



CARBON CREDIT: A BURNING BUSINESS ISSUE

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Abstract

The carbon market is the Kyoto Protocol's plan to reduce emissions. The banking industry as a whole has grown faster than this company just twice. Commercial carbon offset trading is dominated by the Clean Development Mechanism (CDM), which allows governments and enterprises to accumulate and sell carbon offsets to one another. Since the initial ratification process under the Kyoto Protocol draws to a close in 2012, it is necessary to evaluate the state of the carbon sector throughout the globe and the extent to which it has been successful.

India ratified the Kyoto Protocol in August of 2002. India is exempt from the formal restrictions of the peace settlement, but it is hoped that the country would nevertheless gain from the protocol's spread of inventiveness and the overseas investors it attracts. Indian success in the carbon market was delayed by China's entry in 2005. However, after 2005, China started to outpace India. In this article, I will discuss the international setting, India's participation in the trading scheme, and India's overall quality in the sector. It also discusses the capitalist model, and provides various examples of Indian companies that have participated in cap and trade, as well as the bookkeeping approach of carbon markets in India and elsewhere.

Keywords: Carbon credit, Kyoto Protocol, Clean Development Mechanism, Certified Emission Reductions, Carbon Exchange, Indian scenario

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Introduction

Due to dangerous emissions, particularly carbon, there has been a rising negative influence on the environment with human development. As a result, there has been climate warming as we recognize it. The UNFCCC was established in 1992 to reduce the proportion of greenhouse gases in the atmosphere to tackle the issue of climate change. In addition to the treaty, the Kyoto Protocol entered into force in February 2005 and establishes restrictions on the nations' total allowed GHG emissions.

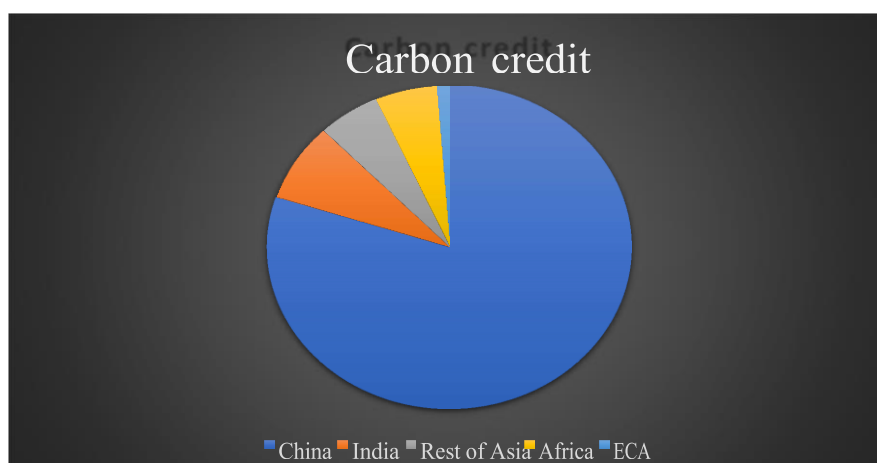
In accordance with the process established by this agreement, more than 1891 nations have committed to lowering worldwide emissions of greenhouse gases. The UNFCCC separates nations into two major categories. Nowadays, 412 developed nations that have made a promise to cut their Green House Gases emissions by at least 4% below their benchmark emission levels in 1990 by the phase of the programmer of 2008–2012 are included in the meeting's Annex-I. The convention's Annex-II has a list of 243 nations. In 1992, the majority of these nations were OECD (Organisation for Economic Co-operation and Development) members. The term "non-Annex-I countries" refers to all other nations, mostly developing nations, that are not named in the convention's Annexure. According to the Kyoto Protocol, there are now 1454 of them, and although but while they produce Carbon footprint, they are not officially constrained in the quantity of GHG emissions they may release into the atmosphere. The Kyoto Protocol is backed by most developed countries in the globe. The States of America is one prominent anomaly, since it releases more GHGs than any other country and is responsible for even more than 25% of the global GHGs produced by humans.

