

AMENDMENT TO H.R. _____

OFFERED BY MR. WELCH OF VERMONT

Page 91, after line 16, insert the following:

1 **CHAPTER 5—AMERICAN RENEWABLE**
2 **ENERGY AND EFFICIENCY**

3 **SEC. 4151. SHORT TITLE.**

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

6 **SEC. 4152. 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

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

20 “(A) are renewable;

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

3 “(C) can be harnessed to generate a sig-
4 nificant share of electricity in the United
5 States.

6 “(b) DEFINITIONS.—In this section:

7 “(1) BROWNFIELD SITE GENERATION FACIL-
8 ITY.—The term ‘brownfield site generation facility’
9 means a facility that—

10 “(A) generates renewable electricity; and

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

16 “(2) DISTRIBUTED RENEWABLE GENERATION
17 FACILITY.—The term ‘distributed renewable genera-
18 tion facility’ means a facility that—

19 “(A) generates renewable electricity;

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

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

24 “(3) FEDERAL RENEWABLE ELECTRICITY
25 CREDIT.—The term ‘Federal renewable electricity

1 credit' means a credit, representing 1 megawatt
2 hour of renewable electricity, issued pursuant to sub-
3 section (f).

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

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

8 “(B) any land not within the limits of any
9 Indian reservation, pueblo, or rancharia, title to
10 which was on the date of enactment of this sec-
11 tion held by—

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

14 “(ii) any Indian tribe or individual
15 subject to restriction by the United States
16 against alienation;

17 “(C) any dependent Indian community; or

18 “(D) any land conveyed under the Alaska
19 Native Claims Settlement Act (43 U.S.C. 1601
20 et seq.) to any Native Corporation (as that
21 term is defined in section 3 of that Act (43
22 U.S.C. 1602)).

23 “(5) INDIAN TRIBE.—The term ‘Indian tribe’
24 means any Indian tribe, band, nation, or other orga-
25 nized group or community (including any Native vil-

1 lage, Regional Corporation, or Village Corporation
2 (as those terms are defined in section 3 of the Alas-
3 ka Native Claims Settlement Act (43 U.S.C. 1602))
4 that is recognized as eligible for the special pro-
5 grams and services provided by the United States to
6 Indians because of their status as Indians.

7 “(6) QUALIFIED HYDROPOWER.—The term
8 ‘qualified hydropower’ means—

9 “(A) energy produced from increased effi-
10 ciency achieved, or additions of capacity made,
11 on or after January 1, 2001, at a hydroelectric
12 facility that—

13 “(i) was placed in service before that
14 date; and

15 “(ii) does not include additional en-
16 ergy generated as a result of operational
17 changes not directly associated with effi-
18 ciency improvements or capacity additions;
19 or

20 “(B) energy produced from generating ca-
21 pacity added to a dam on or after January 1,
22 2001, if the Commission certifies that—

23 “(i) the dam—

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

1 “(II) was operated for flood con-
2 trol, navigation, or water supply pur-
3 poses; and

4 “(III) was not producing hydro-
5 electric power prior to the addition of
6 the capacity; and

7 “(ii) the hydroelectric project installed
8 on the dam—

9 “(I) is licensed or is exempt from
10 licensing by the Commission;

11 “(II) is in compliance with—

12 “(aa) the terms and condi-
13 tions of the license or exemption;
14 and

15 “(bb) other applicable legal
16 requirements for the protection
17 of environmental quality, includ-
18 ing applicable fish passage re-
19 quirements; and

20 “(III) is operated so that the
21 water surface elevation at any given
22 location and time that would have oc-
23 curred in the absence of the hydro-
24 electric project is maintained, subject
25 to any license or exemption require-

1 ments that require changes in water
2 surface elevation for the purpose of
3 improving the environmental quality
4 of the affected waterway.

5 “(7) QUALIFIED RENEWABLE BIOMASS.—The
6 term ‘qualified renewable biomass’ means renewable
7 biomass that, when combusted, yields, on a weight-
8 ed-average basis, a 50-percent reduction in lifecycle
9 greenhouse gas emissions (as defined in section
10 4154(a) of the American Renewable Energy and Ef-
11 ficiency Act) per unit of useful energy, as compared
12 to the operation of a combined cycle natural gas
13 electric generating facility using the most efficient
14 commercially available technology, when calculated
15 over a 20-year life cycle.

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

18 “(A) crops, crop byproducts, or crop resi-
19 dues harvested from actively managed or fallow
20 agricultural land that is—

21 “(i) nonforested; and

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

24 “(B) planted trees, brush, slash, and all
25 residues from an actively managed tree farm lo-

1 cated on non-Federal land cleared prior to the
2 date of enactment of this section;

3 “(C) precommercial-sized thinnings, slash,
4 brush, and residue from milled trees, from for-
5 ested land that is not—

6 “(i) old-growth or mature forest;

7 “(ii) identified under a State natural
8 heritage program as rare, imperiled, or
9 critically imperiled; or

10 “(iii) Federal land;

11 “(D) algae;

12 “(E) nonhazardous plant matter derived
13 from waste—

14 “(i) including separated yard waste,
15 landscape right-of-way trimmings, or food
16 waste; but

17 “(ii) not including municipal solid
18 waste, recyclable waste paper, painted,
19 treated or pressurized wood, or wood con-
20 taminated with plastic or metals;

21 “(F) animal waste or animal byproducts,
22 including products of animal waste digesters;

23 “(G) vegetative matter removed from with-
24 in 200 yards of any manmade structure or
25 campground;

1 “(H) slash and precommercial-sized
2 thinnings harvested—

3 “(i) in environmentally sustainable
4 quantities, as determined by the appro-
5 priate Federal land manager; and

6 “(ii) from National Forest System
7 land or public lands (as defined in section
8 103 of the Federal Land Policy and Man-
9 agement Act of 1976 (43 U.S.C. 1702)),
10 other than—

11 “(I) components of the National
12 Wilderness Preservation System es-
13 tablished under the Wilderness Act
14 (16 U.S.C. 1131 et seq.);

15 “(II) Wilderness Study Areas, as
16 identified by the Bureau of Land
17 Management;

18 “(III) inventoried roadless areas
19 and all unroaded areas of at least
20 5,000 acres;

21 “(IV) old growth and late seral
22 stands;

23 “(V) components of the National
24 Landscape Conservation System ad-

1 ministered by the Bureau of Land
2 Management; and

3 “(VI) national monuments; and

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

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

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

13 “(A) Wind energy.

14 “(B) Solar energy.

15 “(C) Geothermal energy.

16 “(D) Qualified renewable biomass.

17 “(E) Biogas derived from qualified renew-
18 able biomass.

19 “(F) Biofuels derived from qualified re-
20 newable biomass.

21 “(G) Qualified hydropower.

22 “(H) Marine and hydrokinetic renewable
23 energy (as defined in section 632 of the Energy
24 Independence and Security Act of 2007 (42
25 U.S.C. 17211)).

1 “(I) Landfill gas.

2 “(11) RETAIL ELECTRIC SUPPLIER.—

3 “(A) IN GENERAL.—The term ‘retail elec-
4 tric supplier’ means, for any calendar year, an
5 electric utility that sells not fewer than
6 1,000,000 megawatt hours of electric energy to
7 electric consumers for purposes other than re-
8 sale during the preceding calendar year.

