



UNECE-FAO Timber Committee Market Discussions

Carbon Markets

Forest Products Service
FAO, Rome

14 Oct. 2009

Geneva

Forestry



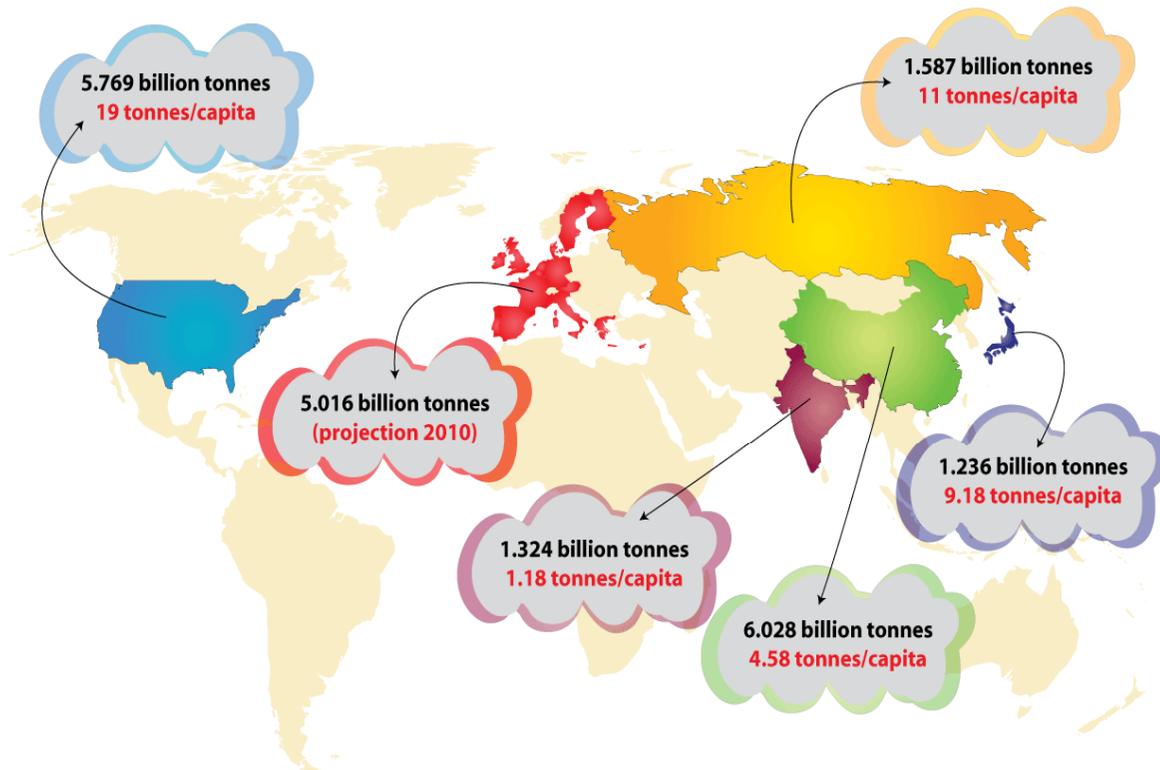
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Who is emitting GHGs?

