Carbon Credit Accounting for sustainable growth in Indian Context

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**Introduction:**

United Nations Framework Convention on Climate Change (UNFCCC) was adopted in 1992, with the objective of limiting the concentration of Green House Gases (GHGs) in the atmosphere. Kyoto Protocol came into force in February 2005 which sets limits to the maximum amount of emission of GHGs by countries. Kyoto Protocol provides three market based mechanisms. The only mechanism relevant in Indian context is Clean Development Mechanism (CDM) under which Carbon Credits (Certified Emission Reduction Certificate - CERs) are granted. Carbon credits are the certificates which are issued for certifying emission reduction. These certificates are traded in the international market and purchased by the companies of developed countries which are signatory to Kyoto protocol in order to cut down GHGs emission with the most cost effective way. Carbon credit is a financial instrument and it is an intangible asset. They need to be treated as asset (inventory) in the balance sheet till they are sold.

The Collins English Dictionary defines a ***carbon credit*** as “a certificate showing that a government or company has paid to have a certain amount of carbon dioxide removed from the environment”.

The Environment Protection Authority of Victoria defines a carbon credit as a “generic term to assign a value to a reduction or offset of greenhouse gas emissions usually equivalent to one ton of carbon dioxide equivalent”.

A carbon credit is a generic term for any tradable certificate or permit representing the right to emit one ton of carbon dioxide or the mass of another greenhouse gases with a carbon di oxide equivalent to one ton of carbon dioxide. Carbon credits and carbon markets are a component of national and international attempts to mitigate the growth in concentrations of greenhouse gases. One carbon credit is equal to one metric ton of carbon dioxide or in carbon dioxide equivalent gases. Carbon trading is an application of an emissions trading approach. Greenhouse gas emissions are capped and then markets are used to allocate the emissions among the group of regulated source.

**Carbon accounting or greenhouse gas accounting** refers to processes used to measure how much [carbon dioxide equivalents](https://en.wikipedia.org/wiki/Carbon_dioxide_equivalent) an organization emits. It is used by states, [corporations](https://en.wikipedia.org/wiki/Corporations), and [individuals](https://en.wikipedia.org/wiki/Individual) to create the carbon credit [commodity](https://en.wikipedia.org/wiki/Commodity) traded on [carbon markets](https://en.wikipedia.org/wiki/Carbon_market) (or to establish the [demand](https://en.wikipedia.org/wiki/Demand) for [carbon credits](https://en.wikipedia.org/wiki/Carbon_credit)).