9 “(B) INCLUSIONS AND LIMITATIONS.—For
10 purposes of determining whether an electric
11 utility qualifies as a retail electric supplier
12 under subparagraph (A)—

13 “(i) the sales made by any affiliate of
14 the electric utility to electric consumers,
15 other than sales to lessees or tenants of
16 the affiliate, for purposes other than resale
17 shall be considered to be sales made by the
18 electric utility; and

19 “(ii) sales made by the electric utility
20 to an affiliate, lessee, or tenant of the elec-
21 tric utility shall not be treated as sales to
22 electric consumers.

23 “(C) AFFILIATE.—In this paragraph, the
24 term ‘affiliate’ when used in relation to a per-
25 son, means another person that directly or indi-

1 rectly owns or controls, is owned or controlled
2 by, or is under common ownership or control
3 with, that person, as determined under regula-
4 tions promulgated by the Commission.

5 “(12) RETAIL ELECTRIC SUPPLIER’S BASE
6 QUANTITY.—The term ‘retail electric supplier’s base
7 quantity’ means the total quantity of electric energy
8 sold by the retail electric supplier, expressed in
9 megawatt hours, to electric customers for purposes
10 other than resale during the relevant calendar year,
11 excluding—

12 “(A) electricity generated by a hydro-
13 electric facility, other than qualified hydro-
14 power; and

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

17 “(13) RETIRE AND RETIREMENT.—The terms
18 ‘retire’ and ‘retirement’ with respect to a Federal re-
19 newable electricity credit, mean to disqualify the
20 credit for any subsequent use under this section, re-
21 gardless of whether the use is a sale, transfer, ex-
22 change, or submission in satisfaction of a compliance
23 obligation.

24 “(c) ANNUAL COMPLIANCE OBLIGATION.—Except as
25 otherwise provided in subsection (g), for each of calendar

1 years 2017 through 2040, not later than March 31 of the
2 following calendar year, each retail electric supplier shall
3 submit to the Commission a quantity of Federal renewable
4 electricity credits that is equal to at least the annual tar-
5 get of the retail electric supplier under subsection (e).

6 “(d) ESTABLISHMENT OF PROGRAM.—

7 “(1) IN GENERAL.—Not later than 1 year after
8 the date of enactment of this section, the Commis-
9 sion shall promulgate regulations to implement and
10 enforce the requirements of this section.

11 “(2) CONSIDERATIONS.—In promulgating regu-
12 lations under paragraph (1), the Commission shall,
13 to the maximum extent practicable—

14 “(A) preserve the integrity and incorporate
15 best practices of existing State and tribal re-
16 newable electricity programs;

17 “(B) rely on existing and emerging State,
18 tribal, or regional tracking systems that issue
19 and track non-Federal renewable electricity
20 credits; and

21 “(C) cooperate with States and Indian
22 tribes—

23 “(i) to facilitate coordination between
24 State, tribal, and Federal renewable elec-
25 tricity programs; and

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

3 “(e) ANNUAL COMPLIANCE REQUIREMENT.—

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

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

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

12 “(2) REQUIRED ANNUAL PERCENTAGE.—

13 “(A) CALENDAR YEARS 2017 THROUGH
 14 2040.—Subject to subparagraph (B), for each of
 15 calendar years 2017 through 2040, the required
 16 annual percentage shall be as follows:

“Year:	Required annual percentage:
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

17 “(B) INCREASE AUTHORIZED FOR CAL-
 18 ENDAR YEARS 2031 THROUGH 2040.—The Com-

1 mission may issue orders increasing the re-
2 quired annual percentage amounts for each of
3 calendar years 2031 through 2040 to reflect the
4 maximum achievable level of renewable elec-
5 tricity generation potential, taking into account
6 regional resource availability, economic feasi-
7 bility, and technological capability.

8 “(f) FEDERAL RENEWABLE ELECTRICITY CRED-
9 ITS.—

10 “(1) IN GENERAL.—

11 “(A) ISSUANCE; TRACKING;
12 VERIFICATION.—The regulations promulgated
13 under this section shall include provisions gov-
14 erning the issuance, tracking, and verification
15 of Federal renewable electricity credits.

16 “(B) CREDIT RATIO.—Except as provided
17 in paragraphs (2) through (4), the Commission
18 shall issue to each generator of renewable elec-
19 tricity, 1 Federal renewable electricity credit for
20 each megawatt hour of renewable electricity
21 generated by the generator after December 31,
22 2016.

23 “(C) SERIAL NUMBER.—The Commission
24 shall assign a unique serial number to each
25 Federal renewable electricity credit.

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

3 “(A) IN GENERAL.—If renewable elec-
4 tricity is generated with the support of pay-
5 ments from a retail electric supplier pursuant
6 to a State renewable electricity program
7 (whether through State alternative compliance
8 payments or through payments to a State re-
9 newable electricity procurement fund or entity),
10 the Commission shall issue Federal renewable
11 electricity credits to the retail electric supplier
12 for the portion of the relevant renewable elec-
13 tricity generation that is attributable to pay-
14 ments made by the retail electric supplier, as
15 determined pursuant to regulations promul-
16 gated by the Commission.

17 “(B) REMAINING PORTION.—For any re-
18 maining portion of the relevant renewable elec-
19 tricity generation, the Commission shall issue
20 Federal renewable electricity credits to the gen-
21 erator, as provided in paragraph (1), except
22 that not more than 1 Federal renewable elec-
23 tricity credit shall be issued for the same mega-
24 watt hour of electricity.

1 “(C) STATE GUIDANCE.—In determining
2 how Federal renewable electricity credits will be
3 apportioned among retail electric suppliers and
4 generators under this paragraph, the Commis-
5 sion shall consider information and guidance
6 issued by the applicable one or more States.

7 “(3) CERTAIN POWER SALES CONTRACTS.—Ex-
8 cept as otherwise provided in paragraph (2), if a
9 generator has sold renewable electricity to a retail
10 electric supplier under a contract for power from a
11 facility placed in service before the date of enact-
12 ment of this section, and the contract does not pro-
13 vide for the determination of ownership of the Fed-
14 eral renewable electricity credits associated with the
15 generation, the Commission shall issue the Federal
16 renewable electricity credits to the retail electric sup-
17 plier for the duration of the contract.

18 “(4) CREDIT MULTIPLIERS.—

19 “(A) IN GENERAL.—Except as provided in
20 subparagraph (B), the Commission shall
21 issue—

22 “(i) not more than 3 Federal renew-
23 able electricity credits for each megawatt
24 hour of renewable electricity generated by
25 a distributed renewable generation facility;

1 “(ii) not more than 2 Federal renew-
2 able electricity credits for each megawatt
3 hour of renewable electricity generated on
4 Indian land; and

5 “(iii) not more than 2 Federal renew-
6 able electricity credits for each megawatt
7 hour of renewable electricity generated by
8 a brownfield site generation facility.

9 “(B) ADJUSTMENT.—Except as provided
10 in subparagraph (C), not later than January 1,
11 2019, and not less frequently than every 4
12 years thereafter, the Commission shall review
13 the effect of this paragraph on the aggregate
14 quantity of renewable electricity produced under
15 the standard and shall, as necessary and after
16 providing 1 year of notice, reduce the number
17 of Federal renewable electricity credits per
18 megawatt hour issued under this paragraph for
19 any given energy source or facility, but not
20 below one, to ensure that the number is no
21 higher than the Commission determines is nec-
22 essary—

23 “(i) to incentivize incremental renew-
24 able energy generation on Indian land and
25 brownfield sites; and

1 “(ii) to make distributed renewable
2 generation facilities cost competitive with
3 other sources of renewable electricity gen-
4 eration.

