

CCS COMMERCIAL AND REGULATORY FRAMEWORKS:

LESSONS LEARNED FROM THE CCS EXPERIENCE IN THE UNITED STATES

MAY 16 2023



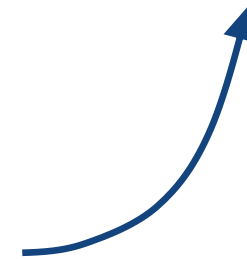
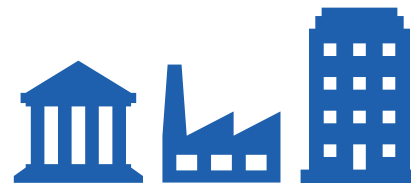
**GLOBAL CCS
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International
think tank

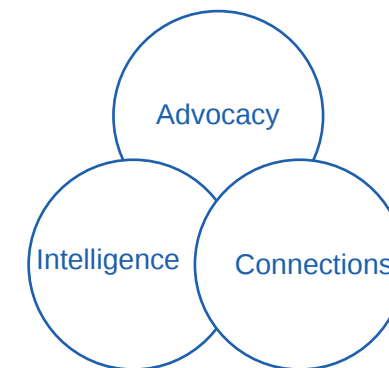
Backed by
governments,
businesses and NGOs



Mission: To accelerate
deployment of CCS

190+ MEMBERS

7 locations



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SPEAKERS

U.S Department of Energy – Stephanie Hutson, Strategic Engagement,
Office of Carbon Management, Office of Fossil Energy and Carbon Management

Sallie Greenberg Consultancy – Dr Sallie Greenberg, Principal

Global CCS institute – Ruth Ivory-Moore, Policy and Advocacy Manager Americas

Global CCS institute – Errol Pinto- Senior Consultant Policy and Commercial

Global CCS institute - Ellina Levina
Senior Finance and European affairs Manager (moderator)



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CCS COMMERCIAL AND REGULATORY FRAMEWORKS: LESSONS LEARNED FROM THE CCS EXPERIENCE IN THE UNITED STATES

Stephanie Hutson

Strategic Engagement, Office of Carbon Management,
Office of Fossil Energy and Carbon Management

US Department of Energy



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U.S. DEPARTMENT OF
ENERGY

Fossil Energy and
Carbon Management

Office of Carbon Management Overview and Activities

Stephanie Hutson, U.S. DOE

May 16, 2023



U.S. DEPARTMENT OF
ENERGY

Fossil Energy and
Carbon Management

Fossil Energy and Carbon Management

- DOE-FE is now DOE-FE**CM**
- New name for our office reflects our new vision to meet:
 - 50% emissions reduction by 2030
 - CO₂ emissions-free power sector by 2035
 - Net zero emissions economy by no later than 2050

FECM: Our Mission

FECM supports the **research, development, demonstration, and deployment** of critical technologies and infrastructure to manage carbon emissions and reduce the environmental impacts of fossil fuel production and use, with the goal of achieving net-zero greenhouse gas emissions economy-wide by mid-century.

FECM Strategic Vision

Advancing Carbon Management Approaches Toward Deep Decarbonization

Priorities: Carbon capture, carbon dioxide conversion, carbon dioxide removal, and carbon dioxide transport and storage

Advancing Technologies that Lead to Sustainable Energy Resources

Priorities: Hydrogen with carbon management, domestic critical minerals production, and methane mitigation

Advancing Justice, Labor, and Engagement

Priorities: Justice, labor, and international and domestic partnerships



Overview of CCUS RD&D in the U.S.

- 40+ year history of CCUS RD&D in the U.S.
 - Over 600 million tons of associated storage with EOR
- Over 8,000 km of CO₂ pipelines in the United States
- Strong efforts in developing the human capital and enablers for CCUS deployment (scientists, engineers, trades)
 - Broad R&D program engaging private industry, universities, National Laboratories, small businesses, and the financial community
- World-class R&D program that advances technology and supports policy development
- Has successfully invested in major CCUS demonstrations
- As of April 2023: approximately 15.57 million metric tons (MMT) of CO₂ have been captured



Air Products Facility (Port Arthur, TX) – Operations began in 2013



ADM Ethanol Facility (Decatur, IL) – Operations began in 2017

DOE Carbon Capture Program.. Evolution

1st and 2nd Generation Technologies

2025: \$40/tonne CO₂



2008 -

- ✓ Lower CAPEX/OPEX
- ✓ Reduced regeneration energy
- ✓ Increased working capacity

Transformational Technologies

2030: \$30/tonne CO₂



Hollow Fibers



3D Print



Biphasic Solvent

2015 -

- ✓ Water Lean Solvents
- ✓ Adv. Membranes
- ✓ Hybrid Systems
- ✓ Process Intensification

Scale-up



TCM

2018 -

- ✓ Engineering Scale testing
- ✓ FEED studies

Negative Emissions Technologies & Industrial



Carbon Engineering, DAC



Ethanol Plant

2020 -

- ✓ DAC & BiCRS
- ✓ Industrial
- ✓ NG

U.S. now has world-leading policy framework for carbon management

Recent U.S. policy changes provide significant incentives for the full range of carbon management technologies

- **Incentives:**
 - 45Q tax credit (\$85/t for point-source, \$180/t for DAC)
 - Bipartisan Infrastructure Law provides >\$12B for pilots and demonstrations
 - “Buy Clean” for low embodied carbon products
- **Regulations:**
 - Environmental Protection Agency regulations for CO₂ storage on private land (Underground Injection Control “Class VI”)
 - Department of Interior for CO₂ storage on federal land
 - Department of Transportation for CO₂ pipeline safety
- **Financing:**
 - Loan Program Office authority for >\$100B in loan guarantees (DOE and Department of Agriculture)

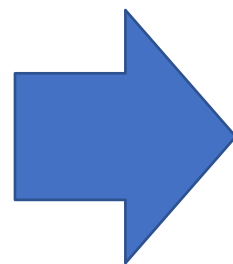
Bipartisan Infrastructure Law (BIL):

Government-funded RD&D for systems to manage carbon

>\$12B over five years

Expected development

Grants
Loans
Credits



- 6 carbon capture demonstration projects and several new small-scale pilots
- 4 direct air capture hubs
- 100+ new dedicated CO₂ storage wells
- New CO₂ pipelines and transportation networks (~10,000 miles moving 10Ms tons CO₂/yr)

DOE funding aims to help build whole systems for cleaning up and disposing of carbon dioxide



Point Source Capture

- CCUS Integrated Demos: \$2.5 billion (OCED)
- Carbon Capture Large Pilot: \$1 billion (OCED)



Direct Air Capture

- Regional Direct Air Capture Hubs: \$3.5 billion
- DAC Technology Prize Competition: \$115 million



Carbon Transport Systems

- FEED Studies for Transport Systems: \$100 million
- CIFIA – Loans and Future Growth Grants: \$2.1 billion



Carbon Dioxide Utilization and Storage

- Carbon Storage Validation and Testing: \$2.5 billion
- Carbon Utilization Program: \$310 million

[Bipartisan
Infrastructure Law
Programs |
Department of Energy](#)

DOE is investing in the full suite of carbon management innovation

Recent U.S. policy changes provide significant incentives for the full range of carbon management technologies

