

Eleventh Annual Conference on Carbon Capture, Utilization & Sequestration

Government Policy /CCS/CCUS/Government Support

CCS in the Clean Development Mechanism

Tim Dixon, Greg Leamon, Paul Zakkour, Luke Warren

April 30 – May 3, 2012 • David L. Lawrence Convention Center • Pittsburgh, Pennsylvania



CCS in the Clean Development Mechanism

Tim Dixon¹, Greg Leamon², Paul Zakkour³, Luke Warren⁴

¹IEAGHG, ²Geoscience Australia, ³Carbon Counts, ⁴CCSA

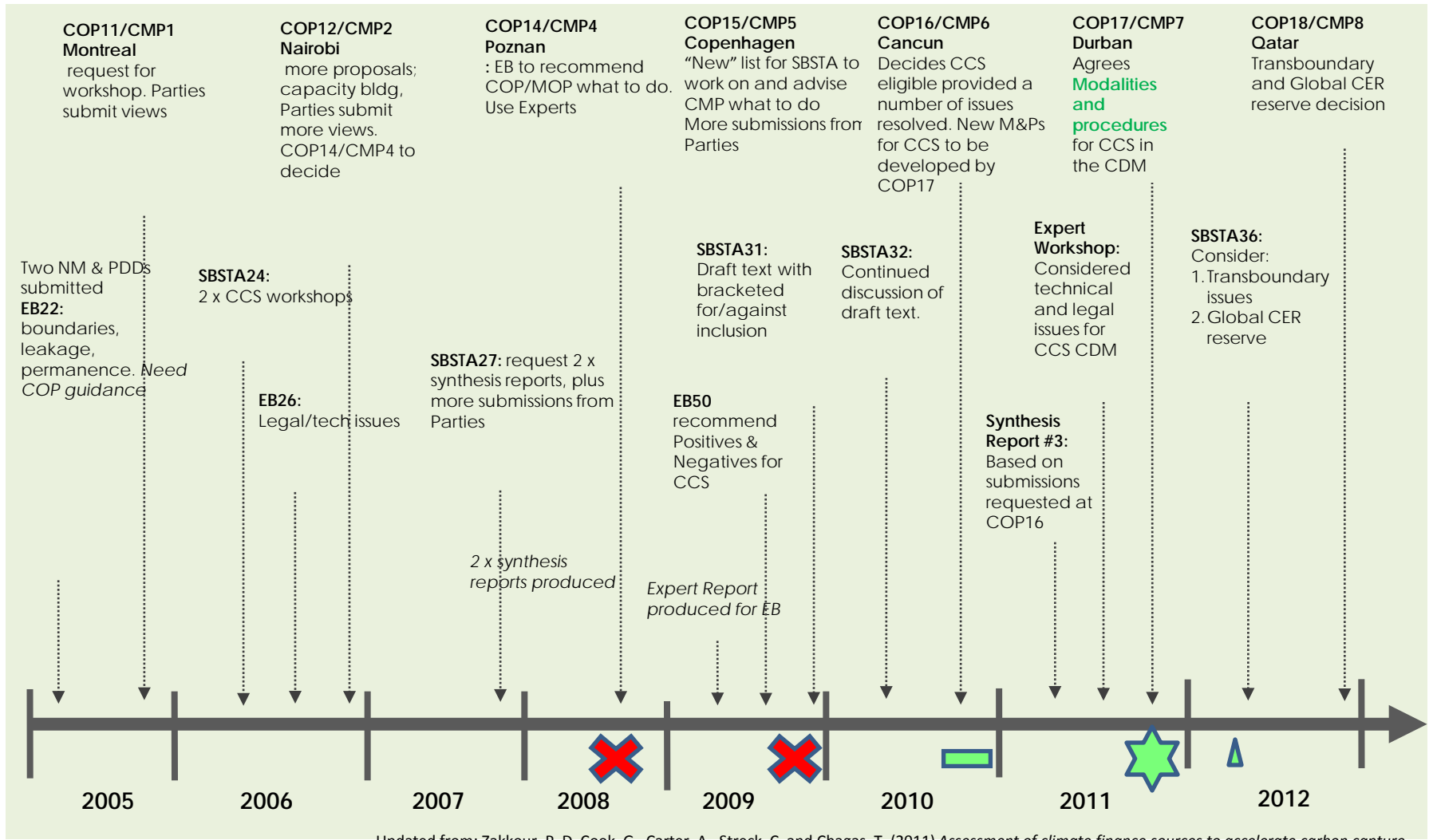
With input from UNFCCC

Eleventh Annual Conference on
Carbon Capture, Utilization & Sequestration

1 May 2012

Kyoto Protocol and CCS

Considering CCS in CDM since CMP1 Montreal (2005)



