

**§ 17256. University based research and development grant program**

**(a) Establishment**

The Secretary, in consultation with other appropriate agencies, shall establish a university based research and development program to study carbon capture and sequestration using the various types of coal.

**(b) Rural and agricultural institutions**

The Secretary shall give special consideration to rural or agricultural based institutions in areas that have regional sources of coal and that offer interdisciplinary programs in the area of environmental science to study carbon capture and sequestration.

**(c) Authorization of appropriations**

There are to be authorized to be appropriated \$10,000,000 to carry out this section.

(Pub. L. 110–140, title VII, § 708, Dec. 19, 2007, 121 Stat. 1710.)

EFFECTIVE DATE

Section effective on the date that is 1 day after Dec. 19, 2007, see section 1601 of Pub. L. 110–140, set out as a note under section 1824 of Title 2, The Congress.

PART B—CARBON CAPTURE AND SEQUESTRATION  
ASSESSMENT AND FRAMEWORK

**§ 17271. Carbon dioxide sequestration capacity assessment**

**(a) Definitions**

In this section—

**(1) Assessment**

The term “assessment” means the national assessment of onshore capacity for carbon dioxide completed under subsection (f).

**(2) Capacity**

The term “capacity” means the portion of a sequestration formation that can retain carbon dioxide in accordance with the requirements (including physical, geological, and economic requirements) established under the methodology developed under subsection (b).

**(3) Engineered hazard**

The term “engineered hazard” includes the location and completion history of any well that could affect potential sequestration.

**(4) Risk**

The term “risk” includes any risk posed by geomechanical, geochemical, hydrogeological, structural, and engineered hazards.

**(5) Secretary**

The term “Secretary” means the Secretary of the Interior, acting through the Director of the United States Geological Survey.

**(6) Sequestration formation**

The term “sequestration formation” means a deep saline formation, unmineable coal seam, or oil or gas reservoir that is capable of accommodating a volume of industrial carbon dioxide.

**(b) Methodology**

Not later than 1 year after December 19, 2007, the Secretary shall develop a methodology for

conducting an assessment under subsection (f), taking into consideration—

(1) the geographical extent of all potential sequestration formations in all States;

(2) the capacity of the potential sequestration formations;

(3) the injectivity of the potential sequestration formations;

(4) an estimate of potential volumes of oil and gas recoverable by injection and sequestration of industrial carbon dioxide in potential sequestration formations;

(5) the risk associated with the potential sequestration formations; and

(6) the work done to develop the Carbon Sequestration Atlas of the United States and Canada that was completed by the Department.

**(c) Coordination**

**(1) Federal coordination**

**(A) Consultation**

The Secretary shall consult with the Secretary of Energy and the Administrator of the Environmental Protection Agency on issues of data sharing, format, development of the methodology, and content of the assessment required under this section to ensure the maximum usefulness and success of the assessment.

**(B) Cooperation**

The Secretary of Energy and the Administrator shall cooperate with the Secretary to ensure, to the maximum extent practicable, the usefulness and success of the assessment.

**(2) State coordination**

The Secretary shall consult with State geological surveys and other relevant entities to ensure, to the maximum extent practicable, the usefulness and success of the assessment.

**(d) External review and publication**

On completion of the methodology under subsection (b), the Secretary shall—

(1) publish the methodology and solicit comments from the public and the heads of affected Federal and State agencies;

(2) establish a panel of individuals with expertise in the matters described in paragraphs (1) through (5) of subsection (b) composed, as appropriate, of representatives of Federal agencies, institutions of higher education, nongovernmental organizations, State organizations, industry, and international geoscience organizations to review the methodology and comments received under paragraph (1); and

(3) on completion of the review under paragraph (2), publish in the Federal Register the revised final methodology.

**(e) Periodic updates**

The methodology developed under this section shall be updated periodically (including at least once every 5 years) to incorporate new data as the data becomes available.