5 “(C) FACILITIES PLACED IN SERVICE
6 AFTER ENACTMENT.—

7 “(i) IN GENERAL.—For any renewable
8 generation facility placed in service after
9 the date of enactment of this section, sub-
10 paragraph (B) shall not apply for the first
11 10 years after the date on which the facil-
12 ity is placed in service.

13 “(ii) INITIAL PERIOD.—For each year
14 during the 10-year period described in
15 clause (i), the Commission shall issue to
16 the facility the same number of Federal re-
17 newable electricity credits per megawatt
18 hour as are issued to that facility in the
19 year in which the facility is placed in serv-
20 ice.

21 “(iii) SUBSEQUENT PERIOD.—After
22 the 10-year period described in clause (i),
23 the Commission shall issue Federal renew-
24 able electricity credits to the facility in ac-
25 cordance with subparagraph (B).

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

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

9 “(B) using the same water flow informa-
10 tion used to determine a historic average an-
11 nual generation baseline for the hydroelectric
12 facility, as certified by the Commission.

13 “(6) GENERATION FROM MIXED RENEWABLE
14 AND NONRENEWABLE RESOURCES.—If electricity is
15 generated using both a renewable energy resource
16 and an energy source that is not a renewable energy
17 resource (such as cofiring of renewable biomass and
18 fossil fuel), the Commission shall issue Federal re-
19 newable electricity credits based on the proportion of
20 the electricity that is attributable to the renewable
21 energy resource.

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

1 “(A) no Federal renewable electricity cred-
2 it is used more than once for compliance with
3 this section; and

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

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

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

11 “(B) submit the credit for compliance
12 under subsection (c); or

13 “(C) submit the credit for retirement by
14 the Commission.

15 “(9) BANKING.—

16 “(A) IN GENERAL.—A Federal renewable
17 electricity credit may be submitted in satisfac-
18 tion of the compliance obligation under sub-
19 section (c) for the compliance year in which the
20 credit was issued or for any of the 3 imme-
21 diately subsequent compliance years.

22 “(B) RETIREMENT.—The Commission
23 shall retire any Federal renewable electricity
24 credit that has not been retired by April 2 of

1 the calendar year that is 3 years after the cal-
2 endar year during which the credit was issued.

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

8 “(g) ALTERNATIVE COMPLIANCE PAYMENTS.—

9 “(1) IN GENERAL.—A retail electric supplier
10 may satisfy the requirements of subsection (c) in
11 whole or in part by submitting in accordance with
12 this subsection, in lieu of each Federal renewable
13 electricity credit that would otherwise be due, a pay-
14 ment equal to \$50, adjusted for inflation on January
15 1 of each year following calendar year 2017, in ac-
16 cordance with regulations promulgated by the Com-
17 mission.

18 “(2) PAYMENT TO STATE FUNDS.—

19 “(A) IN GENERAL.—Except as otherwise
20 provided in this paragraph, payments made
21 under this subsection shall be made directly to
22 one or more States in which the retail electric
23 supplier sells electric energy, in proportion to
24 the portion of the retail electric supplier’s base

1 quantity that is sold within each applicable
2 State, if—

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

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

8 “(B) NONCOMPLIANCE.—If the Commis-
9 sion determines that a State is in substantial
10 noncompliance with paragraph (3) or (4), the
11 Commission shall direct that any future alter-
12 native compliance payments that would other-
13 wise be paid to the State under this subsection
14 shall instead be paid to the Commission and de-
15 posited in the Treasury.

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

20 “(A) deploying technologies that generate
21 electricity from renewable energy resources; or

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

24 “(4) REPORTING.—

1 “(A) IN GENERAL.—As a condition of re-
2 ceipt of alternative compliance payments pursu-
3 ant to this subsection, a State shall submit to
4 the Commission an annual report, in accord-
5 ance with regulations promulgated by the Com-
6 mission, containing a full accounting of the use
7 of the payments, including a detailed descrip-
8 tion of the activities funded by the payments
9 and demonstrating compliance with the require-
10 ments of this subsection.

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

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

16 “(ii) every 1 year thereafter until all
17 alternative compliance payments are ex-
18 pended.

19 “(h) INFORMATION COLLECTION.—

20 “(1) IN GENERAL.—The Commission may re-
21 quire any retail electric supplier, renewable elec-
22 tricity generator, or any other entity that the Com-
23 mission determines appropriate, to provide any in-
24 formation the Commission determines appropriate to
25 carry out this section.

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

7 “(i) ENFORCEMENT AND JUDICIAL REVIEW.—

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

13 “(A) double the alternative compliance
14 payment calculated under subsection (g)(1);
15 and

16 “(B) the aggregate quantity of Federal re-
17 newable electricity credits or equivalent alter-
18 native compliance payments that the person
19 failed to submit in violation of the requirements
20 of subsections (c) and (g).

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

1 “(3) VIOLATION OF REQUIREMENT OF REGULA-
2 TIONS OR ORDERS.—

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

9 “(B) ASSESSMENT.—The penalty under
10 subparagraph (A) shall be assessed by the Com-
11 mission in the same manner as in the case of
12 a violation referred to in section 316A(b) of
13 that Act.

14 “(4) JUDICIAL REVIEW.—

15 “(A) IN GENERAL.—Any person aggrieved
16 by a final action taken by the Commission
17 under this section, other than the assessment of
18 a civil penalty under paragraphs (1) through
19 (3), may use the procedures for review de-
20 scribed in section 313 of the Federal Power Act
21 (16 U.S.C. 825l).

22 “(B) REFERENCE.—For purposes of this
23 paragraph, references to an order in section
24 313 of that Act shall be considered to refer also
25 to all other final actions of the Commission

1 under this section other than the assessment of
2 a civil penalty under paragraphs (1) through
3 (3).

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

5 “(1) diminishes or qualifies any authority of a
6 State, a political subdivision of a State, or an Indian
7 tribe—

8 “(A) to adopt or enforce any law or regula-
9 tion respecting renewable electricity, including
10 any law or regulation establishing requirements
11 that are more stringent than those established
12 by this section, provided that no such law or
13 regulation may relieve any person of any re-
14 quirement otherwise applicable under this sec-
15 tion; or

16 “(B) to regulate the acquisition and dis-
17 position of Federal renewable electricity credits
18 by retail electric suppliers within the jurisdic-
19 tion of the State, political subdivision, or Indian
20 tribe, including the authority to require the re-
21 tail electric supplier to acquire and submit to
22 the Commission for retirement Federal renew-
23 able electricity credits in excess of those sub-
24 mitted under this section; or

1 “(2) affects the application of or the responsi-
2 bility for compliance with any other provision of law
3 or regulation, including environmental and licensing
4 requirements.

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

7 **SEC. 4153. CLARIFYING STATE AUTHORITY TO ADOPT RE-**
8 **NEWABLE ENERGY INCENTIVES.**

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

12 “(o) CLARIFICATION OF STATE AUTHORITY TO
13 ADOPT RENEWABLE ENERGY INCENTIVES.—

14 “(1) DEFINITION OF STATE-APPROVED PRO-
15 DUCTION INCENTIVE PROGRAM.—In this subsection,
16 the term ‘State-approved production incentive pro-
17 gram’ means a requirement imposed pursuant to
18 State law or by a State regulatory authority acting
19 within its authority under State law that an electric
20 utility purchase renewable energy (as defined in sec-
21 tion 609(a)) at a specified rate.