Updated from: Zakkour, P. D, Cook, G., Carter, A., Streck, C. and Chagas, T. (2011) *Assessment of climate finance sources to accelerate carbon capture and storage deployment in developing countries*. A report by Carbon Counts and Climate Focus for the World Bank. 16th June 2011. Washington D.C.



Key issues of concern

Included

- Timescales of benefits vs liability
- Impact on CDM market
- Scale and impacts of leakage
- Furthering use of fossil fuels
- Sustainable development
- Role of CCS in climate change mitigation

Since CMP 5 (2009)

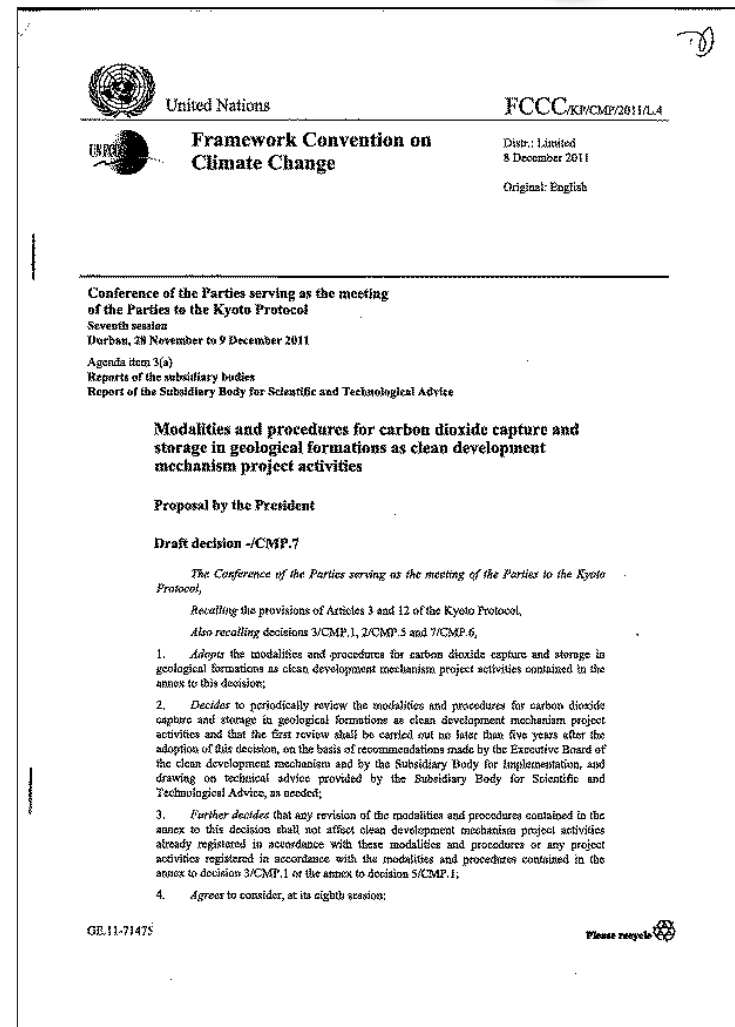
- Non-permanence
- Monitoring and verification
- Environmental impacts - ecosystems, climate (“massive catastrophic release”)
- Project boundaries and transboundary issues
- Liability
- Perverse outcomes
- Safety
- Insurance and compensation for leakage

.

