Carbon Capture and Sequestration (CCS) in Indiana

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Overview

- What is Carbon Capture and Storage (CCS)
- Why Indiana, why now?
- DNR's jurisdiction over CCS
- Local Government and CCS
- What is next for CCS in Indiana?

The CCS race is full steam ahead!

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What is CCS?

Answer: The capturing and long-term storage (sequestration) of carbon dioxide to prevent its release into the atmosphere.

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Carbon Capture and Sequestration

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Types of CCS

Biologic Carbon Sequestration

- Storing carbon in trees, soil, plants, wetlands, etc.
- CO2 is typically captured at a different location than where it is emitted.

Geologic Carbon Sequestration

- Injection into geologic rock formations (thousands of feet below the surface)
- CO2 is captured at the site of emission and transported to injection location.

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Geologic Carbon Sequestration

USGS
science for a changing world

U.S Department of the Interior
U.S. Geological Survey

Fact Sheet 2010-3122
(http://pubs.usgs.gov/fs/2010/3122/)

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Why Indiana?

Why Now?

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Why Indiana?

Carbon Emissions + Geologic Formation = CCS

- Almost the entire state of Indiana has the proper geologic formation for CCS.
- Indiana is a top manufacturing and ethanol producing state (i.e. carbon emissions).

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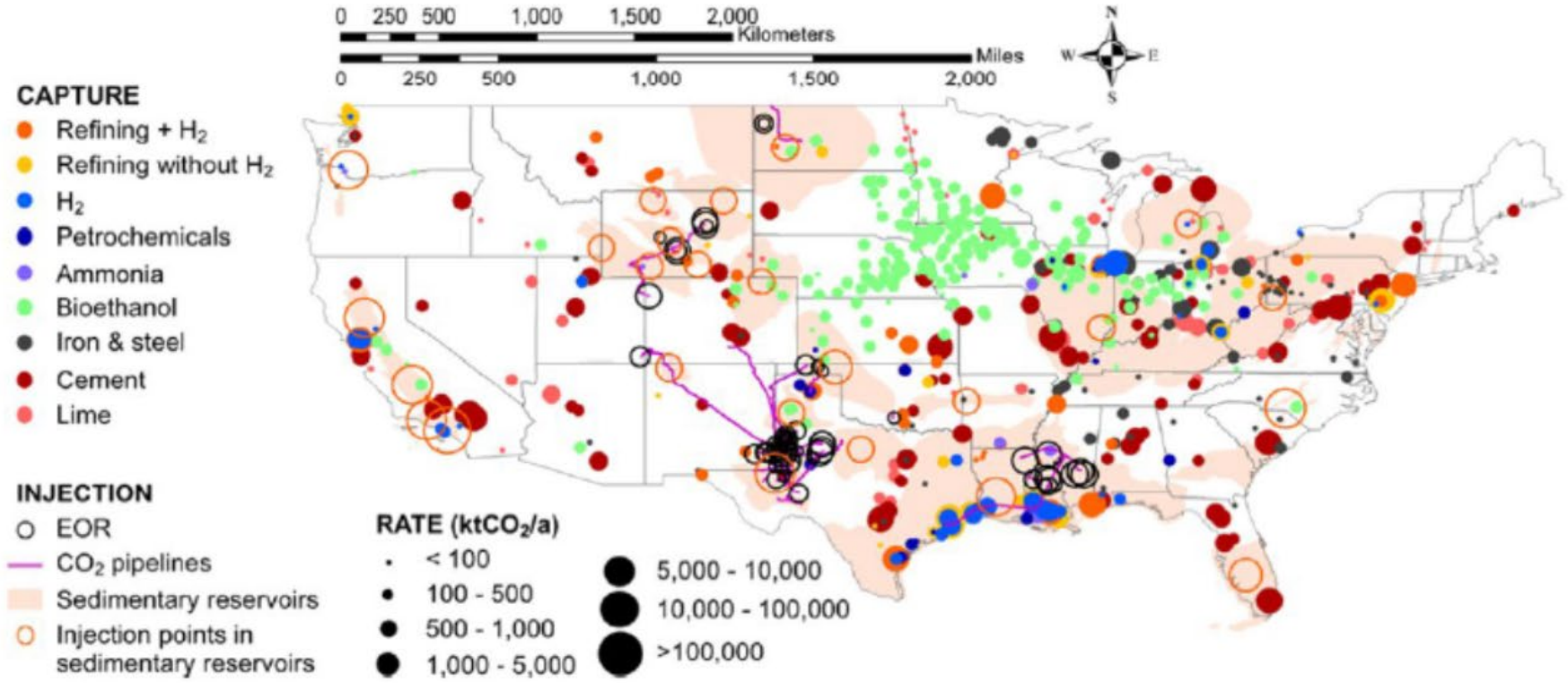
Why Indiana?

