 other than resale during the relevant calendar year,  
21 excluding—

22 “(A) electricity generated by a hydro-  
23 electric facility, other than qualified hydro-  
24 power; and

1           “(B) electricity generated by the combus-  
2           tion of municipal solid waste.

3           “(13) RETIRE AND RETIREMENT.—The terms  
4           ‘retire’ and ‘retirement’ with respect to a Federal re-  
5           newable electricity credit, mean to disqualify the  
6           credit for any subsequent use under this section, re-  
7           gardless of whether the use is a sale, transfer, ex-  
8           change, or submission in satisfaction of a compliance  
9           obligation.

10          “(c) ANNUAL COMPLIANCE OBLIGATION.—Except as  
11         otherwise provided in subsection (g), for each of calendar  
12         years 2017 through 2040, not later than March 31 of the  
13         following calendar year, each retail electric supplier shall  
14         submit to the Commission a quantity of Federal renewable  
15         electricity credits that is equal to at least the annual tar-  
16         get of the retail electric supplier under subsection (e).

17          “(d) ESTABLISHMENT OF PROGRAM.—

18                 “(1) IN GENERAL.—Not later than 1 year after  
19                 the date of enactment of this section, the Commis-  
20                 sion shall promulgate regulations to implement and  
21                 enforce the requirements of this section.

22                 “(2) CONSIDERATIONS.—In promulgating regu-  
23                 lations under paragraph (1), the Commission shall,  
24                 to the maximum extent practicable—

1           “(A) preserve the integrity and incorporate  
2           best practices of existing State and tribal re-  
3           newable electricity programs;

4           “(B) rely on existing and emerging State,  
5           tribal, or regional tracking systems that issue  
6           and track non-Federal renewable electricity  
7           credits; and

8           “(C) cooperate with States and Indian  
9           tribes—

10           “(i) to facilitate coordination between  
11           State, tribal, and Federal renewable elec-  
12           tricity programs; and

13           “(ii) to minimize administrative bur-  
14           dens and costs to retail electric suppliers.

15           “(e) ANNUAL COMPLIANCE REQUIREMENT.—

16           “(1) ANNUAL TARGETS.—For each of calendar  
17           years 2017 through 2040, the annual target of a re-  
18           tail electric supplier shall be equal to the product ob-  
19           tained by multiplying—

20           “(A) the required annual percentage for  
21           that calendar year under paragraph (2); and

22           “(B) the retail electric supplier’s base  
23           quantity for that calendar year.

24           “(2) REQUIRED ANNUAL PERCENTAGE.—

1                   “(A) CALENDAR YEARS 2017 THROUGH  
 2                   2040.—Subject to subparagraph (B), for each of  
 3                   calendar years 2017 through 2040, the required  
 4                   annual percentage shall be as follows:

| <b>“Year:</b>   | <b>Required annual<br/>percentage:</b> |
|-----------------|--|
| 2017 .....      | 8.5                                    |
| 2018 .....      | 9.5                                    |
| 2019 .....      | 10.5                                   |
| 2020 .....      | 12.0                                   |
| 2021 .....      | 13.5                                   |
| 2022 .....      | 15.0                                   |
| 2023 .....      | 16.5                                   |
| 2024 .....      | 18.0                                   |
| 2025 .....      | 20.0                                   |
| 2026 .....      | 22.0                                   |
| 2027 .....      | 24.0                                   |
| 2028 .....      | 26.0                                   |
| 2029 .....      | 28.0                                   |
| 2030-2040 ..... | 30.0                                   |

5                   “(B) INCREASE AUTHORIZED FOR CAL-  
 6                   ENDAR YEARS 2031 THROUGH 2040.—The Com-  
 7                   mission may issue orders increasing the re-  
 8                   quired annual percentage amounts for each of  
 9                   calendar years 2031 through 2040 to reflect the  
 10                  maximum achievable level of renewable elec-  
 11                  tricity generation potential, taking into account  
 12                  regional resource availability, economic feasi-  
 13                  bility, and technological capability.

14                  “(f) FEDERAL RENEWABLE ELECTRICITY CRED-  
 15                  ITS.—

16                  “(1) IN GENERAL.—

17                                 “(A)                 ISSUANCE;                 TRACKING;  
 18                                 VERIFICATION.—The regulations promulgated

1 under this section shall include provisions gov-  
2 erning the issuance, tracking, and verification  
3 of Federal renewable electricity credits.

4 “(B) CREDIT RATIO.—Except as provided  
5 in paragraphs (2) through (4), the Commission  
6 shall issue to each generator of renewable elec-  
7 tricity, 1 Federal renewable electricity credit for  
8 each megawatt hour of renewable electricity  
9 generated by the generator after December 31,  
10 2016.

11 “(C) SERIAL NUMBER.—The Commission  
12 shall assign a unique serial number to each  
13 Federal renewable electricity credit.

14 “(2) GENERATION FROM CERTAIN STATE RE-  
15 NEWABLE ELECTRICITY PROGRAMS.—

16 “(A) IN GENERAL.—If renewable elec-  
17 tricity is generated with the support of pay-  
18 ments from a retail electric supplier pursuant  
19 to a State renewable electricity program  
20 (whether through State alternative compliance  
21 payments or through payments to a State re-  
22 newable electricity procurement fund or entity),  
23 the Commission shall issue Federal renewable  
24 electricity credits to the retail electric supplier  
25 for the portion of the relevant renewable elec-

1           tricity generation that is attributable to pay-  
2           ments made by the retail electric supplier, as  
3           determined pursuant to regulations promul-  
4           gated by the Commission.

5           “(B) REMAINING PORTION.—For any re-  
6           maining portion of the relevant renewable elec-  
7           tricity generation, the Commission shall issue  
8           Federal renewable electricity credits to the gen-  
9           erator, as provided in paragraph (1), except  
10          that not more than 1 Federal renewable elec-  
11          tricity credit shall be issued for the same mega-  
12          watt hour of electricity.

13          “(C) STATE GUIDANCE.—In determining  
14          how Federal renewable electricity credits will be  
15          apportioned among retail electric suppliers and  
16          generators under this paragraph, the Commis-  
17          sion shall consider information and guidance  
18          issued by the applicable one or more States.

19          “(3) CERTAIN POWER SALES CONTRACTS.—Ex-  
20          cept as otherwise provided in paragraph (2), if a  
21          generator has sold renewable electricity to a retail  
22          electric supplier under a contract for power from a  
23          facility placed in service before the date of enact-  
24          ment of this section, and the contract does not pro-  
25          vide for the determination of ownership of the Fed-



1       eral renewable electricity credits associated with the  
2       generation, the Commission shall issue the Federal  
3       renewable electricity credits to the retail electric sup-  
4       plier for the duration of the contract.

5           “(4) CREDIT MULTIPLIERS.—

6           “(A) IN GENERAL.—Except as provided in  
7       subparagraph (B), the Commission shall  
8       issue—

9           “(i) not more than 3 Federal renew-  
10       able electricity credits for each megawatt  
11       hour of renewable electricity generated by  
12       a distributed renewable generation facility;

13           “(ii) not more than 2 Federal renew-  
14       able electricity credits for each megawatt  
15       hour of renewable electricity generated on  
16       Indian land; and

17           “(iii) not more than 2 Federal renew-  
18       able electricity credits for each megawatt  
19       hour of renewable electricity generated by  
20       a brownfield site generation facility.

21           “(B) ADJUSTMENT.—Except as provided  
22       in subparagraph (C), not later than January 1,  
23       2019, and not less frequently than every 4  
24       years thereafter, the Commission shall review  
25       the effect of this paragraph on the aggregate

1 quantity of renewable electricity produced under  
2 the standard and shall, as necessary and after  
3 providing 1 year of notice, reduce the number  
4 of Federal renewable electricity credits per  
5 megawatt hour issued under this paragraph for  
6 any given energy source or facility, but not  
7 below one, to ensure that the number is no  
8 higher than the Commission determines is nec-  
9 essary—

10 “(i) to incentivize incremental renew-  
11 able energy generation on Indian land and  
12 brownfield sites; and

13 “(ii) to make distributed renewable  
14 generation facilities cost competitive with  
15 other sources of renewable electricity gen-  
16 eration.

