

108TH CONGRESS  
1ST SESSION

# S. 727

To reauthorize a Department of Energy program to develop and implement accelerated research, development, and demonstration projects for advanced clean coal technologies for use in coal-based electricity generating facilities, to amend the Internal Revenue Code of 1986 to provide incentives for the use of those technologies, and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

MARCH 27, 2003

Mr. BYRD (for himself, Mr. ROCKEFELLER, Mr. THOMAS, Mr. BURNS, Mr. DORGAN, Mr. ALLARD, Mr. DURBIN, Mr. VOINOVICH, Mr. BAYH, Mr. ENZI, Mr. CAMPBELL, and Mr. CONRAD) introduced the following bill; which was read twice and referred to the Committee on Finance

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## A BILL

To reauthorize a Department of Energy program to develop and implement accelerated research, development, and demonstration projects for advanced clean coal technologies for use in coal-based electricity generating facilities, to amend the Internal Revenue Code of 1986 to provide incentives for the use of those technologies, 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,*

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

2 (a) SHORT TITLE.—This Act may be cited as the  
3 “National Coal Research, Development, and Demonstra-  
4 tion Act of 2003”.

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

Sec. 1. Short title; table of contents.

TITLE I—COAL RESEARCH AND DEVELOPMENT

Sec. 101. Definitions.

Sec. 102. Cost and performance goals.

Sec. 103. Production and generation of coal-based power.

Sec. 104. Coal and related technologies research and development programs.

TITLE II—CLEAN COAL POWER INITIATIVE

Sec. 201. Definition of Secretary.

Sec. 202. Project criteria.

Sec. 203. Reports.

Sec. 204. Authorization of appropriations.

TITLE III—CLEAN COAL INCENTIVES

Subtitle A—Credit for Emission Reductions and Efficiency Improvements in  
Existing Coal-Based Electricity Generation Facilities

Sec. 301. Credit for production from a qualifying clean coal technology unit.

Subtitle B—Incentives for Early Commercial Applications of Advanced Clean  
Coal Technologies

Sec. 311. Credit for investment in qualifying advanced clean coal technology.

Sec. 312. Credit for production from a qualifying advanced clean coal tech-  
nology unit.

Subtitle C—Treatment of Persons Not Able To Use Entire Credit

Sec. 321. Treatment of persons not able to use entire credit.

7 **TITLE I—COAL RESEARCH AND**  
8 **DEVELOPMENT**

9 **SEC. 101. DEFINITIONS.**

10 In this title:

1           (1) COST AND PERFORMANCE GOALS.—The  
2 term “cost and performance goals” means the cost  
3 and performance goals identified under section 102.

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

6 **SEC. 102. COST AND PERFORMANCE GOALS.**

7           (a) ESTABLISHMENT OF COST AND PERFORMANCE  
8 GOALS.—

9           (1) IN GENERAL.—The Secretary shall conduct  
10 an assessment that identifies cost and performance  
11 goals of technologies that would permit the contin-  
12 ued cost-competitive use of coal for electricity gen-  
13 eration, as chemical feedstocks, and as transpor-  
14 tation fuel in—

15                   (A) 2007;

16                   (B) 2015; and

17                   (C) 2020 and thereafter.

18           (2) CONSULTATION.—In identifying the cost  
19 and performance goals, the Secretary shall—

20                   (A) consider activities and studies under-  
21 taken by industry in cooperation with the De-  
22 partment of Energy in support of the assess-  
23 ment; and

24                   (B) consult with interested entities, includ-  
25 ing—

- 1 (i) coal producers;
- 2 (ii) industries using coal;
- 3 (iii) organizations that promote coal
- 4 and advanced coal technologies;
- 5 (iv) environmental organizations; and
- 6 (v) organizations representing work-
- 7 ers.

8 (3) TIMING.—The Secretary shall—

9 (A) not later than 120 days after the date  
10 of enactment of this Act, issue draft cost and  
11 performance goals for public comment; and

12 (B) not later than 180 days after the date  
13 of enactment of this Act, after taking into con-  
14 sideration public comment, submit to Congress  
15 the final cost and performance goals.

16 (b) STUDY.—

17 (1) IN GENERAL.—Not later than 1 year after  
18 the date of enactment of this Act, and once every 2  
19 years thereafter through 2016, the Secretary, in co-  
20 operation with other appropriate Federal agencies,  
21 shall conduct a study to—

22 (A) identify technologies that, by them-  
23 selves or in combination with other tech-  
24 nologies, may be capable of achieving the cost  
25 and performance goals;

1 (B) assess the costs that would be incurred  
2 by, and the period of time that would be re-  
3 quired for, the development and demonstration  
4 of technologies that, by themselves or in com-  
5 bination with other technologies, contribute to  
6 the achievement of the cost and performance  
7 goals;

8 (C) develop recommendations for tech-  
9 nology development programs that the Depart-  
10 ment of Energy could carry out, in cooperation  
11 with industry, to develop and demonstrate tech-  
12 nologies that, by themselves or in combination  
13 with other technologies, achieve the cost and  
14 performance goals; and

15 (D)(i) develop recommendations for addi-  
16 tional authorities required to achieve the cost  
17 and performance goals; and

18 (ii) review and recommend changes, if any,  
19 to the cost and performance goals if the Sec-  
20 retary determines that changes are necessary as  
21 a result of ongoing research, development, and  
22 demonstration of technologies.

23 (2) EXPERT ADVICE.—In carrying out this sec-  
24 tion, the Secretary shall give due weight to the ex-



- 1           (2) integrated gasification combined cycle sys-
- 2           tems;
- 3           (3) advanced combustion systems;
- 4           (4) turbines for synthesis gas derived from coal;
- 5           (5) carbon capture and sequestration research
- 6           and development;
- 7           (6) coal-derived transportation fuels and chemi-
- 8           cals;
- 9           (7) solid fuels and feedstocks; and
- 10          (8) advanced coal-related research.

11          (b) REPORT.—At least 30 days before using funds  
12 made available under subsection (c), the Secretary shall  
13 submit to Congress a report that—

14           (1) describes the proposed use of the funds; and

15           (2) contains a plan that includes—

16                   (A) a detailed description of the manner in  
17                   which any proposals will be solicited and evalu-  
18                   ated, including a list of all activities expected to  
19                   be undertaken;

20                   (B) a detailed list of technical milestones  
21                   for each coal technology and related technology  
22                   that will be pursued; and

23                   (C) a description of the manner in which  
24                   the programs authorized by this section will be

1 carried out so as to complement and not dupli-  
 2 cate activities authorized under title II.

3 (c) AUTHORIZATION OF APPROPRIATIONS.—

4 (1) IN GENERAL.—There are authorized to be  
 5 appropriated to carry out this section—

6 (A) \$200,000,000 for fiscal year 2004;

7 (B) \$210,000,000 for fiscal year 2005; and

8 (C) \$220,500,000 for fiscal year 2006.

9 (2) AVAILABILITY.—Funds made available  
 10 under paragraph (1) shall remain available until ex-  
 11 pended.

## 12 **TITLE II—CLEAN COAL POWER** 13 **INITIATIVE**

### 14 **SEC. 201. DEFINITION OF SECRETARY.**

15 In this title, the term “Secretary” means the Sec-  
 16 retary of Energy.

### 17 **SEC. 202. PROJECT CRITERIA.**

18 (a) IN GENERAL.—The Secretary shall carry out a  
 19 program under which the Secretary shall provide funding  
 20 for projects that advance efficiency, environmental per-  
 21 formance, and cost competitiveness well beyond the level  
 22 of technologies that are in operation or have been dem-  
 23 onstrated as of the date of enactment of this Act.

24 (b) TECHNICAL CRITERIA FOR CLEAN COAL POWER  
 25 INITIATIVE.—

## 1 (1) GASIFICATION.—

2 (A) IN GENERAL.—In allocating the funds  
3 made available under section 204, the Secretary  
4 shall ensure that not less than 60 nor more  
5 than 80 percent of the funds are used for—

6 (i) coal-based gasification tech-  
7 nologies;

8 (ii) coal-based projects that include  
9 the separation and capture of carbon diox-  
10 ide; or

11 (iii) coal-based projects that include  
12 gasification combined cycle systems, gasifi-  
13 cation fuel cells, gasification coproduction,  
14 or hybrid gasification or combustion.

