

Calendar No. 316109TH CONGRESS
1ST SESSION**S. 1860****[Report No. 109-198]**

To amend the Energy Policy Act of 2005 to improve energy production and reduce energy demand through improved use of reclaimed waters, and for other purposes.

IN THE SENATE OF THE UNITED STATES

OCTOBER 7 (legislative day, OCTOBER 6), 2005

Mr. DOMENICI (for himself, Mr. BINGAMAN, Mr. FRIST, Mr. ALEXANDER, Mrs. FEINSTEIN, and Mr. SALAZAR) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

DECEMBER 8, 2005

Reported under authority of the order of the Senate of November 18, 2005,
by Mr. DOMENICI, with an amendment

[Strike out all after the enacting clause and insert the part printed in *italic*]

A BILL

To amend the Energy Policy Act of 2005 to improve energy production and reduce energy demand through improved use of reclaimed waters, 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.**

2 This Act may be cited as the “~~Energy-Water Effi-~~
3 ~~ciency Technology Research, Development, and Transfer~~
4 ~~Program Act of 2005~~”.

5 **SEC. 2. ENERGY-WATER EFFICIENCY AND SUPPLY TECH-**
6 **NOLOGY RESEARCH, DEVELOPMENT, AND**
7 **TRANSFER PROGRAM.**

8 The Energy Policy Act of 2005 (Public Law 109–
9 58; 119 Stat. 594) is amended by inserting after section
10 111 the following:

11 **“SEC. 112. ENERGY-WATER EFFICIENCY AND SUPPLY TECH-**
12 **NOLOGY RESEARCH, DEVELOPMENT, AND**
13 **TRANSFER PROGRAM.**

14 “(a) DEFINITIONS.—In this section:

15 “(1) ADVISORY PANEL.—The term ‘Advisory
16 Panel’ means the Energy-Water Efficiency and Sup-
17 ply Technology Advisory Panel established under
18 subsection (f).

19 “(2) ENERGY-WATER EFFICIENCY AND SUPPLY
20 TECHNOLOGY.—The term ‘energy-water efficiency
21 and supply technology’ means—

22 “(A) technologies for—

23 “(i) reducing the amount of energy re-
24 quired to provide adequate water supplies;

25 “(ii) reducing water consumption in
26 the production or generation of energy;

1 “~~(iii)~~ the reclamation of previously un-
2 usable water;

3 “~~(iv)~~ water reuse;

4 “~~(v)~~ agricultural, industrial, and mu-
5 nicipal efficiency and conservation; and

6 “~~(vi)~~ water monitoring and systems
7 analysis; and

8 “~~(B)~~ any other technologies identified by
9 the Secretary as necessary to carry out the pro-
10 gram.

11 “~~(3)~~ LEAD LABORATORY.—The term ‘lead lab-
12 oratory’ means each of the program lead laboratories
13 designated under subsection ~~(d)~~(1).

14 “~~(4)~~ PROGRAM.—The term ‘program’ means
15 the energy-water efficiency and supply technology re-
16 search, development, and transfer program estab-
17 lished under subsection ~~(b)~~.

18 “~~(b)~~ ESTABLISHMENT.—In accordance with this sec-
19 tion, the Secretary shall establish a National Laboratories
20 energy-water efficiency and supply technology research,
21 development, and transfer program that provides for the
22 conduct of research on, and the development, demonstra-
23 tion, transfer, and commercialization of, economically via-
24 ble and cost-effective energy-water efficiency and supply
25 technologies to—

1 “(1) promote the sustainable use of water for
2 energy production activities, including—

3 “(A) developing less water-intensive elec-
4 tric generation sources; and

5 “(B) developing and implementing systems
6 analyses to balance energy and water demands;

7 “(2) facilitate the widespread commercialization
8 of newly developed energy-water efficiency and sup-
9 ply technologies for use in real-world applications,
10 including the conduct of an assessment of economic
11 factors relating to the introduction and adoption of
12 energy-water efficiency and supply technologies in
13 practical applications;

14 “(3) facilitate collaboration among Federal
15 agencies to provide for the integration of research
16 on, and disclosure of information relating to, energy-
17 water efficiency and supply technologies;

18 “(4) reclaim and improve access to previously
19 unusable and nontraditional water resources; and

20 “(5) increase the amount of water available for
21 human use.

22 “(e) OTHER AGREEMENTS.—The Secretary may
23 enter into any grant, contract, cooperative agreement,
24 interagency agreement, or other transaction, as the Sec-
25 retary determines to be necessary to carry out this section.

