Trans-boundary issues

Tom Mikunda, ECN
Avelien Haan-Kamminga, GCEL

4th IEA CCS Regulatory Network Meeting
Paris, 9-10 May 2012

CATO-2 2009 - 2013

- CATO-2 is a Dutch R&D programme that focuses on facilitating and enabling integrated development of CCS projects
- ca. 70% of the R&D effort is focused on 8 sites that each offer opportunities for applied research on CCS
- Representatives of industry, CCS platforms, NGO´s and scientists of research institutes and universities take part in the CATO-2 programme.
- A consortium of 40 active partners

Focus areas

- The research of CATO 2 focuses on 5 areas, referred to as sub programmes:
  - SP1 - CO_2 Capture
  - SP2 - Transport and CCS chain integration
  - SP3 - Subsurface storage of CO_2 and monitoring storage
  - SP4 - Regulation and safety
  - SP5 - Public perception
- SP4 addresses regulation, operational practices, environmental impacts, and safety of CO_2 transport and geological storage.

Legal and regulatory work (WP4.1)

- Support to the government, industry and CCS stakeholders regarding legal and regulatory issues of CCS
- Assessing existing legislation as being ‘CCS-proof’
- Barriers to trans-boundary CO_2 transport
- Long and short-term liability issues
- European harmonization

