U.S. DEPARTMENT OF ENERGY
Fossil Energy and Carbon Management

Carbon Removal and Oceans

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ARPA-E Ocean Week

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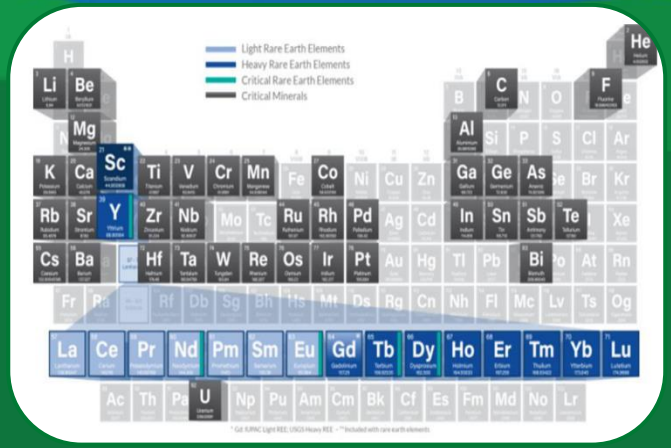
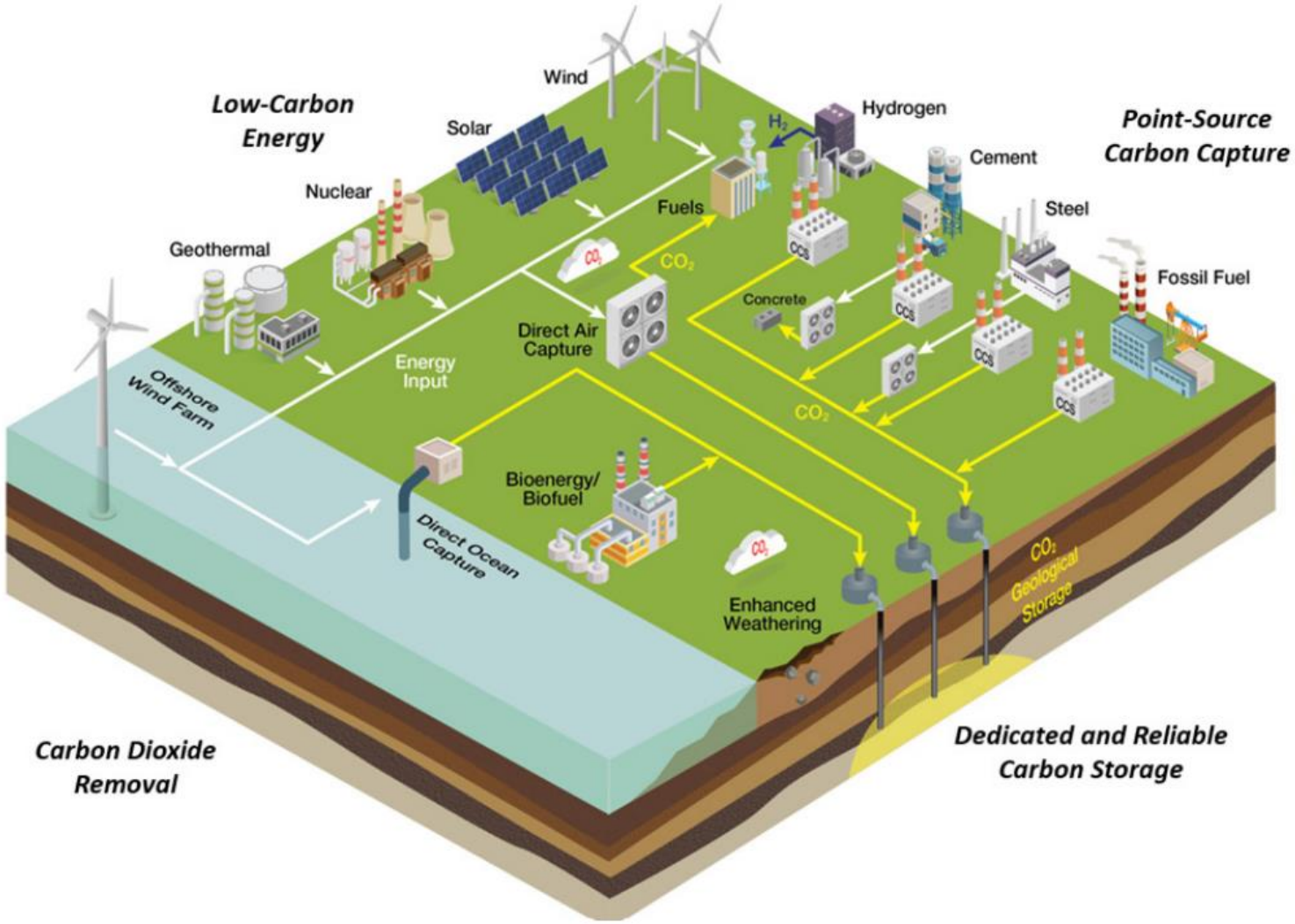
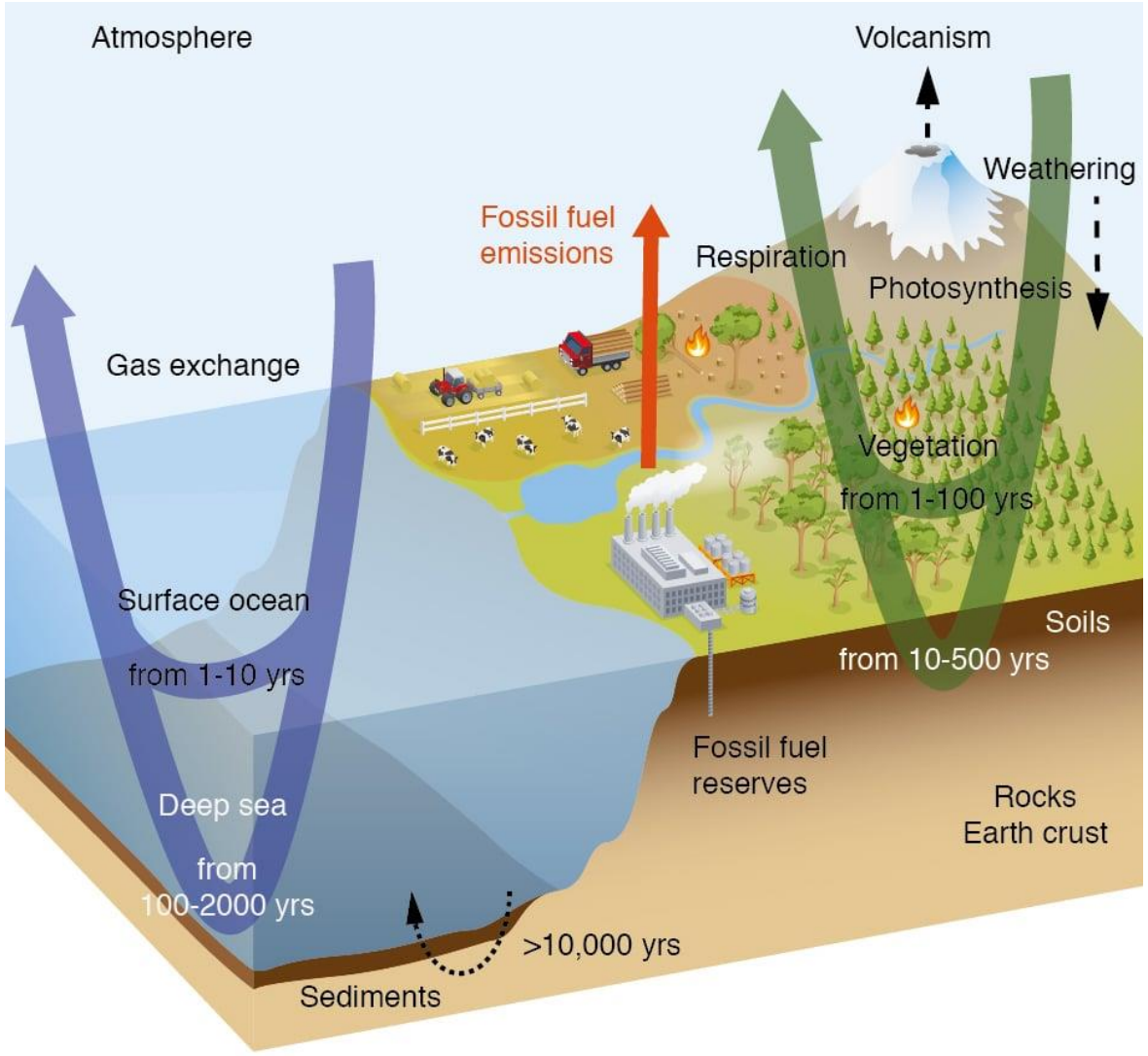


