Carbon Capture, Use & Storage: U.S. Gulf Coast Opportunity

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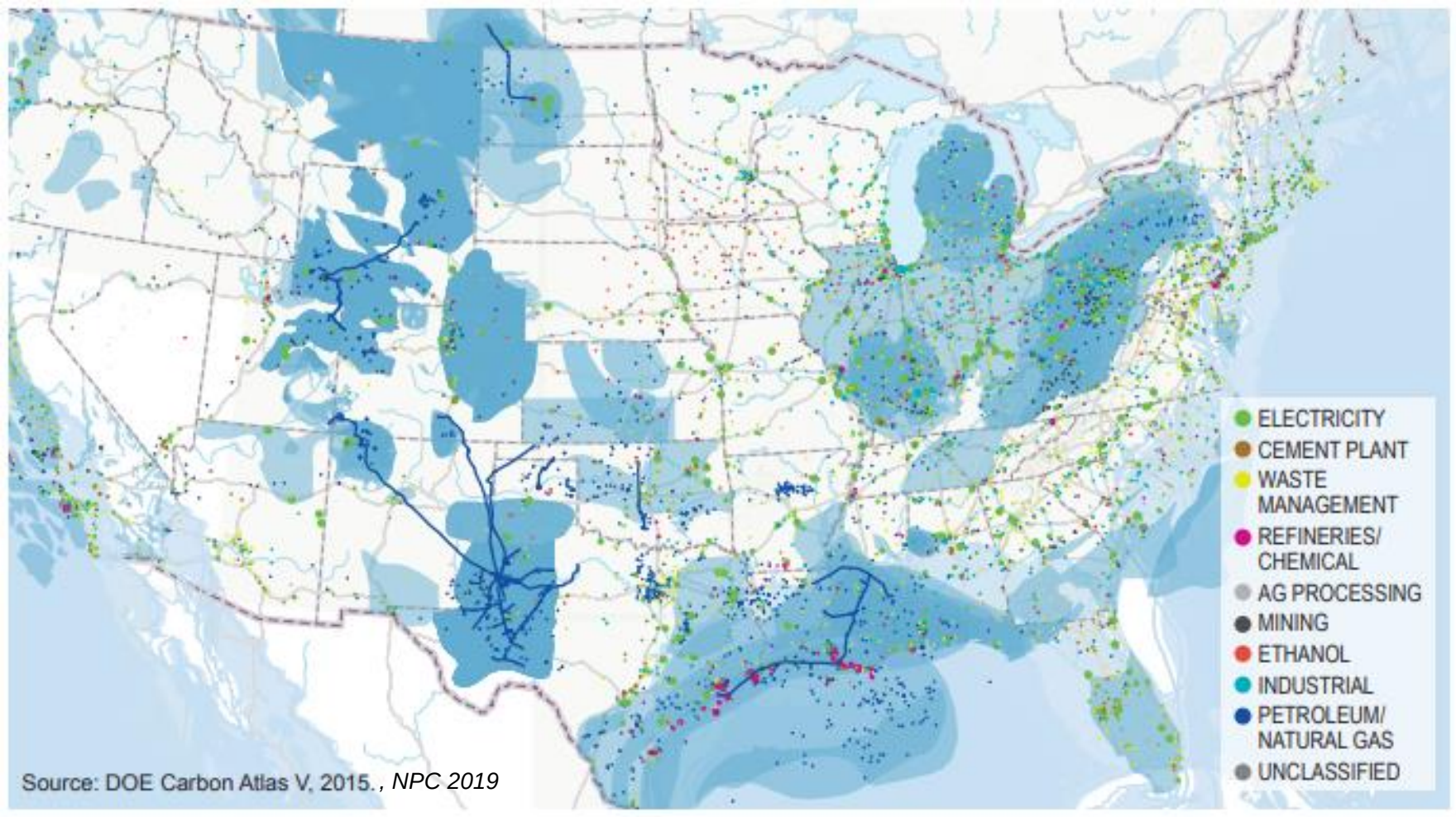
Key Messages

The **case for CCUS is clear**, much technology is proven with more in research and development and **CCUS operations should scale up as soon as possible**

- An excellent opportunity for deployment at scale: **The U.S. Gulf Coast**
- **Challenge**: Significant CO_2 emissions from power, refining, chemicals and steel manufacturing
- **Opportunity**: Infrastructure, geology, expertise

Integrated with renewables and hydrogen, the **CCUS industry** will create **climate benefits, business opportunities, technology advances** and **jobs**... and the U.S. Gulf Coast offers a significant opportunity to create a **low carbon industrial hub**

