

Rapidly Expanding Domestic Carbon Markets can help Attract Investment in REDD+

by

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Abstract

The ability of the national, subnational and regional carbon markets to maintain a healthy demand-supply balance, and the resulting carbon price stability, at a time when the mandatory Kyoto carbon market has suffered a fatal supply overhang and prolonged price collapse, has focussed attention on the importance of these markets in attracting private investments in climate change mitigation. This paper argues that while all carbon markets have the potential of enhancing profitability and liquidity of private investments in forestry activities and reducing risks, the domestic markets are more likely to succeed where the Kyoto market failed as the controlling national or sub-national governments would have the requisite powers to set, and enforce, adequate caps on emissions and reasonable levels of social and ecological safeguards within their geographies and also respond to crisis that often arise in such markets. Lack of fungibility of carbon credits between these markets may not always prove a disability as when it insulates one market from the spiralling effects of the crises elsewhere due to falling prices and credibility issues. The domestic carbon markets would also have the advantage of low transaction costs and quick and more effective dispute settlement mechanisms on account of their simpler regulatory regimes, uniform legal and business environment and similar work culture across their geographical range. And these domestic markets can also serve smaller neighbouring countries which may not be able to establish their own for logistical reasons by permitting transactions in REDD+ credits generated there through negotiated agreements on monitoring, reporting and verification of both the processes and the outcomes of REDD+ activities.

Key words: Domestic carbon markets, REDD+, private investments

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Introduction

In the first three to four years of the agreement on REDD+ at the Bali Climate Summit of 2007 it was hoped that the Kyoto, or Kyoto like mandatory carbon market would play a major role in financing its implementation even though countries like Brazil and Indonesia were firmly opposed to it. The developed countries were understandably more in favour of financing through markets thus reducing the need for tax sourced public financing which places direct burden on the people and is therefore politically unattractive. Carbon markets, on the other hand, essentially put in place a 'user pays' mechanism with only the entities exceeding their emission caps required to pay. This makes them politically easier to manage relative to taxation that is less discriminating among the agents of emission and affects a larger number of people. The rush for CDM projects in China, India, Mexico, Korea and several other countries during the period 2007-2010, and the consequent flurry of activity in the Kyoto carbon market, suggested the possibility of either the extension of the same market to REDD+ or the creation of a separate but linked market with a degree of fungibility of credits across these markets. Later, however, interest in the mandatory Kyoto market came down as the carbon prices dropped sharply owing to worsening demand-supply imbalance and the resulting price volatility of carbon credits made private investments for generating such credits less attractive.

Oversupply of credits in Kyoto and linked markets

The oversupply of credits plagues all carbon markets but the problem is severest in the Kyoto mandated CDM/JI market and in the Kyoto related ETS market of the European Union. The Figure³ 1 below depicts the severe demand-supply imbalance in the Kyoto driven markets of EU, Switzerland, Japan, Australia and New Zealand with a combine demand of just about 2200 MtCO₂e flooded with a combined supply of more than 4200 MtCO₂e over the period 2013-2020. It is not a transitory or cyclic depression coming out from which could be facilitated by changing external environment, or even by well directed and focussed interventions, but a chronic condition driven by market fundamentals. Primarily it is the overallocation of allowances in the EU and the migration of prospective demand producing manufacturing industries to non-Annex 1 countries, aggravated by the economic crisis of 2008, that have scarred the demand supply equilibrium in these markets. Another aspect, which has escaped critical notice so far, is the free credits with the former command economies of Eastern Europe, the so-called hot air, which has also played an important role in the collapse of Kyoto market⁴.