Carbon management options for climate action

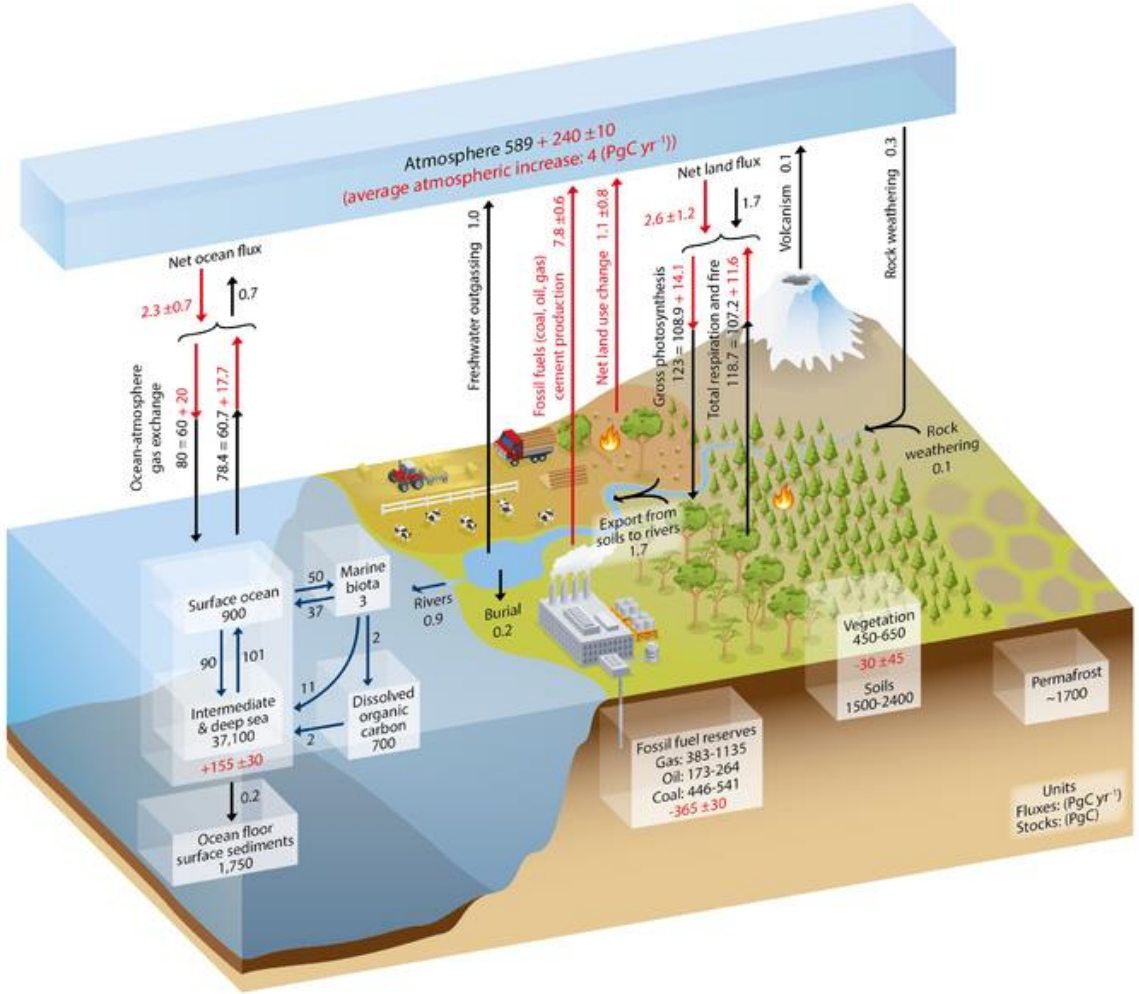
Carbon dioxide removal tackles the CO_2 already emitted into the atmosphere and will be critical to counterbalancing hard to decarbonize sectors, for us to achieve net-zero