- FECM (annual budget of ~\$450M for carbon management + >\$3B from BIL)
 - Point- source capture FEEDs and small pilots: industrial and natural gas capture
 - CO₂ storage: CarbonSAFE program expansion
 - CO₂ transport: FEED studies
 - CO₂ conversion and CDR: TRL 3-5 projects (FEEDs and small pilots)
- Office of Clean Energy Demonstration (one time budget of ~\$10B through BIL)
 - Demonstrations and pilot for point source capture
 - Direct air capture hubs
 - Blue Hydrogen hubs
- Other offices:
 - ARPA-E
 - Office of Science
 - Loan Programs office
 - Energy Efficiency and Renewable Energy

International Engagement

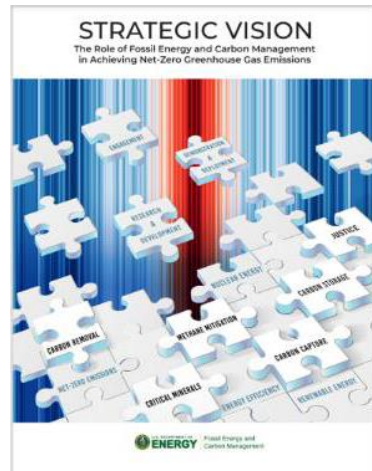
- Scaling up carbon management technologies and approaches represents *global* challenge
- Opportunity to responsibly implement carbon management projects domestically and advance global industry



New Collaborations

- Carbon Management Challenge
- Africa Center of Excellence for Carbon Management Technology and Innovation
- Collaboration Agreement: Decarbonizing Cement with Carbon Capture, Utilization, and Storage
- Carbon Dioxide Removal (CDR) Launchpad

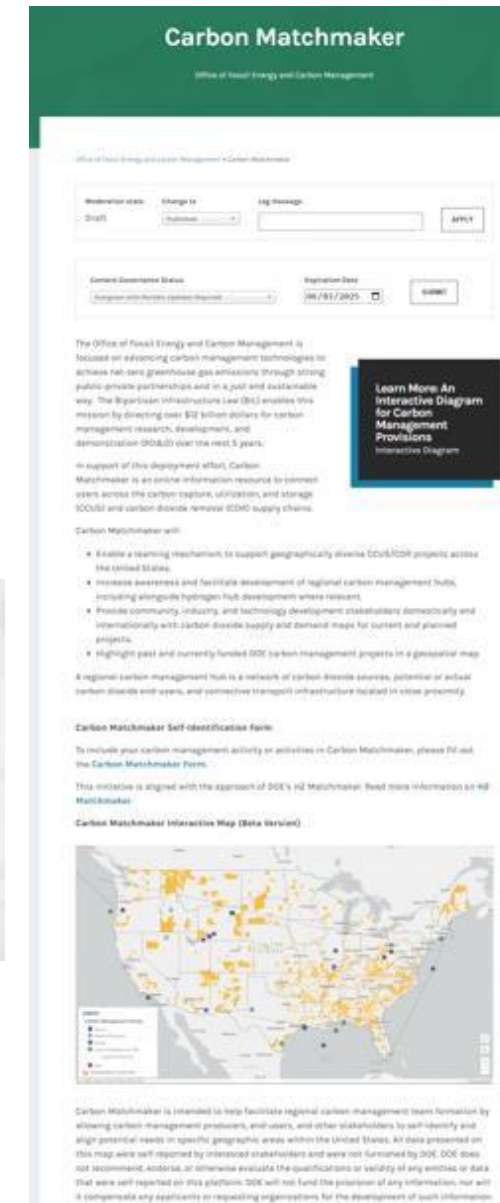
Resources and Engagement



[FECM Strategic Vision](#)



[Justice & Engagement: Planning for Societal Considerations & Impacts in FECM Projects | Department of Energy](#)



Online information resource to connect users across the carbon capture, utilization, and storage (CCUS) and carbon dioxide removal (CDR) supply chains.

[Carbon Matchmaker](#)



DOE-funded Carbon Management Projects—held Pittsburgh, PA
Over 700 registrants [2022 Conference Proceedings](#)
August 2023 meeting: <https://netl.doe.gov/events/23CM>



[Industrial Decarbonization Roadmap](#)



U.S. DEPARTMENT OF
ENERGY

Fossil Energy and
Carbon Management

Thank you for your attention

CCS COMMERCIAL AND REGULATORY FRAMEWORKS: LESSONS LEARNED FROM THE CCS EXPERIENCE IN THE UNITED STATES

Dr Sallie Greenberg

PRINCIPAL

Sallie Greenberg Consulting



GLOBAL CCS
INSTITUTE

US Regulatory Framework and Enabling Policies

Dr. Sallie E. Greenberg

16 May 2023 – Global CCS Institute Webinar



Sallie Greenberg Consulting



*Safe and Effective storage:
The pieces Have come together*



Barriers (2003)



Obstacles (2009)



Challenges (2011)



Successes (2015)



Deployment (2017)



Community Impacts
(2021)

CCUS refers to the complete supply chain needed to capture, transport and permanently use or store CO₂, eliminating it from the atmosphere.

All credible future energy scenarios recognize that fossil fuels will remain part of the total energy mix for the next several decades.

CCUS is essential to addressing the dual challenge of providing affordable, reliable energy to meet the world's growing demand while addressing the risks of climate change.

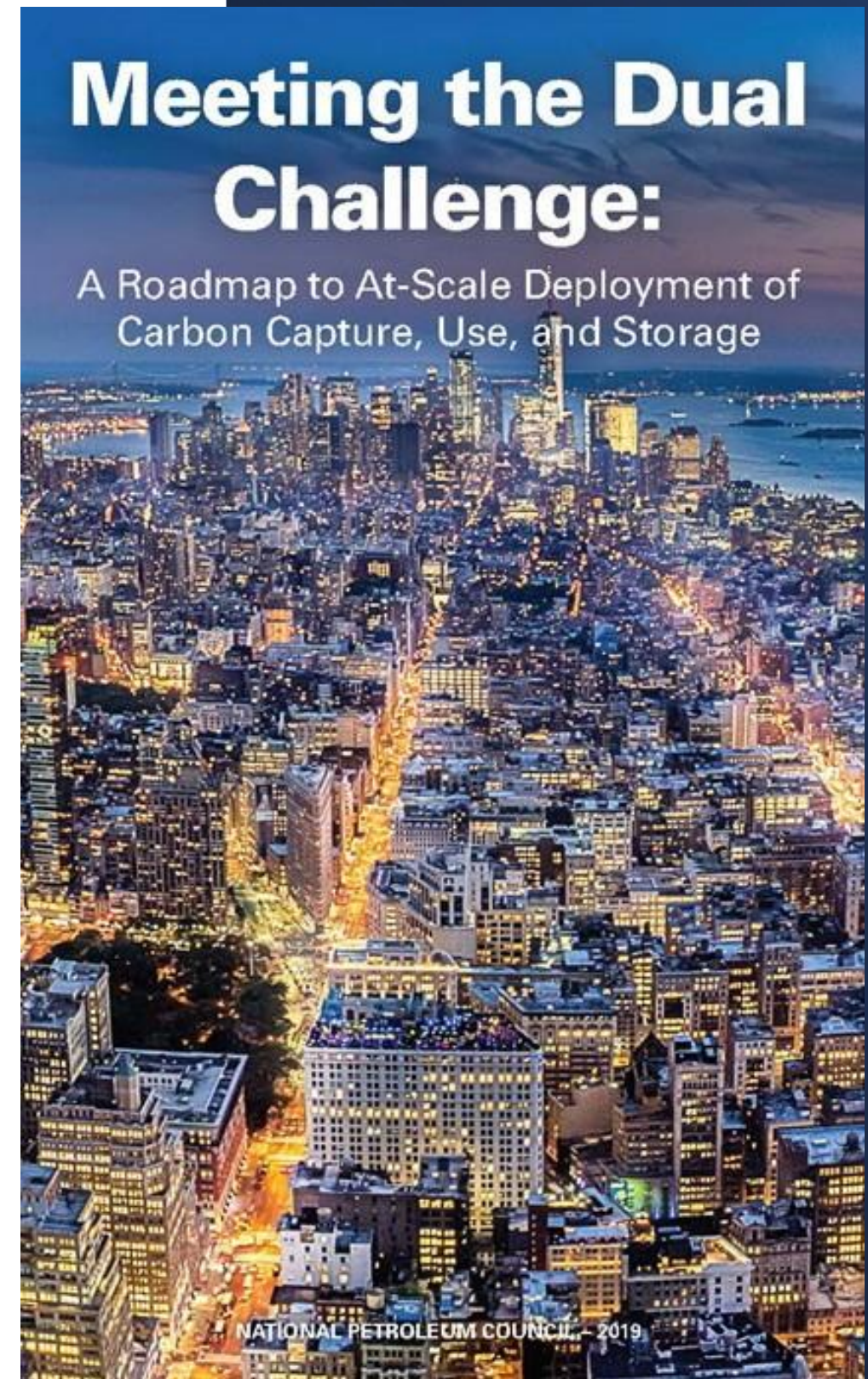
The United States is the world leader in CCUS and uniquely positioned to deploy the technologies at scale.

