# New Market Mechanisms to Trade Terrestrial Carbon?

IATP – FERN side event

**New Market Mechanisms, Land-based offsets and Alternatives: Critical Considerations**

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**FERN**

The campaigning NGO for greater environmental and social justice, with a focus on forests and forest peoples rights in the policies and practices of the EU

## Notes on previous slide:

Terrestrial carbon (forest and agriculture sector) – is considered as one of the sectors to implement new market based mechanisms to raise funds for implementation of mitigation action.

Presentation will take a critical look at some of the common assumptions underpinning the argument that carbon trading / new market based mechanisms would be delivering the funds considered to be needed.

REDD and, increasingly, agriculture, are two sectors where new market based mechanisms are considered to leverage private capital. The debate rests on the assumptions that:

(1) large amounts of (private) capital are needed to reduce emissions from deforestation and degradation;

(2) carbon trading is the right mechanism for mobilising this private capital.

The belief is that if standing forests and the carbon in agricultural soils can be commodified into a tradeable (or fungible) commodity ("forest carbon") and traded (on derivatives markets***!?***), large capital flows will be directed to forest-protection schemes.

Notes on previous slide:

Assumption that somewhere between USD 15-30bn annually will be needed to half deforestation by 2020; much controversy around the assumptions underpinning these figures which are based largely on opportunity cost models which have been widely criticised for their inability to deliver reliable estimates of the likely financial costs associated with halting deforestation; Will not dwell on assumption (1) other than to say that – it deserves closer scrutiny and RRI, Rainforest Foundation UK as well as Greenpeace have all provided assessments that question whether these estimates are really credible. [add links to respective studies]

Further assumption in the debate that public coffers are empty, that these sums of money will not be generated from public sources and that therefore, private capital will be needed.

A recent Friends of the Earth report showes that there are many different forms of private capital and many different ways of mobilising such private capital for climate finance.

Worth mentioning though that in the REDD finance debate there seems to be a widespread believe that private capital can only be mobilised by way of trading. Not so….

# Trading Carbon: The Three Parts

1 Trading between countries or companies with a limit on their emissions: ***Cap-and-trade*** (e.g EU Emissions Trading Scheme): Permits equivalent to the limit (the 'cap') are given to the participants and they can trade them among themselves.

2 Trading between an entity without a limit on emissions and an entity with an emissions limit (many middlemen involved!). The limit can be voluntary or mandatory: ***Carbon offsetting***

3 The *trading of* ***carbon derivatives*** links permit and offset systems and has brought in many new interest groups, transformed the way carbon is traded to highly monopolised carbon derivatives operations run by investment banks, energy utilities and many who were involved in previous speculative bubbles (remember Enron?) and the financial meltdown of 2007-2008.

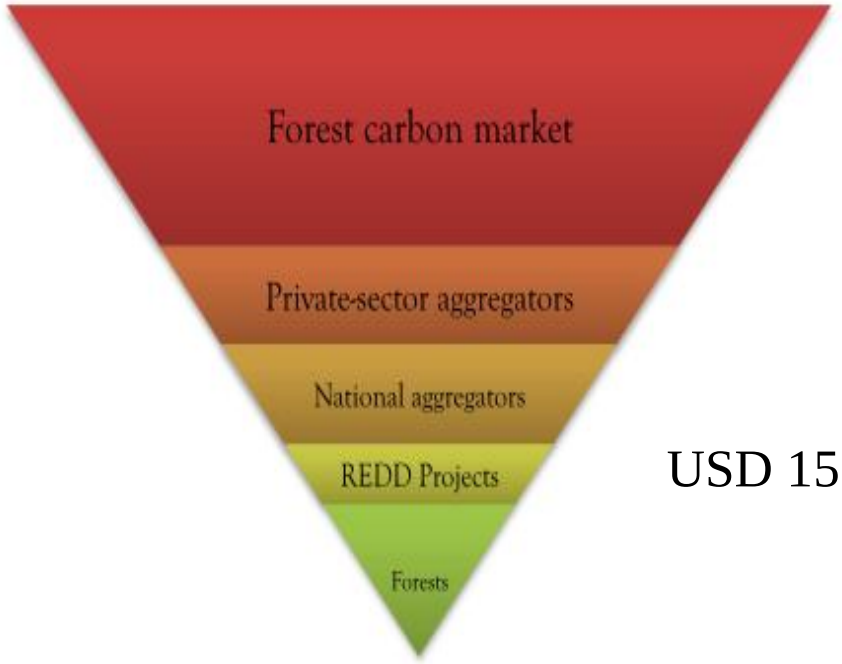
Notes on previous slide:

Before moving onto a closer look at the second assumption, a brief recap of the different building blocks of carbon trading and 'new market based mechanisms'. First two aspects much discussed, much critiqued and the implications and different arguments are well understood.

