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Carbon Credit Accounting: Some Issues

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ABSTRACT *Carbon credit is a relatively a new jargon both at national and international levels and it has given rise to an interesting financial accounting dimension. India, having no legally binding emission reduction target at present, has emerged as one of the largest beneficiaries of Clean Development Mechanism (CDM) under the Kyoto Protocol in terms of generation of revenues through sale of carbon credits (measured by CER) making the country as one of the major players in the global market on the supply side of CERs. But, there is currently no authoritative accounting standard or guidance either from the IASB or FASB on accounting for carbon credits. In case of our country, the ICAI issued Guidance Note in 2012 which provides comprehensive guidance on accounting for CERs generated by CDM projects. But, there still exists some ambiguity as well as some issues remained untouched in the note. In the present paper, along with a discussion on CDM under the Kyoto Protocol and process of generating CER, various issues relating to accounting and reporting aspects of carbon credits, particularly those relevant to our country at present have been outlined.*

Carbon credit is a relatively a new terminology both at national and international levels. With the objective to combat against global warming and its devastating consequences countries around the globe have entered into an international and legally binding environmental treaty -'Kyoto Protocol' under the United Nations Framework Convention on Climate Change (UNFCCC) on 16th February 2005. By setting limits to the maximum amount of emission of greenhouse gases by the developed countries that ratified the protocol, referred to as Annex- I countries (presently 41), the treaty aims at stabilizing the concentration of greenhouse gases in the planetary atmosphere at a level that would prevent dangerous human interference with the climate system. As per the Protocol, however, the developing and least-developed countries (referred to as Non Annex-I countries) do not have any emission limit at present. Under the Protocol, binding countries i.e., Annex-I countries are issued emission allowances equal to the amount of emissions allowed where an allowance represents an allowance to emit one metric tonne of carbon dioxide equivalent in the atmosphere. To meet the emission reduction targets, binding countries in turn set limits on the emissions by their local businesses and entities. Now, in order to enable the developed countries to meet their emission reduction targets as well as to encourage the Non Annex-I countries to contribute towards emission reduction efforts, the Protocol provides three market-based and flexible mechanisms – Joint Implementation, International Emission Trading and Clean Development Mechanism (CDM) among which the CDM only is relevant to our country at present. Under CDM, a developed country can set up an emission reduction project (like generation of electricity with solar panel, installation of more energy-efficient equipments, etc.) in a developing country and earn carbon credits on the basis of emission reductions of the project which can be used to meet a part of the Kyoto target of the entity from developed nation. Besides, the entities in developing and least developed countries can also set up an emission reduction project, generate carbon credits on the basis of emission reduction achieved by the project and then sell such carbon credits at prevailing market prices to entities of developed countries that need such credits to meet their emission reduction targets. The carbon credit so generated is measured by the unit 'Certified Emission Reduction' (CER) where one CER is equal to one tonne of carbon dioxide equivalent not emitted. The mechanism, through carbon trading, serves the objective of both the developed countries with emission reduction targets (who are the buyers of carbon credits) as well as of the developing and least developed countries with no emission targets at present (who are the sellers/suppliers of carbon credits) with ultimate objective to reducing emission of GHGs in the atmosphere and promoting sustainable development.

India, being a Non-Annex I country to the Kyoto Protocol having no emission reduction target at present, has emerged as one of the largest beneficiaries of the Kyoto Protocol at large and Clean Development Mechanism (CDM) under the Protocol in particular, in terms of generation of revenues through sale of carbon credits with a great potential and opportunity for business enterprises, government and investors. Carbon credits by assigning a monetary value to the cost of polluting atmosphere, have made carbon emission an input cost to those business entities that pollute much and at the same time an important source of revenue to those who pollute less. The emergence of the opportunity of generating revenues through emission reduction has given birth of a new dimension to accounting and in the present paper along with describing process of generation of CER, various issues relating to accounting and reporting aspects of CER have been outlined.

