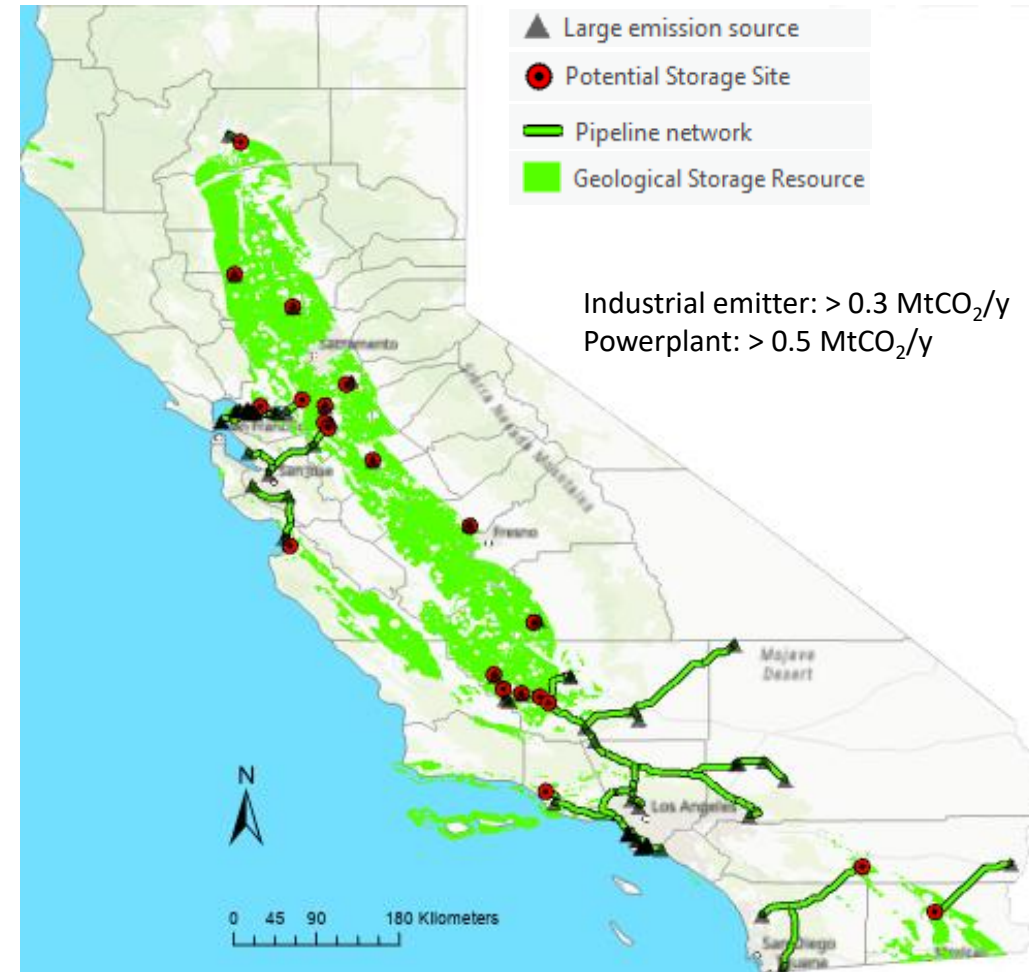


Panel Discussion - CCS Opportunity in California -

June 20, 2023

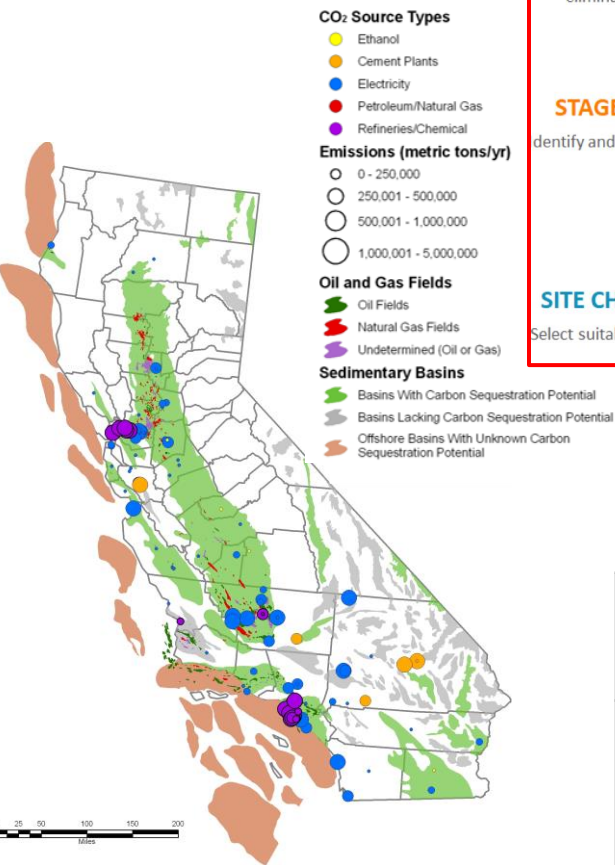
Tae Wook (Elliot) Kim, Arjun Kohli,
Yunan Li, and Anthony R. Kavscek

