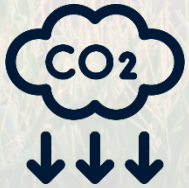
SUMMIT CARBON SOLUTIONS

GWPC Annual Conference
June 2022

Summit Carbon Solutions Overview

HEADQUARTERED IN AMES, IOWA, SCS IS THE WORLD'S LARGEST INTEGRATED CARBON CAPTURE, TRANSPORATION, AND STORAGE BUSINESS

Summit Carbon Solutions has **partnered with 32 ethanol plants** across the states of Iowa, Minnesota, Nebraska, North Dakota, and South Dakota, to develop the largest carbon capture and storage project in the world.



This multi-billion-dollar infrastructure project will have the capacity to **capture and permanently store up to 12 million tons of carbon dioxide every year**.

The project opens a critical new markets for ethanol producers, **bolstering the bottom line of corn growers, and generating substantial new tax revenues for local communities.**

Summit Carbon Solutions Overview

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STEP 1: CAPTURE

SCS will **capture nearly 9M tons of CO_2** per year that would otherwise be emitted into the atmosphere. The project will be able to accommodate a total capacity of 12M+ tons annually

STEP 2: TRANSPORT

The CO_2 will be transported via a **pipeline network that spans nearly 2,000 miles** and will be **completed in 2024**

STEP 3: STORE

The CO_2 will be **permanently and safely stored deep underground in well understood geologic formations in North Dakota**

SCS' INFRASTRUCTURE WILL BE CAPABLE OF STORING 12M TONS/Y; EQUIVALENT TO TAKING 2.6M CARS OFF THE ROAD

Carbon Capture and Storage Policy

WHY? WHAT'S DRIVING PROGRESS?

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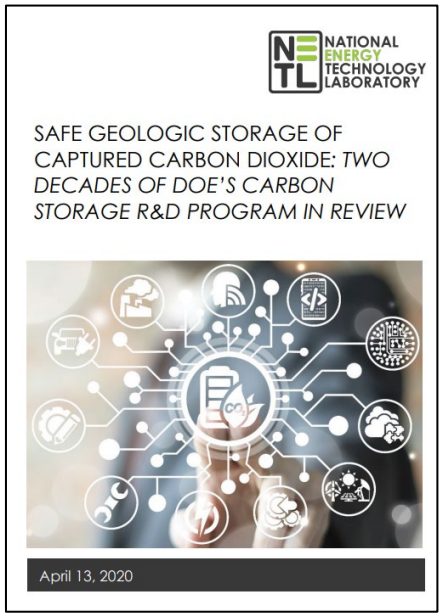
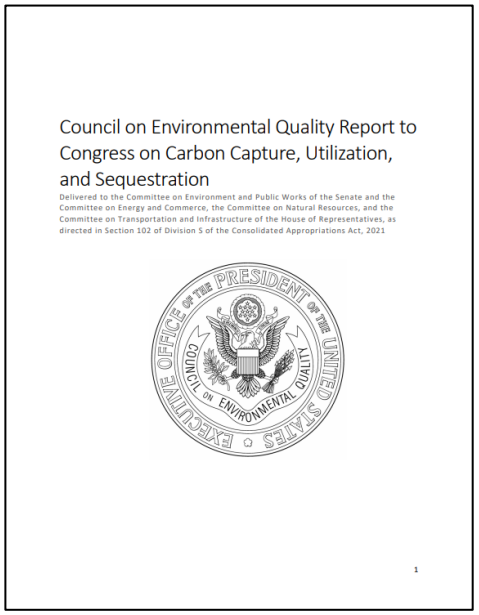
RESEARCH



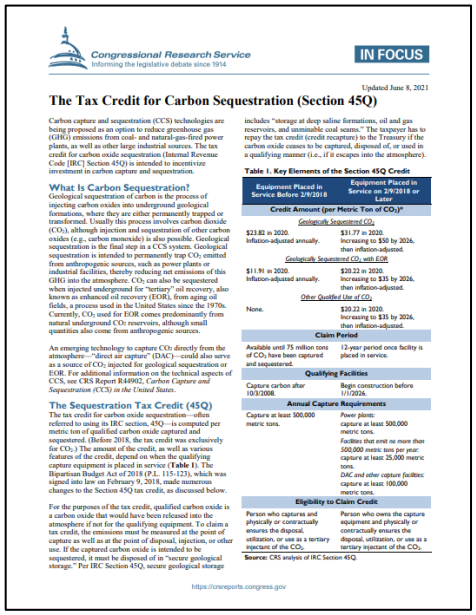
The U.S. Department of Energy (DOE) has invested more than $1 billion during the past two decades through its Carbon Storage Research and Development (R&D) Program to develop the technologies and capabilities for widespread commercial deployment of geologic storage.

GOALS



White House details the existing regulatory framework that is already in place and capable of permitting and reviewing actions for CCUS, while also protecting the environment, public health, and safety as these projects move forward.

INCENTIVES



Carbon capture and sequestration (CCS) technologies are being proposed as an option to reduce greenhouse gas (GHG) emissions... The tax credit for carbon oxide sequestration (Internal Revenue Code [IRC] Section 45Q) is intended to incentivize investment in carbon capture and sequestration.

TECHNICAL REPORT TEMPLATE AND USER GUIDE (doe.gov)
Council on Environmental Quality Delivers Report to Congress on Steps to Advance Responsible, Orderly, and Efficient Development of Carbon Capture, Utilization, and Sequestration | The White House
The Tax Credit for Carbon Sequestration (Section 45Q) (congress.gov)

Enhancing the Long-Term Viability of Ethanol & Agriculture

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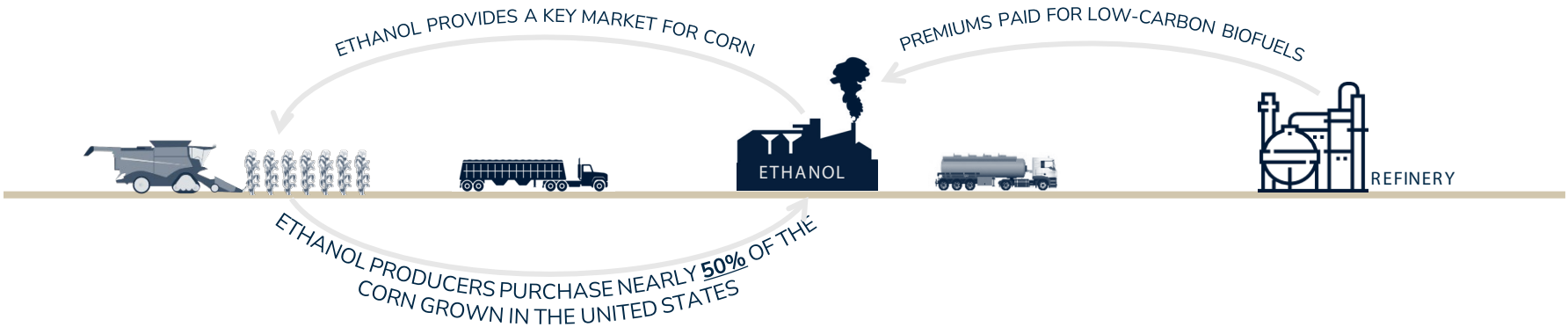
SCS ENABLES ETHANOL TO BE PRODUCED MORE SUSTAINABLY ALLOWING IT TO BETTER COMPETE IN A LOW-CARBON WORLD



ETHANOL AND AGRICULTURE WORK TOGETHER TO ADD VALUE ACROSS THE SUPPLY CHAIN AS WELL AS CREATE ECONOMIC IMPACT AND JOBS FOR RURAL AMERICA.

	UNITED STATES	NEBRASKA	IOWA	MINNESOTA	NORTH DAKOTA	SOUTH DAKOTA
ANNUAL GDP CONTRIBUTION OF THE ETHANOL INDUSTRY	$50B+	$5.0B+	$4.5B+	$2.1B+	$640M+	$590M+

THE LONG-TERM VIABILITY OF THE ETHANOL INDUSTRY IS CRITICAL FOR AGRICULTURE AND RURAL AMERICA.

