

110TH CONGRESS  
1ST SESSION

# S. 962

To amend the Energy Policy Act of 2005 to reauthorize and improve the carbon capture and storage research, development, and demonstration program of the Department of Energy and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

MARCH 22, 2007

Mr. BINGAMAN (for himself, Mr. DOMENICI, Mr. TESTER, Mr. BUNNING, Mr. SALAZAR, Mr. OBAMA, and Mr. WEBB) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

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## A BILL

To amend the Energy Policy Act of 2005 to reauthorize and improve the carbon capture and storage research, development, and demonstration program of the Department of Energy and for other purposes.

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

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Department of Energy  
5 Carbon Capture and Storage Research, Development, and  
6 Demonstration Act of 2007”.

1 **SEC. 2. CARBON CAPTURE AND STORAGE RESEARCH, DE-**  
2 **VELOPMENT, AND DEMONSTRATION PRO-**  
3 **GRAM.**

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

6 (1) in the section heading, by striking “**RE-**  
7 **SEARCH AND DEVELOPMENT**” and inserting  
8 **“AND STORAGE RESEARCH, DEVELOPMENT,**  
9 **AND DEMONSTRATION”**;

10 (2) in subsection (a)—

11 (A) by striking “research and develop-  
12 ment” and inserting “and storage research, de-  
13 velopment, and demonstration”; and

14 (B) by striking “capture technologies on  
15 combustion-based systems” and inserting “cap-  
16 ture and storage technologies related to energy  
17 systems”;

18 (3) in subsection (b)—

19 (A) in paragraph (3), by striking “and” at  
20 the end;

21 (B) in paragraph (4), by striking the pe-  
22 riod at the end and inserting “; and”; and

23 (C) by adding at the end the following:

24 “(5) to expedite and carry out large-scale test-  
25 ing of carbon sequestration systems in a range of ge-  
26 ological formations that will provide information on

1 the cost and feasibility of deployment of sequestra-  
2 tion technologies.”; and

3 (4) by striking subsection (c) and inserting the  
4 following:

5 “(c) PROGRAMMATIC ACTIVITIES.—

6 “(1) ENERGY RESEARCH AND DEVELOPMENT  
7 UNDERLYING CARBON CAPTURE AND STORAGE  
8 TECHNOLOGIES.—

9 “(A) IN GENERAL.—The Secretary shall  
10 carry out fundamental science and engineering  
11 research (including laboratory-scale experi-  
12 ments, numeric modeling, and simulations) to  
13 develop and document the performance of new  
14 approaches to capture and store carbon dioxide.

15 “(B) PROGRAM INTEGRATION.—The Sec-  
16 retary shall ensure that fundamental research  
17 carried out under this paragraph is appro-  
18 priately applied to energy technology develop-  
19 ment activities and the field testing of carbon  
20 sequestration activities, including—

21 “(i) development of new or improved  
22 technologies for the capture of carbon diox-  
23 ide;

1                   “(ii) modeling and simulation of geo-  
2                   logical sequestration field demonstrations;  
3                   and

4                   “(iii) quantitative assessment of risks  
5                   relating to specific field sites for testing of  
6                   sequestration technologies.

7                   “(2) FIELD VALIDATION TESTING ACTIVI-  
8                   TIES.—

9                   “(A) IN GENERAL.—The Secretary shall  
10                  promote, to the maximum extent practicable,  
11                  regional carbon sequestration partnerships to  
12                  conduct geologic sequestration tests involving  
13                  carbon dioxide injection and monitoring, mitiga-  
14                  tion, and verification operations in a variety of  
15                  candidate geological settings, including—

16                         “(i) operating oil and gas fields;

17                         “(ii) depleted oil and gas fields;

18                         “(iii) unmineable coal seams;

19                         “(iv) saline formations; and

20                         “(v) deep geologic systems that may  
21                  be used as engineered reservoirs to extract  
22                  economical quantities of heat from geo-  
23                  thermal resources of low permeability or  
24                  porosity.

1           “(B) OBJECTIVES.—The objectives of tests  
2 conducted under this paragraph shall be—

3           “(i) to develop and validate geo-  
4 physical tools, analysis, and modeling to  
5 monitor, predict, and verify carbon dioxide  
6 containment;

7           “(ii) to validate modeling of geological  
8 formations;

9           “(iii) to refine storage capacity esti-  
10 mated for particular geological formations;

11           “(iv) to determine the fate of carbon  
12 dioxide concurrent with and following in-  
13 jection into geological formations;

14           “(v) to develop and implement best  
15 practices for operations relating to, and  
16 monitoring of, injection and storage of car-  
17 bon dioxide in geologic formations;

18           “(vi) to assess and ensure the safety  
19 of operations related to geological storage  
20 of carbon dioxide; and

21           “(vii) to allow the Secretary to pro-  
22 mulgate policies, procedures, requirements,  
23 and guidance to ensure that the objectives  
24 of this subparagraph are met in large-scale  
25 testing and deployment activities for car-

1           bon capture and storage that are funded  
2           by the Department of Energy.

3           “(3) LARGE-SCALE TESTING AND DEPLOY-  
4           MENT.—

5           “(A) IN GENERAL.—The Secretary shall  
6           conduct not less than 7 initial large-volume se-  
7           questration tests for geological containment of  
8           carbon dioxide (at least 1 of which shall be  
9           international in scope) to validate information  
10          on the cost and feasibility of commercial deploy-  
11          ment of technologies for geological containment  
12          of carbon dioxide.

13          “(B) DIVERSITY OF FORMATIONS TO BE  
14          STUDIED.—In selecting formations for study  
15          under this paragraph, the Secretary shall con-  
16          sider a variety of geological formations across  
17          the United States, and require characterization  
18          and modeling of candidate formations, as deter-  
19          mined by the Secretary.

20          “(4) PREFERENCE IN PROJECT SELECTION  
21          FROM MERITORIOUS PROPOSALS.—In making com-  
22          petitive awards under this subsection, subject to the  
23          requirements of section 989, the Secretary shall give  
24          preference to proposals from partnerships among in-  
25          dustrial, academic, and government entities.

1           “(5) COST SHARING.—Activities under this sub-  
2           section shall be considered research and development  
3           activities that are subject to the cost-sharing re-  
4           quirements of section 988(b).

5           “(d) AUTHORIZATION OF APPROPRIATIONS.—There  
6           are authorized to be appropriated to carry out this sec-  
7           tion—

8           “(1) \$90,000,000 for fiscal year 2007;

9           “(2) \$105,000,000 for fiscal year 2008; and

10          “(3) \$120,000,000 for fiscal year 2009.”.

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