Denbury

Denbury Carbon Solutions

Analysis & Future of Carbon CO_2 Sequestration

May 11, 2023

Agenda

I. **Denbury Carbon Solutions**
II. CCUS Market Outlook
III. Storage Operations
IV. Commercial Structure
V. Conclusion / Q&A

DENBURY – A Unique Carbon Solutions Company

Strategic Focus
Leading in carbon capture, use and storage, including Enhanced Oil Recovery

20+ years Experience Managing CO_2
Safely transporting, injecting and monitoring large-scale volumes of CO_2

1300+ miles of CO_2 Pipelines
Largest owned and operated CO_2 pipeline network in the United States

Scope 3(1) Carbon Negative by 2030
Through increasing use of captured industrial-sourced CO_2

Financial Strength and Flexibility
Disciplined capital allocation, ability to organically fund growth

AT A GLANCE

Enterprise value: **$4.5 Bn**

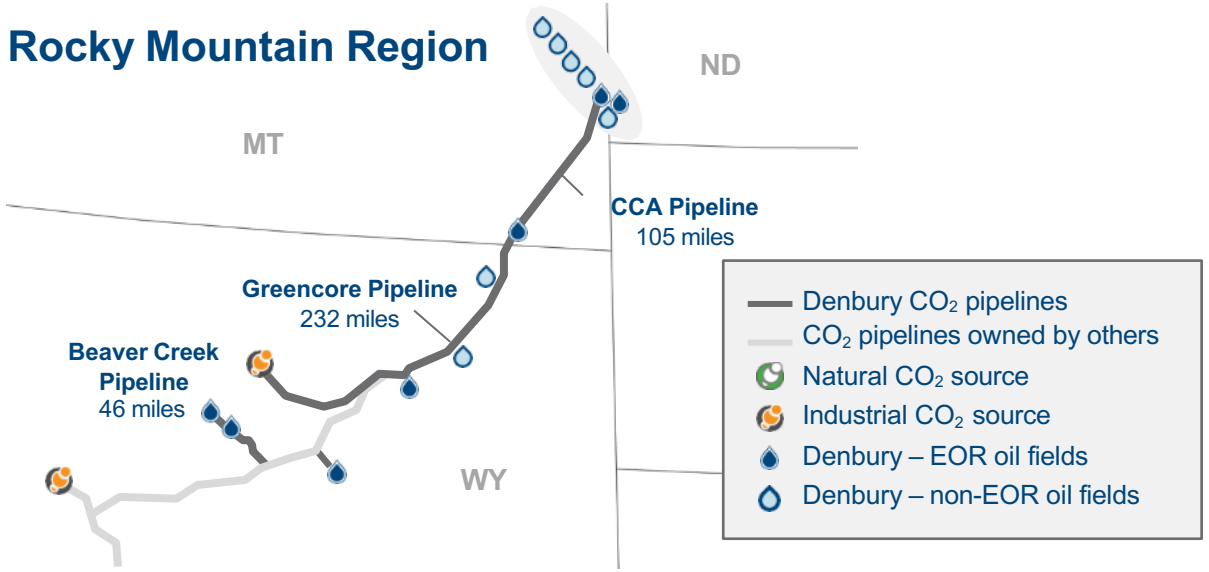
YE22 Oil & gas proved reserves: **202 MMBoe**

2023E Sales volumes: **~46-49 MBoe/d**

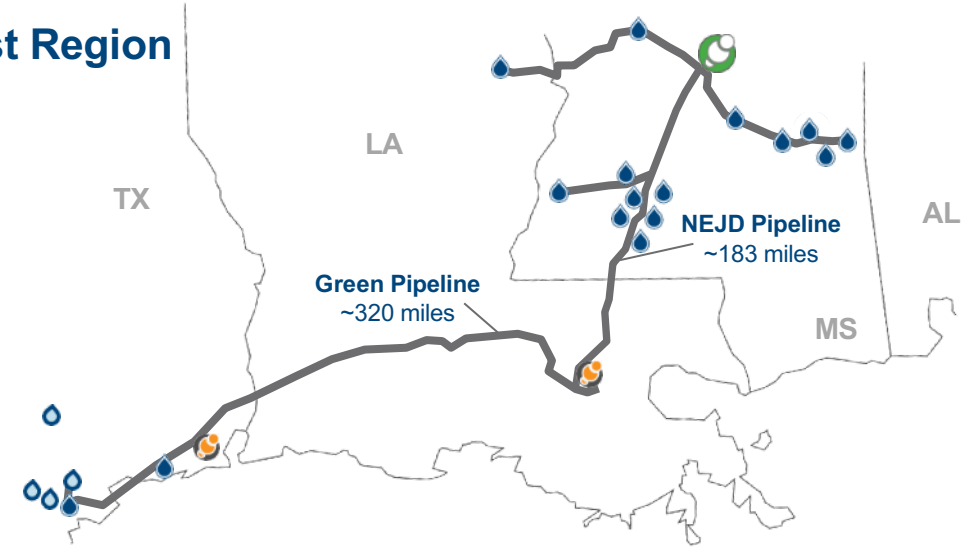
2022E Total CO_2 sourced: **14 Mmtpa; ~30% industrial**

2022 Scope 1, 2 emissions: **Net negative 2.5 million metric tons**

Rocky Mountain Region



Gulf Coast Region

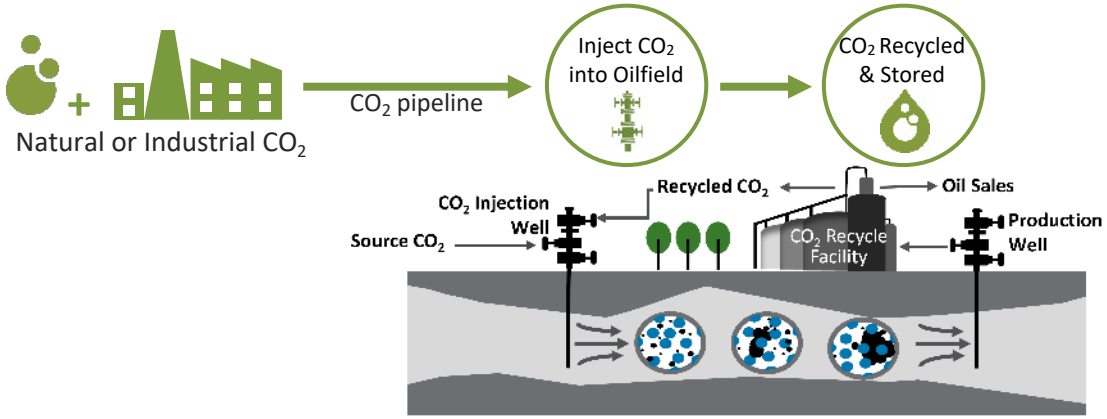


(1) Scope 3 refers to Scope 3 Category 11 (Use of Sold Products)

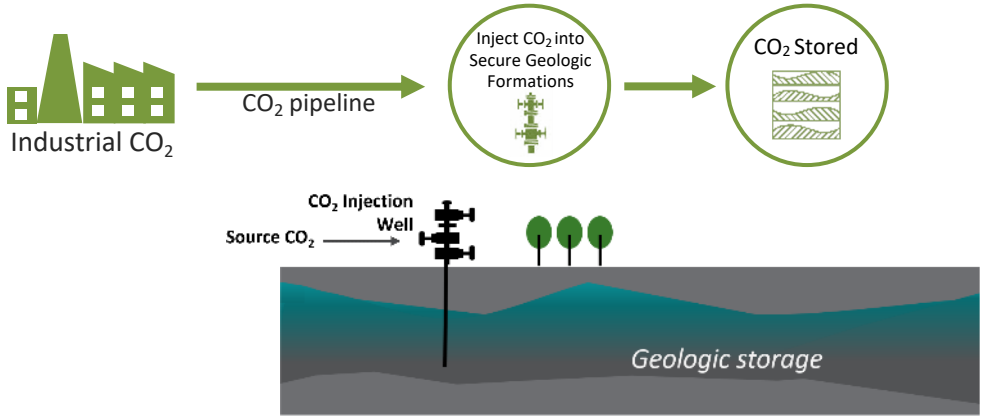
What is Carbon Capture, Use, and Storage?

CCUS – both through CO_2 EOR or direct CO_2 injection – is a proven technology with the potential for safe, long-term, deep underground containment of billions of tons of industrial-sourced CO_2

CO_2 Stored in Association with EOR



CO_2 Directly Stored



A proven process

CCUS is an effective, low-cost solution using existing, proven processes and technology

Experience gained from decades of safe CO_2 EOR operations translates directly into safe CCUS operations

Reduces atmospheric CO_2

CCUS has the potential to drive a significant reduction in atmospheric CO_2 emissions

The NPC's 2019 CCUS Report identified a reasonable path where the volume of CO_2 captured in the U.S. would increase over the next 15 years to ~150 million tons per year, >500% above current levels

Supported by government policy

CCUS policy has bipartisan support and is critical to providing the economic and legal framework for investment in CCUS projects

The 45Q tax credit structure provides the capturing parties a tax credit of $60/ton for CO_2 used in EOR operations and $85/ton for CO_2 directly stored in geologic formations

Source: National Petroleum Council (NPC) 2019 Report, Meeting the Dual Challenge: A Roadmap to At-Scale Deployment of Carbon Capture, Use and Storage.

CCUS – A Proven Pathway to Significantly Reduce CO_2 Emissions

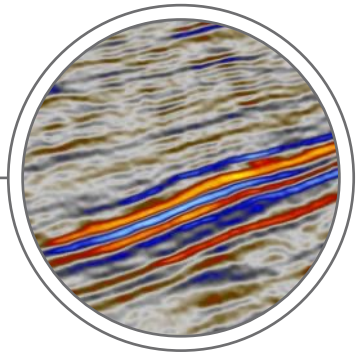
Denbury Owned / Managed Processes

CAPTURE

TRANSPORT

STORE / UTILIZE

MONITOR / VERIFY



CCUS is an effective, low-cost solution using proven technology to capture CO_2 emissions and inject them permanently underground or use them in creating various products

ENHANCED OIL RECOVERY (EOR)

SEQUESTRATION

OTHER USES

Denbury

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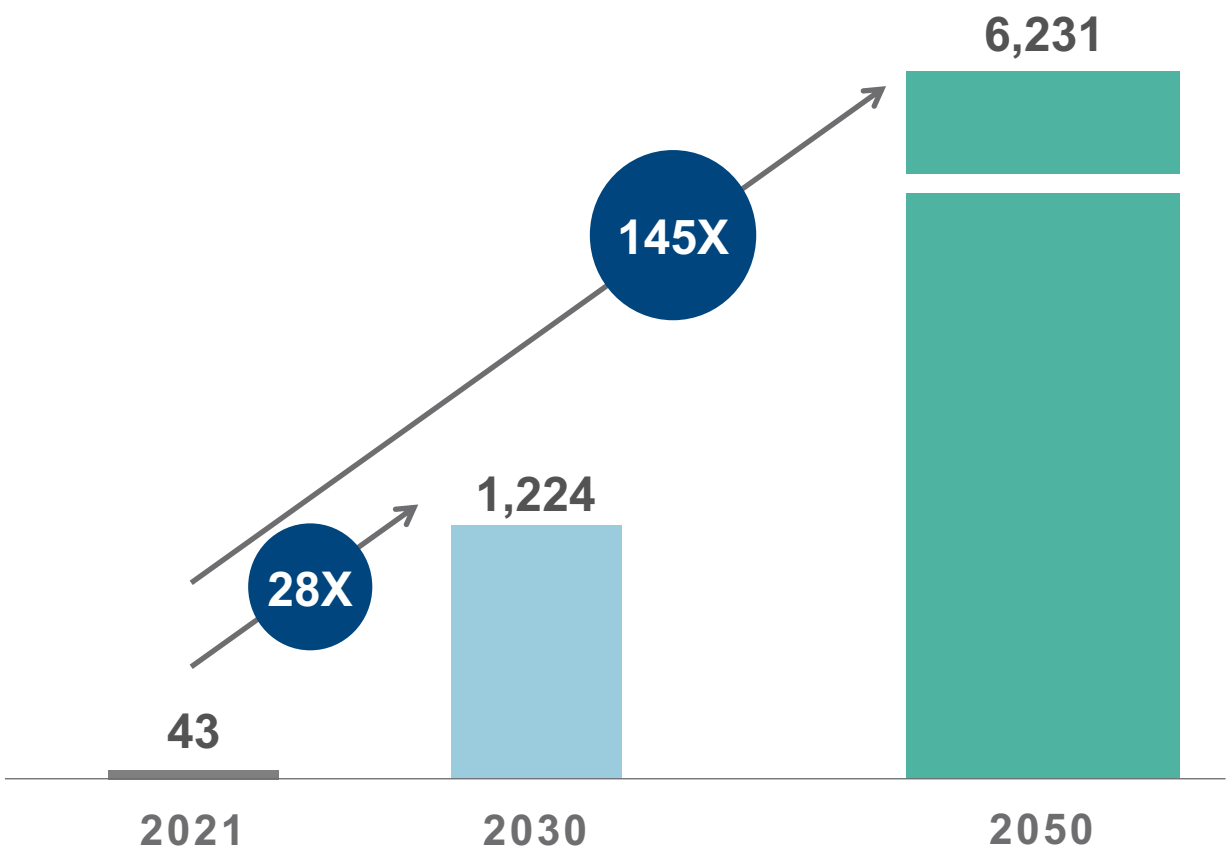
Decarbonization Relies on CCUS

