Carbon Sequestration Methods

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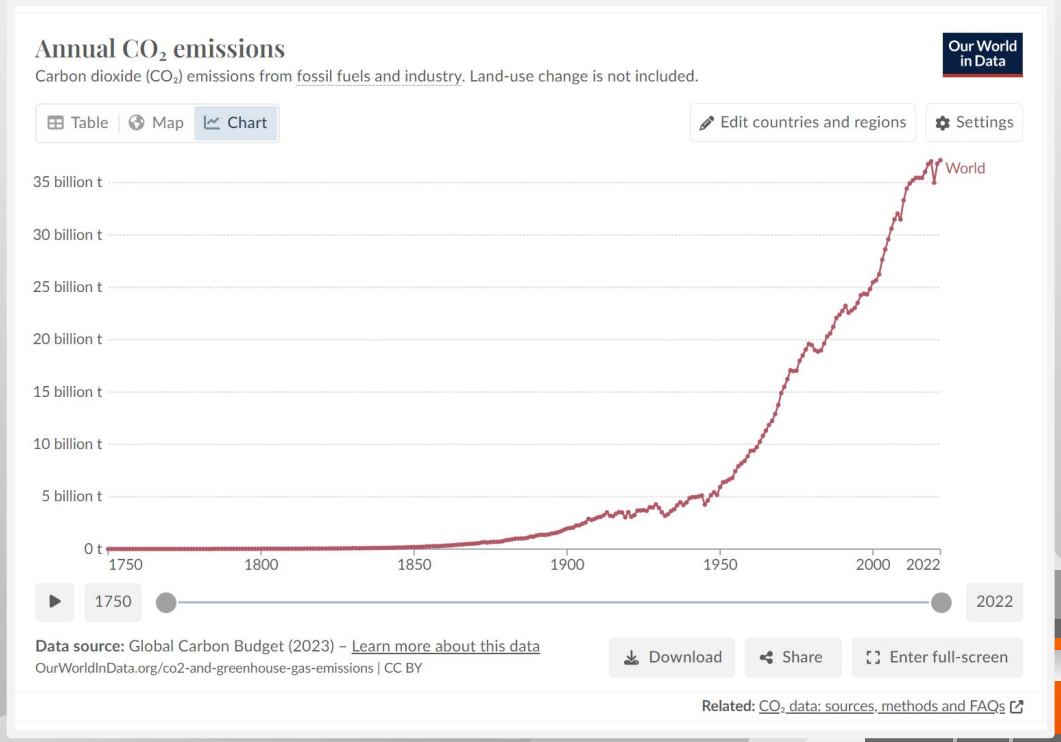
Carbon Emitters

Where are emissions coming from?

