

109TH CONGRESS  
1ST SESSION

# S. 1091

To establish a Federal incentive program as part of a national gasification strategy to stimulate commercial deployment of integrated gasification combined cycle and industrial gasification technology.

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IN THE SENATE OF THE UNITED STATES

MAY 20, 2005

Mr. SALAZAR 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 establish a Federal incentive program as part of a national gasification strategy to stimulate commercial deployment of integrated gasification combined cycle and industrial gasification technology.

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 “National Gasification  
5       Strategy Act of 2005”.

6       **SEC. 2. PURPOSE.**

7       The purpose of this Act is to establish a Federal in-  
8       centive program as part of a national gasification strategy

1 to stimulate commercial deployment of integrated gasifi-  
2 cation combined cycle and industrial gasification tech-  
3 nology in order to—

4           (1) develop gasification as a gas supply option  
5 that provides the energy equivalent of  
6 1,500,000,000,000 cubic feet of natural gas;

7           (2) promote the use of domestic coal, biomass,  
8 petroleum coke, and other domestic fuel resources;

9           (3) reconcile coal use and environmental protec-  
10 tion;

11           (4) reduce the demand pressure on domestic  
12 natural gas prices and supply by promoting the use  
13 of gas derived from domestic coal and biomass and  
14 other domestic fuel resources for electric generation  
15 and industrial use;

16           (5) provide affordable and reliable electricity  
17 and gas supply;

18           (6) promote the position of the United States  
19 as a global leader in advanced gasification tech-  
20 nology and carbon capture and storage technology;  
21 and

22           (7) accomplish the goals described in para-  
23 graphs (1) through (6) while minimizing the burden  
24 on the Federal budget.

1 **SEC. 3. DEFINITIONS.**

2 In this Act:

3 (1) BIOMASS.—

4 (A) IN GENERAL.—The term “biomass”  
5 means—

6 (i) an animal, agricultural, or plant  
7 waste; and

8 (ii) forestry materials, including wood  
9 wastes, forest thinnings, and the residuals  
10 and byproducts of wood harvest or conver-  
11 sion.

12 (B) EXCLUSION.—The term “biomass”  
13 does not include paper that is commonly recy-  
14 cled.

15 (2) CARBON CAPTURE READY.—The term “car-  
16 bon capture ready” means, with respect to a project,  
17 having a design that is determined by the Secretary  
18 to be capable of accommodating the equipment likely  
19 to be necessary to capture the carbon dioxide that  
20 would otherwise be emitted in flue gas from the  
21 project.

22 (3) IGCC PROJECT.—The term “IGCC project”  
23 means an integrated gasification combined cycle  
24 project with respect to which, during the term of the  
25 loan guarantee under the program for the project or,

1 in the case of a grant, the useful life of the project,  
2 as determined by the Secretary—

3 (A) except as provided in section 4(c)(4),  
4 coal will account for at least 75 percent of an-  
5 nual heat input; and

6 (B) electricity will account for at least 75  
7 percent of annual useful energy output.

8 (4) INDUSTRIAL GASIFICATION PROJECT.—The  
9 term “industrial gasification project” means a  
10 project with respect to which, during the term of the  
11 loan guarantee under the program for the project or,  
12 in the case of a grant, the useful life of the project,  
13 as determined by the Secretary—

14 (A) coal, biomass, or petroleum residues,  
15 in any combination, may account for annual  
16 fuel heat input; and

17 (B) electricity will account for less than 75  
18 percent of annual useful energy output.

19 (5) NATURAL GAS COMBINED CYCLE POWER  
20 PLANT.—The term “natural gas combined cycle  
21 power plant” means a system that—

22 (A) comprises 1 or more combustion tur-  
23 bines, heat recovery steam generators, and  
24 steam turbines; and

1 (B) combusts at least 90 percent natural  
2 gas for the annual fuel heat input of the system  
3 for any year.

4 (6) PROGRAM.—The term “program” means  
5 the Federal incentive program established under sec-  
6 tion 4(a).