Modalities & Procedures for CCS in CDM



- **CMP 7, Durban Dec 2011**
- **Agreed and adopted Modalities and Procedures !**
- **Decision 10/CMP.7 (final draft was FCCC/KP/CMP/2011/L.4)**



Modalities & Procedures for CCS in CDM



CDM Modalities and Procedures (M&Ps)

- Apply mutatis mutandis (use existing as much as possible) with the addition of the CCS-specific M&Ps

Definitions:

- Seepage – transfer of CO₂ ultimately to atmosphere or ocean
- Net reversal of storage – seepage exceeds emission reductions during operational period, or seepage after project close

M&Ps - Requirements



DOEs – CCS expertise

Participation Requirements

- Host to establish regulations to control and permit CCS. To include site selection and characterisation, storage rights, redress for affected entities, remediation, liability.

Validation by DOEs

- Site characterisation, risk and safety assessment, environmental and socio-economic assessment, liability provisions, financial provision.
- Host country has to agree to financial provision and liability
- Whether host country agrees to responsibility for net reversal of storage

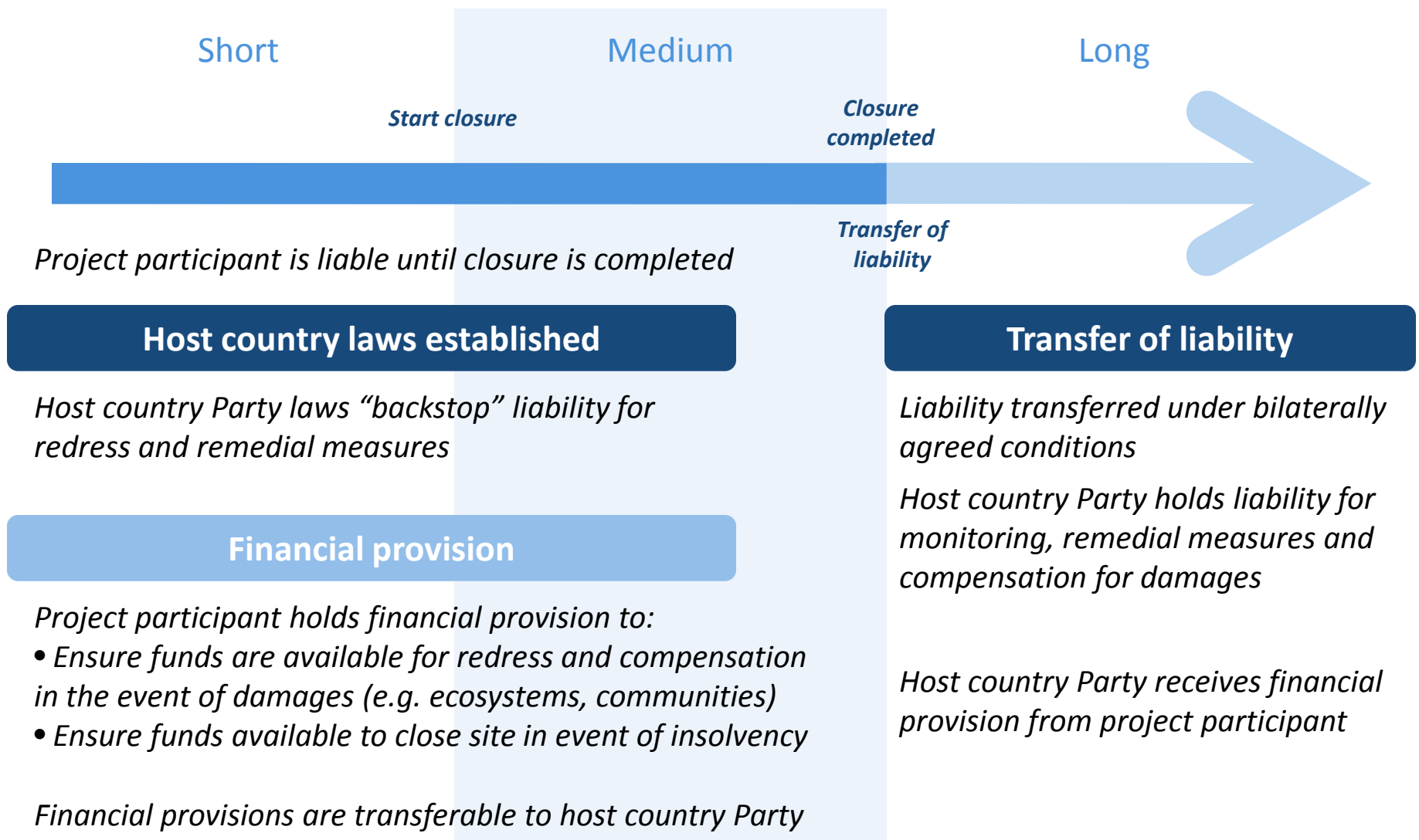
M&Ps - Liability



- **Treatment of local liability** - *health, safety, environmental impacts*
 - Participation requirement; host party establish national laws and regulations that address local liability
- Liable entity identified for each phase of project lifecycle
 - Project participants liable from operation phase until transfer of liability
 - Transfer of liability to host party after monitoring period ends (20 yrs after crediting period)
- **Treatment of climate liability** - *obligations to surrender allowances for "net reversal of storage"*
 - Any CO₂ seepage results in retirement of credits equivalent to seepage emissions
 - Host party has 2 options;
 - ▶ Ultimate responsibility resides with the host party
 - ▶ Ultimate responsibility resides with developed country using the credits, i.e. a buyer liability.

Approach to (local) liability

(L.Schneider, UNFCCC, 30/11/11)



Approach to potential net reversal of storage

(L.Schneider, UNFCCC)

Net reversal of storage



Transfer of CERs to cancellation account from:

1. CER reserve
2. Pending account
3. PP holding account



Where these do not cover the level of net reversal, the balance of CERs...

...must be compensated by the project participant by cancelling the respective number of Compliance Units

And, where the project participant does not fulfil the obligation above, it must be met by....

...the host Party, where it agreed to take on this obligation in LoA

