

A PRAGMATIC ANALYSIS OF CARBON CREDIT ACCOUNTING IN SELECTED COMPANIES OF INDIA

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Abstract

Carbon credit accounting is the survival mantra for the next generation dealing with number of techniques, methods and processes to stay in the race causing environmental and climate change issues. The nation of climate keeps on varying every second and every minute. One of the foremost reasons for this altercation is Global Warming; it is a phenomenon which raises the temperature of the earth. This leads to unusual seasonal changes, sandstorms, low pressure, depression, excessive heat pertaining illness and diseases around the globe. To live satisfied and happy with being protected sheltered, from such emissions, it is our primary concern to nullify some part of emissions of carbon dioxide gases. The ongoing government should have stringent and hard policies, process, rules, and regulations for carbon credit accounting to be a standard metric utilized by any commercial firm but rather not as a money alluring commodity. Carbon accounting is a social activity that keeps a track on the amount of carbon dioxide equivalents which will not be emitted into atmosphere as a result of altering the projects under Kyoto Protocol mechanism.

Keywords: Carbon Credit, Green House Gases, Kyoto Protocol, UNFCC and Financial Instrument.

INTRODUCTION

Climate change caused by human activities that emit greenhouse gases into the air has started showing its effect in the frequency of extreme weather events such as drought, extreme temperatures, flooding, high winds; and severe storms. The global surface temperature has also increased between the start and the end of the 20th century, caused by increasing concentrations of greenhouse gases resulting from Fossil fuels burning and deforestation; With the increasing attention given to the link between greenhouse gases and climate change, many companies are quantifying their greenhouse gases emissions for internal management purposes and an increasing number are also preparing a greenhouse gas statement: As part of a regulatory disclosure regime, As part of an emissions trading scheme or to inform investors and others on a voluntary basis included as part of the annual report.

CONCEPT OF CARBON CREDIT:

The greenhouse gases and Pollutants are emitted to the atmosphere or would have been emitted to the atmosphere had they not been captured and channelled to a sink. Determining which organizations or facilities to include in the company's greenhouse gas and Pollutions

Statement is known as determining the company's organizational boundary. In some cases, the applicable criteria may allow a choice between different methods for determining the company's organizational boundary. Determining the company's organizational boundary may require the analysis of complex organizational structures such as joint ventures, partnerships and trusts and complex or unusual contractual relationships. For example, a facility may be owned by one party, operated by another and process material solely for another party. Pollution is a waste material pollutes air, water or soil. Removal of greenhouse gases and Pollutants the company would have otherwise emitted to the atmosphere are ordinarily accounted for on a gross basis, that is, both the source and the sink are disclosed in the greenhouse gas and Pollutions statement. Three factors determine the severity of pollution, its chemical nature, the concentration and the persistence. Some pollution is biodegradable and therefore will not persist in the environment in the long term.

EVOLUTION OF THE CONCEPT OF CARBON CREDITS

The Concept of Carbon credit came into existence as a result of increasing awareness on the need for pollution control. It took the formal form after the international agreement between 141 countries, popularly known, as Kyoto Protocol. Carbon Credits are certificates awarded to countries that are successful in reducing the emissions that cause global warming.

GREEN HOUSE GASES AND THEIR EMISSION

One challenge faced by the human race is global warming. To address the issue of global warming, the United Nations Framework Convention on Climate Change (UNFCCC) was adopted in 1992, with the objective of limiting the concentration of Green House Gases in the atmosphere. Subsequently, to supplement the

Convention, the Kyoto Protocol came into force in February 2005, which sets limits to the maximum amount of emission of Green House Gases (GHGs) by countries. The Kyoto Protocol originally committed 41 developed countries to reduce their GHG emissions by at least 5% below their 1990 baseline emission by the commitment period of 2008-2012. The government gave its nod to ratify the second commitment period of the Kyoto Protocol (i.e., 2013-2020) that commits countries to contain the emission of greenhouse gases.

THE KYOTO PROTOCOL

As per the Kyoto Protocol, developing and least developed countries are not bound by the emissions they produce. Under the Kyoto Protocol, countries with binding emission reduction targets (which at present are applicable to developed countries) in order to meet the assigned reduction targets are issued allowances (carbon credits) equal to the amount of emissions allowed. An allowance (carbon credit) represents an allowance to emit one metric tonne of carbon dioxide equivalent. To meet the emission reduction targets, binding countries in turn set limits on the GHG emissions by their local businesses and entities. Further, in order to enable the developed countries to meet their emission reduction targets, Kyoto Protocol provides three market-based mechanisms. Joint Implementation (JI), Clean Development Mechanism (CDM), International Emission Trading (IET).

