

# A Status of Global Carbon Markets and Post-2012 Negotiations

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# Outline

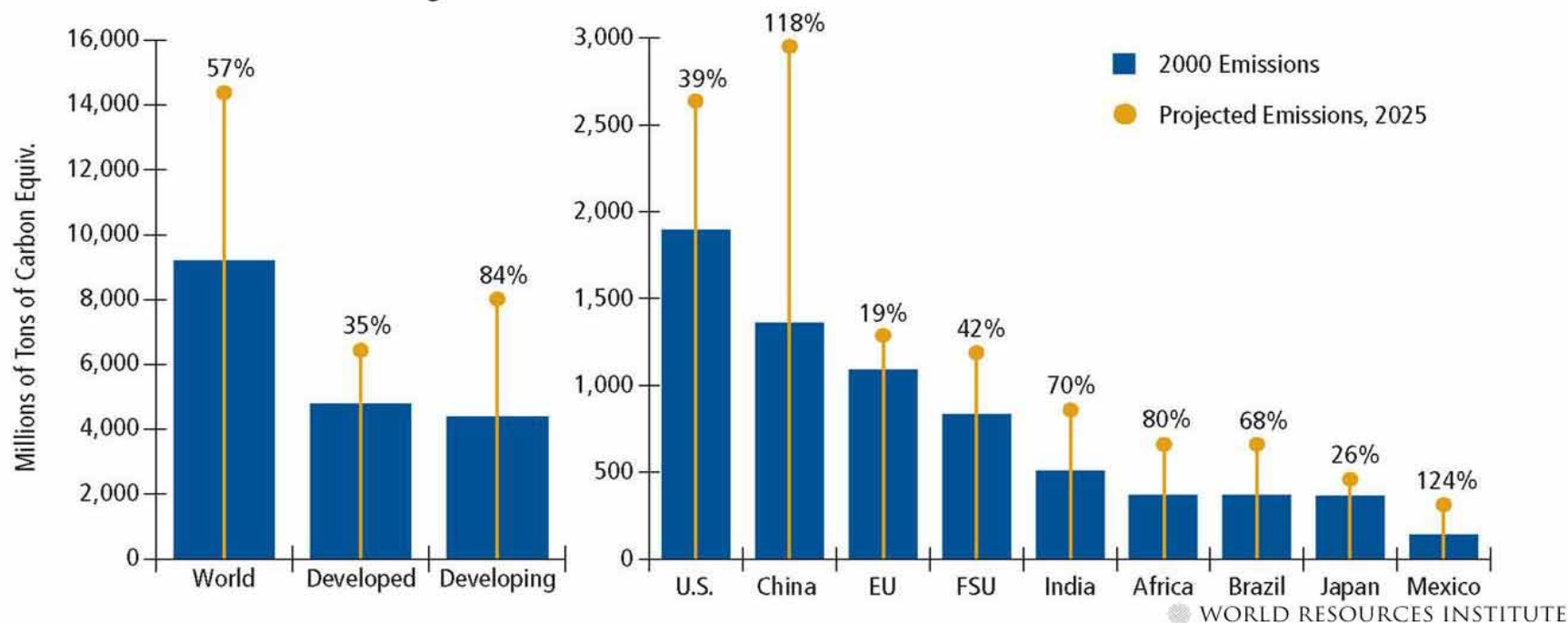
- The global carbon markets
- CDM
- Climate negotiations for a post-2012 agreement

# The mitigation challenge according to IPCC

- **Without action - global CO<sub>2</sub> emissions will grow between 40 and 110% between 2000 and 2030**
- **To stay below 2 degrees global average warming and avoid major damages:**
  - global CO<sub>2</sub> emissions should start **declining** by 2015 and
  - be reduced with 50-85% below 2000 level by 2050



# GHG Emissions Projections for 2025



- Largest emitters were not included in the 1st commitment period
- Developed and developing country emissions currently about equal

# Emission reductions required for stabilising climate with fair distribution of effort

Scenario category	Region	2020	2050
<b>A-450 ppm CO<sub>2</sub>-eq<sup>2</sup></b>	Annex I	<b>–25% to –40%</b>	–80% to –95%
	Non-Annex I	Substantial deviation from baseline in Latin America, Middle East, East Asia ( <b>–15% to –30% from BAU</b> )	Substantial deviation from baseline in all regions
<b>B-550 ppm CO<sub>2</sub>-eq</b>	Annex I	–10% to –30%	–40% to –90%
	Non-Annex I	Deviation from baseline in Latin America and Middle East, East Asia (0 to –20% from BAU)	Deviation from baseline in most regions, especially in Latin America and Middle East