17 “(C) FACILITIES PLACED IN SERVICE  
18 AFTER ENACTMENT.—

19 “(i) IN GENERAL.—For any renewable  
20 generation facility placed in service after  
21 the date of enactment of this section, sub-  
22 paragraph (B) shall not apply for the first  
23 10 years after the date on which the facil-  
24 ity is placed in service.

1           “(ii) INITIAL PERIOD.—For each year  
2           during the 10-year period described in  
3           clause (i), the Commission shall issue to  
4           the facility the same number of Federal re-  
5           newable electricity credits per megawatt  
6           hour as are issued to that facility in the  
7           year in which the facility is placed in serv-  
8           ice.

9           “(iii) SUBSEQUENT PERIOD.—After  
10          the 10-year period described in clause (i),  
11          the Commission shall issue Federal renew-  
12          able electricity credits to the facility in ac-  
13          cordance with subparagraph (B).

14          “(5) CREDITS BASED ON QUALIFIED HYDRO-  
15          POWER.—For purposes of this subsection, the num-  
16          ber of Federal renewable electricity credits issued for  
17          qualified hydropower shall be calculated—

18                 “(A) based solely on the increase in aver-  
19                 age annual generation directly resulting from  
20                 the efficiency improvements or capacity addi-  
21                 tions described in subsection (b)(6)(A); and

22                 “(B) using the same water flow informa-  
23                 tion used to determine a historic average an-  
24                 nual generation baseline for the hydroelectric  
25                 facility, as certified by the Commission.

1           “(6) GENERATION FROM MIXED RENEWABLE  
2           AND NONRENEWABLE RESOURCES.—If electricity is  
3           generated using both a renewable energy resource  
4           and an energy source that is not a renewable energy  
5           resource (such as cofiring of renewable biomass and  
6           fossil fuel), the Commission shall issue Federal re-  
7           newable electricity credits based on the proportion of  
8           the electricity that is attributable to the renewable  
9           energy resource.

10           “(7) PROHIBITION AGAINST DOUBLE-COUNT-  
11           ING.—The Commission shall ensure that—

12                   “(A) no Federal renewable electricity cred-  
13                   it is used more than once for compliance with  
14                   this section; and

15                   “(B) except as provided in paragraph (4),  
16                   not more than 1 Federal renewable electricity  
17                   credit is issued for any megawatt hour of re-  
18                   newable electricity.

19           “(8) TRADING.—The lawful holder of a Federal  
20           renewable electricity credit may—

21                   “(A) sell, exchange, or transfer the credit;

22                   “(B) submit the credit for compliance  
23                   under subsection (c); or

24                   “(C) submit the credit for retirement by  
25                   the Commission.

1           “(9) BANKING.—

2                   “(A) IN GENERAL.—A Federal renewable  
3           electricity credit may be submitted in satisfac-  
4           tion of the compliance obligation under sub-  
5           section (c) for the compliance year in which the  
6           credit was issued or for any of the 3 imme-  
7           diately subsequent compliance years.

8                   “(B) RETIREMENT.—The Commission  
9           shall retire any Federal renewable electricity  
10          credit that has not been retired by April 2 of  
11          the calendar year that is 3 years after the cal-  
12          endar year during which the credit was issued.

13                   “(10) RETIREMENT.—The Commission shall re-  
14          tire a Federal renewable electricity credit imme-  
15          diately upon submission by the lawful holder of the  
16          credit, whether in satisfaction of a compliance obli-  
17          gation under subsection (c) or for another reason.

18                   “(g) ALTERNATIVE COMPLIANCE PAYMENTS.—

19                   “(1) IN GENERAL.—A retail electric supplier  
20          may satisfy the requirements of subsection (c) in  
21          whole or in part by submitting in accordance with  
22          this subsection, in lieu of each Federal renewable  
23          electricity credit that would otherwise be due, a pay-  
24          ment equal to \$50, adjusted for inflation on January  
25          1 of each year following calendar year 2017, in ac-

1 cordance with regulations promulgated by the Com-  
2 mission.

3 “(2) PAYMENT TO STATE FUNDS.—

4 “(A) IN GENERAL.—Except as otherwise  
5 provided in this paragraph, payments made  
6 under this subsection shall be made directly to  
7 one or more States in which the retail electric  
8 supplier sells electric energy, in proportion to  
9 the portion of the retail electric supplier’s base  
10 quantity that is sold within each applicable  
11 State, if—

12 “(i) the payments are deposited di-  
13 rectly into a fund of the State treasury es-  
14 tablished for that purpose; and

15 “(ii) the State uses the funds in ac-  
16 cordance with paragraphs (3) and (4).

17 “(B) NONCOMPLIANCE.—If the Commis-  
18 sion determines that a State is in substantial  
19 noncompliance with paragraph (3) or (4), the  
20 Commission shall direct that any future alter-  
21 native compliance payments that would other-  
22 wise be paid to the State under this subsection  
23 shall instead be paid to the Commission and de-  
24 posited in the Treasury.

1           “(3) STATE USE OF FUNDS.—As a condition of  
2 receipt of alternative compliance payments under  
3 this subsection, a State shall use the payments ex-  
4 clusively for—

5           “(A) deploying technologies that generate  
6 electricity from renewable energy resources; or

7           “(B) implementing cost-effective energy ef-  
8 ficiency programs to achieve energy savings.

9           “(4) REPORTING.—

10           “(A) IN GENERAL.—As a condition of re-  
11 ceipt of alternative compliance payments pursu-  
12 ant to this subsection, a State shall submit to  
13 the Commission an annual report, in accord-  
14 ance with regulations promulgated by the Com-  
15 mission, containing a full accounting of the use  
16 of the payments, including a detailed descrip-  
17 tion of the activities funded by the payments  
18 and demonstrating compliance with the require-  
19 ments of this subsection.

20           “(B) DEADLINE.—A State shall submit a  
21 report under this paragraph—

22           “(i) not later than 1 year after the  
23 date on which the first alternative compli-  
24 ance payment is received; and

1                   “(ii) every 1 year thereafter until all  
2                   alternative compliance payments are ex-  
3                   pended.

4                   “(h) INFORMATION COLLECTION.—

5                   “(1) IN GENERAL.—The Commission may re-  
6                   quire any retail electric supplier, renewable elec-  
7                   tricity generator, or any other entity that the Com-  
8                   mission determines appropriate, to provide any in-  
9                   formation the Commission determines appropriate to  
10                  carry out this section.

11                  “(2) FAILURE TO SUBMIT; FALSE OR MIS-  
12                  LEADING INFORMATION.—Any entity required to  
13                  submit information under paragraph (1) that fails to  
14                  submit the information or submits false or mis-  
15                  leading information shall be in violation of this sec-  
16                  tion.

17                  “(i) ENFORCEMENT AND JUDICIAL REVIEW.—

18                  “(1) FAILURE TO SUBMIT CREDITS.—If any  
19                  person fails to comply with the requirements of sub-  
20                  section (c) or (g), the person shall be liable to pay  
21                  to the Commission a civil penalty equal to the prod-  
22                  uct obtained by multiplying—

23                         “(A) double the alternative compliance  
24                         payment calculated under subsection (g)(1);  
25                         and



1           “(B) the aggregate quantity of Federal re-  
2           newable electricity credits or equivalent alter-  
3           native compliance payments that the person  
4           failed to submit in violation of the requirements  
5           of subsections (e) and (g).

6           “(2) ENFORCEMENT.—The Commission shall  
7           assess a civil penalty under paragraph (1) in accord-  
8           ance with the procedures described in section 31(d)  
9           of the Federal Power Act (16 U.S.C. 823b(d)).