The Kyoto Protocol's idea for reducing carbon emissions is the carbon exchange. This trading is

governed by the CDM which permits the achievement of carbon credits and emissions trading amongst nations and businesses, facilitating the exchange of carbon credits in the corporate world. Given that the initial ratification process of the Kyoto Protocol in 2012 is quickly coming to an end, it is imperative to evaluate the global image of this carbon sector and its level of performance.

Global Scenario

The carbon finance system has seen the largest growing expansion in the world. Several market analyses predict that the carbon market will be the largest in the world. Two legal commitments have had a major impact on pollution swaps, an important aspect of the response to climate change. (i) The Kyoto Protocol and (ii) EUETS a critical part of the EU's attempt to accomplish emission reduction targets under the Kyoto Protocol by allowing the major European generators of carbon dioxide to deal in licenses issued by smaller states. Permits carbon credits equivalent to the allowable extent of emissions are granted to countries under the Kyoto Protocol so that they can meet the assigned reduction targets, which are set by nations with binding emission reduction ambitions (represented by Provided in appendix states). Permits and emission credits are measured in terms of the number of tons of carbon dioxide equivalents released into the atmosphere. Participating nations support new companies and organisations to buy carbon credits from emerging economies (non-Annex-I countries) that are not subject to the same emission restrictions in order to meet the reduce emissions objective.. The European Union is now the largest market for carbon credits, but Asia, led by China, is the primary market for trading them.



World Economy, Washington, DC. State and Trends of the Carbon Market in 2020.

The scale of cap and trade is heavily influenced by the home reducing emissions objectives for GHG gases set by industrial countries. EU member states have set a target reduction of 8%, Japan has set a target reduction of 6%, while Iceland has set a target reduction of 107%. If developed countries commit to cutting their greenhouse gases by half or greater by the turn of the century, and if they meet half of their reduce emissions responsibilities by buying effort reduction targets from emerging countries like India and China, then the greenhouse gas business could increase to \$1008 billion annually in sales, according to estimates from professionals in the financial sector. After the Kyoto Protocol went into effect, the carbon markets were valued at \$109 billion in 2005 and \$30 billion the following year. In 2008, upwards of 80101 projects throughout world were granted permission to use the carbon trading scheme.

The Role and Contribution of India

In August 2002, India approved ratification of the Kyoto Protocol. India benefits from the protocol's provisions in the fields of innovation transfer and associated foreign investments since it is exempt from complying with the different treaties' legal requirements. The UNFCCC's ninth meeting of parties was held in Delhi, India, an early market leader, in Oct 2002 with the goal of educating companies about the possibilities provided by carbon financing and the procedures of the developing CDM. As a result of India's involvement in carbon trading, more people are aware that these programmes could be effective in luring funding for projects that would benefit the environment.

In 2004, a rush of in-country management and technical consultants started pitching their services to prospective suppliers of emission reductions, which was when the Indian carbon market really got off. A part was also played by how the business sector responded to initiatives to expand the market's capacity. The Environment and Forestry Ministry (MOEF), which serves as the DNA for the CDM, may provide a developer a Certificate of Approval (LOA) in as little as sixty days, which is a crucial stage in the process of registering a project. By taking up half of the market by the end of 2004, India took the top spot globally in the advance sale of decarbonization.

China immediately entered the carbon market when the EU ETS and the Kyoto Protocol went into effect in 2005. Due to the increase in carbon costs since 2005, particularly for EUAs delivered in accordance with the EU ETS, several purchasers have complained that it is become more difficult to conclude deals in India. Even though prices for

Certified Emission Reductions (CERs) and other asset classes are opaque, many merchants, especially those from India, have shown a willingness to take high-risk investments. Because they registered projects before the prices increased, they have sought to increase the value of their CERs. In 2005, India's contribution to the world's projectbased carbon reductions fell to 3%, below leaders China (73%) and Brazil (11%).