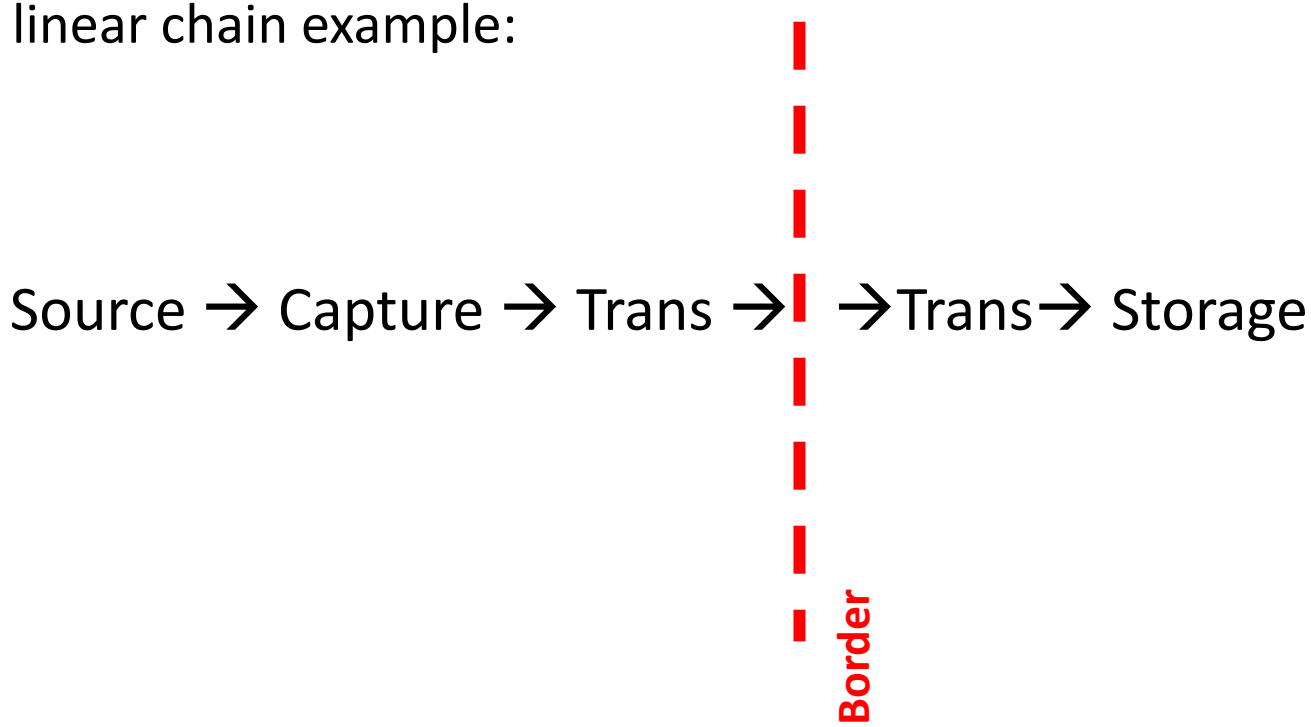
university of groningen

KEMA

TNO innovation for life