# Global Carbon Market

- fragmented market

## Allowance market (cap and trade system)

- Emission allowances are defined by regulations at the international, national, regional or firm level - Kyoto-ET, EU-ETS, Domestic: UK, Japan, Canada, Korea. Firms: BP, Shell
- Linkage between EU ETS and project-based mechanisms

## Project-based (baseline and credit system)

- Emission reductions are created and traded through a given project or activity (JI and CDM)

## Voluntary market

- Individuals and companies account and trade their greenhouse gas emissions on a voluntary basis (carbon compensation and travel compensation schemes)
- Several companies expressed interest in buying project-based credits (CERs and ERUs)

Markets are likely to emerge over time as agreement widens

# Kyoto Protocol

## Emissions Reductions:

- 5.2% reduction of emissions from Annex 1 in 2008-12 compared to 1990
- 30% reduction compared to BAU

## Flexibility mechanisms:

- Clean Development Mechanism
- Joint Implementation
- Emissions trading

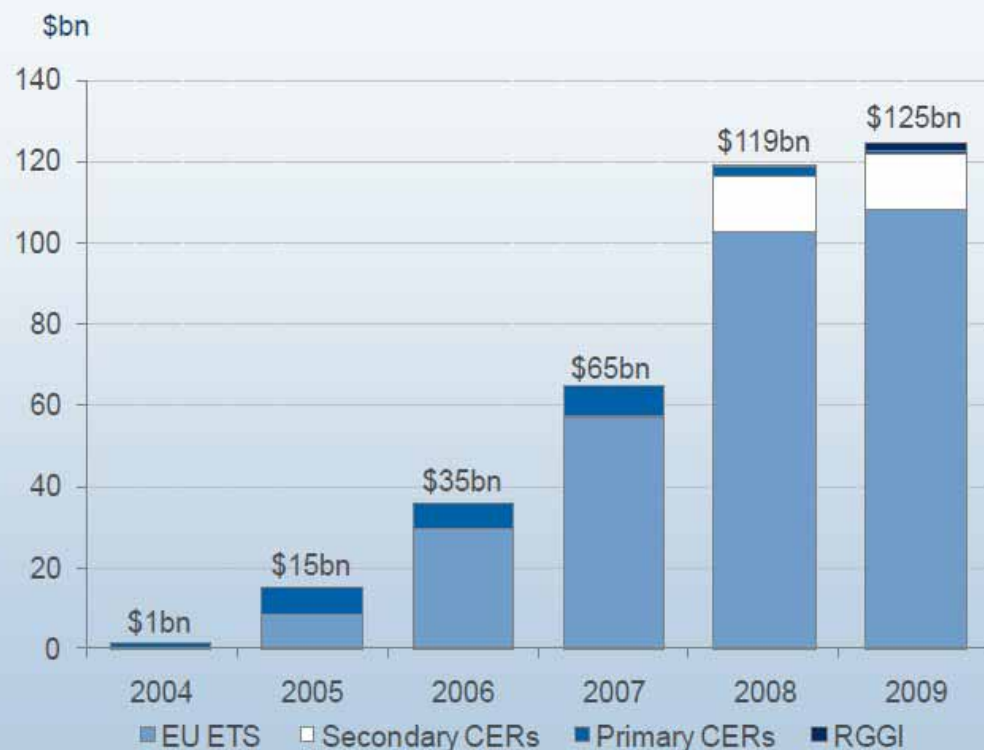
# The flexible mechanisms

Flexible mechanism	Executive body	Validator/Verifier	Name of units
Emission Trading	Compliance Committee		AAUs
Track 1 Joint Implementation	National Government	National Government	ERUs
Track 2 Joint Implementation	Supervisory Committee	Independent Entities	ERUs
CDM projects	Executive Board	Operational Entities	CERs



