



New instruments in and outside the UNFCCC: possibilities for CCS in developing countries?

Markus Hagemann (Ecofys)

Bonn Climate talks, June 2011

Content

Topic

Introduction

Current status of international cooperation

Outlook on international cooperation

Content

Topic

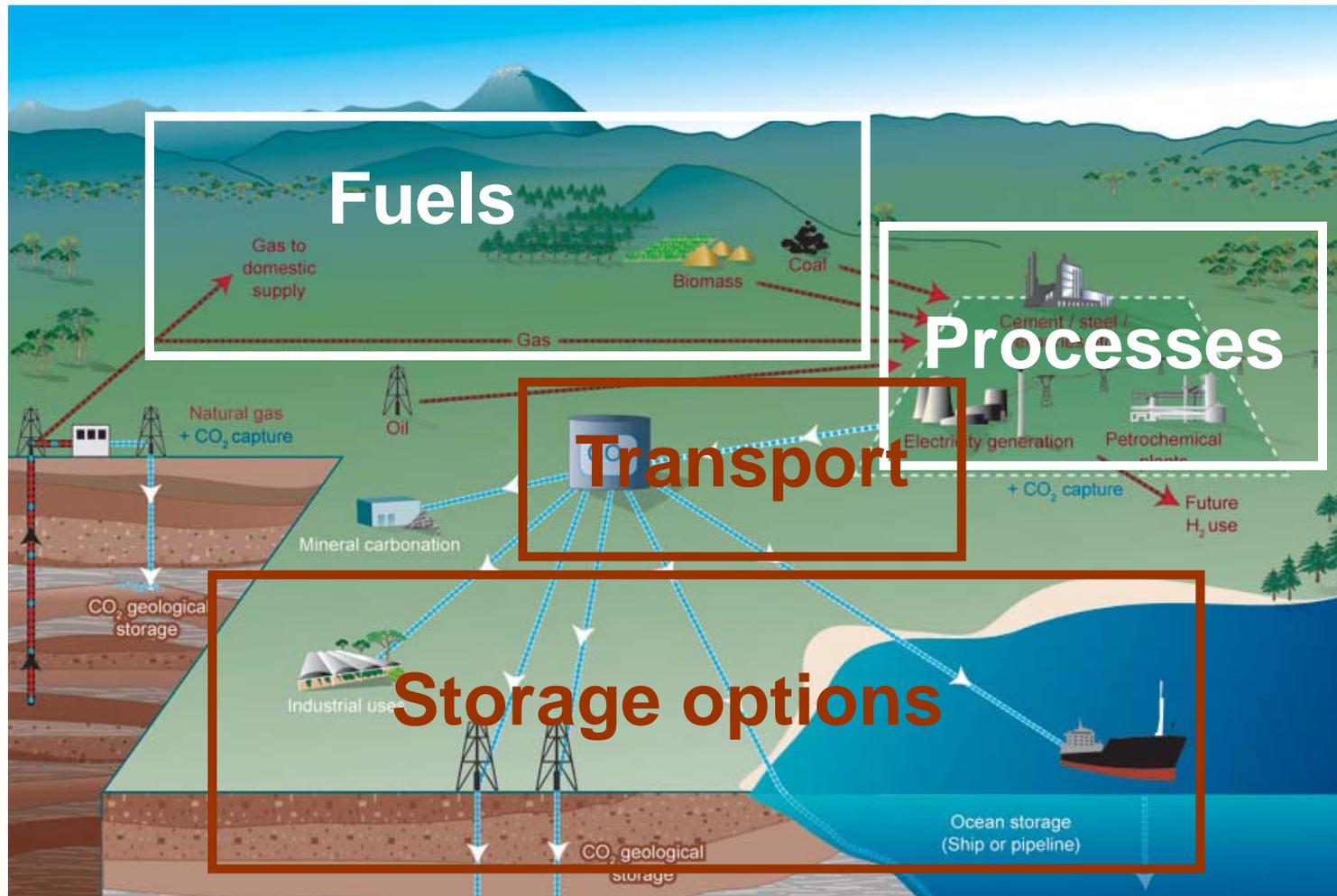
Introduction

What is CCS? / Where are we currently? / What role might CCS play in the future?