Storage Alignment: CO_2 Sources & Geologic Sinks

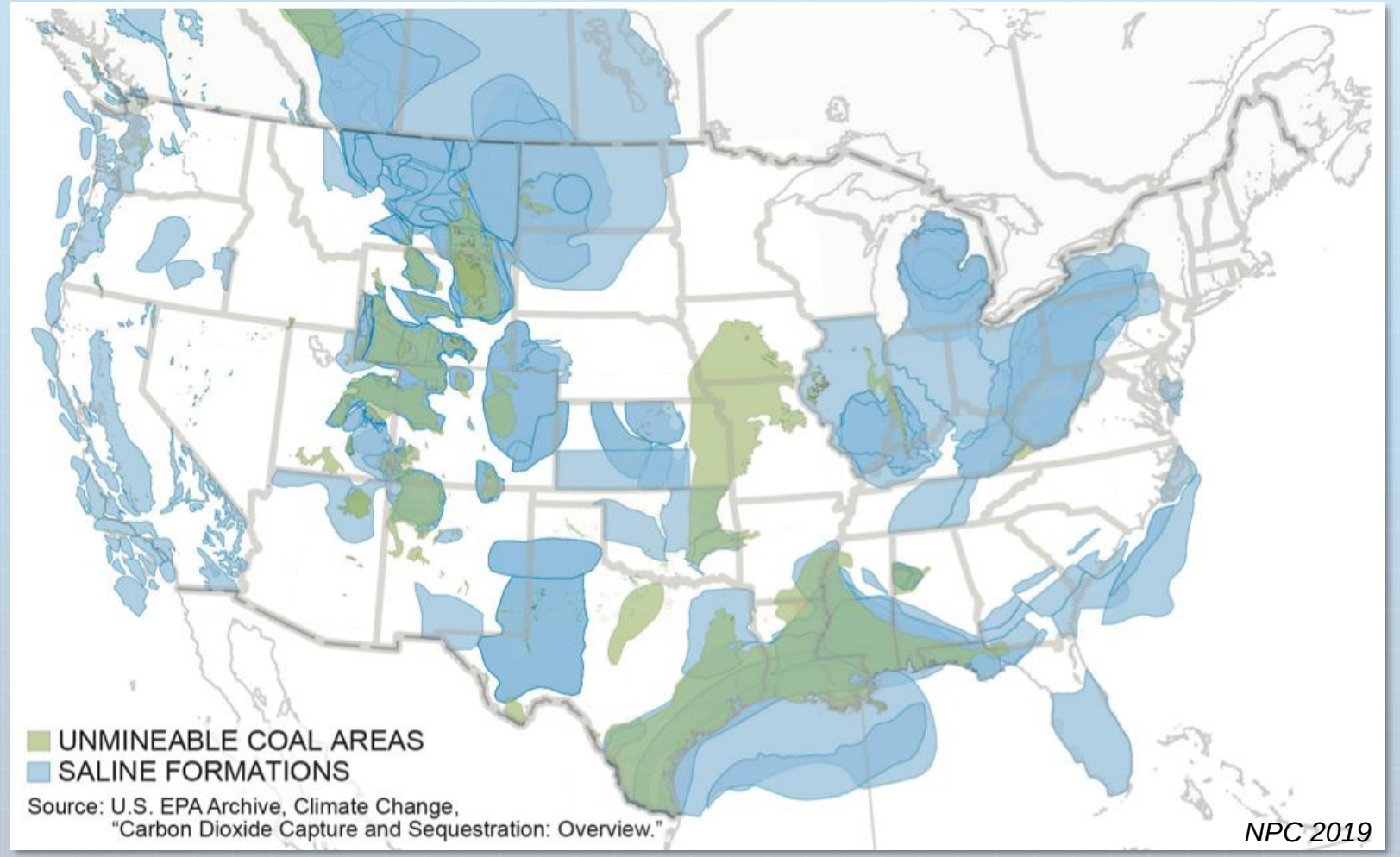


U.S. Stationary Sources of CO_2 Emissions (by type and sized by volume), Saline Formations and Existing CO_2 Pipelines

Point source emissions are distributed across the country with several clusters of emissions in key geographies – including Midwest, Gulf Coast, California Coast

U.G. Gulf Coast: Existing CO_2 pipeline infrastructure and emission sources coeval with subsurface storage opportunities

