



Energy research Centre of the Netherlands

## Public perception and CCS

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*CCS workshop, Namibia, April 15th, 2010*



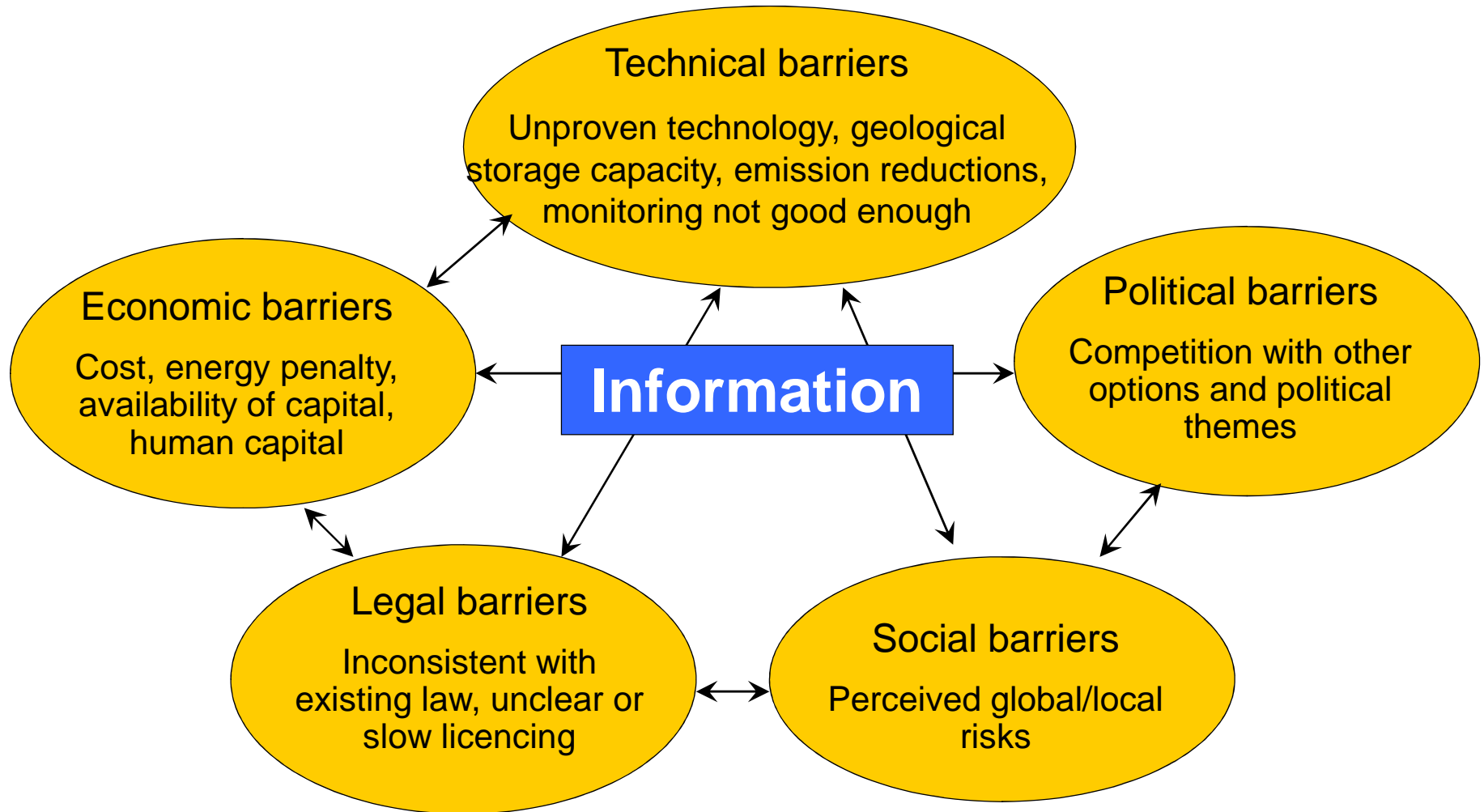
## Why discuss public perception?