Section II: Process of Generation of Carbon Credit (CER)
CERs are generated from CDM projects on the basis of emission reductions achieved by such projects. An entity desirous to set up a CDM project and generate carbon credits there from has to get the project registered with the CDM Executive Board of the UNFCCC following the procedures and guidelines formulated by the Board. At first, the entity needs to prepare a Project Design Docu-

Volume : 5 | Issue : 12 | December 2015 | ISSN - 2249-555X

ment (PDD) along with a Project Concept Note (PCN) which contain all the details of the proposed CDM project including viability, additionality, expected emission reductions and many other technical and non-technical matters. Then the project has to be approved by the national CDM authority. After getting national approval, the proposed project is required to be validated by a Designated Operational Entity (DOE), an independent auditor accredited by the CDM Executive Board which checks the PDD and verifies whether the proposed project meet the CDM criteria. If DOE validates the project then it submits the validation report along with all other necessary documents to the CDM Executive Board for project registration. The Board hosts all these documents on UNFCCC's website. If within 8 weeks no request for review of the proposed CDM project is received by UNFCCC, the project is automatically registered.

After the project is being registered with the UNFCCC, the performance (i.e., emission reduction) of the project is monitored and verified periodically by a DOE appointed by the entity and after successful verification, the DOE submits the verification report and other necessary documents to the Board with a request for issuance of CERs. UNFCCC hosts all these documents on its website and if within 15 days of making the request no request for review is received, CERs are certified and issued to the entity. The carbon credits (CERs) obtained by the entity can be sold at the prevailing market price to the entities who need it. Businesses can exchange, buy or sell carbon credits in international market at the prevailing market price which is determined, inter alia, by the demand and supply of such. At present, carbon credits are traded at the Chicago Climate Exchange, the European Climate Exchange and the Multi-Commodity Exchange of India (MCX), which launched futures trading in carbon credits in 2009.

Section III: Accounting issues of carbon credits (CERs)

Carbon credit is a relatively new area both at national and international levels and at present there is no specific accounting standard or guidance either from the International Accounting Standards Board (IASB) or Financial Accounting Standards Board (FASB) on accounting for carbon credits. In 2004, IASB issued IFRIC 3 on Emission Rights to provide guidance on this aspect but withdrawn later in June 2005 due to criticism on account of its reporting aspects. In the US, Emerging Issues Task Force (EITF) issued guidance on this aspect under EITF 03-14, but the same was also dropped from the agenda. In 2007, the two boards have again taken up a joint project to formulate a comprehensive framework for emissions accounting addressing its various aspects and dimensions but have not yet published the final decision on the issue. In case of our country, the Institute of Chartered Accountants of India (ICAI) issued '*The Guidance Note on Accounting for Self generated Certified Emission Reductions (CERs)*' in 2012 which provides comprehensive guidance on accounting principles to be applied in recognition, measurement and disclosures of self-generated CERs generated by the CDM projects. But, there still exists some ambiguity as well as some issues remained untouched.

(i) The first issue discussed in the guidance note is that whether the self generated CERs can be considered as assets of the generating entity. The 'Framework for the Preparation and Presentation of Financial Statements' (FPPFS) issued by the ICAI, defines an 'asset' as –'*An asset is a resource controlled by the enterprise as a result of past events from which future economic benefits are expected to flow to the enterprise.*' But, at the stage when the emission reductions are taken place by a CDM project, CERs do not arise because issuance of CERs is subject to verification by the DOE appointed by UNFCCC. So, at the time of emission reductions CERs can be treated as contingent assets as per Accounting Standard (AS) 29 and CERs meet the definition of an asset only when the communication regarding issue of CERs is received by the generating entity from UNFCCC. After issuance of CER, CER becomes a resource controlled by the generating entity from which future economic benefits in the form of sale proceeds are expected to be received. But, here it can be argued that as soon as emission reductions take place these can be considered as assets since after the actual emission reductions, issuance of CERs is just a procedural aspect. Again, according to the FPPFS, once an item meets the definition of the term 'asset', it has to meet the criteria of recognition of an asset so that it may be recognised in the financial statements. As CERs come into existence when these are credited by UNFCCC, CERs can not be recognised as assets before that stage.

(ii) Though CERs are non-monetary assets without a physical form, they do not strictly fall within the meaning of 'intangible asset' as per AS 26 as CERs are not held for use in the production or supply of goods or services, are not used for renting to others or used for administrative purposes rather CERs generated by the entity are held for the purpose of sale. The guidance note states that intangible assets held for the purpose of sale in the ordinary course of business are excluded from the purview of AS 26 and therefore, are to be accounted for as per AS 2, 'Valuation of Inventories' and finally concluded that even though CERs are intangible assets these should be accounted for as per the requirements of AS 2.