Source: Renewable Fuels Nebraska, Iowa Corn Growers Association, ABF Economics 2021 ,Minnesota Biofuels Association, University of Minnesota Extension 2021, North Dakota Ethanol Council, ABF Economics 2019, 2021 Economic Contribution Study of South Dakota Agriculture, Ethanol and Forestry, July 2021

Driving the Future of Agriculture

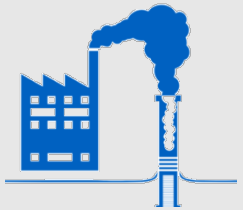
SUMMIT CARBON SOLUTIONS WILL OPEN NEW ECONOMIC OPPORTUNITIES FOR ETHANOL PRODUCERS AND STRENGTHEN THE MARKETPLACE FOR CORN GROWERS

PRIMARY ETHANOL INPUT	CURRENT MONETIZED OUTPUTS		OPPORTUNITY
3 lbs of corn	**~1 lb** of ethanol	**~1 lb** of dried distillers grain	**~1 lb** of CO_2

YIELDS

+

+



CO_2 IS CURRENTLY A WASTE PRODUCT FROM ETHANOL PLANTS EMITTED INTO ATMOSPHERE

→

SUMMIT CARBON SOLUTIONS WILL CAPTURE AND PERMANENTLY SEQUESTER CO_2 FROM ETHANOL PLANTS

→

SIGNIFICANTLY REDUCES EMISSIONS AND CREATES LONG TERM ECONOMIC BENEFITS

SCS WILL IMPROVE THE LONG-TERM VIABILITY OF THE AGRICULTURE INDUSTRY IN THE MIDWEST

CCS Provides a Tangible Path to Net Zero

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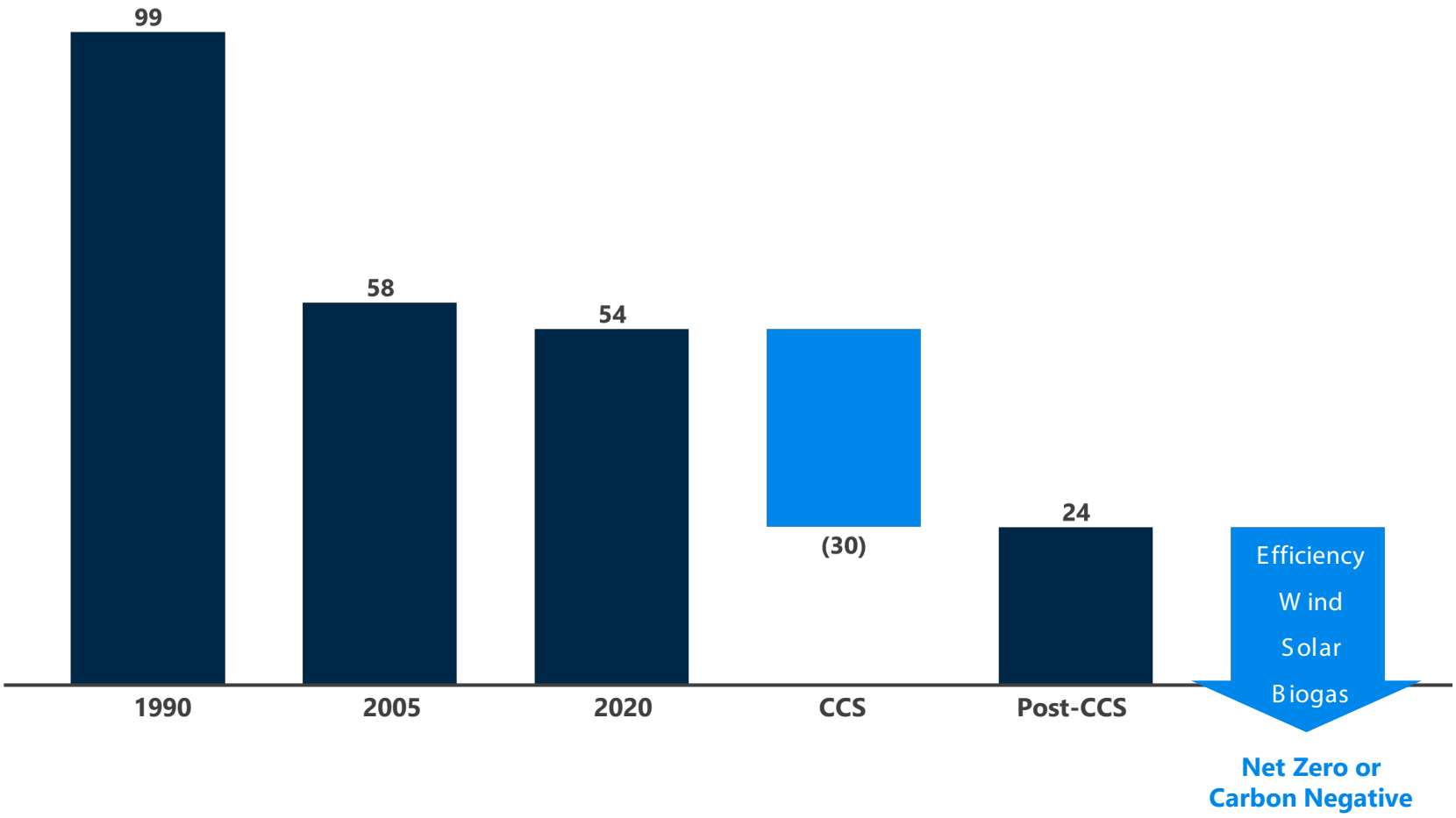
ETHANOL CARBON INTENSITY DECREASING DRAMATICALLY OVER TIME

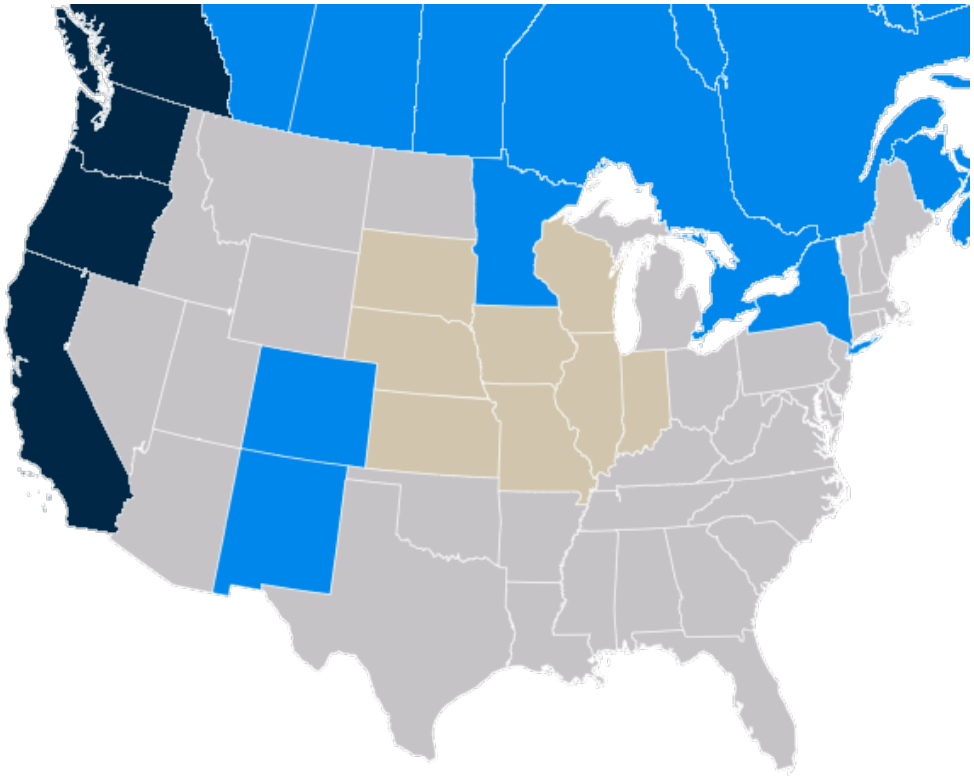


Melissa J Scully et al 2021 Environ. Res. Lett.