CCS PROJECT OPPORTUNITY

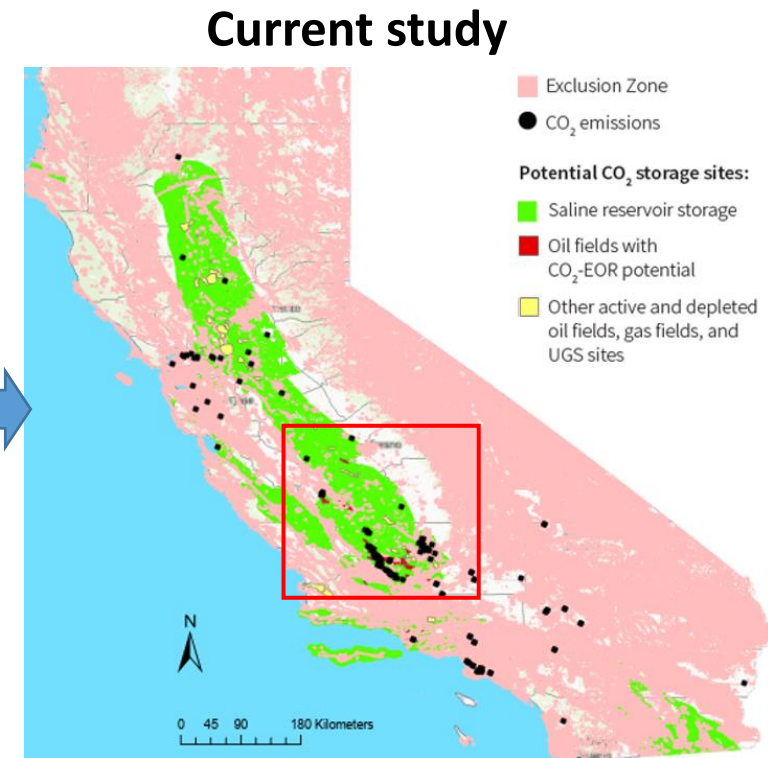
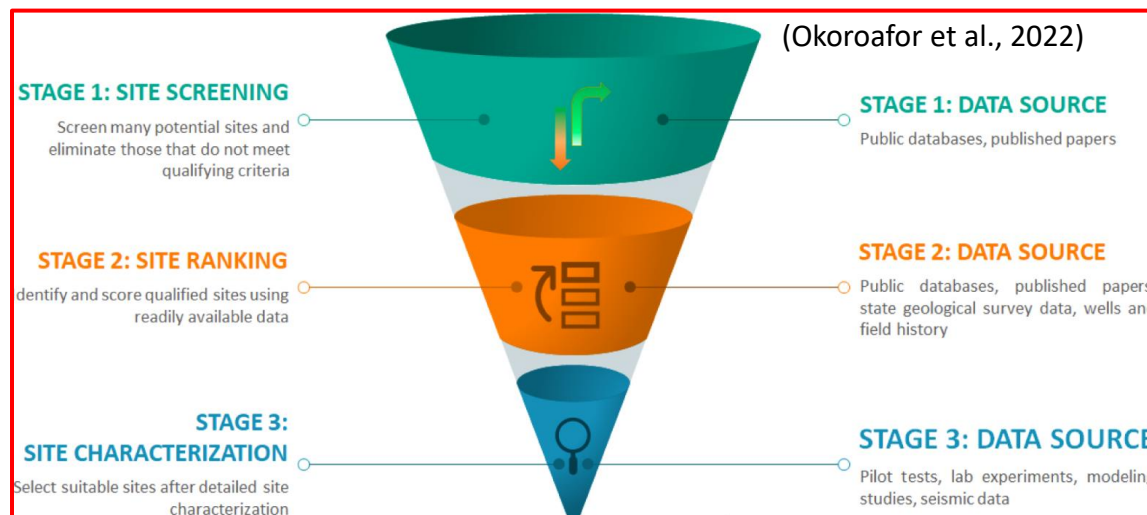


