CHAPTER- 4
Carbon Credit Accounting and Auditing Framework in India

The present chapter is devoted to the framework related to carbon credit accounting and auditing in the light of existing legal framework in India.

4.1 Introduction

The whole universe is bearing from the issues of weather changing and ecological preservation. The industrial growth and vague management generate problems for the atmosphere. Because of the carbon dioxide and other corresponding gases, the atmosphere becomes drop downward. As a result, the idea about carbon credit has been introduced to protect the surroundings. Although, the development of carbon credit trade is booming but there is no particular accounting regulations and guidelines. Therefore, it is an important matter for the management in addition to ICAI and IASB to join with FASB to outline a specific procedure for the issue.

The accounting procedures and guidelines in effect in EU countries are principle supported and they give for a theoretical structure for financial statements in place of a catalog of regulations. Accounting procedures have to be applied in an equivalent and reliable way. The various accounting techniques are necessary on various applications that discharge incentives can have and the special trade forms of the accounting units. For a number of firms, utilizing discharge incentives are completely obligatory during the manufacturing practices and, as a result, they are generally accepted as assets. Accountability for the responsibility to provide a particular quantity of incentives at the final stage of the fulfillment phase is to be identified additionally.
Accounting participate an important responsibility in find out what subjects. Until it is calculated and presented on in financial statements a financial growth will not often accept a large amount of consideration.

Carbon credits are authorizing documents circulated to nations that decrease their Greenhouse Gas discharge which makes global warming. Carbon credits are deliberate and in buying and selling in groups of Certified Emission Reductions (CER). Every Certified Emission Reductions is equal to 1 tonne of carbon dioxide decline. Certified Emission Reductions are in the shape of documents, like a collection. A Certified Emission Reductions is set by the CDM administrative Board to ventures in progressing countries to approve, they decreased, greenhouse gas discharges by 1 tonne of carbon dioxide yearly. As per International Emissions Trading system, nations could market in the international carbon credit market. Nations with extra credits could exchange the same to nations with resulted discharge restrain and decreased obligations of the Kyoto Protocol. Progressed nations, which had crossed the line could one of two dispatch discharges, or acquire carbon credits from progressing nations. Usually, carbon credits are borrowed either through CER acquirement concurrence, business on the stock exchanges or by invitation for tenders floated by several governments. Looking at the huge demand for carbon credits in the developed nations, the developing nations have geared up for tapping the market. The emergence of the opportunity of revenue generation by taking up structured Clean Development Mechanism (CDM) projects has given a new dimension to Accounting and Taxation. This is due to Clean Development Mechanism (CDM), which is perhaps most exciting feature of the total scheme which allows 'Annex 1 countries' to meet their emission reduction targets by paying for
greenhouse gas emission reduction in non Annex 1 (developing) countries. Most Annex 1 countries have legally binding greenhouse gas emission reduction requirements under the Kyoto Protocol. These countries, instead of reducing emissions of their own companies, can ‘buy’ emission reductions in non-Annex 1 countries. Article 12 of the Kyoto Protocol states: The purpose of the Clean Development Mechanism shall be to assist Parties not included in Annex 1 in achieving sustainable development and in contributing to the ultimate objective of the convention, and to assist Parties included in Annex 1 in achieving compliance with their quantified emission limitation and reduction commitments.

4.2 Carbon Accounting: Global Status & Efforts

The weather change has revealed negative effect globally. The latest survey found that China followed by United States, EU countries and India are between the high level dischargers comprising almost 70% of whole worldwide greenhouse gas release. Considering the current circumstances carbon administration discipline needs to handle the cost advantages of guidelines and research methods, and to make sure real greenhouse gas discharges decreases that should be sensibly involved by legislators. The huge dischargers diagonally the globe should develop a shared functioning atmosphere consisting inspectors and scientific accounting specialists, to match accounting practices. The MNC management should plan an approach for reducing greenhouse gas discharges generally in industry distribution regions that are the center regions that effect discharges.
Several organizations across the world have started adopting certification standards for carbon accounting sustainability. The corporate sector requires information about the impact of climate change policies through carbon accounting as in present time there is no uniform financial accounting treatment for emission allowances. The quantification of the carbon number should be a part of any organization’s capital investment accounts. The empirics on the calculative carbon emissions number will became a visible actor in the newly arising carbon market, and its presentation acts like a boundary object and their enrolled allies adopts aesthetic appeal in management accounting system designs. Therefore, carbon accounting should be defined properly to be used in academics to process the research query, by legislators to restrict obligatory and voluntary accounting and by professionals to establish carbon accounting in
companies. There should be special emphasis on academic research on carbon accounting, as this is an excellent time of expansion and exploration of carbon accounting policy.