The Low Carbon Fuel Market is Quickly Expanding

MORE STATES AND COUNTRIES ARE ADOPTING OR CONSIDERING ADOPTING LOW CARBON FUEL STANDARDS

NORTH AMERICAN LOW-CARBON FUEL MARKETS



BILLION GALLONS OF LOW-CARBON ETHANOL DEMAND

Existing	Likely	Proposed	Total
2.1	2.2	1.8	**6.1**

THESE MARKETS PAY A PREMIUM FOR LOW CARBON FUELS AND REPRESENT A SIGNIFICANT ECONOMIC OPPORTUNITY FOR MIDWEST FARMERS AND ETHANOL PRODUCERS

Source: Energy Information Administration

Summit Carbon Solutions Economic Benefits

SUMMIT CARBON SOLUTIONS WILL CREATE JOBS, GENERATE NEW TAX REVENUE FOR LOCAL COMMUNITIES, SUPPORT LOCAL SUPPLIERS, AND STRENGTHEN THE REGIONAL ECONOMY

$4.5 Billion

projected capital investment with operations beginning in 2024[1]

PROJECT-WIDE FINDINGS (CONSTRUCTION PHASE)

11,427
Total Average Annual Jobs Created

$2.1 billion
Expenditures to Suppliers, Contractors, and More

$371 million
Total Federal, State, Local Taxes Paid by SCS

$309 million
Total Right-of-Way and Other Landowner Payments

PROJECT-WIDE FINDINGS (OPERATIONS PHASE)

$248 million
Annual Expenditures including expenditures to Suppliers, Contractors, and More

$97 million
Total Federal, State, Local Taxes Paid by SCS

1,170
Total Jobs Supported

SCS IS COMMITTED TO UTILIZING LOCAL UNION AND NON-UNION CONTRACTORS, LOCAL SUPPLIERS AND BUSINESSES TO PROVIDE ONGOING ECONOMIC BENEFITS TO COMMUNITIES ACROSS THE MIDWEST

Source: Ernst & Young

(1) Includes additional unsigned partner facilities. EY study projected capital investment at $3.7Bn; however, EY only analyzed payments creating an economic transfer for the 31 ethanol facility scope

Project Overview Map

SUMMIT CARBON SOLUTIONS

Partner Facility

SCS Sequestration Sites

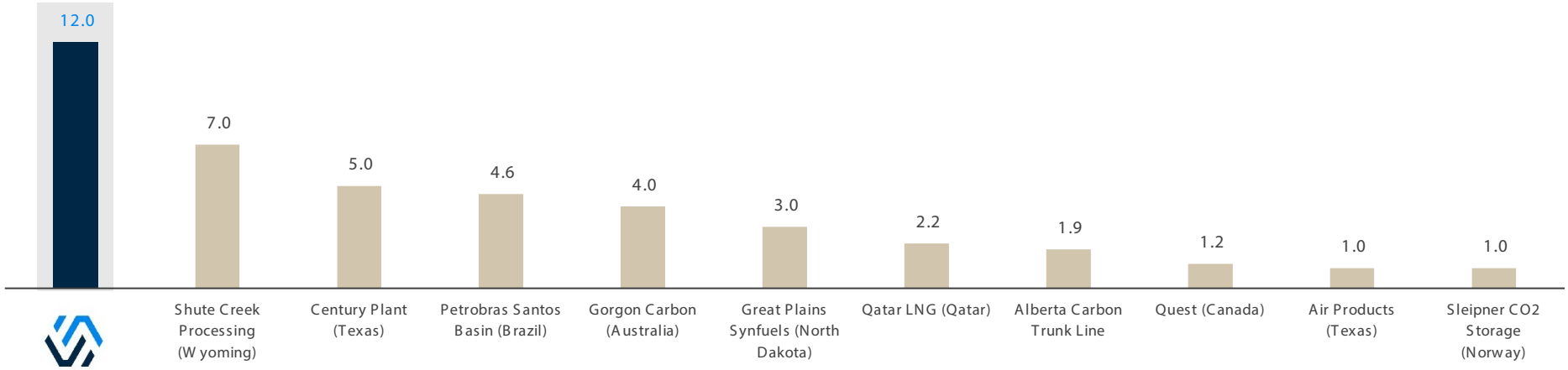
Pipeline Route

Content on this figure is preliminary and must be treated as confidential and proprietary. Sources are believed to be reliable and SCS does not assume responsibility for accuracy of data

Summit Carbon's Environmental Impact

"CURRENTLY, IT IS IMPOSSIBLE TO CHART A 1.5-DEGREE PATHWAY THAT DOES NOT REMOVE CO_2 TO OFFSET GOING EMISSIONS. THE MATH SIMPLY DOES NOT WORK."[1]

CREATING THE WORLD'S LARGEST CARBON CAPTURE AND STORAGE PROJECT[2]



CAPACITY TO CAPTURE, TRANSPORT AND STORE **12 MILLION METRIC TONS OF CO2** EACH YEAR EQUIVALENT TO:

REMOVING CO_2 EMISSIONS FROM 2.6 MILLION CARS EACH YEAR

OR

AMOUNT OF CO_2 STORED BY 14.7 MILLION ACRES OF FOREST

Source: EPA, Global CCS Institute

(1) McKinsey & Co., Climate math: W hat a 1.5-degree pathway would take (April 2020)

(2) Includes the max capture capacity of the 10 largest operational facilities according to Global Status of CCS 2021 report

Summit Carbon Solutions: A Commitment to Safety

DEPLOYING EXISTING, PROVEN TECHNOLOGIES TO REDUCE CARBON INTENSITY OF ETHANOL PRODUCTION

Capture & Compression

- Carbon dioxide capture and compression equipment will be installed to capture emissions from ethanol plants

Pipeline Transportation

- A 2,000-mile pipeline network will be comprised of 4-24" high strength carbon steel segments, which will transport CO_2 to the sequestration site in North Dakota
- There are more than 5,000 miles of CO_2 pipelines in the United States, all of which are regulated by the U.S. Department of Transportation.
- There have been zero fatalities associated with CO_2 pipelines over the past 20 years.

Geologic Storage

- CO_2 is permanently stored in geologic storage areas in North Dakota.
- Wells are drilled more than a mile below ground where CO_2 can be stored safely based on the standards put in place by the Environmental Protection Agency.

SCS IS UTILIZING LONG-STANDING, PROVEN, AND RELIABLE TECHNOLOGIES THAT ARE SAFE FOR LANDOWNERS AND THE COMMUNITIES WHERE OUR PROJECT IS PROPOSED TO BE LOCATED

Source: Department of Energy

CO2 Release Current State

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CO2 from Fermentation Process Emissions Stack

CO2 Capture Facilities

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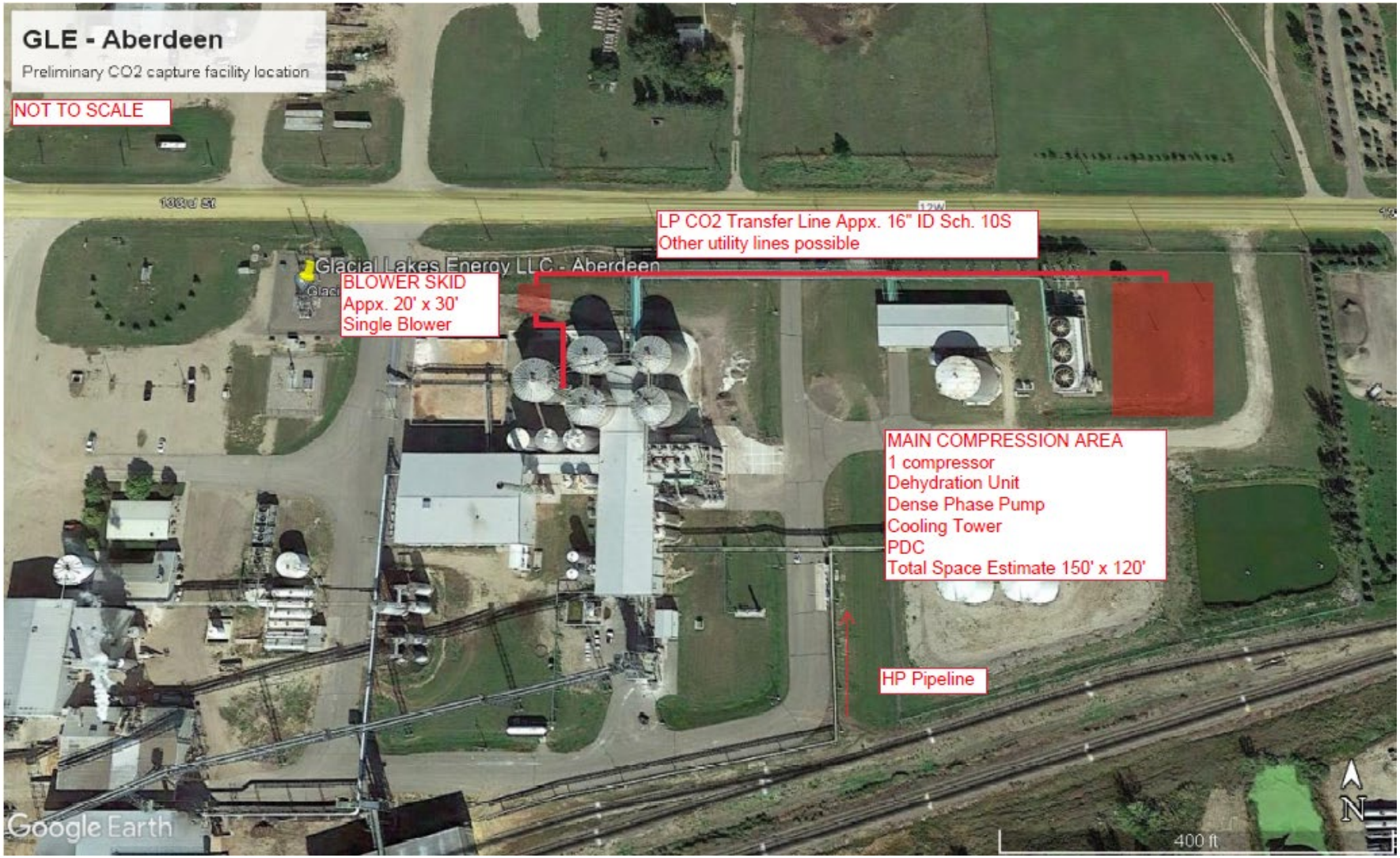