## The global carbon market remains dominated by EUAs...

Carbon market size

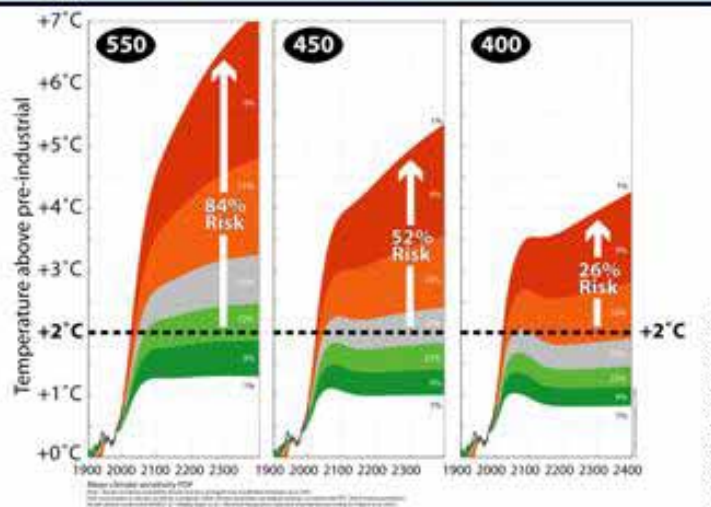


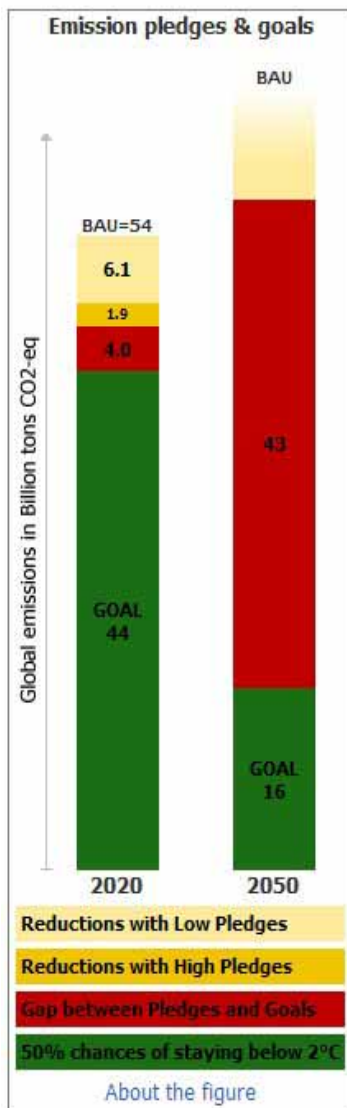
- Growth in the market slowed in 2009: the market grew just 5% from 2008 in terms of value compared to 83% from 2007-8
- A function of moderate traded prices as traded volumes increased by 96%, on the back of increased market churn across the EU ETS

Everybody agree that we should stay below 2 degrees



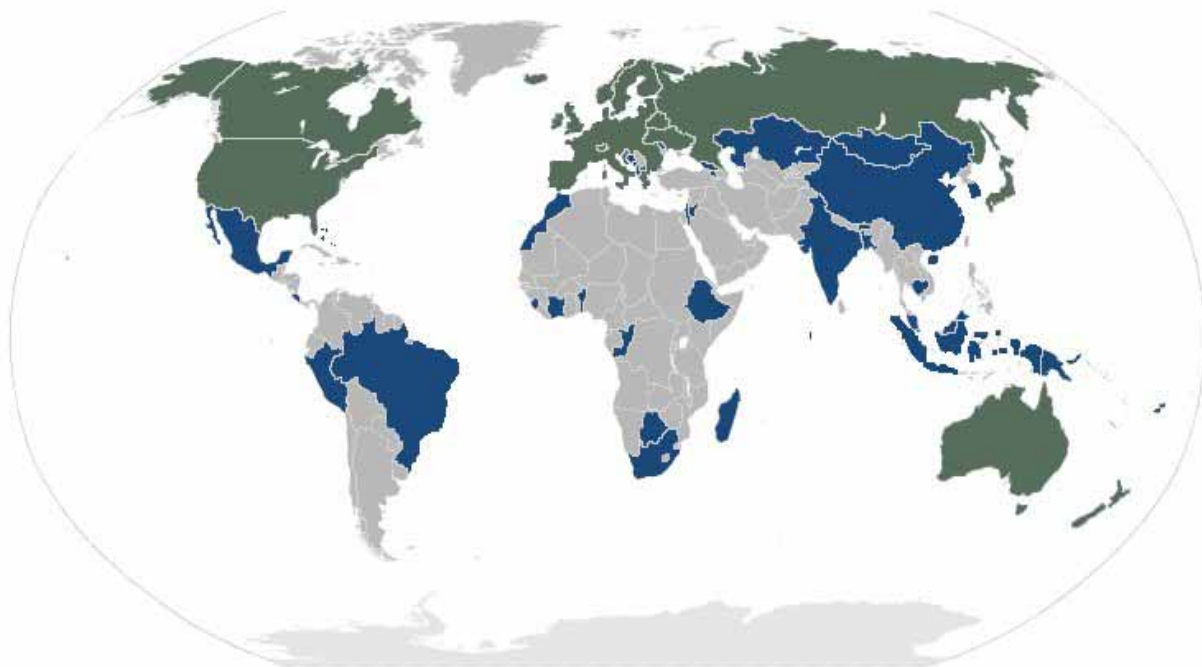
### The Risk to overshoot 2°C





## Welcome to the UNEP Climate Pledges Site

The site presents the current country pledges and the remaining gap for reaching global climate change mitigation goals. The site and graphics will be continuously updated with new pledges, mitigation commitments and information from country parties.