Industrial Sectors – Hard to Decarbonize



CCS has the potential to significantly reduce some industrial sectors, which are hard to decarbonize today

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Why Now?

- 45Q Tax Credit - Increased credit from $50 to $85 per metric ton of C02.
- Federal push for net zero carbon emissions by 2050.
- Consumer/Shareholder pressure to go green.

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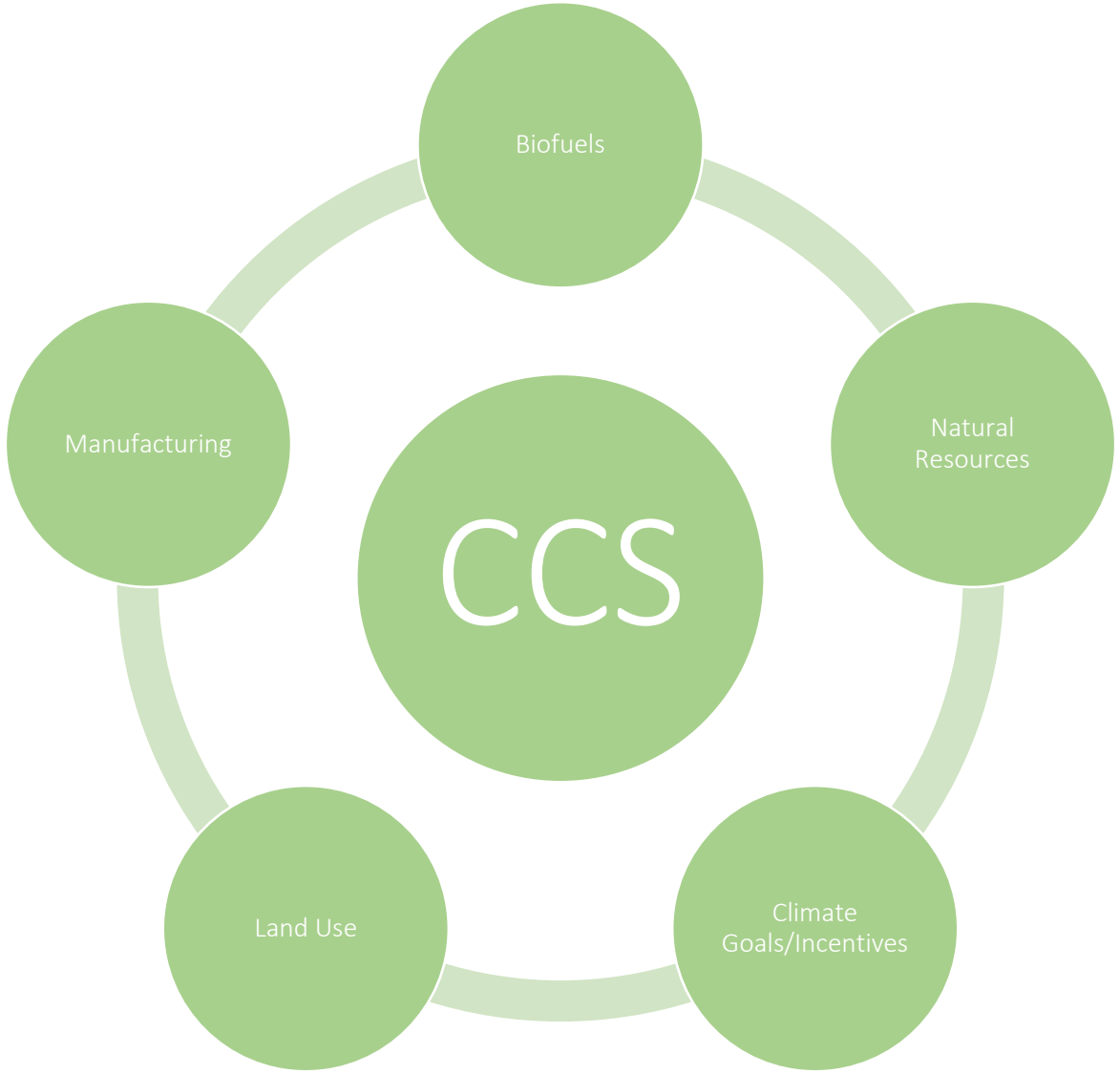
CCS Elements



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DNR's Jurisdiction for CCS

Indiana Code IC 14-39

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Brief Legislative History

- In 2011, IC 14-39-1 adopted for carbon dioxide transmission pipelines.
- In 2019, carbon sequestration pilot project was added into IC 14-39-1.
- In 2022, HEA 1209 added IC 14-39-2, which is the underground storage (injection) of carbon dioxide.
- In 2023, DNR was given rulemaking authority for IC 14-39.

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Pilot Project

- Statutory requirements laid out in IC 14-39-1.
- Exempt from HEA 1209 regulations under IC 14-39-2.