22 “(2) STATE AUTHORITY TO ADOPT RENEWABLE
23 ENERGY INCENTIVES.—Notwithstanding any other
24 provision of this Act or the Federal Power Act (16
25 U.S.C. 791a et seq.), a State legislature or regu-

1 latory authority may set the rates for a sale of elec-
2 tric energy by a facility generating electric energy
3 from renewable energy sources pursuant to a State-
4 approved production incentive program under which
5 the facility voluntarily participates in the State-ap-
6 proved production incentive program.”.

7 **SEC. 4154. GUIDELINES FOR DETERMINING QUALIFIED RE-**
8 **NEWABLE BIOMASS.**

9 (a) DEFINITIONS.—In this section:

10 (1) ADMINISTRATOR.—The term “Adminis-
11 trator” means the Administrator of the Environ-
12 mental Protection Agency.

13 (2) LIFECYCLE GREENHOUSE GAS EMIS-
14 SIONS.—

15 (A) IN GENERAL.—The term “lifecycle
16 greenhouse gas emissions” means the aggregate
17 quantity of greenhouse gas emissions, adjusted
18 to account for the relative global warming po-
19 tential of the emissions relative to all green-
20 house gas emissions.

21 (B) INCLUSIONS.—For purposes of sub-
22 paragraph (A), the term “greenhouse gas emis-
23 sions” includes—

24 (i) direct emissions; and

1 (ii) significant indirect emissions, in-
2 cluding from—

3 (I) land use changes and tem-
4 poral changes in forest carbon seques-
5 tration;

6 (II) biomass harvests, regrowth,
7 and avoided decomposition related to
8 the full fuel lifecycle, including all
9 stages of fuel and feedstock produc-
10 tion and distribution; and

11 (III) feedstock generation or ex-
12 traction through the distribution and
13 delivery of the finished fuel to the ul-
14 timate consumer.

15 (b) GUIDELINES.—Not later than 1 year after the
16 date of enactment of this Act, the Administrator shall, rec-
17 ognizing the recommendations of and coordinating with
18 the Scientific Advisory Board of the Environmental Pro-
19 tection Agency regarding the accounting of biogenic car-
20 bon dioxide emissions and after notice and public com-
21 ment, issue guidelines for calculating lifecycle greenhouse
22 gas emissions for renewable biomass (as that term is de-
23 fined in section 610(b) of the Public Utility Regulatory
24 Policies Act of 1978).

1 **SEC. 4155. ENERGY EFFICIENCY RESOURCE STANDARD FOR**
2 **RETAIL ELECTRICITY AND NATURAL GAS**
3 **SUPPLIERS.**

4 (a) IN GENERAL.—Title VI of the Public Utility Reg-
5 ulatory Policies Act of 1978 (16 U.S.C. 2601 et seq.) (as
6 amended by section 4152) is amended by adding after sec-
7 tion 610 the following:

8 **“SEC. 611. FEDERAL ENERGY EFFICIENCY RESOURCE**
9 **STANDARD FOR RETAIL ELECTRICITY AND**
10 **NATURAL GAS SUPPLIERS.**

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

12 “(1) the Federal energy efficiency resource
13 standard established by this section—

14 “(A) establishes nationwide minimum lev-
15 els of electricity and natural gas savings to be
16 achieved through utility efficiency programs,
17 building energy codes, appliance standards, and
18 related efficiency measures; and

19 “(B) rewards energy-saving improvements
20 achieved through—

21 “(i) end-use energy efficiency up-
22 grades;

23 “(ii) reduced losses in transmission
24 and distribution of energy; and

1 “(iii) fuel-switching, to the extent that
2 the switching results in reduced primary
3 energy use; and

4 “(2) in light of the cost-effective energy effi-
5 ciency opportunities that exist across the United
6 States in every sector of the economy, retail elec-
7 tricity suppliers, retail natural gas suppliers, and
8 States should—

9 “(A) consider energy efficiency as a re-
10 source in utility planning and procurement ac-
11 tivities; and

12 “(B) seek to achieve all energy efficiency
13 that is available at lower cost than other energy
14 supply options.

15 “(b) DEFINITIONS.—In this section:

16 “(1) AFFILIATE.—The term ‘affiliate’ when
17 used in relation to a person, means another person
18 that owns or controls, is owned or controlled by, or
19 is under common ownership control with, that per-
20 son, as determined under regulations promulgated
21 by the Secretary.

22 “(2) ASHRAE, ANSI, AND IESNA.—The terms
23 ‘ASHRAE’, ‘ANSI’, and ‘IESNA’ mean the Amer-
24 ican Society of Heating, Refrigerating and Air Con-
25 ditioning Engineers, the American National Stand-

1 ards Institute, and the Illuminating Engineering So-
2 ciety of North America, respectively.

3 “(3) BASE QUANTITY.—

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

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

19 “(4) CHP SAVINGS.—The term ‘CHP savings’
20 means—

21 “(A) CHP system savings from a combined
22 heat and power system that commences oper-
23 ation after the date of enactment of this sec-
24 tion; and

1 “(B) the increase in CHP system savings
2 from upgrading or replacing, after the date of
3 enactment of this section, a combined heat and
4 power system that commenced operation on or
5 before the date of enactment of this section.

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

16 “(6) CODES AND STANDARDS SAVINGS.—

17 “(A) IN GENERAL.—The term ‘codes and
18 standards savings’ means a reduction in end-
19 use electricity or natural gas consumption by a
20 retail electricity supplier or in the service terri-
21 tory of a retail natural gas supplier as a result
22 of the adoption and implementation, after the
23 date of enactment of this section, of new or re-
24 vised appliance and equipment efficiency stand-
25 ards or building energy codes.

1 “(B) BASELINES.—In calculating codes
2 and standards savings under subparagraph
3 (A)—

4 “(i) the baseline for calculating sav-
5 ings from building codes shall be the more
6 stringent of—

7 “(I)(aa) the 2015 International
8 Energy Conservation Code for resi-
9 dential buildings; or

10 “(bb) the ASHRAE/ANSI/
11 IESNA Standard 90.1–2013 for com-
12 mercial buildings; or

13 “(II) the applicable State build-
14 ing code in effect on the date of en-
15 actment of this section; and

16 “(ii) the baseline for calculating sav-
17 ings from appliance standards shall be the
18 average efficiency of new appliances in the
19 applicable one or more categories prior to
20 the adoption and implementation of the
21 new standard.

22 “(7) COMBINED HEAT AND POWER SYSTEM.—
23 The term ‘combined heat and power system’ means
24 a system that uses the same energy source both for
25 the generation of electrical or mechanical power and

1 the production of steam or another form of useful
2 thermal energy, if—

3 “(A) the system meets any requirements
4 relating to efficiency and other operating char-
5 acteristics that the Secretary promulgates by
6 regulation; and

7 “(B) the net wholesale sales of electricity
8 by a facility does not exceed 50 percent of total
9 annual electric generation by the facility.