CO2 Capture Facilities

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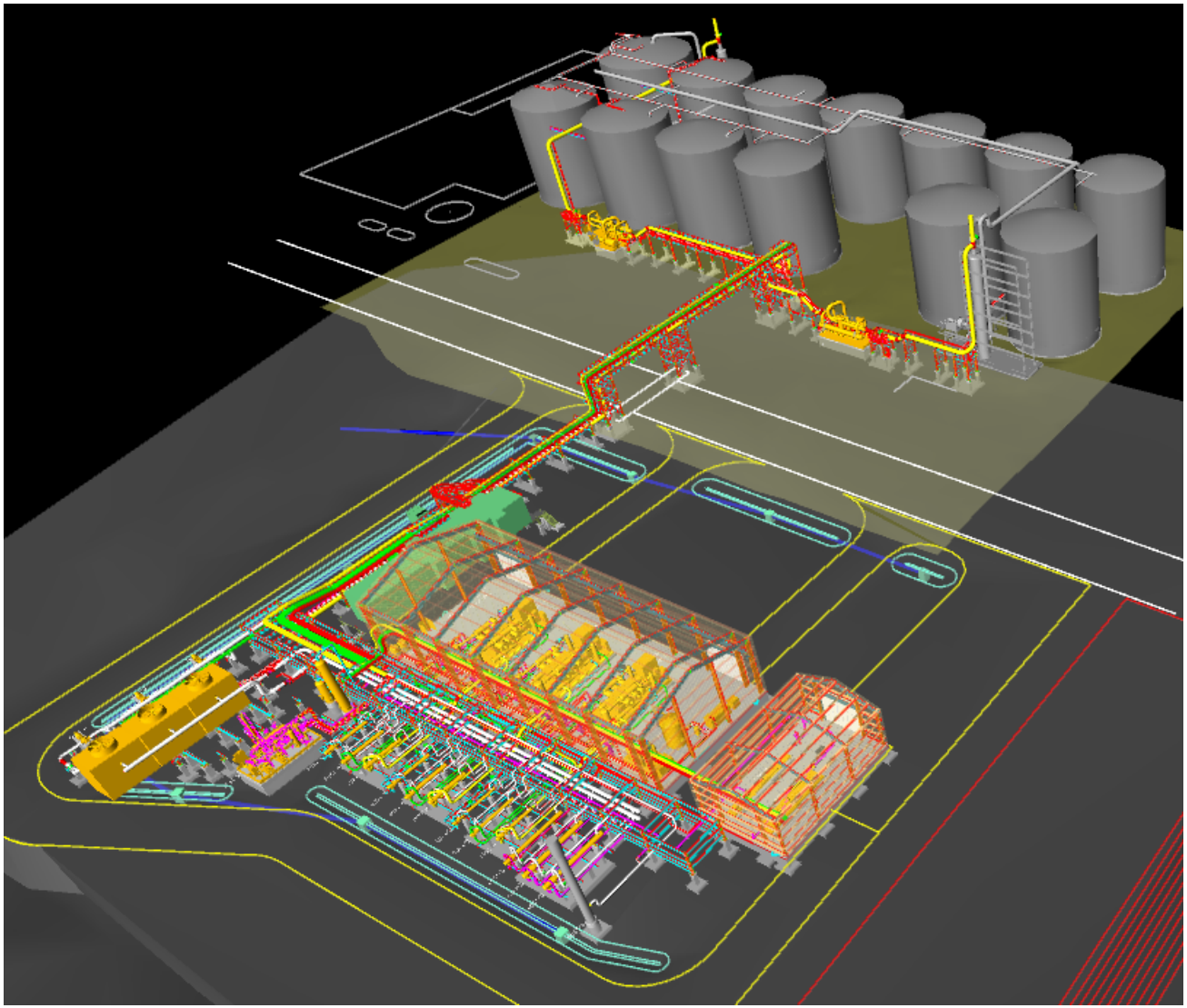

Pipeline System

Partner Facility

SCS Sequestration Sites

Pipeline Route

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South Dakota Pipelines

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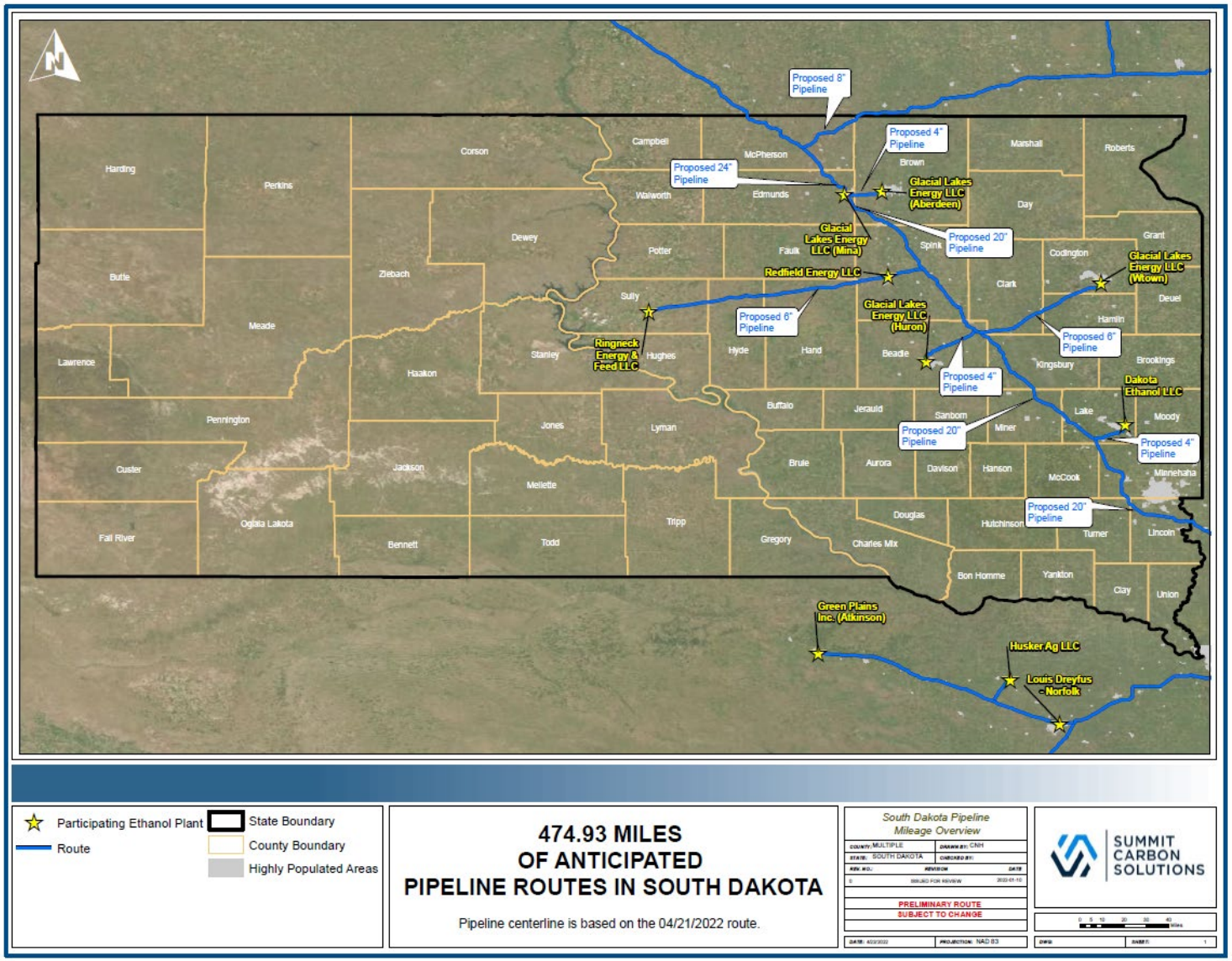