Global Carbon Capture Required to Meet IEA Net Zero Emissions (NZE)

CO_2 (Mmtpa)



- **Massive expansion in CCUS to meet IEA Net Zero Emissions (NZE) Scenario**
  - CCUS identified as 2nd largest contributor to NZE (2021) behind wind & solar
- **CO_2 capture largely driven by industry, power, and fuel transport sectors**
  - Approximately 65% contribution from coal power, hydrogen fuel and various industries
  - 10 new CCUS facilities required to be commissioned each month to meet 2030 goal
  - Direct air capture approximately 5% of 2030 goal
- **Various governments have pledged >$20 B in 2021 toward CCUS projects**

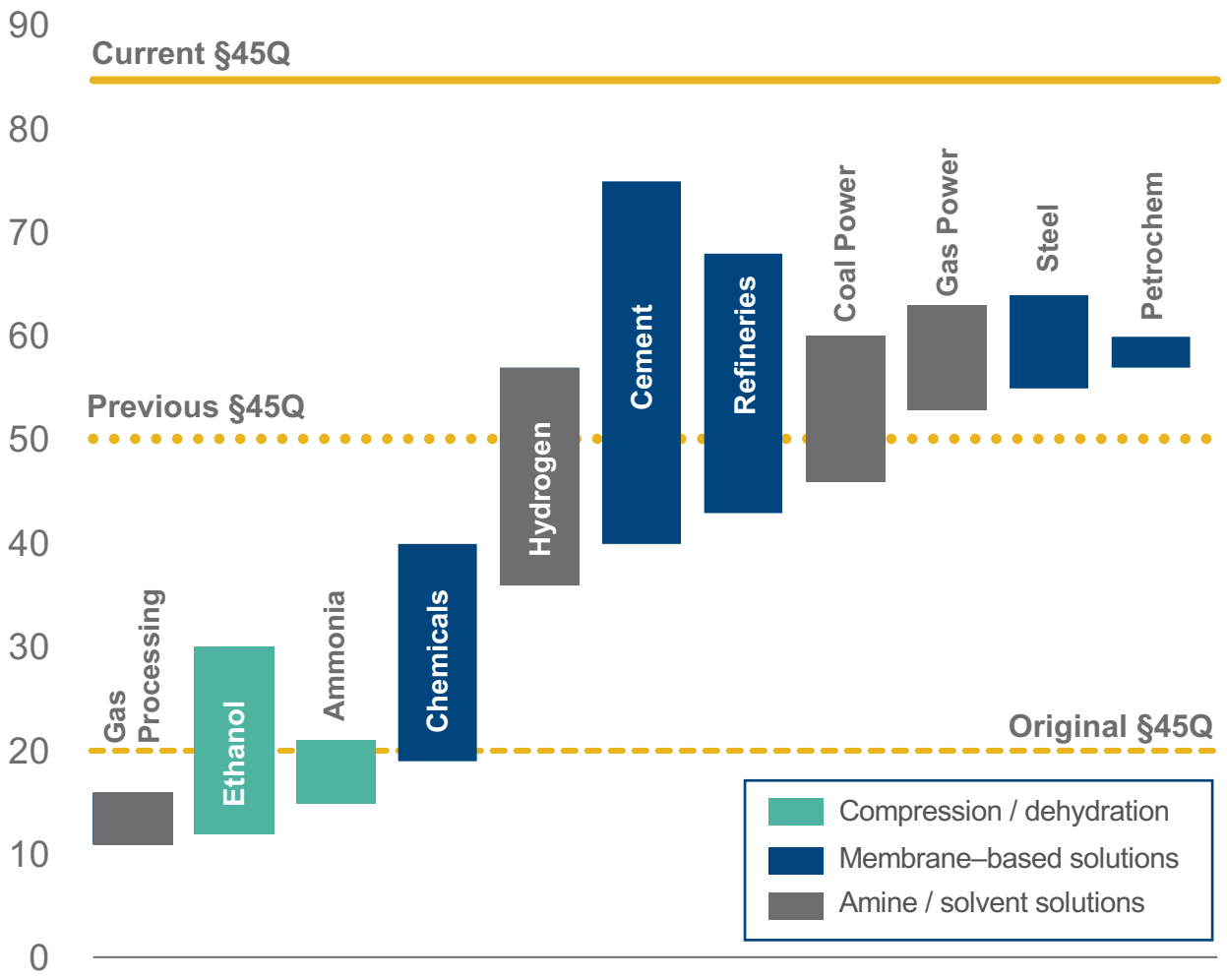
Source: International Energy Agency (2022), Net Zero by 2050, IEA, Paris

Increasing CCUS Scale With IRA and Technology

- **New technologies and enhanced §45Q levels ($35 / $50 to $60 / $85 per tonne) bring post-combustion emissions into economic capture window**
- **Emerging technologies driving down the cost of CO_2 capture by up to 40%**
  - Membrane-based technologies offer lower cost of capture for lower volume levels
  - Liquid technologies (solvent-based) offer lower cost of capture at higher volumes; benefit from economies of scale
- **DEN assessing equity investments / partnerships with multiple CO_2 capture technology companies**
  - Insights into capture technology innovation
  - Increases potential transportation and storage opportunities

Industry Capture Cost per Metric Ton

$ per tonne

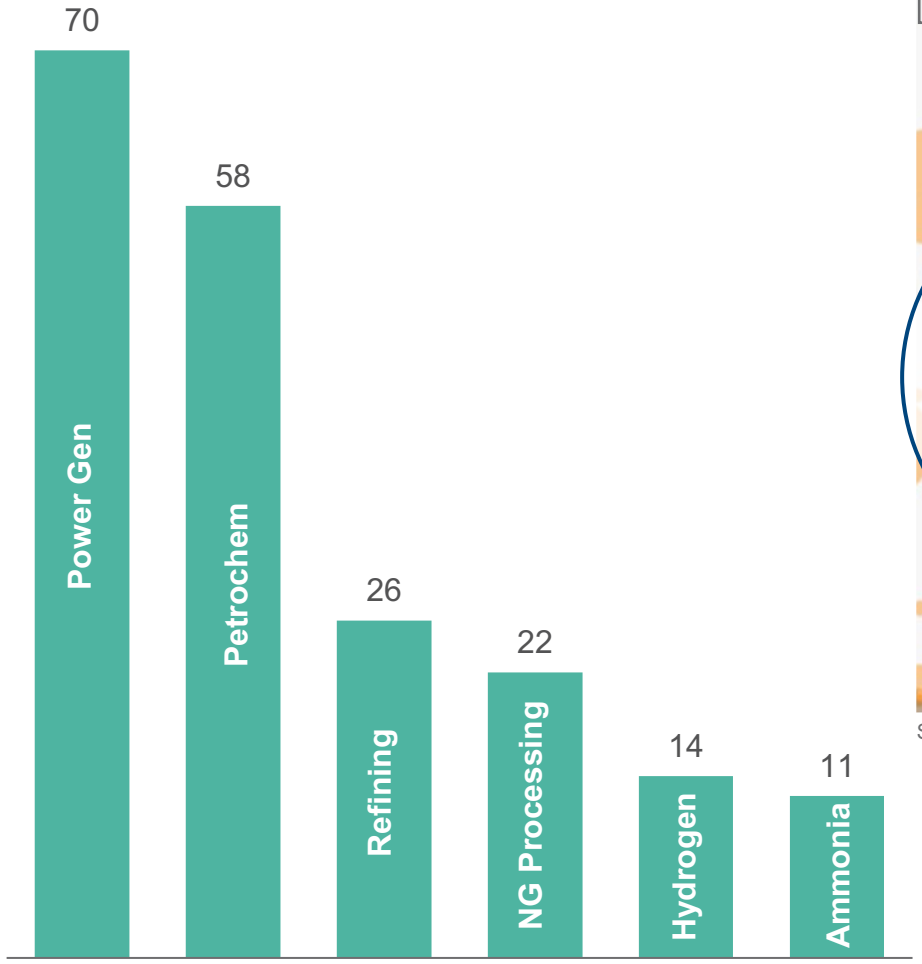


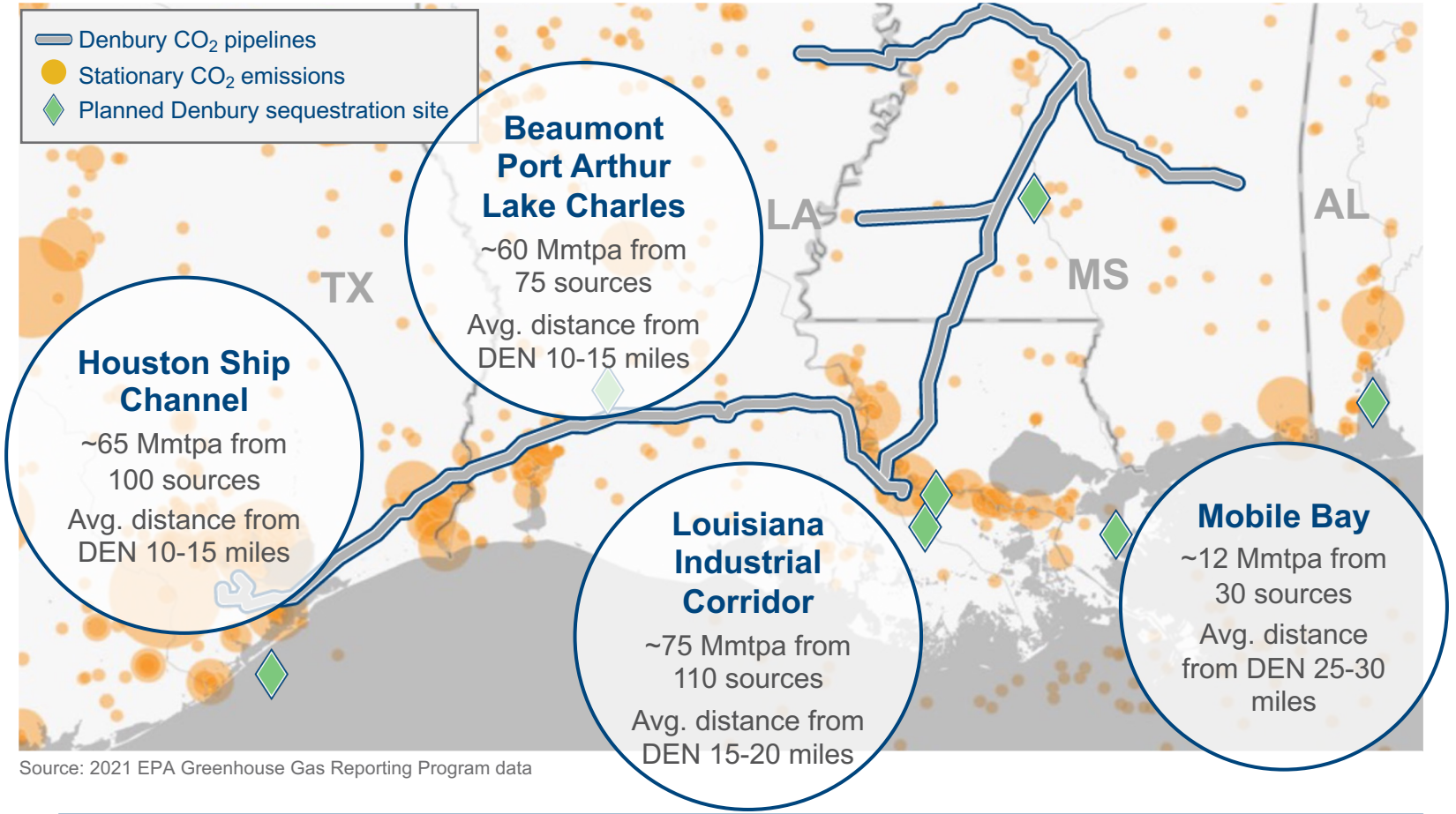
Source: Great Plains Institute, *Transport Infrastructure for Carbon Capture and Storage*