10 “(8) COST-EFFECTIVE.—The term ‘cost-effec-
11 tive’, with respect to an energy efficiency measure,
12 means that the measure achieves a net present value
13 of economic benefits over the life of the measure,
14 both directly to the energy consumer and to the
15 economy, that is greater than the net present value
16 of the cost of the measure over the life of the meas-
17 ure, both directly to the energy consumer and to the
18 economy, using the societal benefit-cost test cal-
19 culated using the lower of a utility weighted average
20 cost of capital or a social discount rate of 3 percent.

21 “(9) CUSTOMER FACILITY SAVINGS.—The term
22 ‘customer facility savings’ means a reduction in end-
23 use electricity or natural gas consumption (including
24 waste heat energy savings) at a facility of an end-
25 use consumer of electricity or natural gas served by

1 a retail electricity supplier or natural gas supplier,
2 as compared to—

3 “(A) in the case of a new facility, con-
4 sumption at a reference facility of average effi-
5 ciency;

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

9 “(C) in the case of new equipment that re-
10 places existing equipment at the end of the use-
11 ful life of the existing equipment, consumption
12 by new equipment of average efficiency of the
13 same equipment type, except that customer sav-
14 ings under this subparagraph shall not be
15 counted towards customer savings under sub-
16 paragraph (A) or (B); and

17 “(D) in the case of new equipment that re-
18 places existing equipment with remaining useful
19 life—

20 “(i) consumption of the existing
21 equipment for the remaining useful life of
22 the equipment; and

23 “(ii) thereafter, consumption of new
24 equipment of average efficiency.

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

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

10 “(B) reductions in distribution system
11 losses of electricity achieved by a retail elec-
12 tricity supplier, as compared to losses attrib-
13 utable to new or replacement distribution sys-
14 tem equipment of average efficiency, as defined
15 in regulations promulgated by the Secretary;

16 “(C) CHP savings;

17 “(D) codes and standards savings of elec-
18 tricity; and

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

21 “(11) FUEL SWITCHING ENERGY SAVINGS.—

22 “(A) IN GENERAL.—The term ‘fuel-switch-
23 ing energy savings’ means net energy savings,
24 calculated in accordance with subparagraph
25 (B), from end-user switches from 1 energy

1 source to another, as determined in accordance
2 with regulations promulgated by the Secretary.

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

5 “(i) electricity use shall be evaluated
6 based on the average quantity of fuel
7 burned at a new power plant taking into
8 account existing and planned renewable en-
9 ergy generators to provide each kilowatt
10 hour of electricity;

11 “(ii) electricity and natural gas use
12 shall include losses in the transmission and
13 distribution system; and

14 “(iii) fuel-switching that is not cost-ef-
15 fective to the end-user shall not be count-
16 ed.

17 “(12) NATURAL GAS SAVINGS.—The term ‘nat-
18 ural gas savings’ means reductions in natural gas
19 consumption from measures implemented after the
20 date of enactment of this section, as determined in
21 accordance with regulations promulgated by the Sec-
22 retary, that are limited to—

23 “(A) customer facility savings of natural
24 gas, adjusted to reflect any associated increase

1 in electricity consumption or consumption of
2 other fuels at the facility;

3 “(B) reductions in leakage, operational
4 losses, and consumption of natural gas fuel to
5 operate a gas distribution system, achieved by
6 a retail natural gas supplier, as compared to
7 similar leakage, losses, and consumption during
8 a base period of not less than 1 year;

9 “(C) codes and standards savings of nat-
10 ural gas; and

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

13 “(13) POWER POOL.—The term ‘power pool’
14 means an association of two or more interconnected
15 electric systems that have entered into an agreement
16 to coordinate operations and planning for improved
17 reliability and efficiencies, including a Regional
18 Transmission Organization or an Independent Sys-
19 tem Operator, as determined by the Secretary.

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

22 “(A) calendar year 2017; and

23 “(B) each successive 2-calendar-year pe-
24 riod thereafter.

25 “(15) RETAIL ELECTRICITY SUPPLIER.—

1 “(A) IN GENERAL.—The term ‘retail elec-
2 tricity supplier’ means, for any given calendar
3 year, an electric utility that sells not less than
4 1,000,000 megawatt hours of electric energy to
5 electric consumers for purposes other than re-
6 sale during the preceding calendar year.

7 “(B) INCLUSIONS AND LIMITATIONS.—For
8 purposes of determining whether an electric
9 utility qualifies as a retail electricity supplier
10 under subparagraph (A)—

11 “(i) deliveries by any affiliate of an
12 electric utility to electric consumers for
13 purposes other than resale shall be consid-
14 ered to be deliveries by the electric utility;
15 and

16 “(ii) deliveries by any electric utility
17 to a lessee, tenant, or affiliate of the elec-
18 tric utility shall not be considered to be de-
19 liveries to electric consumers.

20 “(16) RETAIL NATURAL GAS SUPPLIER.—

21 “(A) IN GENERAL.—The term ‘retail nat-
22 ural gas supplier’ means, for any given calendar
23 year, a local distribution company (as defined
24 in section 2 of the Natural Gas Policy Act of
25 1978 (15 U.S.C. 3301)), that delivered to nat-

1 ural gas consumers more than 5,000,000,000
2 cubic feet of natural gas for purposes other
3 than resale during the preceding calendar year.

4 “(B) INCLUSIONS AND LIMITATIONS.—For
5 purposes of determining whether a person
6 qualifies as a retail natural gas supplier under
7 subparagraph (A)—

8 “(i) deliveries of natural gas by any
9 affiliate of a local distribution company to
10 consumers for purposes other than resale
11 shall be considered to be deliveries by the
12 local distribution company; and

13 “(ii) deliveries of natural gas to a les-
14 see, tenant, or affiliate of a local distribu-
15 tion company shall not be considered to be
16 deliveries to natural gas consumers.

17 “(17) THIRD-PARTY EFFICIENCY PROVIDER.—
18 The term ‘third-party efficiency provider’ means any
19 retailer, building owner, energy service company, fi-
20 nancial institution, or other commercial, industrial,
21 or nonprofit entity that is capable of providing elec-
22 tricity savings or natural gas savings in accordance
23 with subsections (e) and (f).

24 “(18) WASTE HEAT ENERGY SAVINGS.—

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

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

13 “(c) ESTABLISHMENT OF PROGRAM.—

14 “(1) REGULATIONS.—Not later than 1 year
15 after the date of enactment of this section, the Sec-
16 retary shall, by regulation, establish a program to
17 implement and enforce the requirements of this sec-
18 tion, including by—

19 “(A) establishing measurement and
20 verification procedures and standards under
21 subsection (f);

22 “(B) establishing requirements under
23 which retail electricity suppliers and retail nat-
24 ural gas suppliers shall—

1 “(i) demonstrate, document, and re-
2 port the compliance of the retail electricity
3 suppliers and retail natural gas suppliers
4 with the performance standards under sub-
5 section (d); and

6 “(ii) estimate the impact of the stand-
7 ards on current and future electricity and
8 natural gas use in the service territories of
9 the suppliers; and

10 “(C) establishing requirements governing
11 applications for, and implementation of, dele-
12 gated State administration under subsection
13 (h).

14 “(2) COORDINATION WITH STATE PROGRAMS.—
15 In establishing and implementing this section, the
16 Secretary shall, to the maximum extent practicable,
17 preserve the integrity and incorporate best practices
18 of existing State energy efficiency programs.

