117TH CONGRESS
1ST SESSION

H. R. ____

To advance clean power technology development and use through innovation and clean energy standards, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

Mr. McKinley introduced the following bill; which was referred to the Committee on ________________________

A BILL

To advance clean power technology development and use through innovation and clean energy standards, and for other purposes.

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

3 SECTION 1. SHORT TITLE.

4 This Act may be cited as the “Clean Energy Future
5 Through Innovation Act of 2021”.

6 SEC. 2. DEFINITIONS; TABLE OF CONTENTS.

7 (a) DEFINITIONS.—In this Act:
(1) COMMISSION.—The term “Commission” means the Federal Energy Regulatory Commission.

(2) SECRETARY.—The term “Secretary” means the Secretary of Energy.

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

Sec. 1. Short title.
Sec. 2. Definitions; table of contents.

TITLE I—CARBON CAPTURE, UTILIZATION, AND STORAGE

Subtitle A—Research, Development, and Demonstration for Carbon Capture, Utilization, and Storage Technologies

Sec. 101. Fossil energy objectives.
Sec. 102. Carbon capture technologies.
Sec. 103. Carbon storage validation and testing.
Sec. 104. Carbon utilization.
Sec. 105. Advanced energy systems.

Subtitle B—Deployment of Carbon Capture, Utilization, and Storage With Commercial-Scale Electricity Generation Facilities

Sec. 111. Deployment of carbon capture, utilization, and storage technology with commercial-scale electricity generation facilities.

Subtitle C—Federal Support for Commercial Deployment of Carbon Capture, Utilization, and Storage

Sec. 121. Enhancement of carbon dioxide sequestration credit.
Sec. 122. Reform of loan guarantee program.
Sec. 123. Private activity bonds for carbon dioxide capture facilities.
Sec. 124. Extension of publicly traded partnership ownership structure.
Sec. 125. Production tax credit for certain electricity generation using carbon capture utilization and storage.
Sec. 126. Elective payment of credit.
Sec. 127. Allowance of the carbon oxide sequestration credit against the base erosion minimum tax.
Sec. 128. Modification of merchant banking investment regulation.

Subtitle D—Support for Carbon Dioxide Transportation and Sequestration Infrastructure

Sec. 131. Facilities for carbon dioxide transportation and sequestration.
Sec. 132. Carbon dioxide sequestration utilities.

TITLE II—INNOVATION IN RENEWABLE ENERGY, ENERGY EFFICIENCY, AND STORAGE

Sec. 201. Establishment of technology performance and cost targets.
Sec. 202. Advanced innovation and commercialization program.
Sec. 203. Updating manufactured homes.
Sec. 204. Investment tax credits for energy battery storage, offshore wind, and certain hydropower technologies.
Sec. 205. Extension of production tax credit for solar and on-shore wind.
Sec. 206. Renewal of qualifying advanced energy project credit.
Sec. 207. Performance-based tax credits for commercial and residential buildings.
Sec. 208. Extension of publicly traded partnership ownership structure to renewable energy projects.
Sec. 209. Manufacturer credit for high-efficiency heat pumps and heat pump water heaters.
Sec. 210. Other authorizations of appropriations.

TITLE III—EXISTING AND ADVANCED NUCLEAR POWER PLANTS

Sec. 301. Zero-emissions credit program.
Sec. 302. Investment tax credit for nuclear energy property.
Sec. 303. Expanding Federal clean electricity purchasing requirements.
Sec. 304. Modernizing the Nuclear Regulatory Commission.
Sec. 305. Demonstration and early deployment of advanced nuclear reactors.
Sec. 306. Authorization of appropriations for loan guarantees for advanced nuclear facilities.
Sec. 307. Expanding the production tax credit for nuclear power.

TITLE IV—CLEAN ELECTRICITY STANDARD

Sec. 401. Certification of cost-effective market penetration of clean electricity technologies.
Sec. 402. Federal clean electricity standard.
Sec. 403. Regional clean electricity planning models.
Sec. 404. Stand-by emission performance standards.

TITLE V—MISCELLANEOUS

Sec. 501. Additional requirements.
Sec. 502. Utilization of qualified apprentices by construction contractors.
Sec. 503. Requirements applicable to tax incentive programs.

1 TITLE I—CARBON CAPTURE, UTILIZATION, AND STORAGE

Subtitle A—Research, Development, and Demonstration for Carbon Capture, Utilization, and Storage Technologies

SEC. 101. FOSSIL ENERGY OBJECTIVES.

Section 961 of the Energy Policy Act of 2005 (42 U.S.C. 16291) is amended—
(1) in subsection (a)(2), by adding at the end the following subparagraph:

“(M) Preventing, predicting, monitoring, and mitigating the unintended leaking of carbon dioxide or other fossil fuel-related emissions into the atmosphere.”; and

(2) by amending subsection (b) to read as follows:

“(b) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary to carry out fossil energy research, development, demonstration, and commercial application activities, including activities authorized under this subtitle, $2,200,000,000 for each of fiscal years 2022 through 2031.”.

SEC. 102. CARBON CAPTURE TECHNOLOGIES.


(1) in subsection (e)—

(A) in paragraph (2)—

(i) by striking “and” at the end of subparagraph (B);

(ii) by striking the period at the end of subparagraph (C) and inserting “; and”;

and
(iii) by adding at the end the following:

“(D) test technologies that represent the scale of technology development beyond laboratory testing, but not yet advanced to testing under operational conditions at commercial scale.”;

(B) in paragraph (3)(C)—

(i) in clause (i), by inserting “precombustion, postcombustion, or oxycombustion” after “facilities for”;

(ii) in clause (ii), by striking “; or” and inserting a semicolon;

(iii) in clause (iii), by striking the period at the end and inserting a semicolon; and

(iv) by adding at the end the following:

“(iv) have capability to test integration of carbon capture technologies with utility-scale power plants; or

“(v) have commercial market participants, including equipment and technology suppliers and power generators, involved in the proposed Center.”; and
(C) by redesignating paragraph (7) as paragraph (8), and inserting after paragraph (6) the following:

“(7) COST SHARING.—The Secretary shall re-

quire cost sharing under this subsection in accord-

ance with section 988(b).”; and

(2) by adding at the end the following:

“(f) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary to carry out this section $600,000,000 for each of fiscal years 2022 through 2031.”.

SEC. 103. CARBON STORAGE VALIDATION AND TESTING.

Section 963 of the Energy Policy Act of 2005 (42 U.S.C. 16293) is amended—

(1) in subsection (b), by adding at the end the following:

“(4) FEDERAL DATA COLLECTION.—The Sec-

retary, in coordination with other Federal agencies including the United States Geological Survey, shall continue and expand ongoing Federal data collection and analysis activities related to carbon dioxide stor-

age, economics, and spatial relationships on a local and regional scale, in coordination with State and regional entities.”; and
(2) by amending subsection (g) to read as follows:

“(g) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary to carry out this section—

“(1) $200,000,000 for fiscal year 2021; and

“(2) $250,000,000 for each of fiscal years 2022 through 2031.”.

SEC. 104. CARBON UTILIZATION.

Section 969A(d) of the Energy Policy Act of 2005 (42 U.S.C. 16298a(d)) is amended to read as follows:

“(d) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary to carry out this section—

“(1) $54,000,000 for fiscal year 2021; and

“(2) $75,000,000 for each of fiscal years 2022 through 2031.”.

SEC. 105. ADVANCED ENERGY SYSTEMS.

(a) ADVANCED ENERGY SYSTEMS.—Subtitle F of title IX of the Energy Policy Act of 2005 (42 U.S.C. 16291 et seq.) is further amended by adding at the end the following:

“SEC. 969E. ADVANCED ENERGY SYSTEMS.

“(a) IN GENERAL.—The Secretary shall carry out a program of research, development, demonstration, and
commercial application of technologies that represent a significant change in the methods used to generate electricity from fuels and that will enable a step change in performance, efficiency, and cost of electricity, and that reduce emissions from fossil fuel power generation in the following areas:

“(1) Supercritical carbon dioxide, with an emphasis on developing directly fired and indirectly fired cycles in the next 10 years.

“(2) Advanced combustion systems, including oxy-combustion systems and chemical looping.

“(3) Gasification systems to enable carbon capture, improve efficiency, and reduce capital and operating costs.

“(4) Thermal cycling with ramping or rapid black start capabilities that do not compromise efficiency or environmental performance.

“(5) Small-scale and modular technologies with reduced carbon dioxide outputs or carbon capture that can support incremental power generation capacity needs.

“(6) Turbines, boilers, fuel cells, or other systems that utilize hydrogen or ammonia derived from coal or natural gas to make electricity.
“(7) Systems that remove 98 percent or more of the carbon dioxide from the emissions of a power plant.

“(b) PRIORITY.—In carrying out the program under subsection (a), the Secretary shall give priority to potentially transformational technologies that would enable very substantial improvements in performance, efficiency, or cost of electricity as compared to the technology in existence on the date of enactment of this section.

“(c) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary to carry out this section $1,275,000,000 for each of fiscal years 2022 through 2031.”.

(b) TECHNICAL AMENDMENT.—The table of contents for the Energy Policy Act of 2005 (Public Law 109–58; 119 Stat. 600) is amended by adding at the end of the items relating to subtitle F of title IX the following:

“Sec. 969E. Advanced energy systems.”.
Subtitle B—Deployment of Carbon Capture, Utilization, and Storage With Commercial-Scale Electricity Generation Facilities

SEC. 111. DEPLOYMENT OF CARBON CAPTURE, UTILIZATION, AND STORAGE TECHNOLOGY WITH COMMERCIAL-SCALE ELECTRICITY GENERATION FACILITIES.

(a) IN GENERAL.—Subtitle B of title IV of the Energy Policy Act of 2005 (42 U.S.C. 15971 et seq.) is amended by adding after section 417 the following:

“SEC. 418. FEDERAL SUPPORT FOR DEPLOYMENT OF CARBON CAPTURE, UTILIZATION, AND STORAGE WITH ELECTRICITY GENERATION.

“(a) IN GENERAL.—Subject to the limitations in subsection (b), the Secretary shall support the deployment and use of carbon capture, utilization, and storage at eligible power systems by entering into contracts for differences with owners or operators of eligible power systems to provide price certainty for the sale of the electricity generated by, or carbon dioxide captured by, such eligible power systems to third parties.

“(b) LIMITATIONS.—The Secretary may not enter into contracts for differences under subsection (a)—

“(1) with a term of more than 30 years;
“(2) for the output of eligible power systems with a cumulative electricity generating capacity of more than 11 gigawatts; and

“(3) in a cumulative amount projected to have a value exceeding $10,000,000,000.

“(c) APPLICATION.—

“(1) IN GENERAL.—The owner or operator of an eligible power system seeking to enter into a contract for differences under subsection (a) shall submit to the Secretary an application at such time and in such manner as the Secretary may require.

“(2) CRITERIA.—In evaluating such an application, the Secretary shall consider technical, financial, and other factors that the Secretary determines appropriate.

“(d) PRIORITIZATION.—In implementing subsection (a), the Secretary shall prioritize supporting—

“(1) the use of carbon capture, utilization, and storage at eligible power systems covering diverse fossil fuel types and technologies, including first-of-a-kind technology for carbon capture, utilization, and storage capacity; and

“(2) eligible power systems with at least 5.5 gigawatts of cumulative electricity generating capacity that will be in operation by 2030, and ensure
that the remaining eligible power systems receiving
support will be under construction by not later than
2030.

“(e) DEFINITIONS.—In this section:

“(1) POWER SYSTEM.—The term ‘power sys-
tem’ means a commercial-scale electricity generating
unit that utilizes fossil fuels to generate electricity
that is provided to the electric grid or directly to a
consumer.

“(2) ELIGIBLE POWER SYSTEM.—The term ‘eli-
gible power system’ means a power system that—

“(A) is equipped with carbon capture tech-
nology, or otherwise produces a separate carbon
dioxide stream that is suitable for utilization or
storage;

“(B) is designed to capture carbon dioxide
that would otherwise be emitted to the atmos-
phere; and

“(C) will utilize or store the captured car-
bon dioxide, or has contracted with one or more
other entities to utilize or store the captured
carbon dioxide.”.

(b) CLERICAL AMENDMENT.—The table of contents
for the Energy Policy Act of 2005 is amended by adding
after the item relating to section 417 the following:
Subtitle C—Federal Support for Commercial Deployment of Carbon Capture, Utilization, and Storage

SEC. 121. ENHANCEMENT OF CARBON DIOXIDE SEQUESTRATION CREDIT.

(a) Extension of Credit Period.—Section 45Q(a) of the Internal Revenue Code of 1986 is amended by striking “12-year” each place it appears and inserting “20-year”.

(b) Extension of Qualified Facility Construction Beginning Date.—Section 45Q(d)(1) of such Code is amended by striking “January 1, 2026” and inserting “January 1, 2036”.

(c) Enhancement of Credit Value.—
   (1) Section 45Q(b)(1)(A)(ii)(I) is amended by striking “$50” and inserting “$85”.
   (2) Section 45Q(b)(1)(A)(ii)(II) is amended by striking “$35” and inserting “$70”.

(d) Effective Date.—The amendments made by this section shall apply to carbon dioxide captured after December 31, 2020.
SEC. 122. REFORM OF LOAN GUARANTEE PROGRAM.

Section 1703 of the Energy Policy Act of 2005 (42 U.S.C. 16513) is amended—

(1) by striking subsection (e) and inserting the following:

“(e) QUALIFICATION OF FACILITIES RECEIVING TAX CREDITS OR FINANCIAL ASSISTANCE.—Notwithstanding any other provision of law, a project that receives tax credits or other financial assistance for clean coal technology shall not be disqualified from receiving a guarantee under this subchapter.”; and

(2) by inserting the following new subsection after subsection (e):

“(f) IMPLEMENTATION.—In implementing the authority under this section with respect to loan guarantees issued after the date of enactment of the Clean Energy Future Through Innovation Act of 2021, the Secretary shall—

“(1) adjust fees and application requirements to the scale of a project to ensure that the costs of preparing and submitting an application are not an undue barrier to participation by smaller, lower risk projects;

“(2) ensure that program credit rating requirements do not, as applied, act as an obstacle to participation in the loan guarantee program by first-of-a-kind projects, consistent with the purpose of the
loan guarantee program to enable debt financing for first-of-a-kind projects that would not otherwise have access to commercial debt markets; and

“(3) for first-of-a-kind projects, cover the cost of the guarantee with appropriated funds rather than requiring the borrower to pay some or all of the cost of the guarantee under section 1702(b).”.

SEC. 123. PRIVATE ACTIVITY BONDS FOR CARBON DIOXIDE CAPTURE FACILITIES.

(a) In General.—Section 142(a) of the Internal Revenue Code of 1986 is amended by striking “or” at the end of paragraph (14), by striking the period at the end of paragraph (15) and inserting “, or”, and by adding at the end the following new paragraph:

“(16) qualified carbon dioxide capture facilities.”.

(b) Qualified Carbon Dioxide Capture Facility.—Section 142 of such Code is amended by adding at the end the following new subsections:

“(n) Qualified Carbon Dioxide Capture Facility.—

“(1) In General.—For purposes of subsection (a)(16), the term ‘qualified carbon dioxide capture facility’ means the eligible components of an industrial carbon dioxide facility.
“(2) DEFINITIONS.—For purposes of this subsection—

“(A) ELIGIBLE COMPONENT.—The term ‘eligible component’ means, with respect to any industrial carbon dioxide facility, any component installed in such facility that—

“(i) satisfies the requirements under paragraph (3), and

“(ii)(I) is used for the purpose of capture, treatment and purification, compression, transportation, or on-site storage of carbon dioxide produced by such facility, or

“(II) is integral or functionally related and subordinate to a process described in section 48B(e)(2) (determined by substituting ‘carbon dioxide’ for ‘carbon monoxide’).

“(B) INDUSTRIAL CARBON DIOXIDE FACILITY.—

“(i) IN GENERAL.—The term ‘industrial carbon dioxide facility’ means a facility that emits carbon dioxide (including from any fugitive emissions source) that is
created as a result of any of the following processes:

“(I) Fuel combustion for electricity generation or other purposes.

“(II) Gasification for electricity generation or other purposes.

“(III) Bioindustrial.

“(IV) Fermentation.

“(V) Any manufacturing industry described in section 48B(e)(7).

“(ii) EXCEPTIONS.—Such term shall not include—

“(I) any geological gas facility, or

“(II) any air separation unit that does not qualify as gasification equipment or is not a necessary component of an oxy-fuel combustion process, a supercritical carbon dioxide process, or other advanced power system.

“(iii) GEOLOGICAL GAS FACILITY.—The term ‘geological gas facility’ means a facility that—

“(I) produces a raw product consisting of gas or mixed gas and liquid from a geological formation,
“(II) transports or removes impurities from such product, or

“(III) separates such product into its constituent parts.