To achieve CCUS deployment at scale, the U.S. government will need to reduce uncertainty on existing incentives, establish adequate additional incentives, and implement a durable regulatory and legal environment that drives industry investment.

A commitment to CCUS must include a commitment to continued research, development, and demonstration.

At-scale CCUS deployment could create a new industry, driving job creation and economic growth across the nation.

Increasing understanding and confidence in CCUS as safe and reliable is essential for public and policy stakeholder support.



Policies — “...a course or principle of action adopted or proposed by a government, party, business, or individual.”

- Federal agency appropriations and programs
 - U.S. Department of Energy (and other agencies)
 - 2000 to present
- Tax credit
 - 45Q = IRS Tax code
 - 2008, enhanced in 2022
- Key legislation
 - USE IT - 2020
 - BIL - 2021
 - IRA - 2022

Utilizing Significant Emissions with Innovative Technologies (USE IT) Act - 2020

- **Signed into law in December 2020**
- **The law:**
 - Narrowly amends the Clean Air Act to direct the Environmental Protection Agency (EPA) to support carbon utilization and direct air capture research;
 - Clarifies that CCUS projects and CO₂ pipelines are eligible for the streamlined permitting review process established by the FAST Act;
 - Directs the Council on Environmental Quality (CEQ) to establish guidance to expedite the development of CCUS facilities and CO₂ pipelines; and
 - Establish task forces to hear input from affected stakeholders for updating and improving guidance over time.

Bipartisan Infrastructure Law (BIL)

aka: Infrastructure Investment and Jobs Act (IIJA)



- **Bipartisan Infrastructure Law** – passed in November 2021, it includes more than **\$62 billion** specifically for DOE to deliver a more equitable clean energy future for the American people by doing the following:
 - Investing in American manufacturing and workers.
 - Expanding access to energy efficiency and clean energy for families, communities and businesses.
 - Delivering reliable, clean, and affordable power to more Americans.
 - Building the technologies of tomorrow through clean energy demonstrations.
- **Bipartisan Infrastructure Law** - \$12 billion in federal carbon management investments over 5 years
 - Includes commercial-scale carbon capture demos, direct air capture and hydrogen hubs, regional geologic storage sites and CO₂ transport infrastructure
 - Expands federal funding to include commercial scale demonstration and infrastructure

Breakdown of Appropriations for CCUS Programs

- CCUS Demonstration Projects - \$2.5 billion
 - CCUS Pilot Projects - \$937 million
- CO₂ Storage Validation and Testing - \$2.5 billion
- CO₂ Infrastructure Finance and Innovation - \$2.1 billion
 - Class VI Well Permitting - \$75 million
- Front-End Engineering and Design Studies for CO₂ Transport Infrastructure - \$100 million
 - CO₂ Utilization - \$310.14 million
- Regional Direct Air Capture (DAC) Hubs - \$3.5 billion
- Commercial DAC Technology Prize - \$100 million
 - Precommercial DAC Prize - \$15 million

Inflation Reduction Act (IRA) - 2022

- **Inflation Reduction Act** – The Inflation Reduction Act's **\$370 billion** in investments will lower energy costs for families and small businesses, accelerate private investment in clean energy solutions in every sector of the economy and every corner of the country, strengthen supply chains for everything from critical minerals to efficient electric appliances.
- **Inflation Reduction Act** – Transformative enhancements to the 45Q tax credit to stimulate private investment in carbon capture, carbon conversion and direct air capture projects
 - Available for projects beginning construction by 2032; direct payments for first 5 years of operation
 - \$85/tCO₂ for carbon capture from industrial facilities and power plants with dedicated storage; \$180/tCO₂ for direct air capture
 - Reduced minimum project size to 1,000 tons for direct air capture, 12,500 tons for industrial facilities, and 18,750 tons for power plants

Section 45Q: Credit for Carbon Oxide Sequestration (2008, 2022)

- **Introduced in 2008**
- **Enhanced in 2022 as part of Inflation Reduction Act, changes include:**
 - Up to USD 85 per ton of CO₂ permanently stored and USD 60 per ton of CO₂ used for enhanced oil recovery (EOR) or other industrial uses of CO₂, provided emissions reductions can be clearly demonstrated.
 - Includes commercial-scale carbon capture demos, direct air capture and hydrogen hubs, regional geologic storage sites and CO₂ transport infrastructure
 - Expands federal funding to include commercial scale demonstration and infrastructure
 - Reduces the capacity requirements for eligible projects: 18,750 tons per year for power plants (provided at least 75% of the CO₂ is captured), 12,000 tons per year for other facilities, and 1,000 tons per year for DAC facilities.
 - Includes a seven-year extension to qualify for the tax credit, meaning that projects have until January 2033 to begin construction.

Source of Carbon Dioxide	Storage Method	EIEA 45Q Value (per metric ton)	BBA 45Q Value (per metric ton)	IRA 45Q Value (per metric ton)	IRA Key Points
Industrial Facility (including electric generating units)	Enhanced Oil Recovery (EOR) with Geologic Storage or Utilization	\$10/ton	\$35/ton	\$60/ton	Effective date: Pushes out commence construction from Jan. 1, 2026, to Jan. 1, 2033. Qualified facility: Language lowered qualified facility volume definition. An electric generating facility must capture at least 18,500 tons per year. Direct pay: Provides direct pay for private entities for 5 years. Those entities are then eligible to use transferability. Public entities can elect to receive direct pay for the life of the credit (12 years).
Industrial Facility (including electric generating units)	Geologic Storage without EOR	\$20/ton	\$50/ton	\$85/ton	
Direct Air Capture Facility	EOR with Geologic Storage or Utilization	N/A	\$35/ton	\$130/ton	
Direct Air Capture Facility	Geologic Storage without EOR	N/A	\$50/ton	\$180/ton	