Countries with pledges	Annex I countries	Non Annex I countries
IPCC GHG reduction recommendation	25% - 40 % below 1990 in 2020	15 % - 30 % below 2020 BAU in 2020
With current pledges	12% - 17%	

# Clean Development Mechanism (CDM)

# CDM Basics

- **CDM allows Annex I countries meet part of their emission reduction requirements for first commitment period 2008-2012 at lower costs in non-Annex I countries than could be done domestically.**
- **Annex I countries are allowed to acquire Certified Emission Reductions (CERs) by implementing GHG mitigating CDM projects in non-Annex I countries.**
- **Selling CERs is an additional stream of cash inflow to the project, which improves project economics.**
- **ODA (Official Development Assistance) funds can not be used in CDM investments.**

**CDM projects shall support sustainable development in the host country**

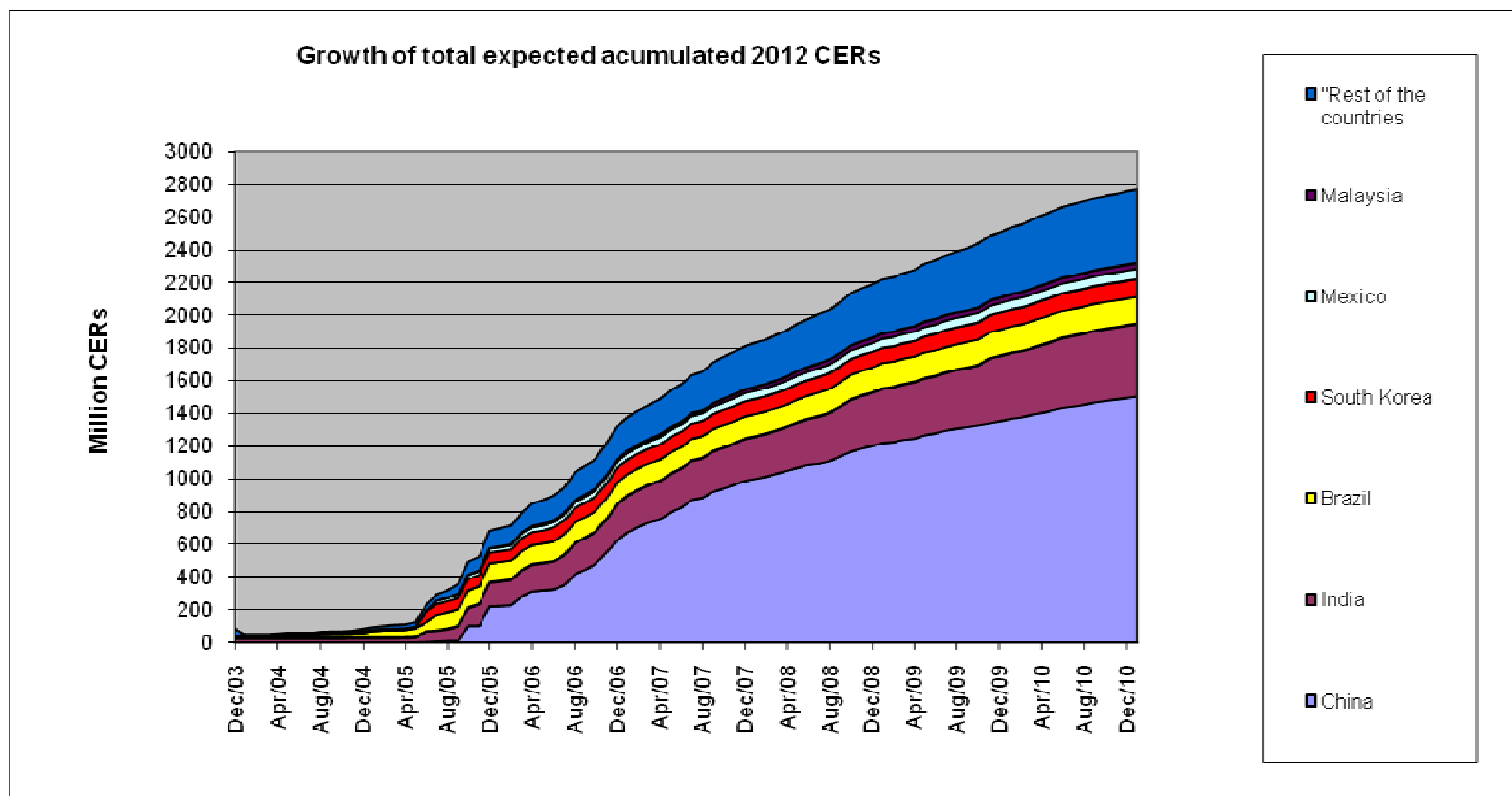
CDM is considered one of the major achievements of Kyoto