U.S. Gulf Coast – Major Source of Existing CO_2 Emissions

U.S. Gulf Coast Emissions w/in 30 Miles of DEN Pipelines

CO_2 (Mmtpa)



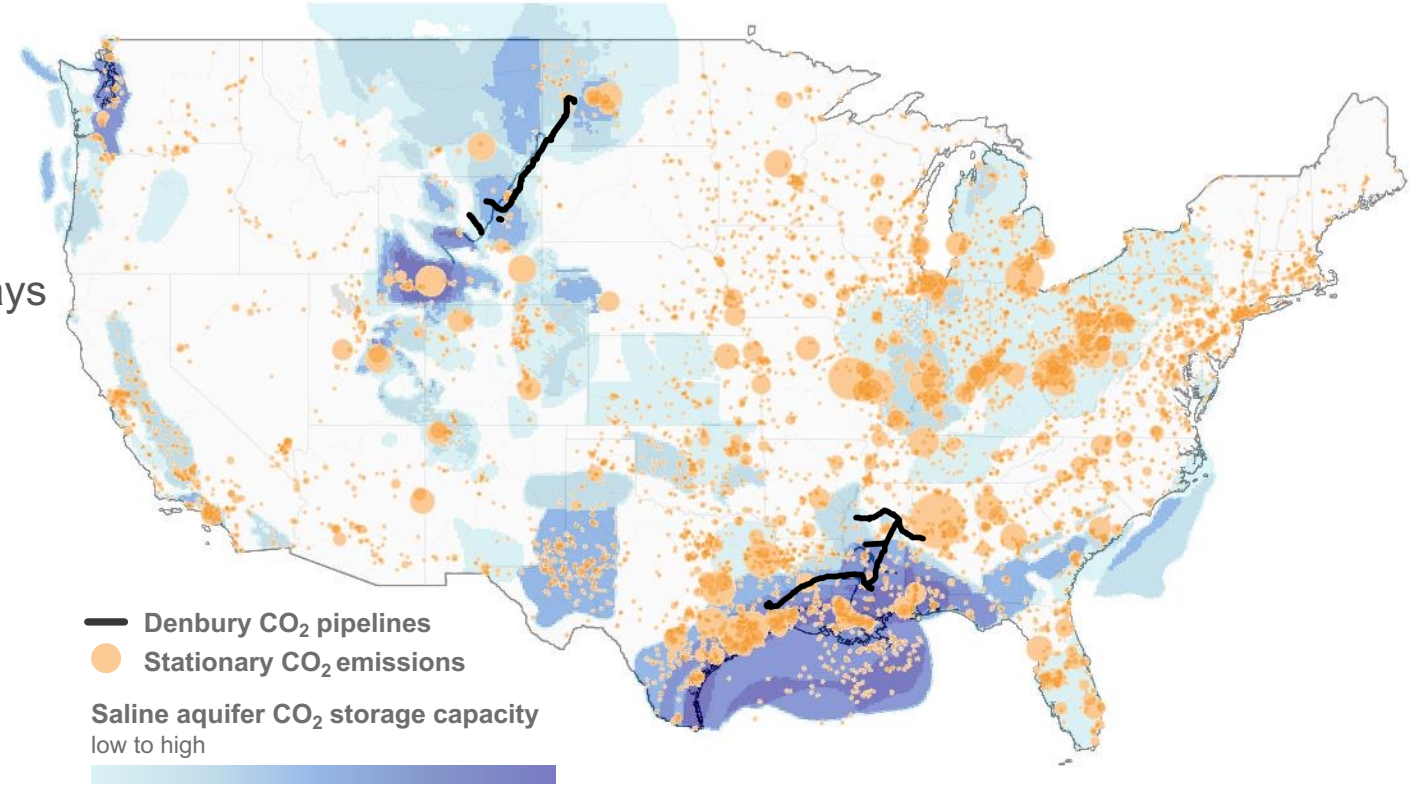


Source: 2021 EPA Greenhouse Gas Reporting Program data

~240 Mmtpa within 30 miles of DEN Gulf Coast system; provides unique transportation and storage opportunities

U.S. Gulf Coast – A World-class CCUS Opportunity

- **The Gulf Coast has one of the highest concentrations of stationary CO_2 emissions**
- **Advantaged for greenfield projects**
  - Access to low-cost natural gas feedstock, waterways and deepwater ports, supportive regulatory policy
- **Expandable CO_2 pipeline infrastructure already in place**
  - DEN has the only dedicated CO_2 pipeline network in the Gulf Coast at >900 miles
- **High-quality geology for secure long-term storage of CO_2**
  - Large reservoirs and high injectivity
  - Approximately 5 trillion tonnes potential storage capacity in the U.S. Gulf Coast



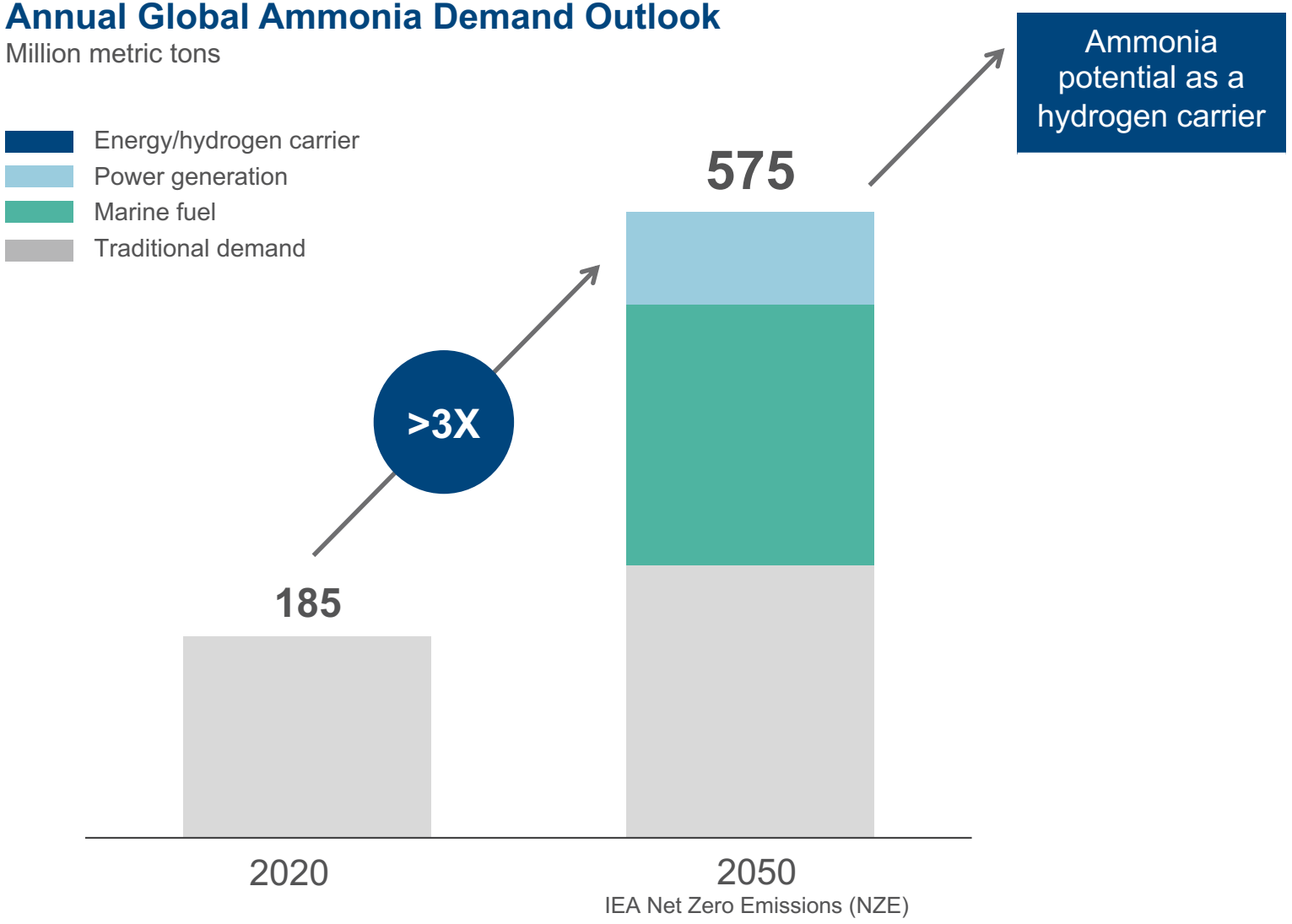
~240 Mmtpa emissions within 30 miles of DEN Gulf Coast system

Source: 2021 EPA Greenhouse Gas Reporting Program data, National Energy Technology Laboratory: 1NATCARB Medium (P50) saline aquifer CO_2 storage capacity , Great Plains Institute, *Transport Infrastructure for Carbon Capture and Storage*

Substantial Anticipated Market Growth for Ammonia

Annual Global Ammonia Demand Outlook

Million metric tons



Blue Ammonia

Ammonia production whereby CO_2 byproduct is captured and stored securely underground

Ammonia as a carrier for **2%** of the projected 2050 global hydrogen market would account for **50 million tonnes**

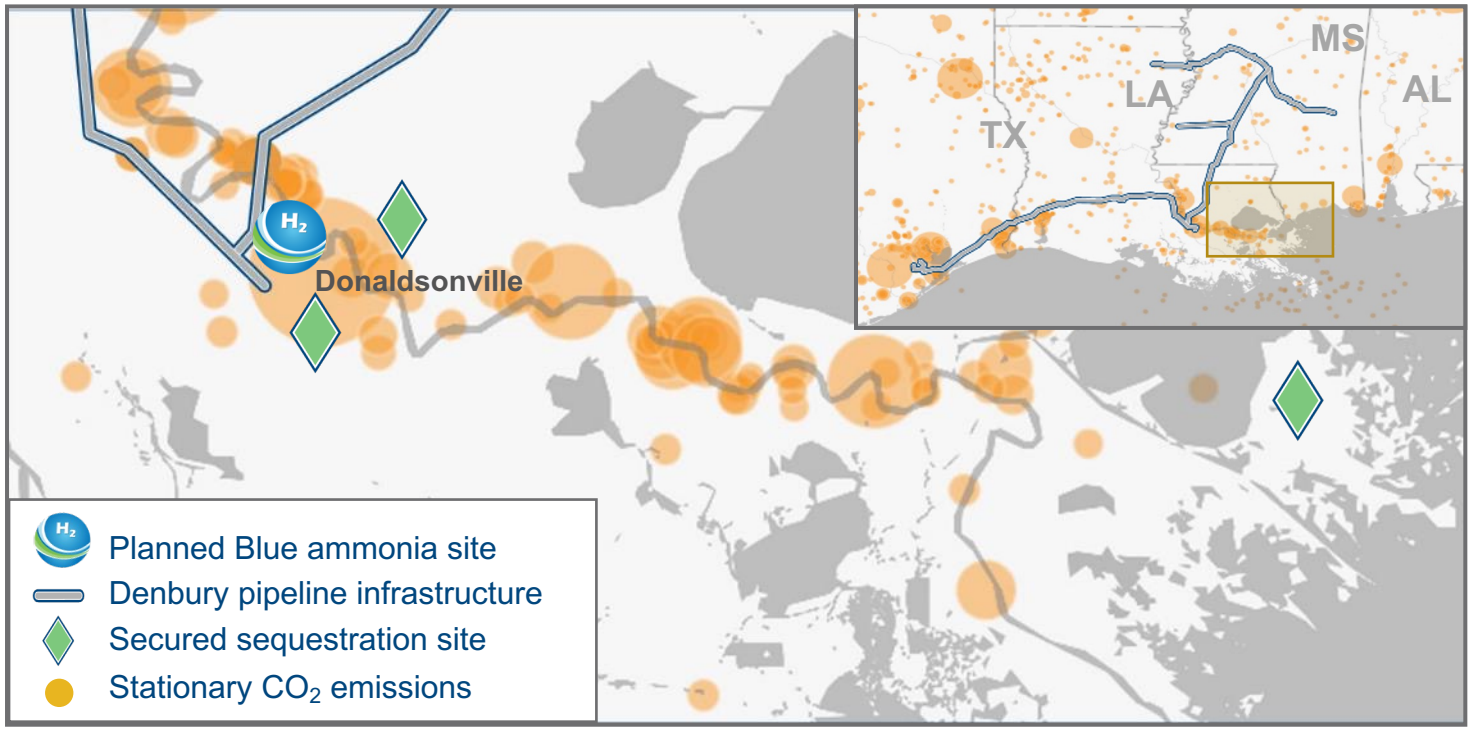
Ammonia co-firing for **1%** of the world's coal-fired power generation would result in **50 million tonnes**

Using ammonia for 5% of global marine fuel market would represent **25 million tonnes**

Clean Hydrogen Works – Ascension Clean Energy Project

- **Planned to be one of the largest "Blue Ammonia" complexes in the world**
  - 7.2 million tons per year of ammonia (2 Blocks)
  - CO_2 offtake volume up to 12 Mmtpa
  - 12-year term agreement; Start date 2027 (1st Block)
- **DEN equity owner in the ACE project with $20 MM investment**(1)

80% of Ammonia Offtake Under LOI w/ Large International Buyers



Source: 2021 EPA Greenhouse Gas Reporting Program data

Block 1 Timeline

1,700-acre site – West bank of Mississippi River in Donaldsonville

FEED Study
Sign Offtake Agreements
Secure Capital Commitment

Final Design & Construction

On Production

HAFNIA Denbury

2024
Final investment decision

2027
Plant commission & start up

(1) $10 MM of the $20 MM amount is subject to the achievement of key milestones, expected in early 2023.