## 15 (B) TECHNICAL MILESTONES.—

16 (i) IN GENERAL.—The Secretary shall  
17 establish technical milestones specifying  
18 emissions levels that coal gasification  
19 projects shall be designed, and reasonably  
20 expected, to achieve.

21 (ii) INCREASING RESTRICTIVENESS.—  
22 The milestones shall become more restric-  
23 tive through the life of the program.

24 (iii) REQUIREMENTS.—The milestones  
25 shall be designed to develop, not later than

1                   2020, coal gasification projects that are ca-  
2                   pable of—

3                   (I) removing 99 percent of sulfur  
4                   dioxide;

5                   (II) emitting not more than .05  
6                   lbs of NO<sub>x</sub> per million Btu;

7                   (III) achieving substantial reduc-  
8                   tions in mercury emissions; and

9                   (IV) achieving a thermal effi-  
10                  ciency of—

11                  (aa) 60 percent for coal of  
12                  more than 9,000 Btu;

13                  (bb) 59 percent for coal of  
14                  7,000 to 9,000 Btu; and

15                  (cc) 57 percent for coal of  
16                  less than 7,000 Btu.

17                  (2) OTHER PROJECTS.—

18                  (A) IN GENERAL.—For projects not de-  
19                  scribed in paragraph (1), the Secretary shall es-  
20                  tablish technical milestones specifying emissions  
21                  levels that the projects shall be designed, and  
22                  reasonably expected, to achieve.

23                  (B) INCREASING RESTRICTIVENESS.—The  
24                  milestones shall become more restrictive  
25                  through the life of the program.

1 (C) REQUIREMENTS.—The milestones shall  
2 be designed to develop, by 2010, projects that  
3 are capable of—

4 (i) removing 97 percent of sulfur diox-  
5 ide;

6 (ii) emitting not more than .08 lbs of  
7 NO<sub>x</sub> per million Btu;

8 (iii) achieving substantial reductions  
9 in mercury emissions; and

10 (iv) achieving a thermal efficiency  
11 of—

12 (I) 45 percent for coal of more  
13 than 9,000 Btu;

14 (II) 44 percent for coal of 7,000  
15 to 9,000 Btu; and

16 (III) 42 percent for coal of less  
17 than 7,000 Btu.

18 (3) CONSULTATION.—Before establishing the  
19 technical milestones under paragraphs (1) and (2),  
20 the Secretary shall consult with—

21 (A) the Administrator of the Environ-  
22 mental Protection Agency; and

23 (B) interested entities, including—

24 (i) coal producers;

25 (ii) industries using coal;

- 1 (iii) organizations promoting coal or  
2 advanced coal technologies;  
3 (iv) environmental organizations; and  
4 (v) organizations representing work-  
5 ers.

6 (4) EXISTING UNITS.—In the case of a project  
7 at a unit in existence on the date of enactment of  
8 this Act, in lieu of the thermal efficiency require-  
9 ments specified in paragraphs (1)(B)(iii)(IV) and  
10 (2)(C)(iv), the project shall be designed to achieve  
11 an overall thermal design efficiency improvement,  
12 compared to the efficiency of the unit as operated on  
13 the date of enactment of this Act, of not less than—

14 (A) 7 percent for coal of more than 9,000  
15 Btu;

16 (B) 6 percent for coal of 7,000 to 9,000  
17 Btu; or

18 (C) 4 percent for coal of less than 7,000  
19 Btu.

20 (e) FINANCIAL CRITERIA.—The Secretary shall not  
21 provide funding under this title unless the recipient docu-  
22 ments to the satisfaction of the Secretary that—

- 23 (1) the recipient is financially viable without the  
24 receipt of additional Federal funding;

1           (2) the recipient will provide sufficient informa-  
2           tion to the Secretary for the Secretary to ensure  
3           that the funds are spent efficiently and effectively;  
4           and

5           (3) a market exists for the technology to be  
6           demonstrated or applied, as evidenced by statements  
7           of interest in writing from potential purchasers of  
8           the technology.

9           (d) FINANCIAL ASSISTANCE.—The Secretary shall  
10          provide financial assistance to projects that—

11           (1) meet the requirements of subsections (a),  
12          (b), and (c); and

13           (2) are likely to—

14           (A) achieve overall cost reductions in the  
15          use of coal to generate useful forms of energy;

16           (B) improve the competitiveness of coal  
17          among various forms of energy in order to  
18          maintain a diversity of fuel choices in the  
19          United States to meet electricity generation re-  
20          quirements; and

21           (C) demonstrate methods and equipment  
22          that are applicable to 25 percent of the elec-  
23          tricity generating facilities that use coal as the  
24          primary feedstock as of the date of enactment  
25          of this Act.

1 (e) CLEAN COAL CENTERS OF EXCELLENCE.—

2 (1) IN GENERAL.—As part of the program au-  
3 thorized under this section, the Secretary shall pro-  
4 vide competitive, merit-based grants to universities  
5 for the establishment of Centers of Excellence for  
6 Energy Systems of the Future.

7 (2) ELIGIBLE UNIVERSITIES.—The Secretary  
8 shall provide grants under paragraph (1) to univer-  
9 sities that show the greatest potential for advancing  
10 new clean coal technologies.

11 (f) FEDERAL SHARE.—The Federal share of the cost  
12 of a coal or related technology project funded under this  
13 section shall not exceed 50 percent.

14 (g) APPLICABILITY.—No technology, or level of emis-  
15 sion reduction, shall be treated as adequately dem-  
16 onstrated for purposes of section 111 of the Clean Air Act  
17 (42 U.S.C. 7411), achievable for purposes of section 169  
18 of that Act (42 U.S.C. 7479), or achievable in practice  
19 for purposes of section 171(3)(B) of that Act (42 U.S.C.  
20 7501(3)(B)) solely by reason of the use of that technology,  
21 or the achievement of that emission reduction, by 1 or  
22 more facilities receiving assistance under this title.

23 **SEC. 203. REPORTS.**

24 (a) REPORT ON TECHNICAL MILESTONES.—Not  
25 later than 1 year after the date of enactment of this Act,

1 and once every 2 years thereafter through 2011, the Sec-  
2 retary, in consultation with other Federal agencies as ap-  
3 propriate, shall submit to the Committee on Energy and  
4 Commerce and the Committee on Science of the House  
5 of Representatives, and to the Senate, a report that de-  
6 scribes—

7           (1) the technical milestones established under  
8           section 202, including a description of how the mile-  
9           stones ensure that progress will be made toward  
10          meeting the requirements of paragraphs (1)(B) and  
11          (2) of section 202(b); and

12          (2) the status of projects funded under this  
13          title.

14          (b) REPORT BEFORE USING FUNDING.—At least 30  
15          days before using funds made available under subsection  
16          (c), the Secretary shall submit to the Committee on En-  
17          ergy and Commerce and the Committee on Science of the  
18          House of Representatives, and to the Senate, a report  
19          that—

20                 (1) describes the proposed use of funds; and

21                 (2) includes—

22                         (A) a detailed assessment of whether the  
23                         aggregate funding levels provided under section  
24                         204 are the appropriate funding levels for the  
25                         program under this title;

1 (B) a detailed description of the manner in  
2 which proposals will be solicited and evaluated,  
3 including a list of all activities expected to be  
4 undertaken;

5 (C) a detailed list of technical milestones  
6 for each coal technology and related technology  
7 that will be pursued; and

8 (D) a detailed description of how the pro-  
9 gram will avoid problems enumerated in Gen-  
10 eral Accounting Office reports on the Clean  
11 Coal Technology Program, including problems  
12 that resulted in the failure to expend funds and  
13 in projects that failed financially or scientif-  
14 ically.

