

107TH CONGRESS  
1ST SESSION

# S. 1781

To direct the Secretary of Commerce to establish a voluntary national registry system for greenhouse gases trading among industry, to make changes to United States Global Change Research Program, and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

DECEMBER 6, 2001

Mr. MCCAIN (for himself and Mr. BROWNBACK) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

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## A BILL

To direct the Secretary of Commerce to establish a voluntary national registry system for greenhouse gases trading among industry, to make changes to United States Global Change Research Program, 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 “Emission Reductions  
5 Incentive Act of 2001”.

6 **SEC. 2. TABLE OF CONTENTS.**

7 The table of contents of this Act is as follows:

Sec. 1. Short title.  
 Sec. 2. Table of contents.  
 Sec. 3. Findings.

TITLE I—MARKET-BASED INITIATIVES.

Sec. 101. Market-based initiatives.  
 Sec. 102. Implementing panel.  
 Sec. 103. Definitions.

TITLE II—FEDERAL INITIATIVES

Sec. 201. United States global change research program.  
 Sec. 202. Federal initiatives.

1 **SEC. 3. FINDINGS.**

2 The Congress finds the following:

3 (1) Based upon recent scientific assessments,  
 4 the global average surface temperature has increased  
 5 over the 20th century by about 0.6 degree Celsius.

6 (2) Based upon recent scientific assessments,  
 7 emissions of greenhouse gases and aerosols due to  
 8 human activities continue to alter the atmosphere in  
 9 ways that are expected to affect the climate.

10 (3) Climate change is a problem with unique  
 11 characteristics. It is a global, long term and involves  
 12 complex interactions between climatic, environ-  
 13 mental, economic, political, institutional, social, and  
 14 technological processes.

15 (4) There is no single path to a low emission  
 16 future and countries and regions will have to choose  
 17 their own path.

18 (5) The effectiveness of climate change mitiga-  
 19 tion can be enhanced when climate policies are inte-

1       grated with the non-climate objectives of national  
2       and sectoral policy development and be turned into  
3       broad transition strategies to achieve the long-term  
4       social and technological changes required by both  
5       sustainable development and climate change mitiga-  
6       tion.

7               (6) Co-coordinated actions among countries and  
8       sectors may help to reduce mitigation cost, address  
9       comprehensiveness concerns, potential conflicts with  
10      international trade rules, and carbon leakage.

11              (7) Further research is required to strengthen  
12      future assessments and to reduce uncertainties as  
13      far as possible in order that sufficient information is  
14      available for policy making about responses to cli-  
15      mate change, including research in developing coun-  
16      tries.

17              (8) The ability of humans to adapt to and cope  
18      with climate change depends on such factors as  
19      wealth, technology, education, information, skills, in-  
20      frastructure, access to resources, and management  
21      capabilities.

22              (9) The effects of climate change are expected  
23      to be greatest in developing countries in terms of  
24      loss of life and relative effects on investment and  
25      economy. Most less developed regions are especially

1 vulnerable because a larger share of their economies  
2 are in climate-sensitive sectors and their adaptive ca-  
3 pability is low due to low levels of human, financial,  
4 and natural resources, as well as limited institutional  
5 and technological capability.

6 (10) Improvements of systems and methods for  
7 long-term monitoring and understanding the con-  
8 sequences of climate change and other stresses on  
9 human and natural systems are important elements  
10 in the Nation's ability to resolve climate change  
11 problems.

## 12 **TITLE I—MARKET-BASED** 13 **INITIATIVES**

### 14 **SEC. 101. MARKET-BASED INITIATIVES.**

15 (a) ESTABLISHMENT OF REGISTRY FOR VOLUNTARY  
16 TRADING SYSTEMS.—The Secretary of Commerce,  
17 through the Undersecretary for Technology, shall establish  
18 a national voluntary registry system for greenhouse gas  
19 trading among industry under which emission reductions  
20 are assigned unique identifying numerical codes by the  
21 registry. Participation in the registry shall be voluntary.  
22 Any entity conducting business in the United States may  
23 register its emission results, including emissions generated  
24 outside of the United States, on an entity wide basis with  
25 the registry, and may utilize the services of the registry.