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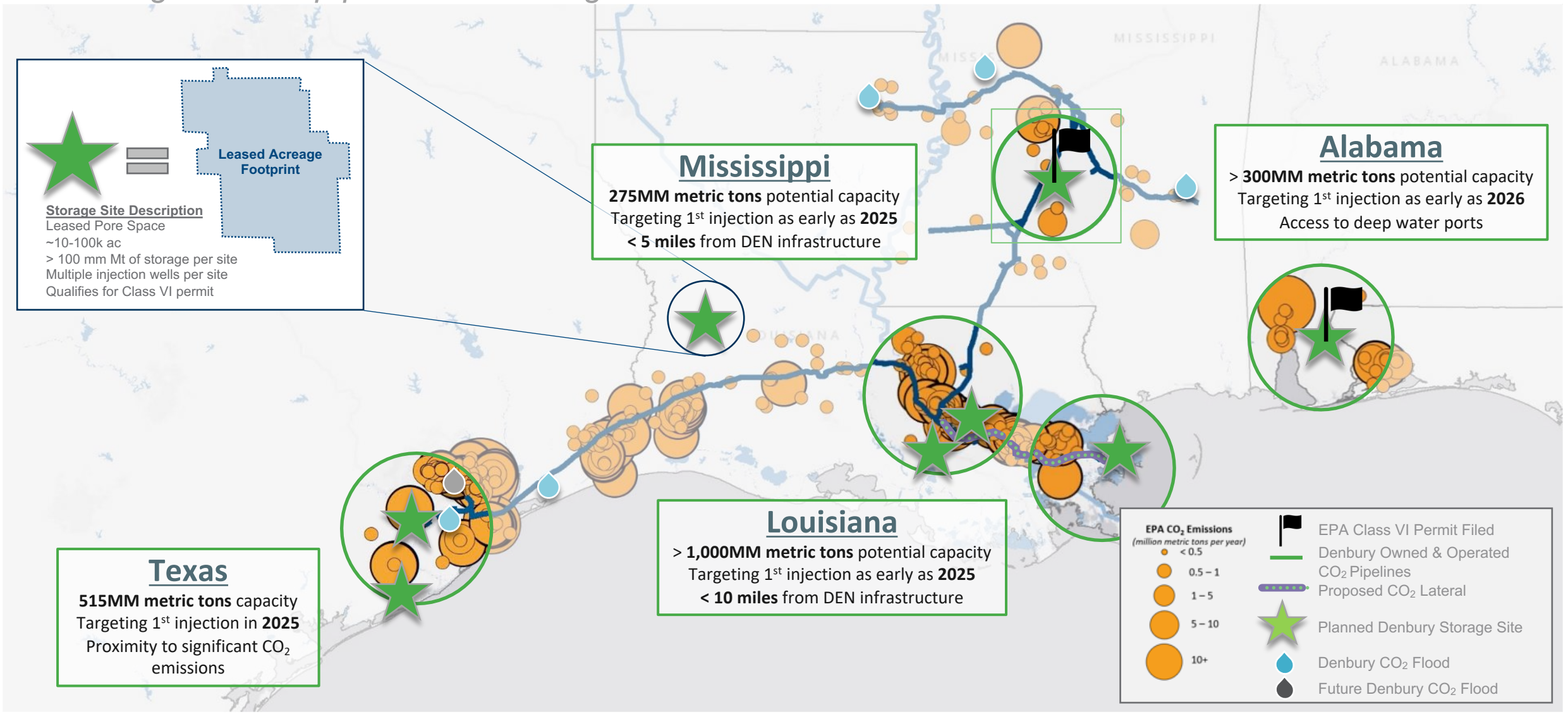
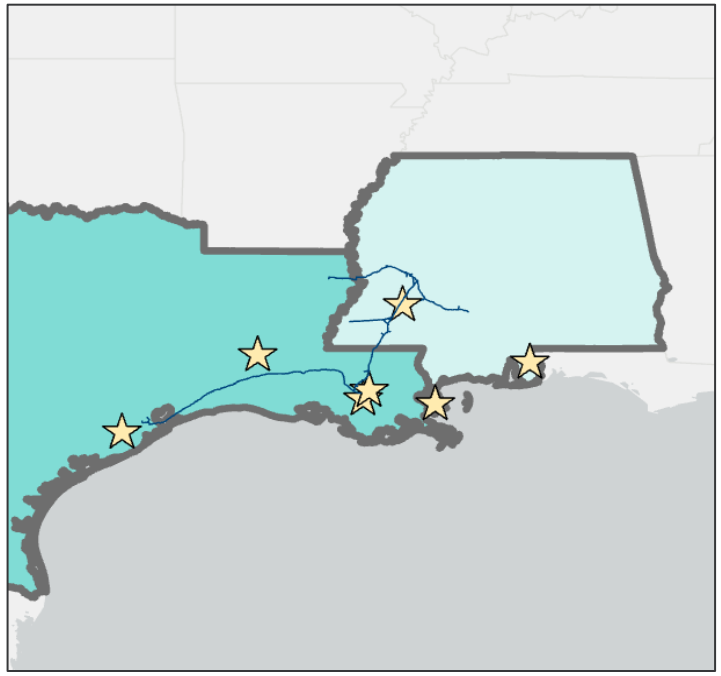
Secured Potential CO_2 Storage Capacity ~2.1B metric tons

Continuing to develop portfolio of storage sites

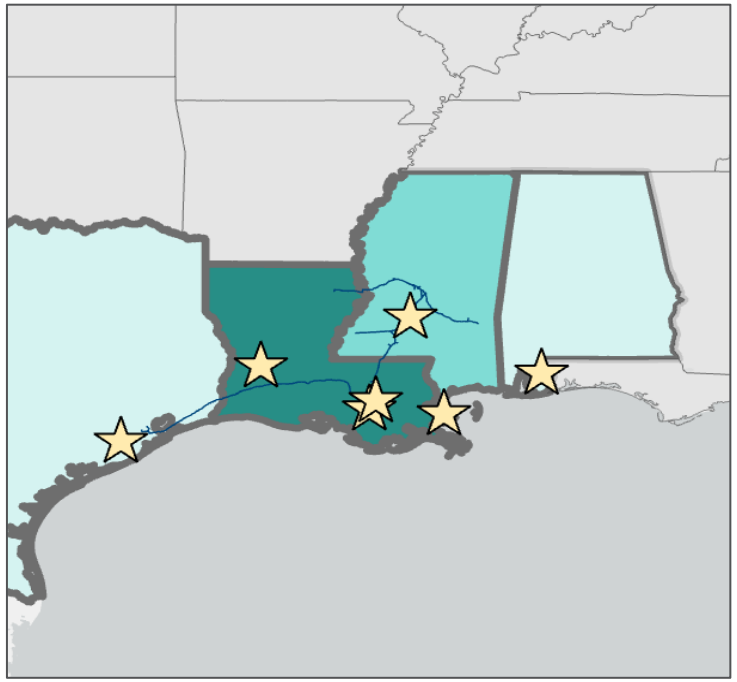


Denbury: Providing a De-Risked Storage Solution

2 EPA Regions



4 US Gulf Coast States



12 Counties/Parishes

Lower exposure to isolated local geopolitical challenges

Leading proactive public relations campaign across USGC

- ☑ Active across state & county/parish level
- ☑ Engaged 3 PR firms across multiple states

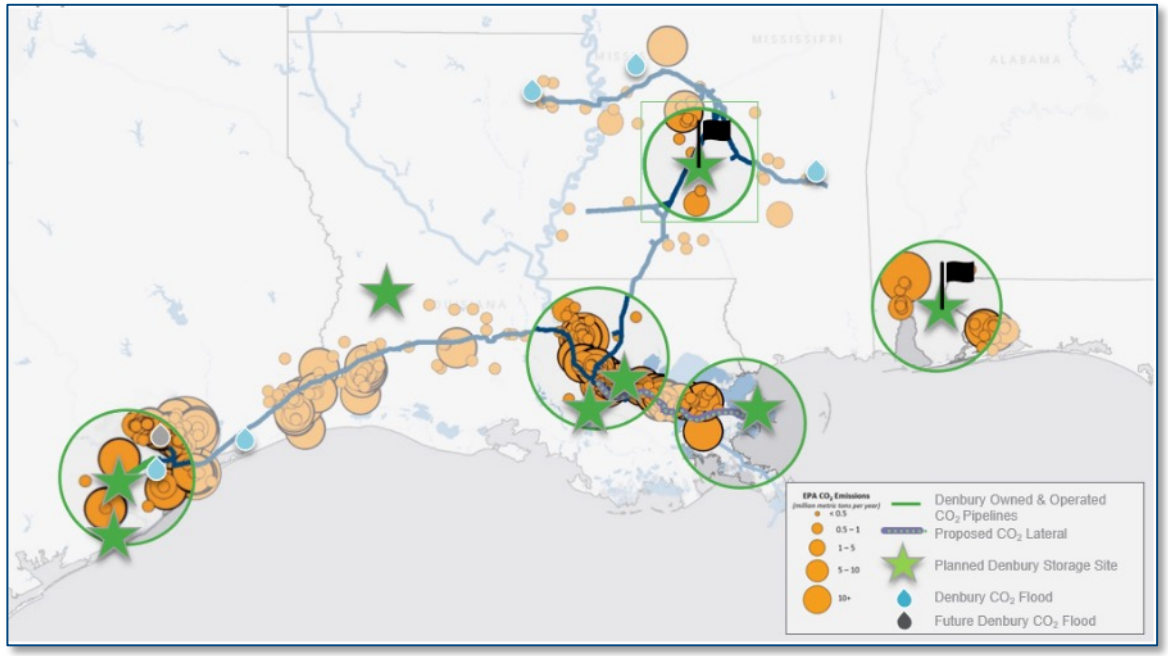
EPA announced proposal to approve Louisiana's Class VI injection well program, opening 60-day public comment period following publication in the Federal Register. (April 28, 2023)