15 (c) **APPLICABILITY.**—Paragraph (1) shall not apply  
16 to a project selected before September 30, 2003.

17 **SEC. 204. AUTHORIZATION OF APPROPRIATIONS.**

18 (a) **IN GENERAL.**—There are authorized to be appro-  
19 priated to carry out this title \$200,000,000 for each of  
20 fiscal years 2003 through 2011.

21 (b) **AVAILABILITY.**—Funds made available under  
22 subsection (a) shall remain available until expended.

1           **TITLE III—CLEAN COAL**  
2                   **INCENTIVES**  
3 **Subtitle A—Credit for Emission Re-**  
4 **ductions and Efficiency Im-**  
5 **provements in Existing Coal-**  
6 **Based Electricity Generation**  
7 **Facilities**

8 **SEC. 301. CREDIT FOR PRODUCTION FROM A QUALIFYING**  
9                   **CLEAN COAL TECHNOLOGY UNIT.**

10           (a) CREDIT FOR PRODUCTION FROM A QUALIFYING  
11 CLEAN COAL TECHNOLOGY UNIT.—Subpart D of part IV  
12 of subchapter A of chapter 1 of the Internal Revenue Code  
13 of 1986 (relating to business related credits) is amended  
14 by adding at the end the following new section:

15 **“SEC. 45G. CREDIT FOR PRODUCTION FROM A QUALIFYING**  
16                   **CLEAN COAL TECHNOLOGY UNIT.**

17           “(a) GENERAL RULE.—For purposes of section 38,  
18 the qualifying clean coal technology production credit of  
19 any taxpayer for any taxable year is equal to the product  
20 of—

21                   “(1) the applicable amount of clean coal tech-  
22 nology production credit, multiplied by

23                   “(2) the applicable percentage of the kilowatt  
24 hours of electricity produced by the taxpayer during  
25 such taxable year at a qualifying clean coal tech-

1 nology unit, but only if such production occurs dur-  
2 ing the 10-year period beginning on the date the  
3 unit was returned to service after becoming a quali-  
4 fying clean coal technology unit.

5 “(b) APPLICABLE AMOUNT.—

6 “(1) IN GENERAL.—For purposes of this sec-  
7 tion, the applicable amount of clean coal technology  
8 production credit is equal to \$0.0034 per kilowatt-  
9 hour of electricity produced and the equivalent heat  
10 value of other fuels or chemicals produced from not  
11 more than 300,000 kilowatts of nameplate capacity  
12 at the same qualifying clean coal technology unit.

13 “(2) INFLATION ADJUSTMENT.—For calendar  
14 years after 2003, the applicable amount of clean coal  
15 technology production credit shall be adjusted by  
16 multiplying such amount by the inflation adjustment  
17 factor for the calendar year in which the amount is  
18 applied. If any amount as increased under the pre-  
19 ceding sentence is not a multiple of 0.01 cent, such  
20 amount shall be rounded to the nearest multiple of  
21 0.01 cent.

22 “(c) APPLICABLE PERCENTAGE.—For purposes of  
23 this section, with respect to any qualifying clean coal tech-  
24 nology unit, the applicable percentage is the percentage  
25 equal to the ratio which the portion of the national mega-

1 watt capacity limitation allocated to the taxpayer with re-  
2 spect to such unit under subsection (e) bears to the total  
3 megawatt capacity of such unit.

4 “(d) DEFINITIONS AND SPECIAL RULES.—For pur-  
5 poses of this section—

6 “(1) QUALIFYING CLEAN COAL TECHNOLOGY  
7 UNIT.—The term ‘qualifying clean coal technology  
8 unit’ means a clean coal technology unit of the tax-  
9 payer which—

10 “(A) on the date of the enactment of this  
11 section was a coal-based electricity generating  
12 steam generator-turbine unit which was not a  
13 clean coal technology unit,

14 “(B) on such date of enactment had a  
15 nameplate capacity rating of not more than  
16 300,000 kilowatts,

17 “(C) becomes a clean coal technology unit  
18 as the result of the retrofitting, repowering, or  
19 replacement of the unit with clean coal tech-  
20 nology, which nameplate capacity may then be  
21 greater than 300,000 kilowatts, during the 10-  
22 year period beginning on such date of enact-  
23 ment,

24 “(D) is not receiving nor is scheduled to  
25 receive funding under the Clean Coal Tech-

1 nology Program, the Power Plant Improvement  
2 Initiative, or the Clean Coal Power Initiative  
3 administered by the Secretary of Energy, and

4 “(E) receives an allocation of a portion of  
5 the national megawatt capacity limitation under  
6 subsection (e).

7 “(2) CLEAN COAL TECHNOLOGY UNIT.—The  
8 term ‘clean coal technology unit’ means a unit  
9 which—

10 “(A) uses clean coal technology, including  
11 advanced pulverized coal or atmospheric fluid-  
12 ized bed combustion, pressurized fluidized bed  
13 combustion, integrated gasification combined  
14 cycle, or any other technology for the produc-  
15 tion of electricity,

16 “(B) uses at least 75 percent coal to  
17 produce 50 percent or more of its thermal out-  
18 put as electricity,

19 “(C) has a design net heat rate of at least  
20 500 less than that of such unit as described in  
21 paragraph (1)(A),

22 “(D) has a maximum design net heat rate  
23 of not more than 9,500, and

24 “(E) meets the pollution control require-  
25 ments of paragraph (3).

1 “(3) POLLUTION CONTROL REQUIREMENTS.—

2 “(A) IN GENERAL.—A unit meets the re-  
3 quirements of this paragraph if—

4 “(i) its emissions of sulfur dioxide, ni-  
5 trogen oxide, or particulates meet the  
6 lower of the emission levels for each such  
7 emission specified in—

8 “(I) subparagraph (B), or

9 “(II) the new source performance  
10 standards of the Clean Air Act (42  
11 U.S.C. 7411) which are in effect for  
12 the category of source at the time of  
13 the retrofitting, repowering, or re-  
14 placement of the unit, and

15 “(ii) its emissions do not exceed any  
16 relevant emission level specified by regula-  
17 tion pursuant to the hazardous air pollut-  
18 ant requirements of the Clean Air Act (42  
19 U.S.C. 7412) in effect at the time of the  
20 retrofitting, repowering, or replacement.

21 “(B) SPECIFIC LEVELS.—The levels speci-  
22 fied in this subparagraph are—

23 “(i) in the case of sulfur dioxide emis-  
24 sions, 50 percent of the sulfur dioxide  
25 emission levels specified in the new source

1 performance standards of the Clean Air  
2 Act (42 U.S.C. 7411) in effect on the date  
3 of the enactment of this section for the  
4 category of source,

5 “(ii) in the case of nitrogen oxide  
6 emissions—

7 “(I) 0.1 pound per million Btu of  
8 heat input if the unit is not a cyclone-  
9 fired boiler, and

10 “(II) if the unit is a cyclone-fired  
11 boiler, 15 percent of the uncontrolled  
12 nitrogen oxide emissions from such  
13 boilers, and

14 “(iii) in the case of particulate emis-  
15 sions, 0.02 pound per million Btu of heat  
16 input.

17 “(4) DESIGN NET HEAT RATE.—The design net  
18 heat rate with respect to any unit, measured in Btu  
19 per kilowatt hour (HHV)—

20 “(A) shall be based on the design annual  
21 heat input to and the design annual net elec-  
22 trical power, fuels, and chemicals output from  
23 such unit (determined without regard to such  
24 unit’s co-generation of steam),

1           “(B) shall be adjusted for the heat content  
 2           of the design coal to be used by the unit if it  
 3           is less than 12,000 Btu per pound according to  
 4           the following formula:

5 Design net heat rate = Unit net heat rate X [1-  
 6           {((12,000-design coal heat content, Btu per pound)/  
 7           1,000) X 0.013}],

8           “(C) shall be corrected for the site ref-  
 9           erence conditions of—

10           “(i) elevation above sea level of 500  
 11           feet,

12           “(ii) air pressure of 14.4 pounds per  
 13           square inch absolute (psia),

14           “(iii) temperature, dry bulb of 63°F,

15           “(iv) temperature, wet bulb of 54°F,

16           and

17           “(v) relative humidity of 55 percent,

18           and

19           “(D) shall be adjusted (or credit given) for  
 20           any unit which installs carbon capture controls  
 21           which remove not less than 50 percent of the  
 22           unit’s carbon dioxide emissions up to the design  
 23           net heat rate level which would have resulted  
 24           without installation of carbon capture controls.

