

Carbon Capture Utilization and Storage Workshop

Presented by: **CCUS-Awesome-Group**

Sept 22nd

Outline

- Carbon capture and storage
- Utilization

Capture and Storage: **Algae**

- Algae can play important role on CO₂ mitigation.
- It can be controlled.
- It can be used as food
- It can be used as cosmetics.



(Moreira et al., 2016)

Capture and Storage: Separation and Compression and electrochemical reactors

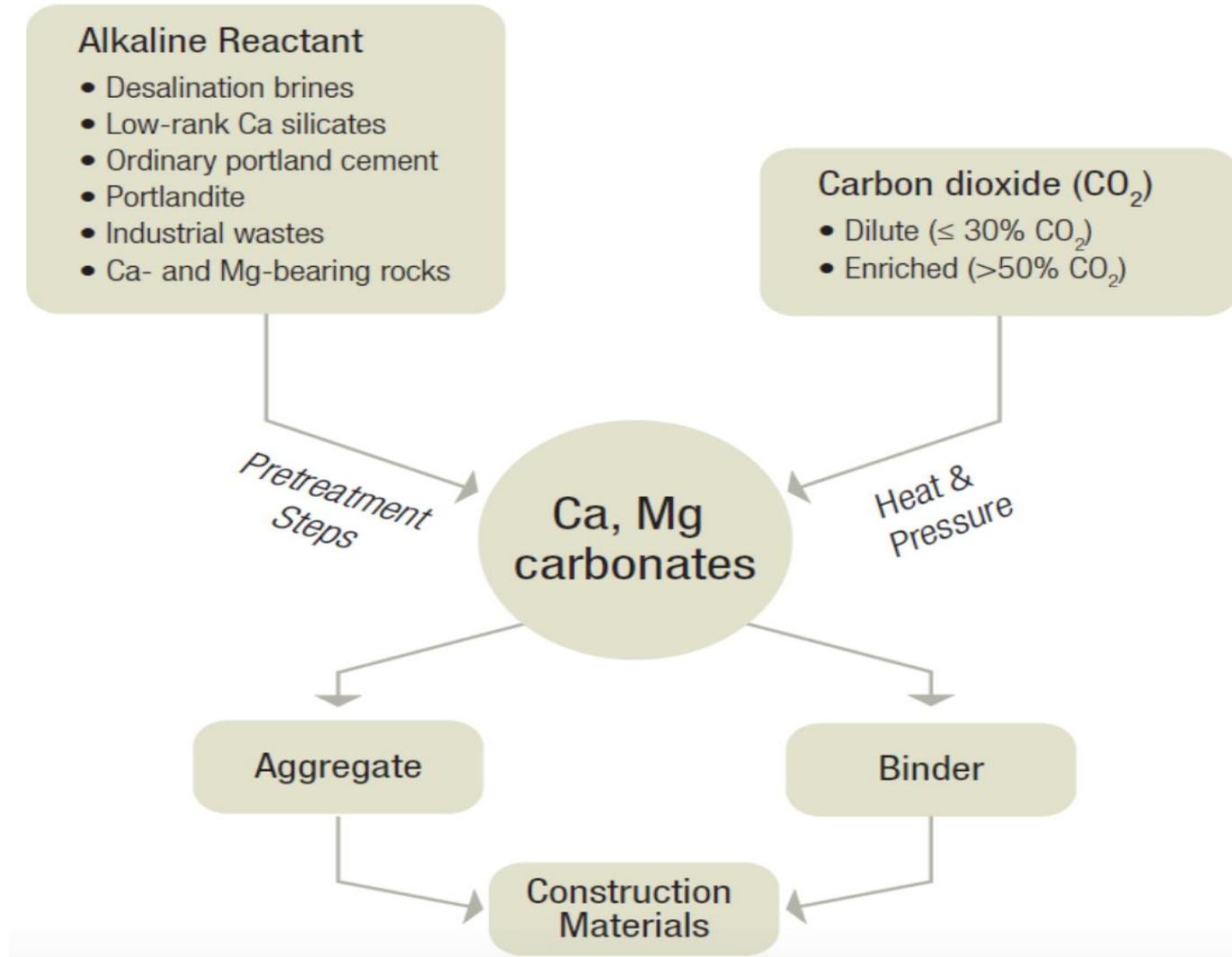
- This platform mimics the complete photosynthesis process by simultaneous uptake of solar energy, water, and CO₂
- Produces nutrients, pharmaceuticals, intermediate chemicals, and polymers.
- Separation Process: Membrane