2025-2026

Multiple pathways to operational storage sites by 2025-2026

CO_2 fungibility & system flexibility provides site optionality

Advancing Gulf Coast Storage Operations



4Q22

1st EPA Class VI permit submitted

1Q23

Drilled 1st storage site stratigraphic test well

~2.3 bn

metric tons of secured CO_2 storage

Permit update

Positive feedback from EPA Region IV

Deemed administratively complete

Expect formal feedback in 4 months

Storage site portfolio diversification

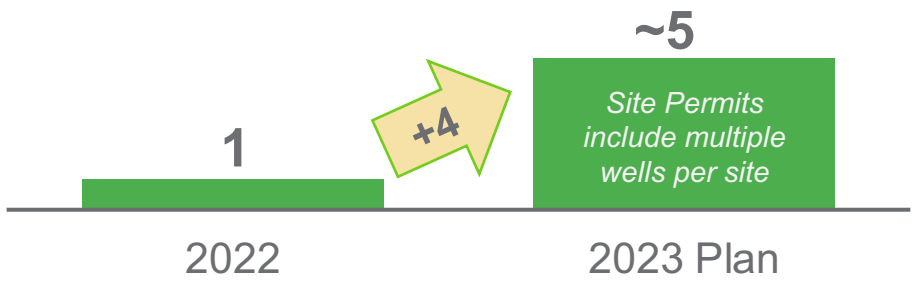
4 states

12 counties/parishes

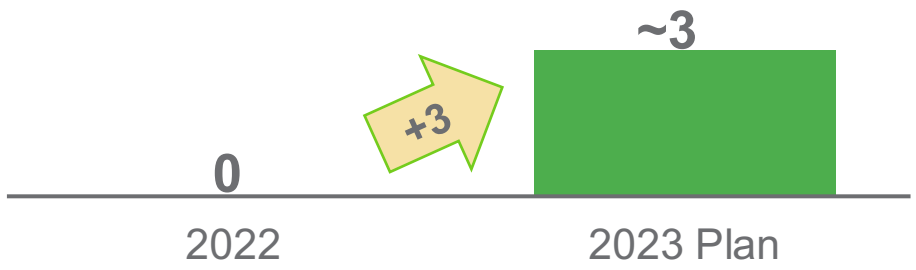
2 EPA regions

2023 Outlook

Storage Sites Permits Submitted



Stratigraphic Test Wells Drilled



Progressing Safe and Secure CO_2 Storage

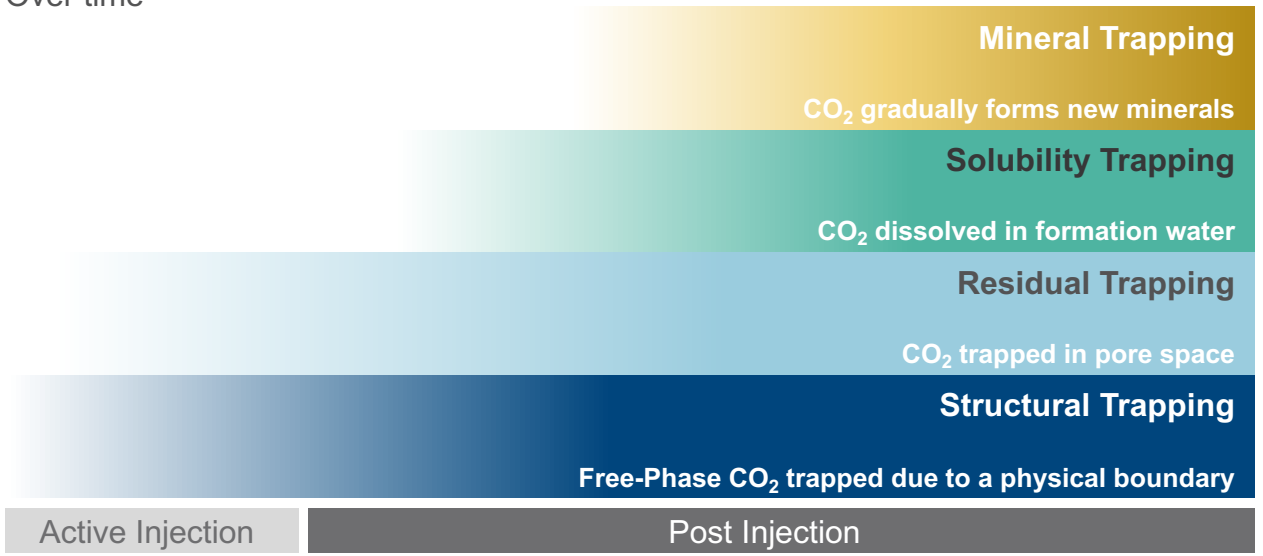
Key Steps In De-risking Geologic Sequestration

- **Seismic data interpretation** – identify key horizons, reservoir characteristics and initial trapping mechanisms
- **Evaluation of existing wellbores** – determine if well intervention is necessary prior to CO_2 injection
- **Geologic model construction** – analyze potential CO_2 injection intervals and confining zones
- **Reservoir simulation modeling** – optimize well locations and injection strategies using simulation and CO_2 plume modeling
- **Stratigraphic test well drilling** – gather core to confirm understanding of subsurface zones (injection and confining)

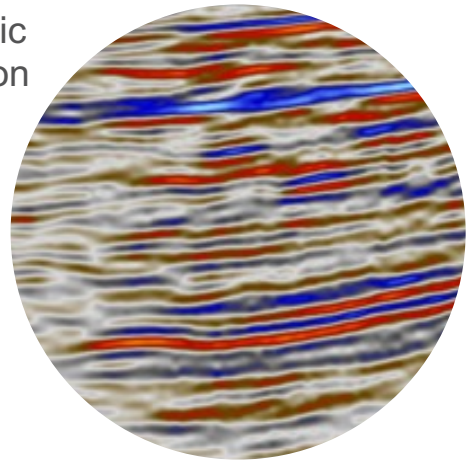
(1) IEA Geologic Storage of Carbon Dioxide publication

Multiple Layers of Storage Security(1)

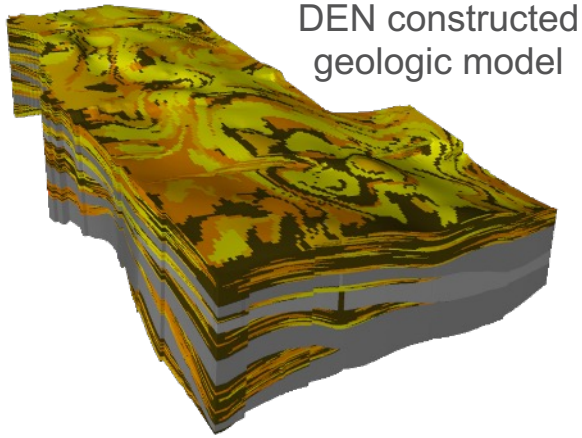
Over time



DEN seismic interpretation



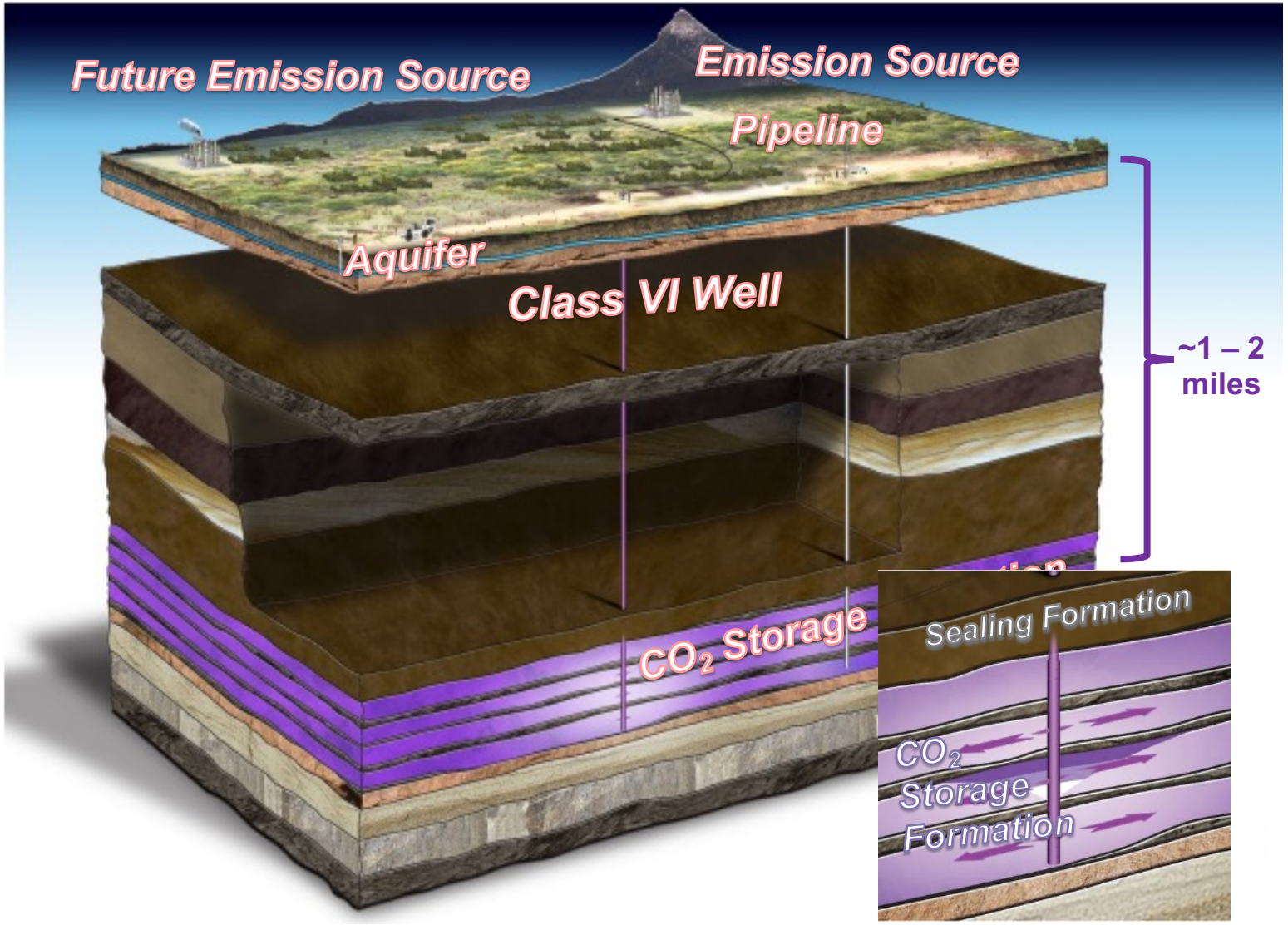
DEN constructed geologic model



Geologic Sequestration

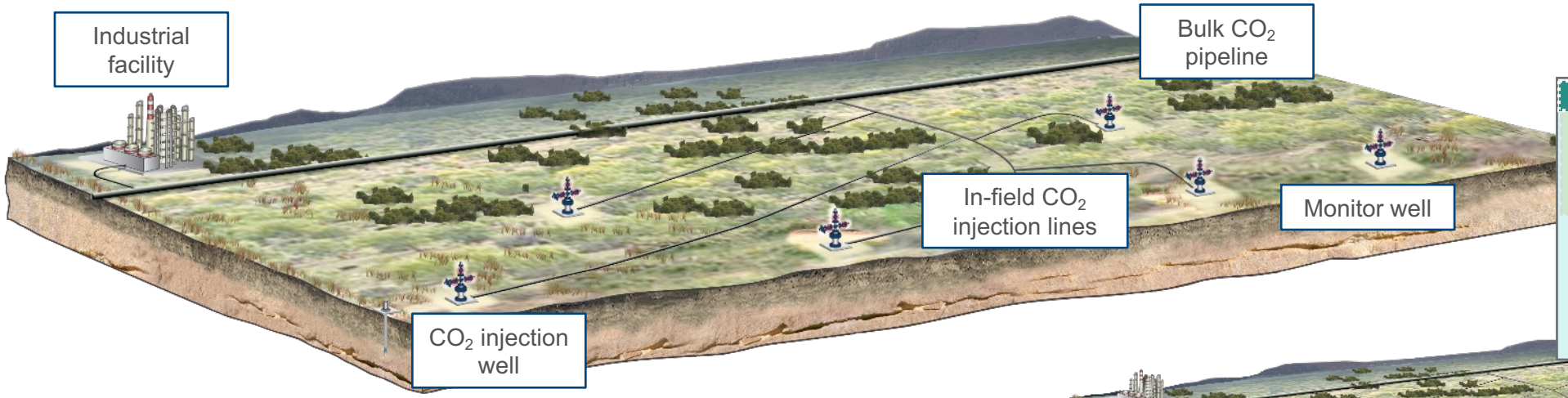
Characteristics for Secure Sequestration

- Porous and Permeable Rock Formation
  - Typically, Sandstone
  - Depths > 3,000' – CO_2 in dense supercritical phase
  - Saline Formations TDS > 10,000 ppm
  - Large Volume - Sufficiently thick and laterally continuous
- Top Seal
  - Sufficiently thick and laterally continuous
  - Free of permeable faults or fractures
- Tectonically stable and structurally simple
- Limited well penetrations

