



WESTCARB Regional Partnership

WESTCARB's NGCC-CCS Study Update

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Project Objectives

- Work with California utilities to screen candidate CCS technologies for NGCC units—retrofits and new-builds
 - Pre-, post- and oxy-combustion to be evaluated
 - Permitting, HSE, and water use to be considered
- Screen California NGCC sites for CO₂ storage options; build static geomodels
- Build engineering-economic model(s) and evaluate selected CCS technology and NGCC unit combinations; conduct sensitivity studies
- Develop/evaluate a conceptual design for a pilot-scale CCS test on a California NGCC unit or cogeneration unit
- Communicate results to stakeholders (CPUC, CAISO, etc.)

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Project Team

- California Energy Commission: project management, technical review, siting considerations
- California utilities: “voice of the customer,” real-world considerations, PG&E is cost share partner
- Stone & Webster (Shaw Power Group): technology screening, engineering and economic modeling, conceptual design of pilot-scale unit
- Lawrence Livermore National Laboratory: subsurface modeling, CO₂ storage assessment
- LBL & BKi/Visage Energy: support and communications
- Funding by DOE National Energy Technology Laboratory

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Why Here and Now?

- California’s power mix is ~50% natural gas and 10–20% coal (mostly imports); most of U.S. is opposite
- California has a mandatory GHG reduction law (AB 32) and an emission performance standard (SB 1368); most of U.S. is awaiting federal climate legislation
- California utilities are actively seeking information on costs, technical feasibility, and operational impacts of CCS on existing and future NGCC units
- California has promising geology for CO₂ storage in saline formations and in conjunction with EOR (EGR?)
- California has a tradition of energy-environmental policy and technology leadership

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Got Questions? Ask Us!

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