Only a major agreement designed to limit the rise of global average temperature to 1.5 °C at Paris climate summit in 2015 has the potential to alter these fundamentals adequately to bring about the needed change. It is encouraging that at least EU member states have already initiated steps in preparation for the Paris summit by agreeing to reduce their total emissions by at least 40% by 2030 measured against the 1990 levels with a commitment to increase it further if commensurate steps are taken by US and China. This would require squeezing the cap on maximum permitted emissions of more than 11000 power utilities and energy intensive industrial plants covered by mandatory Emissions Trading System (EU ETS) by 2.2% annually compared to the current levels of 1.74% per year⁵. However, this restricted supplies of credits alone may not suffice to subdue the effect of the current huge overload of credit oversupply and direct market intervention may also be required. The EU is, in

³ GIZ, 2014, Carbon Market Roadmap for India: Looking back on CDM and looking ahead, GIZ India

⁴ Kant, P. 2010. Hot Air from a Crumbling Kyoto. IGREC Working Paper IGREC- 03: 2010, Institute of Green Economy, India

⁵ Schiermeier, Q., 2014, EU leaders hammer out landmark climate deal, Nature News, 24.10.2014

fact, already in the process of a major carbon market reform by creating a Market Stability Reserve possibly by 2015⁶.

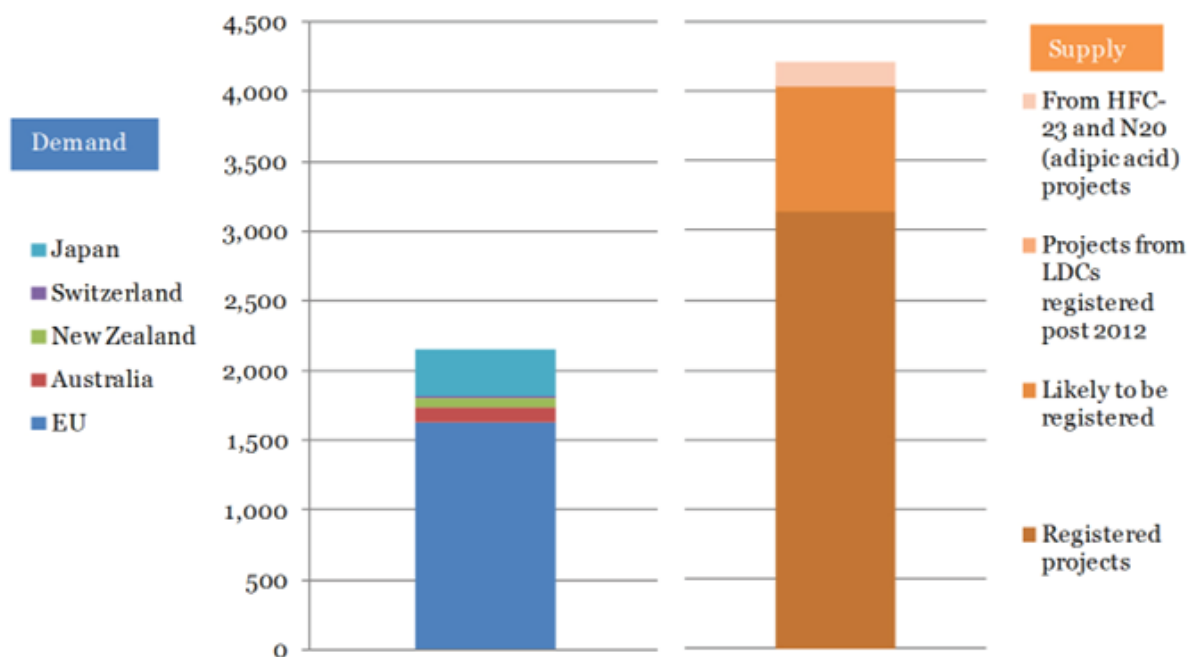


Figure 1: Demand supply gap of carbon credits in the Kyoto driven markets (Reproduced with permission from GIZ, 2014, Carbon Market Roadmap for India: Looking back on CDM and looking ahead)

This supply overhang is reflected in the carbon prices which moved from its static phase from 2002 to 2007 of prices fixed through bilateral negotiations between generators of credits and the consumer utilities in Annex 1 countries followed by price discovery through secondary markets of EU allowances since 2008 reaching a peak of Euro 35/tCO₂ in mid 2008 before falling steeply to Euro 10 as the global economic crisis struck the world. The prices perked up somewhat in 2009 in anticipation of increased demand by power utilities and manufacturing industry. In 2011 the prices fell once again due to oversupply and have not recovered since.