1           “(5) HHV.—The term ‘HHV’ means higher  
2 heating value.

3           “(6) APPLICATION OF CERTAIN RULES.—The  
4 rules of paragraphs (3), (4), and (5) of section 45(d)  
5 shall apply.

6           “(7) INFLATION ADJUSTMENT FACTOR.—

7           “(A) IN GENERAL.—The term ‘inflation  
8 adjustment factor’ means, with respect to a cal-  
9 endar year, a fraction the numerator of which  
10 is the GDP implicit price deflator for the pre-  
11 ceding calendar year and the denominator of  
12 which is the GDP implicit price deflator for the  
13 calendar year 2002.

14           “(B) GDP IMPLICIT PRICE DEFLATOR.—  
15 The term ‘GDP implicit price deflator’ means  
16 the most recent revision of the implicit price  
17 deflator for the gross domestic product as com-  
18 puted by the Department of Commerce before  
19 March 15 of the calendar year.

20           “(8) NONCOMPLIANCE WITH POLLUTION  
21 LAWS.—For purposes of this section, a unit which is  
22 not in compliance with the applicable State and Fed-  
23 eral pollution prevention, control, and permit re-  
24 quirements for any period of time shall not be con-

1       sidered to be a qualifying clean coal technology unit  
2       during such period.

3       “(e) NATIONAL LIMITATION ON THE AGGREGATE CA-  
4       PACITY OF QUALIFYING CLEAN COAL TECHNOLOGY  
5       UNITS.—

6               “(1) IN GENERAL.—For purposes of subsection  
7       (d)(1)(E), the national megawatt capacity limitation  
8       for qualifying clean coal technology units is 4,000  
9       megawatts.

10              “(2) ALLOCATION OF LIMITATION.—The Sec-  
11       retary shall allocate the national megawatt capacity  
12       limitation for qualifying clean coal technology units  
13       in such manner as the Secretary may prescribe  
14       under the regulations under paragraph (3), except  
15       that the allocation with respect to each such unit  
16       shall not exceed 300,000 kilowatts.

17              “(3) REGULATIONS.—Not later than 6 months  
18       after the date of the enactment of this section, the  
19       Secretary shall prescribe such regulations as may be  
20       necessary or appropriate—

21                      “(A) to carry out the purposes of this sub-  
22       section,

23                      “(B) to limit the capacity of any qualifying  
24       clean coal technology unit to which this section  
25       applies so that the combined megawatt capacity

1 allocated to all such units under this subsection  
2 when all such units are placed in service during  
3 the 10-year period described in subsection  
4 (d)(1)(C), does not exceed 4,000 megawatts,

5 “(C) to provide a certification process  
6 under which the Secretary, in consultation with  
7 the Secretary of Energy, shall approve and allo-  
8 cate the national megawatt capacity limita-  
9 tion—

10 “(i) to encourage that units with the  
11 highest thermal efficiencies, when adjusted  
12 for the heat content of the design coal and  
13 site reference conditions described in sub-  
14 section (d)(4)(C), and superior environ-  
15 mental performance compared to other  
16 proposals, be placed in service as soon as  
17 possible, and

18 “(ii) to allocate capacity to taxpayers  
19 which have a definite and credible plan for  
20 placing into commercial operation a quali-  
21 fying clean coal technology unit, includ-  
22 ing—

23 “(I) a site,

24 “(II) contractual commitments  
25 for procurement and construction or,

1 in the case of regulated utilities, the  
2 agreement of the State utility commis-  
3 sion,

4 “(III) filings for all necessary  
5 preconstruction approvals,

6 “(IV) a demonstrated record of  
7 having successfully completed com-  
8 parable projects on a timely basis, and

9 “(V) such other factors that the  
10 Secretary determines are appropriate,

11 “(D) to allocate the national megawatt ca-  
12 pacity limitation to a portion of the capacity of  
13 a qualifying clean coal technology unit if the  
14 Secretary determines that such an allocation  
15 would maximize the amount of efficient produc-  
16 tion encouraged with the available tax credits,

17 “(E) to set progress requirements and con-  
18 ditional approvals so that capacity allocations  
19 for clean coal technology units which become  
20 unlikely to meet the necessary conditions for  
21 qualifying can be reallocated by the Secretary  
22 to other clean coal technology units, and

23 “(F) to provide taxpayers with opportuni-  
24 ties to correct administrative errors and omis-  
25 sions with respect to allocations and record

1           keeping within a reasonable period after dis-  
2           covery, taking into account the availability of  
3           regulations and other administrative guidance  
4           from the Secretary.”.

5           (b) CREDIT TREATED AS BUSINESS CREDIT.—Sec-  
6           tion 38(b) of the Internal Revenue Code of 1986 (relating  
7           to current year business credit) is amended by striking  
8           “plus” at the end of paragraph (14), by striking the period  
9           at the end of paragraph (15) and inserting “, plus”, and  
10          by adding at the end the following new paragraph:

11                   “(16) the qualifying clean coal technology pro-  
12                   duction credit determined under section 45G(a).”.

13           (c) TRANSITIONAL RULE.—Section 39(d) of the In-  
14           ternal Revenue Code of 1986 (relating to transitional  
15           rules) is amended by adding at the end the following new  
16           paragraph:

17                   “(11) NO CARRYBACK OF SECTION 45G CREDIT  
18                   BEFORE EFFECTIVE DATE.—No portion of the un-  
19                   used business credit for any taxable year which is  
20                   attributable to the qualifying clean coal technology  
21                   production credit determined under section 45G may  
22                   be carried back to a taxable year ending on or before  
23                   the date of the enactment of section 45G.”.

24           (d) CLERICAL AMENDMENT.—The table of sections  
25           for subpart D of part IV of subchapter A of chapter 1

1 of the Internal Revenue Code of 1986 is amended by add-  
 2 ing at the end the following new item:

“Sec. 45G. Credit for production from a qualifying clean coal technology unit.”.

3 (e) EFFECTIVE DATE.—The amendments made by  
 4 this section shall apply to production after the date of the  
 5 enactment of this Act, in taxable years ending after such  
 6 date.

7 **Subtitle B—Incentives for Early**  
 8 **Commercial Applications of Ad-**  
 9 **vanced Clean Coal Technologies**

10 **SEC. 311. CREDIT FOR INVESTMENT IN QUALIFYING AD-**  
 11 **VANCED CLEAN COAL TECHNOLOGY.**

12 (a) ALLOWANCE OF QUALIFYING ADVANCED CLEAN  
 13 COAL TECHNOLOGY UNIT CREDIT.—Section 46 of the In-  
 14 ternal Revenue Code of 1986 (relating to amount of cred-  
 15 it) is amended by striking “and” at the end of paragraph  
 16 (2), by striking the period at the end of paragraph (3)  
 17 and inserting “, and”, and by adding at the end the fol-  
 18 lowing new paragraph:

19 “(4) the qualifying advanced clean coal tech-  
 20 nology unit credit.”.

21 (b) AMOUNT OF QUALIFYING ADVANCED CLEAN  
 22 COAL TECHNOLOGY UNIT CREDIT.—Subpart E of part  
 23 IV of subchapter A of chapter 1 of the Internal Revenue  
 24 Code of 1986 (relating to rules for computing investment

1 credit) is amended by inserting after section 48 the fol-  
 2 lowing new section:

3 **“SEC. 48A. QUALIFYING ADVANCED CLEAN COAL TECH-**  
 4 **NOLOGY UNIT CREDIT.**

5 “(a) IN GENERAL.—For purposes of section 46, the  
 6 qualifying advanced clean coal technology unit credit for  
 7 any taxable year is an amount equal to 10 percent of the  
 8 applicable percentage of the qualified investment in a  
 9 qualifying advanced clean coal technology unit for such  
 10 taxable year.

