

CO₂
Capture
transport and
Storage

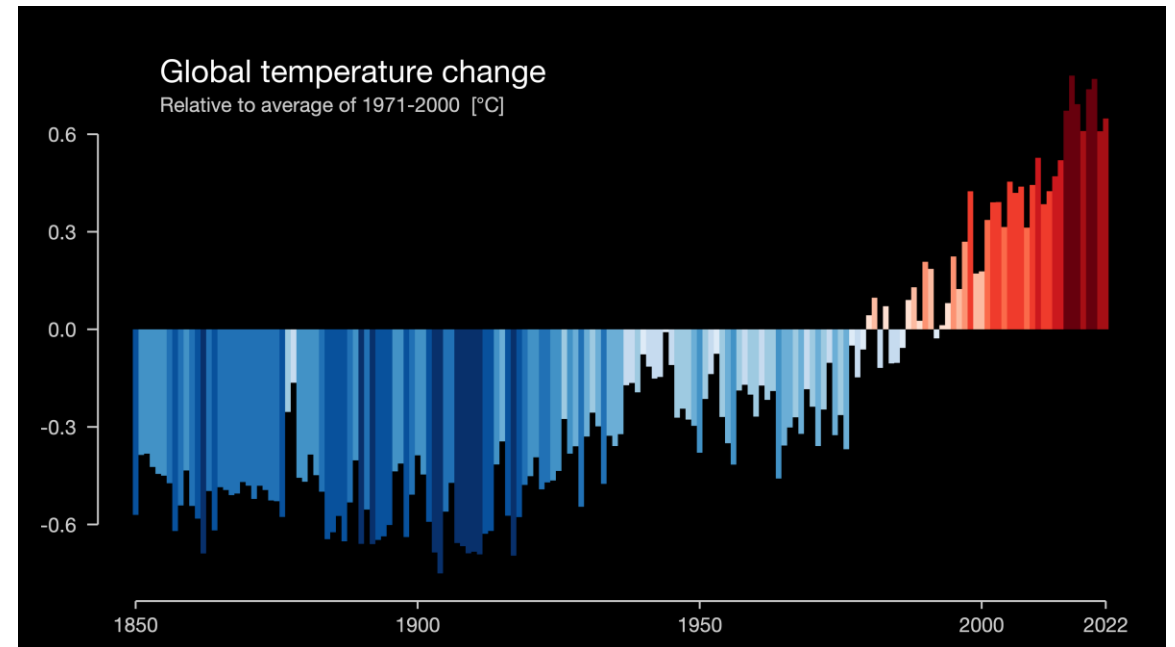
