

A bill for an act
relating to environment; requiring studies and reports to assess the state's capacity
for terrestrial and geologic carbon sequestration; appropriating money.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

Section 1. **DEFINITIONS.**

Subdivision 1. **Terrestrial carbon sequestration.** "Terrestrial carbon sequestration"
means the long-term storage of carbon in soil and vegetation to prevent its collection in
the atmosphere as carbon dioxide.

Subd. 2. **Geologic carbon sequestration.** "Geologic carbon sequestration" means
injecting carbon dioxide into underground geologic formations where it can be stored for
long periods of time to prevent its escape to the atmosphere.

Sec. 2. **TERRESTRIAL CARBON SEQUESTRATION ASSESSMENT.**

Subdivision 1. **Study; scope.** The Board of Regents of the University of Minnesota
is requested to conduct a study assessing the potential capacity for carbon sequestration in
Minnesota's terrestrial systems. The study must:

(1) conduct a statewide inventory and construct a database of lands across several
land types, such as forests, agricultural lands, peatlands, and wetlands, that have the
potential to sequester significant quantities of carbon and of lands that currently contain
large stocks of carbon that are at risk of being emitted to the atmosphere as a result of
changes in land use and climate;

(2) quantify the ability of various land use practices, such as the growth of different
species of crops, grasses, and trees, to sequester carbon and their impacts on other

2.1 ecological services of value, including air and water quality, biodiversity, and wildlife
2.2 habitat;

2.3 (3) identify a network of benchmark monitoring sites to measure the impact of
2.4 long-term, large-scale factors, such as changes in climate, carbon dioxide levels, and land
2.5 use, on the terrestrial carbon sequestration capacity of various land types, to improve
2.6 understanding of carbon-terrestrial interactions and dynamics;

2.7 (4) identify long-term demonstration projects to measure the impact of deliberate
2.8 sequestration practices, including the establishment of biofuel production systems, on
2.9 forest, agricultural, wetland, and prairie ecosystems; and

2.10 (5) evaluate current state policies and programs that affect the levels of terrestrial
2.11 sequestration on public and private lands and identify gaps and recommend policy changes
2.12 to increase sequestration rates.

2.13 Subd. 2. **Consultation.** The commissioner of natural resources shall consult
2.14 with the Minnesota Terrestrial Carbon Sequestration Initiative, a task force consisting
2.15 of representatives from the University of Minnesota, the Department of Agriculture,
2.16 the Board of Water and Soil Resources, the Department of Natural Resources, and
2.17 the Pollution Control Agency and agricultural, forestry, conservation, and business
2.18 stakeholders, in planning and implementing the study design.

2.19 Subd. 3. **Contracting.** The University of Minnesota may contract with another
2.20 party to perform any of the tasks listed in subdivision 1.

2.21 Subd. 4. **Report.** The commissioner of natural resources must submit a report
2.22 with the results of the study to the senate and house committees with jurisdiction over
2.23 environmental and energy policies no later than February 1, 2008.

2.24 **Sec. 3. GEOLOGIC CARBON SEQUESTRATION ASSESSMENT.**

2.25 Subdivision 1. **Study; scope.** The Minnesota Geological Survey shall conduct
2.26 a study assessing the potential capacity for geologic carbon sequestration in the
2.27 Midcontinent Rift system in Minnesota. The study must assess the potential of porous
2.28 and permeable sandstone layers deeper than one kilometer below the surface that are
2.29 capped by less permeable shale and must identify potential risks to carbon storage, such
2.30 as areas of low permeability in injection zones, low storage capacity, and potential seal
2.31 failure. The study must identify the most promising formations and geographic areas for
2.32 physical analysis of carbon sequestration potential. The study must review geologic
2.33 maps, published reports and surveys, and any relevant unpublished raw data with respect
2.34 to attributes that are pertinent for the long-term sequestration of carbon in geologic
2.35 formations, in particular, those that bear on formation injectivity, capacity, and seal

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effectiveness. The study must examine the following characteristics of key sedimentary units within the Midcontinent Rift system in Minnesota:

(1) likely depth, temperature, and pressure;

(2) physical properties, including the ability to contain and transmit fluids;

(3) the type of rocks present;

(4) structure and geometry, including folds and faults; and

(5) hydrogeology, including water chemistry and water flow.

Subd. 2. **Consultation.** The Minnesota Geological Survey shall consult with the Minnesota Mineral Coordinating Committee, established in Minnesota Statutes, section 93.0015, in planning and implementing the study design.

Subd. 3. **Report.** The commissioner of natural resources must submit a report with the results of the study to the senate and house committees with jurisdiction over environmental and energy policies no later than February 1, 2008.

Sec. 4. APPROPRIATION.

\$..... is appropriated from the general fund for the fiscal year ending June 30, 2008, to the commissioner of natural resources for the purposes of sections 2 and 3. Of this amount, the commissioner shall make payments of \$..... to the Board of Regents of the University of Minnesota for the purposes of section 2 and \$..... to the Minnesota Geological Survey for the purposes of section 3.

Sec. 5. EFFECTIVE DATE.

Sections 1 to 4 are effective the day following final enactment.