TOP FIVE IN GLOBAL CO₂ EMISSIONS

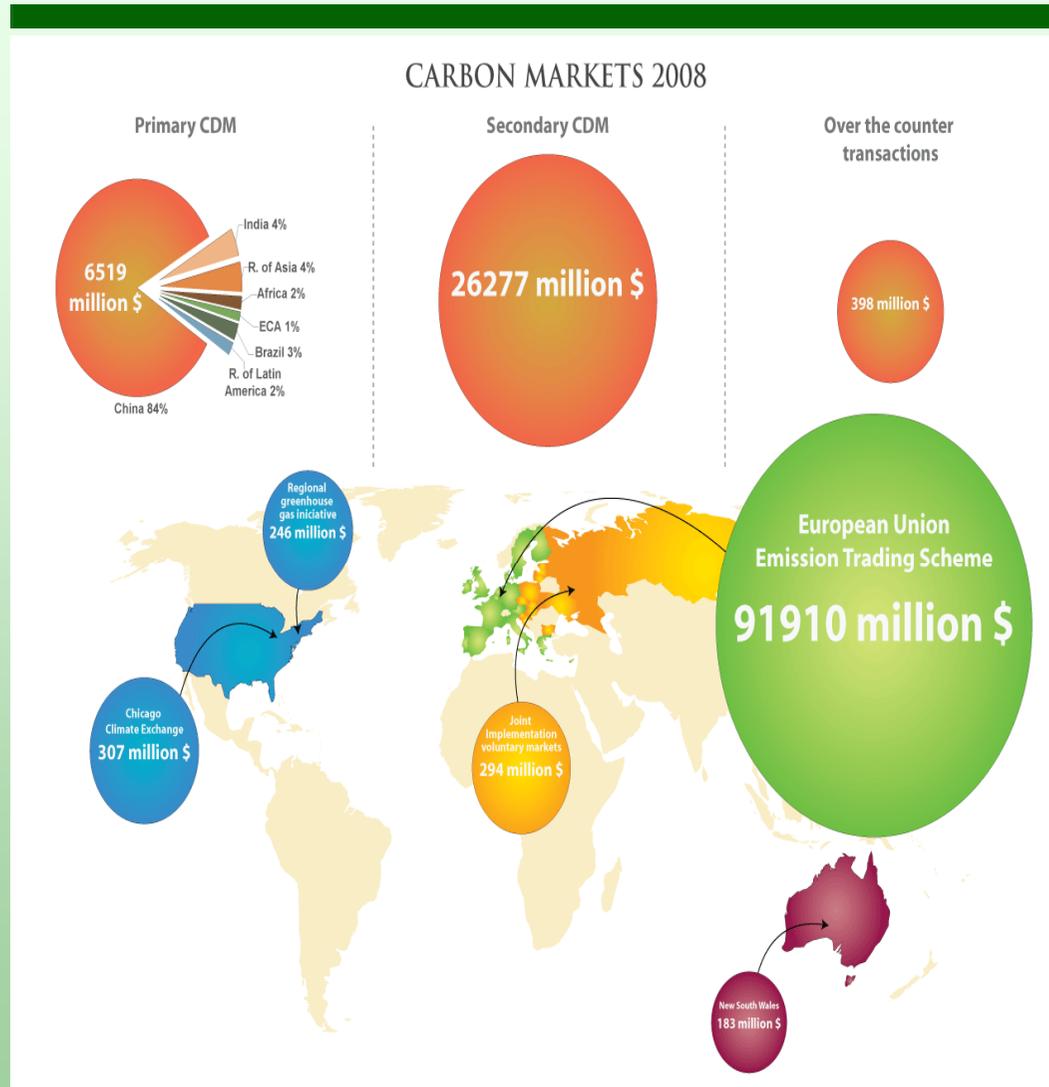


Deforestation and forest degradation account for 20% of global GHG emissions!

- Top 5 emitters make up 1/2 of the total emission
- Current economic crisis causes a significant decline of GHG emissions in the developed economies in 2009
- Developing economies increase emissions
- China has already surpassed the USA



What is the size of the carbon market?



**Global carbon market
\$126 billion in 2008**

**EU-Emission Trading
System (EU-ETS) is the
leader with \$92 billion –
73%**

**Clean Development
Mechanism (CDM): \$33
billion -26%**

**Voluntary markets:
\$ 705 million**

**Over the Counter-OTC
Chicago Climate
Exchange-CCX – <1%**



What is carbon markets dynamics?

Market type	2007		2008		
	Volume (million tons CO ₂ e)	Value (million \$)	Volume (million tons CO ₂ e)	Value (million \$)	
<u>Project-based transactions subtotal:</u>	<u>593</u>	<u>7 932</u>	<u>419</u>	<u>6 813</u>	
- Primary CDM	552	7 433	389	6 519	--
- Joint Implementation	41	499	20	294	--
<u>Voluntary markets subtotal:</u>	<u>65</u>	<u>335</u>	<u>123</u>	<u>705</u>	++
- Over the Counter Transactions	42	263	54	398	
- Chicago Climate Exchange	23	72	69	307	
<u>Secondary CDM</u>	<u>240</u>	<u>5 451</u>	<u>1 072</u>	<u>26 277</u>	+++
<u>Allowances markets subtotal:</u>	<u>2 085</u>	<u>49 289</u>	<u>3 207</u>	<u>92 550</u>	
- EU Emission Trading Scheme	2 060	49 065	3 093	91 910	+++
- New South Wales (Australia)	25	224	31	183	
- Regional Greenhouse Gas Initiative	n.a.	n.a.	65	246	
- Assigned Amount Units market	n.a.	n.a.	18	211	
Total carbon markets	2 984	63 007	4 811	126 345	

