

CDR: Risks, Harms, and Opportunities

An Environmental Justice
Perspective



What Is CDR?

- Removing carbon from the atmosphere
- BECCS is not CDR, and it is exceptionally expensive and polluting
- Healthy soils is CDR, especially composting
- Smokestack CCS isn't CDR
 - The IPCC does **NOT** recommend smokestack CCS



Risks of All CDR

Moral hazard/mitigation deterrence

Opportunity cost—generally very expensive

- DAC and CCS are unlikely to benefit much from economies of scale
- (Healthy soils is cheap)

A close-up photograph of two hands, one from a person with a blue sleeve, cupping a small, vibrant green seedling with several leaves. The seedling is growing out of a mound of dark, rich soil. The hands are positioned to support the soil and the plant, symbolizing care, growth, and investment in the future.

Opportunities

- Look for real co-benefits
 - Jobs are limited in most engineered capture and storage projects; very inefficient as a jobs program
 - Most money goes to investors and executives, not workers or communities
 - Healthy soils
 - Reduced fertilizer, pesticides, irrigation water; increased water retention and soil sustainability

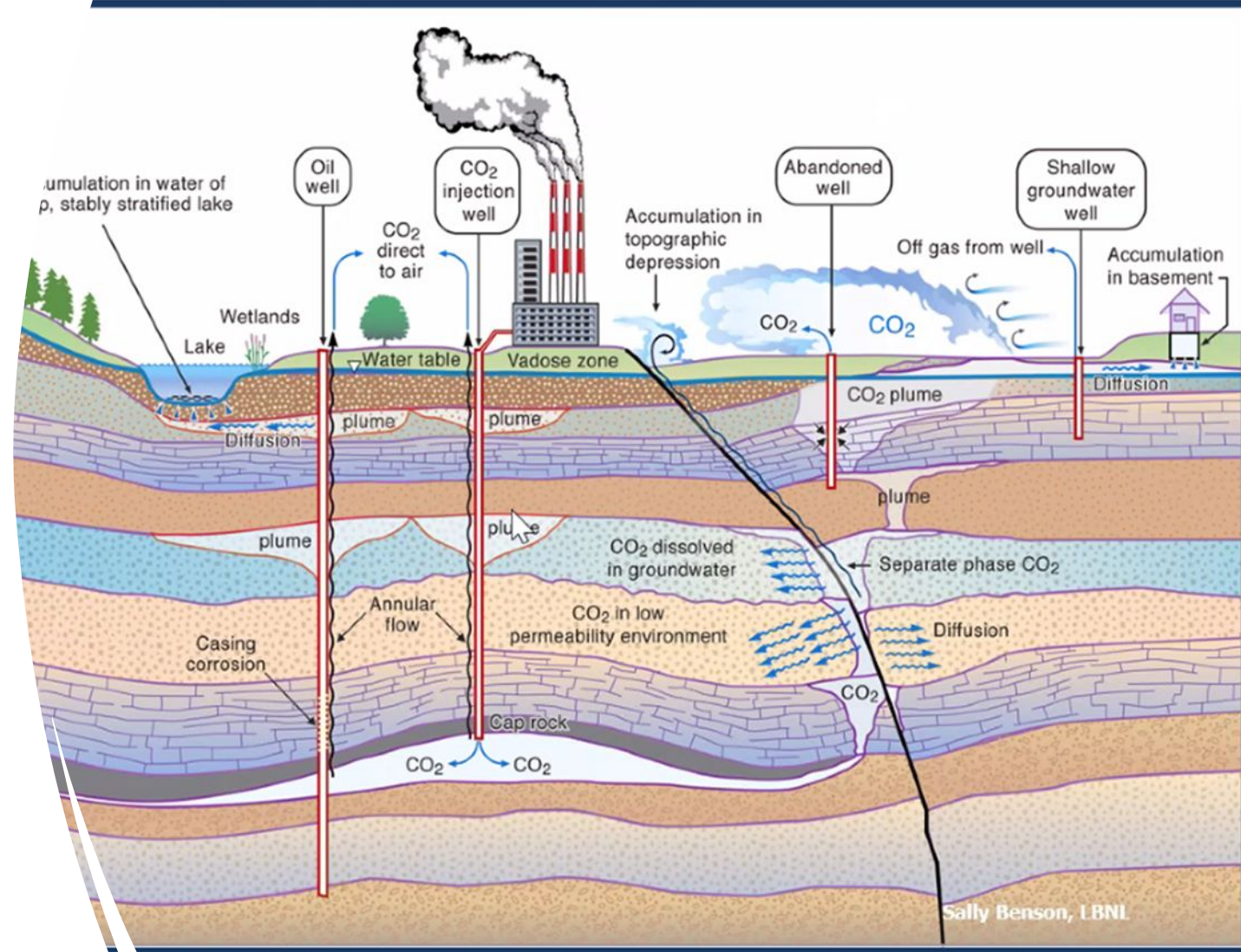
Risks and Harms of BECCS and DAC

- Increase local air and water pollution
 - Especially for BECCS, which as proposed in the state, is mostly re-firing old biomass facilities with carbon capture slapped on. Those sites were the worst point sources of air pollution in the nation's worst air basin before shutting down because of their profound inefficiency.
- Potential disasters, especially pipelines



Risks and Harms of BECCS and DAC (continued)

- Ruin water supply from storage leaks
 - Contrary to industry claims, stays in gaseous form for centuries in most rock formations, especially the Valley's sandstone
 - 100,000 holes in the ground
- Exacerbate climate change
 - Use carbon for EOR (as the state's LCFS and federal 45Q incentivize)
 - BECCS is a shell game with unrealistic assumptions
 - Unless DAC is done with solar/wind and storage, most likely net positive; uses a *ton* of energy. At scale, would deny these resources to the grid.