1 (b) PURPOSES.—The purposes of the national reg-  
2 istry are—

3 (1) to encourage voluntary actions to reduce  
4 greenhouse gas emissions and increase energy effi-  
5 ciency;

6 (2) to enable participating entities to record vol-  
7 untary greenhouse gas emissions reductions; in a  
8 consistent format that is supported by a third party  
9 verification;

10 (3) to encourage participants involved in exist-  
11 ing partnerships to be able to trade emissions reduc-  
12 tions among partnerships;

13 (4) to further recognize, publicize, and promote  
14 registrants making voluntary reductions;

15 (5) to recruit more participants in the program;  
16 and

17 (6) to help various entities in the nation estab-  
18 lish emissions baselines.

19 (c) FUNCTIONS.—The national registry shall carry  
20 out the following functions:

21 (1) REFERRALS.—Provide referrals to approved  
22 providers for advice on—

23 (A) designing programs to establish emis-  
24 sions baselines and to monitor and track green-  
25 house gas emissions; and

1 (B) establishing emissions reduction goals  
2 based on international best practices for specific  
3 industries and economic sectors.

4 (2) UNIFORM REPORTING FORMAT.—Adopt a  
5 uniform format for reporting emissions baselines  
6 and reductions established through the Director of  
7 the National Institute of Standards and Technology.

8 (3) RECORD MAINTENANCE.—Maintain a  
9 record of all emission baselines and reductions  
10 verified by qualified independent auditors.

11 (4) ENCOURAGE PARTICIPATION.—Encourage  
12 organizations from various sectors to monitor emis-  
13 sions, establish baselines and reduction targets, and  
14 implement efficiency improvement and renewable en-  
15 ergy programs to achieve those targets.

16 (5) PUBLIC AWARENESS.—Recognize, publicize,  
17 and promote participants that—

18 (A) commit to monitor their emissions and  
19 set reduction targets;

20 (B) establish emission baselines; and

21 (C) report on the amount of progress made  
22 on their annual emissions.

23 (d) TRANSFER OF REDUCTIONS.—The registry shall  
24 allow for the transfer of ownership of any reductions real-  
25 ized in accordance with the program.

1 (e) FUTURE CONSIDERATIONS.—Any reductions  
2 achieved under this program shall be credited against any  
3 future mandatory greenhouse gas reductions required by  
4 the government. Final approval of the amount and value  
5 of credits shall be determined by the agency responsible  
6 for the implementation of the mandatory greenhouse gas  
7 reduction program. The Secretary of Commerce shall by  
8 rule establish an appeals process, that may incorporate an  
9 arbitration option, for resolving any dispute arising out  
10 of such a determination made by that agency.

11 **SEC. 102. IMPLEMENTING PANEL.**

12 (a) ESTABLISHMENT.—There is established within  
13 the Department of Commerce an implementing panel.

14 (b) COMPOSITION.—The panel shall consist of—

15 (1) the Secretary of Commerce or the Sec-  
16 retary's designee, who shall serve as Chairperson;  
17 and

18 (2) 1 expert in the field of greenhouse gas emis-  
19 sions reduction, certification, or trading from each of  
20 the following agencies—

21 (A) the Department of Energy;

22 (B) the Environmental Protection Agency;

23 (C) the Department of Agriculture;

24 (D) the National Aeronautics and Space

25 Administration; and

1 (E) the Department of Commerce.

2 (c) EXPERTS AND CONSULTANTS.—Any member of  
3 the panel may secure the services of experts and consult-  
4 ants in accordance with the provisions of section 3109 of  
5 title 5, United States Code, for greenhouse gas reduction,  
6 certification, and trading experts in the private and non-  
7 profit sectors and may also utilize any grant, contract, co-  
8 operative agreement, or other arrangement authorized by  
9 law to carry out its activities under this subsection.

10 (d) DUTIES.—The panel shall—

11 (1) implement and oversee the implementation  
12 of this section;

13 (2) promulgate—

14 (A) standards for certification of registries  
15 and operation of certified registries; and

16 (B) standards for measurement,  
17 verification, and recording of greenhouse gas  
18 emissions and greenhouse gas emission reduc-  
19 tions by certified registries;

20 (3) maintain, and make available to the public,  
21 a list of certified registries; and

22 (4) issue rulemakings on standards for meas-  
23 uring, verifying, and recording greenhouse gas emis-  
24 sions and greenhouse gas emission reductions pro-  
25 posed to the panel by certified registries, through a

1 standard process of issuing a proposed rule, taking  
2 public comment for no less than 30 days, then final-  
3 izing regulations to implement this act, which will  
4 provide for recognizing new forms of acceptable  
5 greenhouse gas reduction certification procedures.