# Number of CDM projects

Status of CDM projects	Number
<b>At validation</b>	<b>2863</b>
Request for registration	64
Request for review	155
Correction requested	4
Under review	0
<b>Total in the process of registration</b>	<b>223</b>
Withdrawn	52
Rejected by EB	181
Validation negative by DOE	172
Validation terminated by DOE	829
Registered, no issuance of CERs	1844
Registered. CER issued	942
<b>Total registered</b>	<b>2786</b>
Total number of projects (incl. rejected & withdrawn)	7106

Source: UNEP Risoe Centre CDM Pipeline dated 1 February 2011

# Host countries of CDM projects

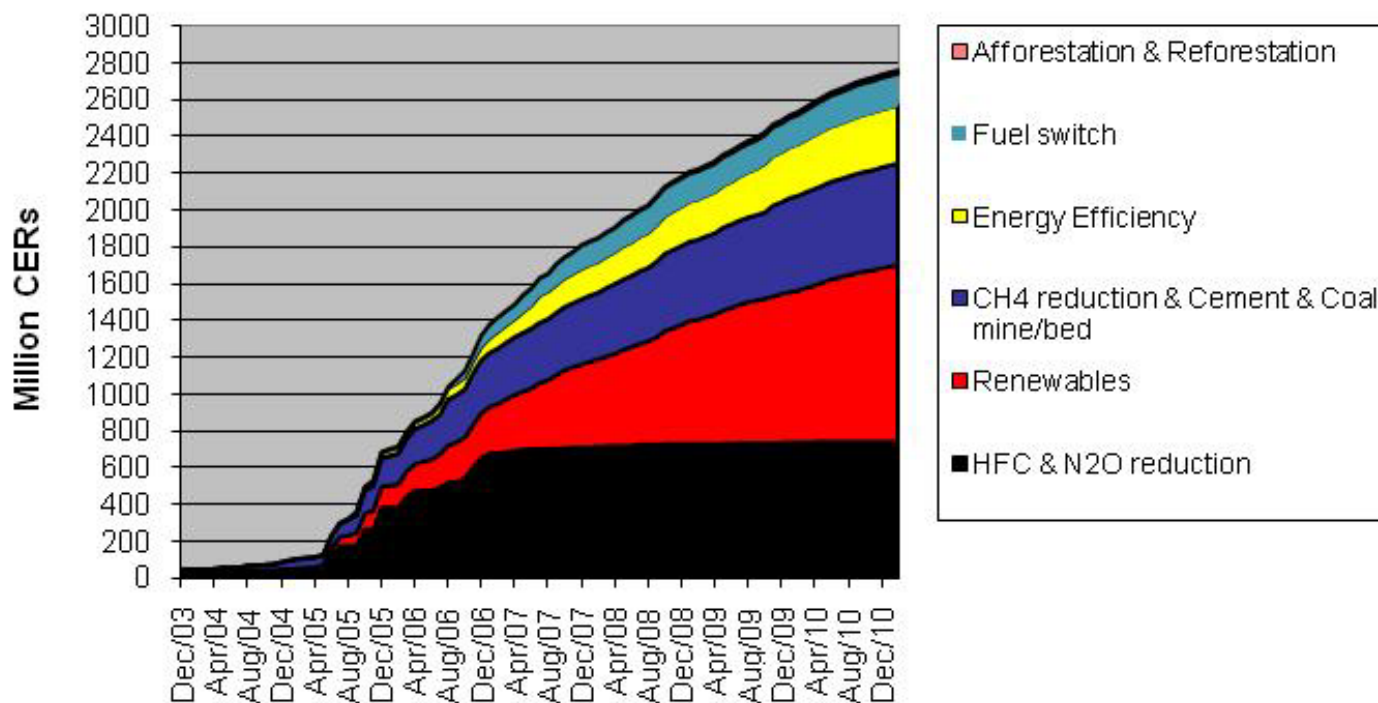


Source: UNEP Risoe Centre CDM Pipeline dated 1 February 2011



# The renewable energy category is rising fastest

Growth of total expected accumulated 2012 CERs





# Some regions are behind

			For all projects			Popu-	2012 CER
Total in the CDM Pipeline	Number of all projects		kCERs	2012 kCERs		lation	per cap.
Latin America	901	15.2%	88714	379565	13.8%	449	0.85
Asia & Pacific	4747	80.0%	651719	2203974	79.8%	3418	0.64
Europe and Central Asia	65	1.1%	15586	41418	1.5%	149	0.28
Africa	154	2.6%	30806	99624	3.6%	891	0.11
Middle-East	65	1.1%	10740	35608	1.3%	186	0.19
Less developed World	5932	100%	797565	2760188	100%	5093	0.54

# Boosting CDM in Africa

- The Nairobi Framework agreed upon at COP-12, 2006, by leading multilateral agencies is aimed at enabling developing countries – especially in Africa – to access carbon finance to stimulate SD
- A partnership between UNDP and UNEP is an integral part of the framework. Through capacity development and enhanced investment opportunities (e.g. the MDG Carbon Facility targeting low-income countries) CDM projects with high SD benefits are promoted.

