

## **FUTURE OF CARBON TRADING: A BUSINESS THAT WORKS FOR GLOBAL ENVIRONMENT**

**Dr. Bhawana Bhardwaj**

Assistant Professor, Central University of Himachal Pradesh, India

R-2, Strawberry Hills, Chotta Shimla, Himachal Pradesh

Email: bhawnabhardwaj113@gmail.com

**Abstract:** In current scenario Global Warming is causing a lot of worries for environmentalists and costing money as well. Green Environmentalist intends to promote policy and business that can help in the preservation of natural environment. This is well known fact that carbon dioxide is the most important greenhouse gas produced by combustion of fuels. It has become a cause of global panic as its concentration in the Earth's atmosphere has been rising alarmingly. On the other hand this has created a global "carbon market too, with an opportunity for the trade of carbon credits both within and outside of the regulated area. carbon trading, controls are imposed on Green House Gas (GHG) emissions under the Kyoto Protocol, and the pre-decided emission limits are then allocated across countries, which have to control the greenhouse gas emissions from the various industries and commercial units operating within them. The objective of the paper is to discuss the business of carbon in international market with special reference to opportunities for the emissions market in Indian context. The author has made an attempt to throw some light on the future prospects of carbon trading business.

### **INTRODUCTION**

In the last few years, Global Warming has become a matter of concern for global environment. It is not only burning of fossil fuel which has increased the level of carbon dioxide in the atmosphere but also clearing of forests ,factories and various other human structures has contributed a lot. Government authorities and private organizations are continuously putting an effort to implement systems that would help in reducing the amount of carbon dioxide in the atmosphere. In 1997, The Kyoto Protocol initiated by the United Nations Framework Convention on Climate Change and approved by 181 countries and the European Union as a whole, individual entity. It is an international agreement of United Nations Framework Convention on Climate Change that sets binding targets for 37 industrialized countries and the European community for reducing greenhouse gas (GHG) emissions to an average of five per cent against 1990 levels over the five-year period 2008-2012. It was put into effect in 2005.

The objective of the protocol was to address and reduce greenhouse gas emissions to reduce global climate change. As per the convention commercial entities emitting above the permitted limit of carbon dioxide were required to cut down their emissions to prescribed levels else they should buy carbon credits certificates. The carbons credits can be transacted in the market otherwise pay a charge for the emission, which is referred to as carbon tax. It was realized that developed countries were principally responsible for the high levels of greenhouse gases emissions therefore the protocol places a substantial burden on developed nations by following the principle of “common but differentiated responsibilities”. The major Kyotomechanisms to manage greenhouse effect are Emissions trading, Clean development mechanism (CDM) and Joint implementation (JI).

### **GREENHOUSE GAS EMISSIONS - A COMMODITY**

Parties under the Kyoto Protocol accepted targets for limiting or reducing emissions. These targets are expressed into “assigned amount units” (AAUs) over the 2008-2012 commitment period. However, countries that have emission units in excess can sell these units to countries that are over their targets. Thus, a new commodity was created in the form of emission reductions or removals. As carbon dioxide is the major greenhouse gas it is referred as carbon trading. Carbon is now tracked and traded like any other commodity. However there are other units such as A removal unit (**RMU**) on the basis of land use, land-use change and forestry (LULUCF)activities such as reforestation, An emission reduction unit (**ERU**) generated by a joint implementation project and a certified emission reduction (**CER**) generated from a clean development mechanism project activity. There is a registry system under Kyoto protocol to transfer and acquire these units. Each party is required to maintain reserves known as “commitment period reserve” of ERUs, CERs and as specified under protocol.

The carbon trading targets cover emissions of the six main greenhouse gases, namely, Carbon dioxide (CO<sub>2</sub>); Methane (CH<sub>4</sub>); Nitrous oxide (N<sub>2</sub>O); Hydro fluorocarbons (HFCs); Perfluoro carbons (PFCs) and Sulphur hexafluoride (SF<sub>6</sub>). International treaties have established quotas on the amount of GHG that countries can produce. Tools like carbon credits and carbon offset were introduced to encourage firms to be more environments friendly while performing their business activities. One carbon credit permits one tonne of carbon dioxide or a corresponding amount of other greenhouse gases to be discharged in the air. Industries or businesses that are over their quotas must buy carbon credits for excess emissions, while those below can sell their remaining credits. This exchange has encouraged

carbon trading in global business environment. Carbon credits bought and sold in international markets at prevailing market price. Chicago Climate Exchange and the European Climate Exchange, The Multi-Commodity Exchange of India (MCX) are some platforms that facilitates this business.

Carbon trading facilitates worldwide carbon emissions to stay within permissible levels, and the companies come up with ecologically sustainable ways of conducting business carbon business in the global market also motivates the organizations to be more eco-friendly and also increase their earnings by selling carbon credits. Carbon credits can also be bought even if you are not a part of any. In the current situation, the market of carbon credits has an impact on the firm's financial situation also. This has instigated firms to seek ways to reduce their emissions and adopt cleaner ways of doing business. Thus, the whole system inspires companies and governments to promote environment friendly procedures that lessen greenhouse gas emission. Carbon trading, also referred as emissions transacting, is a global effort to do a business with a minimum impact on environment.