“(3) CAPTURE AND STORAGE REQUIREMENT.—For purposes of this subsection—

“(A) IN GENERAL.—Except as provided in subparagraph (B), a component shall not be treated as meeting the requirements of this paragraph with respect to an industrial carbon dioxide facility unless such component has a capture and storage percentage that is at least 65 percent.

“(B) EXCEPTION.—In the case of an industrial carbon dioxide facility with a capture and storage percentage that is less than 65 percent, a component with respect to such facility shall not be treated as meeting the requirements of this paragraph unless the percentage of the cost of such component that is financed by tax-exempt bonds is not greater than such capture and storage percentage.

“(C) CAPTURE AND STORAGE PERCENTAGE.—
“(i) IN GENERAL.—The capture and storage percentage shall be an amount, expressed as a percentage, equal to the quotient of—

“(I) the total metric tons of carbon dioxide annually captured, transported, and injected into a facility for geologic storage, or an enhanced oil or gas recovery well followed by geologic storage, divided by

“(II) the total metric tons of carbon dioxide which would otherwise be released into the atmosphere each year as industrial emission of greenhouse gas if the component were not installed in the industrial carbon dioxide facility.

“(ii) LIMITED APPLICATION OF ELIGIBLE COMPONENTS.—In the case of eligible components that are designed to capture carbon dioxide solely from specific sources of emissions or portions thereof within an industrial carbon dioxide facility, the capture and storage percentage under this subparagraph shall be determined based
only on such specific sources of emissions or portions thereof.

“(o) Other Requirements.—(1) An issue shall not be treated as an issue under subsection (a) unless each entity that receives some or all of the proceeds from the issue for construction, alteration or repair work agrees that such work shall be performed in accordance with the requirements of subchapter IV of chapter 31 of title 40, United States Code.

“(2) With respect to enforcement of the requirements in paragraph (1), rules similar to rules of section 503(c) of the Clean Energy Future Through Innovation Act of 2021 shall be applied by substituting ‘issuer’ for ‘taxpayer’.”.

(e) Volume Cap.—Section 146(g)(4) of such Code is amended by striking “paragraph (11) of section 142(a) (relating to high-speed intercity rail facilities)” and inserting “paragraph (11) or paragraph (16) of section 142(a)”.

(d) Clarification of Private Business Use.—Section 141(b)(6) of such Code is amended by adding at the end the following new subparagraph:

“(C) Clarification relating to qualified carbon dioxide capture facilities.—For purposes of this subsection, the sale of carbon dioxide produced by a qualified carbon di-
oxide capture facility (as defined in section 142(n)) which is owned by a governmental unit shall not constitute private business use.”.

(e) EFFECTIVE DATE.—The amendments made by this section shall apply to obligations issued after the date of enactment of this Act.

SEC. 124. EXTENSION OF PUBLICLY TRADED PARTNERSHIP OWNERSHIP STRUCTURE.

(a) IN GENERAL.—Section 7704(d)(1)(E) of the Internal Revenue Code of 1986 is amended—

(1) by striking “income and gains derived from the exploration” and inserting “income and gains derived from any of the following:

“(i) The exploration”,

(2) by striking the comma at the end and inserting a period, and

(3) by adding at the end the following:

“(ii) The production, storage, or transportation of any fuel which—

“(I) uses carbon dioxide captured from an anthropogenic source or the atmosphere as its primary feedstock, and

“(II) is determined by the Secretary, in consultation with the Sec-
retary of Energy and the Administrator of the Environmental Protection Agency, to achieve a reduction of not less than a 60 percent in lifecycle greenhouse gas emissions (as defined in section 211(o)(1)(H) of the Clean Air Act) compared to baseline lifecycle greenhouse gas emissions (as defined in section 211(o)(1)(C) of such Act).

This clause shall not apply to any fuel which uses as its primary feedstock carbon dioxide which is deliberately released from naturally-occurring subsurface springs.

“(iii) The production of any product or the generation of electric power from a project—

“(I) which meets the requirements of subparagraphs (A) and (B) of section 48B(c)(1), and

“(II) not less than 75 percent of the total carbon dioxide emissions of which is qualified carbon oxide (as defined in section 45Q(e)) which is disposed of or utilized as provided in paragraph (6).
“(iv) The generation or storage of electric power (including associated income from the sale or marketing of energy, capacity, resource adequacy, and ancillary services) produced from any power generation facility which is, or from any power generation unit within, a qualified facility under section 45Q(d) and not less than 50 percent (30 percent in the case of a facility or unit placed in service before January 1, 2017) of the total carbon dioxide emissions of which is qualified carbon oxide which is disposed of or used as provided in paragraph (7).

“(v) The sale of any good or service from any facility (other than a power generation facility) which is a qualified facility described in section 45Q(e) and the captured qualified carbon oxide (as so defined) of which is disposed of as provided in paragraph (6).”.

(b) DISPOSAL AND UTILIZATION OF CAPTURED CARBON DIOXIDE.—Section 7704(d) of such Code is amended by adding at the end the following new paragraphs:
“(6) DISPOSAL AND UTILIZATION OF CAPTURED CARBON DIOXIDE.—For purposes of clauses (iii)(II) and (iv) of paragraph (1)(E), carbon dioxide is disposed of or used as provided in this paragraph if such carbon dioxide is—

“(A) placed into secure geological storage (as determined under section 45Q(f)(2)),

“(B) used as a tertiary injectant (as defined in section 45Q(e)(3)) in a qualified enhanced oil or natural gas recovery project (as defined in section 45Q(e)(2)) and placed into secure geological storage (as so determined),

“(C) fixed through photosynthesis or chemosynthesis (including through the growing of algae or bacteria),

“(D) chemically converted to a material or chemical compound in which it is securely stored, or

“(E) used for any other purpose which the Secretary determines has the potential to strengthen or significantly develop a competitive market for carbon dioxide captured from man-made sources.

“(7) OTHER REQUIREMENTS.—(A) Income and gains under subsection (d)(1)(E) shall not be treated
as “qualifying income” under this section unless the publicly traded partnership provides assurances to the Secretary that any construction, alteration, or repair work associated with such income and gains shall be performed in accordance with the requirements of subchapter IV of chapter 31 of title 40, United States Code.

“(B) With respect to enforcement of the requirements in subparagraph (A), rules similar to rules of section 503(c) of the Clean Energy Future Through Innovation Act of 2021 shall be applied by substituting ‘publicly traded partnership’ for ‘taxpayer’.”.

(e) EFFECTIVE DATE.—The amendments made by this section shall take effect on the date of the enactment of this Act, in taxable years ending after such date.

SEC. 125. PRODUCTION TAX CREDIT FOR CERTAIN ELECTRICITY GENERATION USING CARBON CAPTURE UTILIZATION AND STORAGE.

(a) IN GENERAL.—Subpart D of part IV of subchapter A of chapter 1 of the Internal Revenue Code of 1986 is amended by adding at the end the following new section:
SEC. 45U. ELECTRICITY PRODUCED USING CARBON CAPTURE UTILIZATION AND STORAGE TECHNOLOGY.

(a) GENERAL RULE.—For purposes of section 38, the carbon capture production credit for any taxable year is an amount equal to—

“(1) in the case of a qualified facility using fossil fuels, the product of—

“(A) the megawatt hours of electricity—

“(i) produced by the taxpayer at a qualified facility during the 20-year period beginning on the date the facility was originally placed in service, and

“(ii) sold by the taxpayer to an unrelated person during the taxable year, multiplied by

“(B)(i) $30 per megawatt hour in the case of a qualified facility storing carbon in secure geological storage, or

“(ii) $24 per megawatt hour in the case of a qualified facility using captured carbon oxide as a tertiary injectant in a qualified enhanced oil or natural gas recovery project, multiplied by

“(C) the discount factor,
“(2) in the case of electricity generation facilities using exclusively qualified hydrogen, qualified ammonia, or qualified blends, the product of—

“(A) the megawatt hours of electricity—

“(i) produced by the taxpayer at a qualified facility during the 20-year period beginning on the date the facility was originally placed in service, and

“(ii) sold by the taxpayer to an unrelated person during the taxable year, multiplied by

“(B) $100 per megawatt hour.

“(b) DEFINITIONS.—For purposes of this section:

“(1) DISCOUNT FACTOR.—The term ‘discount factor’ means an amount equal to 90 divided by the annual carbon dioxide emissions rate expressed in pounds per megawatt-hour for a qualified facility, except that—

“(A) if the annual carbon dioxide emissions rate for a qualified facility is less than 90 pounds per megawatt-hour, the discount factor is equal to 1, and

“(B) if the annual carbon dioxide emissions rate for a qualified facility is greater 180
pounds per megawatt-hour, the discount factor is equal to 0.

“(2) QUALIFIED AMMONIA.—The term ‘qualified ammonia’ means ammonia fuel produced with less than 17.5 pounds of carbon dioxide emissions per million Btu of gross fuel heating value.

“(3) QUALIFIED BLEND.—The term ‘qualified blend’ means a blend of qualified hydrogen or qualified ammonia with fossil fuel in which the fossil fuel provides no more than 30 percent of the heating value input.

“(4) QUALIFIED FACILITY.—The term ‘qualified facility’ means an electricity generation plant that—

“(A) is equipped with carbon capture equipment, the construction of which commenced before January 1, 2033,

“(B) captures carbon oxide using carbon capture equipment,

“(C) stores captured carbon oxide in secure geological storage or uses captured carbon oxide as a tertiary injectant in a qualified enhanced oil or natural gas recovery project, and

“(D) has not been the basis for a credit received under section 45Q.
“(5) QUALIFIED HYDROGEN.—The term ‘qualified hydrogen’ means hydrogen fuel produced with less than 17.5 pounds of carbon dioxide emissions per million Btu of gross fuel heating value.”.

(b) PART OF GENERAL BUSINESS CREDIT.—Section 38(b) of such Code is amended by striking “plus” at the end of paragraph (32), by striking the period at the end of paragraph (33) and inserting “, plus”, and by adding at the end the following new paragraph:

“(34) the carbon capture production credit under section 45U(a).”.

(c) CLERICAL AMENDMENT.—The table of sections for subpart D of part IV of subchapter A of chapter 1 is amended by adding at the end the following new item:

“Sec. 45U. Electricity produced using carbon capture utilization and storage technology.”.

(d) EFFECTIVE DATE.—The amendments made by this section shall apply with respect to electricity produced and sold after the date of the enactment of this Act.

SEC. 126. ELECTIVE PAYMENT OF CREDIT.

(a) Subchapter B of chapter 65 of the Internal Revenue Code of 1986 is amended by adding at the end the following new section:
“SEC. 6431. ELECTIVE PAYMENT OF CREDITS RELATING TO CARBON OXIDE SEQUESTRATION.

“(a) ELECTION.—In the case of a taxpayer making an election (at such time and in such manner as the Secretary may provide) under this section with respect to any portion of an applicable credit, such taxpayer shall be treated as making a payment against the tax imposed by subtitle A for the taxable year equal to the amount of such portion.

“(b) DEFINITIONS AND SPECIAL RULES.—For purposes of this section—

“(1) GOVERNMENTAL ENTITIES TREATED AS TAXPAYERS.—In the case of an election under this section—

“(A) any State or local government, or a political subdivision thereof, or

“(B) an Indian Tribal government shall be treated as a taxpayer for purposes of this section and determining any applicable credit.

“(2) APPLICABLE CREDIT.—The term ‘applicable credit’ means each of the following credits that would (without regard to this section) be determined with respect to the taxpayer:

“(A) A carbon oxide sequestration credit under section 45Q.
“(B) A carbon capture production credit under section 45U.

“(3) INDIAN TRIBAL GOVERNMENT.—The term ‘Indian Tribal government’ shall have the meaning given such term by section 139E.

“(4) TIMING.—The payment described in subsection (a) shall be treated as made on—

“(A) in the case of any government, or political subdivision, to which paragraph (1) applies and for which no return is required under section 6011 or 6033(a), the later of the date that a return would be due under section 6033(a) if such government or subdivision were described in that section or the date on which such government or subdivision submits a claim for credit or refund (at such time and in such manner as the Secretary shall provide), and

“(B) in any other case, the later of the due date of the return of tax for the taxable year or the date on which such return is filed.

“(5) WAIVER OF SPECIAL RULES.—In the case of an election under this section, the determination of any applicable credit shall be without regard to paragraphs (3) and (4)(A)(i) of section 50(b).
“(6) SPECIAL RULE FOR MUTUAL OR COOPERATIVE ELECTRIC COMPANIES.—In the case of a mutual or cooperative electric company or an organization described in section 501(c)(12) or section 1381(a)(2), any income received or accrued in connection with the credit under this section shall be treated as an amount collected from members for the sole purpose of meeting losses and expenses.

“(c) EXCLUSION FROM GROSS INCOME.—Gross income of the taxpayer shall be determined without regard to this section.

“(d) DENIAL OF DOUBLE BENEFIT.—Solely for purposes of section 38, in the case of a taxpayer making an election under this section, the applicable credit shall be reduced by the amount of the portion of such credit with respect to which the taxpayer makes such election.”.

(b) CLERICAL AMENDMENT.—The table of sections for subchapter B of chapter 65 is amended by adding at the end the following new item:

“Sec. 6431. Elective payment of credits related to carbon oxide sequestration.”.

SEC. 127. ALLOWANCE OF THE CARBON OXIDE SEQUESTRATION CREDIT AGAINST THE BASE EROSION MINIMUM TAX.

(a) IN GENERAL.—Section 59A(b) of the Internal Revenue Code of 1986 is amended—
(1) in paragraph (1)(B)(ii)(I), by inserting “and the carbon dioxide sequestration credit determined under section 45Q” after “section 41(a)”, and

(2) in paragraph (1)(B)(i), by inserting “(other than the credit allowed under section 38 for the taxable year which is properly allocable to the credit for carbon oxide sequestration determined under section 45Q)” after “credits allowed under this chapter”.

(b) EFFECTIVE DATE.—The amendments made by this section shall take effect as if included in section 41119 of the Bipartisan Budget Act of 2018.

SEC. 128. MODIFICATION OF MERCHANT BANKING INVESTMENT REGULATION.

(a) EXTENDED HOLDING PERIOD FOR CARBON CAPTURE PROJECTS.—Section 4(c) of the Bank Holding Company Act of 1956 (12 U.S.C. 1843(c)) is amended by inserting after paragraph (14) the following new paragraph:

“(15) shares owned directly or indirectly in a company that is the person to whom the credit for carbon oxide sequestration in section 45Q of the Internal Revenue Code of 1986 is attributable pursuant to subsection (f)(3) of such section, but such shares shall be disposed of within a period of time
that equals the sum of the number of years in sub-
section (a)(3)(A) of such section and the number of
years in the recapture period as defined in such sec-
tion or regulations or other guidance prescribed
under such section.”.

(b) EFFECTIVE DATE.—The amendments made by
this section shall apply to taxable years beginning after

Subtitle D—Support for Carbon Di-
oxide Transportation and Se-
questration Infrastructure

SEC. 131. FACILITIES FOR CARBON DIOXIDE TRANSPOR-
TATION AND SEQUESTRATION.

(a) IN GENERAL.—Subtitle B of title IV of the En-
ergy Policy Act of 2005 (42 U.S.C. 15971 et seq.) is fur-
ther amended by adding after section 418 (as added by
this Act) the following:

“SEC. 419. SECURING GEOLOGIC RESERVOIRS FOR STOR-
AGE OF CARBON DIOXIDE.

“(a) IN GENERAL.—The Secretary shall carry out a
program to—

“(1) identify geological formations that are ca-
"
“(2) assess the cost of developing and operating carbon dioxide sequestration facilities at the geological formations identified under paragraph (1); and

“(3) support the development of such carbon dioxide sequestration facilities by providing grants or other appropriate financial assistance to carbon dioxide sequestration facility developers to—

“(A) secure property rights that are necessary to enable carbon dioxide sequestration in such geologic formations; and

“(B) obtain necessary permits and approval to enable carbon dioxide sequestration in such geologic formations.

“(b) GEOGRAPHIC DIVERSITY.—The Secretary shall carry out subsection (a) with the goal of supporting development of carbon dioxide sequestration facilities that are capable of storing significant volumes of carbon dioxide at reasonable costs in each of the regions covered by the regional carbon sequestration partnerships established by the Secretary.

“(c) APPLICATION.—An entity seeking a grant or other appropriate financial assistance provided under subsection (a)(3) shall submit to the Secretary an application at such time and in such manner as the Secretary may require.
“(d) COST SHARING.—The Secretary shall consider the activities described under subsection (a)(3) to be subject to the cost share requirement for demonstration and commercial application activities under section 988(c).

“SEC. 420. CARBON DIOXIDE SEQUESTRATION INFRASTRUCTURE DEVELOPMENT.

“(a) IN GENERAL.—The Secretary shall carry out a program to provide grants to support—

“(1) the development of carbon dioxide pipeline infrastructure that is necessary to support the transportation of the volumes of carbon dioxide that are expected to be captured at electricity generation facilities to appropriate sites for long term sequestration; and

“(2) the development of geologic sequestration facilities that are necessary to support long-term sequestration of the volumes of carbon dioxide that are expected to be captured at electricity generation facilities.