10           “(3) VIOLATION OF REQUIREMENT OF REGULA-  
11           TIONS OR ORDERS.—

12           “(A) IN GENERAL.—Any person who vio-  
13           lates or fails or refuses to comply with any re-  
14           quirement of a regulation promulgated or order  
15           issued under this section shall be subject to a  
16           civil penalty under section 316A(b) of the Fed-  
17           eral Power Act (16 U.S.C. 825o–1(b)).

18           “(B) ASSESSMENT.—The penalty under  
19           subparagraph (A) shall be assessed by the Com-  
20           mission in the same manner as in the case of  
21           a violation referred to in section 316A(b) of  
22           that Act.

23           “(4) JUDICIAL REVIEW.—

24           “(A) IN GENERAL.—Any person aggrieved  
25           by a final action taken by the Commission

1 under this section, other than the assessment of  
2 a civil penalty under paragraphs (1) through  
3 (3), may use the procedures for review de-  
4 scribed in section 313 of the Federal Power Act  
5 (16 U.S.C. 825*l*).

6 “(B) REFERENCE.—For purposes of this  
7 paragraph, references to an order in section  
8 313 of that Act shall be considered to refer also  
9 to all other final actions of the Commission  
10 under this section other than the assessment of  
11 a civil penalty under paragraphs (1) through  
12 (3).

13 “(j) ADMINISTRATION.—Nothing in this section—

14 “(1) diminishes or qualifies any authority of a  
15 State, a political subdivision of a State, or an Indian  
16 tribe—

17 “(A) to adopt or enforce any law or regula-  
18 tion respecting renewable electricity, including  
19 any law or regulation establishing requirements  
20 that are more stringent than those established  
21 by this section, provided that no such law or  
22 regulation may relieve any person of any re-  
23 quirement otherwise applicable under this sec-  
24 tion; or

1           “(B) to regulate the acquisition and dis-  
2           position of Federal renewable electricity credits  
3           by retail electric suppliers within the jurisdic-  
4           tion of the State, political subdivision, or Indian  
5           tribe, including the authority to require the re-  
6           tail electric supplier to acquire and submit to  
7           the Commission for retirement Federal renew-  
8           able electricity credits in excess of those sub-  
9           mitted under this section; or

10           “(2) affects the application of or the responsi-  
11           bility for compliance with any other provision of law  
12           or regulation, including environmental and licensing  
13           requirements.

14           “(k) SUNSET.—The authority provided by this sec-  
15           tion expires on December 31, 2041.”.

16   **SEC. 4183. CLARIFYING STATE AUTHORITY TO ADOPT RE-**  
17                           **NEWABLE ENERGY INCENTIVES.**

18           Section 210 of the Public Utility Regulatory Policies  
19           Act of 1978 (16 U.S.C. 824a–3) is amended by adding  
20           at the end the following:

21           “(o) CLARIFICATION OF STATE AUTHORITY TO  
22           ADOPT RENEWABLE ENERGY INCENTIVES.—

23                   “(1) DEFINITION OF STATE-APPROVED PRO-  
24           DUCTION INCENTIVE PROGRAM.—In this subsection,  
25           the term ‘State-approved production incentive pro-

1 gram’ means a requirement imposed pursuant to  
2 State law or by a State regulatory authority acting  
3 within its authority under State law that an electric  
4 utility purchase renewable energy (as defined in sec-  
5 tion 609(a)) at a specified rate.

6 “(2) STATE AUTHORITY TO ADOPT RENEWABLE  
7 ENERGY INCENTIVES.—Notwithstanding any other  
8 provision of this Act or the Federal Power Act (16  
9 U.S.C. 791a et seq.), a State legislature or regu-  
10 latory authority may set the rates for a sale of elec-  
11 tric energy by a facility generating electric energy  
12 from renewable energy sources pursuant to a State-  
13 approved production incentive program under which  
14 the facility voluntarily participates in the State-ap-  
15 proved production incentive program.”.

16 **SEC. 4184. GUIDELINES FOR DETERMINING QUALIFIED RE-**  
17 **NEWABLE BIOMASS.**

18 (a) DEFINITIONS.—In this section:

19 (1) ADMINISTRATOR.—The term “Adminis-  
20 trator” means the Administrator of the Environ-  
21 mental Protection Agency.

22 (2) LIFECYCLE GREENHOUSE GAS EMIS-  
23 SIONS.—

24 (A) IN GENERAL.—The term “lifecycle  
25 greenhouse gas emissions” means the aggregate

1 quantity of greenhouse gas emissions, adjusted  
2 to account for the relative global warming po-  
3 tential of the emissions relative to all green-  
4 house gas emissions.

5 (B) INCLUSIONS.—For purposes of sub-  
6 paragraph (A), the term “greenhouse gas emis-  
7 sions” includes—

8 (i) direct emissions; and

9 (ii) significant indirect emissions, in-  
10 cluding from—

11 (I) land use changes and tem-  
12 poral changes in forest carbon seques-  
13 tration;

14 (II) biomass harvests, regrowth,  
15 and avoided decomposition related to  
16 the full fuel lifecycle, including all  
17 stages of fuel and feedstock produc-  
18 tion and distribution; and

19 (III) feedstock generation or ex-  
20 traction through the distribution and  
21 delivery of the finished fuel to the ul-  
22 timate consumer.

23 (b) GUIDELINES.—Not later than 1 year after the  
24 date of enactment of this Act, the Administrator shall, rec-  
25 ognizing the recommendations of and coordinating with

1 the Scientific Advisory Board of the Environmental Pro-  
2 tection Agency regarding the accounting of biogenic car-  
3 bon dioxide emissions and after notice and public com-  
4 ment, issue guidelines for calculating lifecycle greenhouse  
5 gas emissions for renewable biomass (as that term is de-  
6 fined in section 610(b) of the Public Utility Regulatory  
7 Policies Act of 1978).

8 **SEC. 4185. ENERGY EFFICIENCY RESOURCE STANDARD FOR**  
9 **RETAIL ELECTRICITY AND NATURAL GAS**  
10 **SUPPLIERS.**

11 (a) IN GENERAL.—Title VI of the Public Utility Reg-  
12 ulatory Policies Act of 1978 (16 U.S.C. 2601 et seq.) (as  
13 amended by section 4182) is amended by adding after sec-  
14 tion 610 the following:

15 **“SEC. 611. FEDERAL ENERGY EFFICIENCY RESOURCE**  
16 **STANDARD FOR RETAIL ELECTRICITY AND**  
17 **NATURAL GAS SUPPLIERS.**

18 “(a) FINDINGS.—Congress finds that—

19 “(1) the Federal energy efficiency resource  
20 standard established by this section—

21 “(A) establishes nationwide minimum lev-  
22 els of electricity and natural gas savings to be  
23 achieved through utility efficiency programs,  
24 building energy codes, appliance standards, and  
25 related efficiency measures; and

1           “(B) rewards energy-saving improvements  
2           achieved through—

3                   “(i) end-use energy efficiency up-  
4                   grades;

5                   “(ii) reduced losses in transmission  
6                   and distribution of energy; and

7                   “(iii) fuel-switching, to the extent that  
8                   the switching results in reduced primary  
9                   energy use; and

10           “(2) in light of the cost-effective energy effi-  
11           ciency opportunities that exist across the United  
12           States in every sector of the economy, retail elec-  
13           tricity suppliers, retail natural gas suppliers, and  
14           States should—

15                   “(A) consider energy efficiency as a re-  
16                   source in utility planning and procurement ac-  
17                   tivities; and

18                   “(B) seek to achieve all energy efficiency  
19                   that is available at lower cost than other energy  
20                   supply options.

21           “(b) DEFINITIONS.—In this section:

22                   “(1) AFFILIATE.—The term ‘affiliate’ when  
23                   used in relation to a person, means another person  
24                   that owns or controls, is owned or controlled by, or  
25                   is under common ownership control with, that per-

1 son, as determined under regulations promulgated  
2 by the Secretary.