1 “(d) PROGRAM LEAD LABORATORIES.—

2 “(1) IN GENERAL.—The program shall be ear-
 3 ried out by Sandia National Laboratory, New Mex-
 4 ico, Oak Ridge National Laboratory, Tennessee, and
 5 Lawrence Livermore National Laboratory, Cali-
 6 fornia.

7 “(2) SELECTION OF UNIVERSITY PARTNERS.—

8 Each of the lead laboratories, in consultation with
 9 the Advisory Panel, shall select at least 1 university
 10 partner to assist in carrying out the program.

11 “(e) WATER SUPPLY TECHNOLOGY ASSESSMENT.—

12 “(1) ASSESSMENT DUTIES.—In consultation
 13 with the Secretary of Agriculture, the Administrator
 14 of the Environmental Protection Agency, the Sec-
 15 retary of Defense, the Administrator of the National
 16 Aeronautics and Space Administration, the Director
 17 of the National Science Foundation, the Secretary of
 18 the Interior, and other appropriate Federal agencies,
 19 the Secretary, acting through the lead laboratories,
 20 shall—

21 “(A) assess energy-water efficiency and
 22 supply technology research being performed;

23 “(B) assess the annual amount of Federal
 24 funding levels and authorizations for energy-
 25 water efficiency and supply technology research;

1 “(C) assess the scope of the energy-water
2 efficiency and supply technology research per-
3 formed by other agencies;

4 “(D) assess whether and to what extent
5 Federal energy-water efficiency and supply
6 technology research is duplicative;

7 “(E) identify energy-water efficiency and
8 supply technology research and development
9 priorities; and

10 “(F) develop a technology roadmap to
11 identify critical energy-water efficiency and sup-
12 ply technology research, development, dem-
13 onstration and commercialization activities to
14 guide program activities.

15 “(2) REPORT.—Not later than 2 years after the
16 date of enactment of this section, the Secretary, act-
17 ing through the lead laboratories, shall submit to the
18 Committee on Energy and Natural Resources of the
19 Senate, the Committee on Resources of the House of
20 Representatives, and the Committee on Energy and
21 Commerce of the House of Representatives a de-
22 tailed report on the assessment conducted under
23 paragraph (1).

24 “(f) ADVISORY PANEL.—

1 “(1) ~~IN GENERAL.~~—The Secretary shall estab-
 2 lish an advisory panel, to be known as the ‘Energy-
 3 Water Efficiency and Supply Technology Advisory
 4 Panel’, to advise the Secretary on the activities car-
 5 ried out under this section.

6 “(2) ~~MEMBERSHIP.~~—Members of the Advisory
 7 Panel shall—

8 “(A) have expertise in—

9 “(i) energy-water efficiency and sup-
 10 ply technology; or

11 “(ii) legal or regulatory issues associ-
 12 ated with adopting energy-water efficiency
 13 and supply technologies in real-world appli-
 14 cations; and

15 “(B) be representative of institutions of
 16 higher education, industry, State and local gov-
 17 ernments, international energy-water efficiency
 18 and supply technology institutions, Federal
 19 agencies, and nongovernmental organizations.

20 “(3) ~~DUTIES.~~—The Advisory Panel shall—

21 “(A) periodically assess the performance of
 22 energy-water efficiency and supply technology
 23 research being carried out under this section;

24 “(B) advise the Secretary on research pri-
 25 orities to be carried out under this section;

1 “(C) make recommendations to the Sec-
2 retary for awarding research grants and dem-
3 onstration project grants; and

4 “(D) identify legal, policy, or regulatory
5 barriers to implementing energy-water efficiency
6 and supply technologies in real-world applica-
7 tions.

8 “(g) PROGRAM GRANTS.—

9 “(1) IN GENERAL.—The Secretary shall provide
10 competitive grants to entities with expertise in the
11 conduct of energy-water efficiency and supply tech-
12 nology research, development, and demonstration
13 projects.

14 “(2) REQUIREMENTS.—The grants under para-
15 graph (1) shall be provided—

16 “(A) in consultation with the Advisory
17 Panel;

18 “(B) in coordination with the research, de-
19 velopment, demonstration, and commercializa-
20 tion activities conducted by the lead labora-
21 tories; and

22 “(C) consistent with the technology road-
23 map developed under subsection (e)(1)(F).

24 “(3) LIMITATION.—Of amounts made available
25 for grants under subsection (j)(2)(C), not more than

1 25 percent shall be provided to National Labora-
2 tories and Federal agencies.