Current status of international cooperation

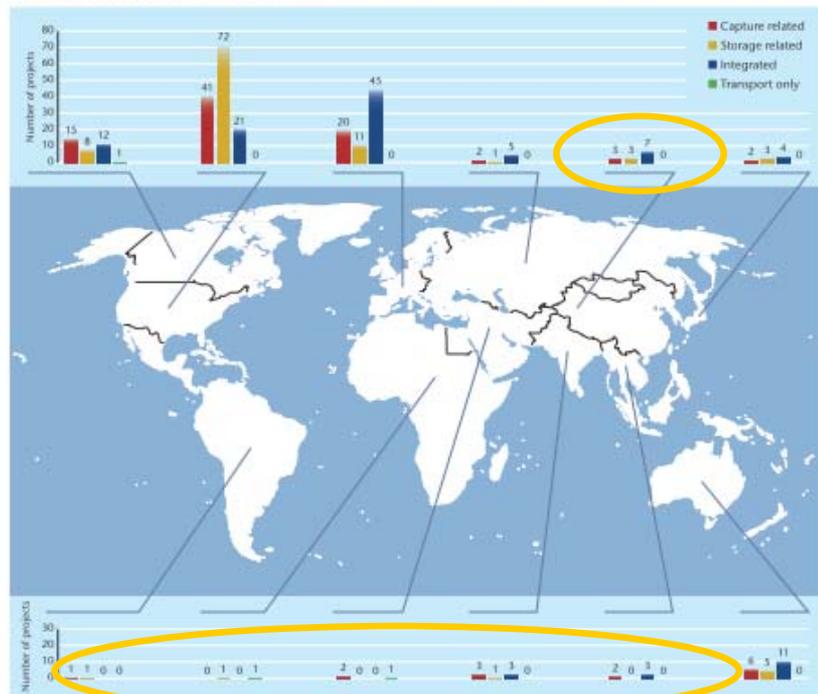
Outlook on international cooperation

What is CO₂ capture and storage?



Current status of CCS

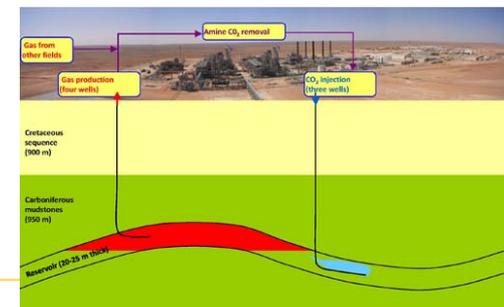
Figure 3: Planned and operational large-scale (>1 MtCO₂/year) CCS projects



Source: Strategic Analysis of the Global Status of Carbon Capture and Storage (CCS) Projects status (forthcoming), prepared for the Global CCS Institute by WorleyParsons Services Pty Ltd. (2009).