⁶ Thomson Reuters Point Carbon, 2014, Themes in Global Carbon Markets



Figure 2: Carbon price volatility in EU ETS and Kyoto markets, prices in Euros (Reproduced with permission from GIZ, 2014, Carbon Market Roadmap for India: Looking back on CDM and looking ahead)

Price volatility renders them unable to attract finance for REDD+

Investments in REDD+ have long gestation period and private investment would be attracted only when the prices can be expected to be stable, or at least predictable, over the gestation period. The prolonged price volatility of the Kyoto linked carbon markets have reduced their utility for private investments. In the recent months the National Development and Reform Commission (NDRC) of China, which also regulates the nascent domestic carbon markets in pilot phase in seven cities across the country, has been facing persistent demands to allow corporate entities to transfer their registered CDM projects under the domestic carbon market. This contrasts sharply with the star status of mandatory Kyoto market till barely three years back. This shift to domestic markets is set to become even more pronounced as we proceed through the second commitment period of the Kyoto Protocol which, with only nine countries ratifying to date, covers only 12% of global greenhouse gas (GHG) emissions⁷. The fact that the transfer has not happened yet is only because there are no provisions for deregistration of CDM projects without which their assimilation in the domestic market is not possible.

This desire for changeover from an established international market to a yet evolving domestic market is indicative both of loss of faith in the former due to its dismal performance so far and the optimism about firming up of Chinese domestic emission reduction policies that are expected to boost the domestic carbon markets. Already even the 7 Chinese pilot markets have outpaced all other carbon markets except the European Union Emission Trading Scheme (EU ETS) as indicated in the Table 1 below. The recent Sino-US agreement on climate change under which China has agreed to peak its emissions by or before 2030 would make the Chinese domestic carbon markets even more attractive.

More domestic carbon markets are being formed with global financial organizations like the World Bank encouraging countries, provinces and large companies to discover truer price on carbon which can then spur investment in activities like REDD+. The Table 1 below gives a partial picture of a few of these market places that are growing through alliances and collaboration and many more are in the process of doing so.

⁷ WB 2014, State and Trends of Carbon Pricing, 2014, World Bank

| S. No. | Market | Allowance budget⁸ | Remarks |
|---------------|---|-------------------------------------|--|
| 1 | EU ETS | 2000 Mt | Heavily oversupplied with allowances. Sinking prices. Market Stability Reserve likely to be introduced. |
| 2 | China pilot markets (combined) | 1200 Mt | 7 pilots in Beijing, Shanghai, Shenzhen, Guangdong, Tianjin, Hubei, Chongqing. Not interconnected, clubbed together in this table for convenience of discussion. CERs yet to be issued. |
| 3 | South Korea | 600 Mt | Likely to begin from Jan 1, 2015 |
| 4 | Western Climate Initiative (WCI) | 200 Mt | Includes California, Quebec and British Columbia. Extendable further |
| 5 | Kazakhstan ETS ⁹ | 150 Mt | Entered Phase I of operation on Jan 1, 2013, imposed allowance surrender obligations on 178 companies with emission cap of 147 MtCO ₂ e (55% of the nation's total GHG output). Phase II 2014-2020 |
| 6 | Regional Greenhouse Gas Initiative (RGGI) | 100 Mt | A cooperative effort among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont to cap and reduce CO ₂ emissions from the power sector |
| 7 | New Zealand ETS | 50 Mt | CERs not allowed after May 31, 2015. Oversupply of credits. Review likely in 2015 |

Table 1: Estimated allowance budgets in important domestic carbon markets

Suitability of domestic carbon markets for REDD+

A question arises as to whether these evolving domestic markets will also be able to promote investments in climate change mitigation in forestry activities as they are doing in non-forestry spheres of mitigation activities. Voluntary markets, driven not by emission caps but by philanthropy and corporate social responsibility, have always been partial towards forestry based credits. In 2010¹⁰, of the 30.1 MtCO₂ of forest credits traded in the market 92% were in the voluntary market and more than 20% of all voluntary credits under trade originated in forestry. However, the primary reason for this was the perceived low compliance quality of forestry carbon credits principally on account of the reversibility of forest carbon stocks and the difficulties in their monitoring and verification. The voluntary markets can deal with this limitation because it does not have the same consequences for the purchaser as it would have in a regulated compliance market. But the price for this has been low carbon prices and very limited demands in the voluntary markets. By their very nature the demands in the voluntary markets would always remain only a tiny fraction of the mandatory cap and trade markets and for a scaled up REDD+ covering vast lands in the developing world the voluntary markets hold little promise.