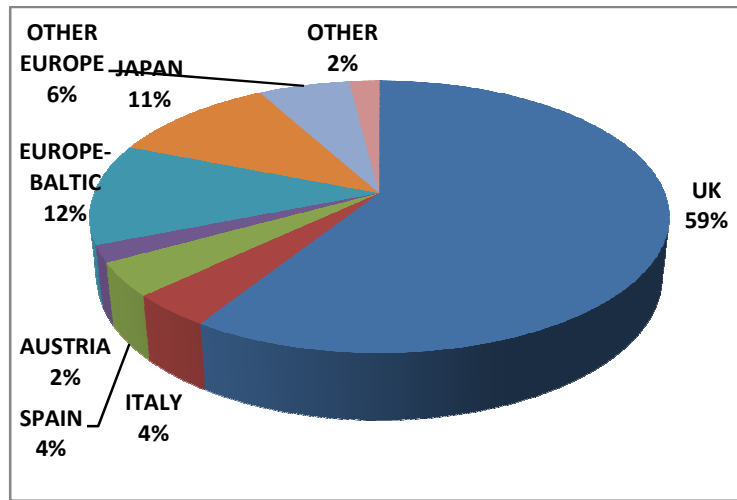
The table 1 shows the status of CDM projects in global business environment. China leads with 2198 registered CDM projects accounting for 49.64% followed by India (866 projects i.e.19.56%) and Brazil (207 projects i.e. 4.67%) respectively. Total CERs issued to registered projects, amounted to around 976.64 millions, of which China accounts for 60.05% followed by India at 14.68%.

**TABLE 1: CLEAN DEVELOPMENT MECHANISM (CDM) STATISTICS  
(AS ON JULY 31, 2012)**

Total CDM projects in pipeline (UNFCCC)	> 5600
Total no. of projects registered with UNFCCC	4424
No. of Projects requesting registration	122
Expected CERs until end of 2012 (UNFCCC) out of the CDM projects in pipeline	> 2700 Mn
Expected CERs until end of 2012 (UNFCCC) out of the CDM projects registered	> 2150 Mn
Total No. of CERs issued	976.64 Mn
Total No. of Registered projects from India	866
Total No. CERs issued to Indian Projects	143.41 Mn

<http://www.idbi.com/pdf/Carbon-Magazines/IDBI-Carbon-Development-August-2012.pdf>

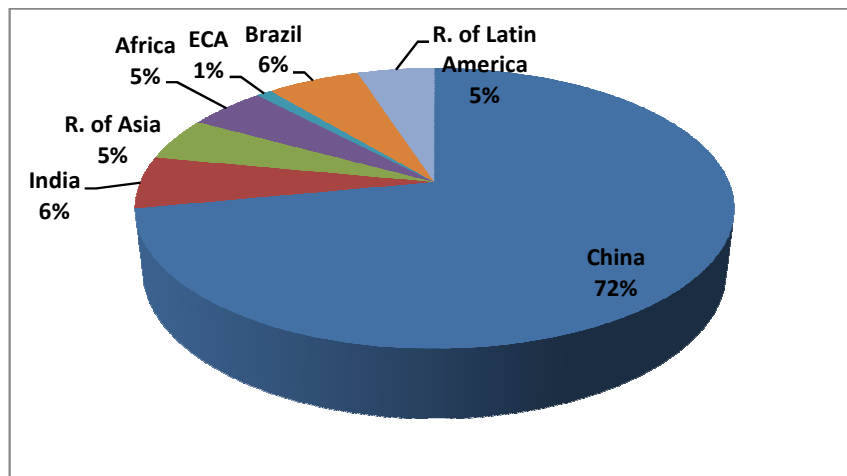
**FIGURE 1: BUYER OF PRIMARY CDM  
(CLEAN DEVELOPMENT MECHANISM AND JI (JOINT IMPLEMENTATION))**



(Source: [http://www.mcxindia.com/Uploads/Products/242/English\\_Carbon\\_Credit\\_CER.pdf](http://www.mcxindia.com/Uploads/Products/242/English_Carbon_Credit_CER.pdf))

Figure 1 shows the major buyer of CDM and JI in global business environment. It is evident that UK is the biggest buyer followed by Baltic Europe and Japan. Carbon trading has helped in raising funds as well. As per the data provided by World Bank, for the year wise growth in carbon funds from 2000 till 2010, it was observed that funds are increasing continuously however; this rise in the fund has shown a big increase from 2005 to 2006.

**FIGURE 3: GLOBAL COUNTRY WISE CER SUPPLY**



(Source: [http://www.mcxindia.com/Uploads/Products/242/English\\_Carbon\\_Credit\\_CER.pdf](http://www.mcxindia.com/Uploads/Products/242/English_Carbon_Credit_CER.pdf))

As per the data by UNFCCC Total CER issued as on 30 June 2012 were 958978229. Whereas, there are around 3,497 CDM projects are registered in the world.