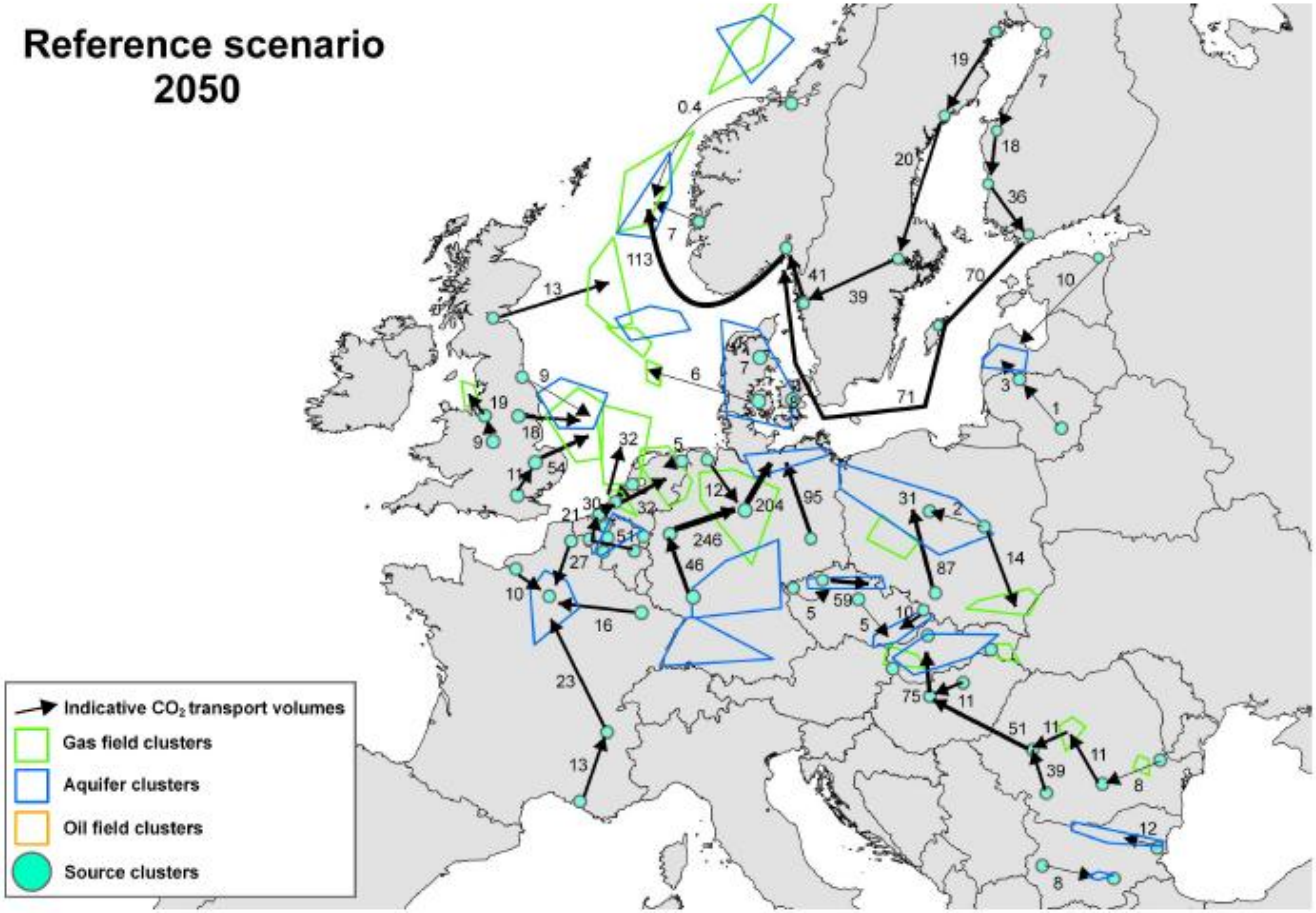
Cross-border transport of CO_2

A simple linear chain example:



EU wide deployment of CCS due to storage availability may require cross-border transport of CO_2 by pipeline or by ship

Possible network to 2050



Neele, et al. 2011

Trans-boundary issues

- Are there legal barriers/complexities to cross-border transportation of CO_2 ?
- Same infrastructure in different (Member) States (pipeline)
- States have jurisdiction on their territory
- Specific regime for offshore
- Possibility to have same structure governed by multiple sets of legislation per jurisdiction

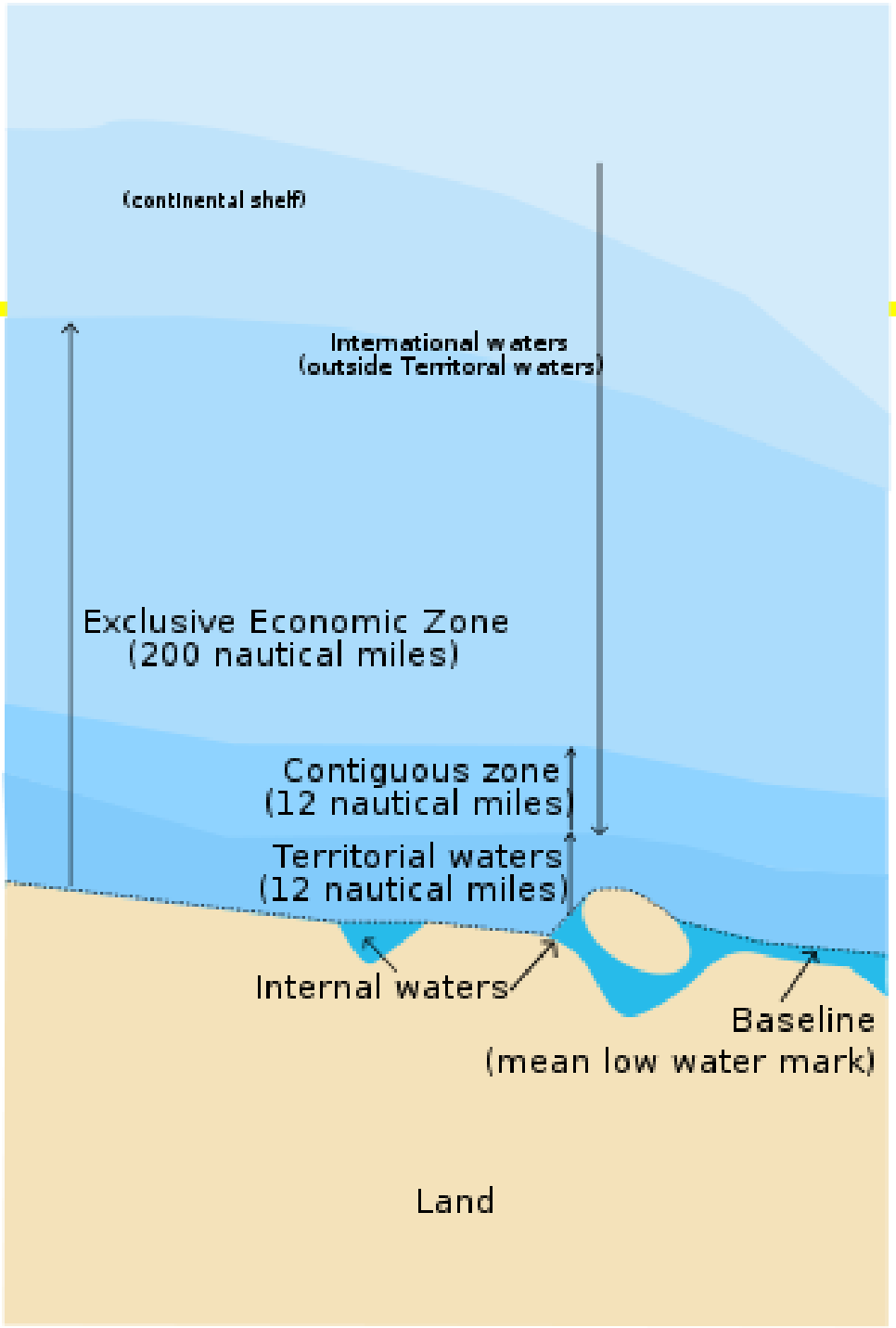
UNCLOS

- United Nations Convention on the Law of the Sea
- 1994 – overarching international agreement regulating uses of oceans and seas
- Covers resource utilisation, shipping, marine research, prevention of marine pollution
- Divides sea into zones: Territorial sea, Exclusive Economic Zone, Continental shelf
- UNCLOS does not prohibit CCS – but is important

Jurisdiction

- Competence of a State to exercise authority
- Transport and storage in territory of state – law of sovereign State applies to all aspects
- Onshore: jurisdiction within territorial borders
- Offshore: jurisdiction dependent on the maritime zone in which an activity is situated (functional jurisdiction)
- Different jurisduction may entail different regulations for; siting and construction, HSE demands, use of infrastructure