3 “(4) CRITERIA.—The Secretary shall establish
4 criteria for the submission and review of grant appli-
5 cations and the provision of grants under paragraph
6 (1).

7 “(h) PROGRAM REVIEW.—

8 “(1) IN GENERAL.—The Secretary shall enter
9 into an arrangement with the National Academy of
10 Sciences to conduct periodic peer reviews of the pro-
11 gram.

12 “(2) REQUIREMENTS.—In conducting a review
13 under paragraph (1), the National Academy of
14 Sciences shall—

15 “(A) review the technology roadmap, tech-
16 nical milestones, and plans for technology
17 transfer developed under the program; and

18 “(B) assess the progress of the program in
19 achieving the technical milestones and plans for
20 technology transfer.

21 “(i) REPORT TO CONGRESS.—Not later than 3 years
22 after the date of enactment of this section and each year
23 thereafter, the Secretary shall submit to the Committee
24 on Energy and Natural Resources of the Senate, the Com-
25 mittee on Resources of the House of Representatives, and

1 the Committee on Energy and Commerce of the House
2 of Representatives a report that describes the activities
3 carried out under this section, including the activities car-
4 ried out under subsection (f)(3)(D).

5 “(j) AUTHORIZATION OF APPROPRIATIONS.—

6 “(1) IN GENERAL.—There are authorized to be
7 appropriated to the Secretary to carry out this sec-
8 tion, including the completion of the roadmap under
9 subsection (e)(1)(F)—

10 “(A) \$5,000,000 for fiscal year 2006; and

11 “(B) such sums as are necessary for each
12 fiscal year thereafter.

13 “(2) ALLOCATION.—Of amounts made available
14 under paragraph (1) for fiscal year 2007 and each
15 fiscal year thereafter—

16 “(A) at least 30 percent shall be distrib-
17 uted equally between the lead laboratories for
18 the conduct of activities under the program;

19 “(B) at least 10 percent shall be provided
20 to the lead laboratories to carry out subsection
21 (b)(2);

22 “(C) at least 40 percent shall be made
23 available for program grants under subsection
24 (g)(1); and

1 “(D) not more than 15 percent shall be
 2 used to pay the administrative costs of carrying
 3 out the program, including costs to support the
 4 activities of the Advisory Panel.”.

5 **SECTION 1. SHORT TITLE.**

6 *This Act may be cited as the “Water Supply Tech-*
 7 *nology Program Act of 2005”.*

8 **SEC. 2. DEFINITIONS.**

9 *In this Act:*

10 (1) *ADVISORY PANEL.*—*The term “Advisory*
 11 *Panel” means the Water Supply Technology Advisory*
 12 *Panel established under section 3(d).*

13 (2) *PROGRAM.*—*The term “program” means the*
 14 *water supply technology research, development, dem-*
 15 *onstration, and commercial application program es-*
 16 *tablished under section 3(a).*

17 (3) *SECRETARY.*—*The term “Secretary” means*
 18 *the Secretary of Energy.*

19 (4) *WATER AGENCY.*—*The term “water agency”*
 20 *means any State, instrumentality of a State, munici-*
 21 *pality, political subdivision, authority, utility, dis-*
 22 *trict, association, or other entity that provides water*
 23 *for public use.*

24 (5) *WATER SUPPLY TECHNOLOGY.*—*The term*
 25 *“water supply technology” means—*

- 1 (A) technologies for—
- 2 (i) desalination and associated con-
- 3 centrate disposal;
- 4 (ii) water reuse and recycling;
- 5 (iii) removing contaminants from
- 6 water, including impaired water produced
- 7 as a result of energy production activities;
- 8 (iv) reducing the amount of energy re-
- 9 quired to provide adequate water supplies;
- 10 (v) water use efficiency and conserva-
- 11 tion; and
- 12 (vi) water monitoring and systems
- 13 analysis; and
- 14 (B) any other technologies identified by the
- 15 Secretary as appropriate to carry out the pro-
- 16 gram.