6 (e) CERTIFICATION AND OPERATION STANDARDS.—

7 The standards promulgated by the panel shall include—

8 (1) standards for ensuring that certified reg-  
9 istries do not have any conflicts of interest, including  
10 standards that prohibit a certified registry from—

11 (A) owning greenhouse gas emission reduc-  
12 tions recorded in any certified registry; or

13 (B) receiving compensation in the form of  
14 a commission where sources receive money for  
15 the total number of tons certified;

16 (2) standards for authorizing certified registries  
17 to enter into agreements with for-profit persons en-  
18 gaged in trading of greenhouse gas emission reduc-  
19 tions, subject to paragraph (1); and

20 (3) such other standards for certification of  
21 registries and operation of certified registries as the  
22 panel determines to be appropriate.

23 (f) MEASUREMENT, VERIFICATION, AND RECORDING  
24 STANDARDS.—The standards promulgated by the panel  
25 shall provide for, in the case of certified registries—

1           (1) ensuring that certified registries accurately  
2           measure, verify, and record greenhouse gas emis-  
3           sions and greenhouse gas emission reductions, tak-  
4           ing into account—

5                   (A) boundary issues such as leakage and  
6                   shifted utilization; and

7                   (B) such other factors as the panel deter-  
8                   mines to be appropriate;

9           (2) ensuring that—

10                   (A) certified registries do not double-count  
11                   greenhouse gas emission reductions; and

12                   (B) if greenhouse gas emission reductions  
13                   are recorded in more than 1 certified registry,  
14                   such double-recording is clearly indicated;

15           (3) determining the ownership of greenhouse  
16           gas emission reductions and recording and tracking  
17           the transfer of greenhouse gas emission reductions  
18           among entities (such as through assignment of serial  
19           numbers to greenhouse gas emission reductions);

20           (4) measuring the results of the use of carbon  
21           sequestration and carbon recapture technologies;

22           (5) measuring greenhouse gas emission reduc-  
23           tions resulting from improvements in—

24                   (A) power plants;

1 (B) automobiles (including types of pas-  
2 senger cars and light duty trucks produced in  
3 the same model year);

4 (C) carbon re-capture, storage and seques-  
5 tration, including organic sequestration and  
6 manufactured emissions injection, and or stor-  
7 age.

8 (D) other sources;

9 (6) measuring prevented greenhouse gas emis-  
10 sions through the rulemaking process and based on  
11 the latest scientific data, sampling, expert analysis  
12 related to measurement and projections for pre-  
13 vented greenhouse gas emissions in tons including—

14 (A) organic soil carbon sequestration prac-  
15 tices;

16 (B) forest preservation and re-forestation  
17 activities which adequately address the issues of  
18 permanence, leakage and verification; and

19 (7) such other measurement, verification, and  
20 recording standards as the panel determines to be  
21 appropriate.

22 (g) CERTIFICATION OF REGISTRIES.—A registrant  
23 that desires to be a certified registry shall submit to the  
24 panel an application that—

1           (1) demonstrates that the registrant meets each  
2 of the certification standards established by the  
3 panel under subsections (d) and (e); and

4           (2) meets such other requirements as the panel  
5 may establish.

6           (h) ANNUAL REPORT.—Within 1 year after the date  
7 of enactment of this Act and biennially thereafter, the  
8 panel shall report to the Congress on the status of the  
9 program established under this section. The report shall  
10 include an assessment of the level of participation in the  
11 program and amount of progress being made on emission  
12 reduction targets.

13 **SEC. 103. DEFINITIONS.**

14           In this title:

15           (1) GREENHOUSE GAS.—The term “greenhouse  
16 gas” includes—

17                   (A) carbon dioxide;

18                   (B) methane;

19                   (C) hydro fluorocarbons;

20                   (D) perfluorocarbons;

21                   (E) nitrous oxide; and

22                   (F) sulfur hexafluoride.

23           (2) BASELINE.—The term “baseline” means—

24                   (A) the greenhouse gas emissions, deter-  
25 mined on an entity-wide basis for the partici-

1            pant’s most recent previous 3-year annual aver-  
2            age of greenhouse gas emissions prior to the  
3            date of enactment of this Act; or

4            (B) if data is unavailable for that 3-year  
5            period, the greenhouse gas emissions as of Sep-  
6            tember 30, 2002, (or as close to that date as  
7            such emission levels can reasonably be deter-  
8            mined). In promulgating regulations under this  
9            title, the panel shall take into account green-  
10           house gas emission reductions or off-setting ac-  
11           tions taken by any entity before the date on  
12           which the registry is established.