11 “(b) QUALIFYING ADVANCED CLEAN COAL TECH-  
 12 NOLOGY UNIT.—

13 “(1) IN GENERAL.—For purposes of subsection  
 14 (a), the term ‘qualifying advanced clean coal tech-  
 15 nology unit’ means an advanced clean coal tech-  
 16 nology unit of the taxpayer—

17 “(A)(i)(I) in the case of a unit first placed  
 18 in service after the date of the enactment of  
 19 this section, the original use of which com-  
 20 mences with the taxpayer, or

21 “(II) in the case of the retrofitting or  
 22 repowering of a unit first placed in service be-  
 23 fore such date of enactment, the retrofitting or  
 24 repowering of which is completed by the tax-  
 25 payer after such date, or

1           “(ii) which is acquired through purchase  
2           (as defined by section 179(d)(2)),

3           “(B) which is depreciable under section  
4           167,

5           “(C) which has a useful life of not less  
6           than 4 years,

7           “(D) which is located in the United States,

8           “(E) which is not receiving nor is sched-  
9           uled to receive funding under the Clean Coal  
10          Technology Program, the Power Plant Improve-  
11          ment Initiative, or the Clean Coal Power Initia-  
12          tive administered by the Secretary of Energy,

13          “(F) which is not a qualifying clean coal  
14          technology unit, and

15          “(G) which receives an allocation of a por-  
16          tion of the national megawatt capacity limita-  
17          tion under subsection (f).

18          “(2) SPECIAL RULE FOR SALE-LEASEBACKS.—  
19          For purposes of subparagraph (A) of paragraph (1),  
20          in the case of a unit which—

21                 “(A) is originally placed in service by a  
22                 person, and

23                 “(B) is sold and leased back by such per-  
24                 son, or is leased to such person, within 3  
25                 months after the date such unit was originally

1 placed in service, for a period of not less than  
2 12 years,  
3 such unit shall be treated as originally placed in  
4 service not earlier than the date on which such unit  
5 is used under the leaseback (or lease) referred to in  
6 subparagraph (B). The preceding sentence shall not  
7 apply to any property if the lessee and lessor of such  
8 property make an election under this sentence. Such  
9 an election, once made, may be revoked only with  
10 the consent of the Secretary.

11 “(3) NONCOMPLIANCE WITH POLLUTION  
12 LAWS.—For purposes of this subsection, a unit  
13 which is not in compliance with the applicable State  
14 and Federal pollution prevention, control, and per-  
15 mit requirements for any period of time shall not be  
16 considered to be a qualifying advanced clean coal  
17 technology unit during such period.

18 “(c) APPLICABLE PERCENTAGE.—For purposes of  
19 this section, with respect to any qualifying advanced clean  
20 coal technology unit, the applicable percentage is the per-  
21 centage equal to the ratio which the portion of the national  
22 megawatt capacity limitation allocated to the taxpayer  
23 with respect to such unit under subsection (f) bears to  
24 the total megawatt capacity of such unit.

1 “(d) ADVANCED CLEAN COAL TECHNOLOGY UNIT.—

2 For purposes of this section—

3 “(1) IN GENERAL.—The term ‘advanced clean  
4 coal technology unit’ means a new, retrofit, or  
5 repowering unit of the taxpayer which—

6 “(A) is—

7 “(i) an eligible advanced pulverized  
8 coal or atmospheric fluidized bed combus-  
9 tion technology unit,

10 “(ii) an eligible pressurized fluidized  
11 bed combustion technology unit,

12 “(iii) an eligible integrated gasifi-  
13 cation combined cycle technology unit, or

14 “(iv) an eligible other technology unit,  
15 and

16 “(B) meets the carbon emission rate re-  
17 quirements of paragraph (6).

18 “(2) ELIGIBLE ADVANCED PULVERIZED COAL  
19 OR ATMOSPHERIC FLUIDIZED BED COMBUSTION  
20 TECHNOLOGY UNIT.—The term ‘eligible advanced  
21 pulverized coal or atmospheric fluidized bed combus-  
22 tion technology unit’ means a clean coal technology  
23 unit using advanced pulverized coal or atmospheric  
24 fluidized bed combustion technology which—

1           “(A) is placed in service after the date of  
2           the enactment of this section and before Janu-  
3           ary 1, 2015, and

4           “(B) has a design net heat rate of not  
5           more than 8,500 (8,900 in the case of units  
6           placed in service before 2011).

7           “(3) ELIGIBLE PRESSURIZED FLUIDIZED BED  
8           COMBUSTION TECHNOLOGY UNIT.—The term ‘eligi-  
9           ble pressurized fluidized bed combustion technology  
10          unit’ means a clean coal technology unit using pres-  
11          surized fluidized bed combustion technology which—

12           “(A) is placed in service after the date of  
13           the enactment of this section and before Janu-  
14           ary 1, 2019, and

15           “(B) has a design net heat rate of not  
16           more than 7,720 (8,900 in the case of units  
17           placed in service before 2011, and 8,500 in the  
18           case of units placed in service after 2010 and  
19           before 2015).

20           “(4) ELIGIBLE INTEGRATED GASIFICATION  
21           COMBINED CYCLE TECHNOLOGY UNIT.—The term  
22           ‘eligible integrated gasification combined cycle tech-  
23           nology unit’ means a clean coal technology unit  
24           using integrated gasification combined cycle tech-

1 nology, with or without fuel or chemical co-produc-  
2 tion, which—

3 “(A) is placed in service after the date of  
4 the enactment of this section and before Janu-  
5 ary 1, 2019,

6 “(B) has a design net heat rate of not  
7 more than 7,720 (8,900 in the case of units  
8 placed in service before 2011, and 8,500 in the  
9 case of units placed in service after 2010 and  
10 before 2015), and

11 “(C) has a net thermal efficiency (HHV)  
12 using coal with fuel or chemical co-production  
13 of not less than 44.2 percent (38.4 percent in  
14 the case of units placed in service before 2011,  
15 and 40.2 percent in the case of units placed in  
16 service after 2010 and before 2015).

17 “(5) ELIGIBLE OTHER TECHNOLOGY UNIT.—  
18 The term ‘eligible other technology unit’ means a  
19 clean coal technology unit using any other tech-  
20 nology for the production of electricity which is  
21 placed in service after the date of the enactment of  
22 this section and before January 1, 2019.

23 “(6) CARBON EMISSION RATE REQUIRE-  
24 MENTS.—

1           “(A) IN GENERAL.—Except as provided in  
2           subparagraph (B), a unit meets the require-  
3           ments of this paragraph if—

4                   “(i) in the case of a unit using design  
5                   coal with a heat content of not more than  
6                   9,000 Btu per pound, the carbon emission  
7                   rate is less than 0.60 pound of carbon per  
8                   kilowatt hour, and

9                   “(ii) in the case of a unit using design  
10                  coal with a heat content of more than  
11                  9,000 Btu per pound, the carbon emission  
12                  rate is less than 0.54 pound of carbon per  
13                  kilowatt hour.

14           “(B) ELIGIBLE OTHER TECHNOLOGY  
15           UNIT.—In the case of an eligible other tech-  
16           nology unit, subparagraph (A) shall be applied  
17           by substituting ‘0.51’ and ‘0.459’ for ‘0.60’ and  
18           ‘0.54’, respectively.

19           “(e) GENERAL DEFINITIONS.—Any term used in this  
20           section which is also used in section 45G shall have the  
21           meaning given such term in section 45G.