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CO2 Transmission Pipeline

- Application requirements – IC 14-39-1-4
- No effect upon oil, gas and coal – IC 14-39-1-15
- Disclosure of pipeline's actual rotate – IC 14-39-1-10
- No authority for siting requirements or regulating safety standards.

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CO2 Transmission Pipeline

Question: If IC 14-39-1 does not give authority for siting or safety requirements, why is DNR involved with permitting carbon dioxide transmission pipelines?

Answer: A process was necessary to provide authority for eminent domain, the use of public rights-of-way for carbon storage projects, and to know where these pipelines are located.

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CO2 Transmission Pipeline

Under IC 14-39-1-6, a certificate of authority grants:

- Authority to construct and operate a carbon dioxide transmission pipeline.
- Authority to use, occupy, and construct in **any designated public right-of-way**.
- Authority to take and acquire possession by **eminent domain**.

CO2 Public Interest

IC 14-39-1-3 Declaration that pipeline transportation and underground storage of carbon dioxide are in the public interest

Sec. 3. Because:

(1) the movement of carbon dioxide conducted for:

(A) a person's own use or account; or

(B) the use or account of another person or persons;

by pipeline in Indiana for carbon management applications can assist efforts to reduce carbon dioxide emissions; and

(2) the underground storage of carbon dioxide can assist efforts to reduce carbon dioxide emissions; **the use of carbon dioxide transmission pipelines, including their routing, construction, maintenance, and operation, and the underground storage of carbon dioxide are declared as a matter of legislative determination to be a public use and service, in the public interest, and a benefit to the welfare and people of Indiana.**

Avoiding South Dakota Situation

Betty Jean Strom Trust v. SCS Carbon Transport, LLC (2024 S.D. 48)

- Challenge to CO2 pipeline companies use of eminent domain under common carrier statute.
- South Dakota Supreme Court opinion issued 8/21/2024

"The Legislature can delegate the power of eminent domain to non-public corporations, such as utilities or pipelines, but the essential requirement of public use remains. … the Legislature's decision to delegate the power of eminent domain to pipeline companies … must be understood to require a public use that serves the public."

CO_2 Injection – IC 14-39-2

In order to inject CO_2 in Indiana, the following are needed:

1. Class VI permit issued from USEPA.
2. Valid permit issued by DNR under IC 14-39-2.
3. Right to use the pore space for CO_2 storage.

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Rights to Pore Space

IC 14-39-2-3

- Before July 1, 2022 – recognizes existing severances of surface and mineral estates. Any ownerships rights to pore space that were not expressly or by implication reserved by conveyance remain vested in the surface estate.

- After June 30, 2022, the ownership of pore space is vested in the surface estate unless rights are explicitly covered by conveyance document (i.e., fee purchase, lease, etc.).

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Integration of Interests

Question: What happens if the storage operator cannot acquire consent for all the pore space necessary for the proposed storage facility?

Answer: IC 14-39-2-4 allows the integration (forced pooling) of pore space if the storage operator has obtained the consent of at least 70% of the surface area. Nonconsenting pore space owners are required to be equitably compensated.

Certificate of Project Completion

Under IC 14-39-2-13, DNR shall issue a certificate of completion if the storage operator meets certain requirements such as:

- Storage facility is stable, and wells have been plugged.
- USEPA has authorized site closure.

Once a certificate of completion is issued, the following occurs:

(1) The state will assume ownership of and responsibility for the storage facility.

(2) The state will assume responsibility for all regulatory requirements associated with the storage facility, and the storage operator and the owner of the storage facility are released from responsibility for all regulatory requirements associated with the storage facility.

(3) The state will assume any potential liability associated with the storage facility.

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CO2 Storage Facility Trust Fund

- To help cover the state's long-term monitoring and management of a carbon sequestration project, the storage operator shall annually pay $.08 per ton of CO2 injected into the storage facility.
- These funds will be deposited into a protected dedicated fund called the CO2 storage facility trust fund.

Next Steps for CCS Regulations

- DNR has worked with industry in rule development on pipeline and injection regulations for more than a year.
- DNR submitted proposed rules to OMB/SBA on Sept. 12.
- Rules focused on providing regulatory certainty for processing applications and integration orders.

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Local Government and CCS

"Local government says where it can be done, and state/federal government says how it can be done."

- IC 14-39 does not preempt local units of government from adopting zoning ordinances regarding the siting of CCS projects.
- Local right of way permits/regulations for CO2 pipelines would still be required, since pipeline statute only authorizes the use.

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Future of CCS in Indiana

Important Questions on the Implementation and Viability of CCS in Indiana

- How will the statutory structure of IC 14-39 hold up in court or with permit challenges under administrative law?
- Will local units of government adopt siting ordinances restricting CCS projects?
- Will federal incentives continue, and regulations hurt or hinder future development?