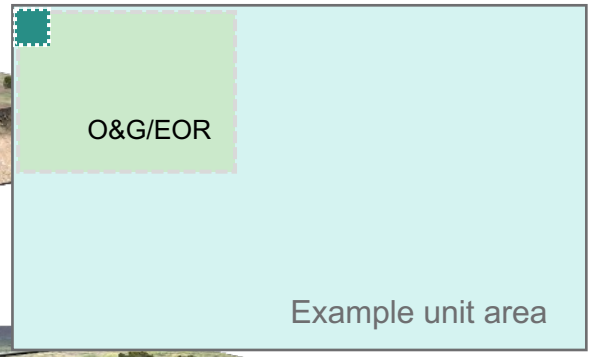


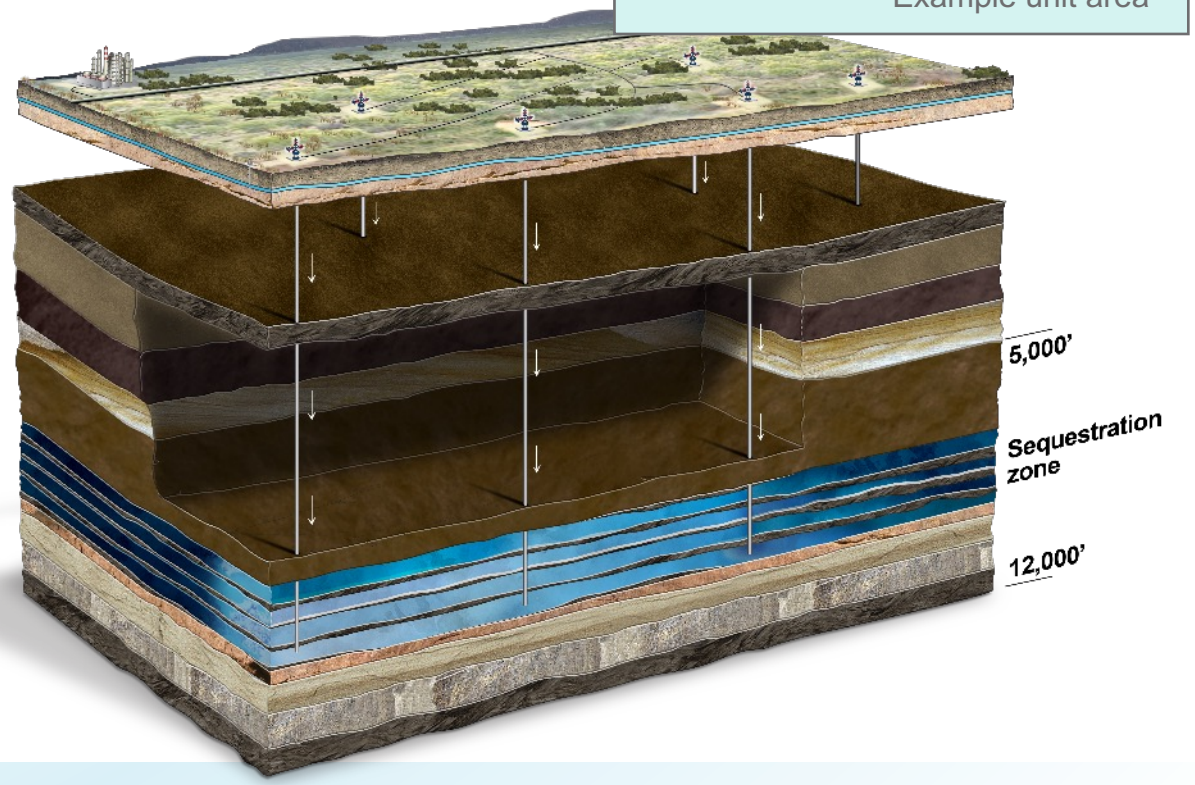
Source: IPCC Special Report on Carbon Dioxide Capture and Storage. Prepared by Working Group III of the Intergovernmental Panel on Climate Change [Metz, B., O. Davidson, H. C. de Coninck, M. Loos, and L. A. Meyer (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA (2005), 442 pp.

Example DEN CO_2 Sequestration Site



Sequestration results in 90% less surface impact than oil & gas





Generic 100 – 200 million metric ton site

- **20-year injection life @ 5 – 10 Mmtpa**
- **5 – 10 injection wells – avg. rate 0.5 – 1.5 Mmtpa per well**
- **Estimated capex $2 – 4 per tonne**
  - acquisition cost, seismic, wells (injection / monitoring), lateral pipeline, distribution network, abandonment
- **Anticipated operating expenses $5 – 9 per tonne**
  - surveillance, utilities, repair & maintenance, labor, insurance, pore space payment

Note: Schematics are for illustrative purposes. All pipelines will be located underground

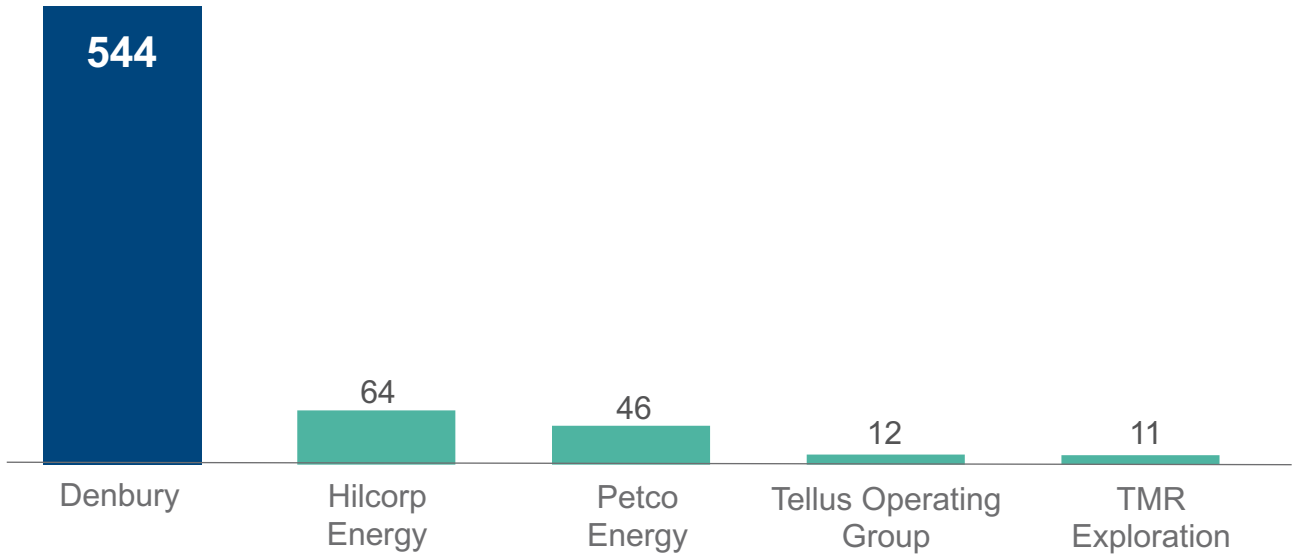
Well Positioned to Deliver on Class VI Development

DEN Clear Leader in Class II CO_2 Injection

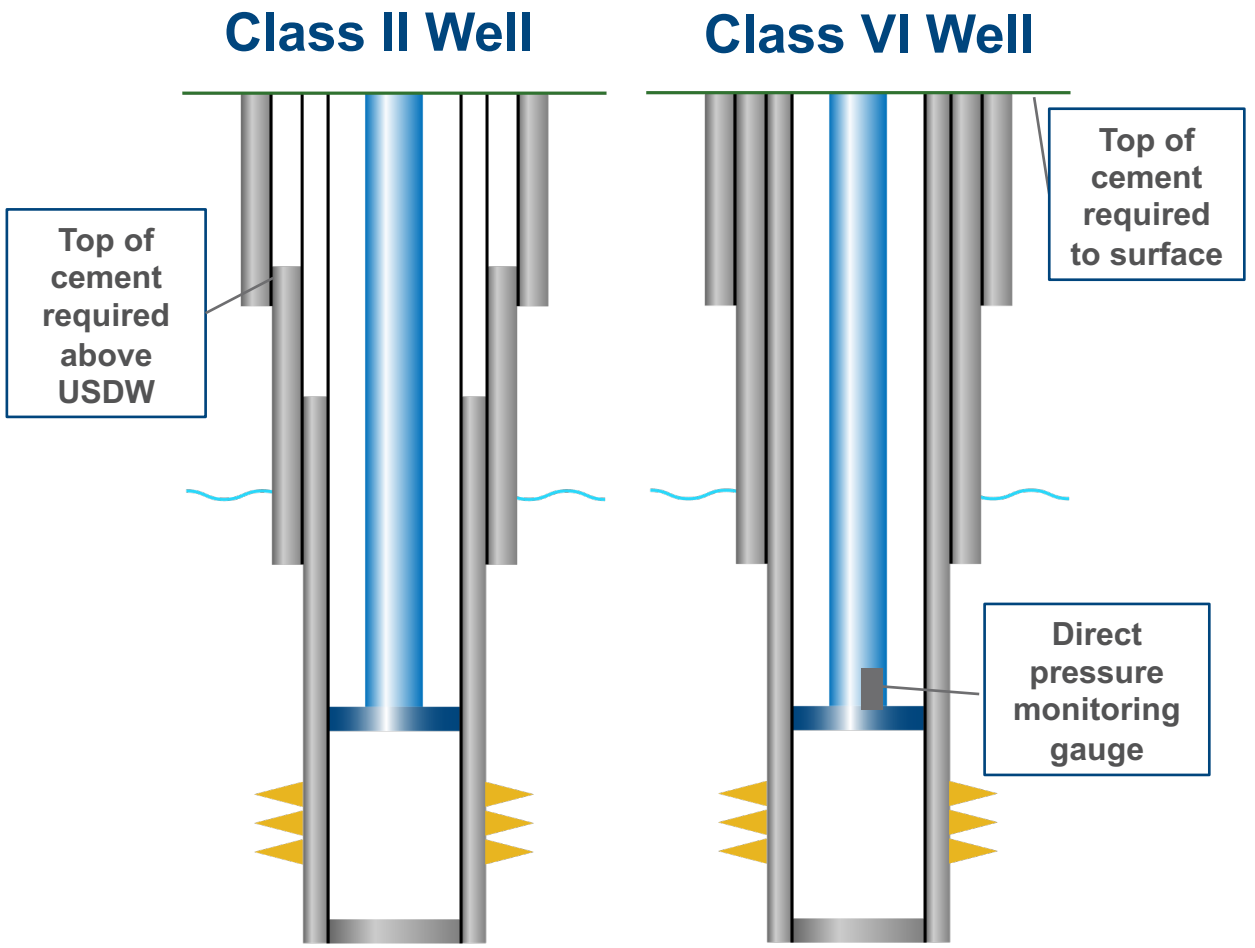
>750 CO_2 injection wells operating in the U.S.