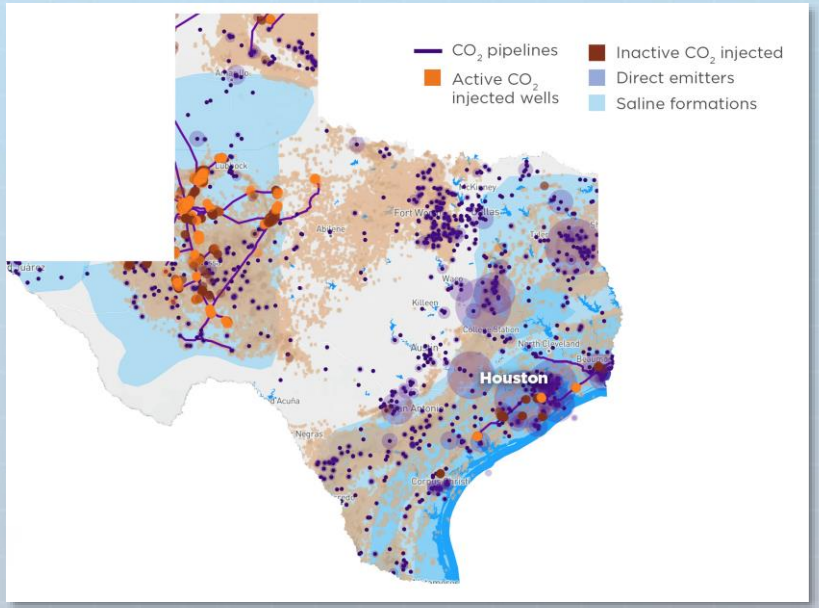
U.S. Storage Potential



U.S. Assessment of Geologic CO_2 Storage Potential

The U.S. offers significant **saline storage** opportunities with significant potential in the Gulf Coast.

Texas example: **Emissions and Storage potential**



Friedmann et. al,, 2021 sourced from Medlock and Miller (2021), with data from NETL/NATCARB and the Gulf Coast Carbon Center

Offshore Carbon Storage Opportunities

A very realistic option and opportunity!

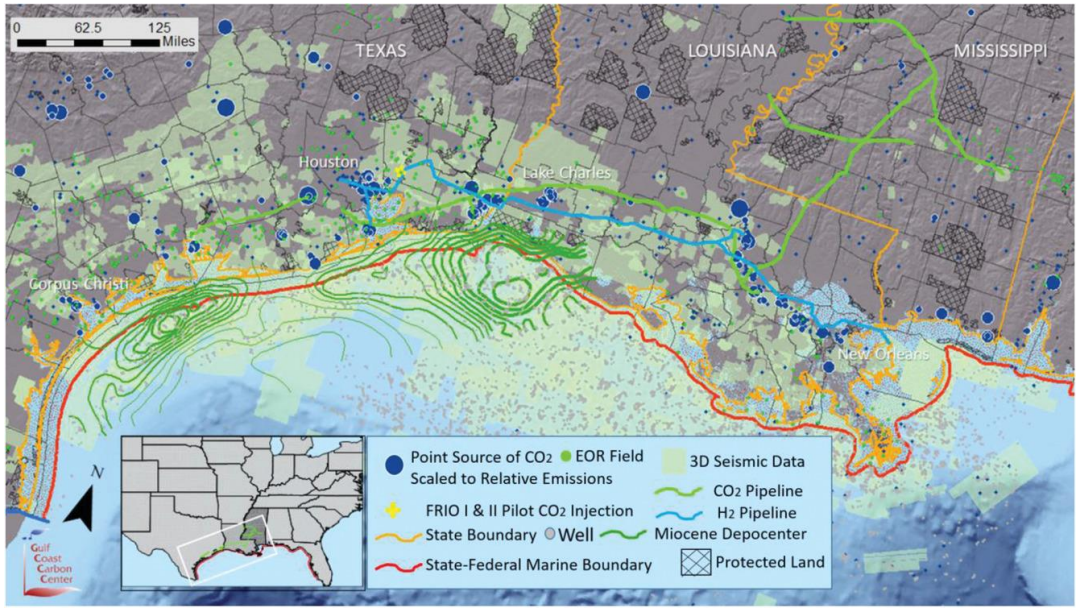
Examples include Sleipner, Snohvit, Gorgon, Santos Basin EOR, Gorgon, Net Zero Teesside

Advantages

- Plethora of potential offshore storage sites
- One landowner (usually government)
- Distanced from populated areas
- Monitoring relatively straightforward
- Possibly re-use existing infrastructure

Disadvantages:

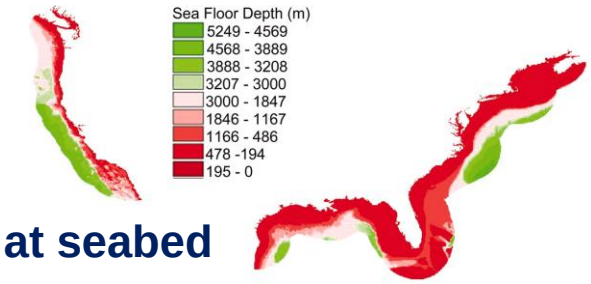
- Economics
- New regulations and gaps in existing rules



Meckel et al, 2021

U.S. Opportunity: CCUS hub development on the Gulf Coast

Mind candy!