19 “(d) PERFORMANCE STANDARDS.—

20 “(1) COMPLIANCE OBLIGATION.—Not later
21 than May 1 of the calendar year immediately fol-
22 lowing each reporting period—

23 “(A) each retail electricity supplier shall
24 submit to the Secretary a report, in accordance
25 with regulations promulgated by the Secretary,

1 demonstrating that the retail electricity supplier
2 has achieved cumulative electricity savings (ad-
3 justed to account for any attrition of savings
4 measures implemented in prior years) in each
5 calendar year that are equal to the applicable
6 percentage, established under paragraph (2),
7 (3), or (4), of the base quantity of the retail
8 electricity supplier; and

9 “(B) each retail natural gas supplier shall
10 submit to the Secretary a report, in accordance
11 with regulations promulgated by the Secretary,
12 demonstrating that it has achieved cumulative
13 natural gas savings (adjusted to account for
14 any attrition of savings measures implemented
15 in prior years) in each calendar year that are
16 equal to the applicable percentage, established
17 under paragraph (2), (3), or (4), of the base
18 quantity of such retail natural gas supplier.

19 “(2) STANDARDS FOR 2017 THROUGH 2030.—
20 For each of calendar years 2017 through 2030, the
21 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

“Calendar Year	Cumulative Electricity Savings Percentage	Cumulative Natural Gas Savings Percentage
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

1 “(3) SUBSEQUENT YEARS.—

2 “(A) CALENDAR YEARS 2031 THROUGH
3 2040.—Not later than December 31, 2028, the
4 Secretary shall promulgate regulations estab-
5 lishing performance standards (expressed as ap-
6 plicable percentages of base quantity for both
7 cumulative electricity savings and cumulative
8 natural gas savings) for each of calendar years
9 2031 through 2040.

10 “(B) SUBSEQUENT EXTENSIONS.—Except
11 as provided in subparagraph (A), not later than
12 December 31 of the penultimate reporting pe-
13 riod for which performance standards have been
14 established under this paragraph, the Secretary
15 shall promulgate regulations establishing per-

1 formance standards (expressed as applicable
2 percentages of base quantity for both cumu-
3 lative electricity savings and cumulative natural
4 gas savings) for the 10-calendar-year period fol-
5 lowing the last calendar year for which perform-
6 ance standards previously were established.

7 “(C) REQUIREMENTS.—The Secretary
8 shall establish standards under this paragraph
9 at levels reflecting the maximum achievable
10 level of cost-effective energy efficiency potential,
11 taking into account—

12 “(i) cost-effective energy savings
13 achieved by leading retail electricity sup-
14 pliers and retail natural gas suppliers;

15 “(ii) opportunities for new codes and
16 standards savings;

17 “(iii) technology improvements; and

18 “(iv) other indicators of cost-effective
19 energy efficiency potential.

20 “(D) MINIMUM PERCENTAGE.—In no case
21 shall the applicable percentages for any cal-
22 endar year be less than the applicable percent-
23 ages for calendar year 2030 (including any in-
24 crease in the standard for calendar year 2030
25 established pursuant to paragraph (4)).

1 “(4) MIDCOURSE REVIEW AND ADJUSTMENT OF
2 STANDARDS.—

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

6 “(i) review the most recent standards
7 established under paragraph (2) or (3);
8 and

9 “(ii) increase the standards by regula-
10 tion if the Secretary determines that addi-
11 tional cost-effective energy efficiency po-
12 tential is achievable, taking into account
13 the requirements described in paragraph
14 (3)(C).

15 “(B) LEAD TIME.—If the Secretary revises
16 standards under this paragraph, the regulations
17 shall provide adequate lead time to ensure that
18 compliance with the increased standards is fea-
19 sible.

20 “(5) DELAY OF SUBMISSION FOR FIRST RE-
21 PORTING PERIOD.—

22 “(A) IN GENERAL.—Notwithstanding
23 paragraphs (1) and (2), for the 2017 reporting
24 period, the Secretary may accept a request from
25 a retail electricity supplier or a retail natural

1 gas supplier to delay the required submission of
2 documentation of all or part of the required
3 savings for up to 2 years.

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

8 “(6) APPLYING UNUSED SAVINGS TO FUTURE
9 YEARS.—If savings achieved in a year exceed the
10 performance standards specified in this subsection,
11 any savings in excess of the performance standards
12 may be applied toward performance standards speci-
13 fied for future years.

14 “(e) TRANSFERS OF ELECTRICITY OR NATURAL GAS
15 SAVINGS.—

16 “(1) BILATERAL CONTRACTS FOR SAVINGS
17 TRANSFERS.—Subject to the limitations of this sub-
18 section, a retail electricity supplier or retail natural
19 gas supplier may use electricity savings or natural
20 gas savings purchased pursuant to a bilateral con-
21 tract from another retail electricity supplier or retail
22 natural gas supplier, a State, or a third-party effi-
23 ciency provider to meet the applicable performance
24 standard under subsection (d).

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

4 “(A) measured and verified in accordance
5 with subsection (f);

6 “(B) reported in accordance with sub-
7 section (d); and

8 “(C) achieved within the same State as is
9 served by the retail electricity supplier or retail
10 natural gas supplier.

11 “(3) EXCEPTION.—Notwithstanding paragraph
12 (2)(C), a State regulatory authority may authorize a
13 retail electricity supplier or a retail natural gas sup-
14 plier regulated by the State regulatory authority to
15 purchase savings achieved in a different State, if—

16 “(A) the savings are achieved within the
17 same power pool; and

18 “(B) the State regulatory authority that
19 regulates the purchaser oversees the measure-
20 ment and verification of the savings pursuant to
21 the procedures and standards applicable in the
22 State in which the purchaser is located.

23 “(4) REGULATORY APPROVAL.—Nothing in this
24 subsection limits or affects the authority of a State
25 regulatory authority to require a retail electricity

1 supplier or retail natural gas supplier that is regu-
2 lated by the State regulatory authority to obtain the
3 authorization or approval of the State regulatory au-
4 thority of a contract for transfer of electricity sav-
5 ings or natural gas savings under this subsection.

6 “(5) LIMITATIONS.—To optimize the achieve-
7 ment of cost-effective efficiency potential, the Sec-
8 retary may prescribe such limitations as the Sec-
9 retary determines appropriate with respect to the
10 proportion of the compliance obligation of a retail
11 electricity or natural gas supplier under the applica-
12 ble performance standards under subsection (d) that
13 may be met using electricity savings or natural gas
14 savings that are purchased under this subsection.