3 “(2) ASHRAE, ANSI, AND IESNA.—The terms  
4 ‘ASHRAE’, ‘ANSI’, and ‘IESNA’ mean the Amer-  
5 ican Society of Heating, Refrigerating and Air Con-  
6 ditioning Engineers, the American National Stand-  
7 ards Institute, and the Illuminating Engineering So-  
8 ciety of North America, respectively.

9 “(3) BASE QUANTITY.—

10 “(A) IN GENERAL.—The term ‘base quan-  
11 tity’, with respect to a retail electricity supplier  
12 or retail natural gas supplier, means, for each  
13 calendar year for which a performance standard  
14 is established under subsection (d), the average  
15 annual quantity of electricity or natural gas de-  
16 livered by the retail electricity supplier or retail  
17 natural gas supplier to retail customers during  
18 the 3 calendar years immediately preceding the  
19 year that compliance is required under sub-  
20 section (d)(1).

21 “(B) EXCLUSION.—The term ‘base quan-  
22 tity’, with respect to a retail natural gas sup-  
23 plier, does not include natural gas delivered for  
24 purposes of electricity generation.



1           “(4) CHP SAVINGS.—The term ‘CHP savings’  
2           means—

3                   “(A) CHP system savings from a combined  
4                   heat and power system that commences oper-  
5                   ation after the date of enactment of this sec-  
6                   tion; and

7                   “(B) the increase in CHP system savings  
8                   from upgrading or replacing, after the date of  
9                   enactment of this section, a combined heat and  
10                  power system that commenced operation on or  
11                  before the date of enactment of this section.

12           “(5) CHP SYSTEM SAVINGS.—The term ‘CHP  
13           system savings’ means the electric output, and the  
14           electricity saved due to the mechanical output, of a  
15           combined heat and power system, adjusted to reflect  
16           any increase in fuel consumption by that system as  
17           compared to the fuel that would have been required  
18           to produce an equivalent useful thermal energy out-  
19           put in a separate thermal-only system, as deter-  
20           mined in accordance with regulations promulgated  
21           by the Secretary.

22           “(6) CODES AND STANDARDS SAVINGS.—

23                   “(A) IN GENERAL.—The term ‘codes and  
24                   standards savings’ means a reduction in end-  
25                   use electricity or natural gas consumption by a

1 retail electricity supplier or in the service terri-  
2 tory of a retail natural gas supplier as a result  
3 of the adoption and implementation, after the  
4 date of enactment of this section, of new or re-  
5 vised appliance and equipment efficiency stand-  
6 ards or building energy codes.

7 “(B) BASELINES.—In calculating codes  
8 and standards savings under subparagraph  
9 (A)—

10 “(i) the baseline for calculating sav-  
11 ings from building codes shall be the more  
12 stringent of—

13 “(I)(aa) the 2015 International  
14 Energy Conservation Code for resi-  
15 dential buildings; or

16 “(bb) the ASHRAE/ANSI/  
17 IESNA Standard 90.1–2013 for com-  
18 mercial buildings; or

19 “(II) the applicable State build-  
20 ing code in effect on the date of en-  
21 actment of this section; and

22 “(ii) the baseline for calculating sav-  
23 ings from appliance standards shall be the  
24 average efficiency of new appliances in the  
25 applicable one or more categories prior to

1           the adoption and implementation of the  
2           new standard.

3           “(7) COMBINED HEAT AND POWER SYSTEM.—

4           The term ‘combined heat and power system’ means  
5           a system that uses the same energy source both for  
6           the generation of electrical or mechanical power and  
7           the production of steam or another form of useful  
8           thermal energy, if—

9           “(A) the system meets any requirements  
10          relating to efficiency and other operating char-  
11          acteristics that the Secretary promulgates by  
12          regulation; and

13          “(B) the net wholesale sales of electricity  
14          by a facility does not exceed 50 percent of total  
15          annual electric generation by the facility.

16          “(8) COST-EFFECTIVE.—The term ‘cost-effec-  
17          tive’, with respect to an energy efficiency measure,  
18          means that the measure achieves a net present value  
19          of economic benefits over the life of the measure,  
20          both directly to the energy consumer and to the  
21          economy, that is greater than the net present value  
22          of the cost of the measure over the life of the meas-  
23          ure, both directly to the energy consumer and to the  
24          economy, using the societal benefit-cost test cal-

1       culated using the lower of a utility weighted average  
2       cost of capital or a social discount rate of 3 percent.

3           “(9) CUSTOMER FACILITY SAVINGS.—The term  
4       ‘customer facility savings’ means a reduction in end-  
5       use electricity or natural gas consumption (including  
6       waste heat energy savings) at a facility of an end-  
7       use consumer of electricity or natural gas served by  
8       a retail electricity supplier or natural gas supplier,  
9       as compared to—

10           “(A) in the case of a new facility, con-  
11       sumption at a reference facility of average effi-  
12       ciency;

13           “(B) in the case of an existing facility,  
14       consumption at the facility during a base period  
15       of not less than 1 year;

16           “(C) in the case of new equipment that re-  
17       places existing equipment at the end of the use-  
18       ful life of the existing equipment, consumption  
19       by new equipment of average efficiency of the  
20       same equipment type, except that customer sav-  
21       ings under this subparagraph shall not be  
22       counted towards customer savings under sub-  
23       paragraph (A) or (B); and

1           “(D) in the case of new equipment that re-  
2           places existing equipment with remaining useful  
3           life—

4                   “(i) consumption of the existing  
5                   equipment for the remaining useful life of  
6                   the equipment; and

7                   “(ii) thereafter, consumption of new  
8                   equipment of average efficiency.

9           “(10) ELECTRICITY SAVINGS.—The term ‘elec-  
10           tricity savings’ means reductions in electricity con-  
11           sumption achieved through measures implemented  
12           after the date of enactment of this section, as deter-  
13           mined in accordance with regulations promulgated  
14           by the Secretary, that are limited to—

15                   “(A) customer facility savings of elec-  
16                   tricity, adjusted to reflect any associated in-  
17                   crease in fuel consumption at the facility;

18                   “(B) reductions in distribution system  
19                   losses of electricity achieved by a retail elec-  
20                   tricity supplier, as compared to losses attrib-  
21                   utable to new or replacement distribution sys-  
22                   tem equipment of average efficiency, as defined  
23                   in regulations promulgated by the Secretary;

24                   “(C) CHP savings;

1           “(D) codes and standards savings of elec-  
2           tricity; and

3           “(E) fuel switching energy savings that re-  
4           sults in net savings of electricity.

5           “(11) FUEL SWITCHING ENERGY SAVINGS.—

6           “(A) IN GENERAL.—The term ‘fuel-switch-  
7           ing energy savings’ means net energy savings,  
8           calculated in accordance with subparagraph  
9           (B), from end-user switches from 1 energy  
10          source to another, as determined in accordance  
11          with regulations promulgated by the Secretary.

12          “(B) CALCULATION.—For purposes of cal-  
13          culating fuel-switching net energy savings—

14               “(i) electricity use shall be evaluated  
15               based on the average quantity of fuel  
16               burned at a new power plant taking into  
17               account existing and planned renewable en-  
18               ergy generators to provide each kilowatt  
19               hour of electricity;

20               “(ii) electricity and natural gas use  
21               shall include losses in the transmission and  
22               distribution system; and

23               “(iii) fuel-switching that is not cost-ef-  
24               fective to the end-user shall not be count-  
25               ed.