CO2 Emissions since 1750



Carbon Sources

Transportation

Mostly smaller engines, often without filters

Agriculture

Cows, fertilizers, and pesticide-related effects

Commercial / Residential

The energy along the main power grid

Industrial

Factories, warehouses, and large-scale operations

Electric Power

The costs in generating power for the public

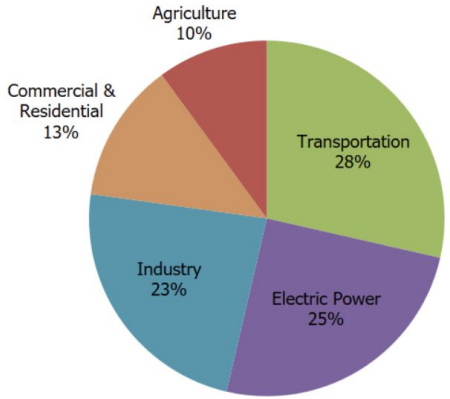
Miscellaneous

The smaller, sometimes unintentional polluters

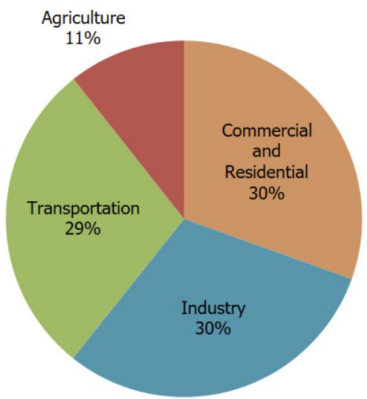
Companies working in Capture

CO2 Emissions By Economic Sector

Total U.S. Greenhouse Gas Emissions by Economic Sector in 2021



Total U.S. Greenhouse Gas Emissions by Economic Sector



Total U.S. Greenhouse Gas Emissions by Economic Sector and Electricity End-Use

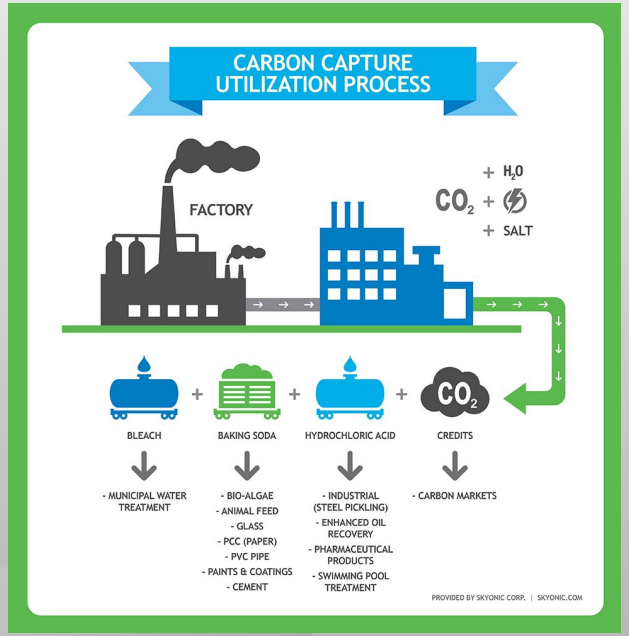
02

Carbon Capture

What technology is currently in use?

Carbon Utilisation

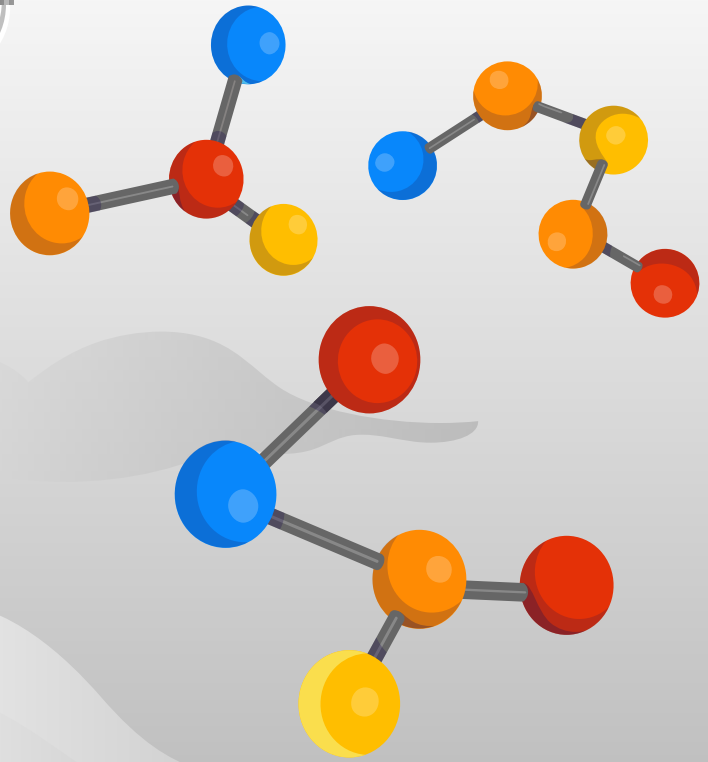
Carbon utilization involves converting carbon dioxide into useful products like fuels, chemicals, and building materials to reduce greenhouse gas emissions.