Protections Needed for DAC and BECCS*

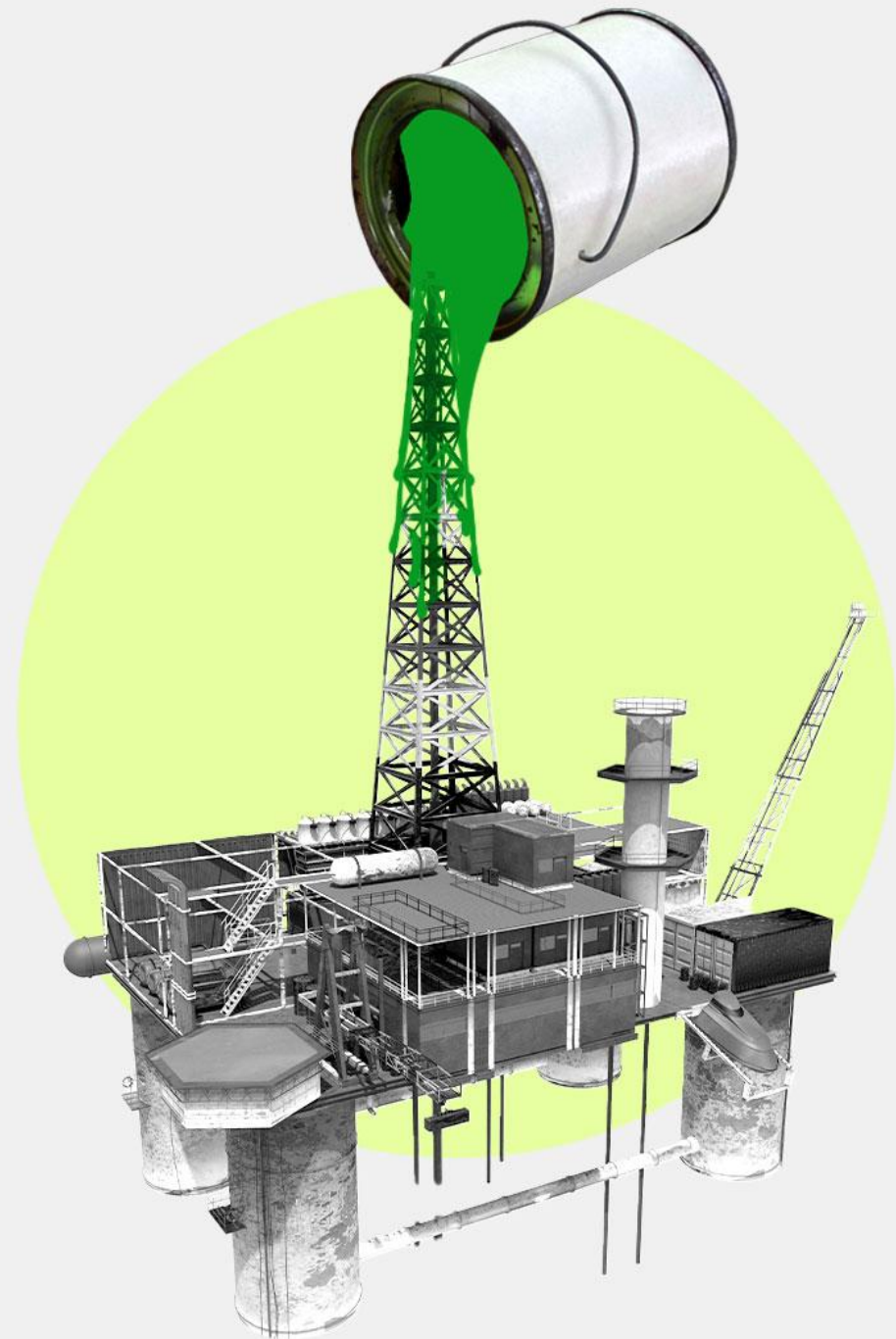
- Can't increase local air and water pollution
- At least 10 miles between homes and capture, storage, or pipelines
- Powered by excess, clean, renewable energy
- Financial assurances that do not count on a company maintaining strong fiscal health for over a century (bonds, 3rd party ins)
 - Responsive to continuous reevaluation of costs of closure, remediation, and leaks/other harms

*See full [2023 CCUS Platform](#)



Protections Needed for DAC and BECCS

- Government process
 - Ensure it's not used to drag our heels on direct emission reductions (e.g., no LCFS or other offset crediting)
 - Ensure additionality
 - Polluter pays, not consumers through increased utility rates or gas prices



Protections Needed for DAC and BECCS

- Informed consent and good process
 - Notify community members at least 6 months before permit application
 - At least 3 public workshops before gov decisions made
 - Community benefits required
 - Full EIR on all projects
 - Require worst-case scenario modeling

Protect
CEQA

STORAGE E: Protections Needed for DAC and BECCS

- Study storage statewide before beginning (e.g., safe storage rates, minimizing leakage and seismicity, distance from homes and sensitive receptors, impacts on microbiota in rock formations, etc.)
- Assess and prove stable geology—no leak risk, cause no increase in geological risks
- Permanent—at least 1,000 years
- Ensure proper site characterization
- Monitoring, reporting, and verification
 - Pause injections if plume extends beyond projected storage area until all rights attained and all applicable law met for new area
- Certify that project is unlikely to harm groundwater supplies



TRANSPORTATI ON: Protections Needed for DAC and BECCS

- **Keep moratorium in place**
- Add odorant (or colorant)
- Community burdens and resources must be considered during siting
- Prove stable geology where projects are to be sited
- CO₂ regulatory definition must apply to all phases
- Do not convert old pipelines to CO₂
- Require pure CO₂ streams
- Don't use other modes of transportation