...the Annex 1 Party which holds the CERs in its registry, where this obligation has not been agreed by the host Party

Failure to submit *Verification Report* within 5 years after the last report

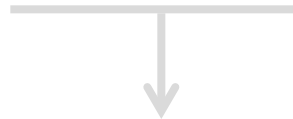


Cancel all CERs:

1. Held in the CDM Registry



And, within 1 year, all CERs issued to the project proponent ...



M&Ps – Provisions



- **Financial provisions**
 - Project participants establish financial provision ahead of project proceeding
 - Host party agrees to the financial provision
 - ▶ Appears to provide the flexibility to choose the most appropriate instruments
- **CER Reserve Account**
 - 5% of issued CERs held in reserve account for the purpose of accounting for “net reversal of storage”
 - CERs released once the last certification report has been received, i.e. at least 20 years after crediting period

M&Ps – Project Closure



- CDM project closure when monitoring stops
- Monitoring stops when:
 - Not less than 20 years after last CDM crediting period
 - No seepage observed in previous 10 years
 - All available evidence from observations and modelling indicates CO₂ will be completely isolated from the atmosphere in the long-term
 - History matching of modelling and monitoring
 - Modelling confirms no future seepage expected
- Enables transfer of liability to host party
- Enables final certification report, which triggers release of CERs from Reserve Account to project participants

CCS in CDM



Work programme for 2012:

- UNFCCC work on CDM documents (Standards, Procedures, Guidelines, Forms)
- Transboundary CCS
- Global reserve of CERs
 - Submissions (by 5 March)
 - Consideration by SBSTA 36 (May, Bonn)
 - Draft decision to CMP8/COP18 (Dec, Qatar)

Significance of CCS M&Ps from Durban



- **Allows CCS to be CDM project activity and earn CERs**
- Create incentives / signal for CCS in developing countries
 - ▶ CDM key international mechanism supporting low-C technology in developing countries
- Legitimises CCS as valid technology for developing countries
- Establishes precedence-setting regulatory framework for CCS funded under international mechanisms



UNFCCC documents on CCS at
<http://cdm.unfccc.int/about/ccs/index.html>
and from Durban <http://unfccc.int/2860.php>

Thank you

Eleventh Annual Conference on Carbon Capture, Utilization & Sequestration

Government Policy /CCS/CCUS/Government Support

CCS in the Clean Development Mechanism

Tim Dixon, Greg Leamon, Paul Zakkour, Luke Warren

April 30 – May 3, 2012 • David L. Lawrence Convention Center • Pittsburgh, Pennsylvania