Primary CDM & Joint Implementation (JI) markets declined

Voluntary market doubled but is a small niche

Market growth came from EU-ETS and Secondary CDM markets





Where and how the carbon is traded?

There are several trading platforms

- **Compliance (UN regulatory) markets – based on Kyoto Protocol:**
 - **Clean Development Mechanism (CDM) implies project-based emission reductions in developing countries, generates Certified Emission Reductions (CERs) for bilateral direct trading and exchanges**
 - **Joint Implementation mechanism (JI) generates Emission Reduction Units (ERUs) for transferring emission permits between industrialized countries and countries in transition**



UN is developing new Trading Platforms:

Reduced Emissions from Deforestation and Forest Degradation (REDD) is under construction

- The problem is that commodity is not defined so far
- Current REDD credits relate to either Voluntary Carbon Standard credits (VCS) or to a very broad definition of emission reductions. Later they can be translated into REDD commodity in post-2012 market

World Bank's Forest Carbon Partnership Facility

designed Carbon Finance Mechanism to speed up REDD payments in pilot countries





Voluntary markets include Climate Exchanges

European Climate Exchange (ECX) has since 2005 traded carbon emissions in Europe and internationally using EU Allowances (EUAs) and Certified Emission Reductions (CERs)

Chicago Climate Exchange (CCX) operates cap and trade system in North America for all six greenhouse gases. Global affiliates include Mexico, Canada, China, Australia. After 2010 it will be overtaken by national trading system.

Other Climate Exchanges include:

- BlueNext (Paris), Chicago Climate Futures Exchange, Envex (Australia), Montréal (Canada), Tianjin (China) and India Climate Exchange (still in developing phase)



Voluntary market platforms

OTC (Over the Counter) is an alternative voluntary platform

- **Trade is arranged by brokers on the Voluntary Carbon Units (VCU) based on the Voluntary Carbon Standard (VCS)**



What about the forest carbon platforms?