China will undoubtedly exceed India in the carbon market after 2012 due to (i) the fact that China has more companies that are verifying, initialising, or are already registered than India has, and (ii) the fact that the average project size in China is 2.7214 times larger than that in India. By the end of 2012, facilities up to 2007 indicate that China's CDM supply market will be 4.7515 times bigger than India's, with additional expansion anticipated if pending projects are also authorised.

Like the private sector, the Indian government has had a little presence in the carbon market so far. Government agencies accounted for just 1616 of India's 333 CDM EB-registered projects (PSUs). A whole 10% of them use microscale methods. For CDM, this is especially noteworthy given the continued dominance of state spending over key industries.

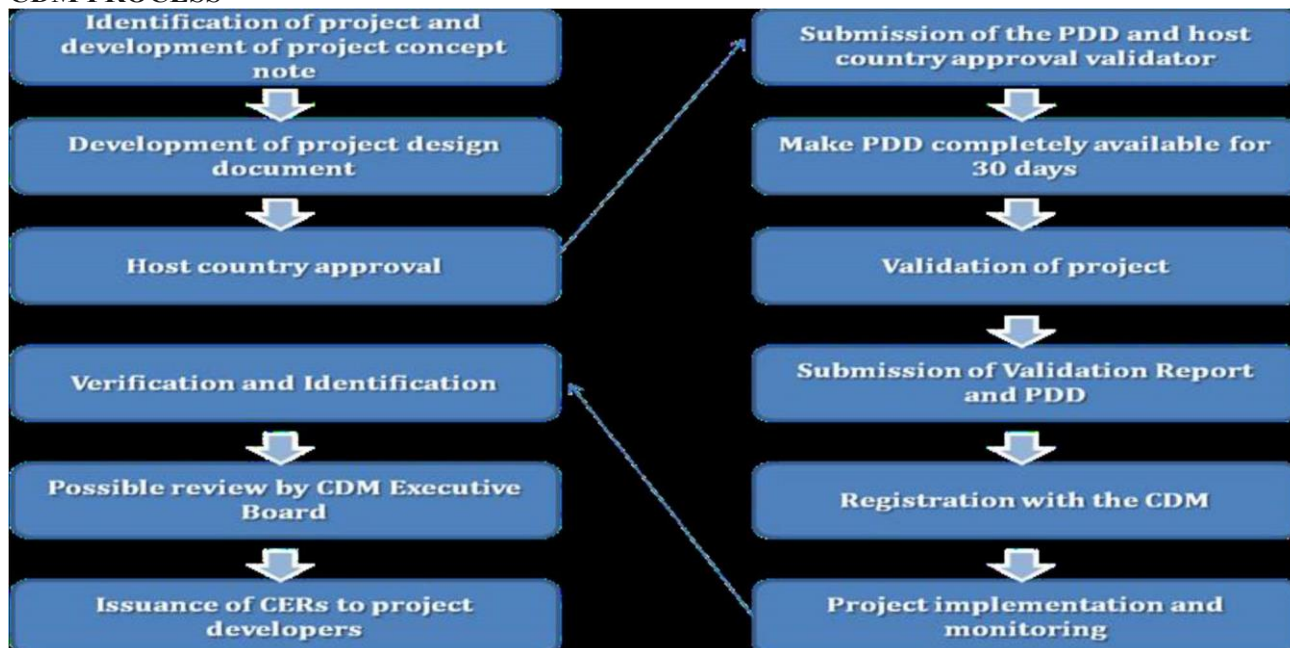
Carbon exchange and commercial mechanisms