Participating Ethanol Plant
Route
State Boundary
County Boundary
Highly Populated Areas

474.93 MILES OF ANTICIPATED PIPELINE ROUTES IN SOUTH DAKOTA

Pipeline centerline is based on the 04/21/2022 route.

South Dakota Pipeline Mileage Overview

PRELIMINARY ROUTE SUBJECT TO CHANGE

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SEVEN CURRENT PARTNERS LOCATED IN SOUTH DAKOTA

DAKOTA ETHANOL (WENTWORTH)

GLACIAL LAKES ENERGY (ABERDEEN)

GLACIAL LAKES ENERGY (HURON)

GLACIAL LAKES ENERGY (MINA)

GLACIAL LAKES ENERGY (WATERTOWN)

REDFIELD ENERGY (REDFIELD)

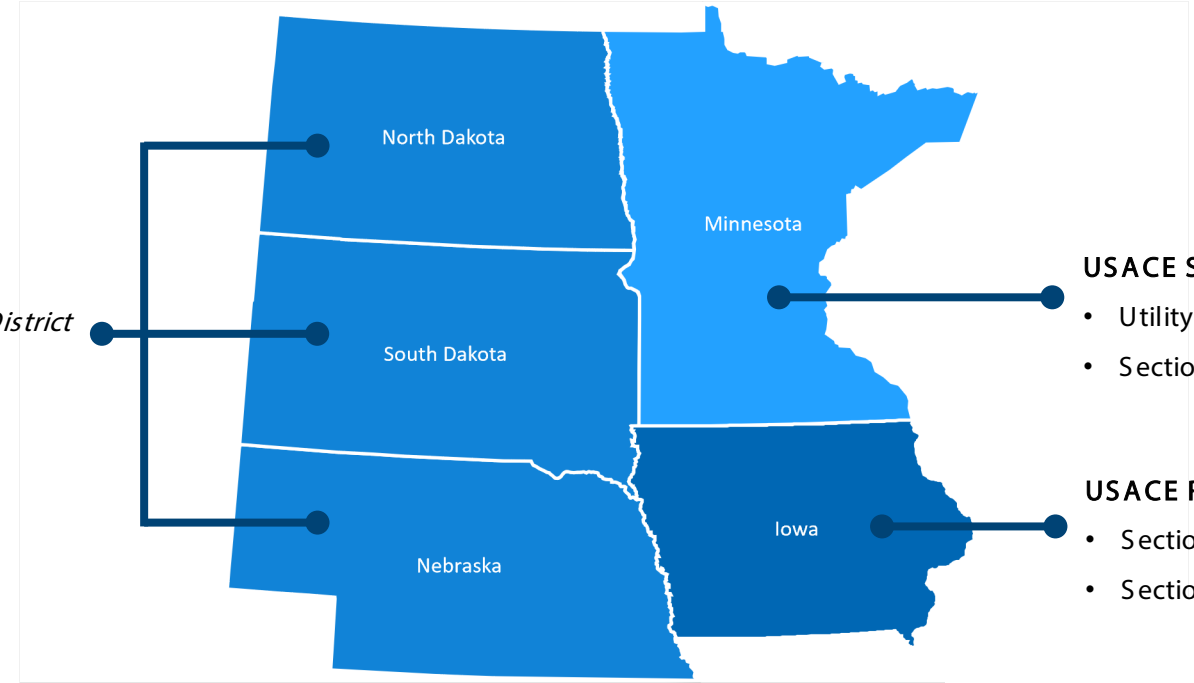
RINGNECK ENERGY & FEED (ONIDA)

Federal Permitting Roadmap

SUCCESSFULLY NAVIGATING THE FEDERAL REGULATIONS

USACE Omaha District

- *Lead / Coordinating District*
- Section 404 NWP 58
- Section 408 Review



USACE St Paul District

- Utility Regional General Permit
- Section 408 Review

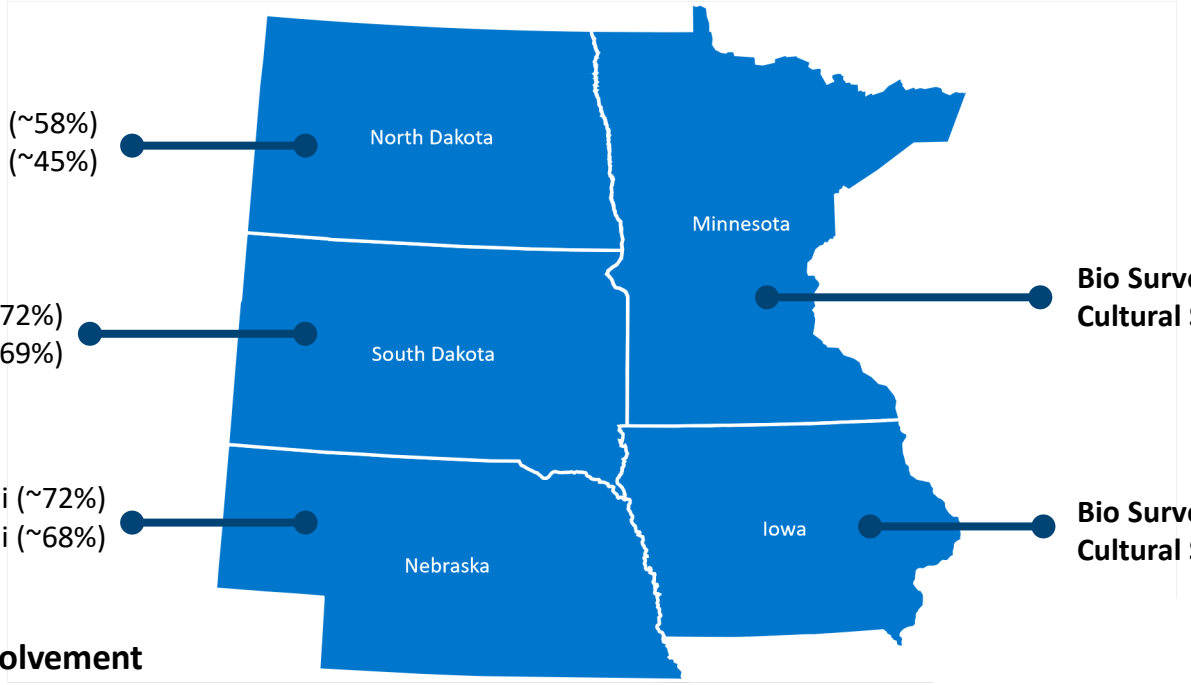
USACE Rock Island District

- Section 404 NWP 58
- Section 408 Review

- Utilizing national-wide permit (NWP) / general permit (GP) frameworks & associated National Environmental Policy Act (NEPA) process
- As the lead federal agency, the United States Army Corp of Engineers (USACE) will be responsible for the Section 106 Review under National Historic Preservation Act (NHPA). Coordination with USACE and Tribes is underway
- Review under Section 7 of the Endangered Species Act; two USFWS Regions (Region 6 -Mountain-Prairie and Region 3 - Midwest). Coordination with the applicable state field offices is underway
- Natural Resource Commission Service (NRCS) and USFWS Conservation Easement (i.e., WRP, CRP); Environmental Assessments (EAs) will be required where avoidance is not feasible
- Key aspect for Capture Facilities is air and water permitting is underway

