



CO₂ IS NEE!



CCS is not unique...

Many project face resistance:

- energy projects
 - On- and offshore wind, biomass, hydrogen, power lines, nuclear, etc
- Infrastructural projects
- Industrial projects



Public awareness of CCS is still low

- **General awareness:** low in Australia, USA, Japan, Canada, UK, Sweden, France, Germany, Romania, Greece & the Netherlands
→ Between 4% and 49% can give some kind of answer as to what CCS is.

(Ashworth et al, 2006, 2009; de Best-Waldhober et al, 2006, 2008; Ha Duong et al, 2009; Itaoka et al, 2008; Pitsner et al, 2010; Reiner et al, 2006; Sharp et al, 2006)

- **Awareness in CCS community**, e.g. survey among population in Barendrecht:
 - Most knew about the project (96%)
 - Majority thought it was a bad idea (85%)
 - Majority did not know that CO₂ would be stored deeper than 1,500 m (58,6%)

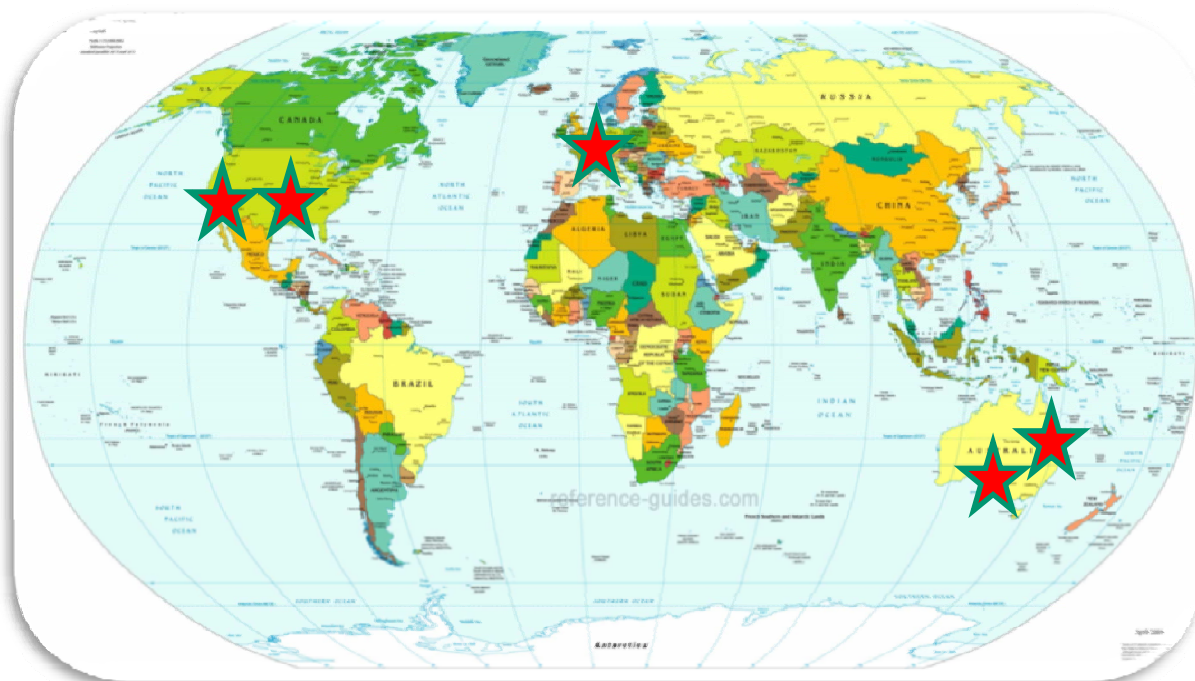
(Daamen et al, 2010)

Communication and engagement in practice

Recent comparison CCS projects worldwide

Focus on communication and engagement

- ZeroGen
- Otway Basin
- FutureGen
- Barendrecht
- Carson



(Ashworth, Bradbury, Feenstra, Greenberg, Hund, Mikunda & Wade, 2010)

Project status (Summer 2010)

Zerogen, AU

- Pre-feasibility study completed; selection final plant site to be announced. (Cancelled late in 2010)

Otway, AU

- Completed first phase of injection; monitoring to continue to 2015

FutureGen, USA

- On hold, for period -> now new format, re-opened site selection process

Barendrecht, NL

- After period of uncertainty, cancelled

Carson, USA

- Project dropped



How were sites selected?