# LDC countries host 1% of the projects and take 1% of the 2012 CERs

CDM Projects	Number	Number	2012 kCERs
<b>LDC Total</b>	<b>66</b>	<b>24</b>	<b>13281</b>
Bangladesh	4	2	1381
Bhutan	3	2	503
Cambodia	7	4	1240
Lao PDR	4	1	751
Nepal	6	3	1038
<b>LDC Asia &amp; Pacific</b>	<b>24</b>	<b>12</b>	<b>4912</b>
Cape Verde	1	0	340
Congo DR	5	1	1061
Equatorial Guinea	0	0	0
Ethiopia	1	1	179
Lesotho	1	0	79
Liberia	1	1	187
Madagascar	3	1	135
Mali	1	1	94
Mozambique	0	0	0
Rwanda	4	1	453
Senegal	4	1	786
Sudan	2	0	367
Tanzania	5	1	1742
Uganda	12	3	1635
Zambia	1	1	387
<b>LDC Afrika</b>	<b>41</b>	<b>12</b>	<b>7445</b>
Yemen	1	0	924
<b>LDC Middle East</b>	<b>1</b>	<b>0</b>	<b>924</b>

Projects rejected by DOEs or EB or withdrawn are not included.

# Programmatic CDM in Africa

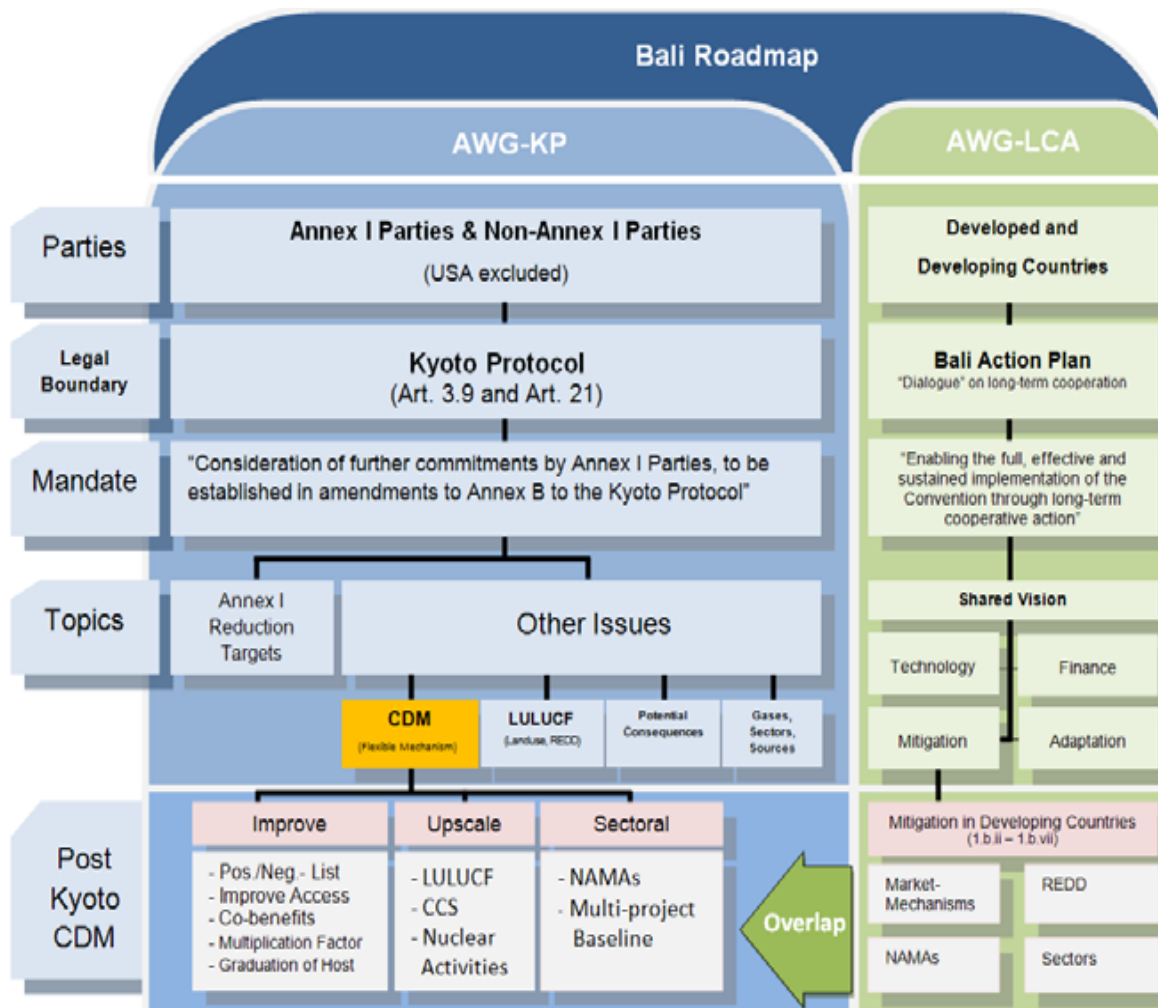
% comparison of regional distribution of pCDM vs CDM				
Region	pCDM	CDM	pCDM	CDM
Latin America	16%	15%	13	903
Asia & Pacific	60%	80%	48	4748
Europe & Central Asia	0%	1.1%	0	65
Africa	23%	2.6%	18	154
Middle-East	1%	1.1%	1	65
Total	100%	100%	80	5935