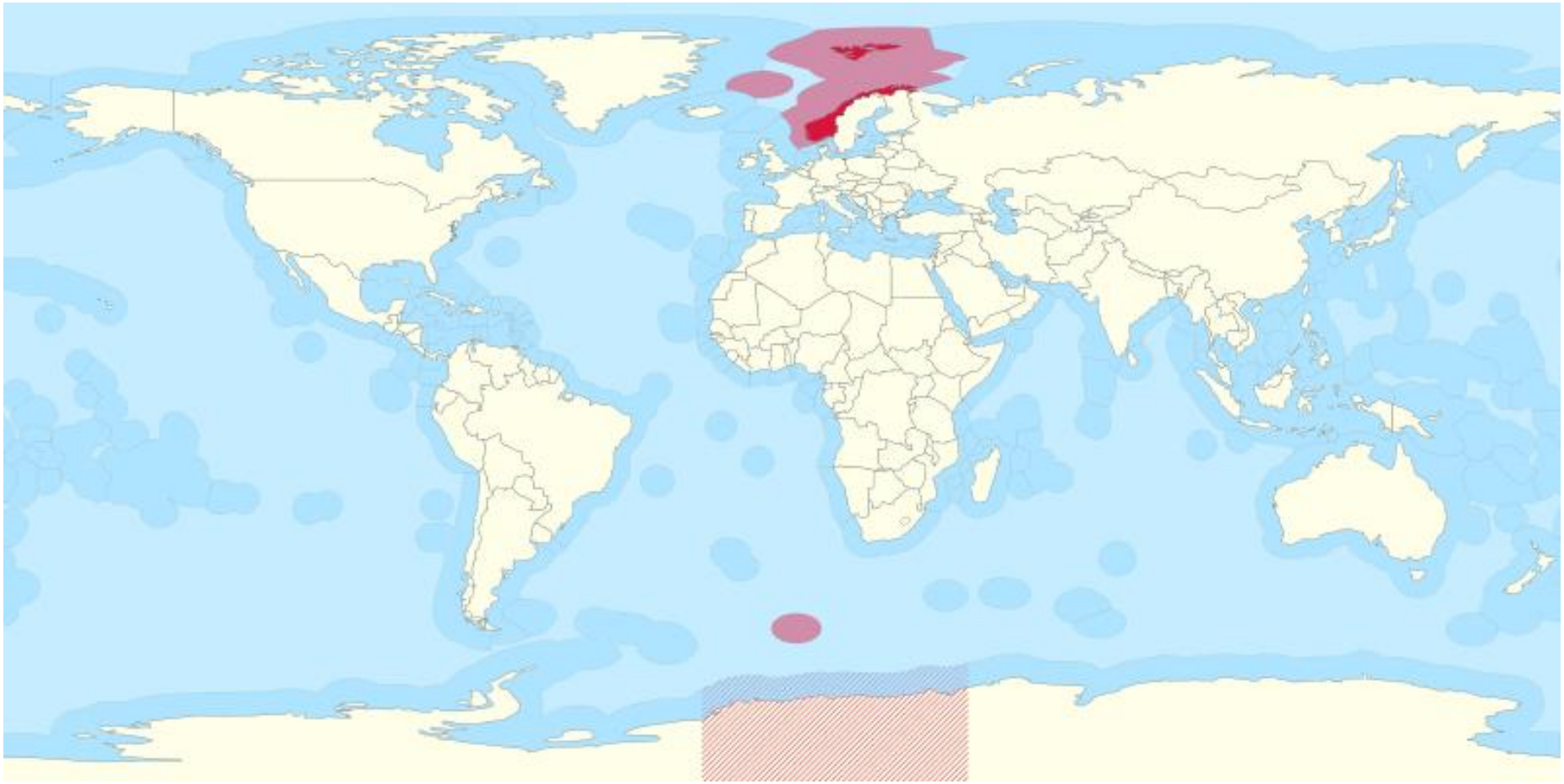
Maritime zones



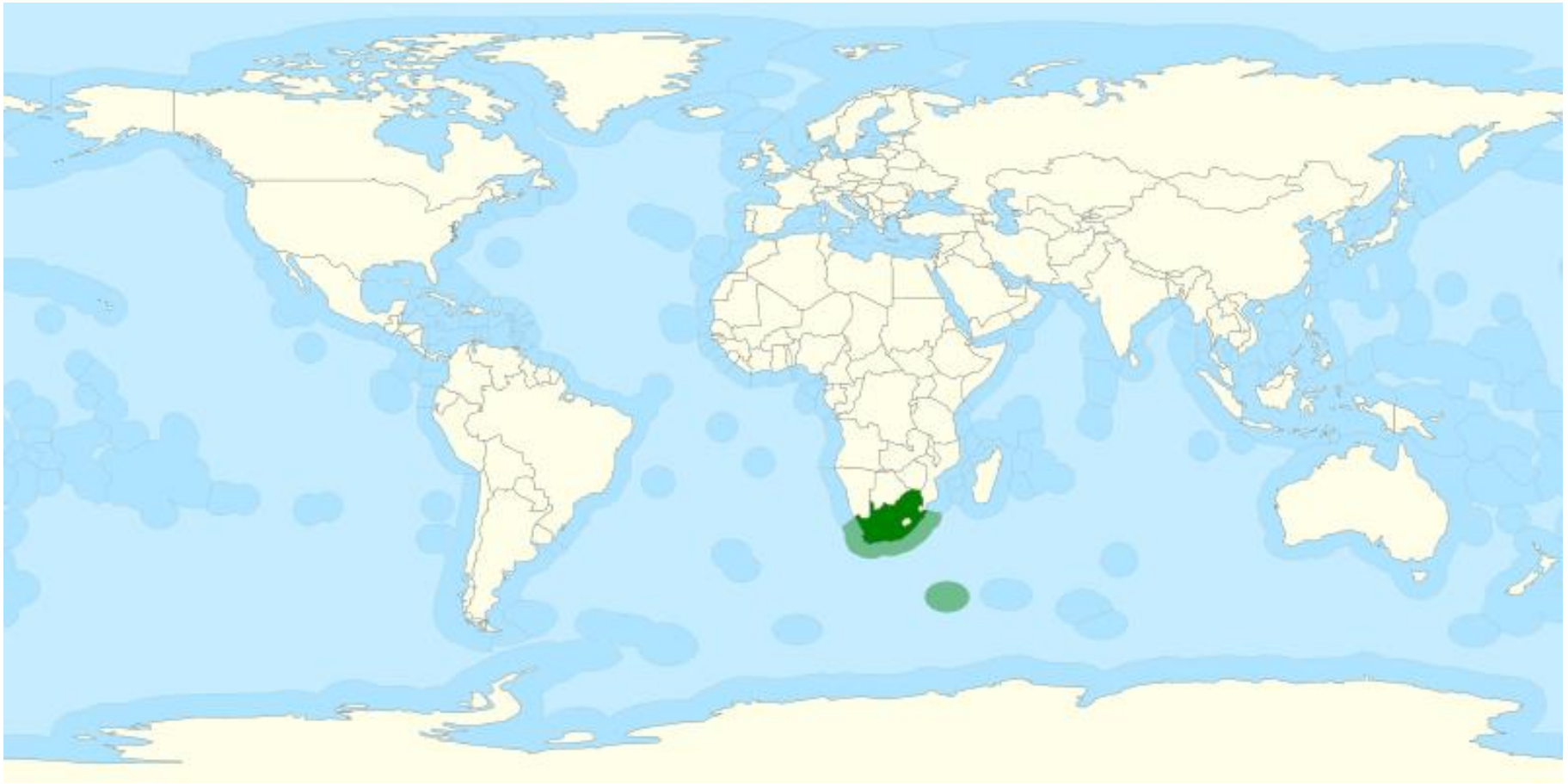
1 nautical mile =

1.85 kilometers

EEZ Norway



EEZ South Africa



Jurisdiction and possible conflicts

- In territorial waters the coastal State has jurisdiction
- For the EEZ/continental shelf a specific regime applies in which for specific objects and activities jurisdiction is determined
- Only functional jurisdiction exists in the EEZ/continental shelf
  - Conducting economic activities - storing CO_2?
- 1 pipeline – 3 possible jurisdictions – capture state, transit states and receiving state.
  - Extent of jurisdiction dependent on maritime zone of transit

Examples from oil and gas transport

- Differing country views – Oil pipeline Norway to UK (example provided by Bugge, H.C. in Havercroft, et al. 2011)
  - Norwegian view – Pipeline remains in Norwegian jurisdiction until it reaches territorial waters of UK
  - UK view – pipeline under jurisdiction of UK once it enters it's continental shelf.
  - Solution – formal agreement between countries

- Nord Stream – gas pipelines from Russia to Germany
  - Crosses 5 EEZ and 3 territorial waters
  - 1 Danish, 1 Swedish, 2 Finnish, 2 German and Russian acts
  - Planning and route design €100 million (€9 billion total)

Transboundary EU ETS issues

- Trans-boundary CO_2 pipeline applicable to EU ETS
  - Currently all EU ETS installations only operate within countries
  - How to attribute leakage?

- Split network? Offshore monitoring at border?