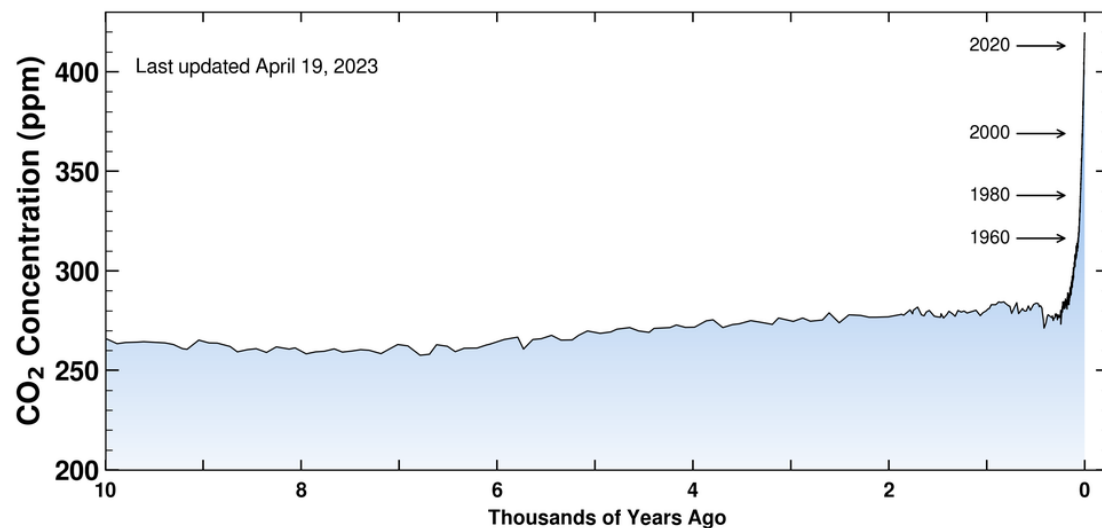
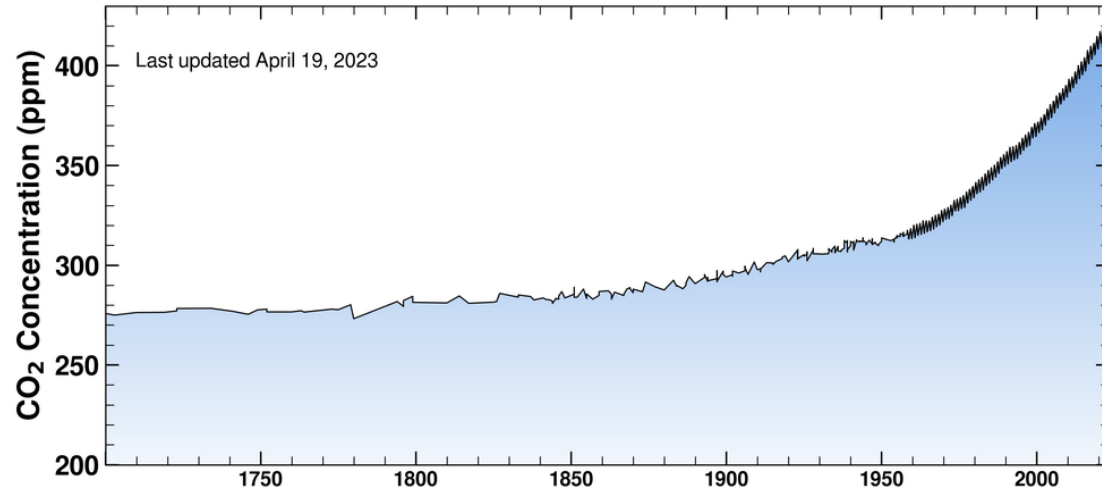
Hva er CCS?