1           “(12) NATURAL GAS SAVINGS.—The term ‘nat-  
2           ural gas savings’ means reductions in natural gas  
3           consumption from measures implemented after the  
4           date of enactment of this section, as determined in  
5           accordance with regulations promulgated by the Sec-  
6           retary, that are limited to—

7                   “(A) customer facility savings of natural  
8                   gas, adjusted to reflect any associated increase  
9                   in electricity consumption or consumption of  
10                  other fuels at the facility;

11                  “(B) reductions in leakage, operational  
12                  losses, and consumption of natural gas fuel to  
13                  operate a gas distribution system, achieved by  
14                  a retail natural gas supplier, as compared to  
15                  similar leakage, losses, and consumption during  
16                  a base period of not less than 1 year;

17                  “(C) codes and standards savings of nat-  
18                  ural gas; and

19                  “(D) fuel switching energy savings that re-  
20                  sults in net savings of natural gas.

21           “(13) POWER POOL.—The term ‘power pool’  
22           means an association of two or more interconnected  
23           electric systems that have entered into an agreement  
24           to coordinate operations and planning for improved  
25           reliability and efficiencies, including a Regional

1       Transmission Organization or an Independent Sys-  
2       tem Operator, as determined by the Secretary.

3               “(14) REPORTING PERIOD.—The term ‘report-  
4       ing period’ means—

5                       “(A) calendar year 2017; and

6                       “(B) each successive 2-calendar-year pe-  
7       riod thereafter.

8               “(15) RETAIL ELECTRICITY SUPPLIER.—

9                       “(A) IN GENERAL.—The term ‘retail elec-  
10       tricity supplier’ means, for any given calendar  
11       year, an electric utility that sells not less than  
12       1,000,000 megawatt hours of electric energy to  
13       electric consumers for purposes other than re-  
14       sale during the preceding calendar year.

15                      “(B) INCLUSIONS AND LIMITATIONS.—For  
16       purposes of determining whether an electric  
17       utility qualifies as a retail electricity supplier  
18       under subparagraph (A)—

19                               “(i) deliveries by any affiliate of an  
20       electric utility to electric consumers for  
21       purposes other than resale shall be consid-  
22       ered to be deliveries by the electric utility;  
23       and

24                               “(ii) deliveries by any electric utility  
25       to a lessee, tenant, or affiliate of the elec-



1           tric utility shall not be considered to be de-  
2           liveries to electric consumers.

3           “(16) RETAIL NATURAL GAS SUPPLIER.—

4           “(A) IN GENERAL.—The term ‘retail nat-  
5           ural gas supplier’ means, for any given calendar  
6           year, a local distribution company (as defined  
7           in section 2 of the Natural Gas Policy Act of  
8           1978 (15 U.S.C. 3301)), that delivered to nat-  
9           ural gas consumers more than 5,000,000,000  
10          cubic feet of natural gas for purposes other  
11          than resale during the preceding calendar year.

12          “(B) INCLUSIONS AND LIMITATIONS.—For  
13          purposes of determining whether a person  
14          qualifies as a retail natural gas supplier under  
15          subparagraph (A)—

16                 “(i) deliveries of natural gas by any  
17                 affiliate of a local distribution company to  
18                 consumers for purposes other than resale  
19                 shall be considered to be deliveries by the  
20                 local distribution company; and

21                 “(ii) deliveries of natural gas to a les-  
22                 see, tenant, or affiliate of a local distribu-  
23                 tion company shall not be considered to be  
24                 deliveries to natural gas consumers.

1           “(17) THIRD-PARTY EFFICIENCY PROVIDER.—

2           The term ‘third-party efficiency provider’ means any  
3           retailer, building owner, energy service company, fi-  
4           nancial institution, or other commercial, industrial,  
5           or nonprofit entity that is capable of providing elec-  
6           tricity savings or natural gas savings in accordance  
7           with subsections (e) and (f).

8           “(18) WASTE HEAT ENERGY SAVINGS.—

9           “(A) IN GENERAL.—The term ‘waste heat  
10           energy savings’ means a reduction in electricity  
11           or natural gas consumption that results from a  
12           modification of an industrial or commercial sys-  
13           tem that commenced operation before the date  
14           of enactment of this section, in order to recap-  
15           ture electrical, mechanical, or thermal energy  
16           that would otherwise be wasted, as determined  
17           in accordance with regulations promulgated by  
18           the Secretary.

19           “(B) INCLUSION.—Such savings shall be  
20           included as part of customer facility savings.

21           “(c) ESTABLISHMENT OF PROGRAM.—

22           “(1) REGULATIONS.—Not later than 1 year  
23           after the date of enactment of this section, the Sec-  
24           retary shall, by regulation, establish a program to

1       implement and enforce the requirements of this sec-  
2       tion, including by—

3               “(A)    establishing    measurement    and  
4               verification    procedures    and standards    under  
5               subsection (f);

6               “(B)    establishing    requirements    under  
7               which retail    electricity    suppliers and retail nat-  
8               ural gas    suppliers shall—

9                       “(i) demonstrate, document, and re-  
10                      port the compliance of the retail electricity  
11                      suppliers and retail natural gas suppliers  
12                      with the performance standards under sub-  
13                      section (d); and

14                     “(ii) estimate the impact of the stand-  
15                     ards on current and future electricity and  
16                     natural gas use in the service territories of  
17                     the suppliers; and

18               “(C)    establishing    requirements governing  
19               applications for, and implementation of, dele-  
20               gated State administration under subsection  
21               (h).

22               “(2) COORDINATION WITH STATE PROGRAMS.—  
23       In establishing and implementing this section, the  
24       Secretary shall, to the maximum extent practicable,

1 preserve the integrity and incorporate best practices  
2 of existing State energy efficiency programs.

3 “(d) PERFORMANCE STANDARDS.—

4 “(1) COMPLIANCE OBLIGATION.—Not later  
5 than May 1 of the calendar year immediately fol-  
6 lowing each reporting period—

7 “(A) each retail electricity supplier shall  
8 submit to the Secretary a report, in accordance  
9 with regulations promulgated by the Secretary,  
10 demonstrating that the retail electricity supplier  
11 has achieved cumulative electricity savings (ad-  
12 justed to account for any attrition of savings  
13 measures implemented in prior years) in each  
14 calendar year that are equal to the applicable  
15 percentage, established under paragraph (2),  
16 (3), or (4), of the base quantity of the retail  
17 electricity supplier; and

18 “(B) each retail natural gas supplier shall  
19 submit to the Secretary a report, in accordance  
20 with regulations promulgated by the Secretary,  
21 demonstrating that it has achieved cumulative  
22 natural gas savings (adjusted to account for  
23 any attrition of savings measures implemented  
24 in prior years) in each calendar year that are  
25 equal to the applicable percentage, established

1 under paragraph (2), (3), or (4), of the base  
2 quantity of such retail natural gas supplier.

3 “(2) STANDARDS FOR 2017 THROUGH 2030.—  
4 For each of calendar years 2017 through 2030, the  
5 applicable percentages are as follows:

| “Calendar Year | Cumulative Electricity Savings Percentage | Cumulative Natural Gas Savings Percentage |
|----------------|---|---|
| 2017           | 1.00                                      | 0.50                                      |
| 2018           | 2.00                                      | 1.25                                      |
| 2019           | 3.00                                      | 2.00                                      |
| 2020           | 4.25                                      | 3.00                                      |
| 2021           | 5.50                                      | 4.00                                      |
| 2022           | 7.00                                      | 5.00                                      |
| 2023           | 8.50                                      | 6.00                                      |
| 2024           | 10.00                                     | 7.00                                      |
| 2025           | 11.50                                     | 8.00                                      |
| 2026           | 13.00                                     | 9.00                                      |
| 2027           | 14.75                                     | 10.00                                     |
| 2028           | 16.50                                     | 11.00                                     |
| 2029           | 18.25                                     | 12.00                                     |
| 2030           | 20.00                                     | 13.00                                     |

6 “(3) SUBSEQUENT YEARS.—

7 “(A) CALENDAR YEARS 2031 THROUGH  
8 2040.—Not later than December 31, 2028, the  
9 Secretary shall promulgate regulations estab-  
10 lishing performance standards (expressed as ap-  
11 plicable percentages of base quantity for both  
12 cumulative electricity savings and cumulative

1 natural gas savings) for each of calendar years  
2 2031 through 2040.