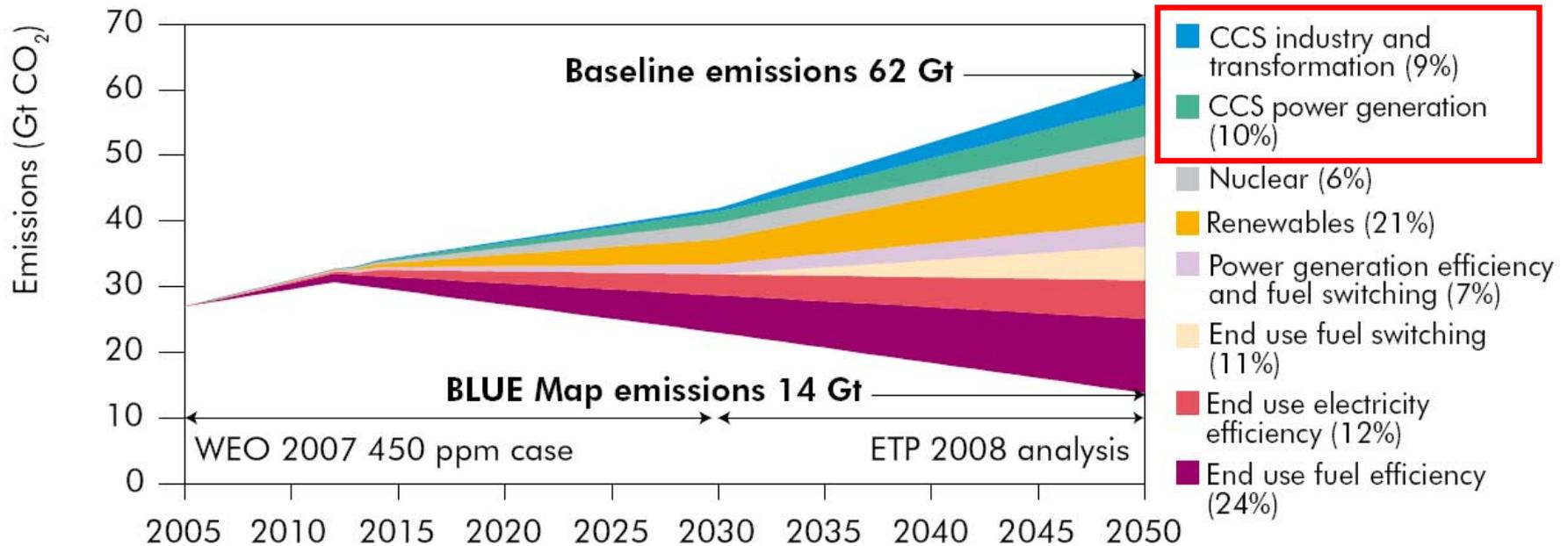
Commercial integrated CCS Non-OECD

- Regional Split
 - OECD: 88%
 - Non-OECD: 12%
- Projects
 - 4 planned in China
 - 2 planned in other countries
 - In Salah (Algeria) running



Global CCS Institute, 2010

Potential future role of CCS



IEA, 2008

CCS – some major challenges to overcome

- CO2 storage
 - Leakage risks
 - public acceptance issues - NIMBY
 - Long term liability
- CO2 capture
 - mostly R&D scale technology
 - availability in time?
- financing
 - Largely missing – e.g. too low CO2 price
 - Careful not to divert investment from other more sustainable options (RE and EE)