ACCOUNTING TREATMENT OF CARBON CREDIT ACCOUNTING CER IS AN “ASSET”

For CER to be an asset, it should be a resource controlled by the generating entity arising as a result of past events, and from which future economic benefits are expected to flow to the generating entity. In order to generate CERs, an entity undertakes a CDM project activity and thereby reduces carbon emissions. There are various stages involved in a CDM project activity to generate CERs. After a successful registration and operation of CDM project, carbon emission reductions are generated and these continue to be generated over the course of the project. However, at this stage, i.e., when the emission reductions are taking place, CERs do not arise. It may be argued that as soon as emission reductions take place these should be considered as assets since certification there of subsequently in the form of CERs is a procedural aspect. In this regard, it is noted that issuance of CERs is subject to the verification process i.e. CERs are applied for and on the expiry of 15 days having received no request for review and after having satisfied all requirements; a communication is received from UNFCCC thereby crediting CERs to the generating entity. It is, thus, possible that emission reductions may not eventually result in to creation of CERs. Accordingly, at this stage when emission reductions are taking place, CERs can, at best, be said to be contingent assets as per Accounting Standard (AS) 29, Provisions, Contingent Liabilities and Contingent Assets, which defines Compendium of Guidance Notes – Accounting a contingent asset as “a possible asset that arises from past events the existence of which will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the enterprise”. This is because when the generating entity reduces carbon emissions by way of a CDM project, the generating entity becomes eligible to receive CERs from UNFCCC. However, whether CERs will actually arise and be received by the generating entity or not will depend on a future uncertain event, i.e., certification of the same by UNFCCC. It follows from the above that a CER comes into existence and meets the definition of an asset only when the communication of credit of CERs is received by the generating entity. This is because only at this stage the CER becomes a resource controlled by the generating entity and therefore leads to expected future economic benefits in the form of cash and cash equivalents which would arise on the future sale of CERs. As stated above, at other earlier stages of the CDM project activity, there is no resource in existence for the generating entity, and hence the question of resource controlled and expected future economic benefits therefore do not arise. Accordingly, CER is an asset, when it comes into existence as stated a foresaid.

REVIEW OF LITERATURE

The International Energy Agency (IEA) has pointed out that global temperature may rise at least 3 degrees Celsius because emissions will not be subdued before 2020, increasing the risk of mass flooding and disease.

➤ **Marti Stuchtey, Partner with Mckinsey** and Published in the Economic Times dated 19th March 2008 points out that 60% of global executives regard climate change as being strategically important. Sameer Gupta, Empirical Analysis of Carbon Credit Trading, Published in ICFAI Reader, September 2008, concludes that India and China are likely to emerge as the biggest sellers and Europe is going to be the biggest buyer of carbon credits. He further states that climate change has become a corporate social responsibility and accordingly has a dimension of carbon Emission Reduction (CER) which leads to Carbon Credit Trading (CCT).

➤ **Chakravarthi Anand** in his article published “ICFAI” Reader “September, 2008 on Current Global Trends in Carbon Credit Trading has pointed out that the international carbon market is a key development in the global capital market and is the world’s fastest growing market. He further states that carbon credit trading has received a tremendous interest across the globe. It is a great opportunity for Indian and other global companies.

The review of literature was done by taking account of six factors. The factors identified were Carbon Credit Accounting, Kyoto protocol, Carbon Trading, Credits, emissions trading and Clean development mechanism. A survey was done so as to find out the awareness of carbon credit accounting. Since it is a latest topic to ponder upon not much of its basic concept have been touched and looked upon.