Kristin Jordal, SINTEF Energi
27 april 2023



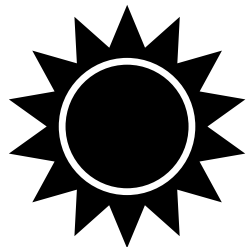
SINTEF

CO₂ i atmosfæren og global oppvarming

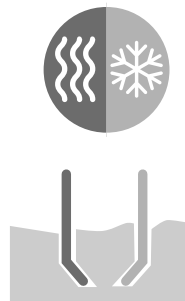




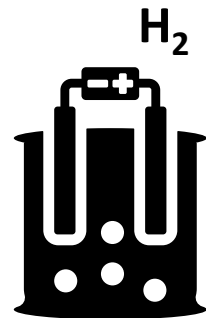
CCS – del av verktøykassa for å kutte utslipp i EU



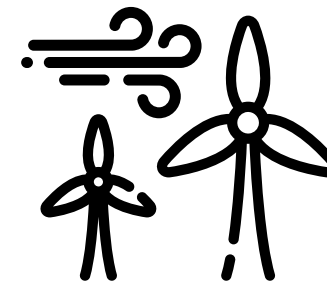
Sol



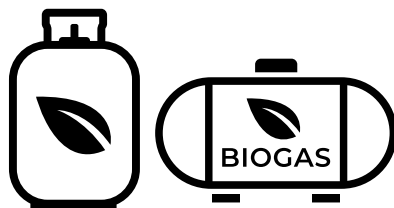
Varmepumper/
geotermi



Elektrolyse/
brenselceller



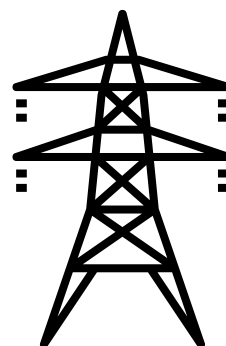
Landbasert vind/
havbasert fornybar



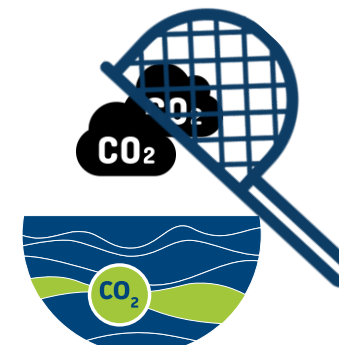
Biogass/biometan



Batterier/
energilagring



Kraftnett



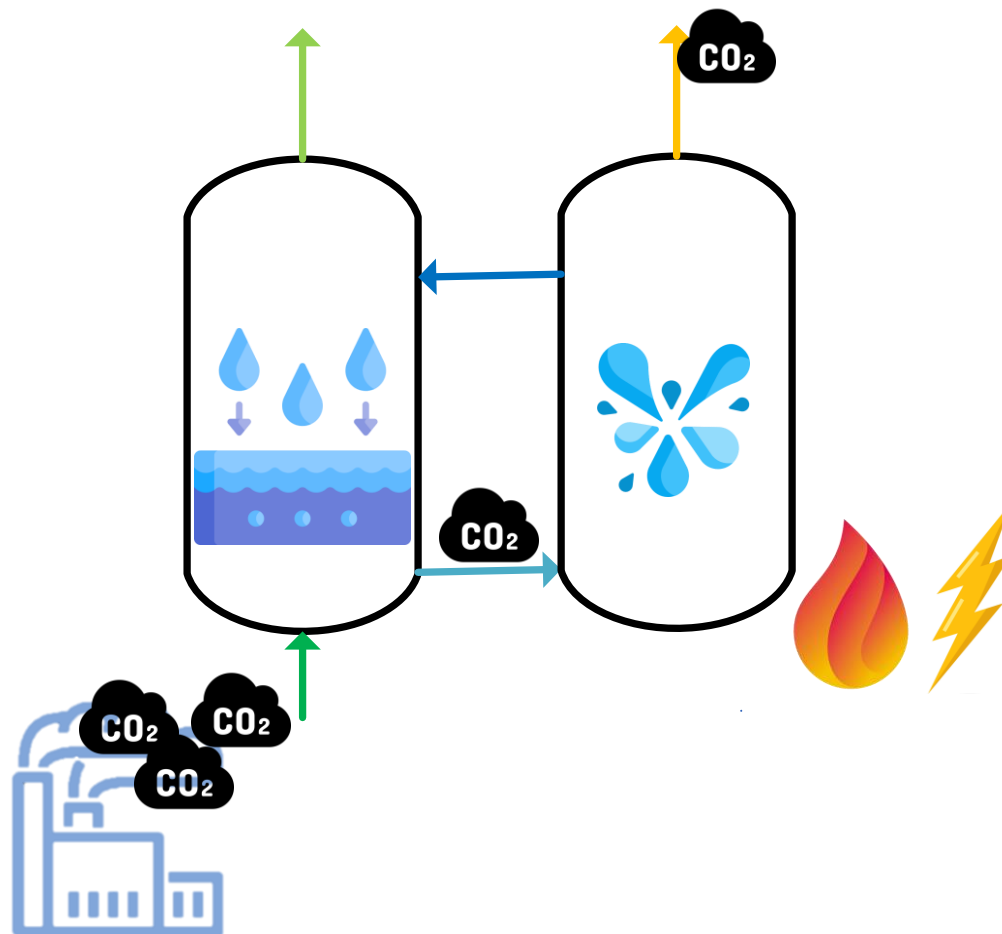
CCS



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CO₂-fangst (1): Absorpsjon

- CO₂ «vaskes» vekk fra en gassblanding med en dertil egnet væske
- For å fjerne CO₂ fra væsken må en tilføre energi
 - Vanligvis mye varme og noe kraft
- Væsken sirkulerer og kan brukes om igjen