7 (7) PROJECT.—The term “project” means—

8 (A) any combination of equipment located  
9 at a specific site for an IGCC project or indus-  
10 trial gasification project that is used—

11 (i) to gasify coal, biomass, or petro-  
12 leum residues;

13 (ii) to remove pollutants from the re-  
14 sulting gas;

15 (iii) to use the resulting gas for indus-  
16 trial purposes or burn the resulting gas in  
17 a turbine to generate electricity; and

18 (iv) to remove pollutants from the re-  
19 sulting flue gas;

20 (B) a combined cycle power plant refueled  
21 using the equipment described in subparagraph  
22 (A) that is in existence on the date of enact-  
23 ment of this Act; or

1           (C) an industrial gasification project that  
2           uses the equipment described in subparagraph  
3           (A).

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

6           (9) TOTAL PLANT INVESTMENT.—The term  
7           “total plant investment” means, with respect to a  
8           project, the aggregate amount of—

9           (A) engineering, procurement, and con-  
10          struction costs;

11          (B) costs incurred by the owner of the  
12          project in developing and starting up the  
13          project;

14          (C) construction financing costs; and

15          (D) any contingency reserves.

16 **SEC. 4. FEDERAL INCENTIVE PROGRAM.**

17          (a) ESTABLISHMENT.—Not later than 1 year after  
18          the date of enactment of this Act, the Secretary shall es-  
19          tablish a Federal incentive program under which the Sec-  
20          retary shall provide loan guarantees and grants for  
21          projects selected in accordance with this Act.

22          (b) ELIGIBLE PROJECTS.—The owner of a proposed  
23          project that seeks to receive a loan guarantee or grant for  
24          a project under the program shall submit to the Secretary,  
25          in accordance with such procedures as the Secretary shall

1 establish by regulation, an application that demonstrates  
2 that the project—

3 (1) if the proposed project is an IGCC project,  
4 will be—

5 (A) a new power plant;

6 (B) a repowering of an existing coal-fired  
7 power plant; or

8 (C) a refueling of an existing natural gas  
9 combined cycle power plant;

10 (2) will comply with enforceable emission limita-  
11 tion requirements, in addition to any other applica-  
12 ble Federal or State emission limitation require-  
13 ments, that the project attain at least—

14 (A) total sulfur dioxide emissions in flue  
15 gas from the project that do not exceed 0.04 lb/  
16 mmBtu;

17 (B) a 95-percent removal rate (including  
18 any fuel pretreatment) of mercury from the  
19 coal-derived gas, and any other fuel, combusted  
20 by the project;

21 (C) total nitrogen oxide emissions in the  
22 flue gas from the project that do not exceed  
23 0.05 lb/mmBtu; and

1 (D) total particulate emissions in the flue  
2 gas from the project that do not exceed 0.01 lb/  
3 mmBtu;

4 (3) will be carbon capture ready;

5 (4) in the case of an application for a loan  
6 guarantee, will have an assured revenue stream and  
7 other credit enhancements that provide credit and  
8 Federal budget scoring that is acceptable to the Sec-  
9 retary and the Office of Management and Budget  
10 (in accordance with the purpose and goals described  
11 in section 2); and

12 (5) has obtained—

13 (A) approval by the appropriate regulatory  
14 commission of the recovery of the cost of the  
15 project; or

16 (B) a power purchase agreement, or a let-  
17 ter of intent relating to such an agreement,  
18 that has been approved by the board of direc-  
19 tors or appropriate oversight authority of, and  
20 executed by, a creditworthy purchasing party,  
21 as determined by the Secretary.

22 (c) SELECTION OF PROJECTS.—

23 (1) IN GENERAL.—The Secretary shall—

24 (A) establish, by regulation, review and ap-  
25 proval criteria and procedures for selecting a

1 proposed project to receive a loan guarantee or  
2 grant under the program; and

3 (B) select projects for receipt of loan guar-  
4 antees and grants in accordance with those cri-  
5 teria.

6 (2) DIVERSITY.—In applying the review and  
7 approval criteria to each proposed project, the Sec-  
8 retary shall ensure, to the maximum extent prac-  
9 ticable, that the portfolio of projects for which loan  
10 guarantees or grants are provided under the pro-  
11 gram will result in—

12 (A) gasification of a diversity of coal types  
13 (including subbituminous coal) and other fuel  
14 types; and

15 (B) a geographic diversity of projects.

