

# Clean Development Mechanism and India

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The Kyoto Protocol (KP), signed in 1997 and came into effect in February 2005, tried to establish specific and binding emission reduction commitments for the industrialized countries and economies in transition (EIT). Together, these two groups are termed as Annex I Parties. These countries must meet the agreed level of emission reductions over an initial commitment period between 2008 and 2012. But developing countries (Non-Annex I Parties) are exempted from any such binding obligation.

CDM (Clean Development Mechanism) is one of the three 'flexibility mechanisms' (ET, JI and CDM) designed to help the Annex I Parties to achieve their emission reduction commitments by earning emission reduction units from projects implemented in a developing country. To earn these certificates (CERs), it is required to submit evidence that the emission reductions achieved through such projects are 'additional' in the sense that they 'would not have occurred without the CDM financing'.

As the first commitment period has started only in 2008, it is too early to judge the effectiveness of the CDM and other mechanisms under KP in addressing the climate change related issues. However, initial figures indicate that compared to 1990, emission of the Annex I Parties was 5.5 percent lower in 2006. But between 1990 and 2004, the GHG emission worldwide has increased by around 24 percent implying that during this period, emission got transferred to non Annex I developing countries. Thus the Annex I countries became 'green' at the expense of 'non Annex I' countries which turned to 'blue' (like Lord Shiva who became 'neel kantha' by swallowing all venom to save Earth) by absorbing the pollution of the developed "North".

Proponents of KP have claimed that Kyoto Protocol 'was never intended to address global emissions, as it focuses on achieving emission reductions in the industrialized countries as a first step'. The effectiveness of CDM projects in lowering of the carbon footprints, needs to be analyzed from this perspective.

India is a major player in the global CDM market. As on August 13, 2009, out of the total 317,018,094 CERs issued worldwide by the host parties, India's share was 21.78%, next to China (45.69%). The Republic of Korea (13.57%) and Brazil (10.57%) are the other two major players in this market.

As of March 17, 2009, out of the total 1455 projects registered with the CDM Executive Board, 398 were from India. China with 453 projects was leading the list. Though in numbers, the gaps are not very wide, there exists a huge difference between these two major players on their respective shares of 'expected average annual CERs' from registered projects. While China is expected to dominate the CDM market with 58.97% market share, India's contribution would remain limited to 11.59%. This vast difference in market share of average annual CERs indicate that compared to China, India's CDM projects are much smaller in size.

In addition to the 398 projects registered with CDM Executive Board, the National CDM Authority of India (NCDMA) has accorded Host Country Approval to 1126 projects (as of March 17, 2009) with an investment potential of Rs151,397

crore (~\$31 billion). It is estimated that by 2012, these CDM projects will generate 573 million CERs and earn \$5.73 billion at a price of \$10 per CER. At the current exchange rate, the expected earnings amount to nearly 18% of the total investment.

Pointing to several flaws in CDM scheme, India has advocated for a fresh approach at local level to tackle global warming. The National Action Plan on Climate Change (NAPCC) document (June 2008) has identified few challenges in the implementation of CDM project in India. These are : (i) majority of the CDM projects in India is small in size; (ii) the portfolio is dominated by unilateral projects i.e. the investors are Indians who employ local technologies and use domestic financial resources; (iii) CDM projects have not led to technology transfers from industrialized countries to India as envisaged by the Protocol; (iv) industrial countries have not participated significantly in project financing and the project risks are mostly taken up by the host industries; (v) insurance companies in general have shown little interest in CDM; (vi) there is much subjectivity in the multilateral CDM process; (vii) high transaction costs prevent the participation of small scale sector in the CDM projects and (viii) in absence of an international transaction log (ITL), there is lack of reliable information in the carbon market on CDM transactions.

It is difficult to estimate how much benefit the developing countries would get out of CDM due to its various restrictive clauses. For Example decision was taken in COP6 (2000) that afforestation and reforestation were the only eligible land use activity under CDM for the first commitment period (2008-2012). Moreover, only areas that were not 'forest' on 31st December, 1989 were likely to meet the CDM definition of afforestation and deforestation. This is why the countries like Papua New Guinea and Costa Rica who saves the famous 'rain forest' which act as a natural 'carbon sink' are not eligible for any monetary assistance in the CDM. India is also one of the major losers on this account. India's forest and tree cover is enough to neutralize 11.23% of the country's total greenhouse emissions at 1994 level. It is estimated that country's carbon sinks, if considered eligible for getting CERs under CDM, could earn over Rs 6000 crore a year.