1 million metric tons (MMt)/year x \$85/ton x 12 years = >\$1B

Impact of 45Q + Policies on project development

Cumulative Project Announcements by Sector

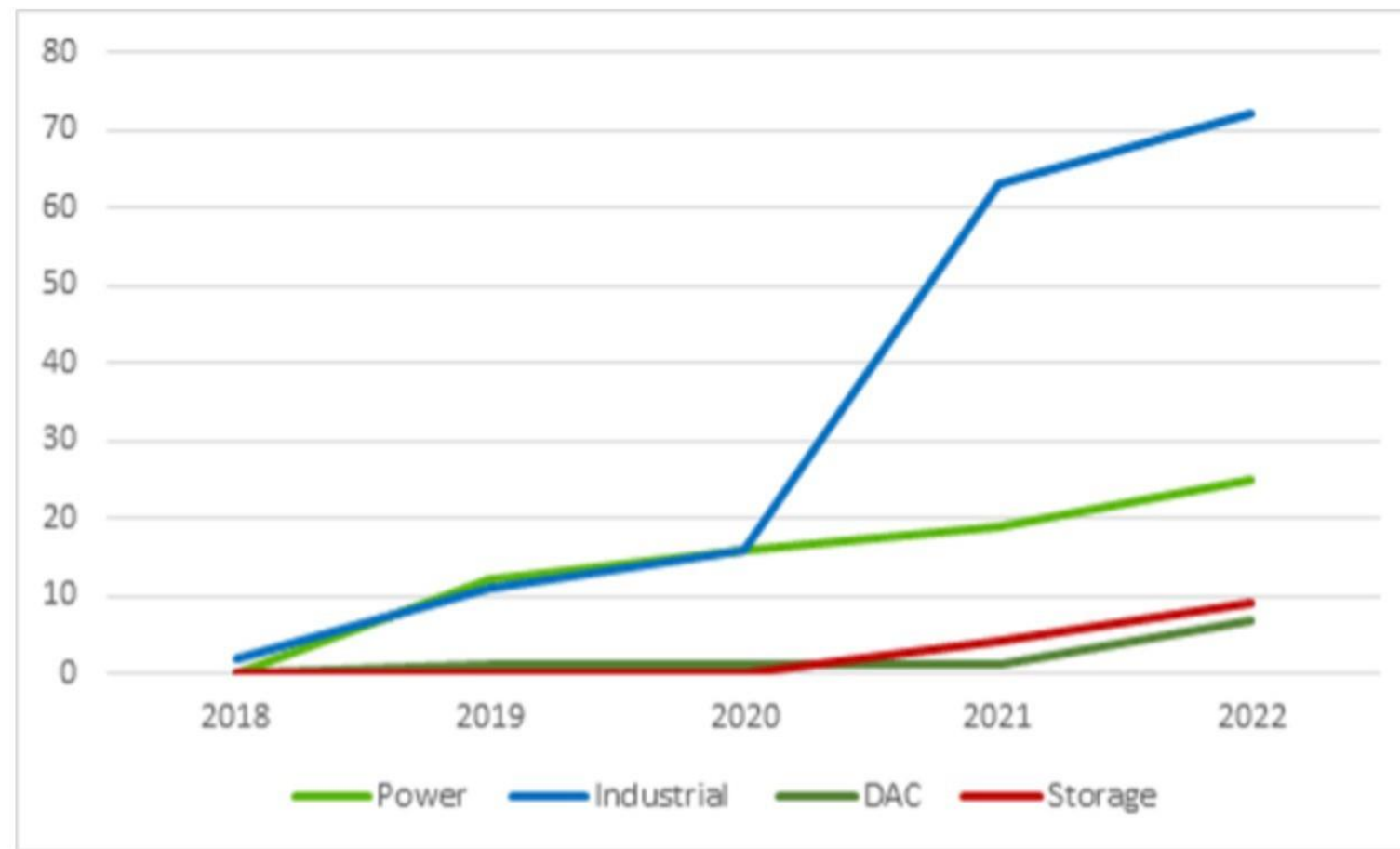
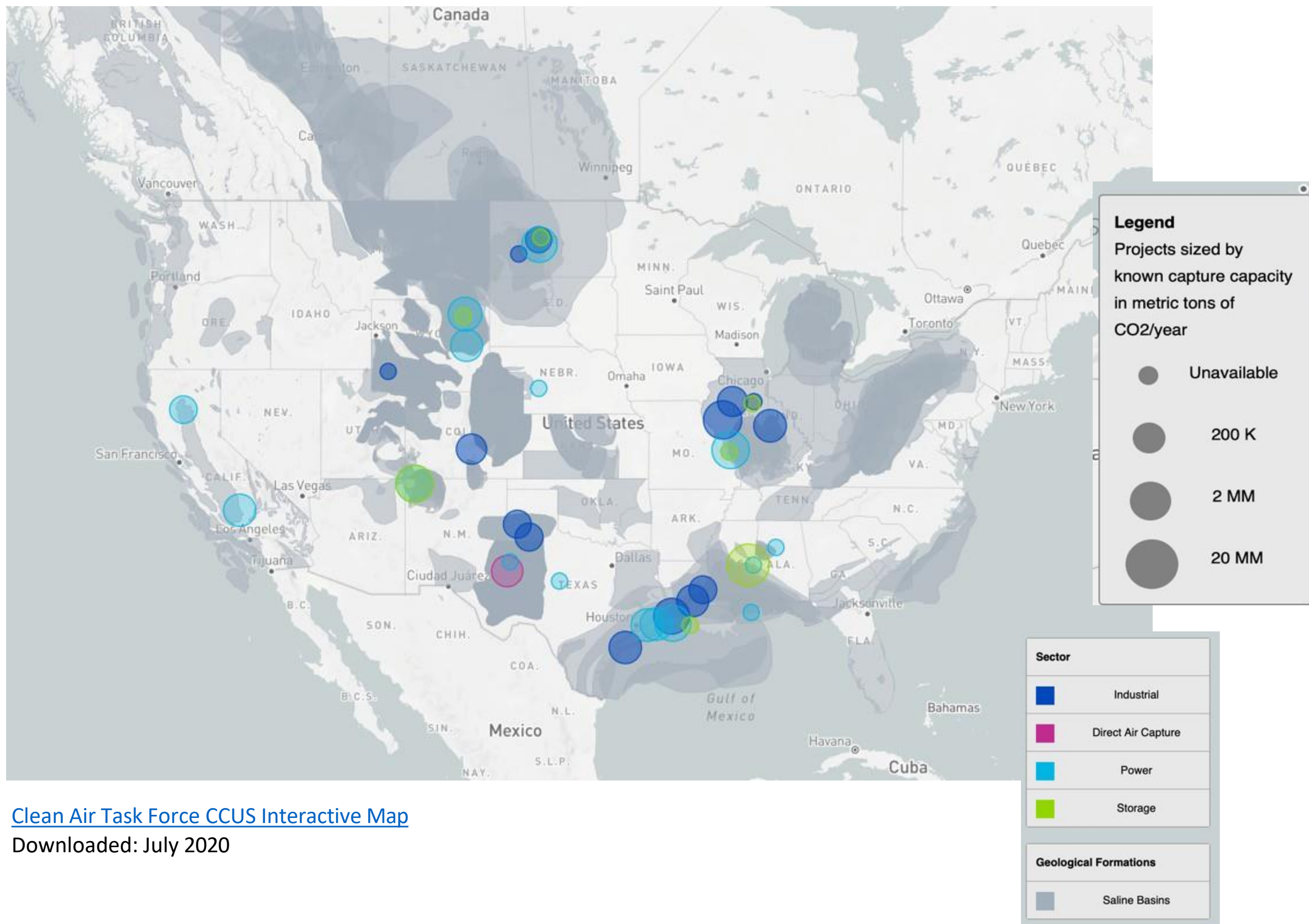
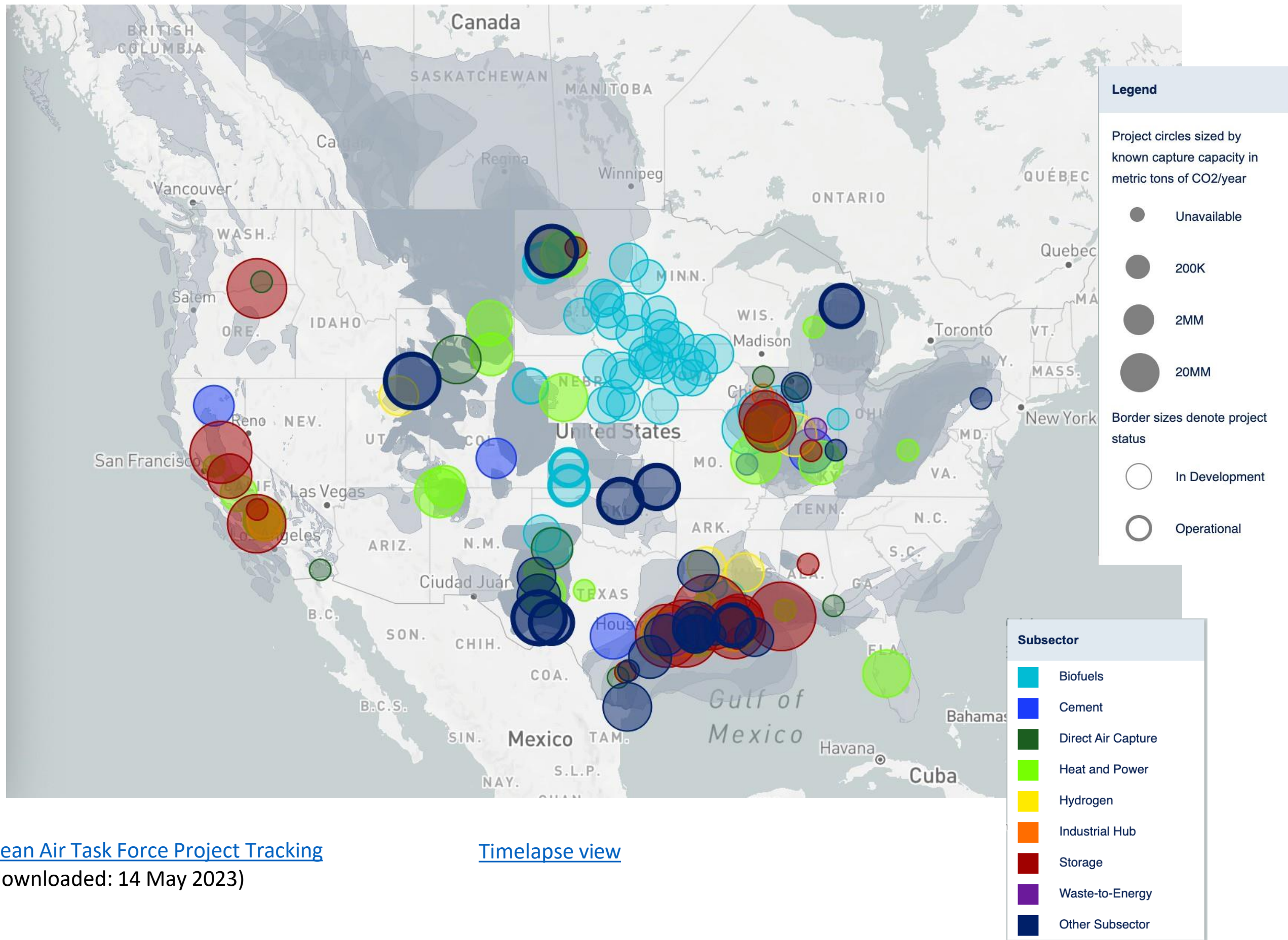


