

# AN EMPIRICAL STUDY ON CARBON DISCLOSURE PRACTICES AND STRATEGIES IN EMERGING MARKET

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## Abstract

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Increasing awareness of environmental sustainability, investor demands, and legal frameworks have made carbon reporting essential for businesses worldwide, including Indian corporations (Huang et al., 2023). The paper explores the disclosed accounting practices of Certified Emission Reductions (CERs) by Indian firms in their annual reports. It is based on the secondary data collected from annual reports of NSE- or BSE-listed firms that made carbon credit announcements from 2005–2022. By using content analysis, this study examines the recognition, measurement, and disclosure practices of carbon rights received by Indian firms, hosted by Clean Development Mechanism (CDM) projects of United Nations Framework Convention on Climate Change (UNFCCC). The study found that there is huge diversity in disclosure practices of CERs and no consistency in reporting the CERs in annual reports. More specifically, most companies did not even disclose full information about the treatment of CERs. The Indian government might utilize this study as a foundation for developing policies since improved carbon accounting disclosures and laws are required to safeguard stakeholders' and investors' interests.

**Keywords:** Carbon Emissions Reduction, Disclosure, Reporting, Carbon Credit, Annual Reports, Content Analysis, India, Carbon Accounting, Financial Accounting, Standard Setting, Harmonized Reporting

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## 1. INTRODUCTION

At present, the rise in the average temperature has become a major concern of the world, and the biggest cause behind the temperature rise is the collection of carbon dioxide and other hazardous gases in the atmosphere (Bebbington, & Larrinaga, 2014). In 1992, the United Nations Framework Convention on Climate Change Chronology (UNFCCC) was adopted to limit the concentration of greenhouse gases (GHGs) in the atmosphere (Hahn et al., 2015). Thereafter, in 2005, the Kyoto Protocol (UNFCCC, 1998) came into existence to support the convention by setting limits on GHGs emissions by a country (Freedman & Jaggi, 2005). This protocol follows the principle of common but differentiated responsibilities, in which developed countries are under obligation to reduce their emissions (Cook, 2009).

For developing countries, a flexible mechanism was developed by the Kyoto Protocol under its Article 12, i.e., Clean Development Mechanism (CDM), which has two objectives: first, to encourage developing countries to attain sustainable development and second, to encourage developed countries to fulfil carbon emissions reduction commitments (Gupta, 2003). Under CDM, developed countries launch projects in developing countries to earn credits and offset the obligation of reducing carbon. Along with the whole world evolving in the Kyoto Protocol, companies in developing countries could submit projects such as renewable energy, chemicals, waste handling, afforestation, etc., through which they can earn carbon credits and sell them to developed countries (Kumar, 2016). By March 2022, a total of 7,846 projects had been registered across the world, and only two countries (China and India) accounted for 70% of the registered projects (CDM, n.d.).

With the increase in global competitiveness, organizations have become more responsible and accountable for reporting their climate change actions (Tang & Demeritt, 2018). Businesses are now confronted with climate change and recognize the risks and opportunities with its implications on business (Doda et al., 2015; Sharma & Verma, 2023). Thus, the impact of climate change has created a huge demand for carbon disclosure by stakeholder groups, and it is regarded as a major factor influencing the disclosure practices of firms (Clarkson, 1995; Guenther et al., 2016; Kamat & Kamat, 2012; de Grosbois & Fennell, 2022). Moreover, divergence in the accounting treatment of emissions rights showed a negative effect on stakeholders, who find it difficult to compare the data of different firms (Balachandran et al., 2014; Gallego-Alvarez et al., 2016). However, stakeholders are also waking up to seize the opportunity of changing corporate environmental perceptions, and there has been overwhelming demand for carbon disclosure (Ascui & Lovell, 2012; Gallego-Álvarez et al., 2018; Jayaraman et al., 2023). More importantly, carbon reporting has become the most important factor in analyzing a company's profile, and stakeholders expect low-carbon transition (Simnett et al., 2009). Despite being so vital, there is quite limited literature on Certified Emission Reductions (CERs) accounting in developing countries.

Reducing carbon not only benefits the environment but also strengthens an entity's bottom line. Despite having lots of uncertainty regarding the reporting of CERs, India is a major player in seizing opportunities in the carbon market. India is a developing country with the second-largest population and the third-largest carbon dioxide emitter in the world, so it has greater opportunity to grow.