3 “(B) SUBSEQUENT EXTENSIONS.—Except  
4 as provided in subparagraph (A), not later than  
5 December 31 of the penultimate reporting pe-  
6 riod for which performance standards have been  
7 established under this paragraph, the Secretary  
8 shall promulgate regulations establishing per-  
9 formance standards (expressed as applicable  
10 percentages of base quantity for both cumu-  
11 lative electricity savings and cumulative natural  
12 gas savings) for the 10-calendar-year period fol-  
13 lowing the last calendar year for which perform-  
14 ance standards previously were established.

15 “(C) REQUIREMENTS.—The Secretary  
16 shall establish standards under this paragraph  
17 at levels reflecting the maximum achievable  
18 level of cost-effective energy efficiency potential,  
19 taking into account—

20 “(i) cost-effective energy savings  
21 achieved by leading retail electricity sup-  
22 pliers and retail natural gas suppliers;

23 “(ii) opportunities for new codes and  
24 standards savings;

25 “(iii) technology improvements; and

1           “(iv) other indicators of cost-effective  
2           energy efficiency potential.

3           “(D) MINIMUM PERCENTAGE.—In no case  
4           shall the applicable percentages for any cal-  
5           endar year be less than the applicable percent-  
6           ages for calendar year 2030 (including any in-  
7           crease in the standard for calendar year 2030  
8           established pursuant to paragraph (4)).

9           “(4) MIDCOURSE REVIEW AND ADJUSTMENT OF  
10          STANDARDS.—

11           “(A) IN GENERAL.—Not later than De-  
12           cember 31, 2023, and at 10-year intervals  
13           thereafter, the Secretary shall—

14           “(i) review the most recent standards  
15           established under paragraph (2) or (3);  
16           and

17           “(ii) increase the standards by regula-  
18           tion if the Secretary determines that addi-  
19           tional cost-effective energy efficiency po-  
20           tential is achievable, taking into account  
21           the requirements described in paragraph  
22           (3)(C).

23           “(B) LEAD TIME.—If the Secretary revises  
24           standards under this paragraph, the regulations  
25           shall provide adequate lead time to ensure that

1 compliance with the increased standards is fea-  
2 sible.

3 “(5) DELAY OF SUBMISSION FOR FIRST RE-  
4 PORTING PERIOD.—

5 “(A) IN GENERAL.—Notwithstanding  
6 paragraphs (1) and (2), for the 2017 reporting  
7 period, the Secretary may accept a request from  
8 a retail electricity supplier or a retail natural  
9 gas supplier to delay the required submission of  
10 documentation of all or part of the required  
11 savings for up to 2 years.

12 “(B) PLAN FOR COMPLIANCE.—The re-  
13 quest for delay under subparagraph (A) shall  
14 include a plan for coming into full compliance  
15 by the end of the 2018–2019 reporting period.

16 “(6) APPLYING UNUSED SAVINGS TO FUTURE  
17 YEARS.—If savings achieved in a year exceed the  
18 performance standards specified in this subsection,  
19 any savings in excess of the performance standards  
20 may be applied toward performance standards speci-  
21 fied for future years.

22 “(e) TRANSFERS OF ELECTRICITY OR NATURAL GAS  
23 SAVINGS.—

24 “(1) BILATERAL CONTRACTS FOR SAVINGS  
25 TRANSFERS.—Subject to the limitations of this sub-



1 section, a retail electricity supplier or retail natural  
2 gas supplier may use electricity savings or natural  
3 gas savings purchased pursuant to a bilateral con-  
4 tract from another retail electricity supplier or retail  
5 natural gas supplier, a State, or a third-party effi-  
6 ciency provider to meet the applicable performance  
7 standard under subsection (d).

8 “(2) REQUIREMENTS.—Electricity savings or  
9 natural gas savings purchased and used for compli-  
10 ance under this subsection shall be—

11 “(A) measured and verified in accordance  
12 with subsection (f);

13 “(B) reported in accordance with sub-  
14 section (d); and

15 “(C) achieved within the same State as is  
16 served by the retail electricity supplier or retail  
17 natural gas supplier.

18 “(3) EXCEPTION.—Notwithstanding paragraph  
19 (2)(C), a State regulatory authority may authorize a  
20 retail electricity supplier or a retail natural gas sup-  
21 plier regulated by the State regulatory authority to  
22 purchase savings achieved in a different State, if—

23 “(A) the savings are achieved within the  
24 same power pool; and

1           “(B) the State regulatory authority that  
2           regulates the purchaser oversees the measure-  
3           ment and verification of the savings pursuant to  
4           the procedures and standards applicable in the  
5           State in which the purchaser is located.

6           “(4) REGULATORY APPROVAL.—Nothing in this  
7           subsection limits or affects the authority of a State  
8           regulatory authority to require a retail electricity  
9           supplier or retail natural gas supplier that is regu-  
10          lated by the State regulatory authority to obtain the  
11          authorization or approval of the State regulatory au-  
12          thority of a contract for transfer of electricity sav-  
13          ings or natural gas savings under this subsection.

14          “(5) LIMITATIONS.—To optimize the achieve-  
15          ment of cost-effective efficiency potential, the Sec-  
16          retary may prescribe such limitations as the Sec-  
17          retary determines appropriate with respect to the  
18          proportion of the compliance obligation of a retail  
19          electricity or natural gas supplier under the applica-  
20          ble performance standards under subsection (d) that  
21          may be met using electricity savings or natural gas  
22          savings that are purchased under this subsection.

23          “(f) MEASUREMENT AND VERIFICATION OF SAV-  
24          INGS.—The regulations promulgated pursuant to sub-  
25          section (c) shall include—

1           “(1) procedures and standards for defining and  
2           measuring electricity savings and natural gas sav-  
3           ings that can be counted towards the performance  
4           standards established under subsection (d), that  
5           shall—

6                   “(A) specify the types of energy efficiency  
7                   and energy conservation measures that can be  
8                   counted;

9                   “(B) require that energy consumption esti-  
10                  mates for customer facilities or portions of fa-  
11                  cilities in the applicable base and current years  
12                  be adjusted, as appropriate, to account for  
13                  changes in weather, level of production, and  
14                  building area;

15                  “(C) account for the useful life of meas-  
16                  ures;

17                  “(D) include assigned savings values for  
18                  specific, commonly used measures;

19                  “(E) allow for savings from a program to  
20                  be estimated based on extrapolation from a rep-  
21                  resentative sample of participating customers;

22                  “(F) include procedures for calculating and  
23                  documenting CHP savings, fuel-switching en-  
24                  ergy savings, and waste heat energy savings;

1           “(G) establish methods for calculating  
2 codes and standards energy savings, including  
3 the use of verified compliance rates;

4           “(H) include procedures for calculating  
5 and documenting—

6           “(i) customer facility savings and re-  
7 ductions in distribution system losses of  
8 electricity and natural gas that are  
9 achieved as a result of smart grid deploy-  
10 ment, as described in section 1301 of the  
11 Energy Independence and Security Act of  
12 2007 (42 U.S.C. 17381); and

13           “(ii) reductions in natural gas dis-  
14 tribution system losses attributable to pipe-  
15 line repair and replacement programs;

16           “(I) count only measures and savings that  
17 are additional to business-as-usual customer  
18 purchase practices;

19           “(J) ensure that the retail electricity sup-  
20 plier or retail natural gas supplier claiming the  
21 electricity savings or natural gas savings, in-  
22 cluding codes and standards savings, played a  
23 significant role in achieving the savings (includ-  
24 ing through the activities of a designated agent  
25 of the supplier or through the purchase of

1 transferred electricity savings or natural gas  
2 savings);

3 “(K) avoid double-counting of savings used  
4 for compliance with this section, including  
5 transferred savings;

6 “(L) include electricity savings or natural  
7 gas savings from programs administered by the  
8 retail electric supplier or natural gas supplier  
9 that are funded by Federal, State, or other  
10 sources;