Figure 1



[Clean Air Task Force CCUS Interactive Map](#)

Downloaded: July 2020



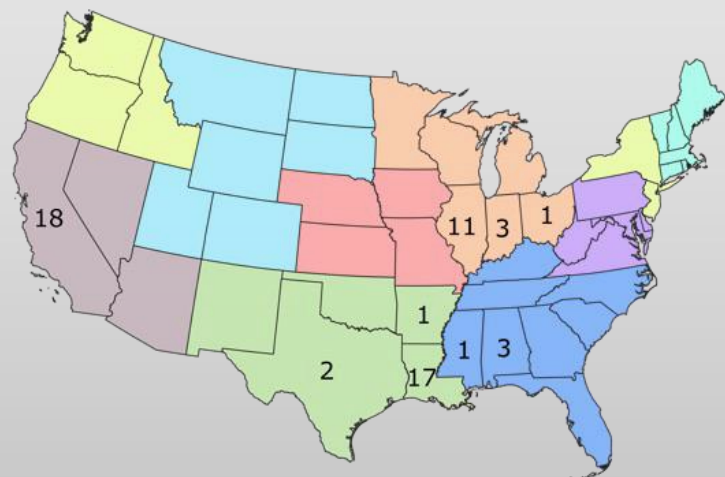
[Clean Air Task Force Project Tracking](#)
(downloaded: 14 May 2023)

[Timelapse view](#)

Protection of Drinking Water Underground Injection Control (UIC) Program

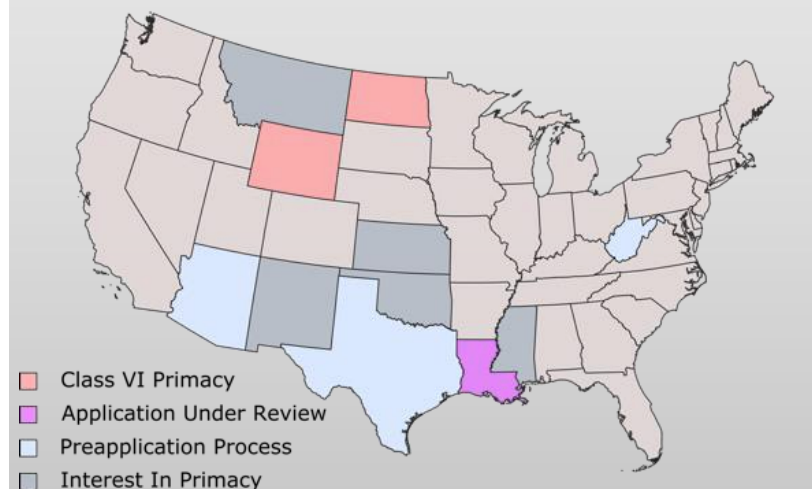
Federal Regional Environmental Protection Agency

- UIC Class VI
- Specific to storage of CO₂
- Robust risk reduction and mitigation through proper siting of storage



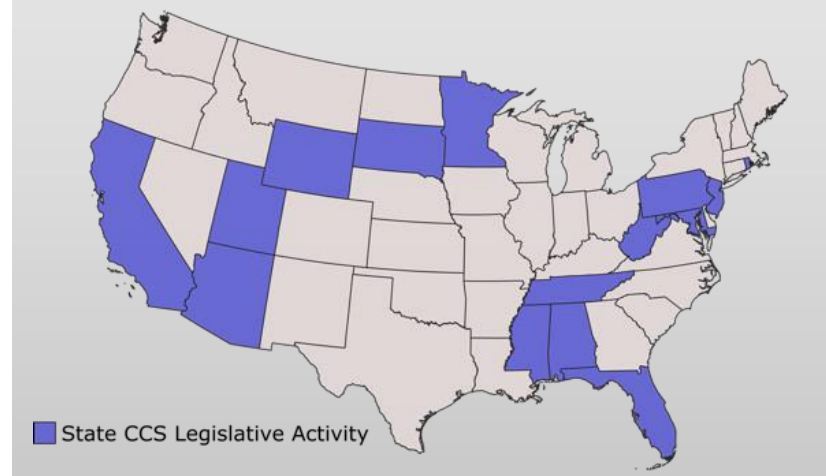
State Primacy

- State primacy may reduce risks to project developers by shortening the time required to obtain UIC Class VI permit to inject CO₂