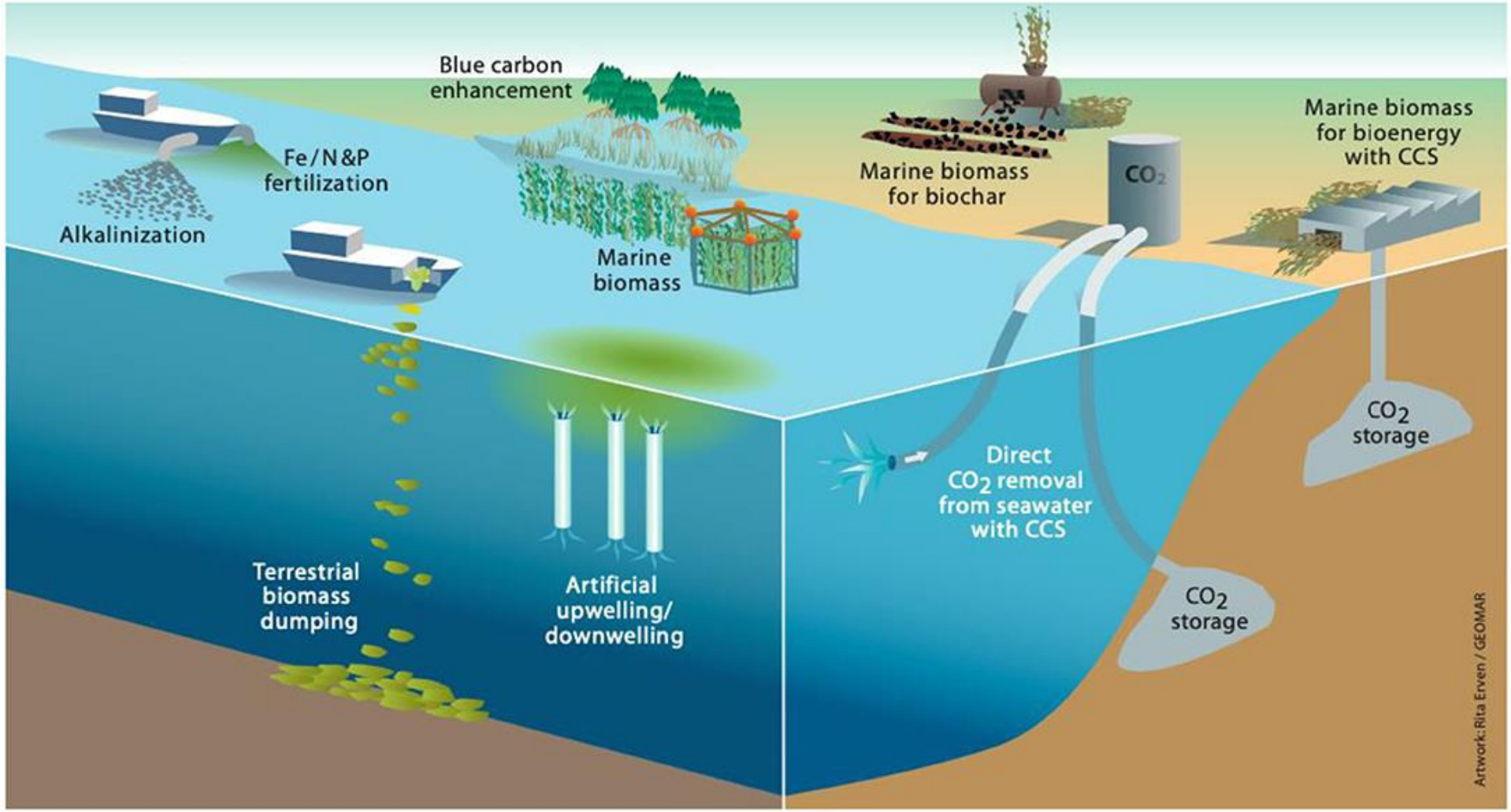
Oceans offer key opportunity



Scale of ocean carbon sink is massive



Oceans provide many options for carbon removal



Towards responsible ocean CDR

1

Equity and justice

All carbon management work is covered under Justice40, and DOE has developed robust community impacts, benefits, and diversity requirements for its funding opportunities

2

Workforce development

DOE provides requirements for workforce planning and directly supports a range of training programs

3

Robust measurement, reporting, and verification

Ensuring that carbon removal projects result in the actual carbon removals promised

Recently Passed Legislation provides opportunity for climate- and justice-centered carbon management projects

