Workshop on considering CCS as a CDM project activity | unfccc.int

Some terms
Summary of Party submissions
Comparison of methodologies

Secretariat

List of Terms

- **Monitoring:** the collection and archiving of all relevant data necessary for determining the **baseline**, measuring anthropogenic **emissions by sources** of GHG within the project boundary of a CDM project activity & **leakage**, as applicable

- **Leakage:** is the net change of anthropogenic emissions by sources of GHG which occur **outside** the project boundary & which are **measurable and attributable** to the CDM project activity

- **Permanence:** not defined……could be termed as a qualitative way to characterise whether a reservoir is able to store CO_2 for a long time. Dec. 5/CMP.1 accounts for non-permanence in afforestation & reforestation while Dec. 3/CMP.1 deals with emission reductions

- **Project boundary:** shall encompass **all anthropogenic emissions** by sources of GHG under the control of the project participants that are **significant** & reasonably **attributable** to the CDM project activity

List of Terms contd.

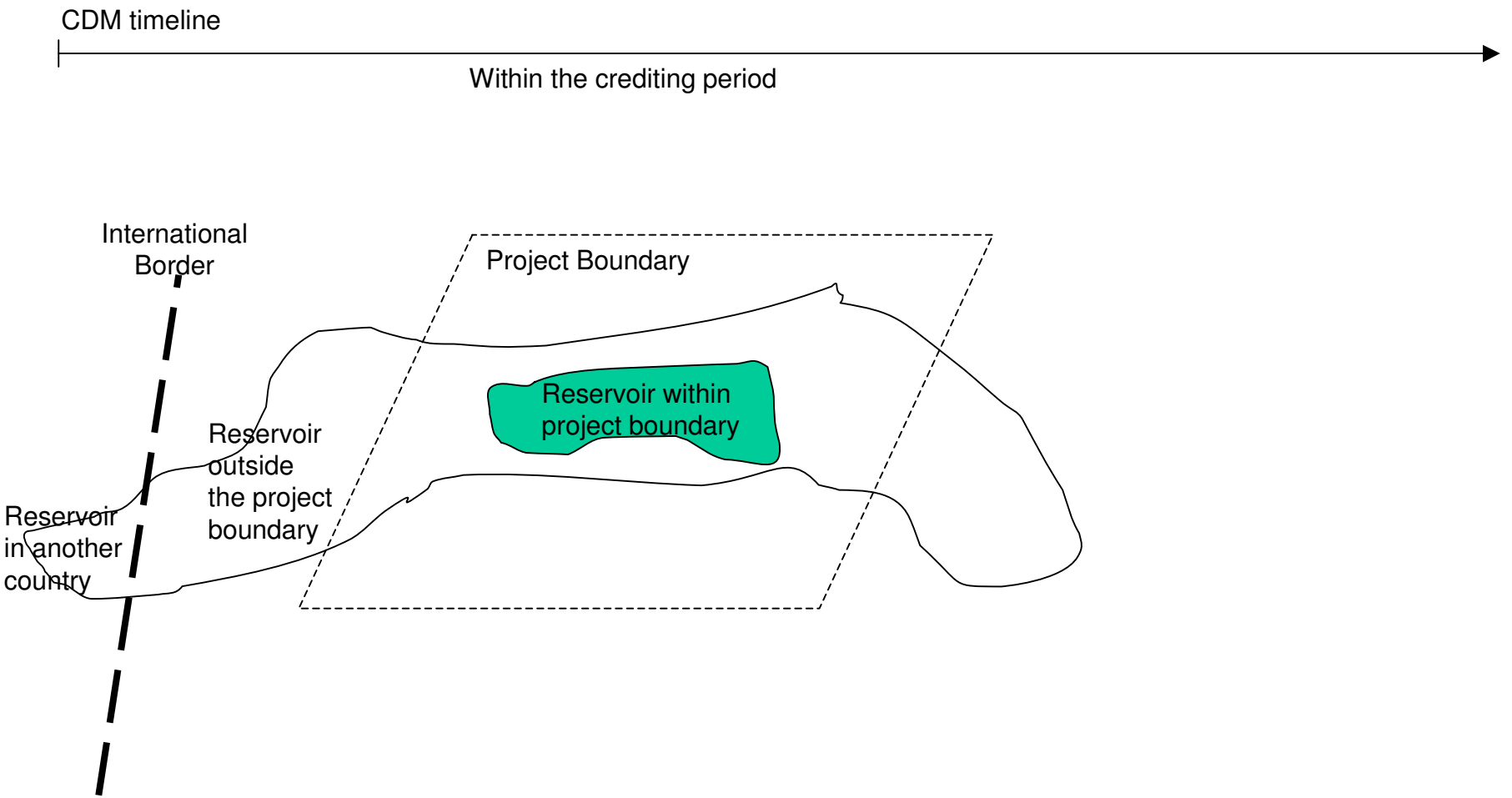
- **Sink:** is any process, activity or mechanism which removes a GHG, an aerosol or a precursor of a GHG from the atmosphere (UNFCCC Art. 1, § 8)