Some of firms in the United States, particularly in energy sector, have been needed to join in EPA, RGGI and some different carbon discharge plans for a number of years. A few of these plan has a cap-and-trade framework. For the reason that there is no accounting regulation or explanation inside US GAAP or IFRS that particularly deals with the calculating for discharges credits, renewable energy documentations, or comparable incentives, changeable process have materialized.

With the commencement of a probably wider supported carbon discharges agenda in United States, comprises cap-and-trade plans and narrated goods will probably influence a range of firms, consisting those in power, energy, shipping, refining and production.

Consequently, the requirement for a accounting procedure and guidelines that gives a structure for weather alteration accounting has been raised. The FASB and the IASB has been considered accounting used for emissions trading system since 2007. A contact draft is delivered in the first quarter of 2010, with a final scheme in 2011.

4.3 Current Accounting for Emissions Credits or Allowances

The recent study of United States community registrants with income between $1 billion and $100 billion for yearly dossiers arising among 1 February 2009 and 13 September 2009, and also found that 29 firms revealed their accounting procedure and guidelines concerns carbon credits or incentives to their financial balance sheets.
Figure 4.2: Disclosure of Carbon Emissions by Companies

Graph below shows that the procedures of accounting utilized for carbon credits among 29 firms.

Source: Compiled by researcher from available literature
The graph reveals the firms that pertain US GAAP and join current carbon emission activities usually pursue any of the diverse accounting procedures – (1) intangible assets model and other inventory model.

4.4 Accounting Norms on Carbon Credit in India

Carbon credit accounting procedures introduced in July 2009 in India. At present the firms will have to comprise carbon credits put up for sale or distributed to them by UNFCCC. The team outlined the rough sketch on the accounting principles and summarized that carbon credits are "intangible asset" and they required to take care as "inventory" in the financial statements till they are put on the market.

Beneath UNFCCC’s clean development mechanism (CDM), an industrialized nation is able to take up a greenhouse gas reduction project activity in an emerging state where
the expenditure of greenhouse gas decrease is generally too lesser and the industrialized nation should given carbon credits for gathering its discharge decrease targets.

The division join CDM is certified emission reductions (CER) which are usually described carbon credits where one CER is equal to one metric tonne of CO$_2$ equivalent.

A lot of units in India creating carbon credits and an necessitate was felt to give accounting direction in this specific matter. The description categorizes CERs as ‘assets’ of the producing unit. Though, since supply of CERs is matter to validate under the UNFCCC, CERs can be treated as dependent assets, only after it existed, i.e. after the entity has been supplied CERs by the UNFCCC. Hereafter, CERs are considered in the balance sheets.

Now, in the forthcoming paragraph the position of CER in selective countries and in India has been made the theme of discussion:

**Figure 4.4: CER Position Globally and in India**

Source: Compiled by researcher from available literature
The promotion of CERs is comparatively latest, the prospect financial advantages cannot constantly be guaranteed. So, a unit requires to build as appraisal for the possible marketplace for the CERs to ensure run of financial advantages in the potential, CERs should be identified.

In India there are approximately 35 million annual CERs under way from listed ventures from that a huge collection stays unsold. India made projections for credits to be delivered among 2016 and 2019, a projected hypothetical drop of approximately Rs 10,500 crore. It with a guess of 65% issuance achievement more than a seven year credit phase with estimated price of euro 10 per credit.

Indian organizations which have collect CERs too are troubled. Though, described as 'notional' loss in financial situation, however considered it as actual loss to the all sectors. GHCL has collected approximately 20,000 CERs as May 2011 that is still calculating for. CER owners of India have long been under pressure to put up for sale their CERs to other nations with utmost emission of GHGs and are under binding to abate them. The industrialized nations that are utilized to sanction these CERs in the umbrella of Kyoto have paced reverse. This has decreased above the counter worth of CERs as well. Enormous delivery and less demand cause crash in value. Industrial sector which prepared the good utilization of CER deals at 3-4 Euros were the hydro fluorocarbons- originating business and trade with storm ventures to create power for confined utilization.

