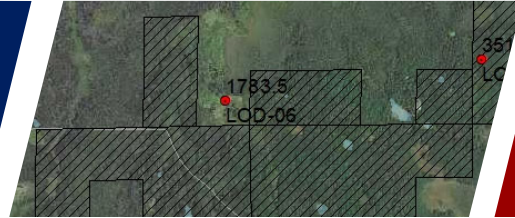


Nonpetroleum Gas and Carbon Sequestration



April 12, 2024

Did you know?

In Lake County, the 40-acre parcel of private land where helium was recently discovered is surrounded on three sides by state-managed lands. Royalty disbursements and rental payments from nonpetroleum gas leases on those state parcels would go to the county, local township, and local school district.

Exploration companies have identified drilling targets for geologic hydrogen in Nebraska and Kansas, along a geologic formation known as the Mid-continent Rift. This formation extends northwards into Minnesota, from the Iowa border up to Lake Superior. The United State Geological Survey considers the Mid-continent Rift to be one of the top two prospective regions for geologic hydrogen production in the United States.

The geology of northeastern Minnesota supports a type of geologic sequestration that generates clean hydrogen gas while permanently storing carbon in mineral form. In 2022, the University of Minnesota was awarded \$11 million by the DOE to advance mineral carbon storage studies at the Center for Interacting Geo-processes in Mineral Carbon Storage. This type of geologic sequestration could be linked with Direct Air Capture techniques that remove carbon directly from the atmosphere, rather than rely on carbon pipelines from industrial sources.

Minnesota has untapped and unexplored potential for both geologic hydrogen and helium resources. With no history of gas or oil production in the state, Minnesota lacks a regulatory framework that would support these emergent industries, properly protect natural resources and human health, develop a fair royalty structure on state-managed lands and ensure the conservation of the state's natural resources.

[Senate File 5048-A2](#) proposes amendments to existing statutes and new laws that would support the creation of a regulatory framework for gas and oil production and allow the Department of Natural Resources (DNR) to lease state-managed lands for nonpetroleum gas exploration and production. The DNR is given permitting authority over all such projects in the State, and no production is allowed without a permit. A Gas Production Technical Advisory Committee is created to develop recommendations that would guide the creation of a temporary regulatory framework that would govern permitting during the rulemaking process. This multi-agency committee led by DNR would be charged with submitting a report to the State Legislature by January 2025. Interim permitting authority while rules are being developed could then be acted upon by the Legislature. Funding would be provided to hire the staff who would write rules for leasing, permitting and associated activities over a two-year period.

Permanent removal and geologic sequestration of carbon from the atmosphere and industrial waste streams could potentially be a key component to the State of Minnesota's commitment to net-zero carbon emissions by 2050. A novel type of sequestration, known as mineral carbon storage, has the potential to generate clean hydrogen supplies for energy or agricultural use.

SF 5048-A2 directs the commissioner of natural resources to prepare a report by January 2025 on geologic carbon sequestration opportunities in Minnesota that would guide future decision-making and legislation. A multi-agency Geologic Carbon Sequestration Technical Advisory Committee would be formed under this bill to support this effort..

Proposal

This proposed legislation includes the following elements:

Upon enactment, immediately allows the DNR to lease state-managed lands to prospect for nonpetroleum gas resources. This will allow both royalty disbursements and rental payments to state and local governments under MS 93.22.

Creates a multi-agency Gas Production Technical Advisory Committee to develop recommendations relating to gas and oil exploration and development in the state that would guide the creation of a temporary regulatory framework that would govern permitting during the rulemaking process.

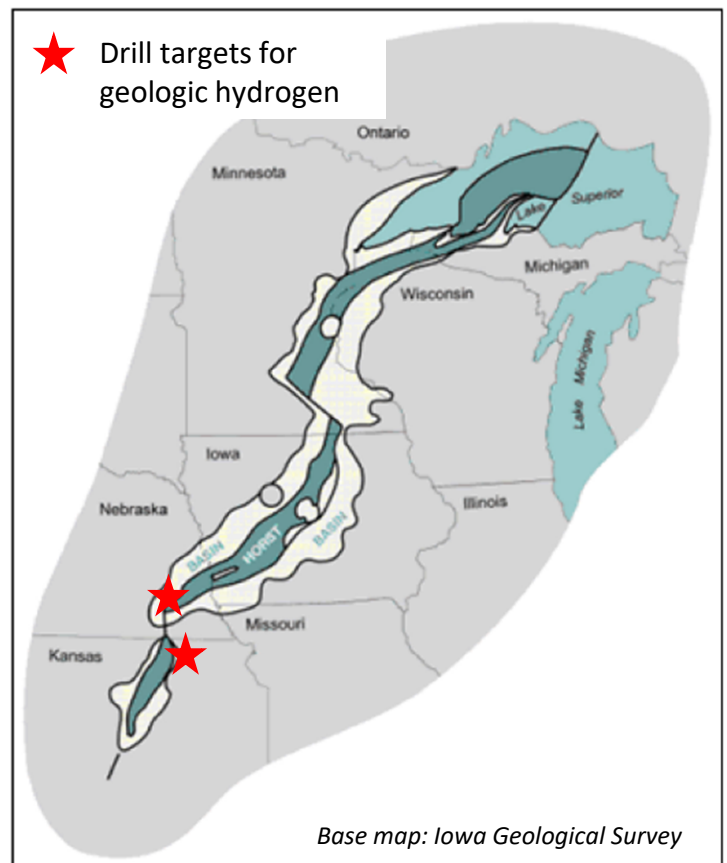
Charges that technical advisory committee with submitting a report to the State Legislature with their recommendations by January 2025.