15 “(f) MEASUREMENT AND VERIFICATION OF SAV-
16 INGS.—The regulations promulgated pursuant to sub-
17 section (c) shall include—

18 “(1) procedures and standards for defining and
19 measuring electricity savings and natural gas sav-
20 ings that can be counted towards the performance
21 standards established under subsection (d), that
22 shall—

23 “(A) specify the types of energy efficiency
24 and energy conservation measures that can be
25 counted;

1 “(B) require that energy consumption esti-
2 mates for customer facilities or portions of fa-
3 cilities in the applicable base and current years
4 be adjusted, as appropriate, to account for
5 changes in weather, level of production, and
6 building area;

7 “(C) account for the useful life of meas-
8 ures;

9 “(D) include assigned savings values for
10 specific, commonly used measures;

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

14 “(F) include procedures for calculating and
15 documenting CHP savings, fuel-switching en-
16 ergy savings, and waste heat energy savings;

17 “(G) establish methods for calculating
18 codes and standards energy savings, including
19 the use of verified compliance rates;

20 “(H) include procedures for calculating
21 and documenting—

22 “(i) customer facility savings and re-
23 ductions in distribution system losses of
24 electricity and natural gas that are
25 achieved as a result of smart grid deploy-

1 ment, as described in section 1301 of the
2 Energy Independence and Security Act of
3 2007 (42 U.S.C. 17381); and

4 “(ii) reductions in natural gas dis-
5 tribution system losses attributable to pipe-
6 line repair and replacement programs;

7 “(I) count only measures and savings that
8 are additional to business-as-usual customer
9 purchase practices;

10 “(J) ensure that the retail electricity sup-
11 plier or retail natural gas supplier claiming the
12 electricity savings or natural gas savings, in-
13 cluding codes and standards savings, played a
14 significant role in achieving the savings (includ-
15 ing through the activities of a designated agent
16 of the supplier or through the purchase of
17 transferred electricity savings or natural gas
18 savings);

19 “(K) avoid double-counting of savings used
20 for compliance with this section, including
21 transferred savings;

22 “(L) include electricity savings or natural
23 gas savings from programs administered by the
24 retail electric supplier or natural gas supplier

1 that are funded by Federal, State, or other
2 sources;

3 “(M) credit large customer self-directed
4 electricity savings or natural gas savings to the
5 retail electricity supplier or the retail natural
6 gas supplier if the large customers receive in-
7 centives or rate reductions from the retail sup-
8 plier for self-directed energy efficiency improve-
9 ments;

10 “(N) include procedures for counting elec-
11 tricity savings and natural gas savings achieved
12 by solar heating and cooling technologies, solar
13 light pipe technology, geothermal heat pumps,
14 and other technologies utilizing renewable re-
15 sources that do not produce electricity or gas-
16 eous fuel but that reduce on-site energy use;

17 “(O) in any State in which the State regu-
18 latory authority has designated one or more en-
19 tities to administer electric ratepayer-funded ef-
20 ficiency programs approved by the State regu-
21 latory authority, provide that electricity savings
22 and natural gas savings achieved through the
23 programs shall be distributed proportionally
24 among retail electric suppliers and retail nat-
25 ural gas suppliers; and

1 “(P) include guidance for utilities to cal-
2 culate and document business-as-usual con-
3 sumption projections; and

4 “(2) procedures and standards for third-party
5 verification of reported electricity savings or natural
6 gas savings.

7 “(g) ENFORCEMENT AND JUDICIAL REVIEW.—

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

9 “(A) IN GENERAL.—The Secretary shall
10 review each report submitted to the Secretary
11 by a retail electricity supplier or retail natural
12 gas supplier under subsection (d) to verify that
13 the applicable performance standards under
14 subsection (d) have been met.

15 “(B) EXCLUSION.—In determining compli-
16 ance with the applicable performance standards
17 under subsection (d), the Secretary shall ex-
18 clude reported electricity savings or natural gas
19 savings that are not adequately demonstrated
20 and documented, in accordance with the regula-
21 tions promulgated under this section.

22 “(2) PENALTY FOR FAILURE TO DOCUMENT
23 ADEQUATE SAVINGS.—If a retail electricity supplier
24 or a retail natural gas supplier fails to demonstrate
25 compliance with an applicable performance standard

1 under subsection (d), or to pay to the State an ap-
2 plicable alternative compliance payment under sub-
3 section (h)(4), the Secretary shall assess against the
4 retail electricity supplier or retail natural gas sup-
5 plier a civil penalty for each failure in an amount
6 equal to, as adjusted for inflation in accordance with
7 such regulations as the Secretary may promulgate—

8 “(A) \$100 per megawatt hour of electricity
9 savings or alternative compliance payment that
10 the retail electricity supplier failed to achieve or
11 make, respectively; or

12 “(B) \$10 per million Btu of natural gas
13 savings or alternative compliance payment that
14 the retail natural gas supplier failed to achieve
15 or make, respectively.

16 “(3) OFFSETTING STATE PENALTIES.—The
17 Secretary shall reduce the amount of any penalty
18 under paragraph (2) by the amount paid by the rel-
19 evant retail electricity supplier or retail natural gas
20 supplier to a State for failure to comply with the re-
21 quirements of a State energy efficiency resource
22 standard during the same compliance period, if the
23 State standard—

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

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

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

8 “(5) JUDICIAL REVIEW.—

9 “(A) IN GENERAL.—Any person adversely
10 affected by a final action taken by the Sec-
11 retary under this section, other than the assess-
12 ment of a civil penalty, may use the procedures
13 for review described in section 336(b) of the
14 Energy Policy and Conservation Act (42 U.S.C.
15 6306(b)).

16 “(B) REFERENCE.—In this paragraph,
17 references to a rule in section 336(b) of the En-
18 ergy Policy and Conservation Act (42 U.S.C.
19 6306(b)) shall be considered to refer also to all
20 other final actions of the Secretary under this
21 section other than the assessment of a civil pen-
22 alty.

23 “(h) STATE ADMINISTRATION.—

24 “(1) IN GENERAL.—Upon receipt of an applica-
25 tion from the Governor of a State (including the

1 Mayor of the District of Columbia), the Secretary
2 may delegate to the State responsibility for admin-
3 istering this section within the territory of the State
4 if the Secretary determines that the State will imple-
5 ment an energy efficiency program that meets or ex-
6 ceeds the requirements of this section, including—

7 “(A) achieving electricity savings and nat-
8 ural gas savings that are at least as great as
9 those required under the applicable performance
10 standards established under subsection (d);

11 “(B) reviewing reports and verifying elec-
12 tricity savings and natural gas savings achieved
13 in the State (including savings transferred from
14 outside the State); and

15 “(C) collecting any alternative compliance
16 payments under paragraph (4) and using the
17 payments to implement cost-effective efficiency
18 programs.

19 “(2) SECRETARIAL DETERMINATION.—Not
20 later than 180 days after the date on which a com-
21 plete application is received by the Secretary, the
22 Secretary shall make a substantive determination
23 approving or disapproving a State application, after
24 public notice and comment.

1 “(3) ALTERNATIVE MEASUREMENT AND
2 VERIFICATION PROCEDURES AND STANDARDS.—As
3 part of an application submitted under paragraph
4 (1), a State may request to use alternative measure-
5 ment and verification procedures and standards
6 from the procedures and standards described in sub-
7 section (f), if the State demonstrates that the alter-
8 native procedures and standards provide a level of
9 accuracy of measurement and verification that are at
10 least equivalent to the Federal procedures and
11 standards under subsection (f).

12 “(4) ALTERNATIVE COMPLIANCE PAYMENTS.—

13 “(A) IN GENERAL.—As part of an applica-
14 tion submitted under paragraph (1), a State
15 may permit retail electricity suppliers or retail
16 natural gas suppliers to pay to the State, by
17 not later than May 1 of the calendar year im-
18 mediately following the applicable reporting pe-
19 riod, an alternative compliance payment in an
20 amount equal to, as adjusted for inflation in ac-
21 cordance with such regulations as the Secretary
22 may promulgate, not less than—

23 “(i) \$50 per megawatt hour of elec-
24 tricity savings needed to make up any def-
25 icit with regard to a compliance obligation

1 under the applicable performance stand-
2 ard; or

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

7 “(B) USE OF PAYMENTS.—Alternative
8 compliance payments collected by a State under
9 subparagraph (A) shall be used by the State to
10 administer the delegated authority of the State
11 under this section and to implement cost-effec-
12 tive energy efficiency programs that—

13 “(i) to the maximum extent prac-
14 ticable, achieve electricity savings and nat-
15 ural gas savings in the State sufficient to
16 make up the deficit associated with the al-
17 ternative compliance payments; and

18 “(ii) can be measured and verified in
19 accordance with the applicable procedures
20 and standards under subsection (f) or
21 paragraph (3), as applicable.