Field Survey and Tribal Involvement

TRIBAL INVOLVEMENT IS CRITICAL TO THE SUCCESS OF OUR FIELD ACTIVITIES, ROUTING, AND OVERALL PROJECT SUCCESS



Bio Survey: 214 mi (~58%)
Cultural Survey: 149 mi (~45%)

Bio Survey: 327 mi (~72%)
Cultural Survey: 332 mi (~69%)

Bio Survey: 225 mi (~72%)
Cultural Survey: 214 mi (~68%)

Bio Survey: 100 mi (~51%)
Cultural Survey: 68 mi (~35%)

Bio Survey: 627 mi (~94%)
Cultural Survey: 539 mi (~80%)

- **Tribal Involvement**
  - Outreach to 62 Tribes
  - Continuous dialogue with Tribes regarding route optimization
  - Significant Tribal Monitor participation in 2021 cultural surveys: 21 Monitors from 7 Tribes
  - Virtual Tribal Project Overview Meetings
  - Sharing 2021 Cultural Survey Methodologies and Reports
  - Traditional Cultural Property (TCP) Studies
  - 2022 Survey Tribal Monitor Program and Training: 30+ Tribal Monitors
  - Sharing 2022 Cultural Survey Reports

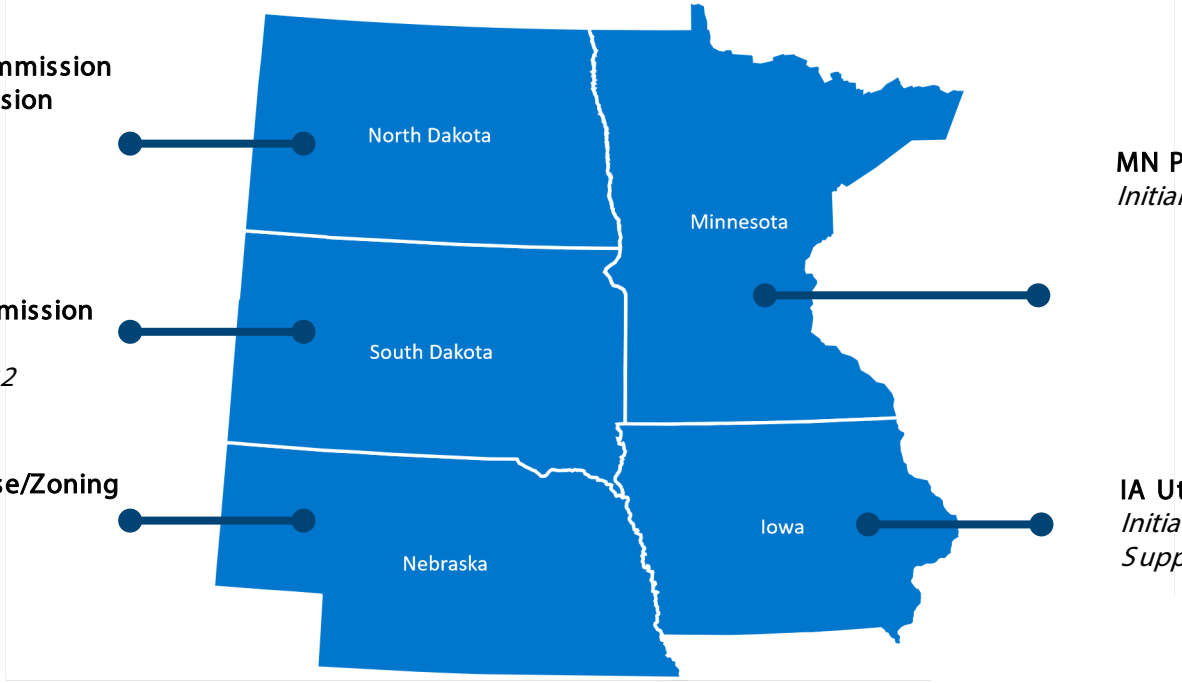
State and Local Permitting Roadmap

SUCCESSFULLY NAVIGATING STATE AND LOCAL REGULATIONS AND PERMITTING PROCESSES

ND Public Service Commission
ND Industrial Commission
PSC Filing: Q3 2022

SD Public Utility Commission
Initial Filing: Q1 2022
Supplemental: Q3 2022

County Conditional Use/Zoning
Filing: Q1 2023



MN Public Utility Commission
Initial Filing: Q3 2022

IA Utility Board
Initial Filing: Q1 2022
Supplemental: Q3 2022

General Routing Permit Process[1]:

Public and Landowner Meetings → Consultation with Agencies → Filing Permits → Public and Landowner Meetings → Intervener Deadlines → Amend Permit (if necessary) → Testimony, Discovery, and Hearings → Decision and Permit Receipt → Resolve Permit Conditions (if necessary)

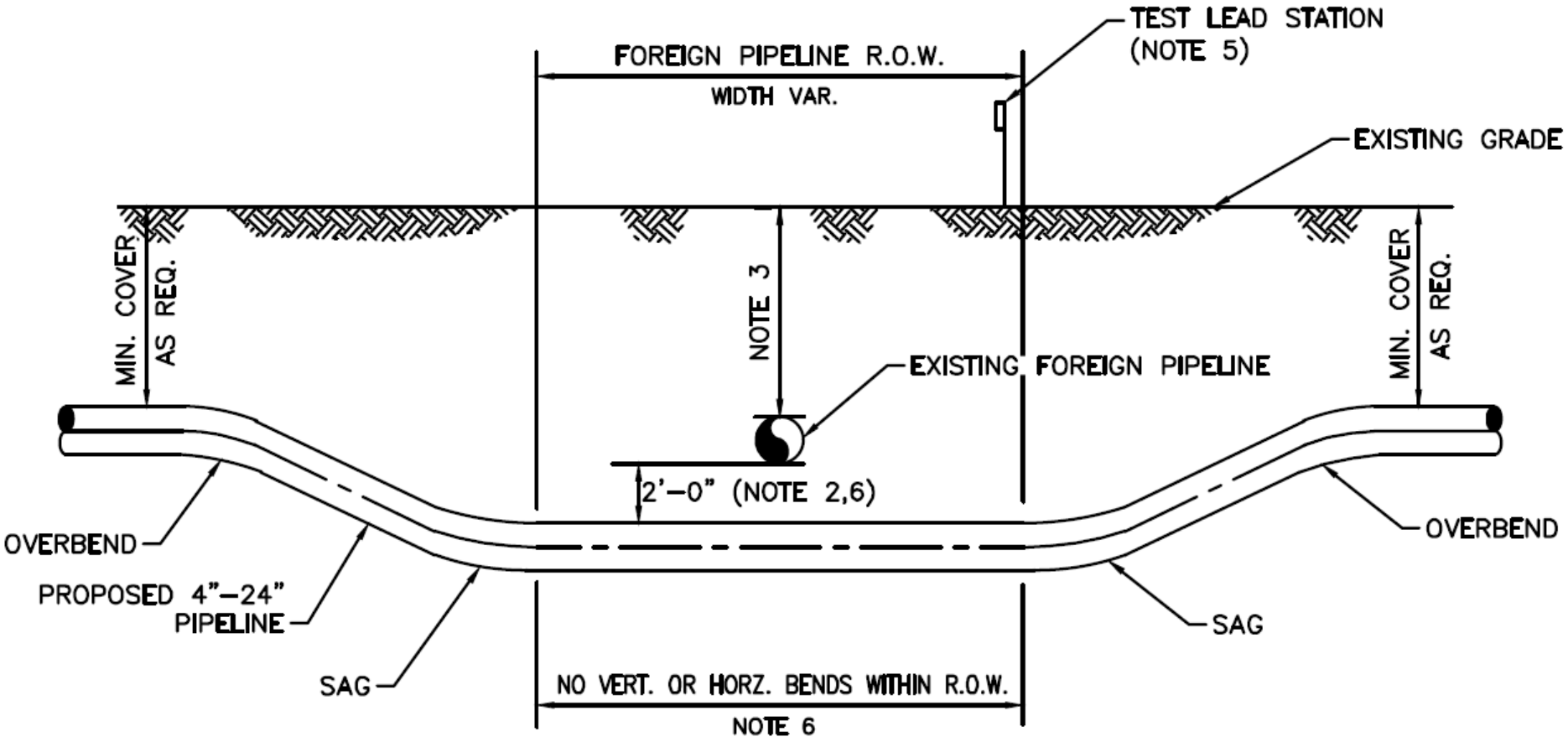
Intelligence is continuously gathered along the process to assess and mitigate risk. De-risking occurs over time.