Temporarily prohibits the commercial extraction of gas or oil on all lands in Minnesota until interim permitting authority is authorized.

Charges the commissioner of natural resources with preparing a report on geologic carbon sequestration opportunities within the state that would guide future decision-making and legislation that might assist in achieving the state's goal of carbon neutrality by 2050. This report must be submitted to the legislature by January 2025.

Creates a multi-agency Geologic Carbon Technical Advisory Committee to support the preparation of the geologic carbon sequestration report.

SF 5048-A2 includes appropriation requests to support the identified work. Two one-time appropriation in fiscal year 2024 from the minerals management account would fund the Gas Production Technical Advisory Committee and development of the geologic carbon sequestration report. Additional funds would be appropriated from the minerals management account to adopt a regulatory framework for the development of gas and oil resources within the state, and for rulemaking.



Active drilling targets for geologic hydrogen in southern end of the Mid-continent Rift, which extends through Minnesota.

For more information contact:

Joe Henderson

Minnesota Department of Natural Resources
500 Lafayette Rd, St. Paul MN 55155-4047
Phone 651-327-9266
Email: joseph.henderson@state.mn.us



This information can be made available in alternative formats such as large print, braille, or audio tape by emailing info.dnr@state.mn.us or calling 651-259-5016.

FAQ on Nonpetroleum Gas Legislation in Minnesota



April 12, 2024

Q. Does this bill “open the door” for oil exploration and production in Minnesota?

A. No – Minnesota already has decades-old statutes that govern oil exploration and production within the state. For example -

- Exploration and prospecting for “oil and natural gas” has been in Minnesota statutory language since 1989 and is included within the definition of “exploratory borehole” under MN Statute [1031.005, Subpart 9](#).
- In 1993, the DNR was given rulemaking authority for the pooling, spacing, and unitization of oil and gas wells under MN Statute 93.515 ([“Oil and Gas Wells; Rules Relating to Spacing, Pooling, and Unitization”](#))

Q. Why does proposed legislation need to include provisions for “gas and oil?”

A. While there are existing laws in Minnesota for “oil and gas,” the term commonly refers to petroleum products. SF 5048 expands the statutory language of “oil and gas” to include both hydrocarbon gases and nonhydrocarbon gases, such as helium and hydrogen. This avoids duplicative statutes and rules, and the needless cost of developing parallel regulatory frameworks.

Q. Why is a regulatory framework needed for gas and oil?

A. Creating regulatory framework will provide environmental protections, pooling and spacing requirements to compensate surrounding landowners, financial assurance requirements, and reclamation standards. This also allows the state to collect rentals and royalties on state-managed lands.

Q. Why can’t a regulatory structure for nonpetroleum gas just exclude petroleum resources?

A. With very few exceptions, the world's helium production is associated with oil and natural gas wells. Even the helium well in Minnesota has a small amount of methane (~2.4% concentration). It is in the best interest of the state and the environment to regulate all gases that could be associated with helium production.

Q. Why are royalties and pooling requirements important?

A. Royalties are moneys paid for resources, such as gases, extracted from state managed lands. Royalties from state lands can go to local cities, counties, and school districts. Underground gas resources are not constrained by property lines. Without requirements, like pooling that control the area of gas extraction, resources can be taken from surrounding properties without compensation.



Q. Do other U.S. states use the same regulations for petroleum and nonpetroleum gases?

A. Yes. In other states, nonpetroleum gases such as helium are almost always found as minor constituents within natural gas reservoirs and are produced from the same wells that capture natural gas. Petroleum and nonpetroleum gases use the same set of rules and regulations, even though they are very different products.

Q. Does the discovery of helium in Minnesota mean that there are also economic reservoirs of natural gas resources in the state?

A. No. While natural gas and helium are often trapped within the same subsurface reservoirs, they are formed by very different sources and processes, and take different pathways to reach a shared reservoir. Minnesota's geology has very low potential for oil and natural gas production.

Q. Was there natural gas where helium was discovered in Minnesota?

A. When helium was accidentally discovered in northeast Minnesota in 2011, collected gas samples contained 2.4% methane and other hydrocarbons. While a gas mixture with 2.4% methane would neither be flammable nor economical to produce, the methane would have to be dealt with once it is isolated during helium enrichment. This is another good reason for developing a common regulatory framework that would address all potential constituents within a developable nonpetroleum gas reservoir.

Q. Has helium been discovered elsewhere in Minnesota?

A. Yes. As recounted by the [Minnesota Geological Survey](#), in 1976 a private water well in Carlton County was sampled. Testing identified a gas composition in this water as 98% methane and 2% helium. A well drilled at the site in 1983 failed to find commercially viable quantities of either methane or helium.

Q. Will the Helium project in Lake County use pipelines?

A. If the recent drilling results lead to production, Pulsar Helium has stated they will transport helium off-site using trucks. The current estimate is one truck per day.

For more information contact:

Joe Henderson

Minnesota Department of Natural Resources

500 Lafayette Rd, St. Paul MN 55155-4047

Phone 651-327-9266

Email: joseph.Henderson@state.mn.us



This information can be made available in alternative formats such as large print, braille, or audio tape by emailing info.dnr@state.mn.us or calling 651-259-5016.