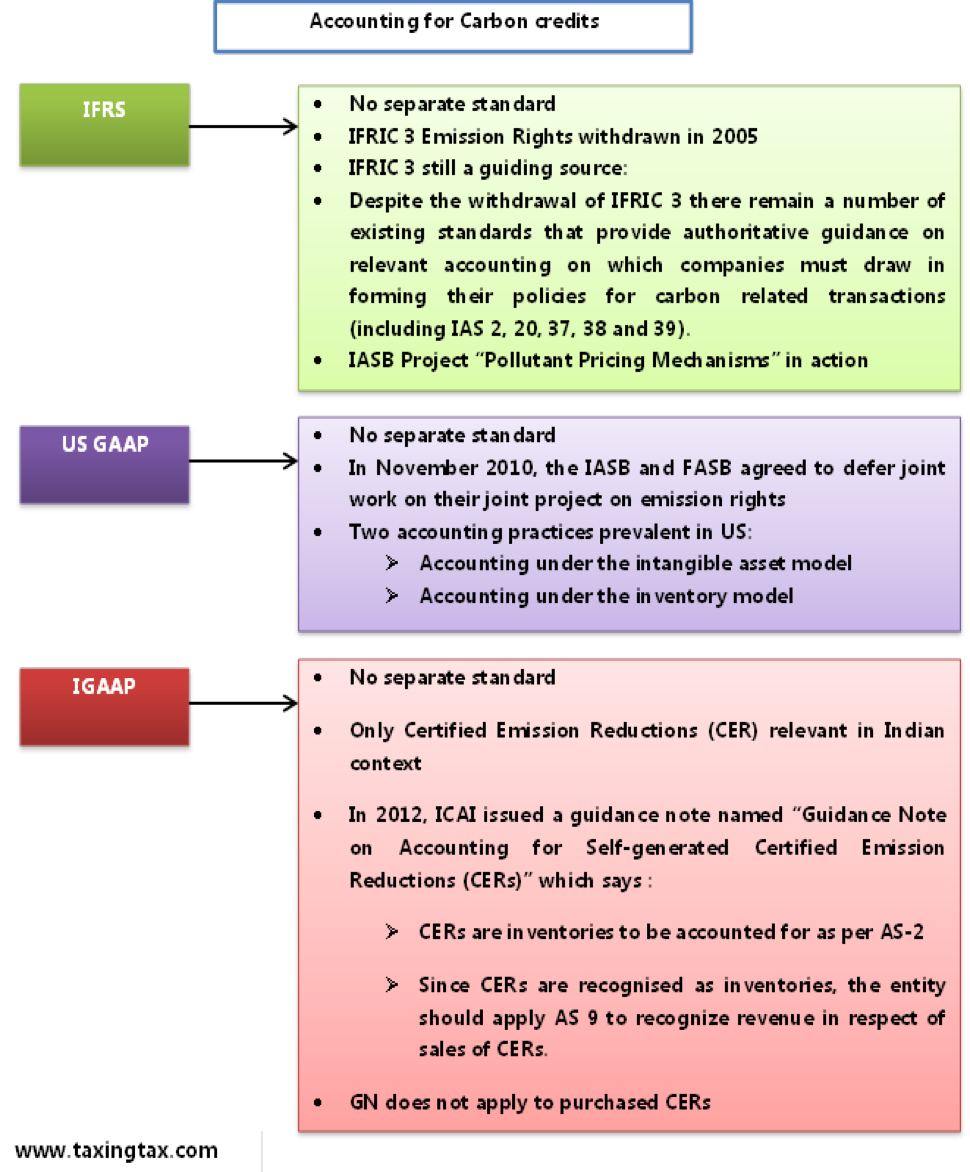
The main objectives and advantages of carbon credit accounting are selected by the signatories to the Kyoto Protocol as an alternative to carbon taxes. By treating emissions as a market commodity some proponents insist it becomes easier for businesses to understand and manage as:

* The price may be more likely to be perceived as fair by those paying it. ·
* Investors in credits may have more control over their own costs. ·
* The flexible mechanisms of the Kyoto Protocol help to ensure that all investment goes into genuine sustainable carbon reduction schemes through an internationally agreed validation process. ·
* It may provide a framework for rewarding people or companies who plant trees or otherwise meet standards exclusively recognized as "green

The goal is to allow market mechanisms to drive industrial and commercial processes in the direction of low emissions or less carbon intensive approaches than those used when there is no cost to emitting carbon dioxide and other Green House Gases into the atmosphere. Since Green House Gases mitigation projects generate credits. This approach can be used to finance carbon reduction schemes between trading partners and around the world.

Besides providing many facilities and advantages the concept of carbon credit has some drawbacks also which are given as below: ·

* The Kyoto mechanism is the only international agreed mechanism for regulating carbon credit activities and includes checks for additional and overall effectiveness respectively. ·
* The United Nations Framework Convention on Climate Change is the only organization with a global mandate on the overall effectiveness of emission control systems although enforcement of decisions relies on national cooperation. ·
* As several countries responsible for a large proportion of global emissions (notably USA, Australia & China) have avoided mandatory caps, this also means that businesses in capped countries may perceive themselves to be working at a competitive disadvantage against those in uncapped countries as they are now paying for their carbon credit costs directly



**Carbon Credit**

A Carbon Credit is equal to one ton of carbon dioxide expelled in the atmosphere. The concept came into existence as a result of increasing awareness on the need for pollution control. It became formal after the agreement among 141 nations known as KYOTO PROTOCOL. Carbon Credits are the certificates awarded to the countries taking active participation in reducing the emissions that cause global warming.

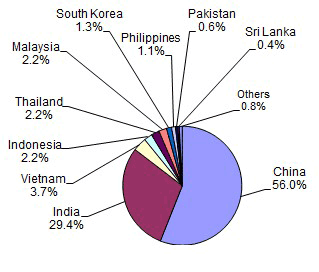
As per the KYOTO PROTOCOL, developing as well as the least developed countries are not bound by the emissions they produce. For the developed nation, to meet the assigned reduction targets, allowances have been issued equal to the number of emissions allowed. For attaining these objectives, three market-based mechanisms have been provided by the Kyoto protocol:

**CLEAN DEVELOPMENT MECHANISM**

In “The Clean Development Mechanism” (CDM) it is defined in Article 12 of the Protocol that it allows a country with an emission-reduction or emission-limitation commitment under the Kyoto Protocol (Annex B Party) to consider an emission-reduction project in developing countries.