“(b) APPLICATION.—Applications for a grant provided under this section shall be submitted at such time and in such manner as the Secretary may require.

“(c) PRIORITY.—The Secretary shall prioritize providing grants under subsection (a)(1) to support pipeline
infrastructure that is of significant length and significant
throughput capacity.

“(d) COST SHARING.—The Secretary shall consider
the grants provided under subsection (a) to be subject to
the cost share requirement for demonstration and com-
mercial application activities under section 988(c).

“(e) AUTHORIZATION OF APPROPRIATIONS.—There
are authorized to be appropriated to the Secretary to carry
out this section and section 419 $2,000,000,000 for each
of fiscal years 2022 through 2031.”.

(b) CLERICAL AMENDMENT.—The table of contents
for the Energy Policy Act of 2005 is further amended by
adding after the item relating to section 418 (as added
by this Act) the following:

“Sec. 419. Securing geologic reservoirs for storage of carbon dioxide.
“Sec. 420. Carbon dioxide sequestration infrastructure development.”.

SEC. 132. CARBON DIOXIDE SEQUESTRATION UTILITIES.

(a) IN GENERAL.—The Secretary, in collaboration
with the Secretary of Transportation and the Adminis-
trator of the Environmental Protection Agency, as appro-
priate, may provide technical assistance to a State that
is seeking to—

(1) establish a government-owned carbon diox-
ide sequestration utility; or

(2) regulate a privately owned carbon dioxide
sequestration utility.
(b) TECHNICAL ASSISTANCE.—Technical assistance provided under subsection (a) may include—

(1) with respect to a government-owned carbon dioxide sequestration utility—

(A) conducting engineering studies to support the development of a carbon dioxide sequestration facility; and

(B) identifying potential carbon dioxide transportation routes; and

(2) with respect to State regulation of a privately owned carbon dioxide sequestration utility—

(A) helping with developing regulations for any privately owned carbon dioxide sequestration utility, including with respect to the development of a permitting system; and

(B) assisting with developing regulations for—

(i) services provided by a privately owned carbon dioxide sequestration utility;

and

(ii) the setting of rates charged for such services.

(e) REPORT.—Not later than 1 year after the date of enactment of this section, the Secretary shall submit to Congress a report that—
(1) characterizes Federal, State, and local regulations that apply to the development and operation of carbon dioxide transportation infrastructure and sequestration facilities;

(2) identifies any gaps in applicable regulations that need to be addressed to ensure the safe and effective operation of carbon dioxide transportation infrastructure and sequestration facilities;

(3) evaluates whether regulation of the rates and terms of service for carbon dioxide transportation service or sequestration service is necessary to ensure fair access to such services;

(4) evaluates whether the use of the right of eminent domain to develop carbon dioxide transportation infrastructure and sequestration facilities is consistent with the public interest; and

(5) provides any recommended changes to Federal law that would support the development and use of carbon dioxide transportation infrastructure and sequestration facilities consistent with the public interest.

(d) CARBON DIOXIDE SEQUESTRATION UTILITY DEFINED.—The term “carbon dioxide sequestration utility” means any organization that provides carbon dioxide transportation or sequestration service.
TITILE II—INNOVATION IN RENEWABLE ENERGY, ENERGY EFFICIENCY, AND STORAGE

SEC. 201. ESTABLISHMENT OF TECHNOLOGY PERFORMANCE AND COST TARGETS.

(a) In General.—Not later than 1 year after the date of enactment of this section, the Secretary shall establish technology performance and cost targets for three consecutive 5-year periods to address existing gaps in technology, with the first such period starting on the date of enactment of this section and the last such period ending on the date that is 15 years following such date of enactment.

(b) Targets.—Technology and performance cost targets shall be established for each of the following technology categories:

(1) Advanced renewable power technologies, which include—

(A) large-scale, novel renewable power plants;

(B) renewable hydrogen power plants, including plants for which the hydrogen comes from renewable natural gas or biogas;

(C) on-shore or off-shore wind power;

(D) thermal or photovoltaic solar power;
(E) hydropower;
(F) geothermal power;
(G) biomass power; and
(H) advanced renewable energy manufacturing techniques.

(2) Mechanical, chemical, and thermal energy storage technologies, which include—

(A) advanced grid-scale energy storage technologies with storage durations in the range of 10 to 50 hours; and

(B) grid-scale energy storage projects that can economically balance electricity supply and demand across seasons.

(3) Electricity transmission technologies, which include underground high-voltage direct current electricity transmission.

(4) Commercial, industrial, and residential energy efficiency technologies, which include—

(A) retrofit packages that reduce the energy used by an average single-family home by at least 50 percent at a cost of no more than $25,000 per such home;

(B) smart heating, ventilation, and air conditioning control technologies that—
(i) can be used in commercial buildings that have between 5,000 and 30,000 square feet of floor area;

(ii) can reduce heating, ventilation, and air conditioning energy consumption by an average of at least 20 percent compared to average commercial buildings;

(iii) yield energy cost savings that can provide at least a 50 percent annual return on the original investment; and

(iv) may include a cloud-based information technology;

(C) those technologies that the Secretary identifies as having the ability to improve energy efficiency or reduce emissions in heavy industries, which include those that produce or refine aluminum, steel, cement, oil, or fertilizer; and

(D) flexible load technology improvements to reduce peak demand.

(5) Industrial process and building electrification technologies, which include—

(A) heat pump space heaters;

(B) heat pump water heaters;

(C) induction stoves; and
(D) advanced industrial process heat technologies.

SEC. 202. ADVANCED INNOVATION AND COMMERCIALIZATION PROGRAM.

(a) In General.—The Secretary, in collaboration with the National Laboratories, other Federal agencies, and private sector and university partners as the Secretary determines necessary, shall establish a program, to be known as the “Advanced Innovation and Commercialization Program”, to carry out research, development, and demonstration of technology that meets the targets established for those technologies identified in section 201(b).

(b) Early Deployment.—

(1) In General.—The Secretary shall establish a program to provide grants for early deployment of the technologies demonstrated under the Advanced Innovation and Commercialization program under this section.

(2) Authorization of Appropriations.—

There is authorized to be appropriated to carry out this subsection $3,000,000,000 for each of fiscal years 2022 through 2031.

(c) Federal Procurement.—

(1) In General.—The Secretary, in collaboration with the Secretary of Defense and the Adminis-
trator of the General Services Administration, shall establish Federal procurement goals and deadlines for achieving such goals for those technologies identified in section 201(b).

(2) Federal energy and advanced technology energy procurement.—The Secretary, in collaboration with the Secretary of Defense and the Administrator of General Services, shall—

(A) through administrative and regulatory actions, improve Federal procurement of the technologies described in paragraph (1);

(B) identify and report on barriers to improving Federal procurement of energy and technologies that require legislative changes; and

(C) take due regard of the recommendations from the 2016 report entitled “Secretary of Energy Advisory Board Report of the Task Force on Federal Energy Management”.

(d) Authorization of Appropriations.—There are authorized to be appropriated to carry out subsection (a) the following:

(1) With respect to the advanced renewable energy technologies projects described in section
201(b)(1), $2,000,000,000 for each of fiscal years 2022 through 2031.

(2) With respect to the energy storage technologies projects described in section 201(b)(2), $400,000,000 for each of fiscal years 2022 through 2031.

(3) With respect to the transmission technologies and projects described in section 201(b)(3), $600,000,000 for each of fiscal years 2022 through 2031.

(4) With respect to the commercial, industrial, and residential energy efficiency technologies described in section 201(b)(4), $1,000,000,000 for each of fiscal years 2022 through 2031.

(5) With respect to the industrial process and building electrification technologies described in section 201(b)(5), $1,000,000,000 for each of fiscal years 2022 through 2031.

SEC. 203. UPDATING MANUFACTURED HOMES.

(a) UPDATING MANUFACTURED HOMES.—Not later than one year after the date of enactment of this section, the Secretary shall establish a program to provide grants and technical assistance to individuals or businesses to facilitate the replacement of inefficient manufactured homes with efficient manufactured homes.
(b) **Definitions.**—In this section:

1. **Efficient Manufactured Home.**—The term “efficient manufactured home” means a manufactured home for which the Energy Star label may be used in accordance with section 324A of the Energy Policy and Conservation Act (42 U.S.C. 6294a).

2. **Inefficient Manufactured Home.**—The term “inefficient manufactured home” means a manufactured home that was manufactured before June 1976.

3. **Manufactured Home.**—The term “manufactured home” has the meaning given such term in section 603 of the Housing and Community Development Act of 1974 (42 U.S.C. 5402).

(e) **Authorization.**—There is authorized to be appropriated to carry out this section $2,500,000,000 for each of fiscal years 2022 through 2031, to remain available until expended.

**Sec. 204. Investment Tax Credits for Energy Storage, Offshore Wind, and Certain Hydropower Technologies.**

(a) **In General.**—Section 48(a) of the Internal Revenue Code of 1986 is amended—

1. by striking subparagraph (5)(F), and
(2) in paragraph (3)(A), by striking “or” at the end of clause (vii), and by adding at the end the following new clauses:

“(ix) equipment which generates wind energy from an offshore facility,

“(x) energy storage equipment,

“(xi) eligible hydroelectric equipment,

or

“(xii) equipment which generates geothermal electricity through an enhanced geothermal system,”.

(b) ALLOWANCE OF 30 PERCENT CREDIT.—

(1) IN GENERAL.—Section 48(a)(2)(A)(i)(II) of the Internal Revenue Code of 1986 is amended by striking “paragraph (3)(A)(i)” and inserting “clause (i), (ix), (x), (xi), or (xii) of paragraph (3)(A)”.

(2) PHASEOUT.—Section 48(a)(6) of such Code is amended—

(A) by striking “solar energy” in the heading and inserting “certain”, and

(B) by striking “paragraph (3)(A)(i)” each place it appears and inserting “clause (i), (ix), (x), (xi), or (xii) of paragraph (3)(A)”.

(c) DEFINITIONS.—
(1) ENERGY CREDIT.—Section 48(c) of the Internal Revenue Code of 1986 is amended by adding at the end the following new paragraphs:

“(6) QUALIFIED OFFSHORE WIND PROPERTY.—

“(A) IN GENERAL.—The term ‘qualified offshore wind property’ means an offshore facility using wind to produce electricity.

“(B) OFFSHORE FACILITY.—The term ‘offshore facility’ means any facility located in the inland navigable waters of the United States, including the Great Lakes, or in the coastal waters of the United States, including the territorial seas of the United States, the exclusive economic zone of the United States, and the outer Continental Shelf of the United States.

“(7) ENERGY STORAGE EQUIPMENT.—The term ‘energy storage equipment’ means equipment which receives, stores, and delivers energy using batteries, compressed air, pumped hydropower, hydrogen storage (including hydrolysis and electrolysis), thermal energy storage, regenerative fuel cells, flywheels, capacitors, superconducting magnets, or other technologies identified by the Secretary in consultation
with the Secretary of Energy, and which has a ca-
2 pacity of not less than 5 kilowatt hours.
3 “(8) ELIGIBLE HYDROELECTRIC EQUIPMENT.—
4 The term ‘eligible hydroelectric equipment’ means
5 equipment used for the generation of electricity in-
6 stalled at a dam which—
7 “(A) was placed in service before the date
8 of the enactment of this paragraph and oper-
9 ated for flood control, navigation, or water sup-
10 ply purposes and did not produce hydroelectric
11 power prior to the date of the enactment of this
12 paragraph,
13 “(B) is part of a project that is licensed by
14 the Federal Energy Regulatory Commission
15 and meets all other applicable environmental, li-
16 censing, and regulatory requirements, and
17 “(C) is operated so that the water surface
18 elevation at any given location and time that
19 would have occurred in the absence of the hy-
20 droelectric project is maintained, subject to any
21 license requirements imposed under applicable
22 law that change the water surface elevation for
23 the purpose of improving environmental quality
24 of the affected waterway.
“(9) ENHANCED GEOTHERMAL SYSTEM.—The term ‘enhanced geothermal system’ means a system to extract heat by creating a subsurface fracture system to which water can be added through injection wells.”.

(2) QUALIFYING ADVANCED ENERGY PROJECT CREDIT.—Section 48C(e)(1)(A)(i)(IV) of the Internal Revenue Code of 1986 is amended by inserting “including through direct air capture or carbon dioxide removal” after “emissions”.

(d) EFFECTIVE DATE.—The amendments made by this section shall apply to property placed in service after December 31, 2020.

SEC. 205. EXTENSION OF PRODUCTION TAX CREDIT FOR SOLAR AND ON-SHORE WIND.

(a) WIND.—Section 45(d)(1) of the Internal Revenue Code of 1986 is amended by striking “January 1, 2022” and inserting “January 1, 2031”.

(b) SOLAR.—Section 45(d)(4)(A) of such Code is amended by striking “is placed in service before January 1, 2006” and inserting “the construction of which begins before January 1, 2031”.

(e) APPLICATION OF PHASEOUT PERCENTAGE TO WIND FACILITIES.—Section 45(b)(5)(D) of such Code is
amended by striking “January 1, 2022” and inserting “January 1, 2031”.

(d) EFFECTIVE DATE.—The amendments made by this section shall apply to facilities the construction of which begins after December 31, 2020.

SEC. 206. RENEWAL OF QUALIFYING ADVANCED ENERGY PROJECT CREDIT.

(a) IN GENERAL.—Section 48C(d)(2)(A) of the Internal Revenue Code of 1986 is amended by striking “during the 2-year period beginning on the date the Secretary establishes the program under paragraph (1)”.

(b) EFFECTIVE DATE.—The amendment made by this section shall apply to applications received after the date of the enactment of this Act.

SEC. 207. PERFORMANCE-BASED TAX CREDITS FOR COMMERCIAL AND RESIDENTIAL BUILDINGS.

(a) IN GENERAL.—Subpart D of part IV of subchapter A of chapter 1 of the Internal Revenue Code of 1986, as amended by this Act, is amended by adding at the end the following new section:

“SEC. 45V. DEEP RETROFITS AND ZERO-ENERGY COMMERCIAL AND RESIDENTIAL BUILDINGS.

“(a) ELIGIBILITY FOR TAX CREDIT.—For purposes of section 38, in the case of an eligible taxpayer who places an eligible building in service, the deep retrofits and zero-
energy commercial and residential buildings credit determined under this section for a taxable year is the applicable amount with respect to such eligible building.

“(b) ELIGIBLE TAXPAYER.—

“(1) IN GENERAL.—For purposes of subsection (a), the term ‘eligible taxpayer’ means, with respect to an eligible building—

“(A) for a residential building, the builder,

and

“(B) for a commercial building, the building owner.

“(2) TRANSFER OF CREDIT.—An eligible taxpayer who is a building owner eligible for a credit under subparagraph (B) of paragraph (1) may elect to transfer such credit to the architect, builder, or contractor of such building.

“(3) ELIGIBLE BUILDING.—

“(A) IN GENERAL.—For purposes of this subsection, the term ‘eligible building’ means a building—

“(i) located in the United States,

“(ii) which is at least 50 percent occupied in the taxable year in the tax credit is claimed,
“(iii) with respect to which a certification has been issued for a qualifying reason pursuant to subsection (c), and

“(iv) with respect to which no credit under this section has been claimed for the same qualifying reason in a prior taxable year.

“(B) QUALIFYING REASON.—For purposes of this paragraph, with respect to an eligible building, the term ‘qualifying reason’ means such building—

“(i) has undergone a deep energy retrofit,

“(ii) is a zero-energy-ready building,

or

“(iii) is a zero-energy building placed in service at least 12 months prior to the taxable year in which the credit is claimed.

“(C) SPECIAL RULE FOR ZERO-ENERGY AND ZERO-ENERGY READY BUILDINGS.—A taxpayer may claim the credit under this section twice for the same building if—

“(i) the credit is claimed in a taxable year for the qualifying reason described in subparagraph (B)(ii), and
“(ii) the credit is claimed in a succeeding taxable year for the qualifying reason described in subparagraph (B)(iii).

“(c) CERTIFICATIONS.—

“(1) DEEP ENERGY RETROFIT.—In the case of a building with respect to which a deep energy retrofit was implemented, such retrofit shall meet the certification standard of subsection (b)(3)(A) if it has been completed and certified as a deep energy retrofit by a registered architect or engineer, or by another professional authorized by the Secretary of Energy by rule.

“(2) ZERO ENERGY BUILDING.—In the case of a building which is a zero-energy building, such building shall meet the certification standard of subsection (b)(3)(A) if the building has been zero-energy over a span of 12 continuous months with at least 50 percent occupancy as verified—

“(A) through certification by the Living Buildings Institute Zero Energy Certification Program,

“(B) through certification by the LEED Zero Energy Certification Program Verification,

or
“(C) by another professional authorized by
the Secretary of Energy by rule.