11 “(M) credit large customer self-directed  
12 electricity savings or natural gas savings to the  
13 retail electricity supplier or the retail natural  
14 gas supplier if the large customers receive in-  
15 centives or rate reductions from the retail sup-  
16 plier for self-directed energy efficiency improve-  
17 ments;

18 “(N) include procedures for counting elec-  
19 tricity savings and natural gas savings achieved  
20 by solar heating and cooling technologies, solar  
21 light pipe technology, geothermal heat pumps,  
22 and other technologies utilizing renewable re-  
23 sources that do not produce electricity or gas-  
24 eous fuel but that reduce on-site energy use;

1           “(O) in any State in which the State regu-  
2           latory authority has designated one or more en-  
3           tities to administer electric ratepayer-funded ef-  
4           ficiency programs approved by the State regu-  
5           latory authority, provide that electricity savings  
6           and natural gas savings achieved through the  
7           programs shall be distributed proportionally  
8           among retail electric suppliers and retail nat-  
9           ural gas suppliers; and

10           “(P) include guidance for utilities to cal-  
11           culate and document business-as-usual con-  
12           sumption projections; and

13           “(2) procedures and standards for third-party  
14           verification of reported electricity savings or natural  
15           gas savings.

16           “(g) ENFORCEMENT AND JUDICIAL REVIEW.—

17           “(1) REVIEW OF RETAIL SUPPLIER REPORTS.—

18           “(A) IN GENERAL.—The Secretary shall  
19           review each report submitted to the Secretary  
20           by a retail electricity supplier or retail natural  
21           gas supplier under subsection (d) to verify that  
22           the applicable performance standards under  
23           subsection (d) have been met.

24           “(B) EXCLUSION.—In determining compli-  
25           ance with the applicable performance standards

1 under subsection (d), the Secretary shall ex-  
2 clude reported electricity savings or natural gas  
3 savings that are not adequately demonstrated  
4 and documented, in accordance with the regula-  
5 tions promulgated under this section.

6 “(2) PENALTY FOR FAILURE TO DOCUMENT  
7 ADEQUATE SAVINGS.—If a retail electricity supplier  
8 or a retail natural gas supplier fails to demonstrate  
9 compliance with an applicable performance standard  
10 under subsection (d), or to pay to the State an ap-  
11 plicable alternative compliance payment under sub-  
12 section (h)(4), the Secretary shall assess against the  
13 retail electricity supplier or retail natural gas sup-  
14 plier a civil penalty for each failure in an amount  
15 equal to, as adjusted for inflation in accordance with  
16 such regulations as the Secretary may promulgate—

17 “(A) \$100 per megawatt hour of electricity  
18 savings or alternative compliance payment that  
19 the retail electricity supplier failed to achieve or  
20 make, respectively; or

21 “(B) \$10 per million Btu of natural gas  
22 savings or alternative compliance payment that  
23 the retail natural gas supplier failed to achieve  
24 or make, respectively.

1           “(3) OFFSETTING STATE PENALTIES.—The  
2           Secretary shall reduce the amount of any penalty  
3           under paragraph (2) by the amount paid by the rel-  
4           evant retail electricity supplier or retail natural gas  
5           supplier to a State for failure to comply with the re-  
6           quirements of a State energy efficiency resource  
7           standard during the same compliance period, if the  
8           State standard—

9                   “(A) is comparable in type to the Federal  
10                   standard established under this section; and

11                   “(B) is more stringent than the applicable  
12                   performance standards under subsection (d).

13           “(4) ENFORCEMENT PROCEDURES.—The Sec-  
14           retary shall assess a civil penalty, as provided under  
15           paragraph (2), in accordance with the procedures  
16           described in section 333(d) of the Energy Policy and  
17           Conservation Act (42 U.S.C. 6303(d)).

18           “(5) JUDICIAL REVIEW.—

19                   “(A) IN GENERAL.—Any person adversely  
20                   affected by a final action taken by the Sec-  
21                   retary under this section, other than the assess-  
22                   ment of a civil penalty, may use the procedures  
23                   for review described in section 336(b) of the  
24                   Energy Policy and Conservation Act (42 U.S.C.  
25                   6306(b)).



1           “(B) REFERENCE.—In this paragraph,  
2           references to a rule in section 336(b) of the En-  
3           ergy Policy and Conservation Act (42 U.S.C.  
4           6306(b)) shall be considered to refer also to all  
5           other final actions of the Secretary under this  
6           section other than the assessment of a civil pen-  
7           alty.

8           “(h) STATE ADMINISTRATION.—

9           “(1) IN GENERAL.—Upon receipt of an applica-  
10          tion from the Governor of a State (including the  
11          Mayor of the District of Columbia), the Secretary  
12          may delegate to the State responsibility for admin-  
13          istering this section within the territory of the State  
14          if the Secretary determines that the State will imple-  
15          ment an energy efficiency program that meets or ex-  
16          ceeds the requirements of this section, including—

17               “(A) achieving electricity savings and nat-  
18               ural gas savings that are at least as great as  
19               those required under the applicable performance  
20               standards established under subsection (d);

21               “(B) reviewing reports and verifying elec-  
22               tricity savings and natural gas savings achieved  
23               in the State (including savings transferred from  
24               outside the State); and

1           “(C) collecting any alternative compliance  
2           payments under paragraph (4) and using the  
3           payments to implement cost-effective efficiency  
4           programs.

5           “(2) SECRETARIAL DETERMINATION.—Not  
6           later than 180 days after the date on which a com-  
7           plete application is received by the Secretary, the  
8           Secretary shall make a substantive determination  
9           approving or disapproving a State application, after  
10          public notice and comment.

11          “(3) ALTERNATIVE MEASUREMENT AND  
12          VERIFICATION PROCEDURES AND STANDARDS.—As  
13          part of an application submitted under paragraph  
14          (1), a State may request to use alternative measure-  
15          ment and verification procedures and standards  
16          from the procedures and standards described in sub-  
17          section (f), if the State demonstrates that the alter-  
18          native procedures and standards provide a level of  
19          accuracy of measurement and verification that are at  
20          least equivalent to the Federal procedures and  
21          standards under subsection (f).

22          “(4) ALTERNATIVE COMPLIANCE PAYMENTS.—

23                 “(A) IN GENERAL.—As part of an applica-  
24                 tion submitted under paragraph (1), a State  
25                 may permit retail electricity suppliers or retail

1 natural gas suppliers to pay to the State, by  
2 not later than May 1 of the calendar year im-  
3 mediately following the applicable reporting pe-  
4 riod, an alternative compliance payment in an  
5 amount equal to, as adjusted for inflation in ac-  
6 cordance with such regulations as the Secretary  
7 may promulgate, not less than—

8 “(i) \$50 per megawatt hour of elec-  
9 tricity savings needed to make up any def-  
10 icit with regard to a compliance obligation  
11 under the applicable performance stand-  
12 ard; or

13 “(ii) \$5 per million Btu of natural gas  
14 savings needed to make up any deficit with  
15 regard to a compliance obligation under  
16 the applicable performance standard.

17 “(B) USE OF PAYMENTS.—Alternative  
18 compliance payments collected by a State under  
19 subparagraph (A) shall be used by the State to  
20 administer the delegated authority of the State  
21 under this section and to implement cost-effec-  
22 tive energy efficiency programs that—

23 “(i) to the maximum extent prac-  
24 ticable, achieve electricity savings and nat-  
25 ural gas savings in the State sufficient to

1           make up the deficit associated with the al-  
2           ternative compliance payments; and

3                   “(ii) can be measured and verified in  
4           accordance with the applicable procedures  
5           and standards under subsection (f) or  
6           paragraph (3), as applicable.