⁸ Thomson Reuters, 2014, Themes in Global Carbon Markets, 2014

⁹EDF & IETA, 2013, Kazakhstan, The World's Carbon Markets: A Case Study Guide to Emissions Trading

¹⁰Guigon, P., 2012, Forestry Activities and Carbon Markets, Carbon Finance Unit, World Bank

In an insightful presentation Parker¹¹ makes an important distinction between REDD+ as a UNFCCC negotiated international mitigation mechanism and as an outcome. The former refers to a REDD+ program for reducing deforestation and forest degradation, conservation of forest carbon stocks, enhancement of forest carbon and sustainable forest management undertaken in accordance with the principles and processes agreed under the UNFCCC umbrella while the latter includes any activity undertaken by governments, communities, businesses, organizations or individuals that result in similar outcomes. Raising poplar plantations in the agricultural fields by farmers, or their collectives, may have purely commercial motives, and taken up with complete indifference to REDD+, but in its outcome of directly enhancing carbon stock in trees, and reducing threat of forest degradation by improving wood demand-supply balance, it serves the same purpose as REDD+ of the UNFCCC. Similar would be the outcome of an improved cookstove project by enhancing the energy efficiency of household wood energy usage and thereby reducing CO₂ emissions caused by forest degradation.

Even when the carbon sequestered through such activities do not meet the specific UNFCCC requirements they do mitigate climate change, and the amount of carbon sequestered and emission reduced could find buyers in a domestic carbon markets that defines legitimate carbon products differently. For example, under its REDD+ program Indonesia placed a two year moratorium on felling in natural and peat forests and defined¹² natural forests as primary forests thus excluding secondary forests that cover an area twice as large as the primary forests from the purview of this ban. This also meant that the applicable biodiversity conservation safeguard requirements for REDD+ activities undertaken in these secondary forests would be milder than those in natural forests resulting in substantial cost savings and higher economic returns for investors.

The nature and rigidity of social, ecological and economic safeguards for REDD+, arrived after prolonged UNFCCC negotiations and still evolving, and their monitoring and verification, present a formidable challenge to the planners and implementers of REDD+. Extreme caution marks these safeguards, particularly social safeguards, which are formulated with regard to worst case scenarios drawing often on grave historical injustices to aborigines in many parts of the world. The fact that these injustices can still happen in some part of the world justifies their existence in UNFCCC decisions. But there are also large parts of the world where many of these safeguards are integral to the normal civic laws of the land. Domestic carbon markets in these areas are expected to take advantage of such an enabling environment and lower the emphasis on the relevant precautionary measures as part of REDD+ mechanism and thereby reduce costs.

Defining 'additionality' and leakage, and addressing them, in credit generation mechanism of a domestic carbon markets is also easier given the limited geography and uniformity in economic policies including taxation and subsidies. However, this may result in denying fungibility with international carbon credits and often even with other domestic markets but the lack of fungibility may not always prove a disability as when it insulates one market from the spiralling effects of the weakness in the other. The continued good health of Californian initiative and the Chinese domestic carbon markets even as the Kyoto market sees a collapse is a good example of what delinking of markets can mean under adverse conditions.

The domestic markets may prove suitable for nascent REDD+ for a number of other reasons, too. In its early years REDD+ would need a large amount of both governmental guidance and handholding and, in many countries, also government investments. Forests in most developing countries are public

¹¹ Parker, C., 2014, Overview of REDD+ Financing Landscape, Sources and Types of Funds, Climate Focus, US

¹² Angelsen, 2013, WIDER Working Paper No. 2013/135, UN University and World Institute for Development Economic Research

assets and investments to enhance the quality of these assets leading to carbon enrichment are largely public investments. Since domestic carbon markets are driven by domestic policies for capping emissions the governments would have greater leeway to make policies that protect these public investments unlike in an international market where individual governments would have very little freedom of choices. For the same reasons course correction when a set of policy measures initiated are either not having the desired effect or even having unforeseen negative repercussions, and which sometimes may become crucial to save investments in compelling external environments, would also be more feasible in domestic markets. Launching appropriate responses to sudden market crisis is also easier in domestic markets.