“(3) ZERO-ENERGY-READY BUILDING.—In the
case of a building which is a zero-energy ready
building, such building shall meet the certification
standard of subsection (b)(3)(A)—

“(A) in the case of a commercial building
or high-rise residential building, if the taxpayer
receives a certification from registered engineer,
architect or other professional recognized by
Secretary of Energy stating that such building
meets the definition of a zero-energy-ready
building under subsection (e)(16)(A), and

“(B) if such building is a low-rise residen-
tial building—

“(i) if such building has been certified
as described in subsection (e)(16)(B)(i),

“(ii) if the taxpayer receives a certifi-
cation from registered engineer, architect
or other professional recognized by Sec-
retary of Energy stating that such building
meets the definition of a zero-energy-ready
building under subsection (e)(16)(B)(ii).
“(d) APPLICABLE AMOUNT.—For purposes of subsection (a), the applicable amount shall be determined as follows:

“(1) ZERO-ENERGY-READY BUILDINGS.—For certified zero-energy-ready buildings—

“(A) for a residential building with no more than four dwelling units, $5,000 per dwelling unit,

“(B) for a residential building with five or more dwelling units, $3,500 per dwelling unit, and

“(C) for a commercial building, $3 per square foot of floor area.

“(2) ZERO-ENERGY BUILDINGS.—For certified zero-energy buildings—

“(A) for a residential building with no more than four dwelling units, $5,000 per dwelling unit,

“(B) for a residential building with five or more dwelling units, $3,500 per dwelling unit, and

“(C) for a commercial building that is a zero-energy building for a period of 12 continuous months starting after the building is at least 50 percent occupied, $3 per square foot of
floor area, provided that a zero-energy building
may also receive the zero-energy-ready building
incentive if it meets the criteria for this incen-
tive.

“(3) DEEP ENERGY RETROФTS.—The following
tax credit amounts shall be awarded to buildings
upon completion of a deep energy retrofit—

“(A) for a residential building, $10,000
per dwelling unit, up to a maximum of
$1,000,000 per building, and

“(B) for a commercial building, $25 per
square foot of floor area, up to a maximum of
$2,000,000 per building.

“(e) DEFINITIONS.—In this section:

“(1) BTU.—The term ‘Btu’ means British
Thermal Unit.

“(2) BUILDING ENERGY.—The term ‘building
energy’ means energy consumed at the building site
as measured at the site boundary, which includes
heating, cooling, ventilation, domestic hot water, in-
door and outdoor lighting, plug loads, process en-
ergy, elevators and conveying systems, and
intrabuilding transportation systems.

“(3) DEEP ENERGY RETROФT.—The term
‘deep energy retrofit’ means a project that uses en-
energy efficiency measures and renewable energy resources to reduce the energy use of an existing building by at least 50 percent on an annual basis relative to the most recent 12 month period in which the building was fully occupied prior to the project, provided that energy efficiency measures must account for at least 80 percent of the reduction in energy use.

“(4) DELIVERED ENERGY.—The term ‘delivered energy’ means any type of energy that could be bought or sold as building energy, including electricity, steam, hot or chilled water, natural gas, biogas, landfill gas, coal, coke, propane, petroleum and its derivatives, residual fuel oil, alcohol-based fuels, wood, biomass, and any other material consumed as fuel.

“(5) EXPORTED ENERGY.—The term ‘exported energy’ means on-site renewable energy supplied through the site boundary and used outside the site boundary.

“(6) HIGH RISE COMMERCIAL BUILDING.—The term ‘high rise commercial building’ means a commercial building of four or more above grade stories.

“(7) HIGH RISE RESIDENTIAL BUILDING.—The term ‘high rise residential building’ means a multi-
family building with four or more above grade stories.

“(8) KWH.—The term ‘kWh’ means Kilowatt Hour.

“(9) LOW RISE RESIDENTIAL BUILDING.—The term ‘low rise residential building’ means a single-family home or multifamily building with no more than three above grade stories.

“(10) ON-SITE RENEWABLE ENERGY.—The term ‘on-site renewable energy’ means any renewable energy collected and generated within the site boundary that is used for building energy, and the excess renewable energy exported outside the site boundary, provided that any renewable energy certificates associated with the on-site renewable energy must be retained or retired by the building owner or lessee to be claimed as on-site renewable energy.

“(11) RENEWABLE ENERGY.—The term ‘renewable energy’ means energy generated by biomass, hydro, geothermal, solar, wind, ocean thermal, wave action, or tidal action resources.

“(12) RENEWABLE ENERGY CERTIFICATE.—The term ‘renewable energy certificate’ means a certificate or credit that represents and conveys the environmental, social, or other nonpower qualities of
one megawatt hour of renewable energy, and can be sold separately from the underlying physical electricity associated with the renewable energy resource.

“(13) SITE BOUNDARY.—The term ‘site boundary’ means the limits of the building site across which delivered energy and exported energy are measured.

“(14) SOURCE ENERGY.—The term ‘source energy’ means building energy plus the energy losses in thermal combustion in electricity generation resources; and energy losses in transmission and distribution to the building site.

“(15) ZERO-ENERGY BUILDING.—The term ‘zero-energy building’ means a building for which, on a source energy basis, the actual annual delivered energy is less than or equal to the on-site renewable exported energy, provided that energy purchased from off-site and renewable energy generated on-site and then sold off-site shall be valued at 6000 Btu/kWh.

“(16) ZERO-ENERGY-READY BUILDING.—The term ‘zero-energy-ready building’ means a building that—
“(A) if it is a commercial building or high-rise residential building—

“(i) is in compliance with Standard 90.1–2019 published by the American Society of Heating, Refrigerating, and Air Conditioning Engineers,

“(ii) is in compliance with Appendix CA (Solar-Ready Zone) of the 2021 International Energy Conservation Code, and

“(iii) demonstrates that its energy consumption is at least 30 percent below the maximum permitted under American Society of Heating, Refrigerating, and Air Conditioning Engineers Standard 90.1–2019, as calculated using the methodology in Appendix G of such standard, and

“(B) if it is a low-rise residential building—

“(i) has an Energy Rating Index of 40 or less as calculated using the procedures in Chapter 3 of the residential section of the 2012 International Energy Conservation Code but excluding any renewable energy resources in the calculation, provided that certification of compli-
ance with the Energy Rating Index require-
ment shall be made by a registered
architect or engineer by another profes-
sional authorized by the Secretary of En-
ergy by rule,

“(ii) is in compliance with Appendix RA (Solar-Ready Zone) of the 2021 Inter-
national Energy Conservation Code, and

“(iii) is certified under—

“(I) the Zero Energy Ready
Homes program administered by the
Department of Energy, or

“(II) the Passive House speci-
fications of the Passive Institute US
or the International Passive House
Institute.

“(f) Denial of Double Benefit.—No credit shall
be allowed under this section for any expense for which
a deduction or credit is allowed under any other provision
of this chapter, including under sections 25C, 25D, and
179D.

“(g) Sunset.—The tax credit under this section
shall terminate—

“(1) for zero-energy and zero-energy-ready resi-
dential buildings, one year after the Secretary of En-
ergy determines by rule that such buildings ac-
1 counted for at least 20 percent of new residential
2 buildings in the most recent calendar year,
3 “(2) for zero-energy and zero-energy-ready com-
4 mercial buildings, one year after the Secretary of
5 Energy determines by rule that such buildings ac-
6 counted for at least 20 percent of new commercial
7 building construction in the most recent calendar
8 year,
9 “(3) for deep energy retrofits to residential
10 buildings, one year after the Secretary of Energy de-
11 termines by rule that at least 10 percent of units at
12 residential buildings have undergone such retrofits,
13 and
14 “(4) for deep energy retrofits to commercial
15 buildings, one year after the Secretary of Energy de-
16 termines by rule that at least 10 percent of the floor
17 area of commercial buildings has undergone such
18 retrofits.
19 “(h) Rules and Regulations.—Not later than one
20 year after the date of the enactment of this section, the
21 Secretary, after consultation with the Secretary of Energy,
22 shall promulgate such regulations and guidance as are
23 necessary to implement this section.
“(i) REPORT TO CONGRESS.—Not later than two years after enactment of this section, and each calendar year thereafter, the Secretary shall report to Congress on the use of tax credits under this section, broken out by the applicable amount categories in subsection (d), which shall include—

“(1) the dollar value of tax credits awarded to date and in the prior calendar year, and

“(2) the number of units at residential buildings and the number of square feet of floor area in commercial buildings for which tax credits were awarded to date and in the prior year calendar year.”.

(b) CONFORMING AMENDMENTS.—

(1) Section 38(b) of the Internal Revenue Code of 1986 is amended—

(A) in paragraph (33), by striking “plus” at the end,

(B) in paragraph (34), by striking the period at the end and inserting, “plus”, and

(C) by adding at the end the following new paragraph:

“(34) the Deep energy retrofits and zero-energy commercial and residential buildings credit determined under section 45V(a).”.
(2) The table of sections for subpart D of part IV of subchapter A of chapter 1 of such Code is amended by adding at the end the following new item:

Sec. 45V. Deep energy retrofits and zero-energy commercial and residential buildings.”.

(c) EFFECTIVE DATE.—The amendments made by this section shall apply to property placed in service after December 31, 2021.

SEC. 208. EXTENSION OF PUBLICLY TRADED PARTNERSHIP OWNERSHIP STRUCTURE TO RENEWABLE ENERGY PROJECTS.

(a) IN GENERAL.—Section 7704(d)(1)(E) of the Internal Revenue Code of 1986, as amended by this Act, is amended by adding after clause (v) the following:

“(vi) The generation of electric power (including the leasing of tangible personal property used for such generation) exclusively using any resource described in section 45(c)(1) or energy property described in section 48 (determined without regard to any termination date) or, in the case of a facility described in paragraph (3) or (7) of section 45(d) (determined without regard to any placed in service date or date by which construction of the facility is re-
quired to begin), the accepting or processing of such resource.

“(vii) The sale of electric power, capacity, resource adequacy, demand response capabilities, or ancillary services that is produced or made available from any equipment or facility (operating as a single unit or as an aggregation of units) the principal function of which is to—

“(I) use mechanical, chemical, electrochemical, hydroelectric, or thermal processes to store energy that was generated at one time for conversion to electricity at a later time, or

“(II) store thermal energy for direct use for heating or cooling at a later time in a manner that avoids the need to use electricity at that later time.

“(viii) The generation, storage, or distribution of thermal energy exclusively utilizing property described in section 48(c)(3) (determined without regard to subparagraphs (B) and (D) thereof and
without regard to any placed in service date).

“(ix) The generation, storage, or distribution of thermal energy exclusively using any resource described in section 45(c)(1) or energy property described in clause (i) or (iii) of section 48(a)(3)(A).

“(x) The use of recoverable waste energy, as defined in section 371(5) of the Energy Policy and Conservation Act (42 U.S.C. 6341(5)).”.

(b) EFFECTIVE DATE.—The amendment made by this section shall apply to taxable years beginning after December 31, 2020.

SEC. 209. MANUFACTURER CREDIT FOR HIGH-EFFICIENCY HEAT PUMPS AND HEAT PUMP WATER HEATERS.

(a) IN GENERAL.—Subpart D of part IV of subchapter A of chapter 1 of the Internal Revenue Code of 1986, as amended by this Act, is amended by adding at the end the following new section:

“SEC. 45W. MANUFACTURER CREDIT FOR HIGH-EFFICIENCY HEAT PUMPS AND HEAT PUMP WATER HEATERS.

“(a) ALLOWANCE OF CREDIT.—
“(1) IN GENERAL.—For purposes of section 38, the energy efficient heat pump credit determined under this section for any taxable year is an amount equal to the sum of the credit amounts determined under paragraph (2) for each type of qualified energy efficient heat pump produced by the taxpayer during the calendar year ending with or within the taxable year.

“(2) CREDIT AMOUNTS.—The credit amount determined for any type of qualified energy efficient appliance is—

“(A) the applicable amount determined under subsection (b) with respect to such type, multiplied by

“(B) the eligible production for such type under subsection (c).

“(b) APPLICABLE AMOUNT.—For purposes of subsection (a):

“(1) CONSUMER HEAT PUMP WATER HEATERS.—The applicable amount is $600 in the case of a consumer heat pump water heater that is manufactured in one of calendar years 2022 through 2030 and that has a Uniform Energy Factor of 3.3 or more for electric water heaters and 1.3 or more for gas water heaters.
“(2) Commercial heat pump water heaters.—The applicable amount is $24 per thousand British Thermal Units of heating capacity in the case of a commercial heat pump water heater manufactured in one of calendar years 2022 through 2030 and that has a Coefficient of Performance of 3.0 or more for electric water heaters and 1.3 or more for gas water heaters.

“(3) Consumer unitary heat pumps.—The applicable amount is $1000 in the case of a consumer unitary heat pump that—

“(A) is manufactured in calendar years 2022 through 2030,

“(B) in the case of an electric heat pump meets either—

“(i) the most recent requirements of the Energy Star Most Efficient Specification promulgated by the United States Environmental Protection Agency before the date of enactment of this section, or

“(ii) the most recent Cold Climate Air-Source Heat Pump Specification promulgated by Northeast Energy Efficiency Partnerships before the date of enactment of this section, and
“(C) in the case of a gas heat pump, has an Annual Fuel Utilization Efficiency of 140 percent or more.

“(4) COMMERCIAL HEAT PUMPS.—The applicable amount is $24 per thousand British Thermal Units of heating capacity measured at a 17 degree Fahrenheit ambient temperature in the case of a commercial heat pump that is manufactured in calendar years 2022 through 2030 and that has a Coefficient of Performance of 2.3 or more at a 17 degree Fahrenheit ambient temperature for electric heat pumps, and 1.2 or more at a 17 degree Fahrenheit ambient temperature for gas heat pumps.

“(5) INDUSTRIAL HEAT PUMPS.—The applicable amount is $36 per thousand British Thermal Units of heating capacity for heat pumps with a heating capacity of 2,400 thousand British Thermal Units or less and $18 per thousand British Thermal Units of heating capacity for heat pumps with a heating capacity above 2,400 thousand British Thermal Units in the case of an industrial heat pump that is manufactured and installed in an industrial facility in calendar years 2022 through 2030 and that has a Coefficient of Performance of 2.0 or more.
“(c) Eligible Production.—The eligible production in a calendar year with respect to each type of energy efficient heat pump is—

“(1) the number of heat pumps of such type that are produced by the taxpayer in the United States during such calendar year, less

“(2) the average number of heat pumps of such type that were produced by the taxpayer (or any predecessor) in the United States during the preceding 2-calendar year period.

“(d) Types of Energy Efficient Heat Pumps.—For purposes of this section, the types of energy efficient heat pumps are—

“(1) consumer heat pump water heaters described in subsection (b)(1),

“(2) commercial heat pump water heaters described in subsection (b)(2),

“(3) consumer unitary heat pumps described in subsection (b)(3),

“(4) commercial heat pumps described in subsection (b)(4), and

“(5) industrial heat pumps described in subsection (b)(5).

“(e) Limitations.—
“(1) Aggregate Credit Amount Allowed.—

The aggregate amount of credit allowed under subsection (a) with respect to a taxpayer for any taxable year shall not exceed $250,000,000, reduced by the amount of the credit allowed under subsection (a) to the taxpayer (or any predecessor) for all prior taxable years beginning after December 31, 2021.

“(2) Limitation Based on Gross Receipts.—The credit allowed under subsection (a) with respect to a taxpayer for the taxable year shall not exceed an amount equal to 4 percent of the average annual gross receipts of the taxpayer for the 3 taxable years preceding the taxable year in which the credit is determined.

“(3) Gross Receipts.—For purposes of this subsection, the rules of paragraphs (2) and (3) of section 448(c) shall apply.

“(f) Adjustment of Energy Efficiency Criteria.—No later than December 31, 2022, and every two years thereafter, the Secretary, in consultation with the Secretary of Energy, shall review the efficiency levels in subsection (b) and revise these levels upward if necessary to include only the most efficient commercially available heat pumps of each type, while ensuring that at least three
manufacturers are represented in each type across a range of product heating capacities.

“(g) TEST PROCEDURES.—

“(1) The Department of Energy shall develop test procedures to determine Coefficient of Performance for—

“(A) gas commercial heat pump water heaters,

“(B) gas commercial heat pumps, and

“(C) industrial heat pumps.

“(2) Such test procedures shall build upon the foundation of relevant current American National Standard Institute and International Organization of Standard test procedures.

“(h) DEFINITIONS.—For purposes of this section:

“(1) QUALIFIED ENERGY EFFICIENT HEAT PUMP.—The term ‘qualified energy efficient heat pump’ means—

“(A) any consumer heat pump water heater described in subsection (b)(1),

“(B) any commercial heat pump water heater described in subsection (b)(2),

“(C) any consumer unitary heat pump described in subsection (b)(3),
“(D) any commercial heat pump described in subsection (b)(4), and

“(E) any industrial heat pump described in subsection (b)(5).