Not so with the third aspect – ***the mechanics of the actual trading***. Yet, that is a crucial part of the schemes and its rules, procedures and habits will have a big influence on the overall scheme [as the EU found out the hard way when millions of permits and credits were stolen from registry accounts and spot trading in these allowances ground to a halt and all EUETS registries had to be shut down for several weeks earlier this year].

Indication that this aspect is not yet widely understood is that many people argue that a forest carbon market can deliver the funds needed without relying on derivatives trading. How that would happen - I have not heard explained. So, while there may be variations to existing carbon trading in the 'new' variants, I will base the rest of the presentation on the assumption that these new forest carbon markets would share by-and-large the characteristics of current carbon trading and of the trading in commodities and financial products – because the actors involved in and designing these new carbon markets are the same actors than in these other carbon, commodities and financial products markets.

# Trade volume versus funds that will be available to action at country / regional / local / community level




*Derivative markets on CDM & JI credits in 2009:* ***USD 17mio***

*Value the credits generated at first point of sale:* ***USD 3 mio***

USD 15-30bn annually needed at this level

Source: The Munden Project (2011): REDD and Forest Carbon. Market-Based Critique and Recommendations. Pg.6 www.mundenproject.com/forestcarbonreport2.pdf

## Notes on previous slide:

Analysis presented is based in part on research done by The Munden Project, a financial services company. The full report is available here
http://www.mundenproject.com/forestcarbonreport2.pdf

If USD 15-30 bn are indeed needed annually for action to halve deforestation by 2020, then the overall volume and value of the forest carbon market would have to be many times bigger in order to generate that amount at the level where it is needed to pay for action.
The primary-secondary / derivatives trading structure is not a choice. It is inherent to REDD's design: The people generating the asset are neither qualified nor inclined to trade their assets on the kinds of markets that would emerge if the billions said to be ***needed on the ground*** are to be raised from carbon trading. Without that sort of secondary trading structure – and all that comes with it – where would be the incentive for private capital to invest ***at that scale***!?!? Where would their profits come from if not from the secondary trading? Just a one-off primary trade and then the forest carbon credit would be retired and never traded again!? Don't think so.

Value carbon market 2010: USD 144 bn
Value voluntary market 2010: USD 425mio (estimate as much OTC) – equiv. to 130 mtCO2e, of which 28mtCO2e from land based projects
*Derivative markets on CDM & JI credits in 2009: USD 17mio over five times the value the credits generated at first point of sale (USD3 mio).*

# Do minimum requirements for accuracy and reliability of data match?

| Grade | Minimum test weight per bushel | Max heat damaged kernels | Max total damaged kernels | Max broken and foreign material | Price |
|---|---|---|---|---|---|
| #1 | 56.0 | 0.1 % | 3.0 % | 2.0 % | Contract + $0.015/bushel |
| #2 | 54.0 | 0.2 % | 5.0 % | 3.0 % | Contract |
| #3 | 52.0 | 0.5 % | 7.0 % | 4.0 % | Contract - $0.015/bushel |

Source: Source: The Munden Project (2011): REDD and Forest Carbon. Market-Based Critique and Recommendations. Pg.6 www.mundenproject.com/forestcarbonreport2.pdf

• differences between grades are quite narrow, but there is a standardized price adjustment associated with each.. It reflects the sensitivity – ***true across almost all financial markets*** – that traders have to ***even slight changes in the underlying asset's quality or amount.***

## Notes on previous slide:

How does the accuracy and reliability  in quantification of forest carbon compare with financial industry standards for commodities trading or trading in financial products regularly traded on financial markets?

Yellow corn is defined by the United States government as “corn that is yellow-kerneled and contains not more than 5.0 percent of corn of other colors. Yellow kernels of corn with a slight tinge of red are considered Yellow corn.”
http://archive.gipsa.usda.gov/reference-library/standards/810corn.pdf

Corn that does not meet that standard is not traded on these corn exchanges.

