

Overview of compliance driven carbon markets

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Overview of the compliance driven and regulated carbon markets

Carbon Markets

Kyoto Protocol

- The compliance driven market
 - Clean Development Mechanism
 - Joint Implementation
 - Emission Trading
- Problems in the systems

Carbon Markets

Regulated Kyoto
compliant
market

Kyoto Protocol Markets

- 3 market based mechanisms: emissions trading, the clean development mechanism (CDM) and joint implementation (JI)

European Union Emission Trading Scheme

- largest GHG trading scheme (25 of 27 EU member states), launched Jan 1, 2005
 - created in conjunction with Kyoto Protocol
- only mandatory carbon trading program

Regulated markets
(outside of Kyoto)

Regional Greenhouse Gas Initiative (RGGI)

- 9 northeastern US states, launches Jan 1, 2009
- focus on electricity generation sector

New South Wales Greenhouse Gas Reduction Scheme (GGAS)

- one state in Australia, commenced on 1 January 2003

Voluntary markets

The Chicago Climate Exchange (CCX)

Voluntary but legally-binding trading system.

“Bilateral deals”

One-to-one trading system where the sellers and buyers of the carbon credits do business directly with each other instead of using a formal market system.

Government Voluntary Purchasing Programs

Kyoto Protocol

The Kyoto Protocol is an international agreement that outlines how 181 countries have agreed to reduce greenhouse gas emissions. (Source: [UNFCCC](#))

Thirty-seven (37) industrialized countries have binding emission reduction targets to be achieved between 2008- 2012. The detailed rules for implementation of the Protocol were adopted at the 7th session of the Conference of the Parties (COP7) in Marrakesh in 2001 and are called the “Marrakesh Accords.”

Kyoto – compliant Markets

Rules of implementation

To achieve targets set under the Kyoto Protocol the Annex I parties must meet their targets primarily through national measures, but can augment their domestic emission reductions through three market-based mechanisms.

Means of achievement

These three market based mechanisms are together known as the “flexibility mechanisms”:

1. Joint Implementation or JI (joint projects between developed countries)
2. Clean Development Mechanism or CDM (joint projects between developed and developing countries)
3. Emissions Trading, known as “the carbon market” (exchange of emission credits)

Kyoto-compliant Markets

Flexibility mechanisms rules

Supplementary requirement: the compliance with the emissions targets must rely on domestic reductions and not only in the purchase of carbon credits from other nations. The EU ETS has adopted this principle.

Additionality criteria: it is required that JI and CDM projects lead to emission reductions in addition to those that would have occurred in the absence of the project. Carbon credits are calculated against a baseline scenario.

Kyoto – compliant Markets

Joint Implementation

How does it work

Article 6 of the Kyoto Protocol allows credits (emission reduction unit, ERU) from emissions reduction projects to be transferred between Annex I parties. Joint Implementation is a flexible and cost-effective means of fulfilling Kyoto commitments.

- ERUs are only awarded for Joint Implementation projects that produce emissions reductions that are “... additional to any that would otherwise occur”.
- Annex I parties can transfer or acquire ERUs from Joint Implementation projects that involve sink enhancement activities.
- Annex I parties may only rely on Joint Implementation credits to meet their targets to the extent that they are “supplemental to domestic actions”.

Example

A German company invests in an emissions reduction project in Russia (e.g. retrofitting a coal-fired power plant to burn natural gas) then the credits for the emissions avoided can be allocated to the German company.

Kyoto-compliant Markets

Clean Development Mechanism (CDM)

How does it work

Article 12 of the Kyoto Protocol grants Annex I parties the right to generate or purchase certified emission reductions (CERs) from projects undertaken by them within non-Annex I countries which can be counted toward meeting Kyoto targets.

- In exchange, developing country parties will have access to resources and technology to assist in development of their economies in a sustainable manner.
- CERs are only awarded for CDM projects that produce emissions reductions that are “... additional to any that would otherwise occur”.
- Projects must qualify through a rigorous and public registration and issuance process.
- Public funding of CDM projects must not be the result of diversion of official development assistance.

Example

Britain invests in a rural electrification project using solar panels in Morocco and can claim the resulting CERs

Kyoto-compliant Markets

Emissions Trading

How does it work

Article 17 of the Kyoto Protocol allows countries with emission units to spare (emissions that are permitted but not used) to sell this excess capacity to countries that are beyond their targets.

- Various emission units can be traded – although all units traded are equivalent to one tonne of CO₂.
- Tradable units include emission reduction units (ERU) under Joint Implementation, certified emission reduction units (CER) under Clean Development Mechanism, and removal units (RMU) which involves a land use change such as reforestation.
- Trading for compliance in the Kyoto Protocol is only valid in regulated markets.

Kyoto-compliant Markets

Project types

CDM projects: energy efficiency, renewable energy and fuel switching projects accounted for 64% of the market share in 2007 (against 33% in 2006 and 14% in 2005).

JI projects: methane abatement projects accounted for 47% of the market share in 2007, followed by clean energy projects with 37% and N₂O reduction projects with 23%.

Source: World Bank, State and Trends of the Carbon Market 2008

Kyoto-compliant Markets

Some flaws attributed to regulated markets' mechanisms

CDM has been accused of subsidizing hydropower projects which do not meet the additionality criteria while harming the environment and populations. Barbara Haya's report “Failed Mechanism: how the CDM is subsidizing hydro developers and harming the Kyoto Protocol”, released on December 2, 2007, available at www.internationalrivers.org/node/2470.

CDM has also been accused of prolonging industrialized countries' excessive pollution: for instance a company placed in a country under the EU ETS receives a number of allowances from the government and can emit in addition a certain percentage more through CDM credits.

CDM has contributed with limited benefits to non-Annex I countries: minimum investment in capacity building, inconsequential transfer of technology, and no significant contribution to change unsustainable patterns of consumption and production.