“(2) CONSUMER HEAT PUMP WATER HEATER.—The term ‘consumer heat pump water heater’ means a water heater that uses a heat pump to heat water, has a maximum electric current rating of 24 amperes at an input voltage of 250 volts or less for electric water heaters, or a gas input of 75,000 Btu per hour or less for gas water heaters, measured in accordance with applicable U.S. Department of Energy test procedures.

“(3) COMMERCIAL HEAT PUMP WATER HEATERS.—The term ‘commercial heat pump water heater’ means a water heater that uses a heat pump to heat water and is not a consumer heat pump water heater defined in paragraph (2).

“(4) CONSUMER UNITARY HEAT PUMP.—The term ‘consumer unitary heat pump’ means a heat pump designed to provide space heating and cooling with a cooling capacity of 65,000 British Thermal Units per hour or less, measured in accordance with the applicable Department of Energy test procedures.
“(5) COMMERCIAL HEAT PUMP.—The term ‘commercial heat pump’ means a heat pump designed to provide space heating and cooling with a cooling capacity of more than 65,000 British Thermal Units per hour, measured in accordance with the applicable Department of Energy test procedures.

“(6) INDUSTRIAL HEAT PUMP.—The term ‘industrial heat pump’ means a heat pump that upgrades industrial waste heat to a higher temperature such that the delivered heat is produced and supplied to the facility more efficiently than conventional heating methods, such as a steam or electric resistance boiler.

“(7) PRODUCED.—The term ‘produced’ includes manufactured.

“(8) UNIFORM ENERGY FACTOR.—The term ‘Uniform Energy Factor’ is a metric used to measure the efficiency of consumer water heaters, with details specified in applicable Department of Energy test procedures.

“(9) COEFFICIENT OF PERFORMANCE.—The term ‘Coefficient of Performance’ means the ratio of heat output to energy input, with details specified in applicable Department of Energy test procedures.
For gas commercial heat pump water heaters, until there is a Department of Energy test procedure, American National Standards Institute and American Society of Heating, Refrigerating and Air-Conditioning Engineers Standard 118.1 shall be used. For gas commercial heat pumps, until there is a Department of Energy test procedure, American National Standards Standard Z21.40.4 shall be used. For industrial heat pumps, until there is a Department Energy test procedure, manufacturers may use their own tests, provided they publicly post the test conditions and assumptions they used in developing their stated Coefficient of Performance values.

“(i) SPECIAL RULES.—For purposes of this section:

“(1) IN GENERAL.—Rules similar to the rules of subsections (c), (d), and (e) of section 52 shall apply.

“(2) CONTROLLED GROUP.—

“(A) IN GENERAL.—All persons treated as a single employer under subsection (a) or (b) of section 52 or subsection (m) or (o) of section 414 shall be treated as a single producer.

“(B) INCLUSION OF FOREIGN CORPORATIONS.—For purposes of subparagraph (A), in applying subsections (a) and (b) of section 52
to this section, section 1563 shall be applied
without regard to subsection (b)(2)(C) thereof.

“(3) Verification.—No amount shall be al-
lowed as a credit under subsection (a) with respect
to which the taxpayer has not submitted such infor-
mation or certification as the Secretary, in consulta-
tion with the Secretary of Energy, determines nec-
essary.

“(4) Production in United States.—The re-
quirement for production in the United States in
subsection (c) shall not take effect until January 1,
2025.”.

(b) Clerical Amendment.—The table of sections
for subpart D of part IV of subchapter A of chapter 1,
as amended by this Act, is further amended by adding
after the item relating to section 45V the following new
item:

“Sec. 45W. Manufacturer credit for high-efficiency heat pumps and heat pump
water heaters.”.

SEC. 210. OTHER AUTHORIZATIONS OF APPROPRIATIONS.

(a) Amendment to America Competes Act.—
Section 5012(o)(2) of the America COMPETES Act (42
U.S.C. 16538(o)(2)) is amended by striking subpara-
graphs (B) through (E) and inserting the following:

“(B) $569,000,000 for fiscal year 2022;
“(C) $713,000,000 for fiscal year 2023;
“(D) $856,000,000 for fiscal year 2024;

and

“(E) $1,000,000,000 for fiscal year 2025.”.

(b) REGIONAL INNOVATION MODELS.—There are authorized to be appropriated to the Secretary for purposes of developing regional innovation models—

(1) $100,000,000 for fiscal year 2022;

(2) $200,000,000 for fiscal year 2023;

(3) $300,000,000 for fiscal year 2024; and

(4) $500,000,000 for fiscal year 2025.

(c) GRID MODERNIZATION.—There are authorized to be appropriated to the Secretary for purposes of research, development, demonstration, analysis, technology validation, market transformation, and technical assistance to support grid modernization—

(1) $238,000,000 for fiscal year 2022;

(2) $375,000,000 for fiscal year 2023;

(3) $513,000,000 for fiscal year 2024; and

(4) $650,000,000 for fiscal year 2025.

(d) ADVANCED LAND-BASED AND OFFSHORE WIND POWER.—There are authorized to be appropriated to the Secretary for the purposes of research, development, demonstration, analysis, technology validation, market trans-
formation, and technical assistance to support advanced
land-based and offshore wind power—
(1) $178,000,000 for fiscal year 2022;
(2) $252,000,000 for fiscal year 2023;
(3) $326,000,000 for fiscal year 2024; and
(4) $400,000,000 for fiscal year 2025.

(e) Advanced Solar Power.—There are author-
ized to be appropriated to the Secretary for the purposes
of research, development, demonstration, analysis, tech-
nology validation, market transformation, and technical
assistance to support advanced solar power—
(1) $360,000,000 for fiscal year 2022;
(2) $440,000,000 for fiscal year 2023;
(3) $520,000,000 for fiscal year 2024; and
(4) $600,000,000 for fiscal year 2025.

(f) Mechanical, Chemical, and Thermal Stor-
age Technology.—There are authorized to be appro-
priated to the Secretary for the purposes of research, de-
velopment, demonstration, analysis, technology validation,
market transformation, and technical assistance to sup-
port mechanical, chemical, and thermal storage tech-
nology—
(1) $150,000,000 for fiscal year 2022;
(2) $150,000,000 for fiscal year 2023;
(3) $150,000,000 for fiscal year 2024; and
(4) $150,000,000 for fiscal year 2025.

(g) BUILDINGS.—There are authorized to be appropriated to the Secretary for the purposes of research, development, demonstration, analysis, technology validation, market transformation, and technical assistance to support technologies that improve the energy efficiency of building equipment, the building envelope, building controls, and that improve information sharing between the building and the grid, which technologies may include energy efficiency, demand response, and electrification technologies in residential, commercial, and industrial buildings—

(1) $381,000,000 for fiscal year 2022;
(2) $478,000,000 for fiscal year 2023;
(3) $574,000,000 for fiscal year 2024; and
(4) $670,000,000 for fiscal year 2025.

(h) INDUSTRY.—There are authorized to be appropriated to the Secretary for the purposes of research, development, demonstration, analysis, technology validation, market transformation, and technical assistance to support technologies to reduce emissions in industrial and manufacturing processes, including such technologies relating to energy efficiency and electrification—

(1) $381,000,000 for fiscal year 2022;
(2) $478,000,000 for fiscal year 2023;
(3) $574,000,000 for fiscal year 2024; and

(4) $840,000,000 for fiscal year 2025.

(i) ENHANCED GEOTHERMAL TECHNOLOGIES.—

There are authorized to the Secretary for the purposes of research, development, and demonstration of enhanced geothermal technologies an increase in the amount from fiscal year 2019 appropriations by $100,000,000 for each year until fiscal year 2026, of which—

(1) $70,000,000 is authorized for the Secretary to use each year to establish a supercritical enhanced geothermal system demonstration program; and

(2) $30,000,000 is authorized for the Secretary to use each year in collaboration with the National Laboratories for supercritical enhanced geothermal systems research and development.

TITLE III—EXISTING AND ADVANCED NUCLEAR POWER PLANTS

SEC. 301. ZERO-EMISSIONS CREDIT PROGRAM.

(a) Establishment.—Not later than 2 years after the date of enactment of this section, the Secretary shall establish a program to be known as the “Zero-Emissions Credit Program”.
(b) Issuance of Credits.—Under the Zero-Emissions Credit Program the Secretary shall, by not later than March 1 of each calendar year, issue zero-emissions credits to each owner or operator of a qualified nuclear power plant in the quantity that is equal to the number of megawatt-hours of electricity sold by such owner or operator to an organized power market in the prior year.

(c) Payment for Credits.—

(1) In General.—Except as provided in paragraphs (2), (3), and (4), under the Zero-Emissions Credit Program the Secretary shall pay an owner or operator of a qualified nuclear power plant $13.25 for each zero-emissions credit such owner or operator submits to the Secretary.

(2) Adjustments for Inflation.—Each year the Secretary shall adjust the amount paid for each zero-emissions credit to account for the effects of inflation based on the Consumer Price Index for All Urban Consumers (as published by the Bureau of Labor Statistics of the Department of Labor).

(3) Reduction in Value of Credit.—If the price for the sale of electricity to an organized power market increases in a calendar year such that payments for zero-emissions credits under paragraph (1) are no longer needed to prevent the retirement
of a qualified nuclear power plant in the subsequent year, the Secretary shall, after the application of any adjustment under paragraph (2), reduce the amount to be paid for each zero-emissions credit to the owner or operator of such qualified nuclear power plant to account for such change in price.

(4) Offset for Value of Clean Electricity Credits.—If the owner or operator of a qualified nuclear power plant is issued any clean electricity credits under section 611 of the Public Utility Regulatory Policies Act of 1978 (as added by section 402 of this Act) in a calendar year in which such owner or operator is issued zero-emissions credits, the Secretary shall reduce the amount paid for such zero-emissions credits by the value of such clean electricity credits.

(d) Termination Date.—The Zero-Emissions Credit Program shall terminate on the date that is 5 years after the program effective date.

(e) Rulemaking.—Not later than 1 year after the date of enactment of this section, the Secretary shall issue a final rule to carry out this section.

(f) Definitions.—In this section:

(1) Clean Electricity Credit.—The term “clean electricity credit” has the meaning given such
term in section 611(g) of the Public Utility Regulatory Policies Act of 1978 (as added by section 402 of this Act).

(2) Organized Power Market.—The term “organized power market” means any market that is controlled by a Regional Transmission Organization or an Independent System Operator, as such terms are defined in section 3 of the Federal Power Act (16 U.S.C. 796).

(3) Program Effective Date.—The term “program effective date” has the meaning given such term in section 611(g) of the Public Utility Regulatory Policies Act of 1978 (as added by section 402 of this Act).

(4) Qualified Nuclear Power Plant.—

(A) In General.—The term “qualified nuclear power plant” means any nuclear power plant the Secretary determines, by not later than 2 years after the date of enactment of this Act and based on an application submitted by such plant to the Secretary, is not financially viable or will otherwise be required to retire if it does not receive zero-emissions credits under the Zero-Emissions Credit Program.
(B) EXCLUSION.—The term “qualified nuclear power plant” does not include a nuclear power plant with respect to which a tax credit under section 48 of the Internal Revenue Code of 1986 is claimed in the taxable year prior to the taxable year in which the Secretary makes the determination under subparagraph (A).

(5) ZERO-EMISSIONS CREDIT.—The term “zero-emissions credit” means a credit issued by the Secretary under the Zero-Emissions Credit Program that represents 1 megawatt-hour of electricity sold by the owner or operator of a qualified nuclear power plant to an organized power market.

SEC. 302. INVESTMENT TAX CREDIT FOR NUCLEAR ENERGY PROPERTY.

(a) IN GENERAL.—Section 48(a)(3)(A) of the Internal Revenue Code of 1986, as amended by section 204, is amended by striking “or” at the end of clause (xi), by adding “or” at the end of clause (xii), and by adding at the end the following new clause:

“(xiii) qualified nuclear energy property.”.

(b) ELIGIBLE FOR 30-PERCENT CREDIT.—Section 48(a)(2)(A)(i) of such Code is amended by striking “and”
in subclause (IV) and by adding at the end the following new subclause:

“(VI) energy property described in paragraph (3)(A)(xiii), but only with respect to property placed in service before January 1, 2024, and”.

(c) QUALIFIED NUCLEAR ENERGY PROPERTY.—Section 48(c) of such Code, as amended by section 204, is amended by adding at the end the following new paragraph:

“(10) QUALIFIED NUCLEAR ENERGY PROPERTY.—

“(A) IN GENERAL.—The term ‘qualified nuclear energy property’ means, with respect to a qualifying nuclear power plant—

“(i) amounts paid or incurred for the refueling of such power plant, and

“(ii) any expenditure described in section 263(a).

“(B) QUALIFYING NUCLEAR POWER PLANT.—The term ‘qualifying nuclear power plant’ means a nuclear power plant which—

“(i) submits an application for license renewal to the Nuclear Regulatory Commission in accordance with part 54 of title
10, Code of Federal Regulations, before January 1, 2026, or

“(ii) certifies to the Secretary (at such time and in such form and in such manner as the Secretary may prescribe) that such plant will submit an application for license renewal to the Nuclear Regulatory Commission in accordance with part 54 of title 10, Code of Federal Regulations, before January 1, 2026.

“(C) Special rules.—

“(i) Basis.—For purposes of subsection (a), the cumulative amounts paid or incurred by the taxpayer during the taxable year with respect to a qualifying nuclear power plant which are properly chargeable to capital account shall be treated as the basis of the qualified nuclear energy property placed in service for that taxable year.

“(ii) Placed in service.—For purposes of subsection (a), qualified nuclear energy property shall be treated as having been placed in service on the last day of the taxable year in which the taxpayer
pays or incurs such amounts described in clause (i).

“(iii) Recapture.—The Secretary shall provide by regulations for the recapture of any credit allowable under subsection (a) to any qualifying nuclear power plant which makes a certification pursuant to subparagraph (B) but does not file an application of license renewal to the Nuclear Regulatory Commission in accordance with part 54 of title 10, Code of Federal Regulations, before January 1, 2026.”.

(d) Phaseout of 30-percent Credit Rate for Nuclear Energy Property.—Section 48(a) of such Code is amended by adding at the end the following new paragraph:

“(8) Phaseout for qualified nuclear energy property.—In the case of qualified nuclear energy property, the energy percentage determined under paragraph (2) shall be equal to—

“(A) in the case of any property placed in service after December 31, 2023, and before January 1, 2025, 26 percent, and
“(B) in the case of any property placed in service after December 31, 2022, and before January 1, 2026, 22 percent.”.

(e) COORDINATION WITH CREDIT FOR PRODUCTION FROM ADVANCED NUCLEAR POWER FACILITIES.—Section 48(a)(3) of such Code is amended by inserting “or section 45J” after “section 45”.

(f) TRANSFER OF CREDIT BY CERTAIN PUBLIC ENTITIES.—

(1) IN GENERAL.—Section 48 of such Code is amended by adding at the end the following new subsection:

“(e) SPECIAL RULE FOR QUALIFIED NUCLEAR ENERGY PROPERTY.—

“(1) IN GENERAL.—In the case of any qualified nuclear energy property, if, with respect to a credit under subsection (a) for any taxable year—

“(A) the taxpayer is a qualified public entity, and

“(B) such qualified public entity elects the application of this subsection for such taxable year with respect to such credit (or any portion thereof), the eligible project partner specified in such election shall be treated as the taxpayer
for purposes of this title with respect to such
credit (or such portion thereof).

“(2) DEFINITIONS.—For purposes of this sub-
section:

“(A) QUALIFIED PUBLIC ENTITY.—The
term ‘qualified public entity’ means—

“(i) a Federal, State, or local govern-
ment entity, or any political subdivision,
agency, or instrumentality thereof,

“(ii) a mutual or cooperative electric
company described in section 501(c)(12) or
section 1381(a)(2), or

“(iii) a not-for-profit electric utility
which received a loan or loan guarantee
under the Rural Electrification Act of
1936.

“(B) ELIGIBLE PROJECT PARTNER.—The
term ‘eligible project partner’ means—

“(i) any person responsible for oper-
ating, maintaining, or repairing the qual-
ifying nuclear power plant to which the
credit under subsection (a) relates,

“(ii) any person who participates in
the provision of the nuclear steam supply
system to the qualifying nuclear power
plant to which the credit under subsection (a) relates,

“(iii) any person who participates in the provision of nuclear fuel to the qualifying nuclear power plant to which the credit under subsection (a) relates, or

“(iv) any person who has an ownership interest in such facility.

“(3) SPECIAL RULES.—

“(A) APPLICATION TO PARTNERSHIPS.—In the case of a credit under subsection (a) which is determined with respect to qualified nuclear energy property at the partnership level—

“(i) for purposes of paragraph (1)(A), a qualified public entity shall be treated as the taxpayer with respect to such entity’s distributive share of such credit, and

“(ii) the term ‘eligible project partner’ shall include any partner of the partnership.

“(B) TAXABLE YEAR IN WHICH CREDIT TAKEN INTO ACCOUNT.—In the case of any credit (or portion thereof) with respect to which an election is made under subsection (e), such credit shall be taken into account in the first
taxable year of the eligible project partner ending with, or after, the qualified public entity’s taxable year with respect to which the credit was determined.