17 **SEC. 3. WATER SUPPLY TECHNOLOGY RESEARCH, DEVELOP-**

18 **MENT, DEMONSTRATION, AND COMMERCIAL**

19 **APPLICATION PROGRAM.**

20 (a) *ESTABLISHMENT.*—In accordance with this Act,

21 the Secretary shall establish a national program for the re-

22 search, development, demonstration, and commercial appli-

23 cation of economically viable and cost-effective water supply

24 technologies to—

1 (1) *increase the amount of water available for*
2 *human use;*

3 (2) *facilitate the widespread commercialization*
4 *of newly developed water supply technologies for use*
5 *in real-world applications, including the conduct of*
6 *an assessment of economic and other market-related*
7 *factors relating to the introduction and adoption of*
8 *water supply technologies in practical applications;*

9 (3) *facilitate collaboration among Federal agen-*
10 *cies to provide for the integration of research on, and*
11 *the development, demonstration, and commercial ap-*
12 *plication of, water supply technologies; and*

13 (4) *reclaim and improve access to previously un-*
14 *usable and nontraditional water resources.*

15 (b) *OTHER AGREEMENTS.*—*The Secretary may enter*
16 *into any grant, contract, cooperative agreement, inter-*
17 *agency agreement, or other transaction, as the Secretary de-*
18 *termines to be necessary to carry out this Act.*

19 (c) *PROGRAM LEAD LABORATORY.*—

20 (1) *IN GENERAL.*—*The Secretary shall designate*
21 *1 or more lead National Laboratories to carry out*
22 *water supply technology research, development, dem-*
23 *onstration, and commercial application activities*
24 *under the program.*

1 (2) *CONSIDERATIONS.*—*In determining the num-*
2 *ber of lead laboratories to designate under paragraph*
3 *(1), the Secretary shall consider the amount of appro-*
4 *propriations available to carry out the program.*

5 (3) *SELECTION OF UNIVERSITY AND WATER*
6 *AGENCY PARTNERS.*—*Each lead laboratory designated*
7 *under paragraph (1), in consultation with the Advi-*
8 *sory Panel, shall select at least 1 university partner*
9 *and at least 1 water agency partner to assist the lead*
10 *laboratory in carrying out the program.*

11 (d) *ADVISORY PANEL.*—

12 (1) *IN GENERAL.*—*The Secretary shall establish*
13 *an advisory panel, to be known as the “Water Supply*
14 *Technology Advisory Panel”, to advise the Secretary*
15 *on the activities carried out under this Act.*

16 (2) *MEMBERSHIP.*—*Members of the Advisory*
17 *Panel shall—*

18 (A) *have expertise in—*

19 (i) *water supply technology; or*

20 (ii) *legal or regulatory issues associ-*
21 *ated with adopting water supply tech-*
22 *nologies in real-world applications; and*

23 (B) *be representative of institutions of high-*
24 *er education, industry, State and local govern-*
25 *ments, international water supply technology in-*

1 *stitutions, Federal agencies, and nongovern-*
2 *mental organizations.*

3 (3) *DUTIES.—The Advisory Panel shall—*

4 (A) *periodically assess the performance of*
5 *water supply technology research, development,*
6 *demonstration, and commercial application ac-*
7 *tivities being carried out under this Act;*

8 (B) *advise the Secretary on research prior-*
9 *ities to be carried out under this Act;*

10 (C) *make recommendations to the Secretary*
11 *for awarding research grants and demonstration*
12 *project grants; and*

13 (D) *identify legal, policy, or regulatory bar-*
14 *riers to implementing water supply technologies*
15 *in real-world applications.*

16 (e) *WATER SUPPLY TECHNOLOGY ASSESSMENT.—*

17 (1) *IN GENERAL.—In consultation with the Sec-*
18 *retary of Agriculture, the Administrator of the Envi-*
19 *ronmental Protection Agency, the Secretary of De-*
20 *fense, the Administrator of the National Aeronautics*
21 *and Space Administration, the Director of the Na-*
22 *tional Science Foundation, the Secretary of the Inte-*
23 *rior, the Director of the Office and Management and*
24 *Budget, the Director of the Office of Science and*

1 *Technology Policy, and the heads of other appropriate*
2 *Federal agencies, the Secretary, shall—*

3 *(A) assess the annual amount of Federal*
4 *funding levels and authorizations for water sup-*
5 *ply technology research;*

6 *(B) assess the scope of the water supply*
7 *technology research performed by other agencies;*
8 *and*

9 *(C) assess whether and to what extent Fed-*
10 *eral water supply technology research is duplica-*
11 *tive.*

12 (2) *TECHNOLOGY ROADMAP.—In consultation*
13 *with the Secretary of Agriculture, the Administrator*
14 *of the Environmental Protection Agency, the Sec-*
15 *retary of Defense, the Administrator of the National*
16 *Aeronautics and Space Administration, the Director*
17 *of the National Science Foundation, the Secretary of*
18 *the Interior, the Director of the Office of Science and*
19 *Technology Policy, the heads of other appropriate*
20 *Federal agencies, the Advisory Panel, any lead lab-*
21 *oratories designated under subsection (d)(1), the Sec-*
22 *retary, shall—*

23 *(A) assess any water supply technology re-*
24 *search being performed;*

1 (B) identify water supply technology re-
2 search and development priorities; and

3 (C) develop a technology roadmap to iden-
4 tify critical water supply technology research,
5 development, demonstration, and commercial ap-
6 plication activities to guide program activities.