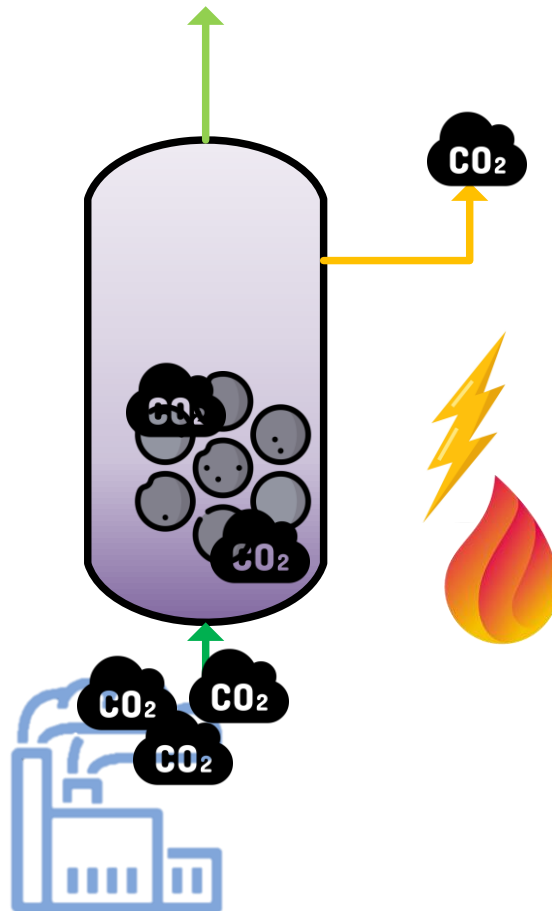




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CO₂-fangst (2): Adsorpsjon

- CO₂ fester seg til faste partikler
- For å få CO₂ å løsne igjen fra partiklene må en tilføre energi
 - En kan bruke varme, kraft eller en kombinasjon av disse
- Partiklene kan brukes om igjen

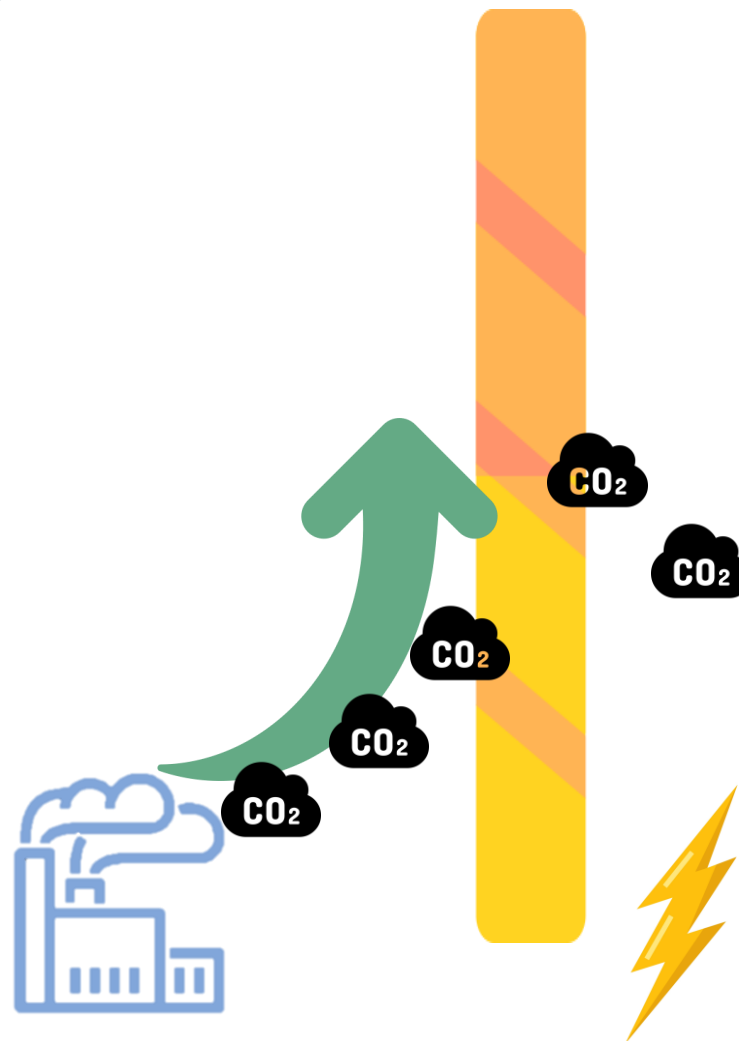




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CO₂-fangst (3): Membraner

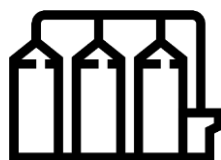
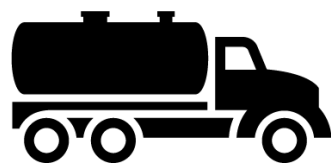
- CO₂ «filtreres» gjennom et tynt membran
- Membranet designes/modifiseres for å slippe igjennom mer CO₂ enn andre gasser
- Trenger en trykkforskjell over membranet
 - Trenger kraft





