

107TH CONGRESS
1ST SESSION

H. R. 2365

To authorize Department of Energy programs to develop and implement an accelerated research and development program for advanced clean coal technologies for use in coal-based electricity generating facilities, so as to allow coal to help meet the growing need of the United States for the generation of clean, reliable, and affordable electricity.

IN THE HOUSE OF REPRESENTATIVES

JUNE 28, 2001

Mr. COSTELLO (for himself, Mr. AKIN, Mr. WHITFIELD, Mr. MOLLOHAN, Mr. BOUCHER, Mr. SHIMKUS, Mrs. CAPITO, Mr. PHELPS, and Mr. LIPINSKI) introduced the following bill; which was referred to the Committee on Science

A BILL

To authorize Department of Energy programs to develop and implement an accelerated research and development program for advanced clean coal technologies for use in coal-based electricity generating facilities, so as to allow coal to help meet the growing need of the United States for the generation of clean, reliable, and affordable electricity.

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.**

2 This Act may be cited as the “National Electricity
3 and Environmental Technology Research and Develop-
4 ment Act”.

5 **SEC. 2. FINDINGS.**

6 Congress finds that—

7 (1) reliable, affordable, increasingly clean elec-
8 tricity will continue to power the growing United
9 States economy;

10 (2) an increasing use of electrotechnologies, the
11 desire for continuous environmental improvement, a
12 more competitive electricity market, and concerns
13 about rising energy prices add importance to the
14 need for reliable, affordable, increasingly clean elec-
15 tricity;

16 (3) coal, which, as of the date of enactment of
17 this Act, accounts for more than ½ of all electricity
18 generated in the United States, is the most abun-
19 dant fossil energy resource of the United States;

20 (4) coal comprises more than 85 percent of all
21 fossil resources in the United States and exists in
22 quantities sufficient to supply the United States for
23 250 years at current usage rates;

24 (5) investments in electricity generating facility
25 emissions control technology over the past 30 years
26 have reduced the aggregate emissions of pollutants

1 from coal-based generating facilities by 21 percent,
2 even as coal use for electricity generation has nearly
3 tripled;

4 (6) continuous improvement in efficiency and
5 environmental performance from electricity gener-
6 ating facilities would allow continued use of coal and
7 preserve less abundant energy resources for other
8 energy uses;

9 (7) new technologies for converting coal into
10 electricity can effectively eliminate health-threat-
11 ening emissions and improve efficiency by as much
12 as 50 percent, but initial commercial deployment of
13 new coal generation technologies entails significant
14 risk that generators may be unable to accept in a
15 newly competitive electricity market; and

16 (8) continued environmental improvement in
17 coal-based generation through continued research,
18 development, and demonstration toward an ultimate
19 goal of near-zero emissions is important and desir-
20 able.

21 **SEC. 3. DEFINITIONS.**

22 In this Act:

23 (1) **COST AND PERFORMANCE GOALS.**—The
24 term “cost and performance goals” means the cost
25 and performance goals established under section 4.

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

3 **SEC. 4. TECHNOLOGY ASSESSMENT.**

4 (a) IN GENERAL.—The Secretary shall perform an
5 assessment that establishes cost and performance goals
6 with respect to technologies that would permit the contin-
7 ued cost-competitive use of coal for electricity generation,
8 as chemical feedstocks, and as transportation fuel in 2007,
9 2015, and 2020.

10 (b) CONSULTATION.—In establishing the cost and
11 performance goals, the Secretary shall consult with rep-
12 resentatives of—

13 (1) the United States coal industry;

14 (2) State coal development agencies;

15 (3) the electric utility industry;

16 (4) railroads and other transportation indus-
17 tries;

18 (5) manufacturers of equipment using advanced
19 coal technologies;

20 (6) organizations representing workers;

21 (7) organizations formed to—

22 (A) promote the use of coal;

23 (B) further the goals of environmental pro-
24 tection; and

1 (C) promote the development and use of
2 advanced coal technologies; and

3 (8) other appropriate Federal and State agen-
4 cies.

5 (c) TIMING.—The Secretary shall—

6 (1) not later than 120 days after the date of
7 enactment of this Act, issue a set of draft cost and
8 performance goals for public comment; and

9 (2) not later than 180 days after the date of
10 enactment of this Act, after taking into consider-
11 ation any public comments received, submit to Con-
12 gress the final cost and performance goals.