Return on investment from CDM projects is a genuine cause of concern. Over the years, the Annex I countries have systematically transferred part of their carbon footprints to Non Annex I countries. Moreover, within the Annex I countries also, there has been steep decline in carbon emission to the extent of 35% (during 1990-2006) among EIT countries. These countries will sell their emission quota to OECD countries who will look for emission reduction certificates. Prolong economic recession is also dampening the market demand for those certificates. On the supply side, due to hype generated by vested interests, large numbers of CDM projects have been initiated all across the developing countries without assessing the actual demand supply condition of the market. Should all the proposed CDM projects become operational, there exists a risk of steep fall in the market value of CERs due to it's over supply. Dubious CDM projects are likely to worsen the situation further.

The market based mechanism of carbon trading has failed to a large extent. It is reported that UK's most polluting industries has collectively earned a windfall profit of \$1792 million from generous ETS (Emission Trading System)

allocations. Citing a United Nations Environment Programme (UNEP) study, Reuters (August 23, 2007) also came to a similar conclusion where it mentioned that the CDM projects based in China had proved controversial for two reasons. First, western speculators had profited and second these projects might have increased the output of the greenhouse gas. It also reported that the investors based in London and New York had bought carbon credits from the Chinese chemical plants (under CDM) for as little as 6 euros per tonne, and sold them at 16 euros per tonne in London and New York markets. It may be recalled that in 2005 when CERs in India was earning US\$ 5 per tonne, it was traded in European market at around US\$ 27. The situation is similar to the distress sale of agriculture commodities by the poor farmers of the developing countries. The rich buyers always earn the huge windfalls taking advantage of the non-transparent and unfair market conditions.

Few initiatives which are CDM compliant may be very harmful to the environment. For example, promotion of CFL lamps in India under 'Bachat Lamp Yojana', may earn CERs but these lamps are highly hazardous. Similarly, the controversial 192 MW Allan Duchangan Hydro Project (ADP) in Himachal Pradesh is also eligible to earn huge numbers of CERs at cost of damaging the fragile ecology of the region.

#### **FROM CARBON CREDITS TO CARBON FOOTPRINTS**

Despite various limitations and concerns about CDM, corporate India may continue with their plans to invest in such projects for three main reasons. (i) To justify their past investments and put pressure on the government to commit some emission reduction target as suggested by USA and EU. This will boost the demand for CERs. (ii) To take part in a wider emission market. Parallel to the carbon market under the KP, a voluntary (non compliant) carbon market is emerging in different developed countries involving trades in VERs (verified emission reductions). With the enactment of the American Clean Energy and Security Act of 2009, this market is likely to grow in future. (iii) To boost the corporate image.

On the question of assessing the carbon credit potential of electric cars, a Sr Manager of a major automobile company commented, 'our primary purpose is not to trade but to understand how much carbon we save. Not only has our product, but our upcoming plant with its solar charging and green building also had very less carbon footprint.' On climate change issue, the corporate India is not restricting itself only to 'carbon credits' and CDM, it is focusing on a much wider horizon of managing its carbon footprints.

#### **CARBON TAX, EMBEDDED CARBON AND GLOBAL TRADE**

After the expiry of the KP's first commitment period in 2012, there could be few drastic changes in the emission trading market. An alternative approach of levying carbon tax on energy usage to internalize the cost of environmental damage is gaining importance. It is argued that a carbon tax is more appropriate than an emission trading scheme in checking 'carbon leakage' (energy intensive industries getting relocated to 'climate heavens' having less stringent regulations) which is eroding the competitive advantages of many developed economies.