13           (3) CERTIFIED REGISTRY.—The term “certified  
14           registry” means a registry that has been certified by  
15           the panel as meeting the standards promulgated  
16           under section 202(d) and (e).

17           (4) GREENHOUSE GAS EMISSIONS.—The term  
18           “greenhouse gas emissions” means the quantity of  
19           greenhouse gases emitted by a source during a pe-  
20           riod, measured in tons of greenhouse gases.

21           (5) GREENHOUSE GAS EMISSION REDUCTION.—  
22           The term “greenhouse gas emission reduction”  
23           means a quantity equal to the difference between—

24           (A) the greenhouse gas emissions of a  
25           source during a period; and

1 (B) the greenhouse gas emissions of the  
2 source during a baseline period of the same du-  
3 ration as determined by registries and entities  
4 defined as owners of emission sources.

5 (6) KYOTO PROTOCOL.—The term “Kyoto pro-  
6 tocol” means the Kyoto Protocol to the United Na-  
7 tions Framework Convention on Climate Change (in-  
8 cluding the Montreal Protocol to the Convention on  
9 Substances that Deplete the Ozone Layer).

10 (7) PANEL.—The term “panel” means the im-  
11 plementing panel established by section 202(a).

12 (8) REGISTRANT.—The term “registrant”  
13 means a private person that operates a database re-  
14 cording quantified and verified greenhouse gas emis-  
15 sions and emissions reductions of sources owned by  
16 other entities.

17 (9) SOURCE.—The term “source” means a  
18 source of greenhouse gas emissions.

## 19 **TITLE II—FEDERAL INITIATIVES**

### 20 **SEC. 201. UNITED STATES GLOBAL CHANGE RESEARCH** 21 **PROGRAM.**

22 (a) SUPPORT PERSONNEL.—Section 102(d) of that  
23 Act (15 U.S.C. 2932(d)) is amended to read as follows:

24 “(d) GLOBAL CHANGE RESEARCH PROGRAM SUP-  
25 PORT OFFICE.—

1           “(1) IN GENERAL.—There is within the Office  
2 of Science and Technology Policy a Global Change  
3 Research Program Support Office.

4           “(2) DIRECTOR.—The Office shall be headed by  
5 a Director who reports to the Director of the Office  
6 of Science and Technology Policy.

7           “(3) FUNCTIONS.—The Director shall—

8                 “(A) report to the Director of the Office of  
9 Science and Technology Policy;

10                “(B) provide administrative and technical  
11 support to the Chairperson of the Committee;  
12 and

13                “(C) review the innovation process and  
14 identify barriers to the transfer of climate  
15 change technologies.”.

16           (b) FUNCTIONS.—Section 102(e) of that Act (15  
17 U.S.C. 2932(e)) is amended—

18                (1) by striking “and” at the end of paragraph  
19 (6);

20                (2) by striking “programs.” in paragraph (7)  
21 and inserting “programs;”;

22                (3) by adding at the end the following new  
23 paragraphs:

1           “(8) coordinate with the Secretary of State to  
2 reach international agreements on climate change  
3 research; and

4           “(9) develop a plan for an experimental pro-  
5 gram for climate change research in a controlled en-  
6 vironment.”.

7       (c) STRATEGIC PLAN.—Section 104 of that Act (15  
8 U.S.C. 2934) is amended by adding at the end the fol-  
9 lowing:

10       “(g) STRATEGIC PLAN; REVISED IMPLEMENTATION  
11 PLAN.—The Chairman of the Council, through the Com-  
12 mittee, shall develop a strategic plan for the United States  
13 Global Change Research Program for the 10-year period  
14 beginning in 2002 and submit the plan to the Congress  
15 within 180 days after the date of enactment of the Emis-  
16 sion Reductions Incentive Act of 2001. The Chairman,  
17 through the Committee, shall also submit a revised imple-  
18 mentation plan under subsection (a).”.

19       (d) COMMITTEE GUIDANCE.—Section 105(a) of that  
20 Act (15 U.S.C. 2935(a)) is amended by adding at the end  
21 “The Committee shall also provide, as part of the annual  
22 request for appropriations of the Science and Technology  
23 Policy Institute at the National Science Foundation, an  
24 annual request for appropriations to cover any other fund-  
25 ing deemed necessary by the Committee to ensure a com-

1 prehensive research and development program is being ad-  
2 ministered by the government or to cover any research and  
3 development areas not being covered by any of the Federal  
4 agencies. For any research and development area not  
5 being covered by any of the agencies, the support office,  
6 through the Committee, shall determine the best means  
7 of conducting the research.”.