DEN Class II Injection Wells in U.S. Gulf Coast

Count[1]



(1) Active Class II permits; filing data from RRC, MSOGB, LNDR



Highly similar construction
Class II vs. Class VI injection well

Denbury

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Commercial Offtake Engagement

CO_2 Emissions Engagement

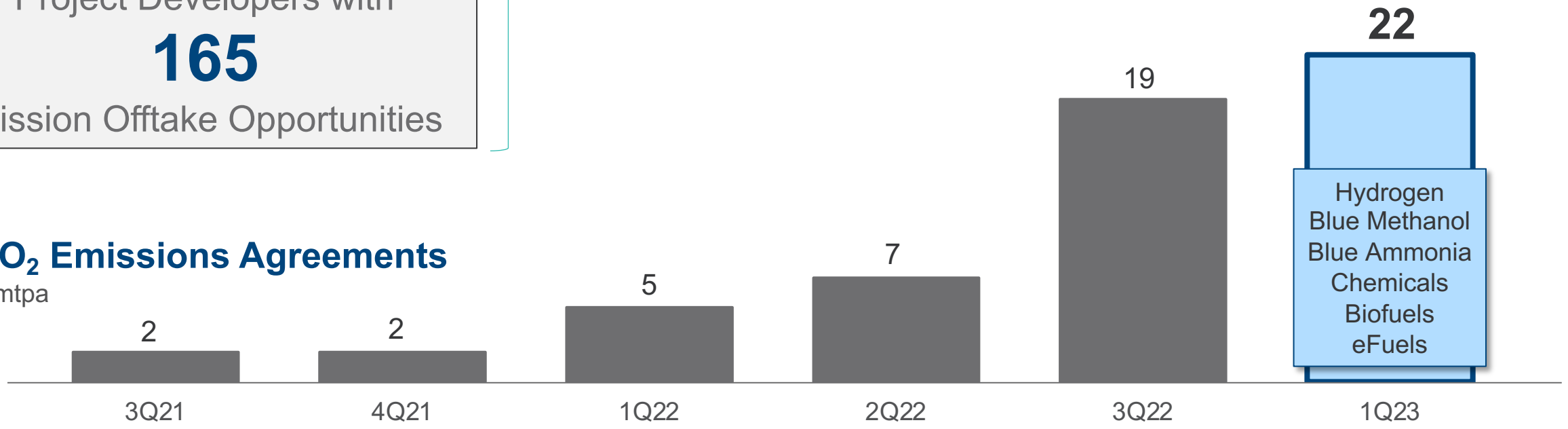
> 100 mmtpa
emission volume

130
Project Developers with
165
Emission Offtake Opportunities

~50% Brownfield & 50%
Greenfield Projects/Volumes

CO_2 Emissions Agreements

Mmtpa



CCUS Commercial Structures

Types of Emissions Agreements	Transportation	Transportation & Storage	Capture, Transportation, Storage
	Leverage DEN pipeline system to move CO_2 to 3rd party storage	**Connect lateral to industrial customer; move CO_2 to DEN owned and operated secure storage**	**Turnkey operation for customers who prefer full-service solution**
% of anticipated DEN volumes	5 – 10%	80 – 90%	5 – 10%
Agreements announced (million metric tons per year)	1.5	18.5	–
Anticipated avg. revenue ($/tonne)	$5 – 15	$15 – 25 (sequestration) $0 – 10 (EOR)	$85 §45Q (less market-priced fee paid to industrial customer)
Term length (years)	Up to 20	12 – 20	12+ (§45Q term)
Capital intensity	Low	Medium	High

Note: Anticipated revenue per agreement subject to pipeline capital costs and §45Q levels.

Utilization Market Strategy

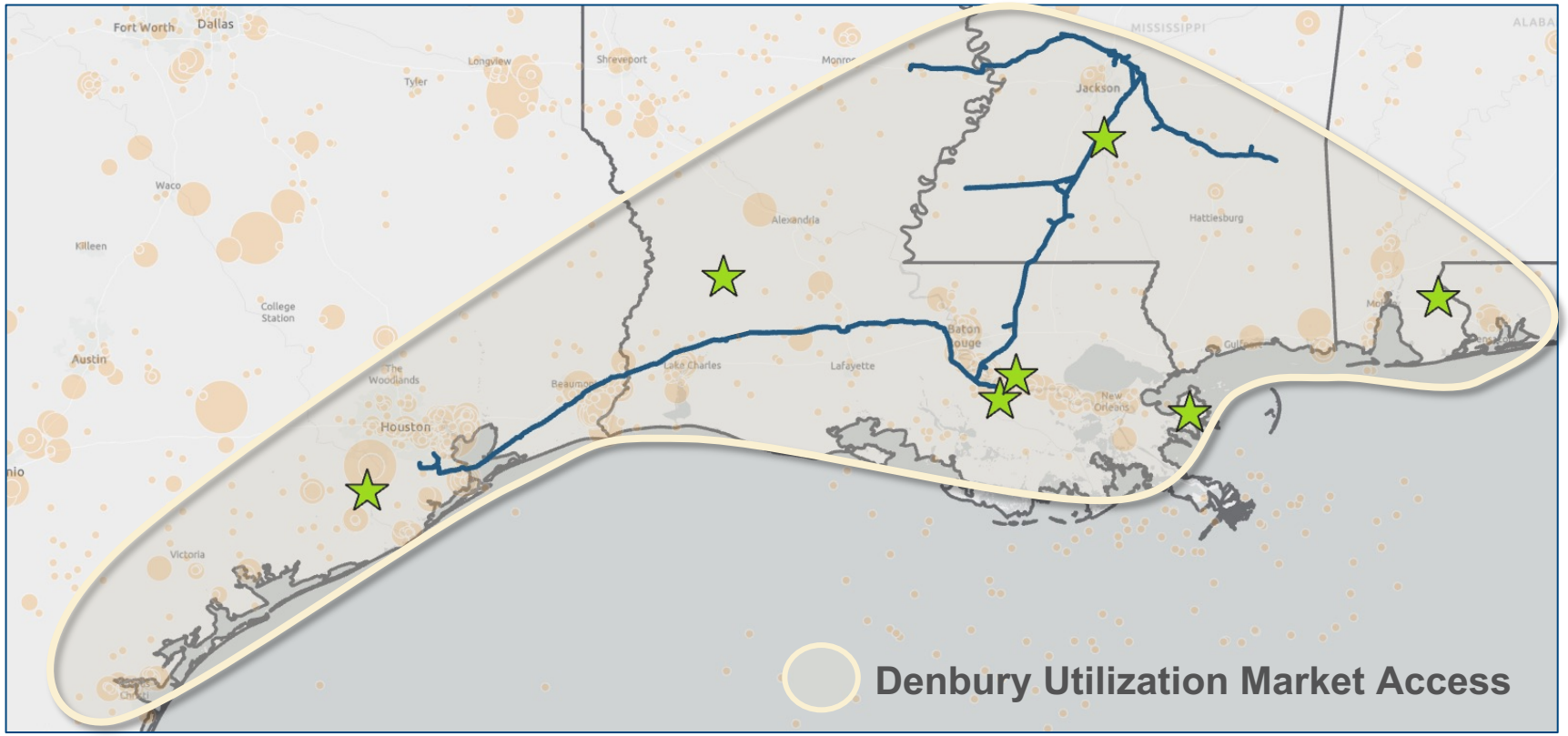
Denbury CO_2 infrastructure network allows emitter future exposure to **Utilization** market

4 mm MT of executed
Utilization Agreements
as of 1Q23

INFINIUM

MONARCH ENERGY

HIF®



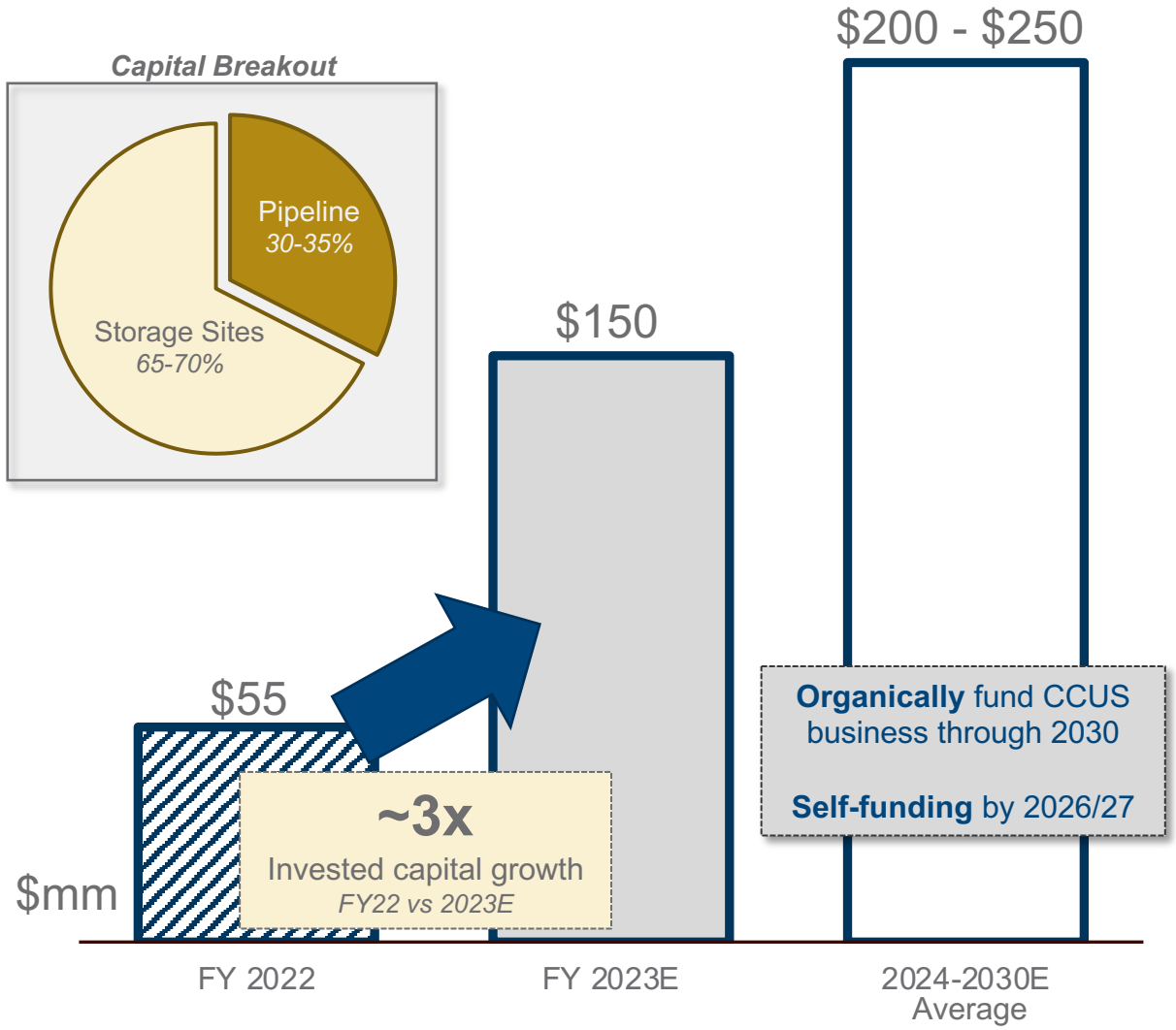
1 **Utilization market access**
Leverage USGC pipeline infrastructure
Leverage CO_2 fungibility

2 **Guaranteed offtake**
Backstopped by ~2 billion metric tons of storage
Mitigates utilizer FID risk

3 **Market-driven price**
Provides alternative option to carbon offset market

Denbury CCUS Outlook

CCUS Capital Investment Outlook

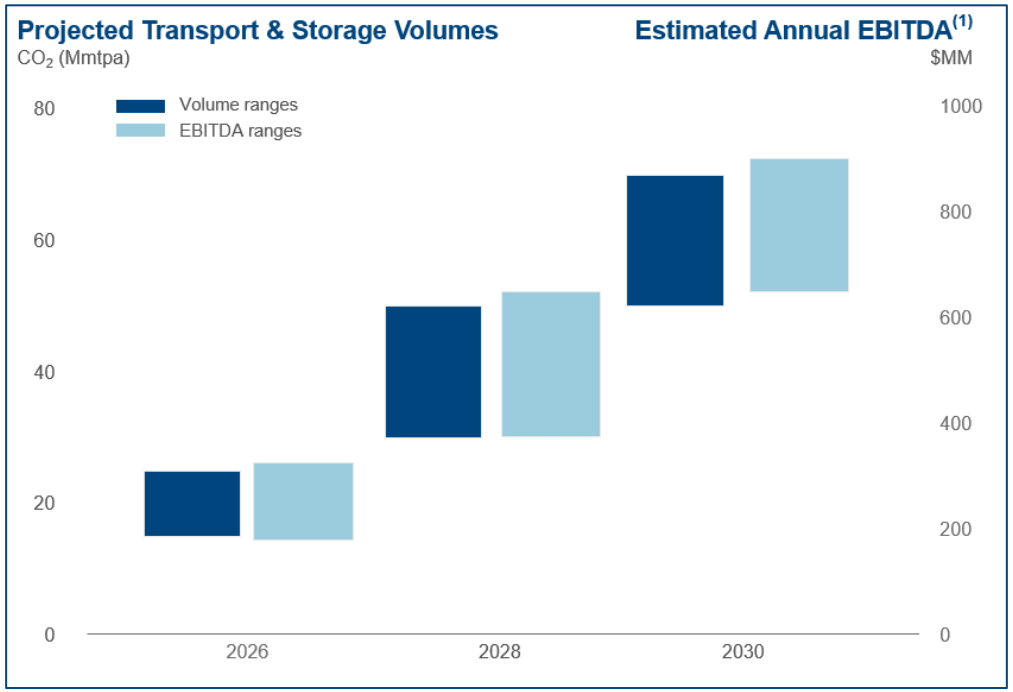


Denbury Balance Sheet Strength

EOR Operating Cash Flow → EOR/CCUS Operating Cash Flow → CCUS Operating Cash Flow