A study on the 'balance of emissions embodied in trade' (BEET) for a number of countries has concluded that China's BEET (embodied emissions in exports

less embodied emissions in imports) was 585.5 MtCO<sub>2</sub>, compared to the UK's BEET of (-) 102.7 MtCO<sub>2</sub>. The corresponding figures for Germany, Japan, USA and India are (-) 102.7, (-) 139.9, (-) 197.0, (-) 438.9 and (+) 70.9 MtCO<sub>2</sub> respectively. This indicates, by importing goods (net) manufactured in other countries, UK could transfer 102.7 MtCO<sub>2</sub> of carbon emission to the exporting countries.

It is argued that as carbon tax and emission trading schemes affect relative cost of goods; these also affect the competitiveness of the firms. Important questions in climate change and international trade discussions are now getting linked to embedded carbon. 'Embedded carbon', refers to carbon dioxide emitted at all stages of a good's manufacturing process, from the mining of raw materials through the distribution process, to the final product provided to the consumer.

To offset possible asymmetries in competitiveness of the domestic firms, arising out of 'carbon leakage' to the developing countries, two types of entry barriers are being considered to be imposed on goods with high quantities of 'embedded carbon'.

(a) Border tax : In order to offset the 'hidden' subsidy' these goods receive, it is proposed to impose countervailing duty (against 'de facto subsidies') or an anti-dumping duty (against 'environmental dumping') on these imported goods produced in countries that do not impose climate change related regulations.

(b) Non-tariff barriers like denial of market access for non-compliance of certain set rules/standards : A provision in the America's Climate Security Bill (2008), proposed by Senators Leiberman and Warner, aiming at penalizing other nations by imposing restrictions on their exports to USA, if they fail to reduce GHG emissions, is one such move. As per the provision, if two years after the enactment of the US program, it is found that a major emitting nation has not taken comparable action, the legislation would require importers of GHG-intensive manufactured products from that nation to purchase US 'offsets'. The number of 'offsets' to be purchased would be calculated based on the embedded carbon in the good in question. Though the onus is put on the importers, in actual practice, this provision will force the exporters of 'carbon embedded goods' to switch to cleaner production process by replacing the existing technology with greener ones. Legislations like the Carbon Labeling Act of 2008, as proposed by the state of California would also act as a non-tariff barrier to carbon embedded goods from the developing countries.

### **POSSIBLE CONSEQUENCES : EMERGENCE OF A DUAL PRODUCTION PRACTICE**

Initially carbon intensive polluting industries have moved to the Non-Annex I countries like China and India. Offshore manufacturing centers in the export processing zones have become the manufacturing hubs of many TNCs of the North. Imposition of various tariff and non-tariff barriers on carbon embedded goods will induce radical changes in the manufacturing sector.

A dual production process will be in vogue. 'Green goods', meant for the developed markets of the North, would be produced using better and cleaner production techniques to make those export items compatible with the new carbon standards set by developed countries. And 'blue goods' destined for the

domestic and other markets of the developing South, would be manufactured using the old production process.

It may be assumed that with the improvement of the economic condition of the Southern economies, more funds would be diverted towards development of better production techniques to control/mitigate pollution. As the possibility of parcelling pollution to other less developed regions does not exist (there is no south to south pole!), with the improvement of production techniques, all the economies across the globe would turn 'green' in the long run.

### **TWO PROPOSALS**

As climate change has emerged as a major political economic and strategic issue, let us talk about 'climate justice and development' rather than 'climate change and development'. The draft Copenhagen Climate Treaty aims to transfer the world into 'a zero carbon economy' by 2050. To meet that target a massive transfer of fund and technology from the developed to the developing countries are to be made. Few radical corrective actions are to be taken. Here are two 'unusual' proposals.

a. To ensure mass diffusion of clean technology necessary for combating climate change, those technology should be kept either entirely outside the purview of TRIPs or a provision of 'compulsory licensing' clause, as done in case of essential drugs, needs to be included.

b. Developed countries have already incurred huge 'carbon debts' to the world. These carbon debts need to be quantified in financial amount and be repaid. All these recovered 'carbon debt payments' could be used to create a global fund for financing emission mitigation projects in the developing countries.

Unless the major players deviate from the 'business as usual' mode, the dream of 'a zero carbon eco-nomy' will remain elusive for ever. □□□