Storage Potential in California

Previous study



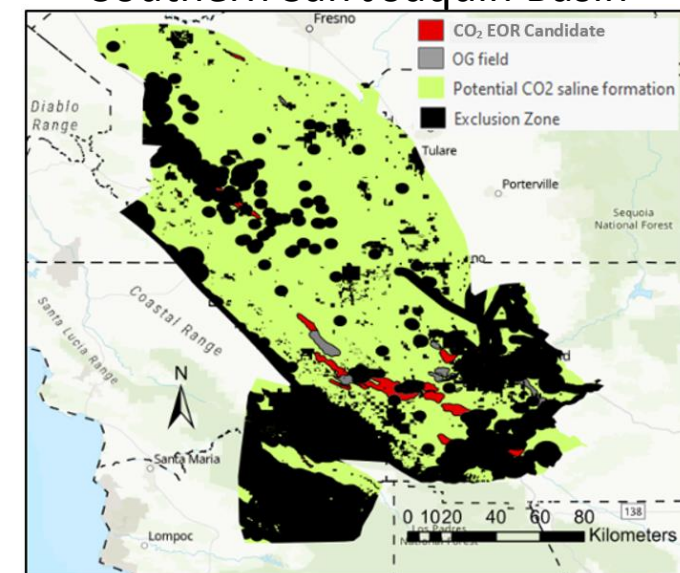
Cameron et al. (2011)