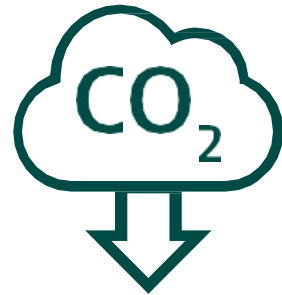
State Legislation

- 15 states introduced legislation related specifically to CCS in 2022
- More expected in 2023 and 2024



Regulations in place for Clean Air
Regulations under development for offshore
CEQ Regulatory task forces named and slated to begin soon

Robust Deployment Landscape



RD&D continues to drive down cost of capture

- ✓ New technologies are being developed; second-generation technologies are ready for deployment; transformational technologies are in development (scale-up required)
- ✓ FOAK to NOAK commercial demonstration technologies significantly reduces costs



Policy incentives such as the Section 45Q tax credit, the Bipartisan Infrastructure Law, and the California Low Carbon Fuel Standard are driving investment



Project risks/uncertainty reduced through regulatory/legal frameworks (Class VI/State Primacy, clarification of pore space ownership), and 3rd party business models



DOE Fossil Energy and Carbon Management's focus on CCUS



New federal agencies and state governments supporting CCUS deployment (BOEM/BSSE, DOI, state legislators) with access to pore space and long-term stewardship frameworks



Advancements in education, equity and justice, workforce development, and stakeholder engagement

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Sallie Greenberg Consulting

CCS COMMERCIAL AND REGULATORY FRAMEWORKS: LESSONS LEARNED FROM THE CCS EXPERIENCE IN THE UNITED STATES

Ruth Ivory-Moore

POLICY AND ADVOCACY MANAGER AMERICAS

Global CCS Institute



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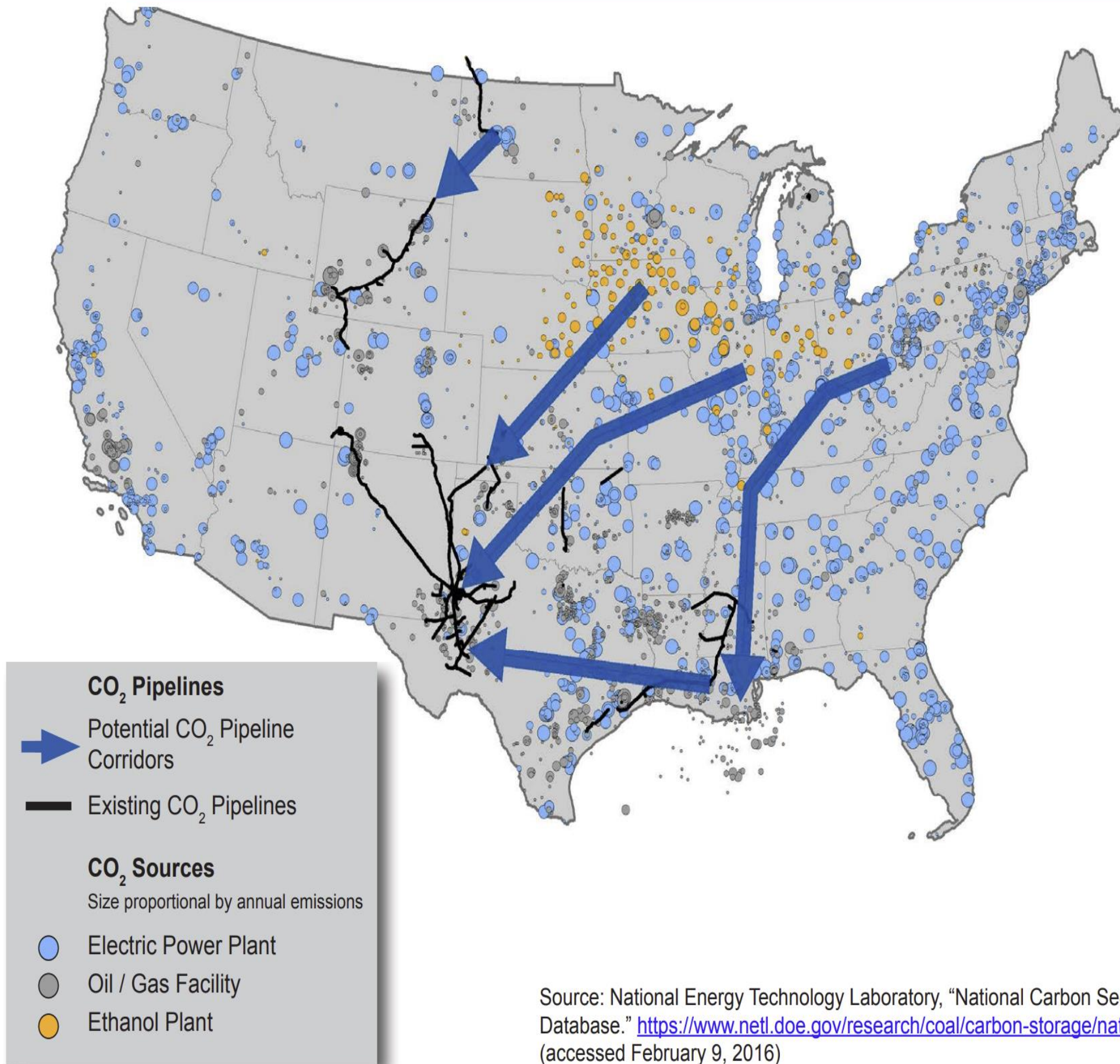
OVERVIEW OF CO₂ PIPELINE REGULATORY FRAMEWORK

RUTH IVORY-MOORE
POLICY AND ADVOCACY MANAGER AMERICAS, GLOBAL CCS INSTITUTE



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Potential Regional CO₂ Pipeline Corridors (Illustrative Purposes Only)



Source: National Energy Technology Laboratory, "National Carbon Sequestration Database." <https://www.netl.doe.gov/research/coal/carbon-storage/natcarb-atlas> (accessed February 9, 2016)

CO₂ PIPELINE REGULATORY AGENCIES – SITING AND SAFETY

- Safety
 - Pipeline and Hazardous Materials Safety Administration (PHMSA)
 - Investigates any identified safety concern and issues corrective action
 - Regulates design, construction, operation, maintenance, and emergency response planning
 - Applies the same safety requirements for CO₂ pipelines as others such as crude oil and gasoline
 - Develops the rules and regulations for pipeline safety and states may apply for annual certification to have inspection and enforcement responsibilities.