The complete study on the accounting of Carbon Credits or the Certified Emission Reductions implies that there is no specific method of recording these credits in the books of accounts (Locatelli B., Pedroni L, 2004). The analyst and the related research papers and the guidance notes issued by the Institute of Chartered Accountants of India states that there are 4 ways in which the Credits can be recorded and treated as a Contingent Asset as an Intangible Asset and other Income.

The amount involved is giant and infrequent transactions are also involved. If the project is for a long term then the credits shall be bought or sold in multiple phases. At that particular time the identification of these in the books of accounts shall become a cumbersome task and if they are recorded as sales and purchases. The reason behind this is that are repeating and recurring in nature and is for a short period of time. Therefore, they must be classified as extraordinary items not treated as ordinary items of sales.

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http://cdmpipeline.org/cdm-projects-region.htm

There are several benefits of undertaking CDM projects:

* Reduced energy bills by using energy-efficient equipment.
* Additional depreciation on capital equipment‟s installed for CD projects.
* Reduced regulatory oversight.
* Image of a responsible corporate citizen.
* Advance preparation for such time when India will be given targets to reduce greenhouse gas emissions on its own account.

**The IASB Accounting Principles**

Since there’s no regulatory guidance yet, some firms made their own emissions accounting policies. But most companies are accounting for their carbon credit transactions using the [IASB’s IFRS](https://www.iasplus.com/en/standards/standards#international-financial-reporting-standards).

This accounting standard specified that:

Emission allowances (CER) are intangible assets and measured following IAS 38 Intangible Assets

If the CER is from a government, an entity can treat the credits as government grants on initial recognition (IAS 20) As an entity produces emissions, a provision for its obligation is recognized to deliver allowances as per IAS 37

CER is a non-monetary asset that has no physical substance. So, it’s treatable as an intangible asset. But it’s an asset that’s often not held for use in the production of goods or services. Rather, it’s held for sale and self-generated by the entity in the ordinary course of business.

**ACCOUNTING ASPECTS OF CARBON CREDIT**

In India, there is no separate Indian accounting standards to measure income and expenditure from carbon reducing projects. The existing standards can well account for new capital investments, its depreciation, recurring costs and sale proceeds of CERs. Some experts feel that CDM projects should be accounted for as a separate segment under AS-17 (segment reporting). This line of thought does not appear practical if the concept of „journey not destination‟ is properly followed. A CDM project cannot be a profit centre or cost centre in itself.

We have already seen that a CDM project cannot be a profit/cost centre in itself and therefore, it is neither possible nor desirable to attempt to work out separate profit or loss of any CDM project, with an accuracy expected from accountants. A combined reading of Section 43A and Schedule VI of the Companies Act clearly establishes that sale proceeds of CERs should be disclosed as a line item in schedule of other income if amount is material.

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 upgradation. 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.

In the global context, carbon trading and accounting can sell the credits at the prevailing market price globally. Until the global slowdown in 2017, carbon was one of the most lucrative commodities, where the value was nearly twice between 2017 and 2018. According to World Bank report, India was analysed and been expected to earn around $ 100 Million yearly and while trading in the carbon credits, Indian companies were expected to cover at least 10% of the global market in the initial years.

Indian companies might face a huge loss on unsold credits with prices escalating downwards to even less than one euro. Indian-registered projects thoroughly are expected to generate 815 million CERs by 2020. Industry estimates to peg the real loss to the overall industry at rupees ten thousand five hundred crores where credits are to be issued between 2017 and 2020.

The Indian Corporate Counsel Association (ICCA) has set eight principles for reducing worldwide greenhouse emission together with India.

1. Develop a structure and design to accelerate greenhouse emission reduction and avoid market hinderances and minimize carbon emissions.

2. Target the most important, best and lowest price abatement opportunities.

3. Push for energy potency is to enhance and to cut back the greenhouse emission. A recent study found that for each unit of greenhouse gases emitted directly or indirectly by the industry, the trade allows over two units emission saving via product and technologies provided to alternative industries and customers.