Theoretical research has been made in the context in aid to carbon emission, controlled and simultaneously credits earned by sundry designs of solar still in India. Carbon accounting is a social activity undertaken to keep a check of amount of carbon dioxide equivalents which will not be released into atmosphere as a result of variability projects under Kyoto protocol mechanism. Emission trading system is often called as cap and trade. The main motto of this principle is to reduce pollution and fight against global climate change. Sovereignty versus egalitarianism has been highlighted to provide a pragmatic answer to the equity debate. Then mixed with international emissions trading the constructive approach stands out for offering the developed countries huge amount of emoluments for participation in the lowering of greenhouse gas effect. Global warming has been the foremost and front runner theme which paves more insights to have climate finance in the agenda. Resent scenario is more pertains to financial selected professionals to leverage capital for emission free trading and clean energy. A significant additional change in economy through the crawling of socially responsible investment has been inadequately looked upon.

OBJECTIVES OF THE STUDY

The present research endeavours is entitled to analyse the following objectives.

- To understand the concept of carbon credit accounting.
- To understand its treatment in the books of accounts.
- To understand the effectiveness of carbon credit accounting with the help of Indian Companies case study.

DATA COLLECTION

The data required for the study is collected from the various business magazines, newspapers, articles and internet.

TOOLS AND TECHNIQUES

This research study includes application of accounting principles for the carbon credits. The study also includes the inception of carbon credit accounting and its effects on the pollution emitted entities in India.

RESULT AND FINDINGS

The results and discussion section present the results of the research findings which are detailed in the previous chapter. Major findings are:

- According to the present research, the results show that every organization studied in this research, is involved in Clean Development Mechanism (CDM) projects and Carbon Credits Trading (CCT) practices. This indicates that most of the organizations are taking interests in carbon credits trading.

Sources of awareness about carbon credits trading

The maximum source of awareness about carbon credits trading is through peer organizations or competitors. The newspapers, advertisements, workshops or conferences and various government officials are also good medium to create awareness of carbon credits trading.

Duration of involvement in carbon credits trading by organizations

According to the present study, the duration of involvement by organizations in carbon credits trading is less than two years. This shows that it is a new concept in India.

Carbon Credits Trading Policies and Practices in India

According to my research, there are some positive and negative impacts of the present status of prevailing carbon credits trading practices with respect to the manufacturing sector. The carbon credits "trading is affected by the pollution level and it is also affected by the environmental regulation / laws of the nation". The carbon credits' trading is not affected by the geographical location of the industry. The economic status doesn't affect on the trading of carbon credits and the trading of carbon credits is also not affected by the level of industrial development or industrialization.

Types of carbon credits that are most frequently traded by the organizations

The types of carbon credits that are most frequently traded by the organizations are generally offset credits, but some organizations have also selected Kyoto credits.

Reasons of involvement by the organizations in Carbon Credits Trading

According to the present research, it is concluded that most of the organizations are involved in carbon credits trading for environmental protection and earning additional revenue. But they are also willing to increase their market share value.

Provisions for the purchased carbon credits by the organizations

There has been a positive impact of the purchased carbon credits by the organizations on different methods of usage. Most of the organizations have some provisions to use the purchased credits. Several organizations have various provisions for proper use of purchased credits such as selling to the offset providers, selling to carbon offsetting organizations; carbon offset products, various offset activities of the companies and conversion into trust beneficiary rights. There is no comprehensive provision, concerning to all types of services of carbon credits trading in any organization. It is also found that there is no provision in any organization regarding keeping them unused because every organization is trying to sell their carbon credits.

Factors concerning carbon credits trading on organizations' profile

The type of operation, products produced and quantity of products manufactured by an organization affect the level of carbon credits trading while size, financial position and core competency of an organization do not create any affect on the level of carbon credits trading. This means that if the product emits more carbon in the atmosphere, then companies have to focus on carbon reduction techniques. So, organizations will take more interest in carbon credits trading.

Carbon credits trading practices adopted by the organizations

There has been a positive impact of carbon credits trading practices which are adopted by the organizations. Most of the organizations have been trying to develop the various products in an environment friendly manner. They also adopt various strategies to calculate its carbon footprint and greenhouse gases inventory but they don't have a well-defined emission reduction plan. Several organizations have audited their energy consumption and management process which has supported their business activities. Some organizations have been involved only in the origination of project based carbon credits and they have also been involved in the trading of project-based carbon credits as an exclusive separate business activity.

Steps in reducing the amount of carbon emission

For reducing the amount of carbon emission by the organizations, they have initiated the process such as recycling, dumping, reproducing, reducing and disposing. These are the appropriate steps for reducing the level of carbon emission from the atmosphere.