- **Seepage:** is the escape of injected CO_2 from storage reservoir. Seepage from a reservoir during the credit period can be accounted for as either project emissions or leakage.

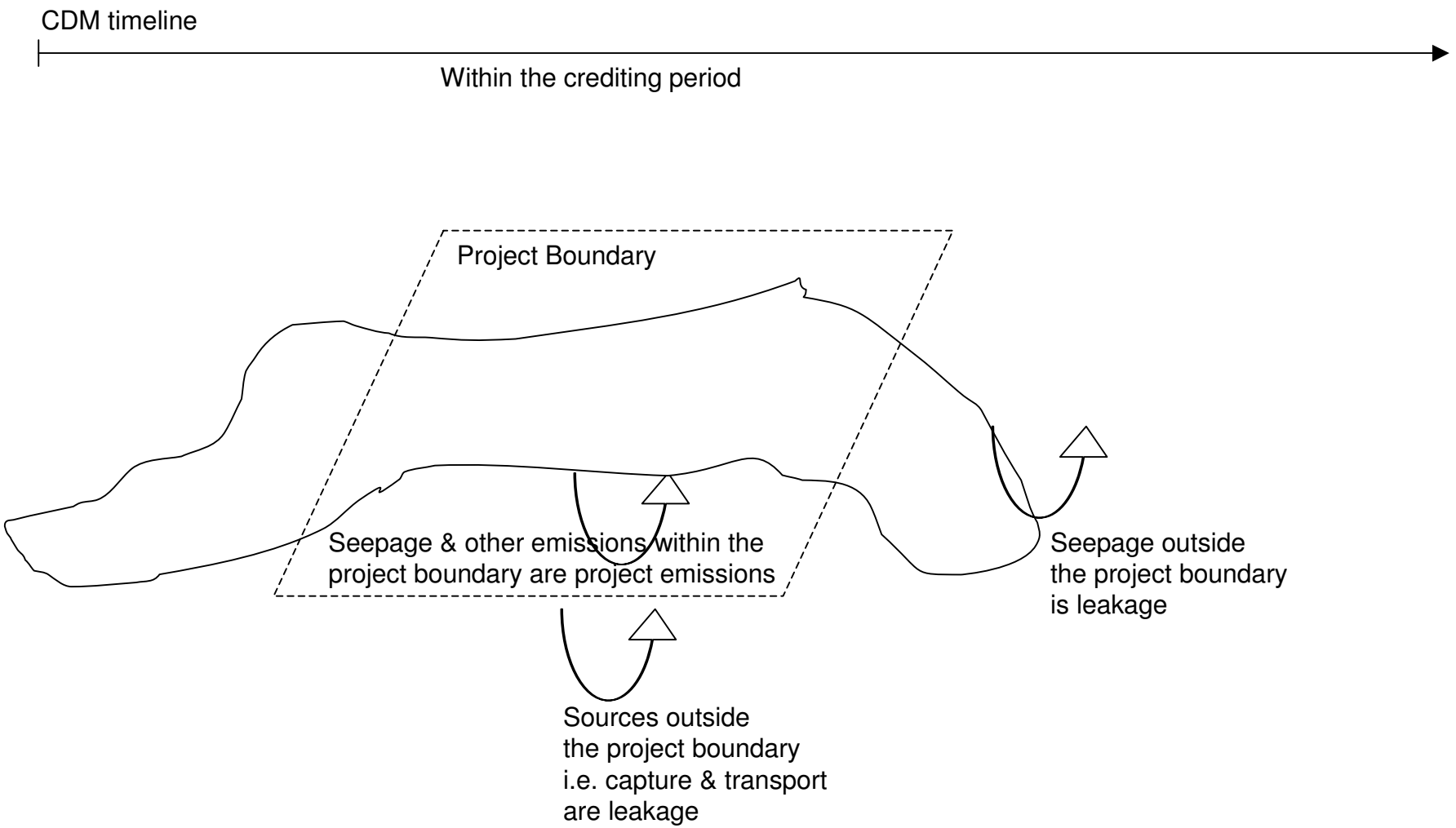
- **Seepage rate:** is the percentage of stored amount released per year