4. Support the event and implementation of latest technology.

5. Support the event of the foremost economical and property use of accessible feedstock‟s and energy.

6. Giving incentive for quicker action by satisfying „early movers that proactively cut back their carbon emission.

7. Push for the foremost economical and property disposal, recovery and usage choices.

8. Develop technology cooperation to support abatement in developing countries if trade policy manufacturers and alternative stakeholders take step to facilitate emission reduction and totally utilize chemical product.

Carbon Credits are gaining momentum not only around the world but also in India. The Concept of Carbon Credits evolved as a step to mitigate the rising Global Warming on earth. The emission of greenhouse gases by industries and anthropogenic activities has caused irreparable damage to the atmosphere leading to rising global temperature, affecting human life and causing Global Warming.

The Concept of Carbon Credits was therefore evolved by way of an agreement by different countries of the world when they met at the third Conference of Parties to the United Nations Framework Convention on Climate Change. Carbon Credits serve the dual purpose of protection of nature and as a source of revenue generation for the developing and under developed countries. The developed countries who have ratified the Kyoto Protocol which was an outcome of the Third Conference of Parties of the UNFCCC have agreed to reduce their greenhouse gas emissions as per the individual norms set by the Kyoto Protocol. In case they fail to meet the emission targets they can buy the extra requirement by following the flexibility mechanism provided by Kyoto Protocol i.e. either purchasing Carbon Credits from the commodities market or by investing in Clean Development Mechanism projects.

Carbon market has huge potential to generate profits. All the countries across the globe have identified that potential but they lack a proper authoritative guidance. There is no formal guidance available either from the International Accounting Standards Board (IASB) or Financial Accounting Standards Board (FASB) in the US for accounting of carbon emissions and credits. Although in 2004, IASB has issued IFRIC 3 – Emission Rights in order to provide guidance on this aspect but it lacked the clarity on potential volatility arising from recognising changes in the value of allowances and movement of provisions for emissions in the income statement. Therefore, IFRIC 3 has been withdrawn in June 2005. In the US, Emerging Issues Task Force (EITF) sought to provide guidance on this aspect under EITF 03-14 but the same was also dropped from the agenda. In 2007, again IASB taken up a joint project to address emissions accounting.

Due to lack of any mandatory guidance on carbon credit mechanism, there are currently divergent accounting practices in vogue. Differences exist on the accounting for development of projects under CDM mechanism, generation of CER‟s timing of recognition, sales and inventory valuation etc.

Currently, India account for the transactions related to carbon credits with reference to AS-2 (Accounting for Inventories), AS-26 (Intangible Assets), AS-12(Government grants), AS-9 (Revenue recognition), AS 10 (Revised tangible fixed assets) and AS-29 (Contingent assets).

As discussed earlier, Carbon credits are measured in terms of Carbon Emission Units (CERs). There are various accounting aspects on measurement and recording of CERs.

**ACCOUNTING TREATMENT**

**CER AS AN INTANGIBLE ASSET:**

Before going into the discussion that what type of asset CERs. It is imperative to know the meaning of „asset‟ in accounting. To become an asset, it should be:

Controlled by an enterprise as a result of past events, and

From which future economic benefits are expected to flow to the enterprise.

In context of CERs, Future economic benefits flowing from the CERs and CERs possessing a cost or value that can be measured with reliability should be met as follows:

As the market for CERs is relatively new an entity needs to assess the probability of arising of future economic benefits. The concept of probability means the degree of certainty with which future economic benefits associated with CERs will flow to the entity. Therefore, the probability criterion is said to be met when there is a reasonable assurance that future economic benefits will flow from the CERs to the entity.

As regards the criterion for measurement of cost or value there are certain costs which are incurred to generate CERs and therefore the cost of CERs can be measured reliably.

What type of asset CER is:

There are two types of assets: Tangible and Intangible

Tangible assets are those having physical substance but Intangible assets are those which do not have any physical substance and cannot be seen and touched like tangible assets.

CER does not have any physical substance. Keeping in view the non-physical form of CERs, the definition of

**intangible asset** as per Accounting Standard (AS) 26, Intangible Assets is noted as follows:

“An intangible asset is an identifiable non-monetary asset, without physical substance, held for use in the production or supply of goods or services, for rental to others, or for administrative purposes.”