7           “(5) REVIEW OF STATE IMPLEMENTATION.—

8                   “(A) PERIODIC REVIEW.—Every 2 years,  
9           the Secretary shall review State implementation  
10          of this section for conformance with the re-  
11          quirements of this section in approximately 1/2  
12          of the States that have received approval under  
13          this subsection to administer the program, so  
14          that each State shall be reviewed at least every  
15          4 years.

16                  “(B) REPORT.—To facilitate the review  
17          under subparagraph (A), the Secretary may re-  
18          quire the State to submit a report dem-  
19          onstrating the conformance of the State with  
20          the requirements of this section, including—

21                          “(i) reports submitted by retail elec-  
22                          tricity suppliers and retail natural gas sup-  
23                          pliers to the State demonstrating compli-  
24                          ance with applicable performance stand-  
25                          ards;

1           “(ii) the impact of the standards on  
2           projected electricity and natural gas de-  
3           mand within the State;

4           “(iii) an accounting of the use of al-  
5           ternative compliance payments by the  
6           State and the resulting electricity savings  
7           and natural gas savings achieved; and

8           “(iv) any other information that the  
9           Secretary determines appropriate.

10          “(C) REVIEW UPON PETITION.—Notwith-  
11          standing subparagraph (A), upon receipt of a  
12          public petition containing credible allegation of  
13          substantial deficiencies, the Secretary shall  
14          promptly review the State implementation of  
15          delegated authority under this section.

16          “(D) DEFICIENCIES.—

17                 “(i) IN GENERAL.—In completing a  
18                 review under this paragraph, if the Sec-  
19                 retary finds deficiencies, the Secretary  
20                 shall—

21                         “(I) notify the State of the defi-  
22                         ciencies;

23                         “(II) direct the State to correct  
24                         the deficiencies; and

1                   “(III) require the State to report  
2                   to the Secretary on progress made by  
3                   not later than 180 days after the date  
4                   on which the State receives notice  
5                   under subclause (I).

6                   “(ii) SUBSTANTIAL DEFICIENCIES.—If  
7                   the deficiencies are substantial, the Sec-  
8                   retary shall—

9                   “(I) disallow the reported elec-  
10                  tricity savings or natural gas savings  
11                  that the Secretary determines are not  
12                  credible due to deficiencies;

13                  “(II) re-review the State not  
14                  later than 2 years after the date on  
15                  which the original review was com-  
16                  pleted; and

17                  “(III) if substantial deficiencies  
18                  remain uncorrected after the review  
19                  provided for under subclause (II), re-  
20                  voke the authority of the State to ad-  
21                  minister the program established  
22                  under this section.

23                  “(6) CALLS FOR REVISION OF STATE APPLICA-  
24                  TIONS.—As a condition of maintaining the delegated  
25                  authority of a State to administer this section, the

1 Secretary may require a State to submit a revised  
2 application under paragraph (1) if the Secretary  
3 has—

4 “(A) promulgated new or revised perform-  
5 ance standards under subsection (d);

6 “(B) promulgated new or substantially re-  
7 vised measurement and verification procedures  
8 and standards under subsection (f); or

9 “(C) otherwise substantially revised the  
10 program established under this section.

11 “(7) COST RECOVERY, FIXED COST RECOVERY  
12 AND SHAREHOLDER INCENTIVES.—State utility reg-  
13 ulatory commissions are encouraged to review the  
14 rules and regulations of the commission to ensure  
15 that utilities under the jurisdiction of the commis-  
16 sion can—

17 “(A) recover the direct costs of energy effi-  
18 ciency programs;

19 “(B) fully recover authorized fixed costs,  
20 including lost margins from lower annual sales  
21 due to energy efficiency programs; and

22 “(C) earn an incentive for shareholders if  
23 the energy efficiency standards are achieved.

24 “(i) INFORMATION AND REPORTS.—In accordance  
25 with section 13 of the Federal Energy Administration Act

1 of 1974 (15 U.S.C. 772), the Secretary may require any  
2 retail electricity supplier, retail natural gas supplier, third-  
3 party efficiency provider, or any other entity that the Sec-  
4 retary determines appropriate, to provide any information  
5 the Secretary determines appropriate to carry out this sec-  
6 tion.

7 “(j) STATE LAW.—Nothing in this section diminishes  
8 or qualifies any authority of a State or political subdivision  
9 of a State to adopt or enforce any law or regulation re-  
10 specting electricity savings or natural gas savings, includ-  
11 ing any law or regulation establishing energy efficiency re-  
12 quirements that are more stringent than those under this  
13 section, except that no State law or regulation shall relieve  
14 any person of any requirement otherwise applicable under  
15 this section.”.

16 **SEC. 4186. PROGRAM REVIEW.**

17 (a) NATIONAL ACADEMY OF SCIENCES REVIEW.—  
18 The Secretary of Energy shall enter into a contract with  
19 the National Academy of Sciences under which the Acad-  
20 emy shall, not later than July 1, 2021, and every 10 years  
21 thereafter, submit to Congress, the Federal Energy Regu-  
22 latory Commission, and the Secretary of Energy a com-  
23 prehensive evaluation of all aspects of the programs estab-  
24 lished under sections 610 and 611 of the Public Utility



1 Regulatory Policies Act of 1978 (as added by this Act),  
2 including—

3 (1) an evaluation of the effectiveness of the pro-  
4 grams, including the specific design elements of the  
5 programs, in increasing the efficiency of retail nat-  
6 ural gas and electricity distribution and consumption  
7 and increasing the deployment of renewable elec-  
8 tricity capacity;

9 (2) the opportunities for additional technologies  
10 and sources of efficiency and renewable electricity  
11 that have emerged since the date of enactment of  
12 this Act;

13 (3) the impact of the programs on the reli-  
14 ability of electricity and natural gas supply;

15 (4) the net benefits or costs of the programs to  
16 the United States and the States, including—

17 (A) the effects on electricity and natural  
18 gas demand and prices;

19 (B) the economic development benefits of  
20 investment;

21 (C) environmental costs and benefits;

22 (D) the impacts on public health and  
23 health care costs; and

1 (E) avoided costs related to environmental  
2 and congestion mitigation investments that oth-  
3 erwise would have been required;

4 (5) an assessment of the benefits and costs of  
5 increasing the performance standards established  
6 under section 611(d) of the Public Utility Regu-  
7 latory Policies Act of 1978 (as added by this Act);

8 (6) the feasibility, advantages, and disadvan-  
9 tages of alternative models for demonstrating com-  
10 pliance with a Federal energy efficiency resource  
11 standard, including—

12 (A) establishing a national trading system  
13 for energy efficiency credits; or

14 (B) demonstrating compliance through ac-  
15 tual reductions in delivery or sales of electricity  
16 and natural gas, rather than on program sav-  
17 ings; and

18 (7) recommendations regarding potential  
19 changes to the programs, including to regulations  
20 and procedures for implementing the programs, or  
21 to related public policies.

22 (b) RECOMMENDATIONS TO CONGRESS.—Not later  
23 than January 1, 2022, and every 10 years thereafter, the  
24 Secretary of Energy shall submit to the Committee on En-  
25 ergy and Commerce of the House of Representatives and

1 the Committee on Energy and Natural Resources of the  
2 Senate a report making recommendations for modifica-  
3 tions and improvements to the programs established under  
4 sections 610 and 611 of the Public Utility Regulatory  
5 Policies Act of 1978 (as added by this Act), including an  
6 explanation of the inconsistencies, if any, between the rec-  
7 ommendations of the Secretary of Energy and the rec-  
8 ommendations included in the evaluation of the National  
9 Academy of Sciences under subsection (a).

10 **SEC. 4187. CONFORMING AMENDMENT.**

11 The table of contents of the Public Utility Regulatory  
12 Policies Act of 1978 (16 U.S.C. prec. 2601) is amended  
13 by adding at the end of the items relating to title VI the  
14 following:

“Sec. 609. Rural and remote communities electrification grants.

“Sec. 610. Federal renewable electricity standard.

“Sec. 611. Federal energy efficiency resource standard for retail electricity and natural gas suppliers.”.