# Do minimum requirements for accuracy and reliability of data match?

| | Forest Area 2000 $10^6$ ha<br>Country Statistics | Forest Area 2000 $10^6$ ha<br>Remote Sensing |
|---|---|---|
| Asia | 289 | 224 |
| Africa | 622 | 484 |
| Latin America | 892 | 767 |
| Total | 1803 | 1475 |

29% gap ?!

Notes on previous slide:

Even on an area basis the uncertainty ranges of forest data are significant. For carbon, they will be even bigger, and the use of default figures at least for some carbon pools is widespread. Same applies to uncertainty ranges at project level and 30% is definitively at the low end of the range!

# Do minimum requirements for accuracy and reliability of data match?

| Location | Brazil | Mexico | Indonesia | Republic of Congo | Republic of Guinea | Madagascar |
|---|---|---|---|---|---|---|
| Tier 1 default | 150 | 65 | 175 | 155 | 155 | 155 |
| Plot measurements | 218 | 49 | 212 | 277 | 209 | 148 |
| Error | 45.33% | 24.61% | 21.14% | 78.71% | 34.84% | 4.52% |

Source: Waggoner P. Forest inventories: discrepancies and uncertainties. Discussion Paper 09–29. Resources for the Future, Washington, DC. 2009.

*"Unfortunately, the supply process for forest carbon comes nowhere close to an acceptably predictable level."*

The Munden Project 'REDD and Forest Carbon', page 22

Notes on previous slide:

IPCC default values and compared with some ground-truthing studies for different rainforest countries. Same applies to uncertainty ranges at project level!

And in case, anyone wonders whether things would look much better of tier 3 data were used [assuming it were consistently available – which is NOT the case by a long shot]: *"Tier 3 approach for biomass carbon stock change estimation allows for a variety of methods, including process- based models. Implementation may differ from one country to another, due to differences in inventory methods, forest conditions and activity data. Transparent documentation of the validity and completeness of the data, assumptions, equations and models used is therefore a critical issue at Tier 3"*

2006 IPCC Guidelines for National Greenhouse Gas Inventories

# Do minimum requirements for accuracy and reliability of data match?

- Quantifying an ecosystem is by nature more challenging than judging the colour of kernels on an ear of corn.
- That complexity in and by itself is not an issue ; it does become an issue if one's dealing with A COMPLEX ASSET WITH UNCERTAIN STANDARDS:

"*We compared outcomes of seven proposed baseline approaches as a function of country circumstances, using a retrospective analysis of FAO-FRA data on forest carbon emissions from deforestation. Depending upon the baseline approach used, the total credited emissions avoided ranged over two orders of magnitude* ***for the same quantity of actual emissions reductions*** ."

Notes on previous slide:

Cited in: Griscom B, Shoch D, Stanley B, Cortez R, Virgilio N: Sensitivity of amount and distribution of tropical forest carbon credits
depending on baseline rules. Environ Sci Policy 2009, 12:897-911.

Do minimum requirements for accuracy and reliability of data match?

*The Munden Project's answer is a clear and unequivocal 'no':*

***"Forest carbon trading is unworkable as currently constructed"***

# Forest Carbon Trading – the next paradise for fraudsters?

*"You're obtaining not a physical entity or asset but a piece of paper. […] In effect, you could be falsifying ownership in something you can see in order to sell something that you can't. And then inserting that into the carbon markets and selling it to people."* Peter Younger of Interpol

- VAT 'missing traders' fraud in EUETS permits: €5 billion lost to treasuries
- Hacking into EUETS registries: €1.5 mio damage, mainly to small companies
- Theft of EUETS permits and offset credits out of registry accounts linked to the EUETS
- Point Carbon survey *"obtained some eyebrow-raising findings on the level of corruption, fraud or embezzlement in the CDM"*
- Largest auditing companies involved in CDM offset assessment faces court case over forgery allegations in voluntary offset market: Det Norske Veritas

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Notes on previous slide:

Channelling the large sums thought to be required to halt forest loss without too much loss will be a challenge irrespective of the funding source given that, with few exceptions, the countries who rank highest in priority when it comes to halting deforestation are also among the highest ranking in many corruption indices – and within those countries, the forestry sector is often considered to be among the most corrupt [reference Probe International, Transparency International, CIFOR reports Indonesia and Cameroon, REDD Monitor article]. In this context, it would seem important to consider risk of corruption in the choice of possible financing sources. Experience to date suggests that carbon trading would be ranking high on such a corruption risk list.

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