Therefore, there are three main features of intangible assets: Identifiable, Non-monetary asset, and Without physical substance

From the above definition, there is confusion about CER being an intangible asset. The reason is that CERs are not held for use in the production or supply of goods or services, and used for neither administrative purposes nor are they used for the purpose of renting to others. Instead CERs generated by the generating entity are held for the purpose of sale.

Then, how come CER be an intangible asset? The answer lies in AS-26 itself. AS-26 recognizes the research and development activities as intangible asset. As per AS-26:

“An intangible asset arising from development (or from the development phase of an internal project) should be recognised if, and only if, an enterprise can demonstrate all of the following:

* The technical feasibility of completing the intangible asset so that it will be available for use or sale
* Its intention to complete the intangible asset and use or sell it and ability to use or sell the intangible assets:
* The identification of cost incurred.
* Probability of external market.
* The realistic expectation that there will be sufficient future revenues to cover cost.

Further, though CERs are intangible assets as mentioned above AS 26 scopes out those intangible assets from its purview which are specifically dealt with in another Accounting Standard and requires them to be accounted for in accordance with that Standard.

The intangible assets generated from the development expenses are capitalised and as per AS-26, intangible asset shall be recognised at cost.

**CER AS AN INVENTORY:**

The purpose of sale in the ordinary course of business is excluded from the scope of AS 26 (paragraph 2) and, therefore, is to be accounted for as per Accounting Standard (AS) 2, Valuation of Inventories. In this context the definition of the term “inventories‟ as given in AS 2 is noted below:

“Inventories consist of the following:

* Held for sale in the ordinary course of business (finished goods).
* In the process of production for such sale (raw material and work-in-progress).
* In the form of materials or supplies to be consumed in the production process or in the rendering of services (stores, spares, consumables).

From the above, it follows that CERs are inventories of the generating entity as they are generated and held for the purpose of sale in the ordinary course of business.

**CER as Inventory Item (IAS 2)**

IAS 2: an entity must account for inventories at a lower cost and net realizable value

Net realizable value: estimated selling price less estimated costs of completion and other costs to make the sale. The cost of inventories consists of all costs of: purchase, conversion, and other costs incurred in bringing the inventory to its present condition.

 Major inventory costs may include:

* Research costs from exploring measures to reduce emissions
* Costs incurred in developing the selected alternative measures
* Cost of preparing the Project Design Documents
* Registration fees with the United Nations Framework Convention on Climate Change (UNFCCC)

Therefore, even though CERs are intangible assets these should be accounted for as per the requirements of AS 2.

Measurement of CERs

As stated above, CERs are inventories for an entity which generates the CERs. Therefore, the valuation principles as prescribed in AS 2 should be followed for CERs. As per AS 2, inventories should be valued at the cost or net realisable value whichever is lower. Accordingly CERs should be measured at cost or net realisable value, whichever is lower. AS 2 defines net realisable value as follows:

“Net realisable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale.”

CERs do not come into existence till the UNFCCC certifies and credits the same to the generating entity and, therefore do not become the assets of the generating entity. Accordingly not all costs incurred by the generating entity give rise to CERs and therefore not all costs can be considered as the costs of bringing the CERs to existence (i.e., their present location and condition). For example, the research and development costs as mentioned above are the pre-implementation costs of the CDM projects which do not result in CERs.

It is only the costs incurred for the certification of CERs by UNFCCC which bring the CERs into existence by way of credit of the same by UNFCCC to the generating entity. Thus, the costs incurred by the generating entity for certification of CERs, are the costs of inventories of CERs.

In order to certify and issue CERs, UNFCCC imposes two types of levies on the generating entity:

* In form of specified percentage of CERs earned.
* In form of cash payment.

**In form of specified percentage of CERs earned:**

The first type of levy is in kind whereby a specified percentage of the CERs earned are deducted at the point of issuance by the UNFCCC. In other words the generating entity is issued CERs net of this levy. For example, if this levy is 2.5% and if 1000 CERs are to be issued, then after deducting 25 CERs, 975 CERs will be credited. This levy is applied to all projects other than those of the Least Developed Countries.

In form of cash payment:

The second type of levy is imposed in the form of a cash payment which is charged by the UNFCCC towards meeting administrative cost. In this levy a fixed payment per unit of CER is charged for the total CERs credited to the generating entity. Taking the above example further, if USD 0.12 per CER is charged towards the second levy, then the generating entity will need to make a payment at this rate for the 975 CERs credited to it, i.e., USD 117.