Other Regulatory and Permitting Considerations:

- Water Acquisition and Discharge
- Stormwater
- Fish and Game
- Floodplain
- Road Use Agreements
- Drainage Districts
- Crossings
- State Historic Preservation Office
- Air

1 – Permitting process varies by state and local jurisdiction. Process shown is for discussion purposes only.

Typical Construction Design Considerations



Construction Process

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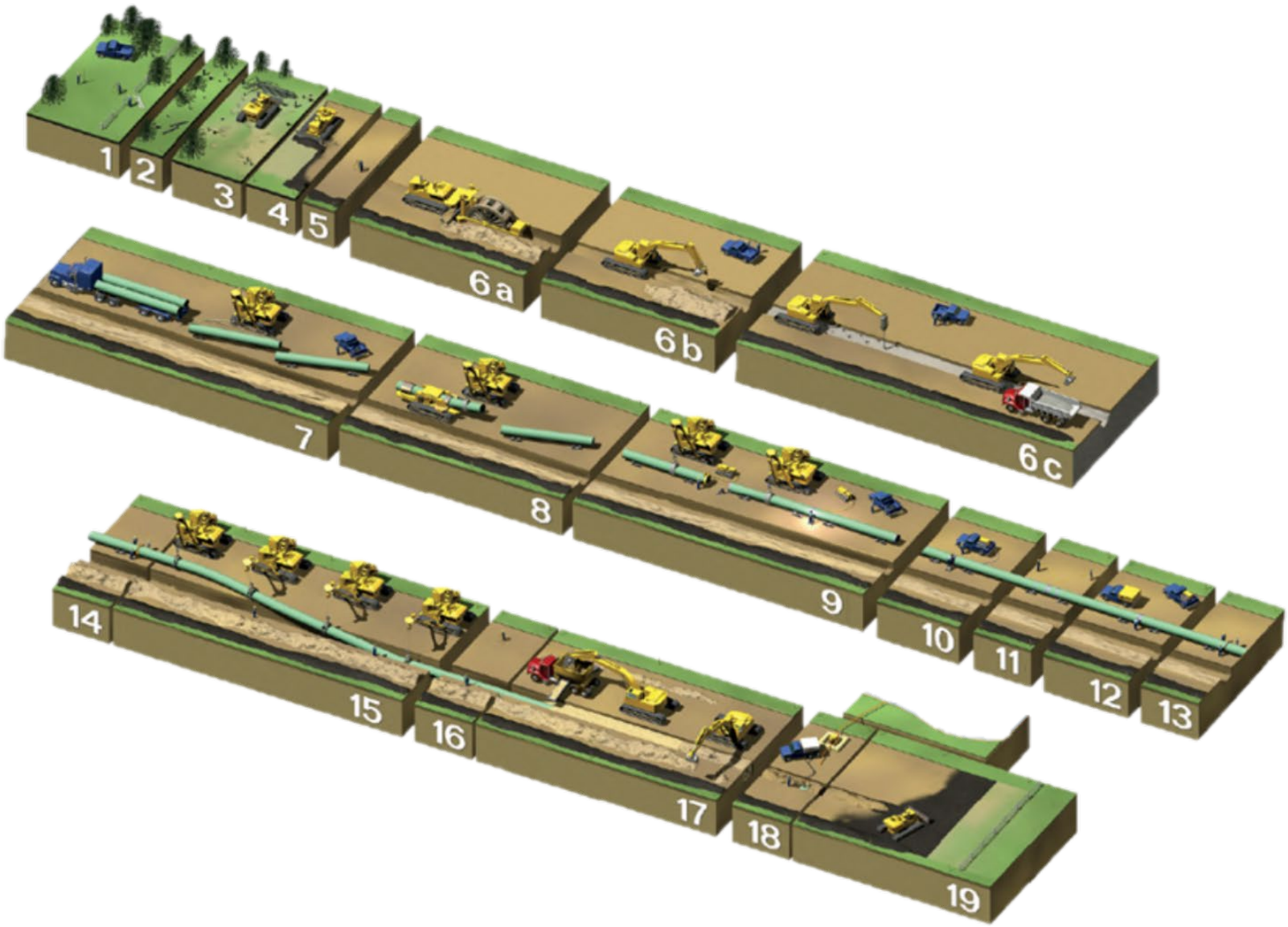


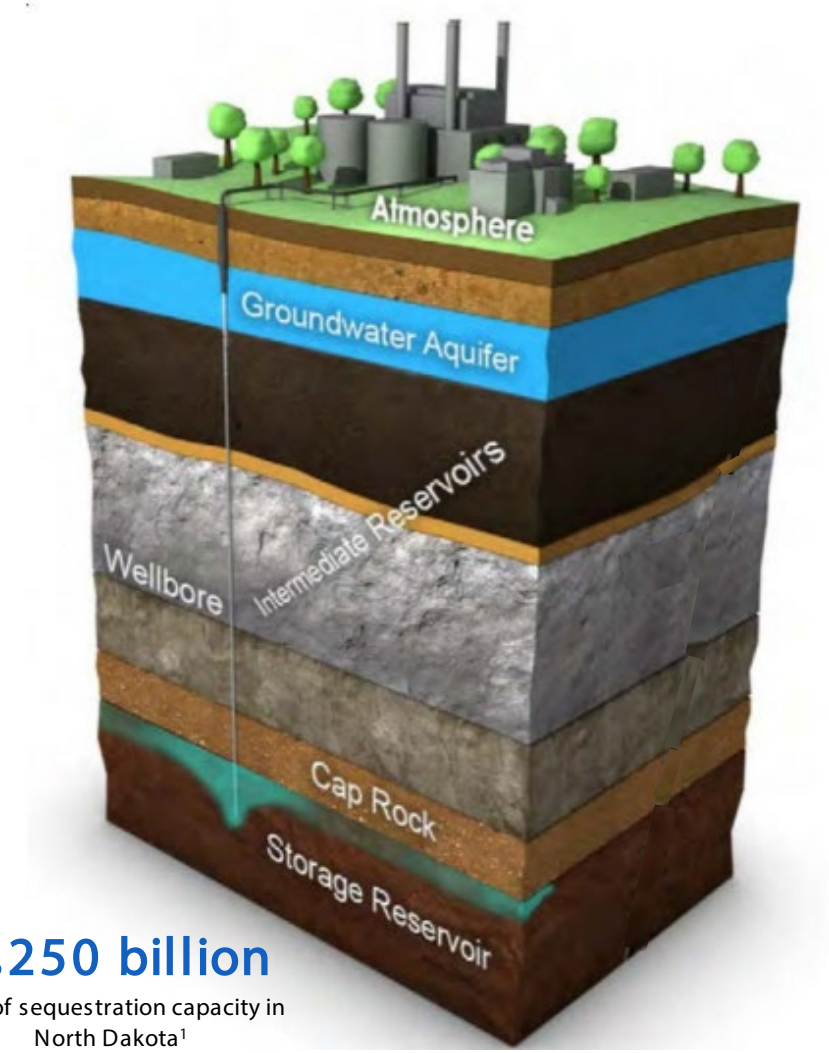
Geologic Sequestration in Saline Reservoirs

SUMMIT CARBON SOLUTIONS WILL INJECT CAPTURED CO_2 DEEP INTO SALINE RESERVOIRS FOR PERMANENT STORAGE

- At the end of the pipeline, the CO_2 will be injected underneath an impermeable rock layer into saline formations for permanent sequestration
- Pore space is leased from landowners that own the surface rights
- Saline storage is a proven practice, including CO_2 from ethanol plants
- Over a 100 year injection period, SCS will utilize less than 1% of North Dakota's total sequestration capacity
- SCS is partnering with Minnkota Power Cooperative to jointly develop CO_2 storage site adjacent to SCS' planned storage sites

Geological Sequestration Steps

1. Site Screening & Selection
2. Lease Pore Space
3. Permitting & Construction
4. W ell Testing
5. Injection
6. Monitoring, Verification & Accounting
7. Site Closure



up to 250 billion

tons of sequestration capacity in North Dakota[1]