The recent ventures in India are projected to make 815 million CERs for the year 2020. And around 189 million CERs are previously delivered. Therefore, several 626 million CERs are supposed to be delivered to Indian firms by 2020. Undelivered CERs also are
at a threat though the majority of Indian firms don’t comprise undelivered CERs in their financial statement. CER cost can rise for fear that a lawfully obligatory Kyoto stage II is decided in 2015 with the declaration of bottomless reductions and a variety of limitations on business CERs. For that occasion, merely choose ventures with choosen consumers could observe real cost (Namratasingh, 2014).

4.5 Taxation of Carbon Credits

Now, it is necessary to discuss the taxation aspect of carbon credit transactions which is given in the following paragraph:

Figure 4.5: Tax Treatment of Carbon Credit Transactions

Profits from trade of CERs should be accounted for under the head ‘Business and Profession’. The vending of identifiable was considered taxable in the head ‘Capital
Gains’. But at present a lot of Indian firms are collecting profits from carbon credit trade as returns from ‘additional sources’. The declaration for tax relaxation should be considered if credit not for in excess of 36 months instantly going before the transfer date. It provides a chance to get an assessment concerning timings of sale of that type credits, maintaining equilibrium among cash flow requirements, rate of interest issue and differences in taxation among long duration and short duration assets. At the same time as there should be no cost of attainment for self created CER credits, section 55(2) of the IT Act to be arrive into process, and sum sale concern to be accountable for Capital Gains Tax in relation to the time of investing trade in CER is succeeded either in spot marketplace or in future marketplace. Service tax could be applicable on account of dealing in CERs on the exchange platform, and in case of agreements effecting in supply, VAT could also be applicable. Typically, carbon credits in India are sold to overseas buyers; hence, there would be no VAT applicable on these goods. Whenever the asset is sold, money exchanges hands in return for forest carbon offset ownership rights. Accordingly, forest carbon offsets qualify as assets for financial accounting purposes because they are entity controlled and provide future economic benefits. The use of the forest carbon offsets determines their nature, which in turn dictates how they should be classified in the financial statements. This directly impacts the financial value perceived by the public and private sectors of forest carbon offsets. Further, in light of India undergoing a revolutionary amendment from regulatory perspective, like the proposed Direct Taxes Code, 2010, Goods and Service Tax, IFRS, etc., the position and treatment of carbon credits would have to be commented accordingly.
CER credits acquired from other parties for the purposes of trading are recognized in the books at the cost of acquisition, whereas self-generated CER credits are not reflected in financial accounts. In Indian circumstances, if sale of CER credits happen to overseas buyers, of the property held overseas, such sale, though sale of ‘goods’, will not attract any sales tax.

4.6 Valuation and obstacles

In some of the firms, the GHG accounting requires, choice of problems and questions, mostly, the determination of restrictions and possession of greenhouse discharge, working limits and greenhouse emission accounting of constructor; and dispute of weighing and accounting of GHG discharge and more study in working systems. In the upcoming years the majority of the companies need informing of carbon discharge and will expected to withstand with discharge-decline convention rules, as several countries take up carbon falling procedures in the shape of carbon enactment like carbon tax, cap and trade (a total limit on discharges and purchasing and trading of allocation to dispense greenhouse vapor) etc. The firms have put importance in this practice and a rise in interest for the verification assistance and a rise in the improvement of authorization meetings between verification constitutions have also risen. These verification-constitutions appear confront in give up with the massive amount of GHG informing and authorization necessity. For a characteristic GHG reporting standards the authorization constitutions articulated the requirement for higher coordination i.e. local and nationwide atmospheric change meetings must be connected effectively in a way that carbon measured in a country is equal as the carbon calculated in other, and significance of teaching on GHG informing and verifying. Supplementary to aid this
compatibility, need conversation on this topic, inside current global platforms, teaching and case studies and the growth of a Mutual recognition arrangements of authorization providers. The carbon market which is shaped by governments and other organizations has potential for improve their operation, with all financial accounting parameters. The anthropogenic encouraged Global Climate Change (GCC) arouses inquiry on the answerability of organizations for financial and non-financial presentation. In different countries the authorities answer to Global Climate Change by making of markets within which carbon could be transacted, carrying out monetary payoff for organization in the lengthy period. There are a variety of troubles related through the evaluation of contamination and their detection. A broad study of the fortuity and doubts emergent from Global Climate Change starts an argument of non-financial accounting essential for self governing responsibility and carbon position. In the majority division of the organizations around the world are liberated to opt their ideal carbon accounting technique for discharge allocation with merits and demerits. The organizations can prefer the accounting technique that is effortless and understandable matching their business. With the demerits the companies use a large amount of clock and assets judge various accounting types for discharge allocation to please various regulators, parent companies, and auditors. The utilize of a prearranged summary of method as the possibility of carbon accounting practice is increasing thus the fresh method such as input–output assist hybrid accounting, for business decision-makers environmental management should differentiate material and financial approach for carbon accounting.
4.7 Accounting Framework and Treatment of CER in India