Apart from the above two levies, the generating entity also needs to pay consultation fees to the consultant for the services rendered to obtain the certification of CERs by UNFCCC.

The „costs incurred for certification of CERs‟ at which the inventory of CERs should be valued include the consultant’s fee and the cash payment made under the second levy to the UNFCCC for obtaining the credit of CERs. The deduction of CERs by UNFCCC under the first levy is in kind which increases per unit cost of the CERs credited to the generating entity.

**INCOME RECOGNITION OF CER UNDER AS-9:**

Since CERs are recognised as inventories, the entity should apply AS 9 to recognise revenue in respect of sales of CERs. A number of researches are done on the concept of carbon credit accounting. All of them give separate views on the recognition of the CERs. Some views are briefed here under:

As per the research done by Deloitte China Research and Insight Centre on New Challenges in Carbon Accounting – An Overview following suggestions are given: Carbon credits arguably have characteristics of both an intangible asset and inventory. According to the definition of Intangible assets, they lack physical substance and they do have a finite life. But unlike typical intangible asset, they do not amortize over that finite life. They also have the characteristics of inventory. Both IFRS and US GAAP define Inventory as assets that are either: -

* Ready for sale in the ordinary business
* In the process of Production
* Consumed in the process of production

.**Tax Planning**

As CERs are capital assets tax liability should be admitted under the head Capital Gain. If credit is held for more than 36 month immediately preceding the date of transfer claim for concessional rate of taxation should also be. This will provide a discipline for determining the difference between long term and short term holdings and will also give clarity about timings of sale of such credits a balance between cash flow needs interest factor etc. As we know that cost of acquisition of self-generated asset is nil, section 55(2) of the Income Tax Act will come in operation, and total sale consideration will be liable for Capital Gains Tax (long term/short term) according to the period of holding. 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.

* KPMG in its publication on "The Impact of Carbon Trading on Financial Statements" mentioned about the accounting and recording of the CERs in other countries an what does IFRS have to offer on this issue
* The IASB issued IFRIC 3 on „Emission Rights‟ but it was withdrawn in June 2005. Based on other IFRSs in issue at the time, IFRIC 3 concluded that: Rights (allowances) are intangible assets (IAS 38 Intangible assets). Where allowances are issued by governments for less than fair value. The difference between fair value and the amount paid, if any, is a government grant.
* Provisions for emissions-related liabilities should be recorded (IAS 37 Provisions, contingent liabilities and contingent assets).
* The main reason for withdrawal was the potential volatility arising from recognising changes in the value of revalued allowances (intangible assets) in equity but movements on the provision for emissions in the income statement.
* Despite the withdrawal of IFRIC 3 there remain a number of existing standards that provide authoritative guidance on relevant accounting on which companies must draw in forming their policies for carbon related transactions (including IAS 2, 20, 37, 38 and 39).
* The IASB and the Financial Accounting Standards Board (FASB) have launched a joint project on carbon emission accounting models but have not yet published a conclusion.
* In May 2008 the IASB scope discussion confirmed that the project will cover all tradable emission rights and obligations under emissions trading schemes. It will also address how activities undertaken in anticipation of receiving tradable rights in future periods (e.g. CERs) will be accounted for.

**Value Added Tax** . Delhi government in his recent notification has announced that the Certified Emission Reductions or the Carbon Credits are to be taken into consideration as goods and hence their sales liability is the value added tax in the State. The Commissioner of Trade and Taxes has declared and clearly stated that the nature and aspects of Carbon credits have to be checked and inspected against the definition of goods to arrive at the conclusion that carbon credit are same from ordinary commodities bought and sold in the market and thus a sale transaction of carbon credit would fascinate value added tax on sales.

Measuring any activity is very important and that is why accounting standards for emissions of carbon are crucially important because accounting create an impact on reporting which is comparable and intense increase in the quality of information. The diverge in practice in the comparable of financial statements which comes into the output in a more suitable decision-making process. This results in to increasing social concern about climate changes in general and CO2 emission in particular. In spite of this advantage there is non-international standards that specify how the accounting for emission rights and which leads companies to make decision as how to enter them if they decide to account for them. Generally, there are various ways for accounting for the carbon dioxide emission rights, according to the various interpretations from IFRS. For moment few companies identified emission rights as non-tangible assets excluding inventory.