13 **SEC. 5. STUDY.**

14 (a) IN GENERAL.—Not later than 1 year after the
15 date of enactment of this Act, and once every 2 years
16 thereafter through 2016, the Secretary, in cooperation
17 with the Secretary of the Interior and the Administrator
18 of the Environmental Protection Agency, shall transmit to
19 the Congress a report containing the results of a study
20 to—

21 (1) identify technologies that, by themselves or
22 in combination with other technologies, may be capa-
23 ble of achieving the cost and performance goals;

24 (2) assess the costs that would be incurred by,
25 and the period of time that would be required for,

1 the development and demonstration of technologies
2 that, by themselves or in combination with other
3 technologies, contribute to the achievement of the
4 cost and performance goals;

5 (3) develop recommendations for technology de-
6 velopment programs, which the Department of En-
7 ergy could carry out in cooperation with industry, to
8 develop and demonstrate technologies that, by them-
9 selves or in combination with other technologies,
10 achieve the cost and performance goals; and

11 (4) develop recommendations for additional au-
12 thorities required to achieve the cost and perform-
13 ance goals.

14 (b) EXPERT ADVICE.—In carrying out this section,
15 the Secretary shall give due weight to the expert advice
16 of representatives of the entities described in section 4(b).

17 **SEC. 6. TECHNOLOGY RESEARCH AND DEVELOPMENT PRO-**
18 **GRAM.**

19 (a) IN GENERAL.—The Secretary shall carry out a
20 program of research on and development, demonstration,
21 and commercial application of coal-based technologies
22 under—

23 (1) this Act;

1 (2) the Federal Nonnuclear Energy Research
2 and Development Act of 1974 (42 U.S.C. 5901 et
3 seq.);

4 (3) the Energy Reorganization Act of 1974 (42
5 U.S.C. 5801 et seq.); and

6 (4) title XIII of the Energy Policy Act of 1992
7 (42 U.S.C. 13331 et seq.).

8 (b) CONDITIONS.—The research, development, dem-
9 onstration, and commercial application program described
10 in subsection (a) shall be designed to achieve the cost and
11 performance goals.

12 **SEC. 7. AUTHORIZATION OF APPROPRIATIONS.**

13 (a) IN GENERAL.—There are authorized to be appro-
14 priated to the Secretary to carry out sections 4, 5, and
15 6, \$100,000,000 for each of the fiscal years 2002 through
16 2012, to remain available until expended.

17 (b) CONDITIONS OF AUTHORIZATION.—The author-
18 ization of appropriations under subsection (a)—

19 (1) shall be in addition to authorizations of ap-
20 propriations in effect on the date of enactment of
21 this Act; and

22 (2) shall not be a cap on Department of Energy
23 fossil energy research and development and clean
24 coal technology appropriations.

1 **SEC. 8. CLEAN COAL POWER COMMERCIAL APPLICATIONS**
2 **INITIATIVE.**

3 (a) IN GENERAL.—The Secretary shall establish a
4 clean coal power commercial applications initiative that
5 will demonstrate commercial applications of advanced
6 coal-based technologies applicable to new or existing power
7 plants, including coproduction plants.

8 (b) REQUIREMENTS.—The technologies to be dem-
9 onstrated under the initiative—

10 (1) shall be technologies that, by themselves or
11 in combination with other technologies, advance effi-
12 ciency, environmental performance, and cost com-
13 petitiveness well beyond that which is in operation or
14 has been demonstrated as of the date of enactment
15 of this Act; and

16 (2) may include technologies that have not pre-
17 viously been envisioned for commercial applications.

18 (c) PLAN.—Not later than 120 days after the date
19 of enactment of this Act, the Secretary shall transmit to
20 Congress a plan to carry out subsection (a) that includes
21 a description of—

22 (1) the program elements and management
23 structure to be used;

24 (2) the technical milestones to be achieved with
25 respect to each of the advanced coal-based tech-
26 nologies included in the plan; and

1 (3) the demonstration activities proposed to be
2 conducted at facilities that serve or are located at
3 new or existing coal-based electric generation units
4 having at least 50 megawatts nameplate rating, in-
5 cluding improvements to allow the units to achieve
6 1 or more of the following:

7 (A) An overall design efficiency improve-
8 ment of not less than 3 percent as compared
9 with the efficiency of the unit as operated as of
10 the date of enactment of this Act and before
11 any retrofit, repowering, replacement, or instal-
12 lation.

13 (B) A significant improvement in, or new
14 alternative technology to enhance, the environ-
15 mental performance related to the control of
16 sulfur dioxide, nitrogen oxide, or mercury in a
17 manner that is different and well below the cost
18 of technologies that are in operation or have
19 been demonstrated as of the date of enactment
20 of this Act.