- CO<sub>2</sub> capture and storage is a technology with special characteristics
  - Greenhouse gas emission reduction
  - But also energy penalty, costs, risks
- Much discussed in government, research and private sector
- Stakeholders not heard so often include
  - Environmental NGOs
  - Development NGOs
  - People near storage sites
  - Lay audience

## This presentation

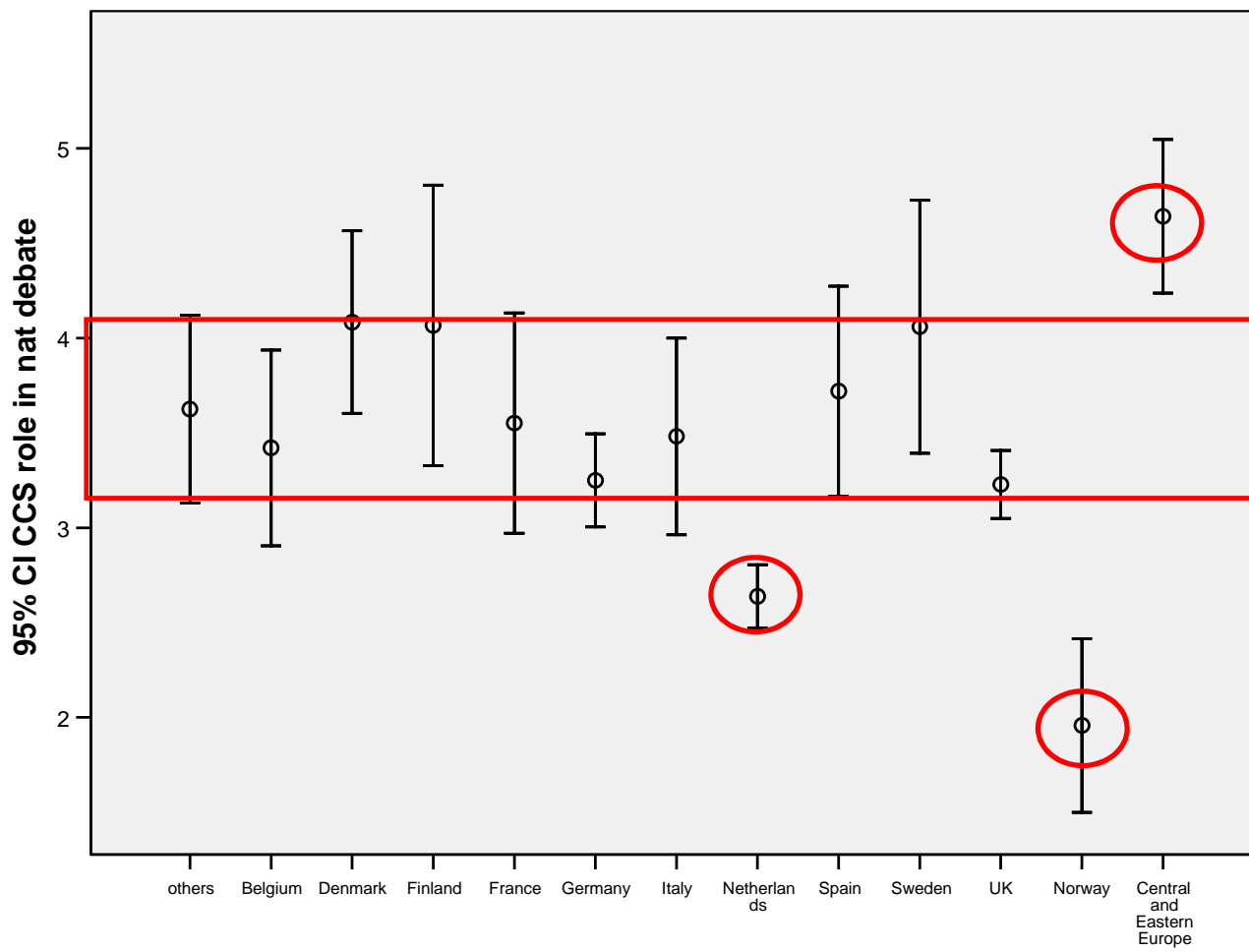
- Introduction to role of information
- Views of stakeholders
- Public perception
  - Research results
  - Real experiences in CCS projects
- Take-home messages