# Types of PoAs

Host country	PoAs
Bangladesh	1 Solar PV, 1 EE households stoves, 1 Households lighting, 1 Methane avoidance
Brasil	3 Methane avoidance, 1 Landfill gas
China	1 Agricultural irrigation, 5 Methane avoidance domestic manure, 1 Eff. electricity distribution, 2 Eff. lighting, 1
Egypt	1 Transport scrapping old vehicles
El Salvador	1 Household stoves
India	2 EE householdes lighting, 1 Biomass briquettes, 1 EE chemicals industry, 1 Eff. electricity distribution, 1 EE service eff. chillers, 1 landfill composting, 1 Solar water heating, 1 solar PV, 1 Methane avoidance
Guatamala	1 EE households stoves
Honduras	1 Hydro
Indonesia	1 Methane avoidance palm oil waste, 1 Mehtane avoidance composting, 1 Hydro run of river,
Kenya	1 EE households stoves
Malaysia	1 Methane avoidance waste water
Mexico	1 Households lighting, 1 EE households stoves, 1 New households
Morocco	1 Landfill gas
Nepal	1 Methane avoidance domestic manure
Nicaragua	1 Reforestation
Nigeria	2 Stoves
Pakistan	1 Domestic Manure
Peru	2 Fossil fuel switch
Philippines	1 Methane avoidance manure, 1 Household lighting, 1 landfill gas
Senegal	1 Households lighting
Singapore	2 EE service cooling, 1 EE household lighting
South Africa	4 Solar water heating, 1 EE households stoves, 1 EE service
South Korea	1 EE Food industry, 1 EE own generation, 1 EE household lighting, 1 Solar
Sri Lanka	1 Biomas energy
Tanzania	1 Solar lamps
Thailand	1 Methane avoidance manure
Togo	1 EE household stoves
Tunesia	1 Solar water heating
Uganda	1 Landfill composting
Vietnam	1 Solar water heating, 3 Hydro, 1 Methane avoidance domestic manure, 1 EE industry
Yemen	1 Eff. electricity distribution
Zambia	1 Stoves
East Africa	1 Stoves
Total	80

## Post-2012 negotiations

# The post-2012 negotiation structure and agenda



# Outcomes of COP-16 – overview

Progress made in the following areas:

- trust was restored in the UNFCCC-process
- Copenhagen pledges for targets, actions and finance (US\$ 30bn 2010-12 & 100bn/pa by 2020) now 'anchored' in the Cancun Agreements
- Technology mechanism
- REDD+
- Registry for NAMAs, procedures for MRV/ICA
- Green Climate Fund



# COP-16 outcomes - overview

## Issues unresolved:

- The future of the Kyoto Protocol disputed
- Legal form of BAP outcome undecided
- Developed country pledges are made bottom up, i.e. voluntary
- Gap between pledges and science defined needs:  
<http://www.unep.org/climatepledges/>
- Sources of finance for Green Climate Fund are unclear

# CDM improvements

## – COP-16 decision on guidance

- PoA additionality rules and simplified approaches
- Increased transparency of CDM Executive Board decisions
- Appeal mechanism to be explored for next session
- A number of DoEs approved for sectoral MRV
- Simplified modalities for small scale RE & EE projects
- Standardized baselines to be developed especially for applications in LDCs and SIDs
- Improved regional distribution, including capacity building and making operational a new loan scheme for projects in countries with less than 10 registered projects.