Carbon Capture History

How long do you think carbon capture has been around?

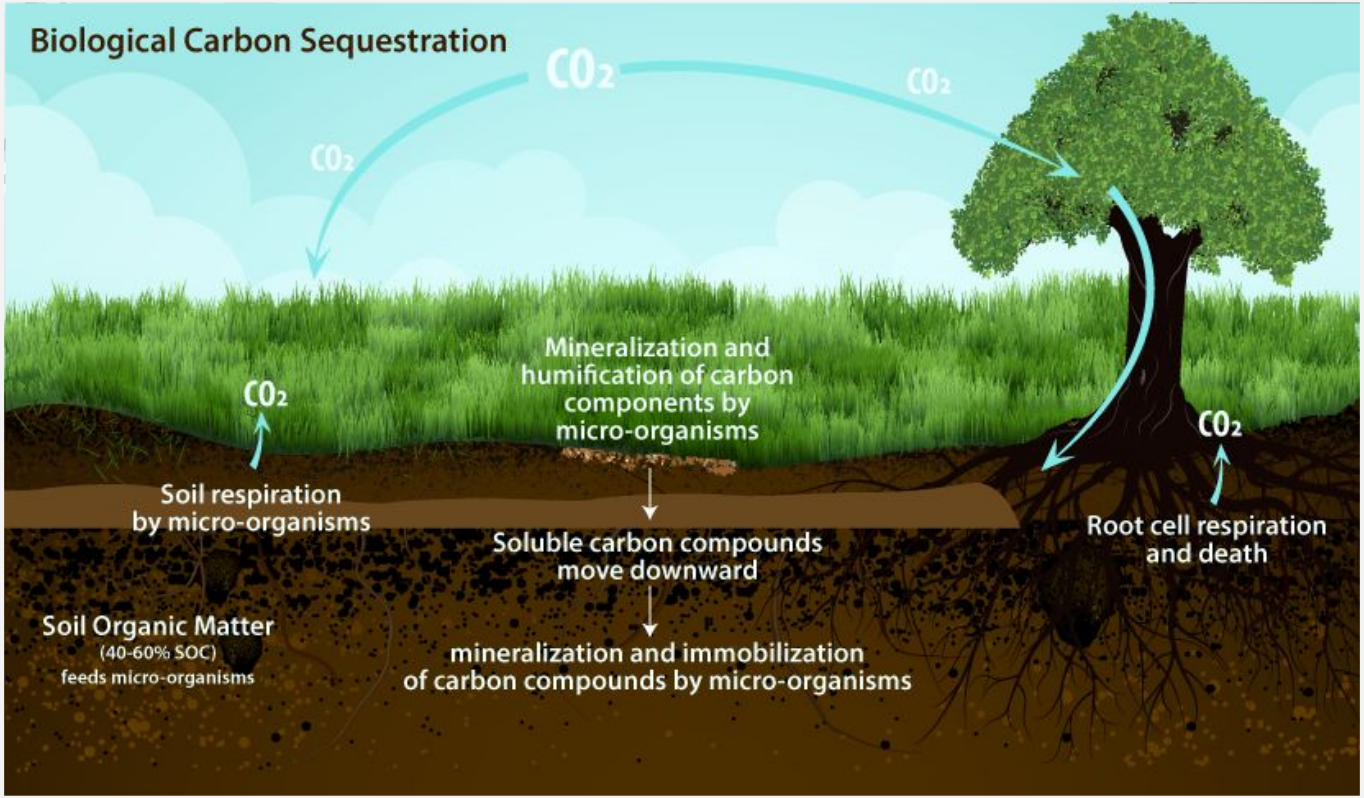
A) 10 years
B) 50 years
C) 100 years
D) Since the Beginning of time