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Fanget CO₂ må ofte transporteres for å komme til permanent lager

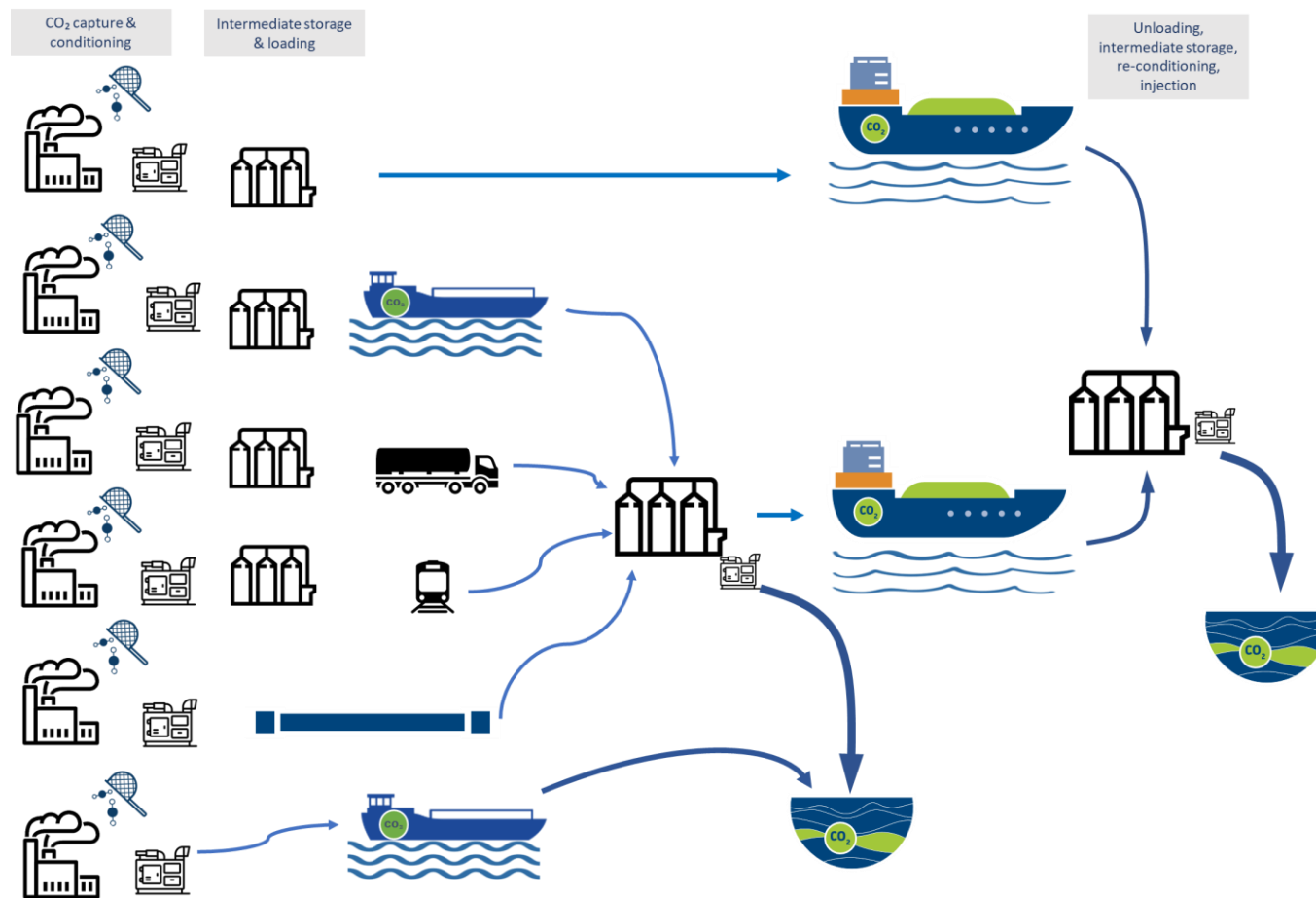


Mellomlager kan trenes mellom forskjellige typer transport



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Transport – kjeder og klynger



users

research institutes

universities

associated partners

Vendors & Industry Organisations

NCOS



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Teknologi for et bedre samfunn