8 **SEC. 202. FEDERAL INITIATIVES.**

9 (a) SCHOLARSHIPS.—The Director of the National  
10 Science Foundation shall establish a scholarship program  
11 for post-secondary students studying global climate  
12 change, including capability in observation, analysis, mod-  
13 eling, paleoclimatology, consequences, and adaptation.

14 (b) VEHICLE PLAN.—The Assistant Secretary of  
15 Technology Policy at Department of Commerce shall de-  
16 velop a plan to accelerate the introduction of highly effi-  
17 cient, low-emission vehicles through government incentives  
18 and government purchasing power. The plan shall be co-  
19 ordinated through the Department’s Partnership for a  
20 New Generation of Vehicles. The plan shall be submitted  
21 to the Senate Committee on Commerce, Science, and  
22 Transportation and the House of Representatives Com-  
23 mittee on Science within 6 months after enactment of this  
24 Act.

1 (c) PARTNERSHIP FOR A NEW GENERATION VEHI-  
2 CLE (PNGV).—The Assistant Secretary for Technology  
3 shall work within the resources available to the Partner-  
4 ship for a New Generation of Vehicles to—

5 (1) refine the charter and goals of the Partner-  
6 ship for a New Generation of Vehicles to better re-  
7 flect the current societal needs and the ability of a  
8 cooperative, pre-competitive government-industry re-  
9 search and development program to address these  
10 needs successfully; and

11 (2) develop a detailed systems-modeling effort  
12 to quantify the fuel economy penalty associated with  
13 using different technologies to meet the emission re-  
14 quirements.

15 (d) TECHNOLOGY TRANSFER.—

16 (1) STUDY.—The Assistant Secretary of Tech-  
17 nology Policy at Department of Commerce shall con-  
18 duct a study of technology transfer barriers, best  
19 practices, and outcomes of technology transfer ac-  
20 tivities at Federal laboratories related to the licens-  
21 ing and commercialization of energy efficient tech-  
22 nologies. The study shall be submitted to the Senate  
23 Committee on Commerce, Science, and Transporta-  
24 tion and House Science Committee within 6  
25 months after the date of enactment of this Act. The

1 Assistant Secretary shall work with the existing  
2 interagency working group to address identified bar-  
3 riers.

4 (2) AGENCY REPORT TO INCLUDE INFORMA-  
5 TION ON TECHNOLOGY TRANSFER INCOME AND ROY-  
6 ALTIES.—Paragraph (2)(B) of section 11(f) of the  
7 Stevenson-Wydler Technology Innovation Act of  
8 1980 (15 U.S.C. 3710(f)) is amended—

9 (A) by striking “and” after the semicolon  
10 in clause (vi);

11 (B) by redesignating clause (vii) as clause  
12 (ix); and

13 (C) by inserting after clause (vi) the fol-  
14 lowing:

15 “(vii) the number of fully-executed li-  
16 censes which received royalty income in the  
17 preceding fiscal year for climate-change or  
18 energy-efficient technology;

19 “(viii) the total earned royalty income  
20 for climate-change or energy-efficient tech-  
21 nology; and”.

22 (3) INCREASED INCENTIVES FOR DEVELOP-  
23 MENT OF CLIMATE-CHANGE OR ENERGY-EFFICIENT  
24 TECHNOLOGY.—Section 14(a) of the Stevenson-

1 Wydler Technology Innovation Act of 1980 (15  
2 U.S.C. 3710c(a)) is amended—

3 (A) by striking “15 percent,” in paragraph  
4 (1)(A) and inserting “15 percent (25 percent  
5 for climate change-related technologies),”; and

6 (B) by inserting after “\$150,000” each  
7 place it appears in paragraph (3) “(\$250,000  
8 for climate change-related technologies)”.

9 (e) REPORT ON UNITED STATES IMPACT OF KYOTO  
10 PROTOCOL.—Within 6 months after the date of enactment  
11 of this Act, the Secretary of Commerce shall submit a re-  
12 port to the Senate Committee on Commerce, Science, and  
13 Transportation and the House Committee on Science on  
14 the effects that the Kyoto Protocol will have on—

15 (1) United States industry and its ability to  
16 compete globally;

17 (2) international cooperation on scientific re-  
18 search and development; and

19 (3) United States participation in international  
20 environmental climate change mitigation efforts and  
21 technology deployment.

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