At the global level, the carbon disclosure regime has witnessed significant evolution. The Task Force on Climate-Related Financial Disclosure established voluntary guidelines for disclosing climate information. In addition, the Global Reporting Initiative provided a comprehensive framework for businesses to disclose their CERs. Growing investor and public awareness, together with an increased focus on sustainability, has encouraged higher authorities to incorporate carbon disclosure into more comprehensive reporting standards (Andrew & Cortese, 2011).

In India, the Securities and Exchange Board of India (SEBI) introduced mandatory business responsibility and sustainability reporting requirements for the top 1,000 listed companies to encourage CERs disclosure. Businesses are now expected to offer a more detailed explanation of their environmental policies (Weinhofer & Hoffmann, 2010). Furthermore, the Institute of Chartered Accountants of India (ICAI, 2012) issued guidance notes on CERs accounting that guide matters of identification, measurement, and disclosure of CERs generated under CDM projects. Although many of these frameworks are still voluntary, there is a growing worldwide movement towards required CERs disclosure, reflecting a common commitment to combating climate change through greater accountability and transparency (Ghomi & Leung, 2013; Huang et al., 2023).

In brief, accounting for CERs does not have specific standards for its disclosure in annual reports. The mandate for CERs reporting has become increasingly prominent in India, considering the country's larger efforts to promote sustainability and ethical corporate practices (Kolk et al., 2008). The SEBI, among other regulatory bodies, has implemented frameworks like the business responsibility and sustainability reporting to require the top 1,000 listed entities to disclose environmental, social, and governance (ESG) metrics, including those about carbon. This indicates a rising understanding of how business actions affect climate change and how monitoring and reducing carbon emissions requires transparency. In addition to improving corporate responsibility and bringing enterprises into compliance with international environmental stewardship norms, the CERs reporting obligation also helps investors make sustainable investment decisions (Linnenluecke et al., 2015). India is now positioned as an active player in the global transition to a low-carbon economy due to this statutory emphasis on CERs reporting, which highlights a larger cultural trend towards prioritizing environmental sustainability and aligning with international efforts to address climate change (Jayaraman et al., 2023).

As the global community deals with the profound environmental impact of carbon emissions, stakeholders are demanding enhanced information about organizations' carbon footprints. Disclosure practices not only provide investors with

critical information to evaluate climate-related risks and opportunities but also authorize consumers to make informed choices based on a company's environmental impact. In addition, carbon disclosure encourages corporate responsibility, encouraging companies to reduce their carbon footprint, encouraging innovation towards sustainable practices and ultimately contributing to the collective fight against climate change. Resilient carbon reporting practices are a cornerstone in promoting sustainable business practices and aligning business activities with broader environmental goals.

Previous studies focused on examining the utilization, impact, and challenges associated with CERs (Ratnatunga & Balachandran, 2009; Balachandran et al., 2014), but the area of CERs accounting is still underexplored, ingrained, and black-boxed, which makes this study an interesting case. The present study aims to examine the recognition, measurement, and disclosure practices of CERs received by Indian firms to understand the accounting practices used for a clear understanding of current CERs accounting practices adopted. This study focuses on one of the fastest emerging economies, i.e., India, to gain an empirical understanding of CERs earned under the Kyoto Protocol.

The paper is structured as follows. Section 2 reviews the relevant literature. Section 3 explains the research method used to conduct the study. Thereafter, Section 4 presents the findings of the study. Lastly, Section 5 includes the conclusion, limitations, direction for future research, and implications of the study.

## 2. LITERATURE REVIEW

The natural environment is a major factor in facilitating the business environment; therefore, corporations should put their full efforts into protecting the environment (Awanthi & Navaratne, 2018). Globally, especially developing nations, are attempting to reduce the release of GHGs like carbon dioxide and encourage the shift towards a low-carbon economy in response to climate change, which is the largest environmental concern facing humanity (Wang et al., 2023). Under environmental accounting, CERs are gaining momentum all over the world. There are no independent International Accounting Standards (IAS), or International Financial Reporting Standards (IFRS), available internationally for the appropriate accounting, disclosure, and measurement of CERs, despite the increasingly high amount and worth of transactions associated with CERs (Haupt & Ismer, 2011).