7 (3) *REPORT.*—Not later than 18 months after the
8 date of enactment of this Act, the Secretary shall sub-
9 mit to the Committee on Energy and Natural Re-
10 sources of the Senate, the Committee on Resources of
11 the House of Representatives, and the Committee on
12 Energy and Commerce of the House of Representa-
13 tives a detailed report on—

14 (A) the assessments conducted under para-
15 graphs (1) and (2); and

16 (B) the technology roadmap developed
17 under paragraph (2)(C).

18 (f) *PROGRAM GRANTS.*—

19 (1) *IN GENERAL.*—The Secretary shall provide
20 competitive grants to entities with expertise in the
21 conduct of water supply technology research, develop-
22 ment, and demonstration projects.

23 (2) *REQUIREMENTS.*—The grants under para-
24 graph (1) shall be provided consistent with the tech-
25 nology roadmap developed under subsection (e)(2)(C).

1 (3) *LIMITATION.*—Of amounts made available
2 for grants under section 4(b)(2), not more than 25
3 percent shall be provided to National Laboratories
4 and Federal agencies.

5 (4) *CRITERIA.*—The Secretary shall establish cri-
6 teria for the submission and review of grant applica-
7 tions and the provision of grants under paragraph
8 (1).

9 (g) *PROGRAM REVIEW.*—

10 (1) *IN GENERAL.*—The Secretary shall establish
11 an independent third party review process to conduct
12 periodic peer reviews of the program.

13 (2) *REQUIREMENTS.*—In conducting a review
14 under paragraph (1), an independent third party re-
15 viewer shall—

16 (A) review the technology roadmap, tech-
17 nical milestones, and plans for commercial ap-
18 plication developed under the program; and

19 (B) assess the progress of the program in
20 achieving the technical milestones and plans for
21 commercial application.

22 (h) *REPORT TO CONGRESS.*—Not later than 3 years
23 after the date of enactment of this Act and each year there-
24 after, the Secretary shall submit to the Committee on En-
25 ergy and Natural Resources of the Senate, the Committee

1 *on Resources of the House of Representatives, and the Com-*
 2 *mittee on Energy and Commerce of the House of Represent-*
 3 *atives a report that describes the activities carried out*
 4 *under this Act, including the activities carried out under*
 5 *subsection (d)(3).*

6 (i) *COST-SHARING REQUIREMENT.—Any activities*
 7 *carried out under this Act shall be subject to section 988*
 8 *of the Energy Policy Act of 2005 (42 U.S.C. 16352).*

9 **SEC. 4. AUTHORIZATION OF APPROPRIATIONS.**

10 (a) *IN GENERAL.—There are authorized to be appro-*
 11 *priated to the Secretary to carry out this Act, including*
 12 *the completion of the roadmap under section 3(e)(2)(C)—*

13 (1) *\$5,000,000 for fiscal year 2006; and*

14 (2) *such sums as are necessary for each fiscal*
 15 *year thereafter.*

16 (b) *ALLOCATION.—Of amounts made available under*
 17 *subsection (a) for fiscal year 2007 and each fiscal year*
 18 *thereafter—*

19 (1) *not more than 25 percent shall be made*
 20 *available to the 1 or more lead laboratories designated*
 21 *under section 3(c)(1), to be distributed equally be-*
 22 *tween the lead laboratories if more than 1 lead lab-*
 23 *oratory is designated, for the conduct of activities*
 24 *under the program (including to carry out section*
 25 *3(a)(2));*

1 (2) *at least 60 percent shall be made available*
2 *for program grants under section 3(f), of which 20*
3 *percent, or as the Secretary determines to be appro-*
4 *priate, a higher percentage, shall be made available*
5 *for demonstration projects; and*

6 (3) *not more than 15 percent shall be used to*
7 *pay the administrative costs of carrying out the pro-*
8 *gram, including costs to support the activities of the*
9 *Advisory Panel.*

Calendar No. 316

109TH CONGRESS
1ST Session

S. 1860

[Report No. 109-198]

A BILL

To amend the Energy Policy Act of 2005 to improve energy production and reduce energy demand through improved use of reclaimed waters, and for other purposes.

DECEMBER 8, 2005

Reported with an amendment