1) *Department of Energy*

CO_2 Storage

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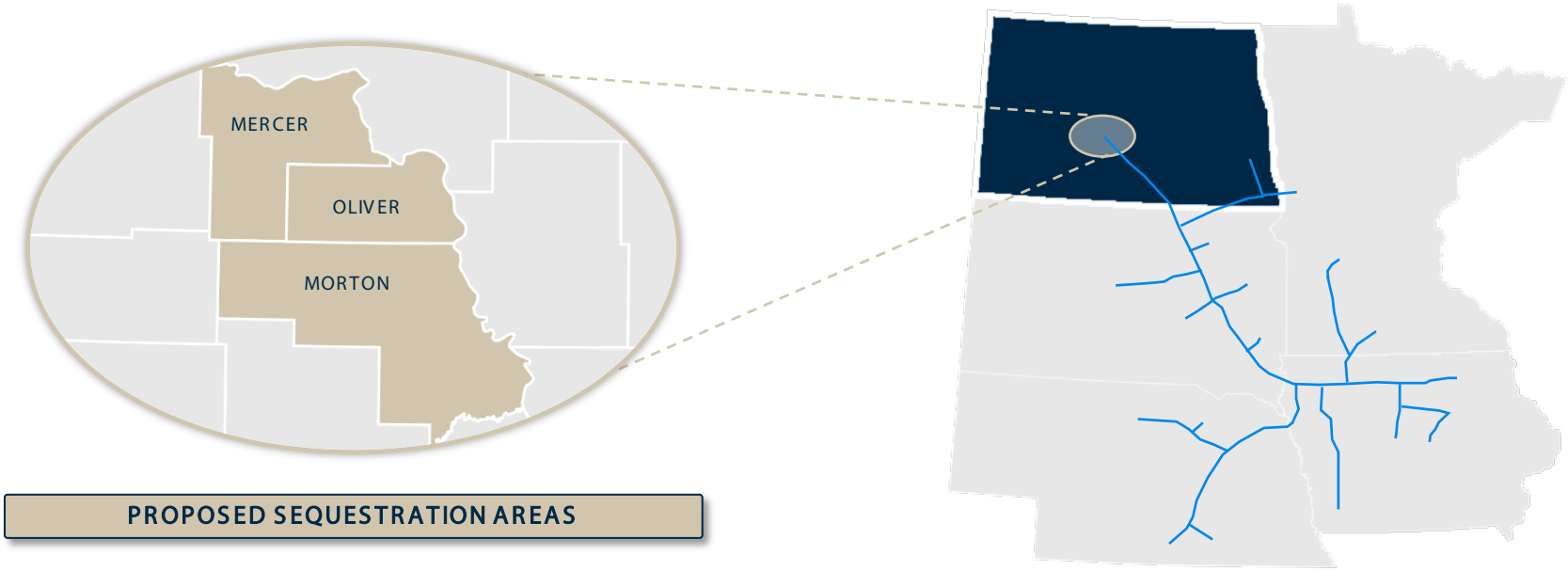
TARGET STORAGE REGIONS



SELECTION, CONSTRUCTION AND OPERATIONS

SITE SELECTION

- North Dakota has ideal geology for storage of CO_2
- Selection considerations include geology, safety, storage capacity, environmental impact and many others

PERMITTING

- An additional advantage of storing CO_2 in North Dakota is that the state has primacy over Class VI wells
- The Department of Mineral Resources oversees Class VI permitting

SITE PREP

- Site grading
- Surface infrastructure (roads, pipelines, fences, security)
- Well pad construction and preparation
- Water supply

WELL DRILLING

- Injection wells are drilled approximately 1 mile below ground
- In addition to injection wells, several monitoring wells ensure CO_2 is safely stored

INJECTION

- CO_2 arrives via pipeline and is injected in the wells
- Continuous monitoring, maintenance and testing ensures compliance with permits and regulations

POST-INJECTION MANAGEMENT

- After injection is complete, the well is plugged and select equipment is removed
- Monitoring and testing continue to ensure permanent storage

SCS Has Access to Permitted Geologic Storage

PROJECT TUNDRA ALLOWS SCS IMMEDIATE ACCESS TO A PERMITTED SEQUESTRATION SITE ~5 MILES FROM ITS OWN SITES

Project Tundra is a carbon capture and storage project in development by Minnkota Power Cooperative (MPC)

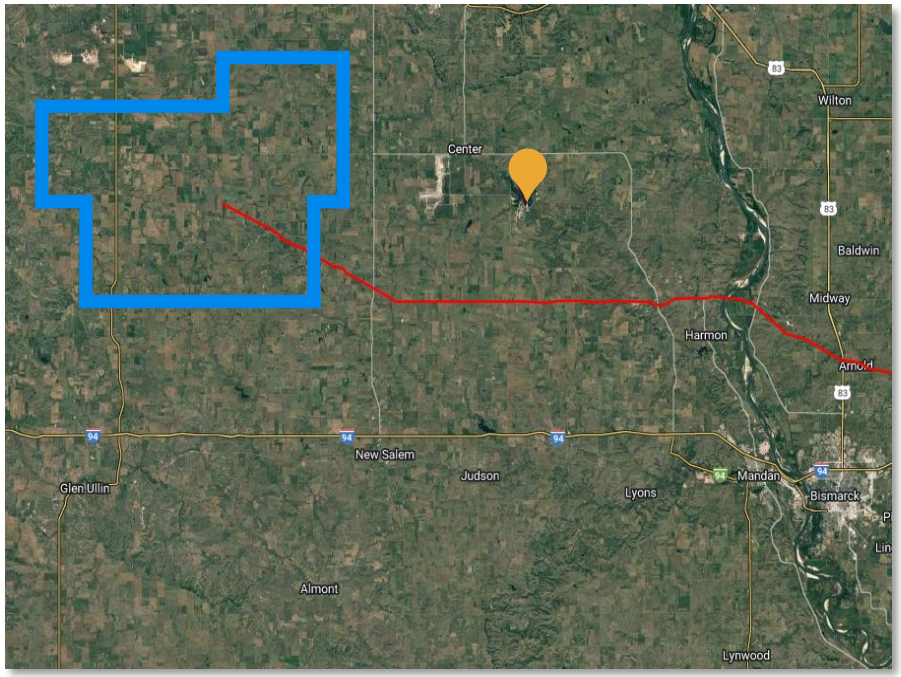
Minnkota **received its first-Class VI permit in February 2022**

An agreement with MPC **provides SCS immediate access to a permitted site** less than 10 miles from its own sites

The storage site has capacity to store 100+ million tons of CO_2,

Partnership provides SCS with **immediate access to safe, permitted injection wells**

SCS will continue to develop its own sequestration area and have its own Class VI permits



SCS Sequestration Area

Preliminary Pipeline Route

PROJECT TUNDRA

Project Momentum and First Mover Advantage

SCS HAS HAD NUMEROUS SIGNIFICANT RECENT ACCOMPLISHMENTS

- ✓ SCS has over **$1BN in equity commitments** — Summit Agricultural Group, TPG Rise Climate, Continental Resources, Tiger Infrastructure Partners, SK, John Deere, > 10 CO_2 Plant Partners
- ✓ Engaged Morgan Stanley and CohnReznick Capital as financial advisors — Morgan Stanley, CohnReznick Capital
- ✓ Partnership with Minnkota Power Cooperative to jointly develop CO2 storage sites announced — Minnkota Power Cooperative, Project Tundra
- ✓ Signed Bushmills Ethanol Plant in Atwater, Minnesota — Bushmills Ethanol
- ✓ Significant North Dakota CO2 pore space acquired — **> 70% Signed to date**
- ✓ Submitted Iowa Utilities Board and South Dakota Public Utilities permits — Iowa Utilities Board, South Dakota Public Utilities Commission
- ✓ Drilled three North Dakota monitoring and stratigraphic test wells

Key Takeaways

SUMMIT CARBON SOLUTIONS

- **$4.5 billion capital investment** in 5 Midwestern states
- **11,427estimated jobs** created by the project
- Up to **12M tons of CO2** is captured and stored every year
- **Significantly reduces ethanol carbon intensity**, leading to a **net zero transportation fuel** produced in the Midwest
- Project **utilizes proven, safe** technology and equipment

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Thank You!

John Satterfield
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