Accounting of Carbon Credits Trading Revenue

There has been a positive impact of carbon credits revenue on the organizations account. Most of the organizations have accounted the carbon credits revenue as other income and they have entered as asset in balance sheet but only few organizations have accounted as operating income. The revenue which have been generated by carbon credits trading have not been accounted as sales and also not included with the sale of service/ product.

Benefits gained by the organizations on implementing carbon credits trading practices

There have been many benefits gained by the organizations on implementing carbon credits trading practices. The main benefit of carbon credits trading has been the improvement in social status of the organizations. Another benefit of this concept is to decrease in the overall cost of meeting the emission reduction targets. The carbon credits' trading has offered additional revenue to the various organizations and in return organizations could use these funds for research and development purpose. The carbon credit trading has also increased the overall market share value of the organizations.

Challenges associated with implementation of carbon credits trading practices in the organizations

In carbon credits trading, there are several challenges regarding taxation. The accounting of Carbon credits have a lot of uncertainty involved due to lack of proper accounting standards. This trading has also encouraged the rich to move towards more sustainable ways but the export of carbon credits has been made to the foreign buyers yielding no tax. So there has been no explicit mention of these transactions as exports. The carbon credits stand as a source of perverse incentives to the organizations as well as to our nation.

Carbon credits trading practices on environmental pollution and other aspects

The results show the positive impact of carbon credits trading practices on the environmental pollution and other aspects such as social responsibility, waste management, sustainable development, etc. Carbon credits trading has reduced the emission of greenhouse gases, increased social responsibility among organizations and decreased environmental pollution. This research also shows that the income which has been generated from carbon credits trading has also decreased the environmental pollution by investing these funds in various carbon reduction projects. Carbon credits trading practices provide a significant help in waste management and sustainable development. The research cumulative assertion clearly predicts that most of the companies (8 in number out of 14 selected companies) treat carbon credit as Inventory in their books of accounting, while remaining 6 companies treat carbon credit as Other Income in their books of accounting. Surprisingly it was observed that no selected company treats carbon credit as Intangible assets in their books of accounting.

CASE STUDY

A Case of Delhi Metro Rail Corporation

India has a large potential to earn carbon credits. India is currently the fourth largest GHG emitter in the world, although its per capita emissions are less than half of the world's average. India has generated 1,77,360,206 CER's through CDM till 2014 and India stands second in the world in terms of CDM projects registered and issuance of CER's next to China. Delhi Metro Rail corporation has become first ever railway project in the world to claim carbon credits because of using regenerative braking in its rolling stock. DMRC reduces 30% electricity consumption with regenerative braking system in its trains. DMRC claimed 4,00,000 CERs for a 10 year crediting period starting December, 2007 when the project was registered by the UNFCCC. This converts to 1.2 carore per year for 10 years. DMRC has also been certified in June, 2011 by the United Nations body as the first Metro Rail and Rail based system in the world to get carbon credits for reducing GHG emissions as it has helped to reduce pollution levels in the city by 4.5 lakh tons every year, thus helping in reducing global warming. DMRC so far has helped in removing more 91 thousand vehicles from the roads of Delhi on daily basis. Accordingly DMRC's second CDM project has been developed, based on the shift of public travels in cars/buses and other means of road transport to the metro trains. Further, in Phase-III, lifts and escalators designed with regenerative braking are proposed so as to use the data for claiming carbon credits.

CONCLUSION

India has signed a Kyoto Protocol in 2002 regarding emissions. There are three mechanisms under the Kyoto Protocol for the developed countries which are under quota restrictions to acquire carbon credits. These are Joint Implementation, Clean Development Mechanism and International Emissions Trading. The CDM mechanism helps the developed countries to earn carbon credits. It also helps the developing countries to receive the capital, as well as the latest and clean technology. Under the IET Mechanism, the countries can trade in the international carbon credit market. Carbon credit is traded globally and it is a recently traded commodity at major commodity exchanges.

This research endeavour concludes that Carbon trading is an effective tool to earn extra benefits for developing countries and non developed countries. Clean Development Mechanism is also an effective source of technological and economic development for developing countries with environmental up gradation. Although India is the largest beneficiary of carbon trading, it still does not have a proper policy for trading of carbons in the market. For appropriate functioning and development of carbon markets and carbon trading practices, separate financial accounting standard must be established.

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