The following is the discussion on accounting framework and treatment of CER in India:

1. When the CER is at the approval stage in the Executive board, it should be treated as contingent asset.

2. The expenses incurred on the project for clean development mechanism and reduction in carbon emission should be treated as intangible assets.

3. Once when the CER certified by UNFCC, and is available for trade, the CER should be treated as inventory.

4. The profit from the sale of CER should be accounted as profit from business.

5. Profit from sale of intangible asset is taxable under capital gains; most of the companies are showing the profit as income from other sources.

6. When CER are sold out to foreign companies, VAT is not applicable.

7. For the valuation of closing of stock of CER, the rules pertaining to valuation of closing inventory applies, it is measured at the cost price (or) market price whichever is less.

8. While calculating the cost price of CER, the expenses incurred for setting up of CDM project, operating expenses and expenses incurred for generation of CER are to be included.

9. Cost involved in research and development of CER should not take into account for the calculation of cost price of CER. The Research and Development expenses should be treated as per Accounting Standards-2.

10. All those capital expenses for the CDM/CER should be treated as capital assets.
11. As a disclosure norm, in the financial statement, Number of CER held and the methodology of assessment of CER should be disclosed.

12. It is also necessary to provide the details about the number of CER’S under certification.

13. Depreciation can be claimed for the capital goods which are involved in the project for the reduction of Carbon Emission.

14. Separate category should be disclosed in the balance sheet of the company about the material used, work in progress and finished goods with respect to the CDM/CER project.

According to Accounting Standards -2 issued by ICAI, valuation of inventory has to be calculated at cost price or market price whichever is less.

1. While calculating the cost price of CER, the expenses incurred for setting up of CDM project, operating expenses and expenses incurred for generation of CER are to be included.

2. While calculating the market price of CER which is termed as net realizable value (NRV), the formula should be taken into account.

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\text{NRV} = \text{Estimated Selling Price} - (\text{Estimated cost of completion} + \text{Estimated selling cost})
\]

4.8 Carbon Credit Accounting Issues in India

The various issues related to carbon credit accounting in India are as follows:

1. Till the approval of CDM by United Nations Framework for Climate Change, the project has to be treated as intangible asset, after approval CER has to be treated
as inventory. The conversion from asset to inventory in accounting will give rise to more complications.

2. While computing the cost of CER, the cost incurred for certification has to be treated as cost of inventory, the treatment for other expenses incurred for CER are not clarified.

3. Selling price of CER is obtained easily from the stock markets and commodity exchanges, but the calculation of actual cost price involves complication and the guidelines are ambiguous.

4. While calculating the profit on sale of CER, if all the cost incurred is not taken into account, there will be mismatch in the amount of profit in the financial statement.

The guidelines provided by ICAI with respect to accounting of CER in carbon credit found to be inconsistent. Already in June 2005 the accounting interpretation issued by the International Accounting Standards Board (IASB) under the International Financial Reporting Standards was withdrawn due to various complications in practical accounting of carbon credit. Now it is the time to debate and develop new mechanism of accounting to carbon credit.

4.9 Auditing Framework

The auditing framework related to carbon credit in the light of existing legal framework in India is given in the succeeding paragraphs.

4.9.1 The Air (Prevention and Control of Pollution) Act, 1981

The auditor is required to examine and collect the following, as audit evidence:
(a) Verifications and vouching of registers and documents maintained by the entity covered under the Air (Prevention and Control of Pollution) Act 1981.

(b) Copy of consent granted by the State Board along with the compliances of conditions therein, if any.

(c) Information of excess emission of air pollution furnished with the State Board.

(d) Re-imbursement of expenses relating to above said clause and their treatment and disclosure in Financial Statement.

(e) Treatment of cost incurred for the acquisitions of control equipments along with the disclosure in financial reporting.

Besides the above, the auditor is also expected to investigate the compliances of Accounting Standards and other standards applicable on the organization.