22           “(f) NATIONAL LIMITATION ON THE AGGREGATE CA-  
23           PACITY OF ADVANCED CLEAN COAL TECHNOLOGY  
24           UNITS.—

1           “(1) IN GENERAL.—For purposes of subsection  
2           (b)(1)(G), the national megawatt capacity limitation  
3           is—

4                   “(A) for qualifying advanced clean coal  
5                   technology units using advanced pulverized coal  
6                   or atmospheric fluidized bed combustion tech-  
7                   nology, not more than 1,000 megawatts (not  
8                   more than 500 megawatts in the case of units  
9                   placed in service before 2011),

10                   “(B) for such units using pressurized flu-  
11                   idized bed combustion technology, not more  
12                   than 500 megawatts (not more than 250  
13                   megawatts in the case of units placed in service  
14                   before 2011),

15                   “(C) for such units using integrated gasifi-  
16                   cation combined cycle technology, with or with-  
17                   out fuel or chemical co-production, not more  
18                   than 2,000 megawatts (not more than 750  
19                   megawatts, or not more than 1 project with a  
20                   design net heat rate greater than 8,900 Btu per  
21                   kilowatt hour, whichever is less, in the case of  
22                   units placed in service before 2011), and

23                   “(D) for such units using other technology  
24                   for the production of electricity, not more than  
25                   500 megawatts (not more than 250 megawatts

1           in the case of units placed in service before  
2           2011).

3           “(2) ALLOCATION OF LIMITATION.—The Sec-  
4           retary shall allocate the national megawatt capacity  
5           limitation for qualifying advanced clean coal tech-  
6           nology units in such manner as the Secretary may  
7           prescribe under the regulations under paragraph (3).

8           “(3) REGULATIONS.—Not later than 6 months  
9           after the date of the enactment of this section, the  
10          Secretary shall prescribe such regulations as may be  
11          necessary or appropriate—

12                 “(A) to carry out the purposes of this sub-  
13                 section and section 45H,

14                 “(B) to limit the capacity of any qualifying  
15                 advanced clean coal technology unit to which  
16                 this section applies so that the combined mega-  
17                 watt capacity of all such units to which this sec-  
18                 tion applies does not exceed 4,000 megawatts,

19                 “(C) to provide a certification process de-  
20                 scribed in section 45G(e)(3)(C),

21                 “(D) to carry out the purposes described  
22                 in subparagraphs (D), (E), and (F) of section  
23                 45G(e)(3), and

24                 “(E) to reallocate capacity which is not al-  
25                 located to any technology described in subpara-

1           graphs (A) through (D) of paragraph (1) be-  
2           cause an insufficient number of qualifying units  
3           request an allocation for such technology, to an-  
4           other technology described in such subpara-  
5           graphs in order to maximize the amount of en-  
6           ergy efficient production encouraged with the  
7           available tax credits.

8           “(4) SELECTION CRITERIA.—For purposes of  
9           paragraph (3)(C), the selection criteria for allocating  
10          the national megawatt capacity limitation to quali-  
11          fying advanced clean coal technology units—

12                   “(A) shall be established by the Secretary  
13                   of Energy as part of a competitive solicitation,

14                   “(B) shall include primary criteria of min-  
15                   imum design net heat rate, maximum design  
16                   thermal efficiency, environmental performance,  
17                   and lowest cost to the Government,

18                   “(C) shall include criteria for the selection  
19                   of 1 or more units which achieve a thermal effi-  
20                   ciency of lower than 8,900 Btu per kilowatt  
21                   hour in that instance where 2 or more projects  
22                   are otherwise eligible for the credit under this  
23                   section, and have applied to the Secretary for  
24                   selection during approximately the same time  
25                   period, and

1           “(D) shall include supplemental criteria as  
2           determined appropriate by the Secretary of En-  
3           ergy.

4           “(g) QUALIFIED INVESTMENT.—For purposes of  
5           subsection (a), the term ‘qualified investment’ means, with  
6           respect to any taxable year, the basis of a qualifying ad-  
7           vanced clean coal technology unit placed in service by the  
8           taxpayer during such taxable year (in the case of a unit  
9           described in subsection (b)(1)(A)(i)(II), only that portion  
10          of the basis of such unit which is properly attributable  
11          to the retrofitting or repowering of such unit).

12          “(h) QUALIFIED PROGRESS EXPENDITURES.—

13                 “(1) INCREASE IN QUALIFIED INVESTMENT.—  
14                 In the case of a taxpayer who has made an election  
15                 under paragraph (5), the amount of the qualified in-  
16                 vestment of such taxpayer for the taxable year (de-  
17                 termined under subsection (g) without regard to this  
18                 subsection) shall be increased by an amount equal to  
19                 the aggregate of each qualified progress expenditure  
20                 for the taxable year with respect to progress expend-  
21                 iture property.

22                 “(2) PROGRESS EXPENDITURE PROPERTY DE-  
23                 FINED.—For purposes of this subsection, the term  
24                 ‘progress expenditure property’ means any property  
25                 being constructed by or for the taxpayer and which

1 it is reasonable to believe will qualify as a qualifying  
2 advanced clean coal technology unit which is being  
3 constructed by or for the taxpayer when it is placed  
4 in service.

5 “(3) QUALIFIED PROGRESS EXPENDITURES DE-  
6 FINED.—For purposes of this subsection—

7 “(A) SELF-CONSTRUCTED PROPERTY.—In  
8 the case of any self-constructed property, the  
9 term ‘qualified progress expenditures’ means  
10 the amount which, for purposes of this subpart,  
11 is properly chargeable (during such taxable  
12 year) to capital account with respect to such  
13 property.

14 “(B) NONSELF-CONSTRUCTED PROP-  
15 erty.—In the case of nonself-constructed prop-  
16 erty, the term ‘qualified progress expenditures’  
17 means the amount paid during the taxable year  
18 to another person for the construction of such  
19 property.

20 “(4) OTHER DEFINITIONS.—For purposes of  
21 this subsection—

22 “(A) SELF-CONSTRUCTED PROPERTY.—  
23 The term ‘self-constructed property’ means  
24 property for which it is reasonable to believe

1           that more than half of the construction expendi-  
2           tures will be made directly by the taxpayer.

3           “(B)    NONSELF-CONSTRUCTED    PROP-  
4            PERTY.—The term ‘nonsself-constructed property’  
5            means property which is not self-constructed  
6            property.

7           “(C)    CONSTRUCTION,    ETC.—The    term  
8            ‘construction’ includes reconstruction and erec-  
9            tion, and the term ‘constructed’ includes recon-  
10            structed and erected.

11           “(D)    ONLY CONSTRUCTION OF QUALI-  
12            FYING ADVANCED CLEAN COAL TECHNOLOGY  
13            UNIT TO BE TAKEN INTO ACCOUNT.—Construc-  
14            tion shall be taken into account only if, for pur-  
15            poses of this subpart, expenditures therefor are  
16            properly chargeable to capital account with re-  
17            spect to the property.

18           “(5)    ELECTION.—An election under this sub-  
19            section may be made at such time and in such man-  
20            ner as the Secretary may by regulations prescribe.  
21            Such an election shall apply to the taxable year for  
22            which made and to all subsequent taxable years.  
23            Such an election, once made, may not be revoked ex-  
24            cept with the consent of the Secretary.

1       “(i) COORDINATION WITH OTHER CREDITS.—This  
2 section shall not apply to any property with respect to  
3 which the rehabilitation credit under section 47 or the en-  
4 ergy credit under section 48 is allowed unless the taxpayer  
5 elects to waive the application of such credit to such prop-  
6 erty.”.

7       (c) RECAPTURE.—Section 50(a) of the Internal Rev-  
8 enue Code of 1986 (relating to other special rules) is  
9 amended by adding at the end the following new para-  
10 graph:

11               “(6) SPECIAL RULES RELATING TO QUALIFYING  
12       ADVANCED CLEAN COAL TECHNOLOGY UNIT.—For  
13 purposes of applying this subsection in the case of  
14 any credit allowable by reason of section 48A, the  
15 following shall apply:

16               “(A) GENERAL RULE.—In lieu of the  
17 amount of the increase in tax under paragraph  
18 (1), the increase in tax shall be an amount  
19 equal to the investment tax credit allowed under  
20 section 38 for all prior taxable years with re-  
21 spect to a qualifying advanced clean coal tech-  
22 nology unit (as defined by section 48A(b)(1))  
23 multiplied by a fraction whose numerator is the  
24 number of years remaining to fully depreciate  
25 under this title the qualifying advanced clean

1 coal technology unit disposed of, and whose de-  
2 nominator is the total number of years over  
3 which such unit would otherwise have been sub-  
4 ject to depreciation. For purposes of the pre-  
5 ceding sentence, the year of disposition of the  
6 qualifying advanced clean coal technology unit  
7 shall be treated as a year of remaining depre-  
8 ciation.