21 (C) A means of recycling or reusing a sig-
22 nificant portion of coal combustion or gasifi-
23 cation wastes or byproducts produced by coal-
24 based generating units, excluding practices that

1 are commercially available as of the date of en-
2 actment of this Act.

3 (D) A means to capture, separate, and
4 reuse or dispose of carbon dioxide that is dif-
5 ferent and well below the cost of technologies
6 that are in operation or have been dem-
7 onstrated as of the date of enactment of this
8 Act.

9 **SEC. 9. FINANCIAL ASSISTANCE.**

10 (a) IN GENERAL.—Not later than 180 days after the
11 date on which the Secretary transmits to Congress the
12 plan under section 8(c), the Secretary shall solicit pro-
13 posals for projects that serve or are located at new or ex-
14 isting facilities designed to achieve 1 or more of the levels
15 of performance set forth in section 8(c)(3).

16 (b) PROJECT CRITERIA.—A solicitation under sub-
17 section (a) may include solicitation of a proposal for a
18 project to demonstrate—

19 (1) an overall design efficiency improvement of
20 not less 3 percentage points as compared with the
21 efficiency of the unit as operated as of the date of
22 enactment of this Act and with no increase in the
23 potential to emit sulfur dioxide, nitrogen oxide, par-
24 ticulate matter, mercury, or carbon monoxide;

1 (2) a reduction of emissions to a level of not
2 more than—

3 (A)(i) in the case of sulfur dioxide—

4 (I) in the case of coal with a potential
5 combustion concentration sulfur emission
6 of 1.2 or more pounds per million British
7 thermal units of heat input, 5 percent of
8 the potential combustion concentration sul-
9 fur dioxide emissions; or

10 (II) in the case of a coal with a poten-
11 tial combustion concentration of less than
12 1.2 pounds of per million British thermal
13 units of heat input, 15 percent of the po-
14 tential combustion concentration of sulfur
15 dioxide emissions;

16 (ii) in the case of nitrogen oxide—

17 (I) in the case of a boiler other than
18 a cyclone-fired boiler, emissions of 0.1
19 pound per million British thermal units of
20 heat; or

21 (II) in the case of a cyclone-fired boil-
22 er, 15 percent of the uncontrolled nitrogen
23 oxide emissions from the boiler; or

1 (iii) in the case of particulate matter, emis-
2 sions of 0.02 pound per million British thermal
3 units of heat input; or

4 (B) the emission levels for the pollutants
5 identified in subparagraph (A) that are speci-
6 fied in the new source performance standards of
7 the Clean Air Act (42 U.S.C. 7411) in effect at
8 the time of construction, installation, or retro-
9 fitting of the advanced coal-based technology
10 for the category of source if they are lower than
11 the levels specified in subparagraph (A); or

12 (3) the production of coal combustion byprod-
13 ucts that are capable of obtaining economic values
14 significantly greater than byproducts produced as of
15 the date of enactment of this Act with no increase
16 in the potential to emit sulfur dioxide, nitrogen
17 oxide, particulate matter, mercury, or carbon mon-
18 oxide.

19 (c) FINANCIAL ASSISTANCE.—The Secretary shall
20 provide financial assistance to projects that—

21 (1) demonstrate overall cost reductions in the
22 utilization of coal to generate useful forms of energy;

23 (2) improve the competitiveness of coal among
24 various forms of energy in order to maintain a diver-

1 sity of fuel choices in the United States to meet elec-
2 tricity generation requirements;

3 (3) achieve, in a cost-effective manner, 1 or
4 more of the criteria described in the solicitation; and

5 (4) demonstrate technologies that are applicable
6 to 25 percent of the electricity generating facilities
7 that use coal as the primary feedstock as of the date
8 of enactment of this Act.

9 (d) FEDERAL SHARE.—The Federal share of the cost
10 of a project funded under this section shall not exceed 50
11 percent.

12 (e) FUNDING.—

13 (1) AUTHORIZATION OF APPROPRIATIONS.—Ex-
14 cept as provided in paragraph (2), there are author-
15 ized to be appropriated to the Secretary to carry out
16 this section \$100,000,000 for each of the fiscal
17 years 2002 through 2012, to remain available until
18 expended.

19 (2) ALTERNATIVE FUNDING SOURCES.—To
20 carry out this section, the Secretary may use any
21 unobligated funds available to the Secretary for fos-
22 sil energy programs, and any funds obligated to any
23 project selected under the clean coal technology pro-
24 gram that become unobligated. Appropriations under

- 1 paragraph (1) for a fiscal year shall be reduced by
- 2 the amount of any funds used under this paragraph.