“(C) Treatment of transfer under private use rules.—For purposes of section 141(b)(1), any benefit derived by an eligible project partner in connection with an election under this subsection shall not be taken into account as a private business use.”.

(2) Special rule for proceeds of transfers for mutual or cooperative electric companies.—Section 501(c)(12) of such Code is amended by adding at the end the following new subparagraph:

“(K) In the case of a mutual or cooperative electric company described in this paragraph or an organization described in section 1381(a)(2), income received or accrued in connection with an election under section 48(e) shall be treated as an amount collected from members for the sole purpose of meeting losses and expenses.”.

(g) Conforming Amendment.—Section 48(a)(2)(A) of such Code is amended by striking “para-
graphs (6) and (7)” and inserting “paragraphs (6), (7),
and (8)”.

(h) EFFECTIVE DATE.—The amendments made by
this section shall apply to periods after December 31,
2020, in taxable years ending after such date, under rules
similar to the rules of section 48(m) of the Internal Rev-

venue Code of 1986 (as in effect on the day before the en-

SEC. 303. EXPANDING FEDERAL CLEAN ELECTRICITY PUR-

CHASING REQUIREMENTS.

(a) FEDERAL PURCHASE REQUIREMENT.—Section
is amended—

(1) in subsection (a), by striking “, the fol-

lowing amounts shall be renewable energy:” and in-

serting “, such amount shall be made up of the fol-

lowing:”;

(2) in subsection (a)(1), by inserting “shall be

renewable energy” after “2009”;

(3) in subsection (a)(2), by inserting “shall be

renewable energy” after “2012”;

(4) in subsection (a)(3), by striking “7.5 per-

cent in fiscal year 2013 and each fiscal year there-

after.” and inserting “7.5 percent in fiscal years

2013 through 2020 shall be renewable energy.”;
(5) in subsection (a), by adding at the end the following:

“(4) Not less than 35 percent in fiscal year 2021 and each year thereafter shall be clean electricity.”;

(6) in subsection (b), by adding at the end the following:

“(3) CLEAN ELECTRICITY.—The term ‘clean electricity’ means—

“(A) renewable energy;

“(B) electric energy generated by a nuclear power plant; and

“(C) electric energy generated by a power plant equipped with carbon capture utilization and storage technology, from which at least 90 percent of the carbon dioxide output of such plant is captured and utilized, or stored in a manner that prevents emission to the atmosphere.”;

(7) in subsection (c), by striking “renewable energy” and inserting “clean electricity” in each place it occurs;

(8) by redesignating subsection (d) as subsection (e); and
(9) by inserting after subsection (e) the follow-

“(d) Power Purchase Agreement.—For the pur-
poses of this section, the Secretary may enter into a power
purchase agreement for any amount of the electricity gen-
erated by a nuclear power plant for the duration of the
operational life of such nuclear power plant if such nuclear
power plant supplies electricity for purposes of national
security or mission-critical activities.”.

(b) Long-term Nuclear Power Purchase
Agreement Pilot Program.—Subtitle B of title VI of
the Energy Policy Act of 2005 is amended by adding at
the end the following:

“Sec. 639A. Long-term Nuclear Power Purchase
Agreement Pilot Program.

“(a) Establishment.—The Secretary shall estab-
lish and carry out a pilot program to enter into long-term
power purchase agreements for electricity generated by
commercial nuclear power plants.

“(b) Requirements.—In carrying out the pilot pro-
testimated under subsection (a), the Secretary
shall—

“(1) consult and coordinate with the heads of
other Federal agencies that may benefit from pur-
chasing nuclear power for a period of longer than 10 years, including—

“(A) the Secretary of Defense;

“(B) the Administrator of General Services; and

“(C) the Secretary of Homeland Security;

and

“(2) not later than 10 years after the date of enactment of this section, enter into at least 1 power purchase agreement with the owner or operator of a commercial nuclear power plant for up to 30 years.

“(c) PRIORITY.—In carrying out the pilot program established under subsection (a), the Secretary shall prioritize entering into a power purchase agreement with the owner or operator of a commercial nuclear power plant—

“(1) to which a license is issued under section 103 of the Atomic Energy Act of 1954 (42 U.S.C. 2133) after January 1, 2021;

“(2) that uses first-of-a-kind or early deployment nuclear technology; and

“(3) that can provide reliable and resilient power—

“(A) to high-value assets for national security purposes; or
“(B) for other purposes that the Secretary
determines are in the national interest, includ-
ing in remote off-grid scenarios or grid-con-
connected scenarios for which such commercial nu-
clear power plant can provide capabilities com-
monly known as ‘islanding power capabilities’.

“(d) EFFECT ON RATES.—A power purchase agree-
ment entered into under this section may be at a rate that
is higher than the average market rate if the power pur-
chase agreement fulfills a purpose described in subsection
(c).”.

(c) TABLE OF CONTENTS.—The table of contents of
the Energy Policy Act of 2005 (Public Law 109–58; 119
Stat. 594) is amended by inserting after the item relating
to section 639 the following:

“Sec. 639A. Long-term nuclear power purchase agreement pilot program.”.

(d) AUTHORIZATION OF LONG-TERM POWER PUR-
CHASE AGREEMENTS.—Section 501(b)(1) of title 40,
United States Code, is amended by striking subparagraph
(B) and inserting the following:

“(B) PUBLIC UTILITY CONTRACTS.—

“(i) TERM.—

“(I) IN GENERAL.—A contract
under this paragraph to purchase
electricity service from a public utility
may be for a period of not more than 40 years.

“(II) Other public utility services.—A contract under this paragraph for a public utility service other than a service described in subclause (I) may be for a period of not more than 10 years.

“(ii) Costs.—The cost of a contract under this paragraph for any fiscal year may only be paid from the appropriations for that fiscal year.”.

SEC. 304. MODERNIZING THE NUCLEAR REGULATORY COMMISSION.

(a) Reducing the Administrative Burden of Licensing Advanced Nuclear Reactors.—

(1) Report.—Not later than 90 days after the date of enactment of this section, the Commission shall submit to the Committee on Energy and Commerce of the House of Representatives and the Committee on Energy and Natural Resources of the Senate a report that recommends how to improve the processes, procedures, and, if appropriate, regulations of the Commission with respect to licensing, certification, and approval of advanced nuclear reac-
tors pursuant to the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.).

(2) REQUIRED RECOMMENDATIONS.—The report submitted under paragraph (1) shall include recommendations to—

(A) improve, accelerate, and reduce the cost of all Commission actions with respect to licensing, certification, and approval of advanced nuclear reactors pursuant to the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.), including actions to improve compliance with section 102(2)(C) of the National Environmental Policy Act of 1969 (42 U.S.C. 4332(2)(C));

(B) emphasize risk-informed and performance-based regulatory approaches; and

(C) enable the Commission to finalize review of an application for certification of a design of an advanced nuclear reactor pursuant to the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.) by not later than 2 years after the date on which such application is filed.

(3) DEFINITIONS.—In this subsection:

(A) ADVANCED NUCLEAR REACTOR.—The term “advanced nuclear reactor” has the mean-
ing given such term in section 951(b)(1) of the Energy Policy Act of 2005 (42 U.S.C. 16271(b)(1)).

(B) COMMISSION.—The term “Commission” means the Nuclear Regulatory Commission.

(b) STUDY ON ELIMINATION OF FOREIGN LICENSING RESTRICTIONS.—Not later than 18 months after the date of enactment of this section, the Comptroller General, in consultation with the Secretary, shall submit to Congress a report containing the results of a study on the feasibility and implications of repealing restrictions related to foreign ownership and control under sections 103 d. and 104 d. of the Atomic Energy Act of 1954 (42 U.S.C. 2133(d) and 2134(d)).

(c) STUDY ON THE IMPACT OF THE ELIMINATION OF MANDATORY HEARINGS FOR UNCONTESTED LICENSING APPLICATIONS.—Not later than 18 months after the date of enactment of this section, the Comptroller General, in consultation with the Secretary, shall submit to Congress a report containing the results of a study on the estimated effect of eliminating the requirement under section 189 of the Atomic Energy Act of 1954 (42 U.S.C. 2239) to hold a hearing for uncontested applications.
(d) DEFINITIONS.—Section 11 of the Atomic Energy Act of 1954 (42 U.S.C. 2014) is amended by adding at the end the following:

“jj. EARLY SITE PERMIT.—In sections 182, 189, and 194, the term ‘early site permit’ has the meaning given such term in section 52.1 of title 10, Code of Federal Regulations (as in effect on the date of enactment of this subsection)...”.

(e) APPLICATION REVIEWS FOR NUCLEAR ENERGY PROJECTS.—

(1) LICENSE APPLICATIONS.—Section 182 of the Atomic Energy Act of 1954 (42 U.S.C. 2232) is amended by adding at the end the following:

“e. STREAMLINING APPLICATION REVIEW.—With respect to an application for a construction permit, operating license, or combined construction permit and operating license, the Commission shall—

“(1) undertake an expedited environmental review process and issue any draft environmental impact statements (as required pursuant to section 102(2)(C) the National Environmental Policy Act of 1969 (42 U.S.C. 4332(2)(C))) for the application not later than 12 months after the date on which the application is accepted for docketing; and
“(2) complete the technical review process of the application, issue any safety evaluation reports, and issue any final environmental impact statements (as required pursuant to section 102(2)(C) the National Environmental Policy Act of 1969 (42 U.S.C. 4332(2)(C))) for the application not later than 24 months after the date on which the application is accepted for docketing.

“f. PRODUCTION OR UTILIZATION FACILITY LOCATED AT AN EXISTING SITE.—In reviewing an application for an early site permit, construction permit, operating license, or combined construction permit and operating license for a proposed production facility or utilization facility that is to be located at the site of a production facility or utilization facility for which an early site permit, construction permit, operating license, or combined construction permit and operating license has been issued, the Commission shall, to the extent practicable, use information that was part of the determination to issue the license for such production facility or utilization facility.”.

(2) USE OF EARLY SITE PERMIT ENVIRONMENTAL IMPACT STATEMENT.—Chapter 16 of the Atomic Energy Act of 1954 (42 U.S.C. 2231 et seq.) is amended by adding at the end the following:
SEC. 194. USE OF EARLY SITE PERMIT ENVIRONMENTAL IMPACT STATEMENT.

a. SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT.—Any environmental impact statement required pursuant to section 102(2)(C) the National Environmental Policy Act of 1969 (42 U.S.C. 4332(2)(C)) for purposes of issuing a construction permit, operating license, or combined construction permit and operating license for a production facility or utilization facility, for which an early site permit has been issued, shall be prepared as a supplement to the environmental impact statement prepared for such early site permit.

b. INCORPORATION BY REFERENCE.—A supplemental environmental impact statement prepared under subsection a. shall—

(1) incorporate by reference the analysis, findings, and conclusions from the environmental impact statement prepared for the applicable early site permit; and

(2) include additional discussion, analysis, findings, and conclusions on matters resolved in the early site permit proceeding only to the extent necessary to address information that—

(A) is new; and

(B) would materially change the prior findings or conclusions.”.
(f) Hearings.—

(1) In General.—Section 189 of the Atomic Energy Act of 1954 (42 U.S.C. 2239) is amended—

(A) in subsection a. (1) (B)—

(i) by striking clause (iv); and

(ii) by redesignating clause (v) as clause (iv); and

(B) by adding at the end the following:

“c. Hearing Procedures.—All hearings under this section shall be conducted using informal adjudicatory procedures, unless the Commission determines that formal adjudicatory procedures are necessary—

“(1) to develop a sufficient record; or

“(2) to achieve fairness.

“d. Hearing on Early Site Permit, Construction Permit, Operating License, and Combined Construction Permit and Operating License.—

“(1) In General.—Notwithstanding any outstanding request for a hearing, the Commission shall issue and make immediately effective any early site permit, construction permit, operating license, or combined construction permit and operating license for a production facility or utilization facility upon the Commission’s finding that the application therefore satisfies the requirements of this Act.
“(2) APPROPRIATE ACTION.—Following completion of any required hearing, the Commission shall take any appropriate action with respect to the early site permit, construction permit, operating license, or combined construction permit and operating license to the extent necessary to account for the decision in any such required hearing.”.

(2) LICENSING OF URANIUM ENRICHMENT FACILITIES.—Section 193(b) of the Atomic Energy Act of 1954 (42 U.S.C. 2243(b)) is amended—

(A) by amending paragraph (1) to read as follows:

“(1) IN GENERAL.—Upon a request for a hearing on the licensing of construction and operation of a uranium enrichment facility under sections 53 and 63, the Commission shall conduct a single adjudicatory hearing.”; and

(B) in paragraph (2), by striking “Such hearing” and inserting “If a hearing is held under paragraph (1), the hearing”.

(g) TECHNICAL AMENDMENT.—Section 103 d. of the Atomic Energy Act of 1954 (42 U.S.C. 2133d.) is amended by striking “or any any” and inserting “or any”.

(h) AUTHORIZATION OF APPROPRIATIONS.—
(1) **IN GENERAL.**—There are authorized to be appropriated to carry out subsections (a), (b), and (c) $20,000,000 for each of fiscal years 2021 through 2031, to remain available until expended.

(2) **OFF-FEE APPROPRIATION.**—Any funds appropriated to carry out subsections (a), (b), and (c) may not be recovered by the Commission through the collection of user fees from existing licensees.

**SEC. 305. DEMONSTRATION AND EARLY DEPLOYMENT OF ADVANCED NUCLEAR REACTORS.**

(a) **DEMONSTRATION PROJECTS.**—Section 959A(c) of the Energy Policy Act of 2005 (42 U.S.C. 16279a(c)) is amended—

(1) by redesignating paragraphs (1) through (10) as paragraphs (2) through (11), respectively;

(2) by inserting after “the Secretary shall—” the following:

“(1) not later than December 31, 2025, establish a program to enter into agreements to carry out no fewer than 5 demonstration projects pursuant to subsection (b)(1) to demonstrate the suitability of advanced nuclear reactors for commercial applications;”;


(3) in paragraph (10)(A), as redesignated by paragraph (1) of this subsection, by striking “paragraph (8)” and inserting “paragraph (9)”; and

(4) in paragraph (11), as redesignated by paragraph (1) of this subsection, by striking “paragraph (8)” and inserting “paragraph (9)” and by striking “paragraph (9)” and inserting “paragraph (10)”.

(b) RESEARCH AND DEVELOPMENT GOALS.—Section 959A of such Act (42 U.S.C. 16279a(c)) is amended—

(1) by redesignating subsection (f) as subsection (g); and

(2) by inserting after subsection (e) the following:

“(f) RESEARCH GOALS.—

“(1) IN GENERAL.—The Secretary shall establish and annually update goals for the research to support the demonstration of advanced reactors under subsection (c) and the deployment of subsequent advanced reactors.

“(2) COORDINATION.—In developing and updating the goals, the Secretary shall coordinate with members of private industry.

“(3) REQUIREMENTS.—In developing the goals, the Secretary shall ensure that—

“(A) research activities are focused on—
“(i) key areas of nuclear research, development, and deployment that range from basic research on advanced nuclear reactor generation to full-design development, safety evaluation, and licensing;

“(ii) resolving materials challenges relating to radiation damage or corrosive coolants; and

“(iii) qualification of advanced nuclear fuel;

“(B) infrastructure, such as a versatile reactor-based fast neutron source, which is required to be established in section 955(e)(1), or a molten salt testing facility to aid in research, is constructed; and

“(C) advanced manufacturing and construction techniques and materials are analyzed to identify strategies to reduce the commercialization cost of advanced nuclear reactors.”.

(c) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary $1,500,000,000 for each of fiscal years 2022 through 2023 for each of the following:

(1) Gateway for Accelerated Innovation in Nuclear vouchers.
(2) Advanced nuclear technology development funding opportunity announcements.

(3) Advanced small modular nuclear reactor research and development.

(4) The advanced reactor demonstration program.

(5) The Nuclear Reactor Innovation Center.

(d) Authorization of Appropriation.—Section 2001(c) of division Z of the Consolidated Appropriations Act, 2021 (Public Law 116–260) is amended to read as follows:

“(c) Authorization of Appropriations.—There are authorized to be appropriated to the Secretary to carry out research, development, demonstration, and transportation activities in this section $350,000,000 for each of fiscal years 2022 through 2031.”.


Section 1704 of the Energy Policy Act of 2005 (42 U.S.C. 16514) is amended by adding at the end the following:

“(c) Advanced Nuclear Energy Facilities.—There are authorized to be appropriated to the Secretary to make guarantees under section 1703(b)(4)
$10,000,000,000 for each of fiscal years 2022 through 2031, to remain available until expended.”.

SEC. 307. EXPANDING THE PRODUCTION TAX CREDIT FOR NUCLEAR POWER.