Onshore storage resources

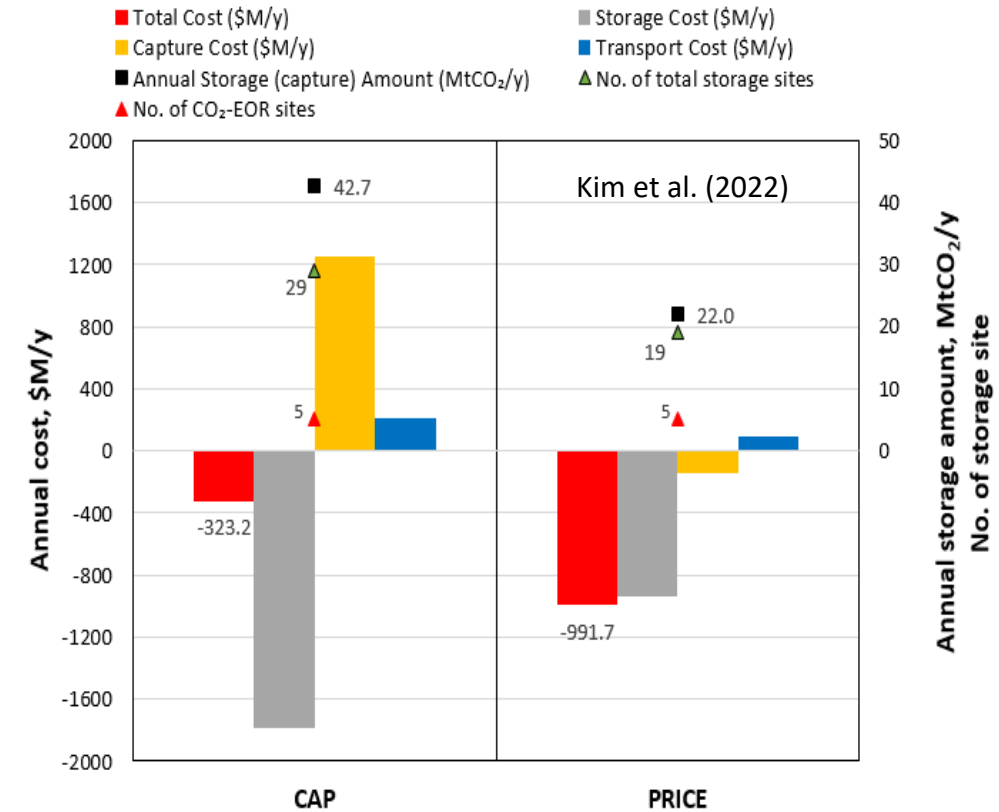
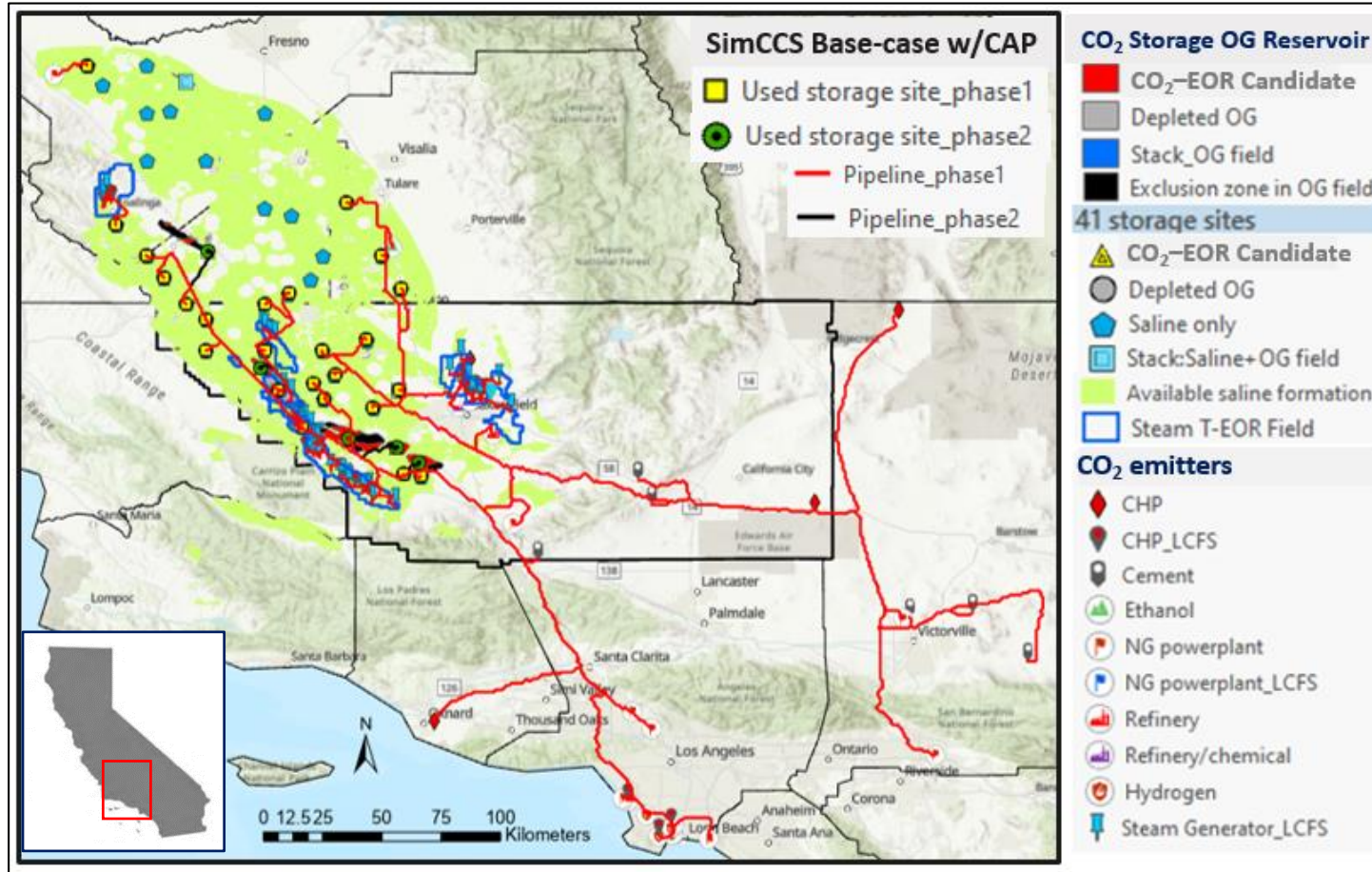
Type	Study	Low, GtCO ₂	High, GtCO ₂
Hydro-carbon field	NATCARB (2015)	3.6	6.6
	Kim et al. (2022)	1.0	2.0
Saline formation	USGS (2013)	61	124
	NATCARB (2015)	30	417
	LLNL (2020)	17	200
	Kim et al. (2022)	34.3	104

Southern San Joaquin Basin



Kim et al. (2022)