Domestic carbon markets would usually require simpler regulatory regimes as they work in a similar business environment and work culture across their geographical range. The general laws related to exchange markets and contract which form the foundational base of regulatory regimes would also be uniform throughout unlike in an international market where Anglican and French models prevail. This would mean lower costs of dispute settlement between contracting parties and also lower transaction costs in general.

A domestic carbon market can also combine carbon with other ecological services like biodiversity, soil conservation, and even public health, with greater ease which has not been possible so far in international markets. A country desirous of supporting soil conservation services in specific watersheds, for example, may decide to pay an agreed amount of money on the first sale of every carbon credit originating in the identified watersheds and sold in the domestic market. Greater market sophistication like trade in carbon credit derivatives can also be permitted in these markets which would help enhance liquidity of assets created under REDD+ and thereby attract more investments. Derivative trade, however, requires a very mature market with effective regulatory mechanism backed by Courts competent to handle the intricacies involved, and it may have to wait for sometime before it can happen.

Some of these domestic markets can also serve smaller neighbouring countries which may not be able to establish their own for logistical reasons by permitting transactions in REDD+ credits generated there through a negotiated contract on monitoring, reporting and verification. California has decided to accept REDD+ offsets from developing countries or from sub national jurisdictions within those developing countries and has already initiated preliminary agreements with Acre in Brazil and Chiapas in Mexico¹³. Japan's Bilateral Offset Credit Mechanism has also identified a few REDD+ pilot projects for inclusion. Thus the Australian, New Zealand and the upcoming Chinese markets, and the likely additions of Indian and Indonesian markets in the coming years, could provide their trading platforms to service smaller countries in Asia Pacific like Cambodia, Myanmar, Laos, Nepal, Bhutan, Fiji, Papua New Guinea, Phillipines etc. A healthy competition among these markets to attract business from outside their normal geographical boundaries would also serve to improve the quality of these markets.

Conclusions

With the near collapse of the Kyoto carbon market in the recent years there has been little discussion on the role of carbon markets in attracting private investments in reducing emissions from deforestation and forest degradation, and enhancing carbon sequestration and storage in forests through conservation and increase of forest carbon stocks and from sustainable management of forests. Emphasis has shifted almost entirely to public funding of REDD+ efforts by developed

¹³ Guigon, P., 2012, Forestry Activities and Carbon Markets, Carbon Finance Unit, World Bank

countries. While that should remain the primary source of REDD+ funding the importance of private investment in this area can be denied only at the cost of missing important opportunities of economic and ecological enrichment of developing countries. Ideally, implementation of REDD+ should attract financing both from international public funding and private investments. And private investments in forestry activities would be boosted only if the profitability of these ventures is enhanced by enabling the marketing of ecological services and increasing the liquidity of investments.

The carbon markets could make this possible but the past experience with the Kyoto mandatory market with its demand-supply imbalance and resulting collapse of carbon prices has not been encouraging. Stabilization of an international carbon currency requiring large emission caps, and the powers to force the member countries to honour the caps, is not an immediate possibility. Domestic carbon markets provide a possible alternative as the controlling national or sub-national governments would have the requisite powers to set such caps within their geographies and to enforce them. These governments would also have the power to respond to any crisis that may arise in these markets due to unforeseen circumstances, something which is not possible in a Kyoto like market where the crisis management would also necessitate consensus agreement among the nearly 200 country Parties that are members of UNFCCC.

Domestic carbon markets would also have the advantage of low transaction costs and quick and more effective dispute settlement mechanisms on account of their simpler regulatory regimes, uniform legal and business environment and similar work culture across their geographical range. Combining other ecological services to the climate change mitigation services would also be relatively more feasible. These domestic markets are also likely to enhance the liquidity of carbon assets making the investments more attractive to private investors. And these domestic markets can also serve smaller neighbouring countries which may not be able to establish their own for logistical reasons by permitting transactions in REDD+ credits generated there through negotiated agreements on monitoring, reporting and verification of both the processes and the outcomes of REDD+ activities.

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