CO₂ PIPELINE REGULATORY AGENCIES – SITING AND SAFETY

- Siting
 - No one federal agency regulates siting of new CO₂ pipelines
 - Siting is left to the States
 - Rates charges by CO₂ pipelines are not regulated by any federal agency, but the Surface Transportation Board (STB) may hear complaints about rates
 - No federal eminent domain for CO₂ pipelines
 - Federal Lands
 - Crossing Federal lands - the Bureau of Land Management (BLM) can grant a Right of Way (ROW) under the Mineral Leasing Act (MLA) of 1920 or the or the Federal Land Policy and Management Act (FLPMA).
 - The National Environmental Protection Act (NEPA), which requires that either an Environmental Impact Statement (EIS) or and Environmental Assessment (EA) must be conducted.
 - NEPA is also triggered for CCUS projects that use Federal funding.

CO₂ PIPELINE CONCERNS

- Not in my backyard (NIMBY)": Communities are not keen to have CO₂ pipelines being laid in their area.
- Safety: Communities are concerned about safety of CO₂ pipelines
- Extending life of fossil fuels: This is a distant third cause of concern after NIMBY and safety, however it is one that is used by some groups to catalyze opposition.



STEPS TO ENABLE SUCCESSFUL COMMUNITY ENGAGEMENT

- Identify and utilize the right messenger(s), incorporating due diligence to thoroughly understand the communities, including the origins of concerns and the communities' needs.
- Encourage operators to be proactive in devising various means of community engagement plans.
- Develop educational materials to familiarize the public with CO₂, including its chemical properties, such as being nontoxic but acknowledging it is heavier than air and could be an asphyxiant.
- Identify and disseminate existing resources.
- Develop and issue factsheets to help with education and awareness raising.

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CCS COMMERCIAL AND REGULATORY FRAMEWORKS: LESSONS LEARNED FROM THE CCS EXPERIENCE IN THE UNITED STATES

Errol Pinto

SENIOR CONSULTANT POLICY AND COMMERCIAL

Global CCS Institute



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CCS COMMERCIAL AND REGULATORY FRAMEWORKS

- The effectiveness of legislation is enabled by effective commercial and regulatory frameworks.
- CCS policy intersects and overlaps with legal, commercial, and regulatory frameworks:
 - Net zero and NDC commitments.
 - International agreements.
- Effective policy covers all aspects of the CCS value chain – capture, transportation, and **storage**.
 - Inflation Reduction Act*: *Increases in 45Q tax credits* for **geological storage** of CO₂.
- National policy, legislation, and regulation impacts the sub-national level: *Class VI primacy*.
- In a burgeoning sector, policy clarity has a bigger impact than in a mature sector.
- Seemingly overlapping policies, legislation, rules/regulation, can lead to private sector uncertainty.
- Strong policy frameworks provide confidence to stakeholders.

OUTSIDE OF CLASS VI POLICY

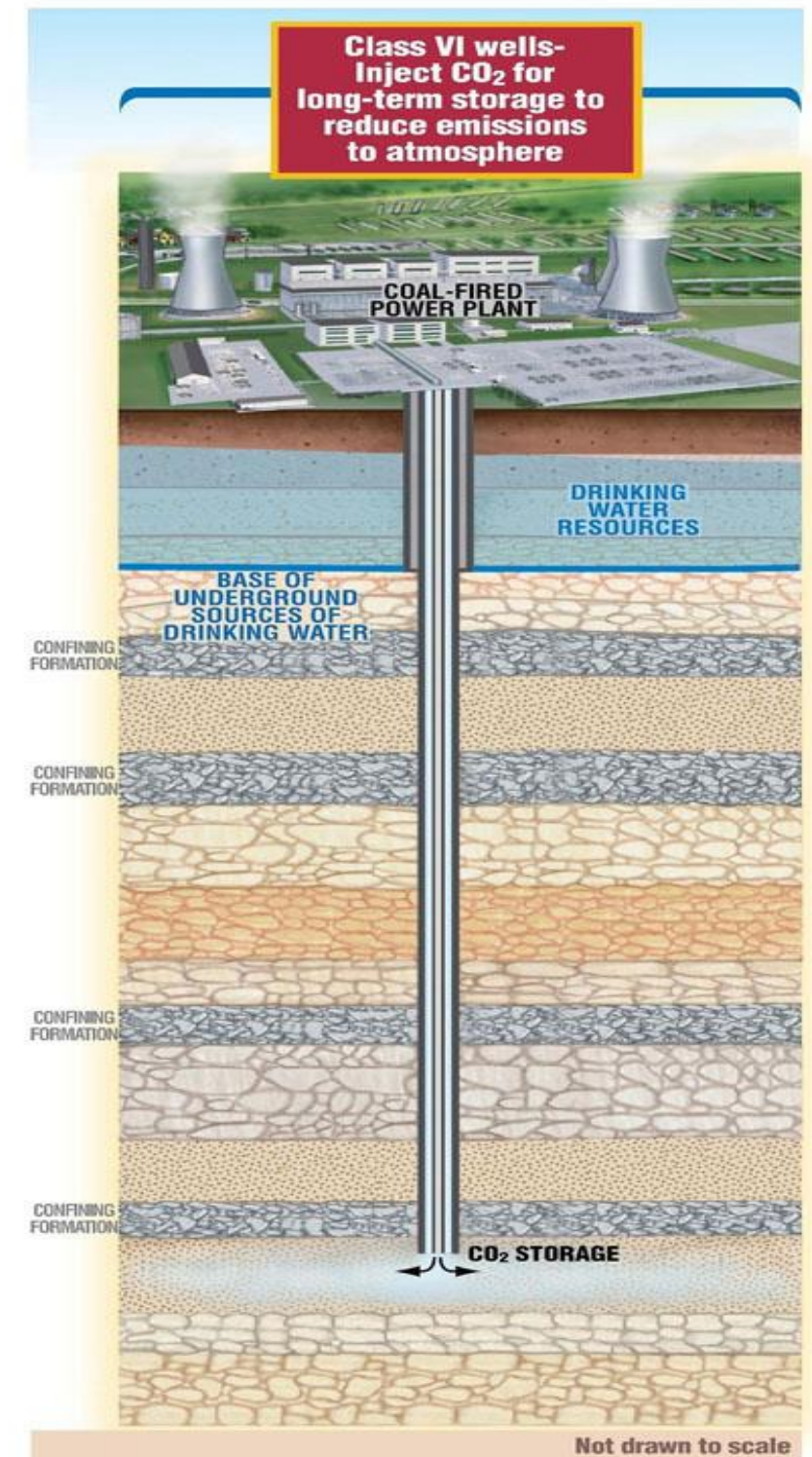
- The CCS value chain has many other elements not covered under the Class VI framework.
- Carbon capture technology.
- CO₂ monitoring, reporting, and verification (MRV) – governed by 40 CFR Part 98 Subpart RR.
 - MRV requires separate approval from the EPA.
- CO₂ transportation – e.g., interstate pipelines fall under PHMSA's jurisdiction.
- Pore space and mineral rights – nuanced and varies by State.
 - See the Institute's publication on Pore Space rights in the United States.

CLASS VI PROGRAM – HIGH LEVEL OVERVIEW

- The [Class VI](#) program is part of the [Underground Injection Control](#) program.
- It is managed by the Environmental Protection Agency (EPA) – a Federal Government level agency.
- **Nearly 13-year history:** The EPA gets its authority from a [rule](#) established on December 10, 2010.
- The EPA established a new **well class** under this rule – Class VI.
 - Came into effect on September 7, 2011.
 - The 270 days in between allowed States to apply for *primary enforcement responsibility* or **primacy**.
 - The States of [North Dakota](#) (2018) and [Wyoming](#) (2020) have Class VI primacy.
 - In April 2023, the EPA [“determined that the State of Louisiana’s Class VI UIC program meets all requirements for approval”](#).
- Like the other well classes, this rule establishes *minimum technical criteria* to protect underground sources of drinking water (USDWs).
- Unlike the other well classes, the rule addresses the impact of the **long-term storage of CO₂**.