A corporation with headquarters in a developed country has two options for lowering its carbon footprint. By developing waste minimization techniques or new ones, for instance, it may be possible to meet the rising emission standards. Last but not least, it may collaborate with developing nations to put forth cutting-edge ecologically advantageous technologies in order to get carbon taxes that can be used to reaching its aim of lowering emissions. The Joint Implementation (JI) mechanism, International Emission Trading (IET), and the Clean Development Mechanism (CDM) are commercial tools included in the Kyoto Protocol (CDM). A civilized economy with high domestic GHG reduction costs may, with the aid of JI, establish a project in a less developed nation with cheaper costs and get the carbon credits required to achieve their emissions objectives. Trade in carbon credits may take place seamlessly in nations with developed economies and IET-mandated emission reductions. A big step toward making carbon reduction a more popular issue is the ability of businesses and organizations to buy and sell carbon credits at market rates. Industrialized nations may achieve their reductions in emissions at a far cheaper cost by taking part in a GHG reduction project in a developing nation under the CDM.

The guest new entrant must concur that the initiative will regular visits advancement in order for the civilized country to get progress points from the endeavor. Next, the applicant (the developed nation) must verify that the emissions program would not have occurred without the registered project by utilising methods authorized by the CDM Executive Board (EB) and must establish a baseline from which anticipated emissions will be estimated. Following that, a designated operational entity reviews the plan to ensure that the initiative

really, measurably, and permanently reduces emissions (DOE). The EB will make a decision about the plan's acceptance or rejection at that time. Depending on the discrepancy between the confirmed actual emissions and the benchmark emissions by the Division, the EB would provide participants Emission Reduction Terms of reduced (CERs), also known as carbon credits, if a project is approved and put into action. The usage of one CER may result in a reduction of one tonne of CO₂ or an equivalent amount.

CDM PROCESS



CO₂ Trading

A mechanism known as carbon trading allows a firm or country to sell credits to another business or nation that hasn't reduced its CO₂ output to the appropriate level for reaching the initial target to reduce.

There are three main types of emissions trading: limit and sell, baseline and offset, and compensation. When exchanging carbon taxes, the Cap & Trade system is the most widespread method used. The "energy consumption cap" is the total limit established by the regulator in a limit system.

- Permitted to discharge for a limited period. The allocation of permits sufficient to cover all emitters permitted by the cap.

Exchange of carbon

In 2005, the Multi Commodity Exchange of India Ltd (MCX)¹⁷ and the Chicago Weather Conversation partnered to provide carbon credit transaction to India. The conversation for futures is MCX. For delivery in the next five years, people in

this area are receiving price signals for carbon. Only Indians and Indian enterprises are allowed to trade. The Indian government has neither established any regulations nor made it mandatory to limit carbon emissions to a sure equal. Individuals who come to purchase are thus truly financial investors.

Following are the advantages:

Buying in preparation may help enterprises raise funds and save operational expenses. Because the sale is insured by the market, there is no danger of dealing with a dishonest third party. Because of the system's asset pricing features, sellers and purchasers may settle on a price that's mutually agreeable.

India and International Accounting

Establishing financial results for this industry is urgently needed due to the abundance of companies in India producing carbon credits and the novelty of the industry overall. It should be noted that the CDM is the applicable mechanism in India and that India is not currently required to

reduce its GHG emissions in accordance with the Kyoto Protocol, with the exception of a practice session for a new memo on calculating the numbers for CERs produced under the CDM. The methods of recognizing, estimating, and reporting CERs produced by a firm that has been granted CDM certifications are covered in this memo's recommendations on how to use widely accepted accounting principles. Guidelines for Accounting for Self-Generated Certified Emission Reductions were published on Feb 17, 2012, by the Institute of Chartered Accountants of India (ICAI).

The fundamental premise of the mandate is that carbon credits produced through the Clean Development Mechanism (CDM), also known as CERs, are stocks produced and held by the creating entity for the purpose of trade in the normal course of business and can, therefore, be treated as intangible assets without a physical form in accordance with Accounting Standard Statement 26. As a result, even though CERs are intangible, they must be documented in accordance with the "accrued liabilities" standard of accounting standard AS 2. (For further information, please see the aforementioned Exposure Draft.)