16 (3) LIMITATION.—The Secretary shall issue a  
17 loan guarantee for a proposed project only if the  
18 loan guarantee for the project under the program  
19 has a budget score under the Federal Credit Reform  
20 Act of 1990 (2 U.S.C. 661 et seq.) that, as deter-  
21 mined by the Office of Management and Budget,  
22 does not exceed the product obtained by multi-  
23 plying—

24 (A) an amount equal to the total plant in-  
25 vestment in the project; and

1 (B) such percentage level for budget scor-  
2 ing as shall be established by the Office of  
3 Management and Budget in accordance with  
4 the purpose of this Act.

5 (4) CERTAIN IGCC PROJECTS.—The Secretary  
6 may select under this subsection not more than 2  
7 IGCC projects with respect to which, during the  
8 term of the loan guarantee under the program for  
9 the project or, in the case of a grant, the useful life  
10 of the project, as determined by the Secretary, bio-  
11 mass or petroleum residues may account for at least  
12 75 percent of annual heat input.

13 (d) COMMENCEMENT OF CONSTRUCTION.—The Sec-  
14 retary shall require construction on a project for which  
15 a loan guarantee or grant is provided under the program  
16 to commence not later than the date that is 3 years after  
17 the date of issuance of the loan guarantee or grant.

18 (e) PROVISION OF LOAN GUARANTEES AND  
19 GRANTS.—

20 (1) LOAN GUARANTEES.—Each loan guarantee  
21 provided for a project under the program shall—

22 (A) cover up to 80 percent of the total  
23 plant investment in a project selected under  
24 subsection (c), on the conditions that—

1 (i) the owner of the project provides  
2 equity investment in the project of at least  
3 20 percent of the total plant investment;  
4 and

5 (ii) for purposes of applying the per-  
6 centage requirements under clause (i), the  
7 amount of the total plant investment shall  
8 be reduced by the dollar amount of any  
9 Federal grant provided for the project  
10 under the program;

11 (B) apply to the long-term debt obligations  
12 for the project, which obligations—

13 (i) may, at the discretion of the Sec-  
14 retary, be nonrecourse obligations; and

15 (ii) shall have a term of up to 30  
16 years; and

17 (C) be backed by the full faith and credit  
18 of the United States.

19 (2) GRANTS.—

20 (A) IN GENERAL.—Each Federal grant  
21 provided for a project under the program  
22 shall—

23 (i) be provided for a project only to  
24 the owner of the project, in whole or in  
25 part, that is a Federal, State, or local gov-

1           ernmental entity or rural electric coopera-  
2           tive; and

3                   (ii) cover not more than 20 percent of  
4           the portion of total plant investment con-  
5           tributed by the Federal, State, or local  
6           governmental entity or rural electric coop-  
7           erative for the project.

8           (B) EXCEPTION.—The limitation described  
9           in subparagraph (A)(ii) shall not apply to any  
10          portion of investment or operating costs relat-  
11          ing to the capture and storage of carbon diox-  
12          ide.

13          (3) LIMITATIONS.—The Secretary may provide,  
14          or certify an eligible project to receive, loan guaran-  
15          tees or grants for a project if the aggregate scored  
16          value (as determined by the Office of Management  
17          and Budget) of incentives made available to IGCC  
18          projects and industrial gasification projects does not  
19          exceed—

20                   (A) \$200,000,000 for each project receiv-  
21                  ing incentives under this title; and

22                   (B) 20 percent of the total plant invest-  
23                  ment of each project receiving incentives under  
24                  this title.

1 (f) REGULATIONS.—Not later than 1 year after the  
2 date of enactment of this Act, the Secretary shall issue  
3 regulations to carry out the program, including, at the dis-  
4 cretion of the Secretary, regulations that establish—

5 (1) conditions for the disbursement of funds for  
6 loan guarantees or grants provided under the pro-  
7 gram;

8 (2) procedures and requirements for monitoring  
9 and reporting the status of projects, or of research,  
10 development, demonstration, or commercial deploy-  
11 ment under projects, for which loan guarantees or  
12 grants are provided under the program;

13 (3) procedures for taking actions to restrict the  
14 impact on the Federal budget in the event of fore-  
15 closure of a project provided a loan guarantee or  
16 grant under the program; and

17 (4) application, insurance, and other fees, in-  
18 cluding schedules for the payment or collection of  
19 the fees, to cover administrative costs incurred, and  
20 the burden placed on the Federal budget, in carrying  
21 out the program.