9 “(B) PROPERTY CEASES TO QUALIFY FOR  
10 PROGRESS EXPENDITURES.—Rules similar to  
11 the rules of paragraph (2) shall apply in the  
12 case of qualified progress expenditures for a  
13 qualifying advanced clean coal technology unit  
14 under section 48A, except that the amount of  
15 the increase in tax under subparagraph (A) of  
16 this paragraph shall be substituted for the  
17 amount described in such paragraph (2).

18 “(C) APPLICATION OF PARAGRAPH.—This  
19 paragraph shall be applied separately with re-  
20 spect to the credit allowed under section 38 re-  
21 garding a qualifying advanced clean coal tech-  
22 nology unit.”.

23 (d) TRANSITIONAL RULE.—Section 39(d) of the In-  
24 ternal Revenue Code of 1986 (relating to transitional

1 rules), as amended by this Act, is amended by adding at  
2 the end the following new paragraph:

3           “(12) NO CARRYBACK OF SECTION 48A CREDIT  
4           BEFORE EFFECTIVE DATE.—No portion of the un-  
5           used business credit for any taxable year which is  
6           attributable to the qualifying advanced clean coal  
7           technology unit credit determined under section 48A  
8           may be carried back to a taxable year ending on or  
9           before the date of the enactment of section 48A.”.

10          (e) TECHNICAL AMENDMENTS.—

11               (1) Section 49(a)(1)(C) of the Internal Revenue  
12               Code of 1986 is amended by striking “and” at the  
13               end of clause (ii), by striking the period at the end  
14               of clause (iii) and inserting “, and”, and by adding  
15               at the end the following new clause:

16                       “(iv) the portion of the basis of any  
17                       qualifying advanced clean coal technology  
18                       unit attributable to any qualified invest-  
19                       ment (as defined by section 48A(g)).”.

20               (2) Section 50(a)(4) of such Code is amended  
21               by striking “and (2)” and inserting “(2), and (6)”.

22               (3) Section 50(c) of such Code is amended by  
23               adding at the end the following new paragraph:

1           “(6) NONAPPLICATION.—Paragraphs (1) and  
2           (2) shall not apply to any qualifying advanced clean  
3           coal technology unit credit under section 48A.”.

4           (4) The table of sections for subpart E of part  
5           IV of subchapter A of chapter 1 of such Code is  
6           amended by inserting after the item relating to sec-  
7           tion 48 the following new item:

“Sec. 48A. Qualifying advanced clean coal technology unit credit.”.

8           (f) EFFECTIVE DATE.—The amendments made by  
9           this section shall apply to periods after the date of the  
10          enactment of this Act, under rules similar to the rules of  
11          section 48(m) of the Internal Revenue Code of 1986 (as  
12          in effect on the day before the date of the enactment of  
13          the Revenue Reconciliation Act of 1990).

14   **SEC. 312. CREDIT FOR PRODUCTION FROM A QUALIFYING**  
15                           **ADVANCED CLEAN COAL TECHNOLOGY UNIT.**

16          (a) IN GENERAL.—Subpart D of part IV of sub-  
17          chapter A of chapter 1 of the Internal Revenue Code of  
18          1986 (relating to business related credits), as amended by  
19          this Act, is amended by adding at the end the following  
20          new section:

21   **“SEC. 45H. CREDIT FOR PRODUCTION FROM A QUALIFYING**  
22                           **ADVANCED CLEAN COAL TECHNOLOGY UNIT.**

23          “(a) GENERAL RULE.—For purposes of section 38,  
24          the qualifying advanced clean coal technology production  
25          credit of any taxpayer for any taxable year is equal to—

1           “(1) the applicable amount of advanced clean  
2 coal technology production credit, multiplied by

3           “(2) the applicable percentage (as determined  
4 under section 48A(c)) of the sum of—

5                   “(A) the kilowatt hours of electricity, plus

6                   “(B) each 3,413 Btu of fuels or chemicals,  
7 produced by the taxpayer during such taxable year  
8 at a qualifying advanced clean coal technology unit  
9 during the 10-year period beginning on the date the  
10 unit was originally placed in service (or returned to  
11 service after becoming a qualifying advanced clean  
12 coal technology unit).

13           “(b) APPLICABLE AMOUNT.—For purposes of this  
14 section, the applicable amount of advanced clean coal tech-  
15 nology production credit with respect to production from  
16 a qualifying advanced clean coal technology unit shall be  
17 determined as follows:

18                   “(1) Where the qualifying advanced clean coal  
19 technology unit is producing electricity only:

20                           “(A) In the case of a unit originally placed  
21 in service before 2011, if—

“The design net heat rate is:	The applicable amount is:	
	For 1st 5 years of such service	For 2d 5 years of such service
Not more than 8,500 .....	\$.0060	\$.0038
More than 8,500 but not more than 8,750 .....	\$.0025	\$.0010
More than 8,750 but less than 8,900 .....	\$.0010	\$.0010.

1 “(B) In the case of a unit originally placed  
 2 in service after 2010 and before 2015, if—

“The design net heat rate is:	The applicable amount is:	
	For 1st 5 years of such service	For 2d 5 years of such service
Not more than 7,770 .....	\$.0105	\$.0090
More than 7,770 but not more than 8,125 .....	\$.0085	\$.0068
More than 8,125 but less than 8,350 .....	\$.0075	\$.0055.

3 “(C) In the case of a unit originally placed  
 4 in service after 2014 and before 2019, if—

“The design net heat rate is:	The applicable amount is:	
	For 1st 5 years of such service	For 2d 5 years of such service
Not more than 7,380 .....	\$.0140	\$.0115
More than 7,380 but not more than 7,720 .....	\$.0120	\$.0090.

5 “(2) Where the qualifying advanced clean coal  
 6 technology unit is producing fuel or chemicals:

7 “(A) In the case of a unit originally placed  
 8 in service before 2011, if—

“The unit design net thermal efficiency (HHV) is:	The applicable amount is:	
	For 1st 5 years of such service	For 2d 5 years of such service
Not less than 40.6 percent .....	\$.0060	\$.0038
Less than 40.6 but not less than 40 percent .....	\$.0025	\$.0010
Less than 40 but not less than 38.4 percent .....	\$.0010	\$.0010.

9 “(B) In the case of a unit originally placed  
 10 in service after 2010 and before 2015, if—

“The unit design net thermal efficiency (HHV) is:	The applicable amount is:	
	For 1st 5 years of such service	For 2d 5 years of such service
Not less than 43.6 percent .....	\$ .0105	\$ .0090
Less than 43.6 but not less than 42 percent .....	\$ .0085	\$ .0068
Less than 42 but not less than 40.2 percent .....	\$ .0075	\$ .0055.

1                                   “(C) In the case of a unit originally placed  
2                                   in service after 2014 and before 2019, if—

“The unit design net thermal efficiency (HHV) is:	The applicable amount is:	
	For 1st 5 years of such service	For 2d 5 years of such service
Not less than 44.2 percent .....	\$ .0140	\$ .0115
Less than 44.2 but not less than 43.9 percent .....	\$ .0120	\$ .0090.

3                   “(c) SPECIAL RULE.—A qualifying clean coal tech-  
4 nology facility originally placed in service before 2009  
5 which has a design net heat rate which meets a lower heat  
6 rate test in subparagraphs (A), (B), and (C) of subsection  
7 (b)(1) and subparagraphs (A), (B), and (C) of subsection  
8 (b)(2) or a qualifying clean coal technology facility origi-  
9 nally placed in service before 2013 which has a design net  
10 heat rate which meets a lower heat rate test in paragraph  
11 (1)(C) or (2)(C) of subsection (b) shall receive the highest  
12 applicable amount with respect to a production credit for  
13 which such facility qualifies.

