

CCS Regulatory and Liability Frameworks

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Overview

- Main Points
- Role of regulations
- Regulations governing components of CCS
- Regulatory challenges or gaps
- Other issues to consider

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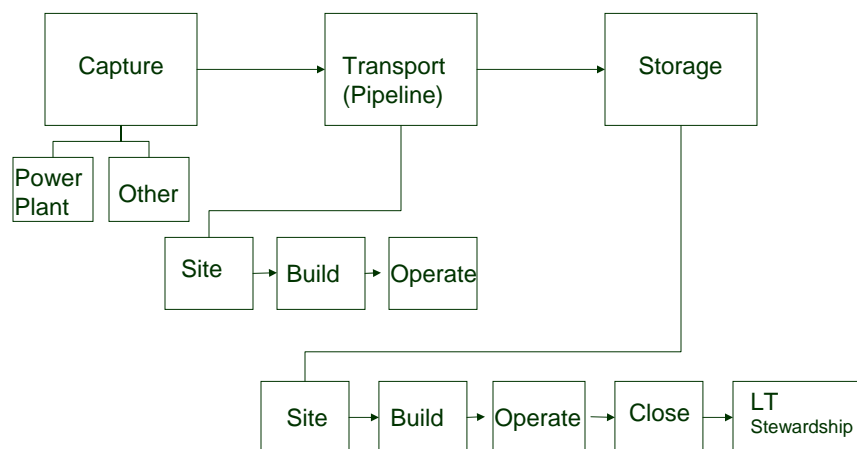
Main Points

- There are extensive regulatory frameworks governing the components of CCS
- Integration of these into a comprehensive approach for CCS – and for a climate change mitigation strategy -- requires additional work

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Major Components of CCS Projects



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Role of Regulations

- Protection of property rights
- Ensure public and ecosystem health and safety
- Achieve State of CA climate change policy objectives

Protection of Property Rights

- Long history of oil and gas production in CA – 1st laws dating to 1915
- Today CA Laws for Conservation of Petroleum & Gas (Publication PRC01) establish procedures for securing mineral rights and unitizing fields; model for CCS?
- To extent CCS is in public benefit, is further eminent domain authority warranted? Do saline reservoirs suggest alternative of state-owned pore space?

Existing Regulations Ensure Safety of the Components of CCS

- CA Environmental Quality Act of 1970 and Laws for Development, Regulation and Conservation of Oil and Gas Resources
- EPA Underground Injection Control Program (UIC) governs injections of liquids (Class I waste disposal, Class II oil/gas waste, Class V experimental)
- Natural Gas Storage rules
- Clean Air Act requirements
- CEC permitting of power plants

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But Challenges Remain...

- None of existing rules a perfect fit :
 - Site selection is a fundamental CCS safeguard
 - By design, CCS increases pressure on a reservoir
 - CO2 different than oil, natural gas, hazardous or non-hazardous waste
 - CA experience is in oil/gas fields, not saline reservoirs
- CA and Class II rules may require changes in site characterization; well design; MMV; and long-term stewardship including requirements, assignment of liability and financial assurance
- Class I too restrictive for purpose? And, only 3 Class I wells in CA and state does not have primacy
- Natural Gas rules cover operational use; assume NG removed when well is closed

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CCS as Climate Change Mitigation

- Few existing analogs
- Integration with climate policy:
 - How is CCS treated or permitted under a climate policy?
 - Do we need a manifest system of sorts to transfer climate responsibility with CO₂?
 - From a climate change policy perspective, how is leakage addressed?

Some Other Considerations

- Will EPA develop a new UIC classification (Class VI) and potential interface with CA program
- Resource needs to develop and implement a CCS regulatory program in CA
- Legislative authority (if any) necessary for components of a CCS regulatory program

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