(iii) Regarding measurement of CERs, the guidance note states that as CERs are inventories for the generating entity, the valuation principles as prescribed in AS 2 should be followed for CERs. As per AS 2, inventories should be valued at the lower of cost and net realisable value.

Following AS 2, cost of inventories should comprise all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition. But, all costs incurred by the generating entity do not give rise to CERs (such as research and development costs, costs of preparing the Project Design Document; fees paid to National Authority for approval, fees of registering with UNFCCC, costs incurred for monitoring the emission reductions, etc.) and hence can not be considered as the costs of CERs. Costs which are incurred to bring CERs into existence are the costs of certification of CERs by UNFCCC and hence these costs constitute costs of inventories of CERs. UNFCCC imposes two types of levies on the generating entity. Firstly, a specified percentage (presently 2%) of the CERs earned by the entity is deducted at the point of issuance and CERs are issued net of this levy. In addition, a cash payment per unit of CER is imposed by the UNFCCC towards meeting its administrative expenses. Apart from these, the generating entity normally pays a consultation fee for rendering services to certify the CERs. Thus, the costs at which the inventory of CERs should be valued include the consultation fee and the cash payment made to the UNFCCC. The deduction of CERs by UNFCCC increases the per unit cost of the CERs issued to the generating entity. On the other hand, as per the guidance note the net realisable value of the inven-

Volume : 5 | Issue : 12 | December 2015 | ISSN - 2249-555X

tory of CERs is the estimated selling price in the ordinary course of business less the estimated costs necessary to make the sale.

(iv) On income recognition the guidance note states that as CERs are recognised as inventories, the entity should apply AS 9 (revenue recognition) to recognise revenue in respect of sales of CERs.

(v) The guidance note also states that the generating entity should show CERs as part of inventories in the balance sheet separately from other categories of inventories (such as Raw Materials, Work-in-process, etc.) with information on number of CERs held as inventory; basis of valuation; number of CERs under certification; depreciation, operating and maintenance costs of Emission Reduction equipments during the year.

Based on the above observations, the following issues can be pointed out:

As per the guidance note CER comes into existence and meets the definition of an asset only when the communication regarding issuance of CERs is received by the generating entity from UNFCCC. But, emission reduction achieved by a CDM project is verified by a Designated Operational Entity (DOE) appointed by UNFCCC and based on the verification report submitted by the DOE, UNFCCC issues CERs. So, CERs can be recognised as assets after the verification is made by DOE, rather after issuance of CERs by UNFCCC.

Regarding valuation of CERs, the guidance note states that only the certification costs and consultant's fees (if any) should be included to determine the value of inventories of CERs. But, without considering operating cost, monitoring cost and cost of verification by DOE, cost of inventory of CERs can not be determined properly, particularly for the pure CDM projects (i.e., the projects whose main source of revenue is sale of CERs).

A CDM project can be accounted for as a separate segment under segment reporting (AS 17) so that the profitability of CDM segment can be ascertained and reported separately.

An investor can trade on CERs like other securities. But the accounting and reporting aspects of such CERs did not find place in the note.

The guidance note does not address the accounting issues involved in carbon credits under other two mechanisms namely, Joint Implementation and International Emission Trading, though those mechanisms are not relevant to our country at present.

Section IV: Conclusion

At the moment, there is no authoritative accounting guidance within International Financial Reporting Standards (IFRS) explicitly for transactions involving carbon credits. In case of our country, the ICAI has issued guidance note on accounting for self generated CERs in 2012 but there still exists some ambiguity as well as some issues remained untouched in the guidance note. As more and more number of entities in India are now generating and selling more and more volume of CERs, specific accounting standard has to be formulated covering all aspects of accounting and reporting of carbon credits. So, the standard setting board, regulators and policy markers should duly consider the true spirit of the CDM in formulating the standard and try to incentivise the entities for attracting more and more entities into this emerging sector. Appropriate policy measures will facilitates the entities to discharge their responsibilities towards the environment without jeopardizing their own financial sustainability as well as help the country to build its image of responsible nation in the planet.

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