# The future of the CDM

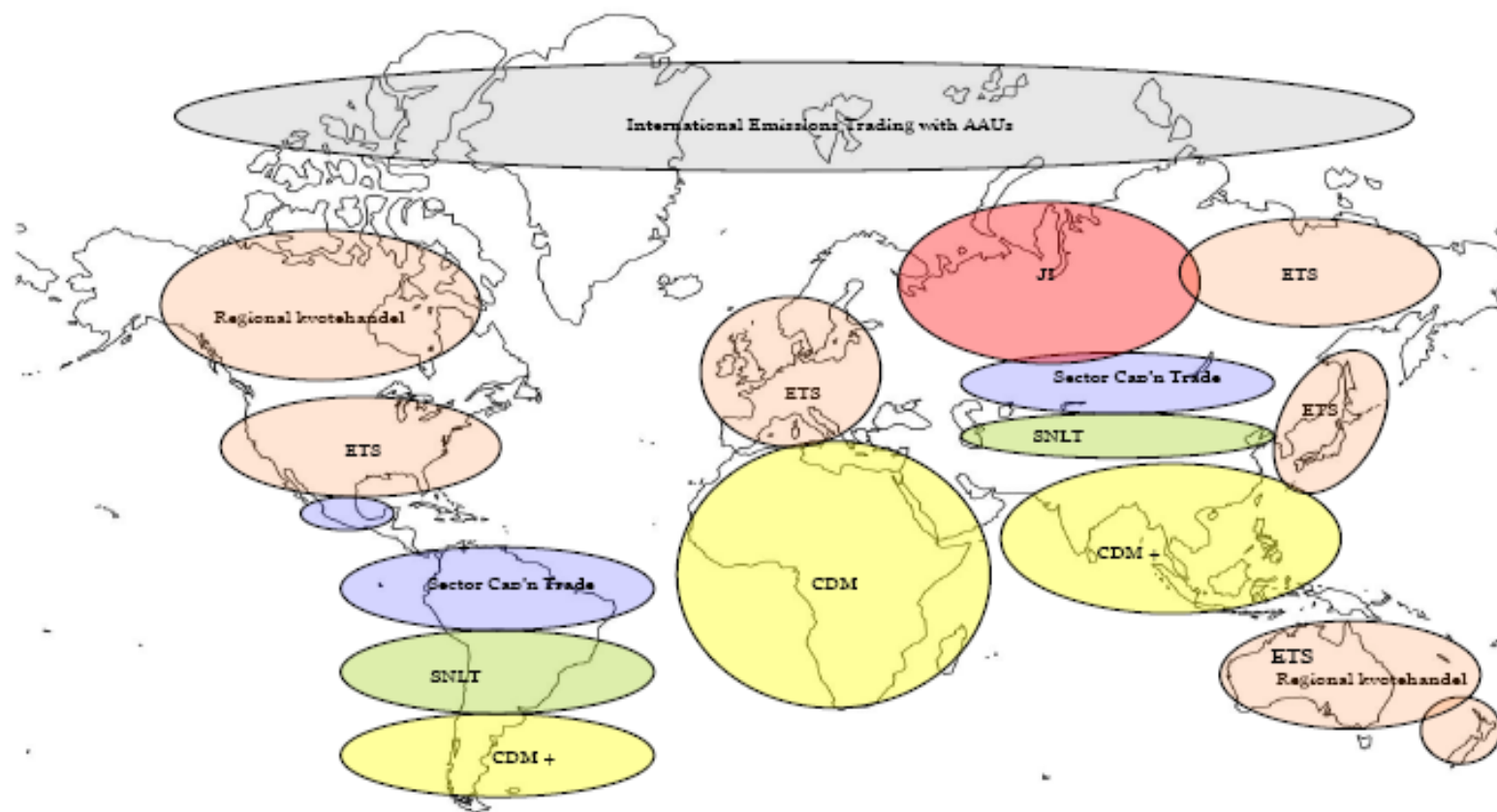
## KP outcomes:

- Recognition of the IPCC AR4th range of emission reductions by 25-40% below 1990 levels by 2020 and the call to Annex I Parties to raise the level of ambition with their pledges to meet this range
- Flexible mechanisms shall continue to be available
- CCS accepted as CDM activity provided issues are resolved

## EU market influence:

- Elimination of project-based CDM for major developing countries in key internationally competitive sectors
- CDM will remain an option for less developed countries and some smaller or less competitive sectors
- CDM investments will be affected by qualitative requirements eg. EU decision to restrict use of credits from HFC-23 & N<sub>2</sub>O adipic acid projects

# Differentiated global carbon markets



Source: Marie Christiansen, Ministry of Climate and Energy, Denmark, 2009