14                   “(d) INFLATION ADJUSTMENT.—For calendar years  
15 after 2003, each amount in paragraphs (1) and (2) of sub-  
16 section (b) shall be adjusted by multiplying such amount  
17 by the inflation adjustment factor for the calendar year

1 in which the amount is applied. If any amount as in-  
2 creased under the preceding sentence is not a multiple of  
3 0.01 cent, such amount shall be rounded to the nearest  
4 multiple of 0.01 cent.

5 “(e) DEFINITIONS AND SPECIAL RULES.—For pur-  
6 poses of this section—

7 “(1) IN GENERAL.—Any term used in this sec-  
8 tion which is also used in section 45G or 48A shall  
9 have the meaning given such term in such section.

10 “(2) APPLICABLE RULES.—The rules of para-  
11 graphs (3), (4), and (5) of section 45(d) shall  
12 apply.”.

13 (b) CREDIT TREATED AS BUSINESS CREDIT.—Sec-  
14 tion 38(b) of the Internal Revenue Code of 1986 (relating  
15 to current year business credit), as amended by this Act,  
16 is amended by striking “plus” at the end of paragraph  
17 (15), by striking the period at the end of paragraph (16)  
18 and inserting “, plus”, and by adding at the end the fol-  
19 lowing new paragraph:

20 “(17) the qualifying advanced clean coal tech-  
21 nology production credit determined under section  
22 45H(a).”.

23 (c) TRANSITIONAL RULE.—Section 39(d) of the In-  
24 ternal Revenue Code of 1986 (relating to transitional

1 rules), as amended by this Act, is amended by adding at  
2 the end the following new paragraph:

3           “(13) NO CARRYBACK OF SECTION 45H CREDIT  
4           BEFORE EFFECTIVE DATE.—No portion of the un-  
5           used business credit for any taxable year which is  
6           attributable to the qualifying advanced clean coal  
7           technology production credit determined under sec-  
8           tion 45H may be carried back to a taxable year end-  
9           ing on or before the date of the enactment of section  
10          45H.”.

11          (d) DENIAL OF DOUBLE BENEFIT.—Section 29(d) of  
12 the Internal Revenue Code of 1986 (relating to other defi-  
13 nitions and special rules) is amended by adding at the end  
14 the following new paragraph:

15           “(9) DENIAL OF DOUBLE BENEFIT.—This sec-  
16           tion shall not apply with respect to any qualified fuel  
17           the production of which may be taken into account  
18           for purposes of determining the credit under section  
19           45H.”.

20          (e) CLERICAL AMENDMENT.—The table of sections  
21 for subpart D of part IV of subchapter A of chapter 1  
22 of the Internal Revenue Code of 1986, as amended by this  
23 Act, is amended by adding at the end the following new  
24 item:

“Sec. 45H. Credit for production from a qualifying advanced clean coal tech-  
nology unit.”.

1 (f) EFFECTIVE DATE.—The amendments made by  
 2 this section shall apply to production after the date of the  
 3 enactment of this Act, in taxable years ending after such  
 4 date.

5 **Subtitle C—Treatment of Persons**  
 6 **Not Able To Use Entire Credit**

7 **SEC. 321. TREATMENT OF PERSONS NOT ABLE TO USE EN-**  
 8 **TIRE CREDIT.**

9 (a) IN GENERAL.—Section 45G of the Internal Rev-  
 10 enue Code of 1986, as added by this Act, is amended by  
 11 adding at the end the following new subsection:

12 “(f) TREATMENT OF PERSON NOT ABLE TO USE  
 13 ENTIRE CREDIT.—

14 “(1) ALLOWANCE OF CREDITS.—

15 “(A) IN GENERAL.—Any credit allowable  
 16 under this section, section 45H, or section 48A  
 17 with respect to a facility owned by a person de-  
 18 scribed in subparagraph (B) may be transferred  
 19 or used as provided in this subsection, and the  
 20 determination as to whether the credit is allow-  
 21 able shall be made without regard to the tax-  
 22 exempt status of the person.

23 “(B) PERSONS DESCRIBED.—A person is  
 24 described in this subparagraph if the person  
 25 is—

1 “(i) an organization described in sec-  
2 tion 501(c)(12)(C) and exempt from tax  
3 under section 501(a),

4 “(ii) an organization described in sec-  
5 tion 1381(a)(2)(C),

6 “(iii) a public utility (as defined in  
7 section 136(c)(2)(B)),

8 “(iv) any State or political subdivision  
9 thereof, the District of Columbia, or any  
10 agency or instrumentality of any of the  
11 foregoing,

12 “(v) any Indian tribal government  
13 (within the meaning of section 7871) or  
14 any agency or instrumentality thereof, or

15 “(vi) the Tennessee Valley Authority.

16 “(2) TRANSFER OF CREDIT.—

17 “(A) IN GENERAL.—A person described in  
18 clause (i), (ii), (iii), (iv), or (v) of paragraph  
19 (1)(B) may transfer any credit to which para-  
20 graph (1)(A) applies through an assignment to  
21 any other person not described in paragraph  
22 (1)(B). Such transfer may be revoked only with  
23 the consent of the Secretary.

24 “(B) REGULATIONS.—The Secretary shall  
25 prescribe such regulations as necessary to in-

1           sure that any credit described in subparagraph  
2           (A) is claimed once and not reassigned by such  
3           other person.

4           “(C) TRANSFER PROCEEDS TREATED AS  
5           ARISING FROM ESSENTIAL GOVERNMENT FUNC-  
6           TION.—Any proceeds derived by a person de-  
7           scribed in clause (iii), (iv), or (v) of paragraph  
8           (1)(B) from the transfer of any credit under  
9           subparagraph (A) shall be treated as arising  
10          from the exercise of an essential government  
11          function.

12          “(3) USE BY TVA.—

13                 “(A) IN GENERAL.—Notwithstanding any  
14                 other provision of law, in the case of a person  
15                 described in paragraph (1)(B)(vi), any credit to  
16                 which paragraph (1)(A) applies may be applied  
17                 as a credit against the payments required to be  
18                 made in any fiscal year under section 15d(e) of  
19                 the Tennessee Valley Authority Act of 1933 (16  
20                 U.S.C. 831n-4(e)) as an annual return on the  
21                 appropriations investment and an annual repay-  
22                 ment sum.

23                 “(B) TREATMENT OF CREDITS.—The ag-  
24                 gregate amount of credits described in para-  
25                 graph (1)(A) with respect to such person shall

1 be treated in the same manner and to the same  
2 extent as if such credits were a payment in cash  
3 and shall be applied first against the annual re-  
4 turn on the appropriations investment.

5 “(C) CREDIT CARRYOVER.—With respect  
6 to any fiscal year, if the aggregate amount of  
7 credits described paragraph (1)(A) with respect  
8 to such person exceeds the aggregate amount of  
9 payment obligations described in subparagraph  
10 (A), the excess amount shall remain available  
11 for application as credits against the amounts  
12 of such payment obligations in succeeding fiscal  
13 years in the same manner as described in this  
14 paragraph.

15 “(4) CREDIT NOT INCOME.—Any transfer  
16 under paragraph (2) or use under paragraph (3) of  
17 any credit to which paragraph (1)(A) applies shall  
18 not be treated as income for purposes of section  
19 501(c)(12).

20 “(5) TREATMENT OF UNRELATED PERSONS.—  
21 For purposes of this subsection, sales among and be-  
22 tween persons described in clauses (i), (ii), (iii), (iv),  
23 and (v) of paragraph (1)(A) shall be treated as sales  
24 between unrelated parties.”.

1       (b) EFFECTIVE DATE.—The amendment made by  
2 this section shall apply to production after the date of the  
3 enactment of this Act, in taxable years ending after such  
4 date.

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