Zerogen, AU

- Queensland Government backed initiative, investigating best storage sites

Otway, AU

- Research based selection; geological site characterisation

FutureGen, USA

- Competitive process using extensive siting criteria to select from interested potential host communities

Barendrecht, NL

- Private industry selection, supplemented by grant award

Carson, USA

- Private industry selection, based on commercial advantage of proximity to feedstock



Communication, outreach & engagement

Zerogen, AU

- Building trust; identifying risks in stakeholder communication & responding to them; commitment to transparency

Otway, AU

- Early focus on community acceptance & trust; consultation plan including education, community liaison and reference group

FutureGen, USA

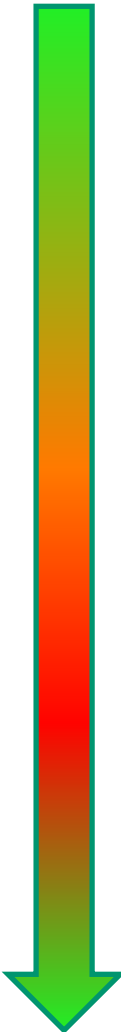
- Competition for siting (fostered community pride); access to technical experts; in-depth knowledge of community; multiple methods

Barendrecht, NL

- Top down approach; no engagement in project design; reactive to opposition

Carson, USA

- Extensive small meetings and low-key efforts, but (social) context not taken enough into account



Evaluation case studies

	Zerogen	Otway	FutureGen	Barendrecht	Carson
Context					
International/State	Green	Green	Green	Red	Green
	Green	Green	Green	Amber	Green
	Green	Green	Green	Amber	Green
	Green	Green	Green	Amber	Green
	Amber	Amber	Green	Amber	Amber
	Red	Red	Green	Red	Red
Local	Green	Green	Green	Red	Amber
	Green	Green	Green	Amber	Green
	Amber	Green	Green	Amber	Amber
Communication					
General	Green	Green	Green	Red	Amber
	Green	Green	Green	Amber	Green
Informal	Green	Green	Green	Amber	Green
	Green	Green	Green	Red	Green
	Amber	Green	Green	Red	Green
Formal	Green	Green	Green	Red	Green
	Green	Green	Green	Amber	Amber
	Green	Green	Green	Red	Green
	Green	Green	Green	Amber	Green
	Green	Amber	Green	Amber	Green
	Green	Green	Green	Amber	Green
Project Design					
	Green	Green	Green	Red	Green
	Green	Red	Green	Amber	Green
	Amber	Green	Green	Green	Amber
	Amber	Green	Green	Green	Green
	Green	Amber	Green	Red	Green
	Green	Red	Green	Red	Green
Project Management					
	Green	Green	Green	Red	Green
	Green	Green	Green	Green	Green
	Green	Amber	Green	Amber	Green
	Green	Green	Green	Red	Amber
	Green	Green	Green	Amber	Green

-> Translation *lessons learned* of individual case studies into 39 *evaluation factors*

Green – Addressed; positive impact

Amber – Not fully addressed; could have been important

Red – Not addressed or considered; negative impact, possibly a show-stopper

Blank – not enough data available or not applicable

Outcomes comparison: Project planning & management



Outcomes comparison: communication, engagement and outreach

Investigate

- Know community well
- Identify local benefits
- Identify all stakeholders

Adapt

- Adapt message & channels to community & stakeholders
- Include local benefits

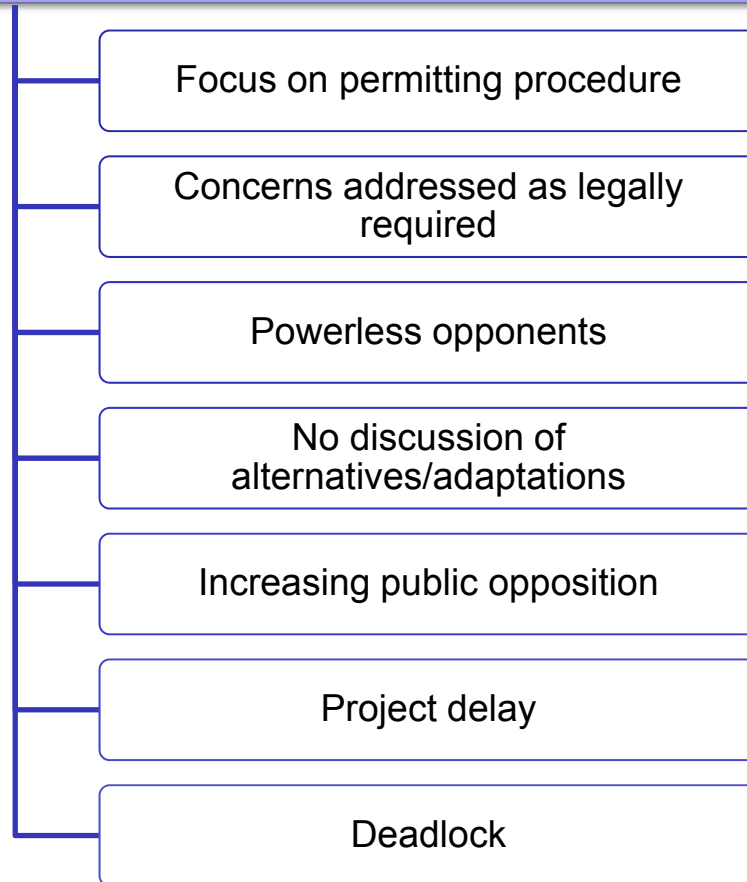
Engage

- Engage early!
- Two-way communication
- Unique factor - competition

These outcomes are in line with other research on societal acceptance

Conclusions: Project- vs procesdevelopment

Current **project**development
Decide – announce – defend



Advised **process**development
Dialogue – design – implement



References & Acknowledgment

The comparison report is available at:

www.csiro.au/resources/CCS-Comparison-report.html

The individual case studies are available at:

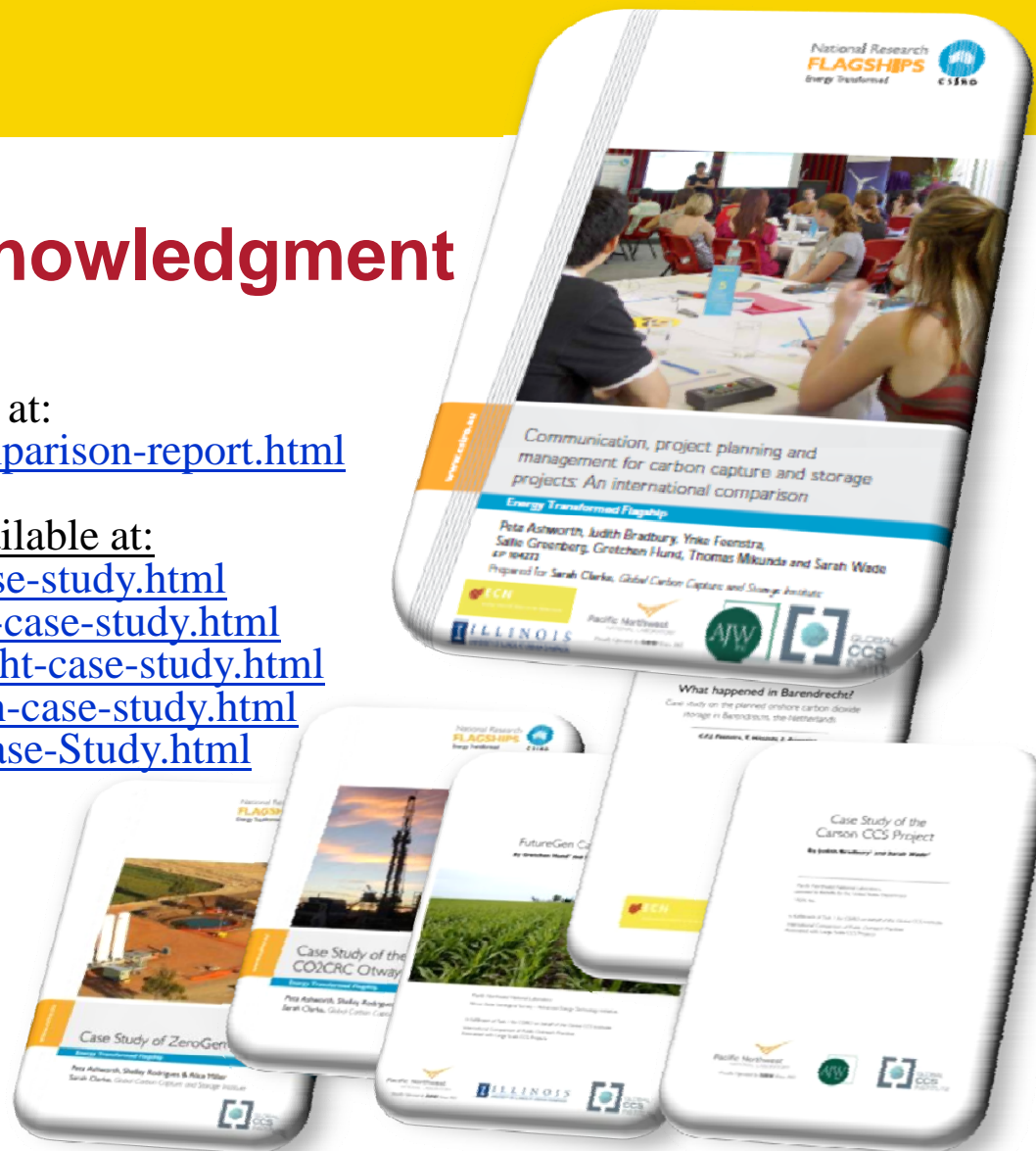
www.csiro.au/resources/Otway-case-study.html

www.csiro.au/resources/Zero-Gen-case-study.html

www.csiro.au/resources/Barendrecht-case-study.html

www.csiro.au/resources/FutureGen-case-study.html

www.csiro.au/resources/Carson-Case-Study.html



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OF COURSE I VALUE YOUR OPINION ... IT IS
SO LUDICROUS THAT IT MAKES ME REALIZE
JUST HOW AWESOME MY OPINION IS

THANK YOU!

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