## **CARBON TRADING IN INDIAN SCENARIO**

As per the conventions of Kyoto protocol, India being a developing country has no emission targets to be followed. However, she can enter into CDM projects. India has evolved as a great player in the global carbon credits market. Originator, developer and trader of carbon credits are setting up offices in India. As per the data by FICCIAs of November 2011, India had 2,123 approved CDM projects. Of these, 738 were registered with the United Nations Framework Convention on Climate Change. <sup>12</sup>There are a number projects being run by SME's to expand their processes. As of Feb 1, 2010, The Estimated CER generation stands at 240 million.

Various companies namely, SRF Ltd and Shell Trading International have entered into sale and purchase Credit Emission Reduction. Suzlon Energy and Shriram EPC have business in wind energy which is eligible for carbon credit benefits. Shree Renuka Sugars is also expected to benefit from carbon credits. Gujarat Flouro chemicals were among the early companies to register for Clean Development. The India's Delhi Metro Rail Corporation (DMRC) has become the first rail project in the world to earn carbon credits because of using regenerative braking system in its rolling stock. DMRC has earned the carbon credits by using regenerative braking system in its trains that reduces 30% electricity consumption. The project got registered with UNFCCC in 2007 and can currently claim 400,000 CERs for a 10-year beginning from December 2007 when the project was registered by the UNFCCC. This translates to Rs 1.2 crore per year for 10 years.

It is estimated that 60-70% of Green House are released as by-products of certain industrial process, which adversely affect the ozone layer. Industries like cement, steel, power, textile, fertilizer etc produce green houses gases as an outcome of burning fossil fuels. However, Companies investing in Windmill, Bio-gas, Bio-diesel, and Co-generation are the ones that will generate Carbon Credits. Multi Commodity Exchange (MCX), India's largest commodity exchange, has taken initiative to become Asia's first-ever commodity exchange along with the Chicago Climate Exchange (CCE) and the European Climate Exchange to offer trades in carbon credits. National Commodity and Derivatives Exchange (NCDEX) also has initiated futures contract in Carbon Trading for delivery in December 2008. As per the information contained in IDBI Carbon Development News Letter there are 866 CDM projects have been registered with UNFCCC and over 143 million carbon credits have been issued to them.

## **FUTURE OF CARBON TRADING**

In this race of carbon trading Indian companies have realized that they can make money by becoming eco-friendly. With new core sector projects like power and steel coming up in India, the carbon credit market will rise once again. However there is uncertainty that appears over the future of the Kyoto Protocol, the delegates of the Carbon Forum Asia 2011 met at Singapore in an attempt to iron out differences and arrive at new solutions. It was observed through World Bank assessment that global carbon markets have stalled after five years of consecutive growth.

It was observed that Global carbon markets saw 3.6 billion tonnes<sup>3</sup> of carbon-dioxide equivalent exchanged in the first six months of 2011 with an estimated value of \$71 billion. This was a 3 per cent growth from the \$66 billion traded in the same period last year. However a steep fall was witnessed in the unit value of per-tonne-of-carbon traded in the European markets to as low as €6.6. Some Industry experts believed and stated that there is a pre-2013 rush to register CDM projects, as some 20 per cent more projects have been put up for validation since January 2011. As on October 2011, Asia accounted for a total of 2,815 projects out of which more than 75 percent of the projects got registered. But the scenario has changed as now Asia is moving to the demand side of the market. International uncertainty about climate-change targets and the role of the UN in 2013 and beyond is making businesses and governments alike rethink the direction of the market.

International carbon markets have observed exponential growth since their beginning in the late 1990s. By 2007, 2.7 billion tonnes of carbon-dioxide-equivalent with an estimated value of €40 billion had been traded globally out of which one-third were CDM and JI. In Conference of the Parties (COP 17) at Durban, governments decided that the Kyoto Protocol would travel into a second commitment period in 2013, in a seamless transition from the end of the second commitment period in 2012 and have also decided to make few amendments to the Protocol including the range of greenhouse gases covered. These amendment and changes can decide the future of carbon trading in international scenario. Hence it can be said that the future size of these markets will depend on whether to what extent the parties agree on further reductions after the Kyoto Protocol expires in 2012, as well the level of US participation.<sup>4</sup>

## **CONCLUSION**

Carbon credits has created a market for reducing GHG emissions by giving a monetary value to the cost of polluting the air. Emissions have become an internal cost of doing

business and are visible on the balance sheet alongside raw materials and other liabilities or assets. The increased demand flowing to carbon credits and the introduction of newer financial instruments for emission trading are all signs of heightened activity. It can also be concluded that India has emerged as a leader in carbon trading. However, there are few doubts and ambiguity regarding the future of this business. If the countries across globe accept and acknowledge their responsibility to keep the environment clean and do a business along with showing responsibility towards environment, the business of carbon trading will definitely have a bright future.

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## Endnotes

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<sup>3</sup><http://www.thehindubusinessline.com/industry-and-economy/government-and-policy/article2591663.ece?css=print>

<sup>4</sup><http://www.cgu.gov.br/conferenciabrocde/arquivos/English-Global-Corruption-Report-2009.pdf>