**(f) National assessment**

**(1) In general**

Not later than 2 years after the date of publication of the methodology under subsection

(d)(1), the Secretary, in consultation with the Secretary of Energy and State geological surveys, shall complete a national assessment of capacity for carbon dioxide in accordance with the methodology.

**(2) Geological verification**

As part of the assessment under this subsection, the Secretary shall carry out a drilling program to supplement the geological data relevant to determining sequestration capacity of carbon dioxide in geological sequestration formations, including—

- (A) well log data;
- (B) core data; and
- (C) fluid sample data.

**(3) Partnership with other drilling programs**

As part of the drilling program under paragraph (2), the Secretary shall enter, as appropriate, into partnerships with other entities to collect and integrate data from other drilling programs relevant to the sequestration of carbon dioxide in geological formations.

**(4) Incorporation into NatCarb**

**(A) In general**

On completion of the assessment, the Secretary of Energy and the Secretary of the Interior shall incorporate the results of the assessment using—

- (i) the NatCarb database, to the maximum extent practicable; or
- (ii) a new database developed by the Secretary of Energy, as the Secretary of Energy determines to be necessary.

**(B) Ranking**

The database shall include the data necessary to rank potential sequestration sites for capacity and risk, across the United States, within each State, by formation, and within each basin.

**(5) Report**

Not later than 180 days after the date on which the assessment is completed, the Secretary shall submit to the Committee on Energy and Natural Resources of the Senate and the Committee on Natural Resources of the House of Representatives a report describing the findings under the assessment.

**(6) Periodic updates**

The national assessment developed under this section shall be updated periodically (including at least once every 5 years) to support public and private sector decisionmaking.

**(g) Authorization of appropriations**

There is authorized to be appropriated to carry out this section \$30,000,000 for the period of fiscal years 2008 through 2012.

(Pub. L. 110-140, title VII, §711, Dec. 19, 2007, 121 Stat. 1710.)

EFFECTIVE DATE

Section effective on the date that is 1 day after Dec. 19, 2007, see section 1601 of Pub. L. 110-140, set out as a note under section 1824 of Title 2, The Congress.

**§ 17272. Assessment of carbon sequestration and methane and nitrous oxide emissions from ecosystems**

**(a) Definitions**

In this section:

**(1) Adaptation strategy**

The term “adaptation strategy” means a land use and management strategy that can be used—

- (A) to increase the sequestration capabilities of covered greenhouse gases of any ecosystem; or
- (B) to reduce the emissions of covered greenhouse gases from any ecosystem.

**(2) Assessment**

The term “assessment” means the national assessment authorized under subsection (b).

**(3) Covered greenhouse gas**

The term “covered greenhouse gas” means carbon dioxide, nitrous oxide, and methane gas.

**(4) Ecosystem**

The term “ecosystem” means any terrestrial, freshwater aquatic, or coastal ecosystem, including an estuary.

**(5) Native plant species**

The term “native plant species” means any noninvasive, naturally occurring plant species within an ecosystem.

**(6) Secretary**

The term “Secretary” means the Secretary of the Interior.

**(b) Authorization of assessment**

Not later than 2 years after the date on which the final methodology is published under subsection (f)(3)(D), the Secretary shall complete a national assessment of—

- (1) the quantity of carbon stored in and released from ecosystems, including from man-caused and natural fires; and
- (2) the annual flux of covered greenhouse gases in and out of ecosystems.

**(c) Components**

In conducting the assessment under subsection (b), the Secretary shall—

- (1) determine the processes that control the flux of covered greenhouse gases in and out of each ecosystem;
- (2) estimate the potential for increasing carbon sequestration in natural and managed ecosystems through management activities or restoration activities in each ecosystem;
- (3) develop near-term and long-term adaptation strategies or mitigation strategies that can be employed—
  - (A) to enhance the sequestration of carbon in each ecosystem;
  - (B) to reduce emissions of covered greenhouse gases from ecosystems; and
  - (C) to adapt to climate change; and
- (4) estimate the annual carbon sequestration capacity of ecosystems under a range of policies in support of management activities to optimize sequestration.