Content

Topic

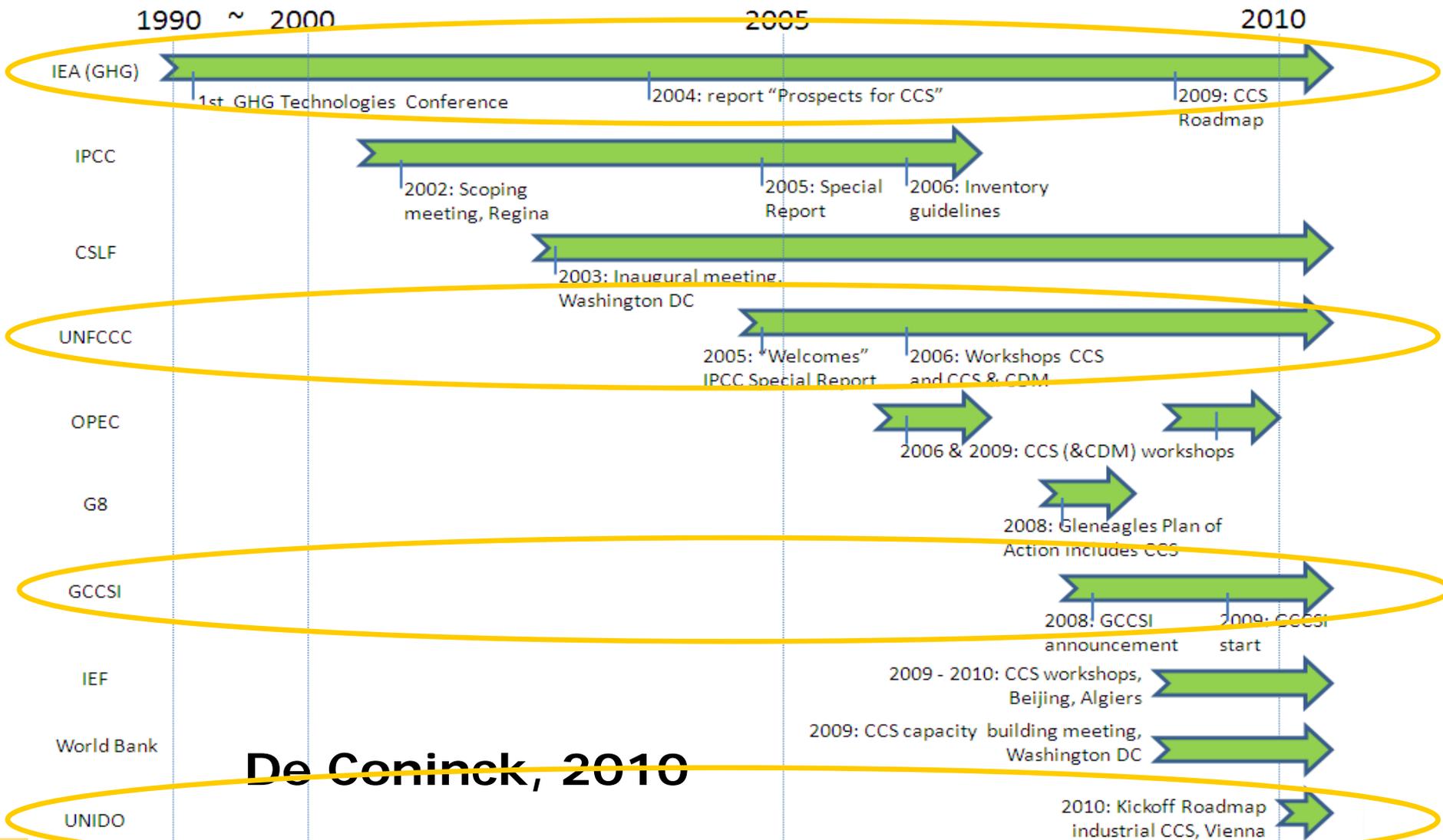
Introduction

Current status of international cooperation

What does the current international cooperation on CCS look like?

Outlook on international cooperation

What have international organisations done?



De Coninck, 2010

How do partnerships between AI and NAI contribute? - Status

Fields as defined in IEA Roadmap	Functions	Bi lateral	Multi lateral
Technology	On site R&D	6	4
	Desktop R&D	6	4
	Feasibility studies	4	2
	Large scale projects	4	2
	Roadmaps	2	3
Legal and Regulatory framework	Regulatory framework	2	5
	Policy framework	3	5
International cooperation	knowledge sharing	7	7
	capacity building	6	6
Public engagement and education	Public engagement and education	3	2
Financing projects	R&D projects	4	3
	Large scale projects	0	1

How do partnerships between AI and NAI contribute? - Gaps

- Extended ***content focus*** of partnerships needed
 - Technology: beyond power sector
 - Regulatory framework: – only general studies
 - Project financing – only R&D supported
 - Public acceptance – no local communication strategies
- Extended ***geographical focus*** of partnerships needed
 - „beyond China“

Content

Topic

Introduction

Current status of international cooperation

Outlook on international cooperation

How could future international cooperation on CCS be enhanced?

CCS under the UNFCCC

UNFCCC	IPCC special report on CCS Technology Needs Assessment
Kyoto	CDM
Cancun	NAMA Financing Technology Mechanism MRV

Option 1: Sophisticated Technology Mechanism for CCS

- Status
 - Currently no coordination of efforts
 - GCCSI could potentially play such a role
- Potential structure
 - Mechanism inside or outside the UNFCCC
- Potential aim:
 - Address open issues in a coordinate manner
 - leakage/ seepage
 - Identify financing sources
 - Help develop international standards for storage sites
 - Create international information campaign on CCS
 - Create a common/ trusted voice on CCS

Option 2: Bilateral partnerships as fast track financing

- Status
 - Current bilateral partnerships function in parallel to UNFCCC negotiations
- Structure
 - Use current or new bilateral partnerships to finance projects/regulatory frameworks/ etc.. in NAI countries (NAMA?)
- Potential aim
 - Increase bilateral action that can be accounted for as fast start financing
 - AI country provides (partial) financing for CCS project in NAI country
 - Focus should be on industry sector
 - **Caution:** Other options with high sustainable development benefits might be preferred (diversion of resources)

Option 3: Bilateral crediting initiative

- Status
 - Bilateral crediting: Japan and China proposed such an approach
- Structure
 - (Simplified) mechanism modelled after carbon market mechanisms under UNFCCC (CDM)
- Potential aim
 - Increase bilateral action that can create carbon credits
 - All country buy carbon credits from CCS projects in NAI countries
 - No need to wait until international agreement achieved
 - Pioneer methodologies for potential future international carbon markets
 - **Caution:** Parallel processes might lead to fragmentation

Thanks for your attention!



“Frank is into carbon sequestration”

Download report at:

<http://www.co2-cato.nl/>