(a) IN GENERAL.—Section 45J of the Internal Revenue Code of 1986 is amended—

(1) in subsection (a)(1), by striking “1.8 cents” and inserting “2.7 cents”; and

(2) in subsection (b)(5)(B)(i), by striking “6,000 megawatts” and inserting “15,000 megawatts”.

(b) EFFECTIVE DATE.—The amendments made by this section shall apply to taxable years beginning after December 31, 2020.

TITLE IV—CLEAN ELECTRICITY STANDARD

SEC. 401. CERTIFICATION OF COST-EFFECTIVE MARKET PENETRATION OF CLEAN ELECTRICITY TECHNOLOGIES.

(a) IN GENERAL.—Title VI of the Public Utility Regulatory Policies Act of 1978 (16 U.S.C. 2601 et seq.) is amended by adding at the end the following:
SEC. 610. FEDERAL DECARBONIZATION AND INNOVATION ASSESSMENT PROGRAM.

(a) In General.—Not later than 2 years after the date of enactment of this section, the Secretary, after consultation with the Administrator of the Environmental Protection Agency, shall establish a program, to be known as the ‘Federal Decarbonization and Innovation Assessment Program’, to annually review and monitor progress towards—

“(1) an 80 percent reduction in the amount of carbon dioxide emitted by electricity generators, relative to the amount of such emissions on the date of enactment of this section, by 2050; and

“(2) cost-effective market penetration of eligible technologies, as determined by the Secretary under subsection (b).

(b) Cost-effective Market Penetration.—The Secretary shall determine that eligible technologies have achieved cost-effective market penetration if—

“(1) at least 3 gigawatts of new electricity generating capacity using any type of eligible technology has come into commercial operation since the date of enactment of this section, provided that—

“(A) less than 50 percent of the capital costs of such new electricity generating capacity has been subsidized with Federal funds; and
“(B) at least 1 gigawatt of such capacity is coal-fired electricity generating capacity that is equipped with carbon capture utilization and storage technology, from which at least 90 percent of the carbon dioxide output is captured and utilized or stored in a manner that prevents emission to the atmosphere; and
“(2) at least one type of eligible technology—
“(A) has similar operating characteristics as fossil-fueled electricity generation technology, such as dispatchability upon demand; and
“(B) based on data provided by the Energy Information Administration, has a total cost of electricity generation that is not more than 10 percent higher than the average total cost of electricity generation from fossil-fueled electricity generators that were constructed not earlier than 5 years prior to the date of enactment of this section.
“(c) CERTIFICATION OF COST-EFFECTIVE MARKET PENETRATION.—Upon making the determination described under subsection (b), but no earlier than the date that is 5 years after the date of enactment of this section, the Secretary shall certify that cost-effective market penetration of eligible technology has occurred.
“(d) DEFINITIONS.—In this section:

“(1) ADVANCED DISPATCHABLE RENEWABLE ENERGY SYSTEM.—The term ‘advanced dispatchable renewable energy system’ means an integrated system of energy storage technology deployed with wind or solar electricity generation technology for which the Secretary has determined that the availability of such integrated system to be dispatched to support ongoing electric grid reliability is similar to that of fossil-fueled electricity generation technology.

“(2) ADVANCED NUCLEAR POWER GENERATION TECHNOLOGY.—The term ‘advanced nuclear power generation technology’ has the meaning given the term ‘advanced nuclear reactor’ in section 951(b) of the Energy Policy Act of 2005 (42 U.S.C. 16271).

“(3) ELIGIBLE TECHNOLOGY.—The term ‘eligible technology’ means any of the following:

“(A) Advanced nuclear power generation technology.

“(B) Advanced dispatchable renewable energy system.

“(C) Fossil-fueled electricity generation technology equipped with carbon capture utilization and storage technology, from which at least 90 percent of the carbon dioxide output of
the fossil-fueled electricity generation technology is—

“(i) captured and utilized; or

“(ii) stored in a manner that prevents emission to the atmosphere.”.

(b) CONFORMING AMENDMENT.—Section 1(b) of the Public Utility Regulatory Policies Act of 1978 is amended by adding after the item relating to section 608 the following:

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

“Sec. 610. Federal decarbonization and innovation assessment program.”.

SEC. 402. FEDERAL CLEAN ELECTRICITY STANDARD.

(a) PURPA AMENDMENTS.—

(1) IN GENERAL.—Title VI of the Public Utility Regulatory Policies Act of 1978 (16 U.S.C. 2601 et seq.) is further amended by adding after section 610 (as added by this Act) the following:

“SEC. 611. CLEAN ELECTRICITY STANDARD.

“(a) CLEAN ELECTRICITY CREDIT PROGRAM.—Not later than 180 days after the program trigger date and in accordance with this section, the Secretary shall establish a program—

“(1) to reduce the amount of carbon dioxide that is emitted by electricity generators; and

“(2) under which clean electricity credits are issued, tracked, and surrendered.
“(b) Issuance of Clean Electricity Credits.—

“(1) In General.—For each calendar year, beginning on the program effective date, the Secretary shall issue clean electricity credits to each qualifying electricity generator in the amount determined under paragraph (2).

“(2) Determination of Credits Issued.—Except as provided in paragraph (3), the number of clean electricity credits issued under paragraph (1) shall be the number that is equal to—

“(A) the number of megawatt-hours of electricity sold by the qualifying electricity generator; multiplied by

“(B) the number that is equal to—

“(i) 1.0; less

“(ii) the number that is equal to—

“(I) the annual carbon intensity of the qualifying electricity generator; divided by

“(II) 0.82.

“(3) Use of Dynamic Crediting Methodology.—If a dynamic crediting methodology is approved under section 612(c), the Secretary shall use such methodology to determine the number of clean electricity credits to issue under this subsection.
“(c) SURRENDER OF CREDITS.—

“(1) IN GENERAL.—For each compliance period each retail electricity supplier shall, except as pro-
vided in paragraph (2) and by not later than 6 months after the date on which the compliance pe-
period ends, surrender the number of clean electricity credits determined under paragraph (3).

“(2) PAYMENT.—For each clean electricity credit required to be surrendered under paragraph (1) that is not so surrendered, a retail electricity supplier shall pay an amount that is equal to the al-
ternative compliance price determined under para-
graph (7).

“(3) NUMBER OF CREDITS.—

“(A) IN GENERAL.—As determined by the Secretary, the number of clean electricity cred-
its required to be surrendered under paragraph (1) by each retail electricity supplier shall be equal to—

“(i) the percentage determined under subparagraph (B); multiplied by

“(ii) the number of megawatt-hours of electricity sold at retail by the retail ele-
tricity supplier during the applicable com-
pliance period.
“(B) Determination of percentage.—

“(i) Reduction requirement.—The Secretary shall determine the percentage to be applied in subparagraph (A)(i) for each compliance period that will result in an 80 percent reduction in the amount of carbon dioxide emitted by electricity generators, relative to the amount of such emissions on the date of enactment of this section, by 2050.

“(ii) Linear changes.—The Secretary shall determine the percentage for each compliance period under clause (i) with the goal of achieving linear reductions in the amount of carbon dioxide emitted by electricity generators in each successive compliance period.

“(C) First compliance period.—The percentage determined under subparagraph (B) for the first compliance period shall be the greater of—

“(i) the percentage obtained by dividing—

“(I) the total number of clean electricity credits that would be issued
under subsection (b)(2) for the year
in which this section is enacted; by

“(II) the total number of mega-
watt-hours of electricity sold by retail
electricity suppliers in the year in
which this section is enacted; and

“(ii) the percentage obtained by divid-
ing—

“(I) the total number of clean
electricity credits projected to be
issued under paragraph (4)(B) for
2030; by

“(II) the total number of mega-
watt-hours projected to be sold by re-
tail electricity suppliers in 2030.

“(4) PROJECTIONS.—

“(A) EARLY PROJECTION FOR FIRST COM-
pliances.—Not later than the date that
is 2 years after the date of enactment of this
section, the Secretary shall publish a projection
of the percentage to be used for purposes of
paragraph (3)(A)(i) for the first compliance pe-
period, which such projection shall be made based
on the number of megawatt-hours of electricity
sold by qualifying electricity generators during
the period of five years that precedes the date
of the projection and the associated carbon di-
oxide emissions.

“(B) 2030 PROJECTION.—By not later
than 2026, the Secretary shall publish a projec-
tion of the number of clean electricity credits
that would be issued to qualifying electricity
generators in 2030.

“(5) SINGLE USE OF CREDITS.—Each clean
electricity credit issued under subsection (b) may
only be surrendered once for purposes of complying
with the requirements of paragraph (1).

“(6) BANKING OF CLEAN ELECTRICITY CRED-
ITS.—A clean electricity credit issued under sub-
section (b) may be surrendered for the compliance
period in which the clean electricity credit is issued
or in any subsequent compliance period.

“(7) ALTERNATIVE COMPLIANCE PRICE.—

“(A) INITIAL AMOUNT.—The alternative
compliance price for the first compliance period
shall be $30 per applicable clean electricity
credit.

“(B) ANNUAL ADJUSTMENTS TO ALTER-
NATIVE COMPLIANCE PRICE.—
“(i) IN GENERAL.—Beginning after the first compliance period, the Secretary shall increase the amount of the alternative compliance price from the amount for the prior compliance period by 5 percent.

“(ii) OTHER ADJUSTMENTS.—The Secretary may adjust the alternative compliance price to account for inflation, as the Secretary may determine necessary.

“(d) CIVIL PENALTIES.—

“(1) IN GENERAL.—Subject to paragraph (2), a retail electricity supplier that fails to meet the requirements of paragraph (1) or (2) of subsection (c) shall be subject to a civil penalty in an amount equal to—

“(A) the number of megawatt-hours of electricity sold by the retail electricity supplier for which such retail electricity supplier fails to surrender a clean electricity credit or make an alternative compliance payment as required under subsection (c); multiplied by

“(B) 200 percent of the value of the applicable alternative compliance price.

“(2) PROCEDURE FOR ASSESSING PENALTY.—

The Secretary shall assess a civil penalty under this
subsection in accordance with the procedures for assessing a penalty under section 333(d) of the Energy Policy and Conservation Act (42 U.S.C. 6303(d)).

“(e) SAVINGS PROVISION.—Nothing in this section affects the authority of a State, or a political subdivision of a State, to adopt or enforce any law relating to—

“(1) clean electricity or renewable energy;

“(2) carbon dioxide emissions; or

“(3) the regulation of a retail electricity supplier.

“(f) REGULATIONS.—Not later than 1 year after the date of enactment of this section, the Secretary shall issue regulations to implement this section.

“(g) DEFINITIONS.—In this section:

“(1) CARBON INTENSITY.—The term ‘carbon intensity’ means, as determined by the Secretary in consultation with the Administrator of the Environmental Protection Agency and with respect to a qualifying electricity generator, the amount (in metric tons per megawatt-hour) obtained by dividing—

“(A) the annual carbon dioxide emissions of the qualifying electricity generator, excluding any carbon dioxide that is captured and utilized or stored in a manner that prevents emission to the atmosphere; by
“(B) the annual quantity of electricity generated by the qualifying electricity generator.

“(2) CLEAN ELECTRICITY CREDIT.—The term ‘clean electricity credit’ means a credit issued under subsection (b).

“(3) CLEAN ELECTRICITY STANDARD.—The term ‘clean electricity standard’ means the requirements of section 611.

“(4) COMPLIANCE PERIOD.—The term ‘compliance period’ means the 3-year period that begins on the program effective date and each 3-year period thereafter until 2050.

“(5) QUALIFYING ELECTRICITY GENERATOR.—The term ‘qualifying electricity generator’ means any electricity generator that has an annual carbon intensity of less than 0.82 metric tons per megawatt-hour.

“(6) RETAIL ELECTRICITY SUPPLIER.—The term ‘retail electricity supplier’ means an entity in the United States that sold not fewer than 20 megawatt-hours of electricity to electricity consumers for purposes other than resale during the preceding calendar year.

“(7) PROGRAM TRIGGER DATE.—The term ‘program trigger date’ means January 1 of the first cal-
endar year beginning after the date on which the Secretary certifies that cost-effective market penetration of eligible technologies has occurred under section 610(c).

“(8) PROGRAM EFFECTIVE DATE.—The term ‘program effective date’ means the earlier of—

“(A) the date that is 2 years after the program trigger date; and

“(B) January 1 of the first calendar year that begins after the date that is 10 years after the date of enactment of this section.

“SEC. 612. IDENTIFICATION, REVIEW, AND APPROVAL OF DYNAMIC CREDITING METHODOLOGIES.

“(a) IDENTIFICATION OF DYNAMIC CREDITING METHODOLOGIES.—

“(1) IN GENERAL.—Not later than 2 years after the date of enactment of this section, the Secretary, in consultation with the Administrator of the Environmental Protection Agency, shall identify a dynamic crediting methodology for calculating the amount of carbon dioxide emissions that are avoided or displaced on an hourly basis by increased electricity generation from qualifying electricity generators.
“(2) CONSIDERATION OF REGIONAL DIFFERENCES.—Any dynamic crediting methodology identified under paragraph (1) may account for differences between—

“(A) regions in which there is a Regional Transmission Organization or an Independent System Operator; and

“(B) regions in which there are no such entities.

“(b) COMMISSION REVIEW OF DYNAMIC CREDITING METHODOLOGIES.—

“(1) IN GENERAL.—The Secretary shall provide any dynamic crediting methodology identified under subsection (a) to the Commission for review.

“(2) TECHNICAL CONFERENCE.—Not later than 120 days after the Secretary provides a dynamic crediting methodology to the Commission under paragraph (1), the Commission shall hold a technical conference in partnership with State regulatory authorities to evaluate such methodology.

“(3) REPORT.—Not later than 180 days after the Commission holds a technical conference under paragraph (2), and after providing an opportunity for public comment, the Commission shall provide to the Secretary a report on the technical conference
that includes Commission recommendations con-
cerning the use of the dynamic crediting method-
ology.

“(c) APPROVAL.—Not later than 180 days following
receipt of the report provided under subsection (b)(3), the
Secretary, in consultation with the Administrator of the
Environmental Protection Agency, shall approve use of the
dynamic crediting methodology that is the subject of such
report if the Secretary determines that such use would—

“(1) significantly enhance confidence that the
program established under 611(a)(1) will help
achieve an 80 percent reduction in the amount of
carbon dioxide emitted by electricity generators, rel-
ative to the amount of such emissions on the date
of enactment of this section, by 2050; or

“(2) significantly reduce the costs of achieving
such reduction.

“(d) USE OF DYNAMIC CREDITING METHODO-
GIES.—

“(1) ADJUSTMENT TO AMOUNT OF CREDITS.—
If the Secretary approves a dynamic crediting meth-
odology under subsection (c), the Secretary shall use
such dynamic crediting methodology to determine
the number of clean electricity credits to be issued
to a qualifying electricity generator to account for
the amount of carbon dioxide emissions that are avoided or displaced on an hourly basis by increased electricity generation from such qualifying electricity generator.

“(2) DEADLINE.—

“(A) IN GENERAL.—Except as provided in subparagraph (B), the Secretary shall use a dynamic crediting methodology approved under subsection (c) beginning in the later of—

“(i) the first full calendar year beginning after the date on which such approval occurs; and

“(ii) the first calendar year of the first compliance period.

“(B) EXCEPTION.—The Secretary may delay use of an approved dynamic crediting methodology by 1 year if the Secretary finds that additional time is needed for the Secretary or the Commission to take actions necessary to carry out subsection (e).

“(e) IMPLEMENTATION.—

“(1) IN GENERAL.—The Secretary may, by rule, require that Regional Transmission Organizations, Independent System Operators, other balancing authorities, and other appropriate entities
provide the Secretary with the information necessary
to use a dynamic crediting methodology approved under subsection (c).

“(2) TARIFFS.—At the request of the Secretary, or upon its own initiative, the Commission shall consider whether changes to any tariffs on file pursuant to section 205 of the Federal Power Act (16 U.S.C. 824d) are necessary to implement the requirements of any rule issued by the Secretary under paragraph (1).

“(f) REGIONAL TRANSMISSION ORGANIZATION; INDEPENDENT SYSTEM OPERATOR.—The terms ‘Regional Transmission Organization’ and ‘Independent System Operator’ have the meanings given such terms in section 3 of the Federal Power Act (16 U.S.C. 796).

“(g) DEFINITIONS.—In this section, the terms ‘clean electricity credit’, ‘compliance period’, and ‘qualifying electricity generator’ have the meanings given such terms in section 611.”.