22 “(5) REVIEW OF STATE IMPLEMENTATION.—

23 “(A) PERIODIC REVIEW.—Every 2 years,
24 the Secretary shall review State implementation
25 of this section for conformance with the re-

1 requirements of this section in approximately ½
2 of the States that have received approval under
3 this subsection to administer the program, so
4 that each State shall be reviewed at least every
5 4 years.

6 “(B) REPORT.—To facilitate the review
7 under subparagraph (A), the Secretary may re-
8 quire the State to submit a report dem-
9 onstrating the conformance of the State with
10 the requirements of this section, including—

11 “(i) reports submitted by retail elec-
12 tricity suppliers and retail natural gas sup-
13 pliers to the State demonstrating compli-
14 ance with applicable performance stand-
15 ards;

16 “(ii) the impact of the standards on
17 projected electricity and natural gas de-
18 mand within the State;

19 “(iii) an accounting of the use of al-
20 ternative compliance payments by the
21 State and the resulting electricity savings
22 and natural gas savings achieved; and

23 “(iv) any other information that the
24 Secretary determines appropriate.

1 “(C) REVIEW UPON PETITION.—Notwith-
2 standing subparagraph (A), upon receipt of a
3 public petition containing credible allegation of
4 substantial deficiencies, the Secretary shall
5 promptly review the State implementation of
6 delegated authority under this section.

7 “(D) DEFICIENCIES.—

8 “(i) IN GENERAL.—In completing a
9 review under this paragraph, if the Sec-
10 retary finds deficiencies, the Secretary
11 shall—

12 “(I) notify the State of the defi-
13 ciencies;

14 “(II) direct the State to correct
15 the deficiencies; and

16 “(III) require the State to report
17 to the Secretary on progress made by
18 not later than 180 days after the date
19 on which the State receives notice
20 under subclause (I).

21 “(ii) SUBSTANTIAL DEFICIENCIES.—If
22 the deficiencies are substantial, the Sec-
23 retary shall—

24 “(I) disallow the reported elec-
25 tricity savings or natural gas savings

1 that the Secretary determines are not
2 credible due to deficiencies;

3 “(II) re-review the State not
4 later than 2 years after the date on
5 which the original review was com-
6 pleted; and

7 “(III) if substantial deficiencies
8 remain uncorrected after the review
9 provided for under subclause (II), re-
10 voke the authority of the State to ad-
11 minister the program established
12 under this section.

13 “(6) CALLS FOR REVISION OF STATE APPLICA-
14 TIONS.—As a condition of maintaining the delegated
15 authority of a State to administer this section, the
16 Secretary may require a State to submit a revised
17 application under paragraph (1) if the Secretary
18 has—

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

21 “(B) promulgated new or substantially re-
22 vised measurement and verification procedures
23 and standards under subsection (f); or

24 “(C) otherwise substantially revised the
25 program established under this section.

1 “(7) COST RECOVERY, FIXED COST RECOVERY
2 AND SHAREHOLDER INCENTIVES.—State utility reg-
3 ulatory commissions are encouraged to review the
4 rules and regulations of the commission to ensure
5 that utilities under the jurisdiction of the commis-
6 sion can—

7 “(A) recover the direct costs of energy effi-
8 ciency programs;

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

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

14 “(i) INFORMATION AND REPORTS.—In accordance
15 with section 13 of the Federal Energy Administration Act
16 of 1974 (15 U.S.C. 772), the Secretary may require any
17 retail electricity supplier, retail natural gas supplier, third-
18 party efficiency provider, or any other entity that the Sec-
19 retary determines appropriate, to provide any information
20 the Secretary determines appropriate to carry out this sec-
21 tion.

22 “(j) STATE LAW.—Nothing in this section diminishes
23 or qualifies any authority of a State or political subdivision
24 of a State to adopt or enforce any law or regulation re-
25 specting electricity savings or natural gas savings, includ-

1 ing any law or regulation establishing energy efficiency re-
2 quirements that are more stringent than those under this
3 section, except that no State law or regulation shall relieve
4 any person of any requirement otherwise applicable under
5 this section.”.

6 **SEC. 4156. PROGRAM REVIEW.**

7 (a) NATIONAL ACADEMY OF SCIENCES REVIEW.—
8 The Secretary of Energy shall enter into a contract with
9 the National Academy of Sciences under which the Acad-
10 emy shall, not later than July 1, 2021, and every 10 years
11 thereafter, submit to Congress, the Federal Energy Regu-
12 latory Commission, and the Secretary of Energy a com-
13 prehensive evaluation of all aspects of the programs estab-
14 lished under sections 610 and 611 of the Public Utility
15 Regulatory Policies Act of 1978 (as added by this Act),
16 including—

17 (1) an evaluation of the effectiveness of the pro-
18 grams, including the specific design elements of the
19 programs, in increasing the efficiency of retail nat-
20 ural gas and electricity distribution and consumption
21 and increasing the deployment of renewable elec-
22 tricity capacity;

23 (2) the opportunities for additional technologies
24 and sources of efficiency and renewable electricity

1 that have emerged since the date of enactment of
2 this Act;

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

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

7 (A) the effects on electricity and natural
8 gas demand and prices;

9 (B) the economic development benefits of
10 investment;

11 (C) environmental costs and benefits;

12 (D) the impacts on public health and
13 health care costs; and

14 (E) avoided costs related to environmental
15 and congestion mitigation investments that oth-
16 erwise would have been required;

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

21 (6) the feasibility, advantages, and disadvan-
22 tages of alternative models for demonstrating com-
23 pliance with a Federal energy efficiency resource
24 standard, including—

1 (A) establishing a national trading system
2 for energy efficiency credits; or

3 (B) demonstrating compliance through ac-
4 tual reductions in delivery or sales of electricity
5 and natural gas, rather than on program sav-
6 ings; and

7 (7) recommendations regarding potential
8 changes to the programs, including to regulations
9 and procedures for implementing the programs, or
10 to related public policies.

11 (b) RECOMMENDATIONS TO CONGRESS.—Not later
12 than January 1, 2022, and every 10 years thereafter, the
13 Secretary of Energy shall submit to the Committee on En-
14 ergy and Commerce of the House of Representatives and
15 the Committee on Energy and Natural Resources of the
16 Senate a report making recommendations for modifica-
17 tions and improvements to the programs established under
18 sections 610 and 611 of the Public Utility Regulatory
19 Policies Act of 1978 (as added by this Act), including an
20 explanation of the inconsistencies, if any, between the rec-
21 ommendations of the Secretary of Energy and the rec-
22 ommendations included in the evaluation of the National
23 Academy of Sciences under subsection (a).

1 **SEC. 4157. CONFORMING AMENDMENT.**

2 The table of contents of the Public Utility Regulatory
3 Policies Act of 1978 (16 U.S.C. prec. 2601) is amended
4 by adding at the end of the items relating to title VI the
5 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.”.