Scenario Global

For transactions involving carbon allowances, there is currently no authorised accounting guidance under International Financial Reporting Standards (IFRS). In June 2005, the International Accounting Standards Board (IASB) withdrew its publication of IFRIC-3 on "Emissions Rights." In light of previous IFRS published at the time, IFRIC-3 came to the following conclusions: (IAS 38).

A government subsidy is indeed the amount by which a government agency reduces the cost of a permission it issues to an applicant by more than the discrepancy seen between reasonable worth of the permit and the amount paid (if any). Considerations for emissions-related obligations (IAS 37 Provisions, contingent liabilities and contingent assets).

Despite IFRIC 3's demise, several existing guidelines persist which provide definitive guidance on applicable bookkeeping that firms must employ to shape their strategies for carbon-related activities (including IAS 2, 20, 37, 38 and 39). Different countries' accounting and tax systems

Spain

The accounting treatment, as decided in line with Spanish GAAP¹⁸, is followed by the tax treatment

of emissions in Spain. As "intangible assets," emission allowances are accounted for at their fair market value and allocated by the government authority is considered as a government grant for company income tax purposes (presented as deferred revenue on the balance sheet). If the corporation acquires allowances, it is obligated to account for them at the cost of purchase. Allowances must be recorded at their production cost if they are obtained via the clean development mechanism or the joint implementation system. The purchase of greenhouse gas emission permits is seen from a VAT viewpoint as a provision of services, and VAT is charged in the jurisdiction to which the beneficiary belongs. If a professional or merchant transfers emission permits as part of their line of business, such service would be liable to VAT at an 18% rate. Additionally, there is a 4% transfer tax that applies to the transfer of emission permits when it is made by a person.

Germany

On December 6, 2005, a circular¹⁹ was released by the German Ministry of Finance about the taxation of emissions permits. Benefit payments are considered conceptual assets and, as such, must be shown as current assets on (tax) financial statements. Any concessions handed out by the government would have no impact on the books. Fees paid in pursuit of the (free) entitlements may be written off as operating costs in the fiscal year in which relevant agencies make public their assignments notice. From a Value Added Tax perspective, the government's supply of reimbursements (at no cost to the recipient) is exempt. Subsidy transfers are considered a "other service" and are thus subject to value-added tax current rate: 19%²⁰.

British Isles (UK)

Based on the financial treatment, the UK corporate tax assessment is made. The financial reporting standard known as IFRIC 3 Emission Rights, which was issued in 2004 as a means of accounting for carbon credits, was withdrawn the following year. Since that time, there has been significant debate about how to properly account for emission rights, but no successor model has been developed. A UK firm may acquire rights directly by signing an ERPA²¹, however there are circumstances in which doing it indirectly would be better. A secondary SPV, or the agent of the parents, may be an orphan SPV in such a case. As an alternative, think about using swaps, options, and futures as financial instruments. The first allocation will be exempt from value-added tax, which is often only levied when something is done in the course of or

for the advancement of business. This is because the competent authority is assigning the exemptions for policymaking reasons. Any transfers of allowances between two insurers in the future will be regarded as the delivery of a product for the purposes of the value-added tax.

France

According to administrative guidelines, BOI 4 A-13-05 n°25 and 26, dated 30 Dec 2008, the tax treatment for permits for greenhouse gas emissions should be consistent with the accounting treatment. The accounting approach of allowances has been outlined in CRC 2004-08 rule, published 23 November 2004, and it has been determined that they must be recorded as intangible assets. The transfer of allowances is viewed by French VAT regulations as a service supply subject to VAT. However, these transactions are free from taxes under the "transactions on securities" section of French Tax Code Article 261 C 1° e23. Trade of emission permits and reduction units are thus free from VAT and cannot be subject to a VAT option. Case Study 1 of Indian Carbon Trading Case Studies: BUDHIL Hydroelectric Power Plant

After complying with UNFCCC standards, 300 to 400 companies²⁴ in India already hold carbon credits. We have used the example of the 2011-commissioned Budhil Hydro Electric Power Project in Himachal Pradesh, which was constructed by Lanco Power Trading Ltd.