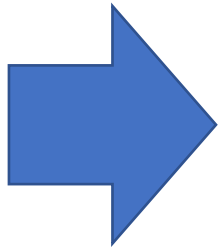
- Bipartisan Infrastructure Law - $12B over 5 years to build out the infrastructure for first-of-a-kind projects – that will serve as the gold standard
- Inflation Reduction Act – includes a federal tax credit (45Q) that will enable carbon capture and carbon removal projects from the private sector to come online
  - $85/tCO^2 for point-source capture and $180/tCO$_2$ for direct air capture, coupled to dedicated geologic storage (e.g., Class VI well)

Justice & Engagement: Planning for Societal Considerations & Impacts in FECM Projects | Department of Energy

Bipartisan Infrastructure Law – Carbon Management

>$12B over five years

- Integrated carbon capture and storage demonstrations and pilots at power plants and other industrial facilities
- Direct air capture hubs
- CO_2 transport, storage, and conversion grants and loan programs
- H_2 production using fossil energy with carbon capture and storage as part of broader Hydrogen Hubs

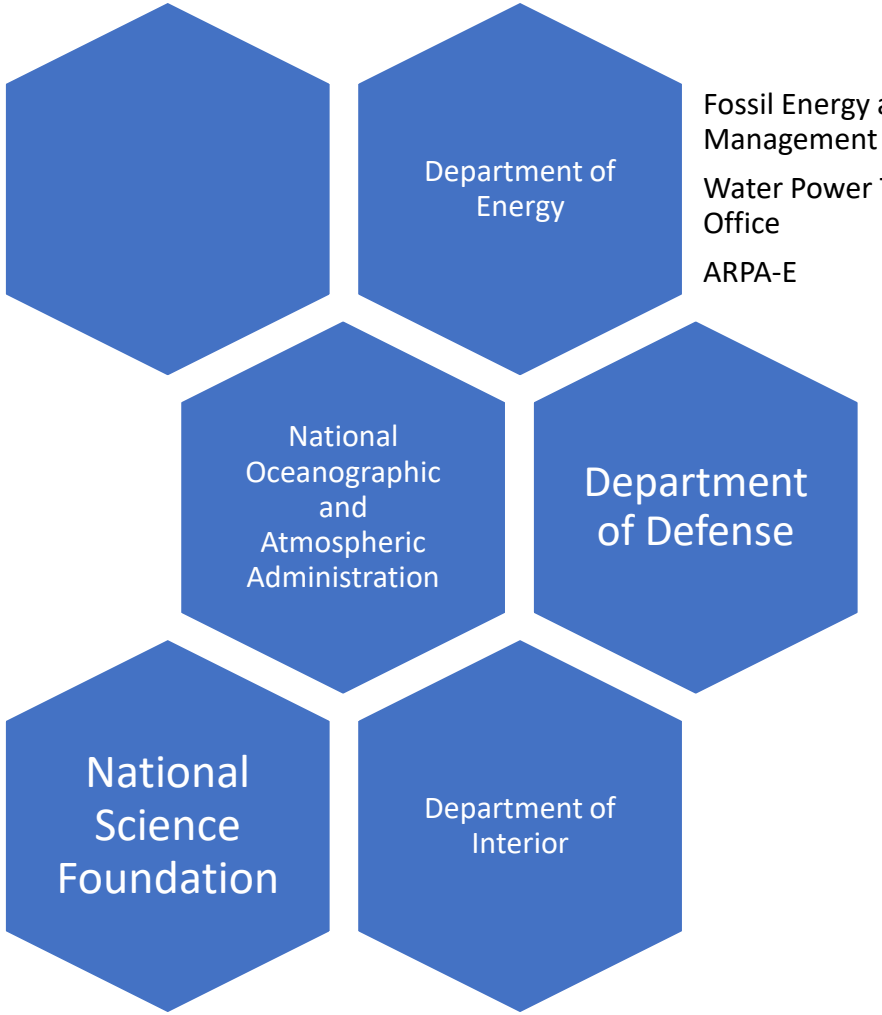


Expected development

- At least 7 carbon capture projects and several new small-scale pilots
- 4 direct air capture hubs
- 100+ new dedicated CO_2 storage wells
- New CO_2 pipelines and transportation networks (~10,000 miles moving 10Ms tons CO_2/yr)

https://www.energy.gov/fecm/office-fossil-energy-and-carbon-management

Ocean CDR across the Administration



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Water Power Technology Office

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