Data collection & Technoeconomic analysis for CCS

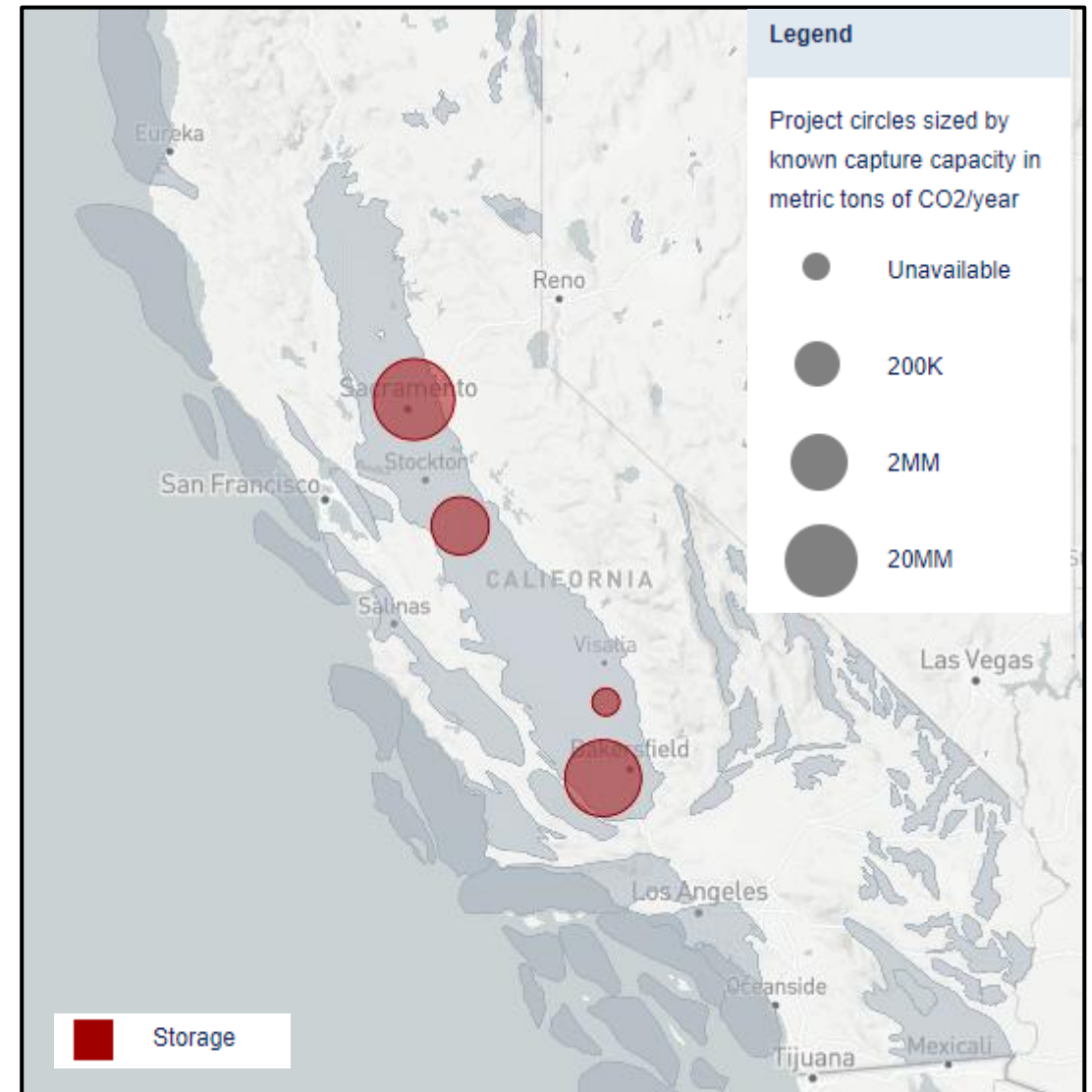


Scenarios assuming 20 years of project life, 12 years of 45Q credits (\$60/\$85/tCO₂), and \$100/tCO₂ LCFS credit

- Collected and analyzed geological datasets for the storage site (50 km by 50 km grid cell)
- Policy guideline (SB 905 (2022), Sec.3): “high quality, suitable locations” are required to store CO₂

Current Carbon Storage Activities in California

- ❑ Policy guideline (SB 905 (2022), Sec.3)
“high quality, suitable locations” are required to store CO₂. It means reservoirs that have been modeled to be capable of maintaining integrity for at least 1,000 years.
- ❑ Companies to apply for EPA Class VI (pending) in CA: Aera Energy, Carbon TerraVault1, Carbon TerraVault Holdings, San Joaquin Renewables, Perlican Renewables
(<https://www.epa.gov/uic/class-vi-wells-permitted-epa>)
- ❑ In the development storage stage: 4 sites in both San Joaquin and Sacramento Basins



<https://www.catf.us/ccsmapus/>