Tariff calculations are assumed:

acquired and taken into consideration in accordance with UPERC rules, using the following tariff assumptions:

The number of Certified Emission Reductions per million units. 810

2. EUR Price per CER 11
3. The 63 INR exchange rate
4. Forex Escalation of 2%
5. 21 Years of Time

(Extracted from a copy of the offer dated July 25, 2011, from the Budhia Hydro Electric Project to WBSEDCL for the sale of electricity.)

As a result of the sale of carbon credits, the statement below shows the tariff per unit of energy based on decreased overall cost:-

LANCO BUDHIL HYDRO POWER PVT LTD- 70 MW BUDHIL HYDROPOWER PROJECT										
Year	1	2	3	4	5	6	7	8	9	10
O&M Cost	137.76	145.64	153.97	162.77	172.08	181.93	192.33	203.33	214.96	227.26
Depreciation	345.65	345.65	345.65	345.65	345.65	345.65	345.65	345.65	345.65	345.65
Interest on Rupee term loan	736.56	688.86	641.16	593.46	545.76	498.06	450.36	402.66	354.96	307.26
Interest on working capital loan	37.93	37.28	36.66	36.06	35.48	34.94	34.43	33.95	33.5	33.09
Return on Equity	266.92	266.93	266.93	266.93	266.93	266.93	266.93	266.93	266.93	266.93
Total	1524.83	1484.36	1444.36	1404.87	1365.91	1327.51	1289.7	1252.52	1216	1180.19
CDM Pass through	0	-16.7	-34.07	-52.13	-70.9	-90.4	-92.21	-94.05	-95.93	-97.85
Total Cost	1524.83	1467.65	1410.29	1352.73	1295	1237.11	1197.41	1158.47	1120.07	1082.34
No. of units Generated (MU)	291.73	291.73	291.73	291.73	291.73	291.73	291.73	291.73	291.73	291.73
Auxiliary consumption (MU)	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63
Transformation losses (MU)	0	0	0	0	0	0	0	0	0	0
Saleable units (MU)	289.1	289.1	289.1	289.1	289.1	289.1	289.1	289.1	289.1	289.1
Royalty/Free Power (MU)	34.69	34.69	34.89	34.69	34.69	34.69	34.69	34.69	34.69	34.69
Net Saleable units (MU)	254.41	254.41	254.41	254.41	254.41	254.41	254.41	254.41	254.41	254.41
Tariff Per Unit Rs.	5.99	5.77	5.54	5.32	5.09	4.86	4.71	4.55	4.4	4.25
Levelised Tariff @ 9.35%	1-35 Yrs	4.7								
Average Tariff	1-35 Yrs	4.47								

Source: Project viability report of Lanco Power Trading Limited

The total cost for year two is clearly Rs 1474.26. This drops by Rs 15.50 as a consequence of the carbon credit auction. The final reduced cost, on which the rate would be based, comes out to Rs. 1367.65. (Rs 1284.36 - Rs 16.70). Thus, the price for year 3 is set at Rs 4.77 per unit by dividing the total cost by the number of units that may be sold. The cost per unit would have been fixed at Rs 4.94

(Rs 1584.36 / 274.41 units) if no money had been gained from the sale of carbon credits. The BUDHIL Hydropower Project must be completed using the same procedure. It is clear that the ultimate consumer benefits from the profit produced from the sale of carbon credits by paying less per unit. Instead of passing the advantage along to the customer, a company can choose to

maintain its selling price and boost its profit per unit.