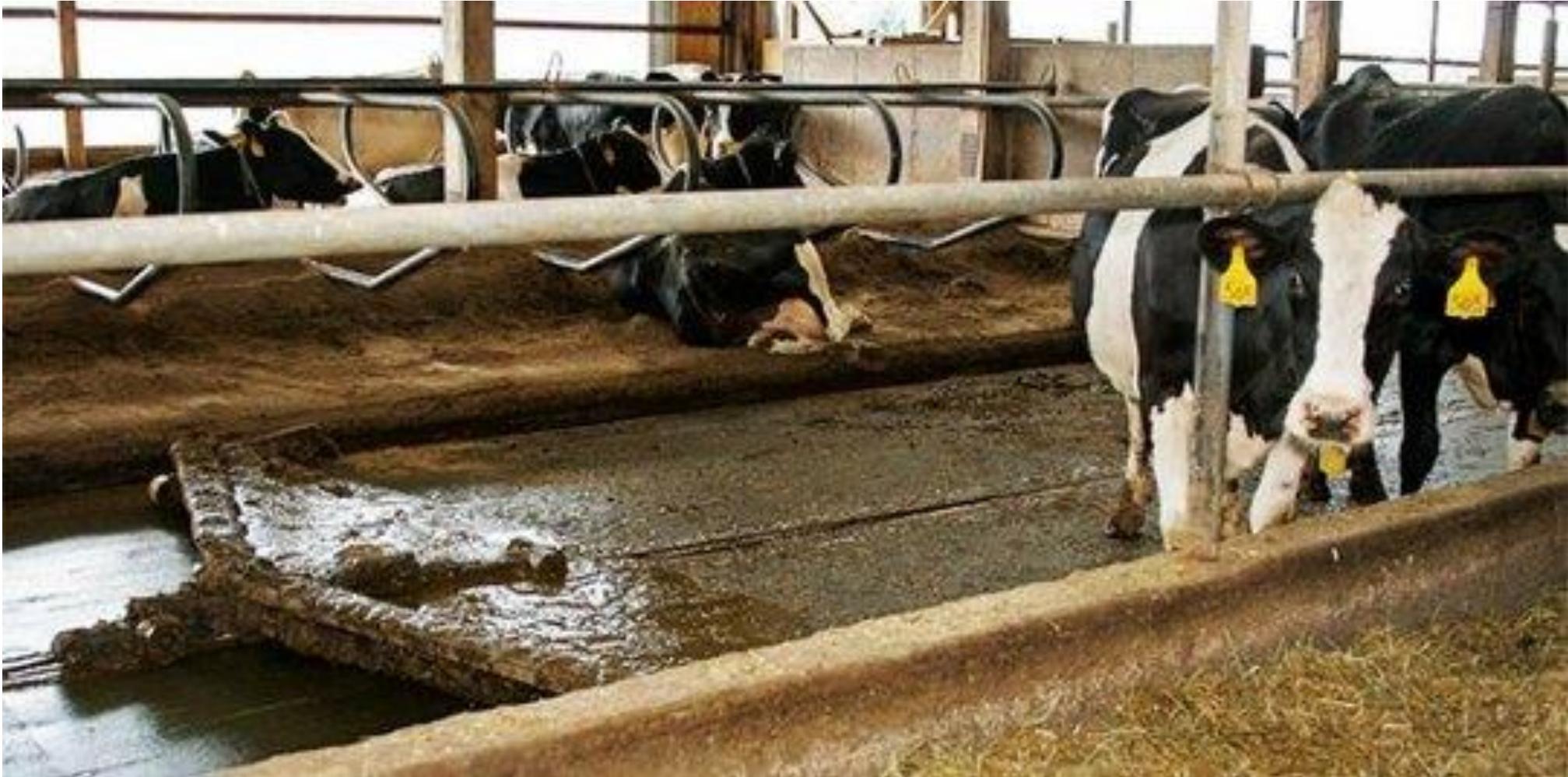
Capture and Storage: Tailpipe catalyst tank



Utilization: Construction materials



Capture and Storage: CH₄-capturing facilities in farm



Conclusions

- There's not a single solution and we most likely need a combination of solutions
- Reduction:
 - Tax incentives
 - Cultural and social education
- CCUS
 - Technological innovations
 - Commercialize concern
 - Multidisciplinary collaboration