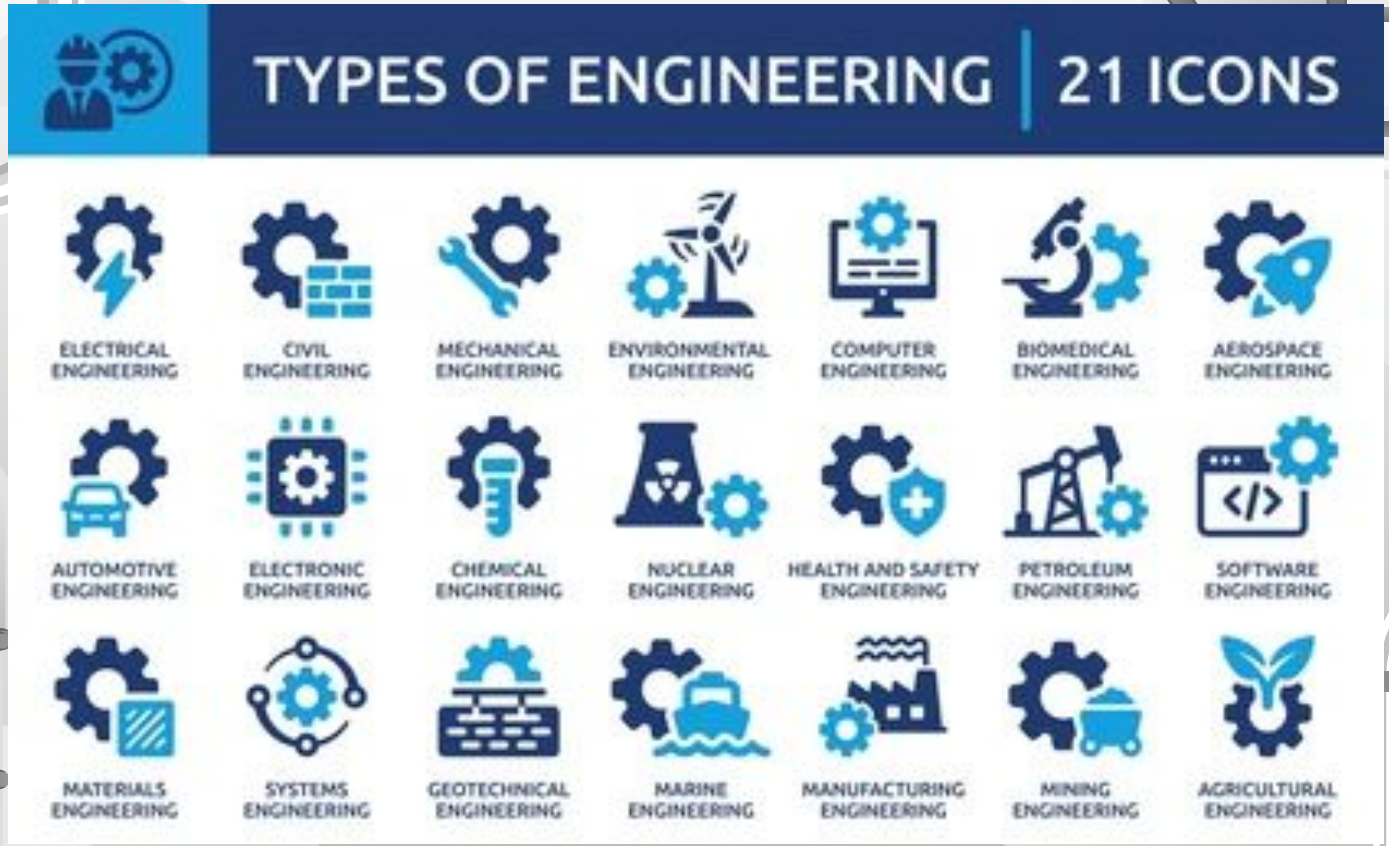


03

Carbon Sequestration

What does the natural carbon cycle look like?