The table below displays the computation of income generated by the sale of carbon credits.:

Accessible from Lanco Power Trading Limited

LANCO BUDHIL HYDRO POWER PVT LTD- 70 MW BUDHIL Hydropower Project											
		1	2	3	4	5	6	7	8	9	10
Generation CERs/MU	MU	291.73	291.73	291.73	291.73	291.73	291.73	291.73	291.73	291.73	291.73
Total CERs		2,36,301	2,36,301	2,36,301	2,36,301	2,36,301	2,36,301	2,36,301	2,36,301	2,36,301	2,36,301
Rate per CER	Rs	693	706.86	721	735.42	750.13	765.13	780.43	796.04	811.96	828.2
CER Revenue	Rs in millions	163.76	163.03	170.37	173.38	177.26	180.80	184.42	188.10	191.87	195.70
Beneficiary Share		0%	10%	20%	30%	40%	50%	50%	50%	50%	50%
Net			16.7	34.07	52.13	70.9	90.4	92.21	94.05	95.93	97.85

Source: Lanco Power Trading Limited

The CER for year 3 is 246,301, as can be shown.

For the purposes of calculating tariffs, the Rate per CER is 726.86.

Therefore, the sum CER income will be Rs 157.03 million. Since the legatee share for year two is 11%, the net income from the trade of CER is Rs 15.70. The project's overall cost for year two would be decreased using this net income. The price per unit would go down as a result. The BUDHIL Hydropower project would continue with this method for 22 years.

Situation 2: Greenly Industries Ltd.

Greenly Industries Limited is the largest Indian company in the interior infrastructure sector, generating a total of Rs 1420 Crores in revenue in 2016. The only manufacturer of laminates and the first to get UNFCCC carbon credits in the Indian market Extracts from the Profit and Loss Accounts for the fiscal year ending 31.3.2010 provide the following information:

Profit and loss account component Schedule O is shown here.

SCHEDULE O

OTHER INCOME	2009
Interest subsidy received	-
Income from Carbon Credits	126.53
Dividend on Long Term Investments	0.12
Insurance Claim Received	48.84
Liabilities no longer required written back	10.65
Prior period Income	0.35
Miscellaneous Income	29.4
Total	215.89

Source: Greenly Industries Limited (Annual Report 2008-09)

Greenly Industries Limited is responsible for this work (Annual Report 2008-09) The carbon credit sales resulted in Rs 126.53 Lacs in income for the business.

- The firm was approved to get 17,475 CERs for the Behror facility.
- Greenly Industries' share price rose 8.5% to Rs 121.05 when the company said it had reached an agreement to sell carbon credits value \$6 million.
- The agreement would add 500,000 Euros a year to the company's profits from 2009 through 2012. For its MDF production in Uttarakhand, the Company plans to apply for carbon credits via the UNFCCC.

Consequently, the profit and loss statement demonstrate that Greenly Industries gains financial advantage from selling carbon credits.

Reliance Power, Case 3

Anil Ambani Group subsidiary Reliance Power predicts that the 3962 MW ultra-mega power plant would generate Rs 2,000 crores²⁵ in carbon credits within the first decade of operation. The corporation asserts that the UNFCCC's and CDM Executive Board approved the Tilaiya project's proposal to obtain verifiable carbon reductions that could be sold, promoted, and converted into direct cash commencing in April 2012²⁶.

According to a statement from the business, the United Nations Framework Convention on

Climate Change has accepted the carbon credits (UNFCCC).

This recognition, in the words of Anil Ambani, "sets a benchmark for the nation and honors the company's adherence to use of clean, green technology for lowering carbon footprints."

Conclusion

Even if it is profitable for both countries that are participating in the global carbon trading, in the end, it will be the environment that will have to pay the price for it because the countries that generate the most greenhouse gases are also the nations that cause the most damage to the environment. We are already disrupting a delicate balance that must be maintained in the globe that we all inhabit, and the price that future generations will pay for living in an unhealthy climate will be quite costly. Putting a cap on the number of carbon credits that may be bought and sold requires stringent regulation. Scholars need to devote their time, income, as well as other skills to the research and development of carbon-free energy alternatives to the fuels that are now in use. This will avoid further damage to the environment. They could be able to put some strategies for environmentally responsible growth into action if they switched to using fuel that was either renewable or free of carbon. If a country wishes to affect change on a global scale, it must, first and foremost, make changes inside its own borders.

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