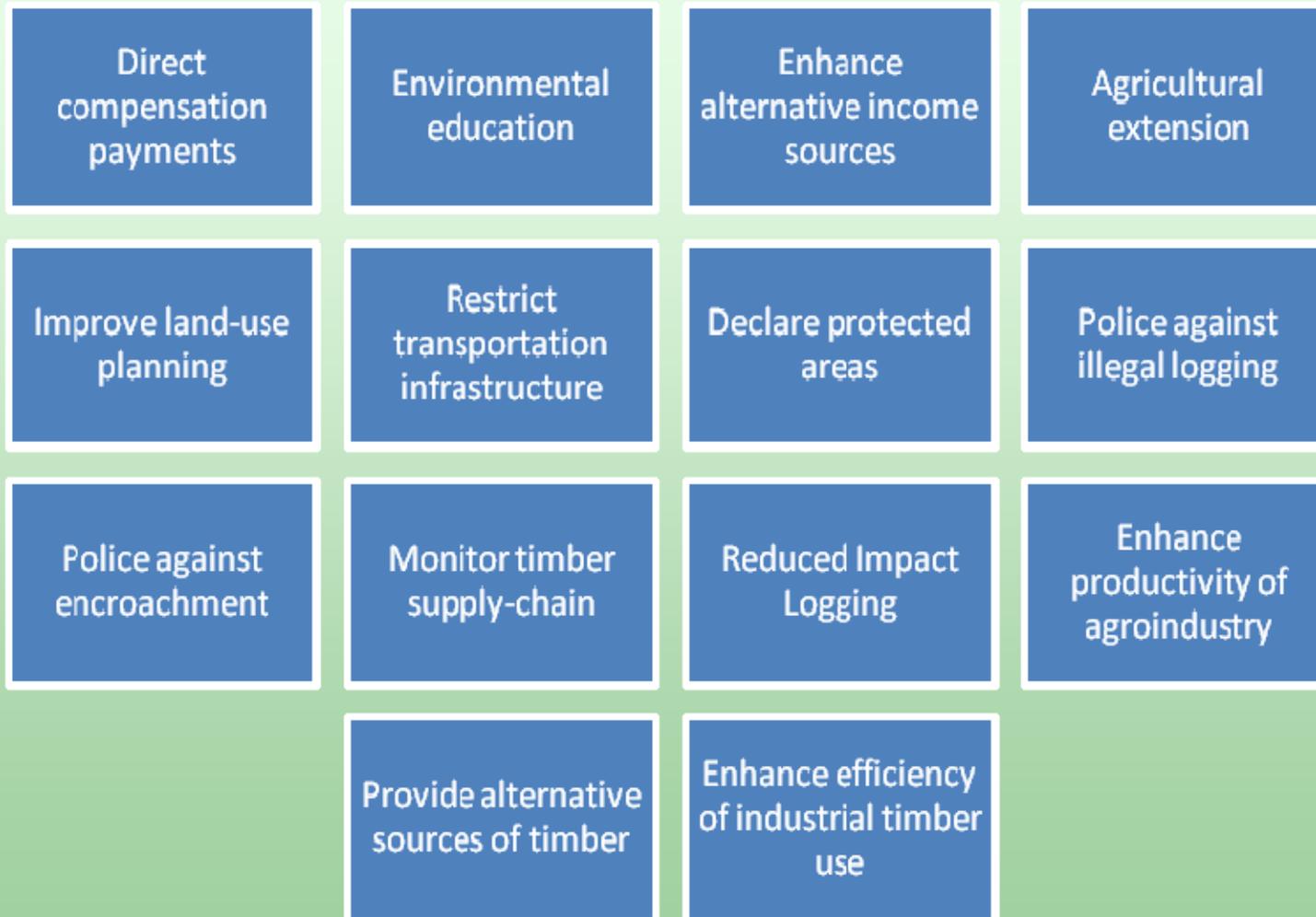
- **EU-ETS has kept forest carbon out, in spite of political pressure to include it in the trade framework**
- **US cap-and-trade scheme promises future for the forest carbon:**
 - **foreign land-use and forestry offsets will be encouraged**
 - **total international offset quota is up to 2.0 billion tons per annum**
 - **Trade is mostly in the developing countries**
- **REDD is a promising platform for:**
 - **avoided deforestation and land-use change**
 - **sustainable Forest Management (SFM)**
 - **afforestation/reforestation (AR) – planting and restoration**



What types of Forest Carbon Projects can we see in the future?



Types of REDD Projects may include:





Types of SFM Projects may include

Improve forest productivity

Reduced impact logging

Extend rotation age

Timber market restrictions

Forest law-enforcement

Protected area policing

Declaration of protected areas





Types of AR Projects may include

Large-scale,
industrial
plantations

Biomass plantations
for energy
production

Jatropha curcas
plantations

Enrichment planting

Small-scale
plantations by
landowners

Woodlots on
communal land

Assisted natural
regeneration for
ecosystem
restoration

Rehabilitation of
degraded areas

Introduction of
trees into existing
agricultural systems

Restoration of
marginal areas with
native species

Fruit orchards





The following factors will shape the forest carbon markets in the future:

Factors in immediate future	Main challenges
Copenhagen COP-15 is expected to include the forest carbon into the global climate change solution after 2012	But likelihood of a comprehensive agreement for the post-2012 regime is not that high
US cap-and-trade system 2012 is expected to reach \$ 300 billion per year by 2018	But the bill yet should pass through the legislature
REDD is expected to become an over-arching platform for the forest-based carbon, with tens of billions of USD potential	Monitoring and verification of avoided deforestation is difficult Definition of degradation is vague Local capacities are missing



The other factors :

- **Carbon markets are attractive for the banking system**
 - Forest carbon trade is an attractive business opportunity for large investment banks
 - Early players are lobbying portfolios for the forest carbon projects
- **Society should make choices on the use of the forest carbon**
 - Store carbon into the forest ecosystems
 - Use forest carbon for “green” energy
 - Store carbon in wood products



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- **THANK YOU!**