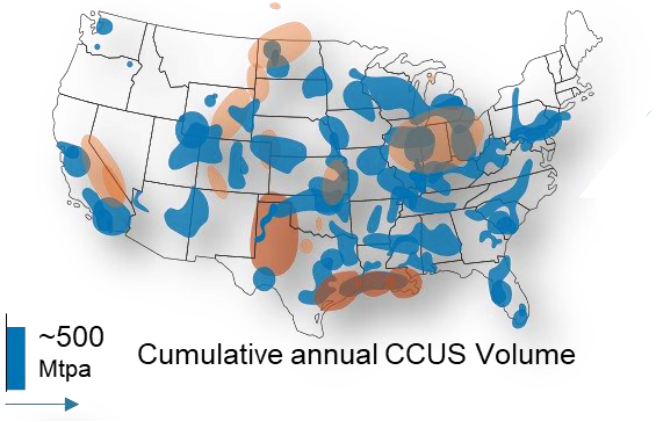
Storing CO_2 at seabed

House et al, 2006

An Industry in Infancy

2045

U.S. At-Scale Deployment



$680 B cumulative investment

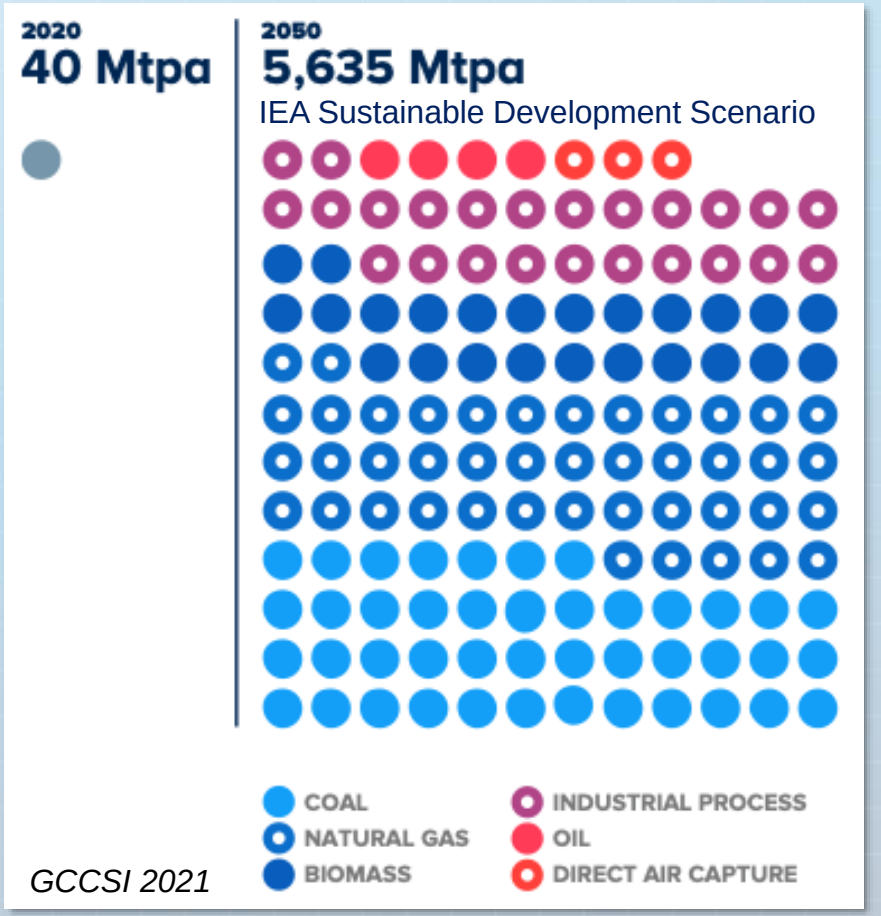
$28 B pipeline investment

230 K annual jobs

NPC 2019

Demand will create opportunities for **business development**, **research** and **environmental impact**

This adds **jobs** and has the potential to create a global **multi-billion to trillion $ industry**



Potential for 140x increase in **global carbon capture capacity** in the next 30 years

References

Recent reports and studies including:

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