- **Site characterisation:** is the assessment whether geological storage reservoir has:
  a. adequate capacity & injectivity
  b. satisfactory sealing caprock or confining unit
  c. stable geological environment

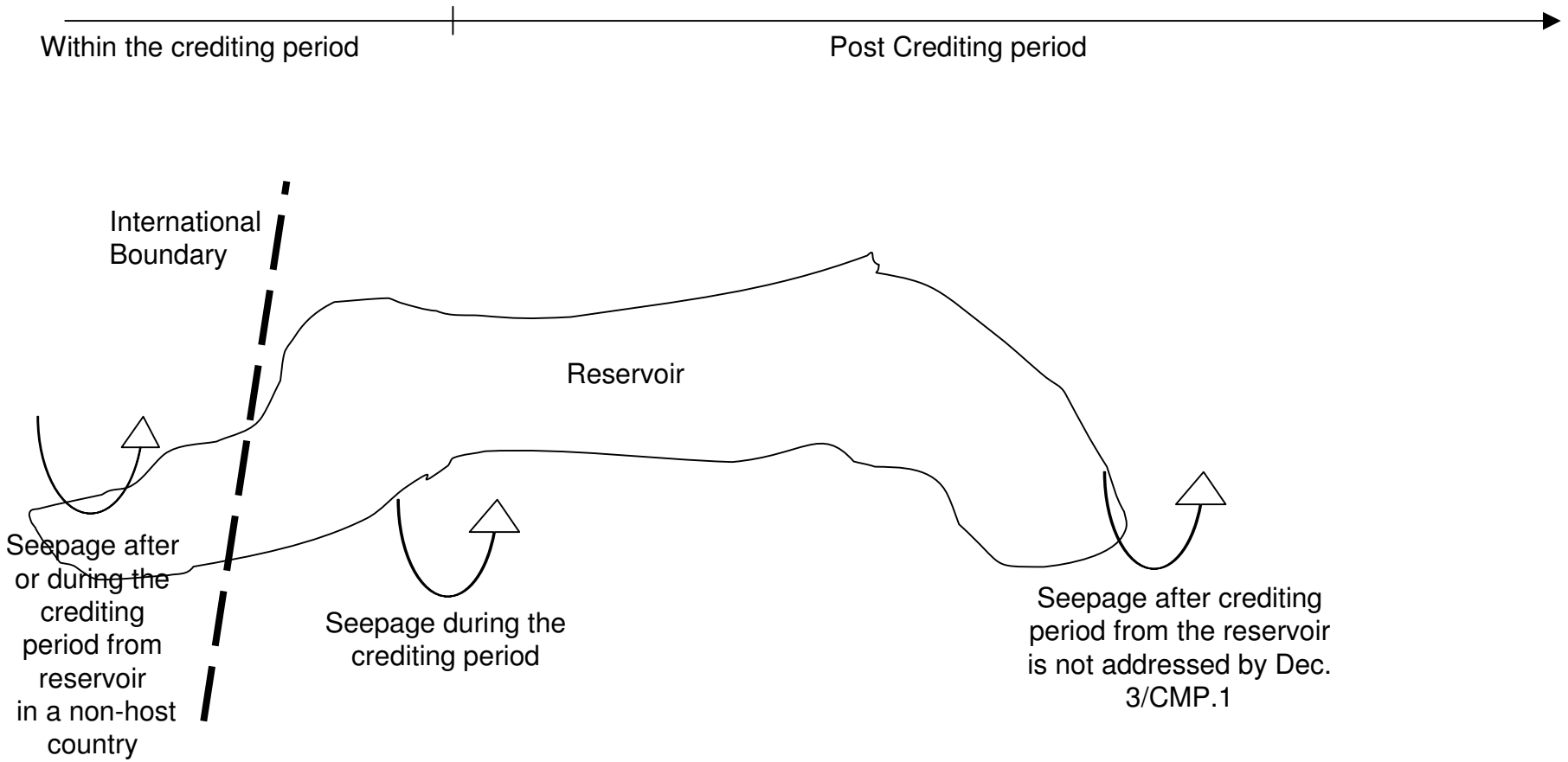
Boundary


CDM timeline
Within the crediting period
International Border
Project Boundary
Reservoir within project boundary
Reservoir outside the project boundary
Reservoir in another country

Leakage


CDM timeline
Within the crediting period
Project Boundary
Seepage & other emissions within the project boundary are project emissions
Seepage outside the project boundary is leakage
Sources outside the project boundary i.e. capture & transport are leakage

Permanence


Within the crediting period
Post Crediting period
International Boundary
Reservoir
Seepage after or during the crediting period from reservoir in a non-host country
Seepage during the crediting period
Seepage after crediting period from the reservoir is not addressed by Dec. 3/CMP.1

Brief summary of submissions by Parties

- **Project Boundary**
  - Include capture, transport, injection & storage
  - Exclude projects where the project boundary comprises more than one country
- **Leakage**
  - Emission due to EOR
  - Trans-boundary migration of CO_2
- **Permanence**
  - Emissions reductions should result in CER's
  - What about beyond crediting period?
  - Assign liability of emissions beyond crediting period
- **Monitoring, validation and verification**
  - Direct techniques such as measurements taken in wells located at a storage site
  - Indirect methods such as seismic surveys & remote sensing techniques
  - Who monitors after the crediting period & is responsible for verification?
  - How long beyond the crediting period should monitoring continue?
- **PDD should contain an appropriate risk assessment & EIA**
- **Sustainable development criteria**

Brief summary of submissions by Parties contd.

- **Site selection/applicability**
  - Who prepares the guidelines for site selection
  - Appropriately-qualified independent entity to confirm compliance with site selection criteria