22 (g) AUTHORIZATION OF APPROPRIATIONS.—

23 (1) CARBON CAPTURE AND DEMONSTRATION  
24 PROJECTS.—

1 (A) IN GENERAL.—Subject to subpara-  
2 graph (B), there is authorized to be appro-  
3 priated for providing loan guarantees or grants  
4 for projects involving the capture or storage of  
5 carbon dioxide under the program—

6 (i) \$250,000,000 for fiscal year 2006;

7 (ii) \$150,000,000 for each of fiscal  
8 years 2007 through 2009; and

9 (iii) \$100,000,000 for each of fiscal  
10 years 2010 through 2012.

11 (B) SPECIFIC PROJECTS.—Of each amount  
12 made available under subparagraph (A) for a  
13 fiscal year—

14 (i)  $\frac{1}{3}$  of the amount shall be used for  
15 providing loan guarantees or grants for  
16 projects involving research, development,  
17 and demonstration of technology for—

18 (I) the capture and storage of  
19 carbon dioxide;

20 (II) biomass gasification; or

21 (III) gasification of subbitu-  
22 minous or lignite coals; and

23 (ii)  $\frac{2}{3}$  of the amount shall be used for  
24 providing loan guarantees or grants to  
25 support the commercial deployment of

1           technology for capture and storage of car-  
2           bon dioxide from projects for which loan  
3           guarantees or grants are provided under  
4           the program.

5           (2) IGCC AND INDUSTRIAL GASIFICATION  
6 PROJECTS.—

7           (A) AUTHORIZATION OF APPROPRIA-  
8 TIONS.—Subject to subparagraph (B), there is  
9 authorized to be appropriated for providing loan  
10 guarantees or grants for IGCC projects and in-  
11 dustrial gasification projects under the pro-  
12 gram—

13                   (i) \$500,000,000 for fiscal year 2006;

14                   (ii) \$300,000,000 for each of fiscal  
15 years 2007 through 2009; and

16                   (iii) \$200,000,000 for each of fiscal  
17 years 2010 through 2012.

18           (B) SPECIFIC PROJECTS.—Of each amount  
19 made available under subparagraph (A) for a  
20 fiscal year—

21                   (i) not more than 50 percent shall be  
22 used for providing loan guarantees for in-  
23 dustrial gasification projects; and

1 (ii) the remaining amount shall be  
2 used for providing loan guarantees or  
3 grants for IGCC projects, of which—

4 (I) at least  $\frac{1}{3}$  of the amount  
5 shall be used for providing loan guar-  
6 antees or grants for IGCC projects  
7 that involve existing natural gas com-  
8 bined cycle power plants refueled  
9 using gasification of coal, biomass, or  
10 petroleum residues; and

11 (II) not more than \$30,000,000  
12 may be used for providing Federal  
13 grants for IGCC projects.

14 **SEC. 5. INTEGRATED WESTERN COAL/HIGH ALTITUDE CAR-**  
15 **BON MINIMIZATION-SEQUESTRATION EN-**  
16 **ERGY SYSTEM.**

17 (a) IN GENERAL.—Subject to the availability of ap-  
18 propriations, the Secretary shall provide financial assist-  
19 ance (including grants and loan guarantees) for a project  
20 to produce energy from coal mined in the western United  
21 States using appropriate advanced integrated gasification  
22 combined cycle technology, including repowering of exist-  
23 ing facilities, that minimizes and offers the potential to  
24 sequester carbon dioxide emissions.

25 (b) SPECIFICATIONS.—The project—

1           (1) may be built in stages;

2           (2) shall have a combined output of at least  
3    100 megawatts;

4           (3) shall be located in a western State at an al-  
5    titude greater than 4,000 feet; and

6           (4) shall use coal with an energy content of not  
7    more than 9,000 Btu/lb.

8           (c) FEDERAL SHARE.—The Federal share of the cost  
9    of the project shall not exceed 50 percent.

10          (d) TECHNICAL CRITERIA.—Technical criteria for a  
11   project under a clean coal power initiative carried out by  
12   the Secretary shall apply to the construction of the  
13   project.

14          (e) FEES.—The Secretary may establish by regula-  
15   tion application, insurance, and other fees, including  
16   schedules for the payment or collection of the fees, to cover  
17   administrative costs incurred, and the burden placed on  
18   the Federal budget, in carrying out this section.

○