(2) CONFORMING AMENDMENT.—Section 1(b) of the Public Utility Regulatory Policies Act of 1978 is further amended by adding after the item related to section 610 (as added by this Act) the following:

“Sec. 611. Federal Clean Electricity Standard.
Sec. 612. Use of dynamic crediting to issue clean electricity credits.”.
(b) AMENDMENTS TO THE CLEAN AIR ACT.—Section 111(a)(4) of the Clean Air Act (42 U.S.C. 7411(a)(4)) is amended—

(1) by striking “The term” and inserting “(A) The term”; and

(2) by adding at the end the following:

“(B) Until the end of the first compliance period of the clean electricity standard (as such terms are defined in section 611(h) of Public Utility Regulatory Policies Act of 1978), the term ‘modification’, notwithstanding subparagraph (A), does not include a physical or operational change at an electricity generating unit that is designed to reduce the amount of carbon dioxide emitted per megawatt hour at electricity utility generating units, provided that such change—

“(i) does not cause the violation of a national ambient air quality standard in an air quality control region in which an environmental justice community (as defined by the Administrator) exists; and

“(ii) does not result in—

“(I) an increase in the maximum hourly emissions rate of any air pol-
lutant subject to a national ambient air quality standard under section 109 that is achievable by such unit; and

“(II) both a significant emissions increase and a significant net emissions increase in annual actual emissions of such pollutant from such unit.”.

SEC. 403. REGIONAL CLEAN ELECTRICITY PLANNING MODELS.

(a) DEVELOPMENT OF PLANNING MODELS AND DATA.—Not later than 2 years after the date of enactment this Act, the Secretary shall make available one or more regional electricity planning models and standardized data sets, including potential renewable energy hourly production profiles at all potential locations for renewable energy deployment, that States can use to develop plans for portfolios of clean electricity resources that are capable of achieving, at least cost, the goal described under section 610(a)(1) of the Public Utility Regulatory Policies Act of 1978, as added by section 402 of this Act, consistent with the need to maintain reliability.

(b) DEVELOPMENT PROCESS.—In making planning models and data available under subsection (a), the Secretary shall—
(1) solicit planning models and standardized, data sets from the national laboratories and universities;

(2) hold jointly with the Commission a technical conference on planning models and standardized data sets, including hourly profiles of renewable energy production at potential deployment locations, and consider the input from such conference in choosing planning models and data sets to make available; and

(3) update the planning models and data sets made available from time to time in response to new information.

(c) Use of Models by States.—The Secretary shall encourage States to use the models and data sets to—

(1) plan collaboratively with other States in the same North American Electric Reliability Corporation reliability region or organized electricity market on least-cost and reliable compliance with the clean electricity standard (as such term is defined in section 611(h) of the Public Utility Regulatory Policies Act of 1978); and

(2) adopt, and from time to time update, multi-State clean electricity resource deployment goals
that promote least-cost deployment consistent with maintaining electric reliability.

SEC. 404. STAND-BY EMISSION PERFORMANCE STANDARDS.

(a) Annual Review of Emissions.—Not later than February 1 of the first calendar year beginning after the date of enactment of this section, and each February 1 thereafter, the Secretary, in consultation with the Administrator of the Environmental Protection Agency, shall publish a determination of the annual average level of carbon dioxide emissions from electricity generators for the prior 3 calendar years.

(b) Enforceability.—An emission limitation for carbon dioxide emissions from electric utility steam generating units established under title I of the Clean Air Act (42 U.S.C. 7401 et seq.) may be enforced by a State or by the Administrator of the Environmental Protection Agency—

(1) before the program trigger date, only if—

(A) the Secretary, not earlier than 5 years after the date of enactment of this Act, determines under subsection (a) that the 5-year annual average level of carbon dioxide emissions from electric utility steam generating units exceeded the annual average level of such emis-
sions for the preceding 5-year period by at least
6 percent; or

(B) the Secretary finds that significantly
less than the full amount of funding authorized
for programs under this Act has been appro-
priated, resulting in substantial limitation to or
delay of the technology advancement elements
of this Act; or

(2) after the end of a compliance period, only
if the clean electricity standard is not enforced for
the compliance period.

(c) CLEAN AIR ACT AUTHORITIES.—Except as pro-
vided in this section, neither a State nor the Administrator
of the Environmental Protection Agency may enforce any
emission limitation established under title I of the of the
Clean Air Act (42 U.S.C. 7401 et seq.) for carbon dioxide
emissions from electric utility steam generating units.

(d) DEFINITIONS.—In this section:

(1) CLEAN ELECTRICITY STANDARD; PROGRAM
TRIGGER DATE; COMPLIANCE PERIOD.—The terms
“clean electricity standard”, “program trigger date”,
and “compliance period” have the meanings given
such terms in section 611(h) of the Public Utility
Regulatory Policies Act of 1978, as added by section
402 of this Act.
(2) Electric utility steam generating unit.—The term “electric utility steam generating unit” has the meaning given such term in section 112(a) of the Clean Air Act (42 U.S.C. 7412(a)).

TITLE V—MISCELLANEOUS

SEC. 501. ADDITIONAL REQUIREMENTS.

(a) WAGES.—Notwithstanding any other provision of law and in a manner consistent with other provisions in this Act, all laborers and mechanics employed by contractors or subcontractors in the performance of construction, alteration, or repair work funded directly by or assisted in whole or in part by and through the Federal Government pursuant to this Act shall be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by the Secretary of Labor in accordance with subchapter IV of chapter 31 of title 40, United States Code. With respect to the labor standards specified in this section, the Secretary of Labor shall have the authority and functions set forth in Reorganization Plan Numbered 14 of 1950 (64 Stat. 1267; 5 U.S.C. App.) and section 3145 of title 40, United States Code.

(b) EXCEPTION.—Subsection (a) shall not apply to the use of a grant awarded under section 203.
SEC. 502. UTILIZATION OF QUALIFIED APPRENTICES BY CONSTRUCTION CONTRACTORS.

(a) In General.—All contractors and subcontractors engaged in the performance of construction, alteration, or repair work on a covered project shall, subject to subsection (b), ensure that not less than 15 percent of the total labor hours of such work be performed by qualified apprentices.

(b) Apprentice-to-Journeyworker Ratio.—The requirement under subsection (a) shall be subject to any applicable requirements for apprentice-to-journeyworker ratios of the Department of Labor or the applicable State apprenticeship agency.

(c) Participation.—Each contractor and subcontractor who employs 4 or more individuals to perform construction, alteration, or repair work on a covered project shall employ 1 or more qualified apprentices to perform such work.

(d) Compliance.—(1) If the Secretary determines, upon receipt of a complaint or on the Secretary’s own initiative, that a covered project is not being carried out in accordance with the requirements of this section, the Secretary shall withhold from payments otherwise due the contractor as a penalty, or require the payment by the contractor of a penalty, in the amount of not less than $5,000, but not more than $10,000, for each hour of the
apprenticeship utilization requirement that is not achieved.

(2) A determination by the Secretary under paragraph (1) shall be grounds for contract termination.

(3) A contractor or subcontractor that violates the requirements of this section shall be prohibited from performing work on any covered project for 5 years.

(e) REPORTING REQUIREMENTS.—(1) Before commencing work on a contract for a covered project, the contractor shall submit to the recipient of assistance and the Secretary an estimate of—

(A) the total labor hours to be performed under the contract; and

(B) the number of qualified apprentices proposed to be employed under the contract, categorized by trade or craft.

(2) While the covered project is ongoing, the contractor shall include with each payment application to the recipient of assistance and Secretary a report containing the following information:

(A) The names of all qualified apprentices and their apprentice registration or identification number.
(B) The number of qualified apprentices and labor hours worked by them, categorized by trade or craft.

(C) The number of journey level workers and labor hours worked by them, categorized by trade or craft.

(3) When a contractor is not subject to progress billing, the contractor shall submit the periodic reports required by paragraph (2) within a comparable time frame.

(4) Within 60 days after concluding work on the contract, the contractor shall submit to the recipient of assistance and the Secretary a verified statement of the total journeyworker and apprentice hours performed on the project. The contractor and subcontractors shall maintain all personnel records relating to the reporting requirements of this subsection for a period of at least 3 years after final completion of the work.

(5) The information described in this subsection shall be public and shall not be exempt from disclosure under section 552(b) of title 5, United States Code.

(6) If the Secretary determines that any of the information required by this subsection contains false or misleading information that was provided knowingly or with reckless disregard for the truth, or omits information that was omitted knowingly or with reckless disregard of the
truth, the contractor or subcontractor for which the information was submitted shall be prohibited from performing work on a covered project for a period of 5 years, and shall be further subject to penalties and sanctions, including contract termination.

(7) Any misrepresentation or omission included in the reporting required by this subsection shall constitute a false record or statement material to a false or fraudulent claim for purposes of subchapter III of chapter 37 of title 31, United States Code.

(f) WAIVER.—(1) Upon request by a contractor or recipient of assistance, the Secretary may adjust the apprenticeship utilization requirement otherwise applicable to the contract for a specific covered project, when the contractor has provided documentary evidence of—

(A) a demonstrated lack of availability of qualified apprentices in the geographic area in which the contract will be performed; and

(B) a good-faith effort on the part of the contractor and its subcontractors to comply with the apprenticeship utilization requirement.

(2) A waiver granted under this subsection and the rationale of the Secretary concerned for granting the waiver shall be public information and shall not be exempt
from disclosure under section 552(b) of title 5, United States Code.

(g) CONTRACTING.—The recipient of assistance shall cause to be inserted in a contract for a covered project stipulations to effectuate the requirements of this section. The stipulations shall provide that the contractor shall be jointly and severally liable for any violation of the requirements of this section that is committed by one of its subcontractors.

(h) DEFINITIONS.—In this section:

(1) The term “contractor” means a general contractor or other lead or prime contractor on a covered project.

(2) The term “covered project” means construction, alteration, or repair work assisted in whole or in part under sections 111, 131, or 202 of this Act.

(3) The term “labor hours” means the total number of hours devoted to the performance of construction activities (as defined in Sector 23 of the North American Industry Classification System) by employees of the contractor and its subcontractors. The term excludes hours worked by foremen, superintendents, owners, and persons employed in a bona fide executive, administrative, or professional capac-
139

ity as defined in part 541 of title 29, Code of Fed-
eral Regulations.

(4) The term “qualified apprentice” means an
employee of a contractor or subcontractor partici-
pating in an apprenticeship program as that term is
defined in section 3131(e)(3)(B) of the Internal Rev-


(5) The term “Secretary” means the Secretary
of Energy.

(6) The term “subcontractor” means any per-
son or company, at any tier, that performs some or
all of the obligations of the contractor on a covered
project.

(i) PREEMPTION.—Nothing in this section shall pre-
empt applicable State or local laws or policies that provide
for additional skilled and trained workforce requirements
on construction projects.

SEC. 503. REQUIREMENTS APPLICABLE TO TAX INCENTIVE
PROGRAMS.

(a) IN GENERAL.—A taxpayer seeking a credit under
sections 121, 125, 204, 205, 206, 207, 302, and 307 of
this Act, shall submit to the Secretary of the Treasury,
along with the taxpayer’s timely filed return, a declaration
made under the penalties of perjury certifying compliance
with the requirements under subsection (b).
(b) LABOR STANDARDS.—The Secretary of the Treasury shall require a taxpayer, as a condition of receiving a credit under a program enumerated in subsection (a), to satisfy each of the following requirements during the taxable year for which such credit is claimed and any other period in which construction, alteration or repair work was performed for purposes of qualifying for a credit set forth in subsection (a):

(1) WAGES.—All laborers and mechanics employed by contractors or subcontractors in the performance of construction, alteration, or repair work on any qualified facility, energy storage property, electricity generation facility, advanced nuclear power facility, qualifying advanced energy project, qualified offshore wind property, or other projects contemplated by the credit programs enumerated in subsection (a), shall be paid wages at rates not less than those prevailing on projects of a similar character in the locality as determined by the Secretary of Labor in accordance with subchapter IV of chapter 31 of title 40, United States Code. With respect to the labor standards in this paragraph, the Secretary of Labor shall have the authority and functions set forth in Reorganization Plan Numbered 14

(2) **Labor Hours for Qualified Apprentices.**—

(A) **In General.**—All contractors and subcontractors engaged in the performance of construction, alteration, or repair work on any project described in paragraph (1) shall, subject to subparagraph (B), ensure that not less than 15 percent of the total labor hours of such work be performed by qualified apprentices.

(B) **Apprentice-to-Journeyworker Ratio.**—The requirement under subparagraph (A) shall be subject to any applicable requirements for apprentice-to-journeyworker ratios of the Department of Labor or the applicable State apprenticeship agency.

(C) **Participation.**—Each contractor and subcontractor who employs 4 or more individuals to perform construction, alteration, or repair work on a covered project shall employ 1 or more qualified apprentices to perform such work.

(D) **Reporting.**—While the project is ongoing, the contractor shall, with each payment
application to the taxpayer, include a report
with the following:

(i) The names of all qualified apprentices and their apprentice registration or
identification number.

(ii) The number of qualified apprentices and labor hours worked by them, cate-
gorized by trade or craft.

(iii) The number of journey level
workers and labor hours worked by them,
categorized by trade or craft.

Such reports shall be included with the tax-
payer’s declaration under subsection (a).

(E) MAINTENANCE OF RECORDS.—The
taxpayer, its contractor, and subcontractors,
shall maintain all reports and personnel records
relating to the requirements of subparagraph
(D) for a period of at least 3 years after final
completion of the work.

(F) SUBMISSION OF RECORDS.—The tax-
payer, its contractor, and subcontractors, shall
immediately submit, upon request by the Sec-
retary of Energy, the documents described in
subparagraphs (D) and (E). Failure to produce
such documents shall result in penalties.
(G) WAIVER.—The Secretary of the Treasury may, upon request by a taxpayer, adjust the requirements of subsection (b)(2) for a specific project, when the taxpayer has provided documentary evidence of the following:

(i) A demonstrated lack of availability of qualified apprentices in specific geographic areas.

(ii) A good faith effort on the part of the taxpayer, its contractor and subcontractors to comply with the requirements of subsection (b)(2).

Such waivers and the rationale of the Secretary of the Treasury for granting such waivers shall be public and shall not be exempt from disclosure under section 552(b) of Title 5, United States Code.

(H) DEFINITIONS.—For purposes of this subsection:

(i) CONTRACTOR.—The term “contractor” means a general contractor or other lead or prime contractor on a construction project described in subsection (b)(2).
(ii) **Labor Hours.**—The term “labor hours” means the total number of hours devoted to the performance of construction activities (as defined in Sector 23 of the North American Industry Classification System) by employees of the contractor and all subcontractors. The term excludes hours worked by foremen, superintendents, owners, and persons employed in a bona fide executive, administrative, or professional capacity as defined in part 541 of title 29, Code of Federal Regulations.

(iii) **Qualified Apprentice.**—The term “qualified apprentice” means an employee participating in an apprenticeship program (as such term is defined in section 3131(e)(3)(B) of the Internal Revenue Code of 1986).

(iv) **Subcontractor.**—The term “subcontractor” means any person or company, at any tier, that performs some or all of the obligations of the contractor on a construction project described in subsection (b)(2).
(G) PREEMPTION.—Nothing in this subsection shall preempt applicable State or local laws or policies that provide for additional skilled and trained workforce requirements on construction projects.

(e) ENFORCEMENT.—

(1) INVESTIGATIONS.—Upon receipt of a complaint or its own initiative, the Secretary of Energy, in consultation with the Secretary of Labor, shall request and review the weekly payroll records of contractors and subcontractors engaged in the performance of any construction, alteration, or repair work on projects described in paragraphs (1) and (2) of subsection (b), the reports set forth in subparagraphs (D) and (E) of subsection (b)(2), and interview individuals employed by such contractors and subcontractors, to determine whether the requirements of paragraphs (1) and (2) of subsection (b) have been met.

(2) PENALTIES.—The taxpayer shall be responsible for compliance by any contractor or lower tier subcontractor performing any construction, alteration, or repair work on projects described in paragraphs (1) and (2) of subsection (b). If the Secretary of Energy determines, upon receipt of a com-
plaint or its own initiative, that a project was not
carried out in accordance with the requirements of
this section, the taxpayer shall be liable to the De-
partment of the Treasury for the following:

(A) For violations of subsection (b)(1), the
taxpayer shall be liable for any unpaid wages.
In addition, the taxpayer shall be liable to the
Department of the Treasury for an administra-
tive penalty in the amount of not less than
$1,000 but not more than $5,000 per each indi-
vidual not paid the proper prevailing rate.

(B) For violations of subsection (b)(2), the
taxpayer shall be liable to the Department of
the Treasury in the amount of not less than
$1,000, but not more than $5,000, for each
hour of the apprenticeship utilization require-
ment that is not achieved.

(3) FALSE STATEMENTS.—If the Secretary of
Energy, in consultation with the Secretary of Labor,
determines that any of the information in a declara-
tion under subsection (a) or report under subsection
(b)(2)(D) and (E), contains false or misleading in-
formation that was provided knowingly or with reck-
less disregard for the truth, or omits information
that was omitted knowingly or with reckless dis-
regard of the truth, the taxpayer shall no longer be eligible for any of the credits enumerated in subsection (a), and shall be fined not less than $5,000 but not more than $10,000.

(4) TRANSPARENCY.—Declarations under subsection (a) and reports under subsection (b)(2)(D) and (E) shall be publicly available and the information contained therein shall not be exempt from disclosure under section 552(b) of title 5, United States Code.