  - Independent entity to ensure site selection criteria are met
  - Avoid projects involving a potential risk of seepage
  - Use IPCC 2006 rev. guidelines as a basis for CCS projects under the CDM
  - Factors to be included:
    - Volume & permeability assessment of site
    - Assessment of the geological characteristics of the storage reservoir & caprock
    - Understanding of hydrogeology, geochemistry & geomechanics
    - Understanding of geological trapping mechanisms

Summary of 2 large scale proposed methodologies

	White Tiger Field (Vietnam) NM0167	Petronas (Malaysia) NM0168
Description	CO_2 capture from NGCC plants, pipeline transport, storage in offshore/ onshore oil field, EOR	CO_2 and H_2S co-capture from offshore gas well, storage in aquifer, no EOR
Project boundary	Capture, compression, transport & storage reservoir	Compression, transport, storage reservoir
Leakage	Pipeline leakage identified	No leakage identified
Seepage levels	0.7% p.a. during crediting period, model based	very likely < 1% in 100 yrs, model based
Monitoring	3D & 4D seismic	3D seismic
Pre-project	Seawater EOR	No EOR
Site Selection Criteria	Defined by IEA publication on CCS	Defined by IPCC special report on CCS
Permanence d Permanence a	> threshold, replace with other units Beyond scope of methodology, but continue monitoring	PP's replace the CER's Discount factor for 1000 yr. prediction

Summary of the small scale proposed methodology

	Anthropogenic Ocean Sequestration by Alkalinity Shift (SSC_049)
Description	Dissolving concentrated CO2 (power station flue gas) in sea water & neutralising the carbonic acid formed with calcium carbonate. The process stores carbon in the form of bicarbonate.
Project boundary	Capture, compression, transport. Excludes power station flue & limestone transport
Leakage	No leakage identified
Seepage	Not discussed
Monitoring	Monitoring of energy consumption & alkaline change
Pre-project	Not discussed
Site Selection Criteria	Not discussed
Permanence	Not discussed

Thank you

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