Biological Carbon Sequestration
CO2
CO2
CO2
CO2
Mineralization and humification of carbon components by micro-organisms
Soil respiration by micro-organisms
Soluble carbon compounds move downward
Root cell respiration and death
Soil Organic Matter
(40-60% SOC)
feeds micro-organisms
mineralization and immobilization of carbon compounds by micro-organisms


TYPES OF ENGINEERING | 21 ICONS
ELECTRICAL ENGINEERING
CIVIL ENGINEERING
MECHANICAL ENGINEERING
ENVIRONMENTAL ENGINEERING
COMPUTER ENGINEERING
BIOMEDICAL ENGINEERING
AEROSPACE ENGINEERING
AUTOMOTIVE ENGINEERING
ELECTRONIC ENGINEERING
CHEMICAL ENGINEERING
NUCLEAR ENGINEERING
HEALTH AND SAFETY ENGINEERING
PETROLEUM ENGINEERING
SOFTWARE ENGINEERING
MATERIALS ENGINEERING
SYSTEMS ENGINEERING
GEOTECHNICAL ENGINEERING
MARINE ENGINEERING
MANUFACTURING ENGINEERING
MINING ENGINEERING
AGRICULTURAL ENGINEERING

04

Looking forward

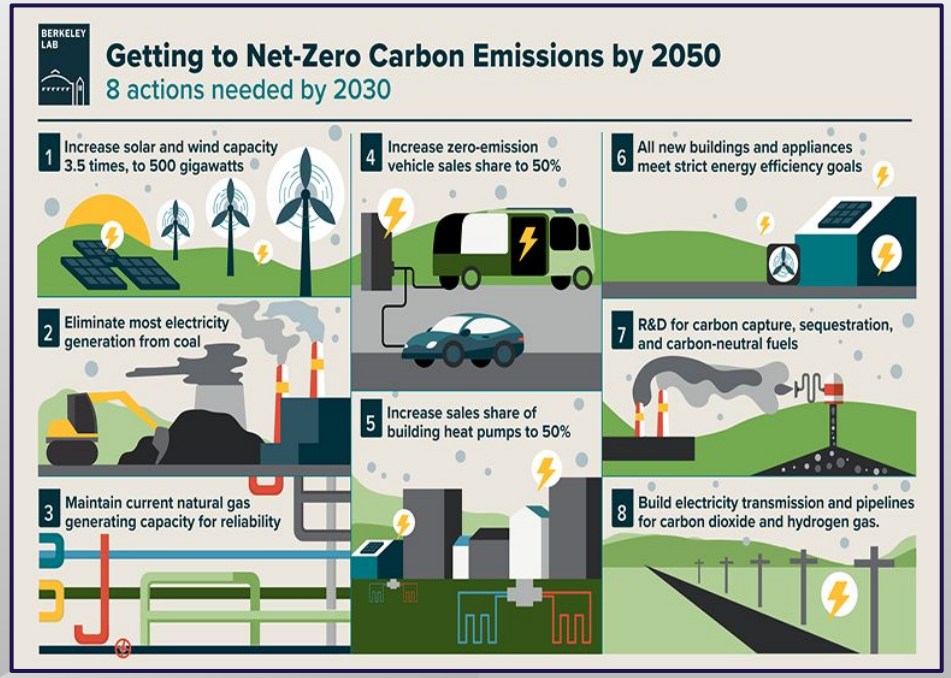
What lies ahead in the future of carbon capture technology?

Increased Efficiency

The future of carbon capture technology is bright, with advancements likely to reduce costs and enhance efficiency, encouraging broader adoption and support from governments and industries to help combat climate change.

In the next 50 years...

What are the obstacles in the way?



Quiz Time!

Thanks!

Does anyone have any questions?