## Overview of barriers to CCS



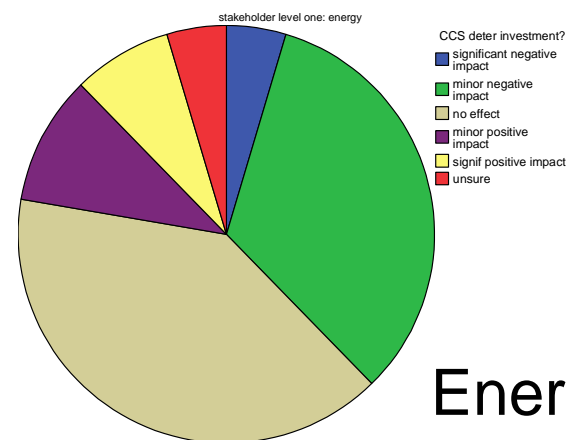
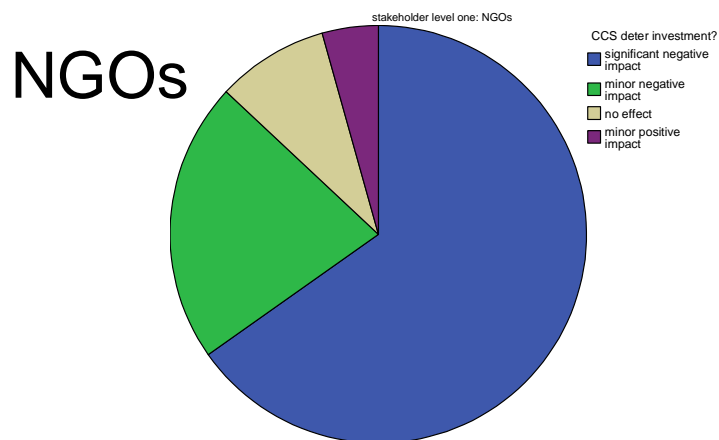
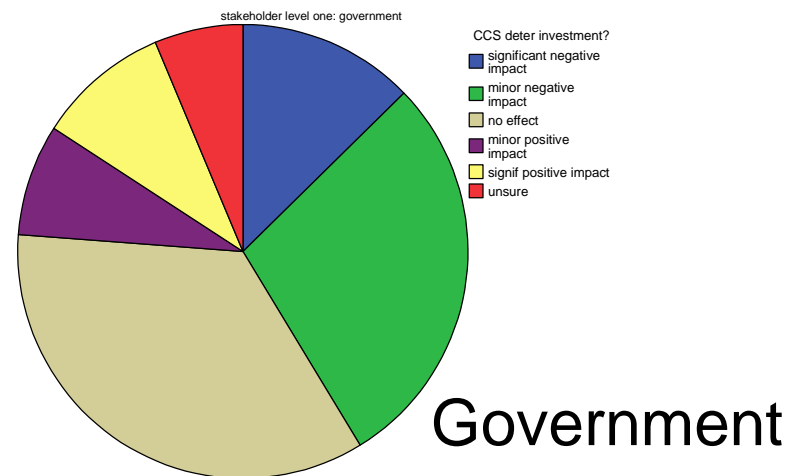
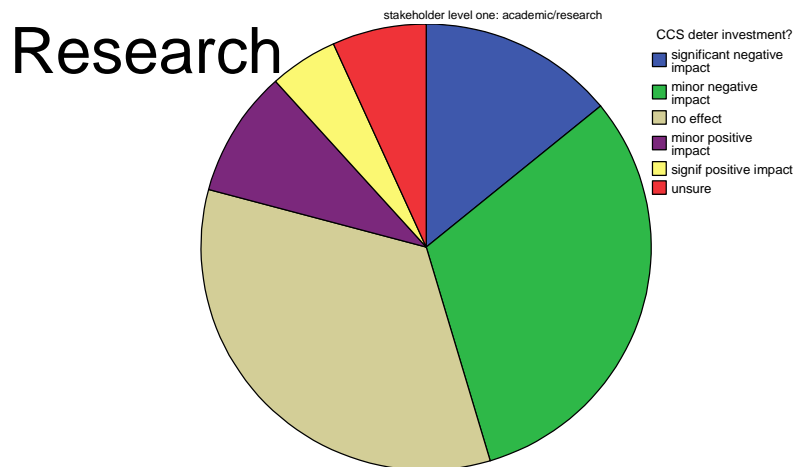
## 2007 stakeholder views in EU

- Stakeholders
- Government
- Need for CCS
- Significant across EU

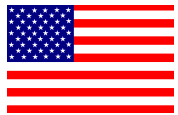


# Views or facts?

What is the impact of CCS investment on investment in renewable energy?



