

WESTCARB Annual Business Meeting

Public Perceptions of CCS risks: Insights from California

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What we asked

In California's Central Valley, how do communities that are, or could be, host sites for geologic sequestration view the risks of CCS?

What might explain their willingness or resistance to being CCS sites?





How we asked

Focus groups in 2 communities:

Thornton: a (then) pilot CCS site of WESTCARB

Rio Vista: geologically similar, once considered, but not an actual site

[Communities:

influentials as well as lay persons;

English as well as Spanish speakers;

not the same as “landowners”]



Where we went: Thornton





Where we went: Rio Vista



Technological concerns

1. What if the gas leaks?
2. Could it contaminate our groundwater?
(Thornton residents already concerned about water quality)
3. Could the gas explode?

(All these concerns confirm findings of previous research)





Social concerns

1. Could this affect our property values?
(Thornton & Rio Vista)
2. We should get something in return
(especially Rio Vista)
3. Our community will change, we'll have to be "forever vigilant" (Rio Vista)
4. Things go wrong. Who takes care of us if something *does* go wrong? (especially Thornton)



What's behind the social concerns?

1. socio economic status
2. history of redress for past environmental damages, and
3. history with gas industry



Community **empowerment** (or disempowerment)
Trust in **procedural justice** (or distrust)





Thornton's perspective

1. Anger that no one had spoken to the community (before choosing them as site)
2. Low confidence in government (history of unaddressed water quality problems)
3. Low confidence in oil / gas companies (repeated reference to now-bankrupt cannery; negligible benefits from gas operations)

SO: disempowered community with no expectation of procedural justice or redress



Voices from Thornton

1. "Why isn't it in the desert where they can't hurt nobody; why is it here?"
2. "It's always us"
3. "You don't think that regardless of what we say, it's going to happen? If the government wants it, and there's money to be made, it's going to happen"





Rio Vista's perspective

1. Also resistant to idea of hosting CCS site; BUT
2. Better history of redress for past environmental damages, and
3. Positive history with gas industry

SO: not happy, but not openly hostile...relatively empowered community, trusted the gas industry, trusted they would have a voice



Voices from Rio Vista

1. "If anyone tries to shove their way in here, we'd shove them right out"
2. "We'll keep watching; we know what to do if we don't like what's going on; there are people of influence here in this room"
3. "We know them [*the gas company*] here. We trust them. Let them put the gas in the ground."





Similar findings across 3 DOE partnerships



In all cases, social factors such as benefits to the community, fairness of procedures, trust / distrust, past experience with government or industry, were of greater concern than the risks of the technology itself.



Publications from our research

1. Gabrielle Wong-Parodi and Isha Ray (2009). 'Community perceptions of carbon sequestration: insights from California.' *Environmental Research Letters*, 4 [doi:10.1088/1748-9326/4/3/034002]
2. Gabrielle Wong-Parodi, Isha Ray and Alexander Farrell. (2008). 'Environmental non-government organizations' perceptions of geologic sequestration.' *Environmental Research Letters*, 3. [<http://www.iop.org/EJ/abstract/1748-9326/3/2/024007>]
3. Judith Bradbury, Isha Ray, Tarla Rai Peterson, Sarah Wade, Gabrielle Wong-Parodi and Andrea Feldpausch (2009). 'The role of social factors in shaping public perceptions of CCS: Results of multi-state focus group interviews in the US.' *Energy Procedia* 1: 4665 – 4672.





Past research

1. Based most often on surveys of convenience samples (but some focus groups); not actual and potential sites

[but all politics is local; multiple histories make multiple publics]

2. Based most often on assessing community perceptions of the risks of CCS as a technology

[but communities equally concerned with trust & with procedural justice]



Lessons learned from past research

Risk Communication Theory:

Technical information presentation is based on formative research with members of the intended audience (e.g. “mental models” approach)

Use wording that lay people understand

Address decision-relevant gaps and misconceptions

Educate the public in realistic ways...





Risks of the technology are just part of the story...

History matters

Trust matters

Opportunities for redress matter

-- these are the lenses through which the risks of a “technology” are judged

We have to go beyond dominant models of risk assessment and risk communication to understand how communities will react to CCS in their backyards



...and this is really important because

If we want to move CCS forward we have to understand the concerns of diverse communities -- otherwise we'll spend all our efforts addressing (maybe) largely irrelevant concerns

OR

We'll reach just a subsection of “the” community and hope that the rest will never form an organized opposition





THANK YOU

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The late Alex Farrell

Sarah Wade, Judith Bradbury, Tarla Rai Petersen, Andrea
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Our interviewees in Thornton and in Rio Vista

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