Continued CCUS Commitment

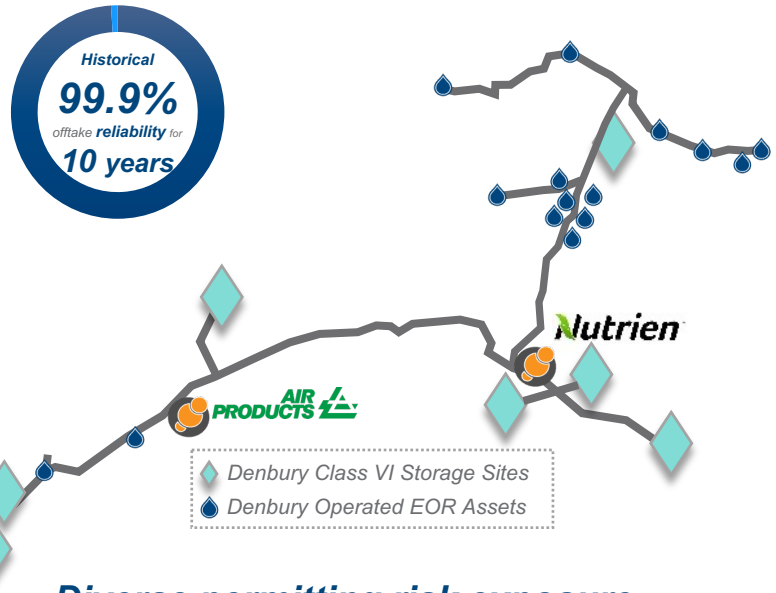
2023 2026 2030+



Denbury's Network Redundancy Delivers Unmatched Reliability

Denbury Network Effect

Layered Redundancy Minimizes Point to Point Risks

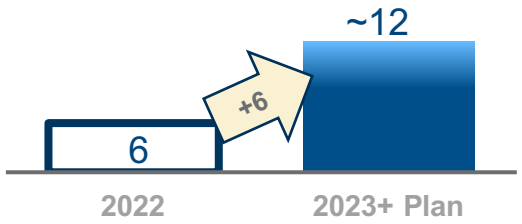


Diverse permitting risk exposure

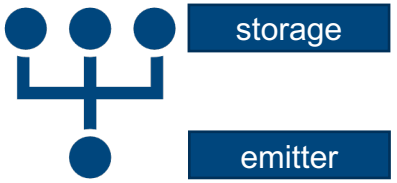
Current Denbury storage site locations

4 states
12 counties/parishes
2 EPA regions

Multiple storage sites under development

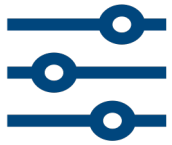


Class VI well & sparing philosophy



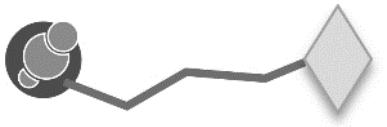
Long-term flexibility beyond 45Q

Access to Class VI, EOR and Non-EOR Utilization



Point to Point Storage Risks

Lack of Redundancy leads to Development, Timing, and Operational Risks



Pre-development Technical Risks

- *Geologic uncertainty*
- *Lower than expected injection capability*
- *Storage Site unitization and ROW delays*

Permitting Risks

- *EPA Class 6 Permit is denied*
- *Permit doesn't allow for ample rate or volume*
- *Geopolitical location uncertainty*

Operational Risks

- *Injection well failure*
- *Surface equipment failure*
- *Induced seismicity*
- *Plume size trending outside EPA permitted AOR*
- *Containment Issues*

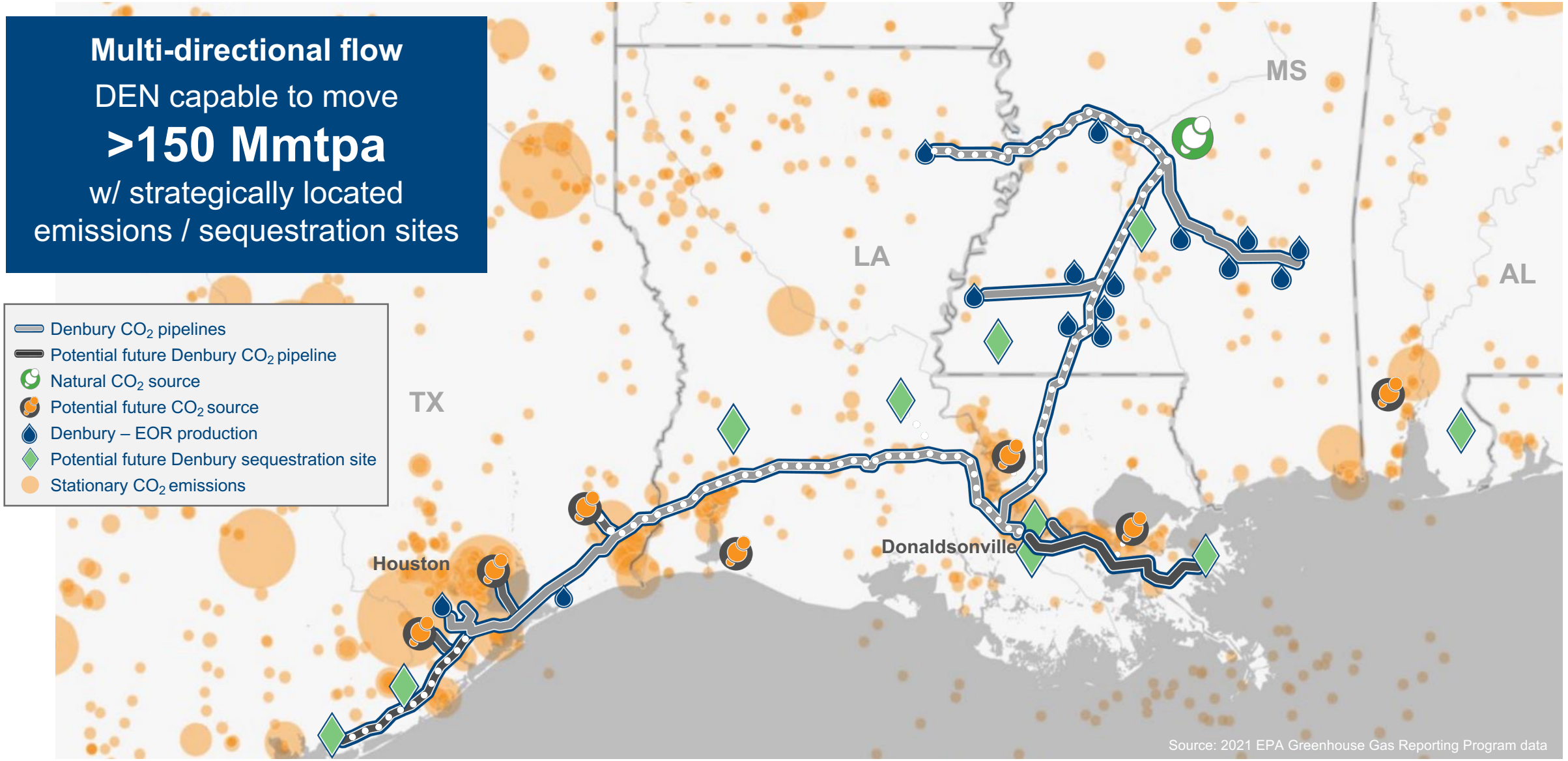
Future Potential – Optimized Network to Maximize CO_2 Flows

Multi-directional flow

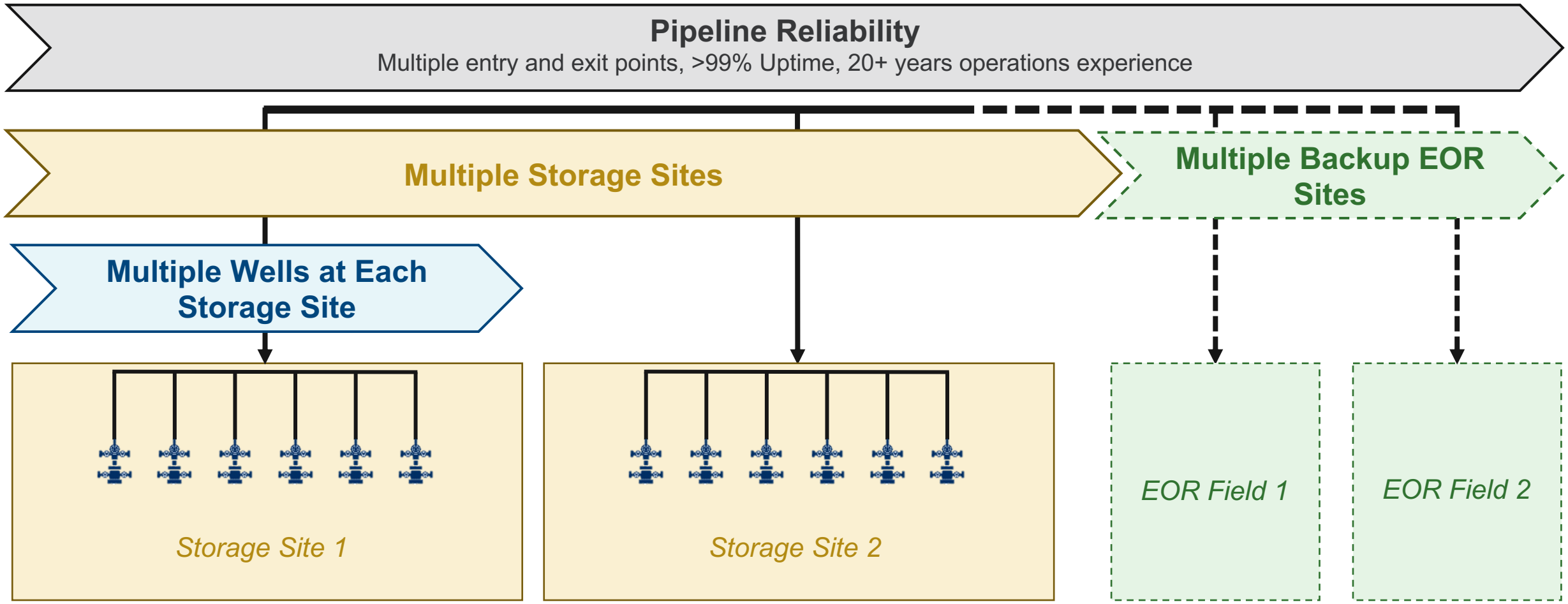
DEN capable to move

>150 Mmtpa

w/ strategically located emissions / sequestration sites



Denbury System Designed for Reliability



Layered spare capacity provides multiple points of optionality to maintain service through interruptions

Denbury Carbon Solutions: A Unique Partnership

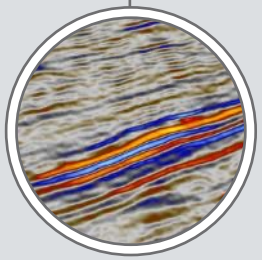
Denbury

Commercial

Denbury Owned & Managed Processes

TRANSPORTATION

STORAGE / UTILIZATION



MONITOR / VERIFY

Strategic

Technical

CAPTURE TECHNOLOGY EVALUATION

ION aqualung

EPC CAPTURE COST ESTIMATATION / PRE-FEED

PKS Kiewit

Commercialization

45Q MONETIZATION

CARBON OFFSET CREDIT MARKET ACCESS

STRATEGIC EQUITY INVESTMENTS

CCUS – The Path to Full Scale Commercialization

Product Offtake

How will 'blue' be defined?

Discrete vs continuous
CI score-based
Geographic
Time scale

IRA: 45Q vs 45V

What CI score is achievable?
Further decarbonization needed
One-time transfer strategy
45Q years 6-12 monetization market
Capture rate qualification

Carbon offset credit market

Defining quality & value of CCUS-based credits
Long-term market establishment
MRV requirements

CCUS Project Development Ecosystem

Class VI Permitting

State primacy
De-risking timeline

Addressing Recapture Liability

Insurance marketplace
Modeling probability of recapture event

Storage

Pore space ownership
Public relations / outreach

Transportation

Public relations / outreach
Achieving scale

Monitoring, Reporting, & Verification

Tailored approach
Tiered requirements

Agenda

I. Denbury Carbon Solutions
II. CCUS Market Outlook
III. Storage Operations
IV. Commercial Structure
V. Conclusion / Q&A

Denbury Carbon Solutions