## Environmental NGO views on CCS



### United States:

- Most national NGOs critical proponents of CCS
- Local, environmental justice movements often against

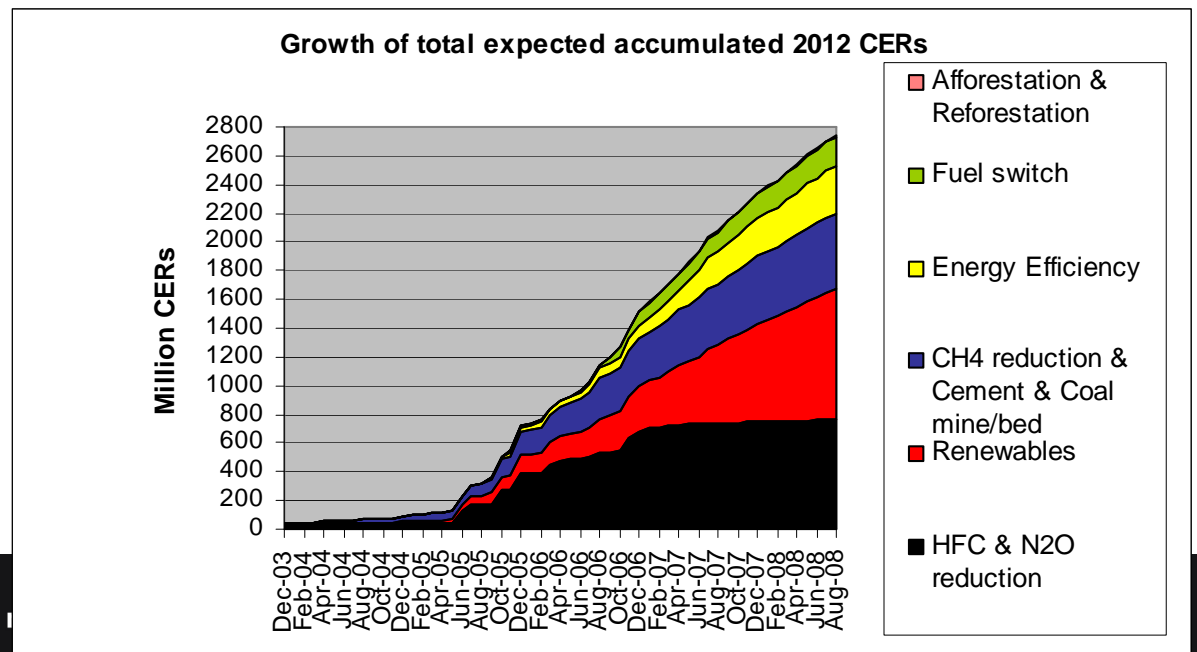


### Europe: more diverse viewpoints

- Moderate NGOs (WWF) often for CCS  
“Needed to address climate change”
- Action-oriented NGOs (Greenpeace) often against  
“Climate change can be addressed through energy efficiency and renewables alone”  
“CCS will come too late”  
“Propagates the use of fossil fuels”

## Discussions on CCS in the CDM (or application in developing countries)

- First application in industrialised countries: developing countries “guinea pigs”
- Diverging views on what is sustainable development
- CDM has seen too many large-scale industrialised technologies as it is



## Different ways of framing CCS

### Proponents:

- Fossil fuels are essential element of current mix
- Countries will continue using fossil fuels, especially coal
- The climate change impacts need to be mitigated
- Hence, CCS is unavoidable
- It is best for the climate if it is implemented as soon as possible, which can be done with public support

### Opponents

- Fossil fuels need to be phased out as soon as possible
- Climate change can be solved with energy efficiency and renewable energy alone
- Hence, CCS delaying action on better and more sustainable options
- Absolutely no subsidies or support for CCS