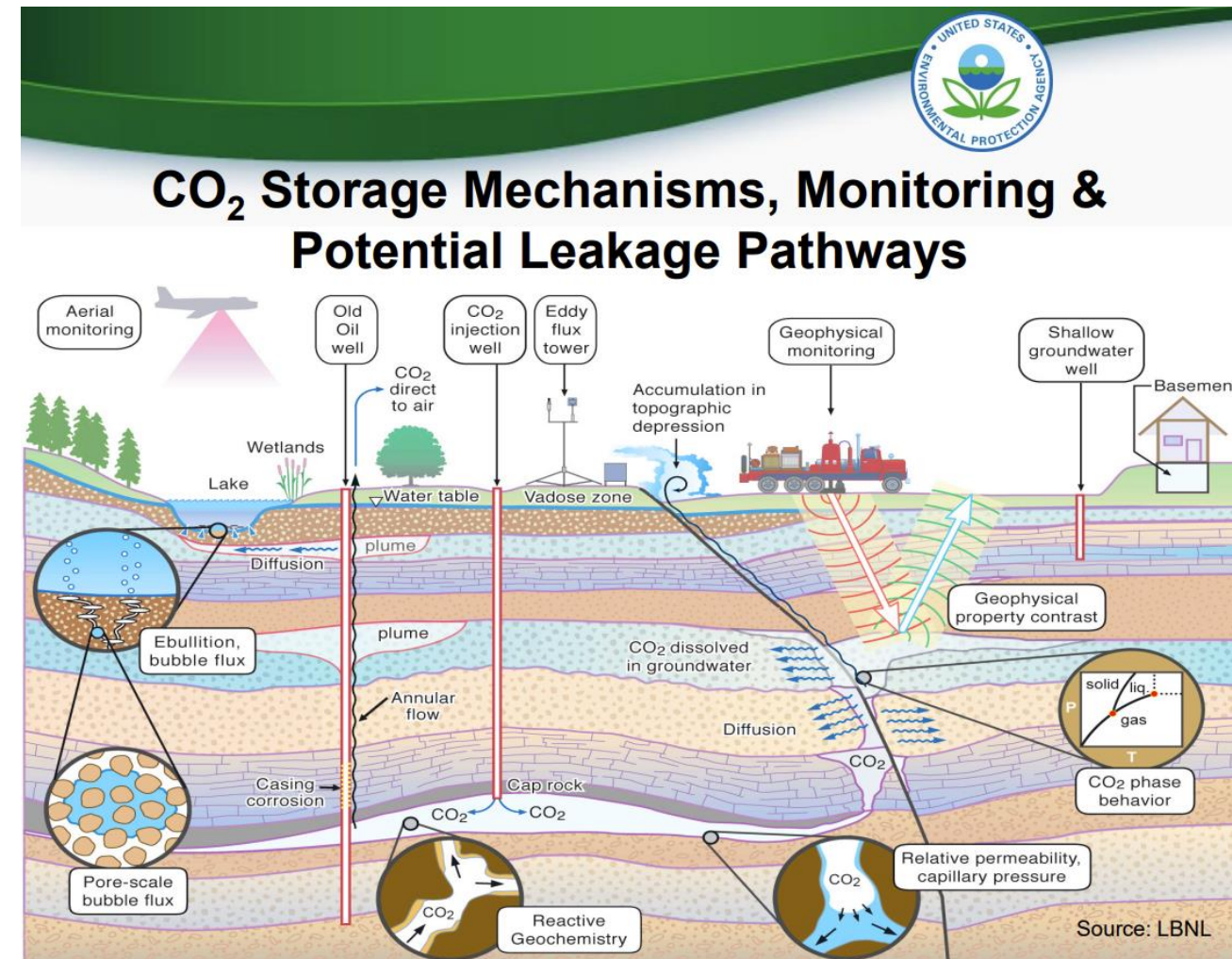
UNDERGROUND INJECTION CONTROL

- The Underground injection control (UIC) program is run by the Environmental Protection Agency (EPA).
- There are 6 classes of wells used for underground injection; EPA has requirements for the *"construction, operation, permitting, and closure of injection wells used to place fluids underground for storage or disposal"*.
 - Class I: Industrial and municipal waste disposal wells.
 - Class II: Oil and gas related injection wells.
 - Class III: Injection wells for solution mining.
 - Class IV: Shallow hazardous and radioactive injection wells.
 - Class V: Wells for Injection of Non-Hazardous Fluids into or Above Underground Sources of Drinking Water (USDWs).
 - **Class VI: Wells used for Geologic Sequestration of Carbon Dioxide.**



CLASS VI PROGRAM – TECHNICAL CRITERIA

- The Class VI rule covers several technical criteria:
 - [Permitting](#).
 - [Geologic site characterization](#).
 - [Area of review \(AOR\) and corrective action](#).
 - [Financial responsibility](#).
 - [Well construction](#).
 - [Operation](#).
 - [Mechanical integrity testing \(MIT\) and Monitoring](#).
 - [Well plugging, post-injection site care \(PISC\), and site closure](#).
- [North Dakota](#) & [Wyoming](#) have also defined technical criteria.



Graphic is from a presentation by the EPA (dated July 2019)
Source: [Geologic Sequestration of CO₂ and Class VI Wells](#)

CLASS VI OVERVIEW – EPA

- **Current status:** EPA has [77 permits](#) under varying stages of evaluation – 2 active, 74 pending, 1 withdrawn.
 - North Dakota has issued [5 permits](#) and Wyoming has [3 permits](#) under review.
- **Permitting:**
 - The EPA's guidance documents lists out the permit application criteria: in a checklist, and an outline with cross-references to the requirements. Refer: [guidance](#), [checklist](#), [permit application outline](#).
 - Refer to the permits issued to ADM¹ for the CCS #1 and #2 wells. The permits list out the specifics for these wells and can be compared against the EPA's requirements. Refer: [CCS #1](#) (Pg. 5), [CCS #2](#) (Pg. 7).
- **Monitoring:** Class VI wells need to be monitored for a 50-year timeframe after ceasing injection activities. Monitoring requirements including frequency are project dependent. Refer: [40 CFR² 146.93](#), PISC³: [a](#), [b](#).
- **Existing wells:** To qualify for Class VI usage, existing wells need to be re-permitted and would need to meet Class VI requirements. Refer [well construction](#) (Ch. 3), [40 CFR 146.86](#), [40 CFR 146.87](#).
- **EPA Guidance:** All Class VI references can be found at the EPA's Class VI [website](#), including those for permit applications and guidance documents.

¹ ADM: Archer Daniels Midland

² CFR: Code of Federal Regulations

³ Post-injection site care

GOING FORWARD

- States are interested in obtaining Class VI primacy.
 - Arizona, Texas, West Virginia are in progress; several others have shown interest.
- Increasing interest in State primacy applications indicates the importance of CCS as a **decarbonization** strategy.
- Interstate **collaboration** is also important, especially on transport and storage.
- CCS is still presumed to be niche but has a long history of demonstration.
 - See the Tracking CCUS Misinformation panel session at the Institute's 2023 DC Forum.
- Community engagement and environmental justice are important considerations.
 - See the Environmental Justice panel session at the Institute's 2022 DC Forum.

THANK YOU

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COMMERICAL**

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<https://status22.globalccsinstitute.com/>

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Further questions? Reach out: info@globalccsinstitute.com