In the meantime companies must interpret the existing standards based on the fact pattern of their particular business model, strategy and transactions. This will include providing relevant disclosures of policies, transactions and balances included in their financial statements.

**CARBON CREDIT ACCOUNTING GUIDELINES IN INDIA**:

The Institute of Chartered Accountants of India (ICAI) has issued an ‘Exposure Draft of the Guidance Note on Accounting for Self-generated CERs’ in 2009 enumerating suggested accounting principles for CERs generated by an entity. The exposure draft provides for accounting principles relating to recognition, measurement and disclosures of CERs generated by CDM. While undertaking a CDM project, an entity has to go through plenty of research and development, documentation and approvals process.

Accounting treatment for CERs taking in consideration the exposure draft issued by ICAI is proposed in the following manner: According to the ED, the generating entity should recognise CERs as asset only after receipt of communication for credit from United Nations Framework for Climate Change (UNFCCC) and provided it is probable that future benefits associated with CERs will flow to the entity and costs to generate CERs can be measured reliably. In case of CERs held with the CDM Executive Board, the note on accounting for carbon credits states that when the CERs are in the approval stage, these should be accounted for as per the provisions of AS 29 as Contingent Assets, and once approved, should be recorded in the books as an intangible asset. During the processes when CER are being generated and till the time the communication of about its verification is received from UNFCC, they are at best to be classified as Contingent Assets as per AS 29. Further, when such when the communication for recognition is received this assets meet the definition of the term ‘Inventory’ given under AS 2 (Valuation of Inventories) and, hence, are valued at lower cost and net realisable value. Only the costs incurred generated by the entity for certification of CERs bring the CERs into existence and, therefore, only those costs (cost incurred for certification of CER, consultants fees and fixed cash payment made per unit of CER as a levy towards administrative charges) should be included in the cost of inventory. According to the prescribed criteria, all other costs are either not directly relevant in bringing the inventory to its present location and condition or they are incurred before CERs come into existence. Thus, those costs cannot be inventorised. Expenses in the research and development phase are classified ad pre-implementation cost of CDM and while undertaking the project for reduction in carbon emission, cost incurred on development should be accounted for as enumerated in AS 26 for Intangible assets. And in cases where an entity may use a tangible asset / install devices to reduce emissions and generate CER, the cost in respect of such equipments/devices be treated as per the provisions of the Accounting Standard (AS 10 Revised) for Property, Plant and Equipment. Accordingly the depreciation of such assets / devices should not be included in the cost of the inventory of the principal product/s of the generating entity as they do not contribute to bringing the inventory of the principal product/s to their present location and condition, as the depreciation is incurred at the stage before CERs come into existence. Accordingly, depreciation of these assets / devices should be expensed in the statement of the profit and loss in the period to which it relates With regards to CERs held for sale; in case an enterprise possess CER to be traded in the ordinary course of business, i.e., the enterprise would hold the asset as ‘available for sale’, the same should be accounted for as Inventory under provisions of AS 2. Further, intent of the entity would determine whether these credits should be recorded as intangible assets or as inventory.

**Carbon Credit Accounting Issues in India:**

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

* Till the approval of CDM by United Nations Framework for Climate Change, then 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.
* 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.
* 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.
* 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.

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

1) Verifications and vouching of registers and documents maintained by the entity covered under the Air (Prevention and Control of Pollution) Act 1981.

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

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

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

5) Treatment of cost incurred for the acquisitions of control equipment along with the disclosure in financial reporting.

**Conclusion**

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 upgradation. 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.

Carbon credits are treated as government grants, accounting for R& D expenses incurred on undertaking the CDM project etc. Though several CDM projects are being undertaken in India, but there remains a lot of ambiguity with regard to legal, regulatory, accounting and taxation issues. One of the most important factors is consistency and methods must be adopted so that reported emissions may be compared over time. Fundamental to the adoption of these accounting practices is the need to be transparent and coherent and to leave a clear audit trail in all respects. A major challenge to reporting community at large in India is to improve comparability among environmental reporting. The accounting standard setters issue clear guidance on emission allowance accounting as soon as is practical from the Exposure Draft in 2009. If the corporate in India work more with each other, and with auditors and other technical accounting experts, to try to harmonise accounting practices in the run up to the issue of final guidance by regulators.

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