## What is Namibia's way of framing CCS?

Development first

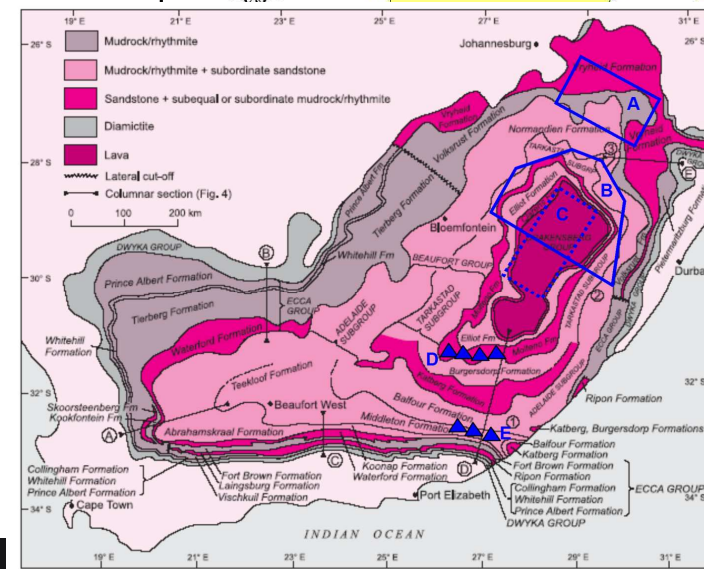
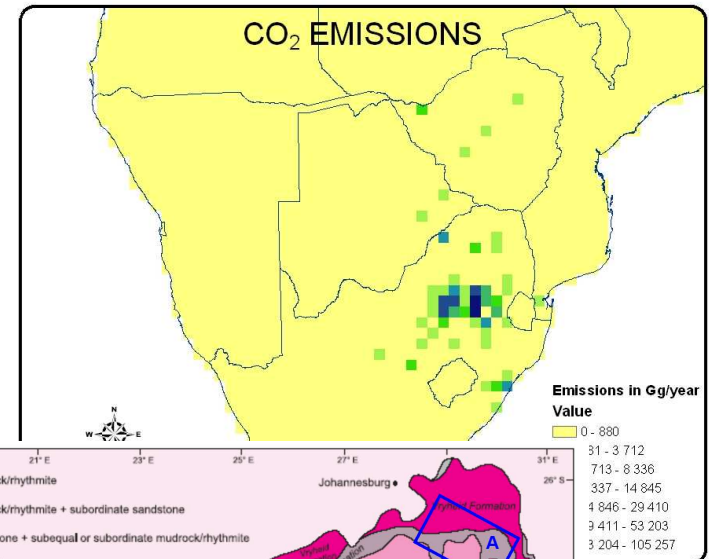
Sustainable industrial  
development

Any sources of CO<sub>2</sub> amenable to  
capture?

Underground storage  
characterisation

CCS costly. Incentives needed:

- CCS in the CDM
- Copenhagen: Nationally Appropriate Mitigation Actions?





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## Public perception



## Perception of CCS is important





## Instinctive responses

“Carbon dioxide could change the DNA of organisms, and this will cause a vicious circle” (by a chemist!)

“Leakage could lead to bad air, health problems for people living nearby, for example lung cancer”

*(Wallquist et al, 2009)*

“This is among the DUMBEST ideas that I've ever seen. There is no way anyone with a brain would ever get near a suffocation pocket like that.”

“... when I was a kid in school I seem to recall being taught plants eat CO<sub>2</sub> and crap out oxygen...maybe we need to plant more plants to eat all the CO<sub>2</sub>? probably too simple an idea, Shell can't make a profit on it!”

*(Houston Chronicle website, November 2009)*

## Barendrecht, the Netherlands

CO<sub>2</sub> from refinery, storage in depleted gas fields

Actors:

- Shell and NAM
- Dutch government
- Barendrecht city council
- Greenpeace and Green party
- EIA commission

Information meeting

EIA conducted and approved

Procedures correct!



## What happened?

Government and Shell in a hurry,  
it seemed the ideal project

Environmental Impact  
Assessment

- Information or consultation?
- Who pays for the EIA?
- Who provides information?
- What kind of information?

Public relies on trusted sources

Barendrecht already under  
pressure





## Also other examples

FutureGen project in Illinois, United States

IGCC with storage in aquifer

Public surrounding the project very positive

Why? Some possibilities:

- Inhabitants were contacted early by people they trust
- Competition between Texas and Illinois
- Careful information provision
- Inhabitants were engaged
- Local benefits: jobs, income

## **How would Namibia frame CCS?**

Necessity, one of the options for its future energy system, necessary evil, dangerous distraction?

## **How would stakeholders and the general public feel about CCS in Namibia?**

Thank you!

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