
Why Negative Emission Technologies Hold Promise

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NATIONAL
COMMISSION
ON ENERGY
POLICY

NCEP Background

- Bipartisan and independent national commission of prominent energy and environmental leaders
 - Advise domestic policymakers
 - Conduct rigorous analysis
 - Advocate pragmatic policies

NCEP and Technology Policy

- Extensive research agenda with industry and academia on a number of climate friendly technology issues
- Involved in examination of negative emission pathways
 - Co-sponsor of American Physical Society Study
 - Sponsored CSPO Innovation workshop on air capture
 - Working on CBTL + CCS study
 - Involved in mapping out air capture research agenda
 - Convening task force on geoengineering policy

Negative Emission Options

- Possible approaches
 - Direct Air Capture
 - Biomass + CCS
 - Biochar
 - Ocean fertilization
 - Accelerated weathering
 - Others are emerging...

The Case for Direct Air Capture

➤ What is it?

- Industrial chemical process that captures CO₂ from air

➤ Why is it particularly interesting?

- Allows for decoupling of energy from climate problem
- Can be directly controlled
- Allows for possibility of negative emissions
- Potentially enables the developing world to become active participants in the climate solution with rationale for sizeable resource transfers from the industrialized world

The Case for Direct Air Capture

➤ Technical

- Clearly feasible from an engineering standpoint (Royal Society, APS)

➤ Environmental

- Energy system lags and emissions trends are increasingly worrying

➤ Political

- Unique solution for the parts of the world that aren't large emitters

What to do?

➤ Ramp Up Research

- Ultimate cost and performance will drive deployment and currently too many uncertainties to gauge realistic potential
- Capture Technology: Current direct air capture research efforts globally are miniscule (<\$3M/yr total)
- Disposal: Unclear where the best storage sites are and what the ultimate storage technologies could be and where they are located

➤ Ramp Up Policy Dialogue

- Mechanisms for furthering this agenda within Kyoto framework are undeveloped
- Incorporation into CDM (currently not considered) or other future funding streams