4.9.2 Explosives Act, 1884

This act is applicable on the manufacturing, possession, use, sale, transport, import and export of explosives. Central Government has been empowered to make rules. The auditor is required to examine and collect the following, as audit evidence:

(a) Verifications and vouching of register by the organization relating to purchase/usage of explosive material in export, import, internal consumption along with documents maintained by the entity covered under the Explosive Act, 1884.
(b) Copy of license granted by the appropriate authority along with the compliances of conditions therein, if any.

(c) Compliances of Information contained in licenses and stock register. The auditor should note the date on which the capacity of explosive material was in excess of the licenses capacity.

4.9.3 The Water (Prevention and Control of Pollution) Act, 1974

The auditor is required to examine and collect the following, as audit evidence:

(a) Verifications and vouching of registers and documents maintained by the entity covered under the Water (Prevention and Control of Pollution) Act 1974.

(b) Copy of consent granted by the State Board along with the compliances of conditions therein, if any.

(c) Information of discharged poisonous, noxious or polluting matter into a stream or well or sewer or on land. The auditor should estimate the Environmental Impact Assessment of these matters.

(d) Re-imbursement of expenses relating to above said clause and their treatment and disclosure in Financial Statement.

(e) The auditor should examine the measurement of risk may arise in futures in result of the point c, above said.

(f) Treatment of cost incurred for the acquisitions of control equipments along with the disclosure in financial reporting.

Besides the above, the auditor is also expected to investigate the compliances of Accounting Standards and other standards applicable on the organizations.
4.9.4 The Water (Prevention and Control of Pollution) Cess Act, 1977

The auditor is required to examine and collect the following, as audit evidence:

(a) Verifications of furnished return under the Water (Prevention and Control of Pollution) Cess Act 1977. The auditor should verify that whether the return is furnished with in the date specified under this Act.

(b) Vouching of Measurement of Cess paid and rebate claimed, if any, as per the register and schedule 3 of the Act, of consumption of water maintained by the person.

(c) Treatment of interest and penalty paid for non compliances in financial accounts, if any.

(d) Treatment of cost incurred for the acquisitions of plants for treatment of sewage or trade effluent, equipments along with the disclosure in financial reporting.

Besides the above the auditor is also expected to verify the treatment of tax paid on such acquisition and installation of plants for treatment of sewage or trade effluent. The auditor should also take care about the disclosure and treatment of such equipments in the financial statement as per prevailing Accounting Standards of the country.

4.9.5 The Environmental (Protection) Act, 1986

The auditor is expected to verify and vouch the following aspects under the Environmental Protection Act, 1986:

(a) Classification of cost incurred for the protection of Environment.

(b) Treatment of cost incurred for the purpose of financial reporting.
(c) Relevancy and materiality of such cost incurred.

(d) Disclosure in the Annual reports of the organization.

(e) Estimation of environmental impact analysis of the steps taken by the organization.

Besides the above the auditor is also expected to take care about the compliances of any statutory laws of the land.

4.9.6 Hazardous Wastes (Management, Handling & Trans-boundary Management) Rules 2008

The auditor is expected to verify and vouch the following aspects under the present rules:

(a) The auditor should verify the period and terms along with their compliances for authorization for grant by the Board.

(b) Verification of hazardous inventory as per the records maintained by the entity.

(c) Verification of treatment and disposal of hazardous wastes during the period. It should be reconciled with the Form 4 filed by the entity.

(d) Treatment of cost incurred for the treatment and disposal of hazardous wastes along with the disclosure in financial reporting.

(e) Treatment of cost incurred for acquisition of hazardous waste material treatment and disposal equipments as per the statutory norms.

(f) Evaluation of methods for disposal and treatments of hazardous waste material.

(g) Evaluation of any contingent cost and contingent liabilities which may arise in future due to the disposal and treatment of such wastes.
It is clear from the above discussion that there is no specific provision and accounting standards to disclose the environmental/carbon credit information which points out to the acceptance of hypothesis 1 of absence of specific provision and accounting standards in regulatory framework to disclose the environmental/carbon credit information. There are no guidelines or statutory provisions by national or international agencies for reporting of carbon credit in annual reports which signifies the acceptance of hypothesis 2 of absence of guidelines or statutory provisions in India reporting of carbon credit in annual reports of the companies.

It is after the discussion on the carbon credit accounting and auditing framework in India, the examination of the carbon credit accounting and reporting practices of select companies in India was considered necessary which has been made the subject matter of next chapters.