  - Offshore - complex, costly, impractical

- Single permit for pipeline, 4 options (after Bugge, H.C. in Havercroft, et al. 2011) :
  - State who's territory/EEZ leakage takes place
  - State in which pipeline owner resides (flag state)
  - State in which CO_2 was captured
  - State in which CO_2 will be stored

Transboundary issues in CDM

- 2011 - Modalities and procedures for CCS in the CDM agreed in Durban at COP 17, Durban
- Trans-boundary CO_2 transport as outstanding issue, to be discussed at COP 18, Doha - 2012
- Party and observer views – majority of submissions have no specific objections – however governance needed.
- Multiple submissions refer to 2006 IPCC guidelines for GHG inventories for guidance on reporting CO_2 transferred between countries.

Key messages

- Trans-boundary transport of CO_2 prohibited by the London Protocol – although treaties may be established
- Offshore cross-border transport poses a number of legal questions – operators may face delays due to issues of establishing juridiction
- Offshore and onshore trans-boundary pipelines may need to comply with multiple sets of legislation
- Wide MS discretion and limited cross-border regulation could lead to complexities in operation

Thank you for your attention

http://www.co2-cato.org/ - keyword – transboundary

mikunda@ecn.nl

ECN
Westerduinweg 3
1755 LE Petten
The Netherlands

P.O. Box 1
1755 ZG Petten
The Netherlands

T +31 224 56 49 49
F +31 224 56 44 80

info@ecn.nl
www.ecn.nl