**Table 1.** Certified Emission Reductions issued to India

Type of activity	Commitment period 1	Commitment period 2	Total
CERs issued for project activity	1,483,670,644	878,181,245	2,361,851,889
CERs issued for programme of activities	1,793,187	68,162,802	69,955,989
Total	1,485,463,831	946,344,047	2,431,807,878

Source: UNFCCC (2023).

In this regard, IFRIC 3 considered emission allowances as assets and agreed that these are intangible assets and not financial instruments. Thus, it recommended that irrespective of whether a firm considers emission allowances as purchased assets or donated assets, they should be treated as per the rules of IAS 38. Moreover, if the emission allowances are issued at less than fair value, then the difference between the two has been considered a government grants according to IAS 20. However, the issue of IFRIC 3 faced strong resistance from different accounting bodies due to the mismatch of accounting. It has been argued that if the gross basis approach is applied to the emission allowances, then it leads to an imbalance in the balance sheet and profit and loss account (Freedman et al., 2020).

Previous researchers recommended various approaches to report CERs. For example, Lovell et al. (2013) recommended that carbon emission allowances be recognized as assets either received for free or purchased and measured as government grants in a report published by KPMG (2018). Similarly, Lovell et al. (2010) found that among European Union Emissions Trading System (EU-ETS), only 15% of companies followed the recommendation of IFRIC 3. The consistent disclosure of CERs can significantly enhance the transparency and accountability of companies. It can drive internal improvement by highlighting innovative sustainable practices in the face of advancing environmental regulations. The disclosure of CERs encourages innovative and proactive environmental management, impacting the company's goodwill (Jayaraman et al., 2023).

As a major beneficiary of the Kyoto Protocol, ICAI (2012) issued guidance notes on the treatment of CERs involved in trading. Kyoto Protocol provides three markets-based mechanisms through which carbon can be traded: CDM, Joint Implementation (JI), and International Emission Trading (IET). Being a developing country, only CDM is relevant to India. Thus, ICAI (2012) provides guidance notes on the accounting treatment for identification, measurement, and disclosure of carbon emission reduction rights in annual reports. It suggested the combination of various accounting standards such as AS-2, AS-9, AS-26, AS-37, AS-38, and AS-39 regarding the treatment of inventory, other income, intangible assets, contingent assets, provisions, and financial instruments respectively. ICAI recommended that CERs possess the features of goods, so purchased and sold CERs can be treated as inventory. Income from CERs is besides the normal course of business activities, so it can be treated as other income according to AS-9. Moreover, AS-26 talks about intangible assets, and CERs are non-monetary assets that do not have a physical appearance, so they can be treated under the head of intangible assets. Furthermore, CERs income possesses the quality of uncertainty, depending on future action, thus it can be treated as a contingent asset (AS-29).

Subsequently, the guidance notes for CERs reporting was released by the ICAI (2012). It does not, however, address how the CERs balance is presented and disclosed after the fiscal year, particularly how it is valued and shown in the annual reports. Additionally, carbon accounting for the cap-and-trade scheme is not discussed in this note (Stechemesser & Guenther, 2012). The accounting treatment and reporting of emission

units under the CDM of the UNFCCC is now the largest difficulty facing those who develop accounting rules, businesses, investors, auditors, and the academic community (Dhamija et al., 2017). The literature that is pertinent to the recognition and accounting of emission credits in annual reports is covered in this section (Hartmann et al., 2013).

Lovell et al. (2013) advised treating emission permits as intangible assets both when they are acquired for cash and when they are given away, acknowledging the awarding of emission permits by the government when said allowances are obtained at no cost. Further, evaluate the emission allowances obtained as a government grant at fair value (determined by the market price), nominal value, or cost (which may be zero). Moreover, acknowledge the gift as deferred revenue and systematically release it to the income statement within the relevant compliance period. These emission units are not recorded on the balance sheet because of the occurrences that are anticipated. Nonetheless, the company's financial statement notes contain them. Warwick and Ng (2012) concluded that many companies did not disclose any information on carbon emission allowances, and the remaining companies followed a diversity of accounting policies. Lovell et al. (2013) analyzed EU-ETS's largest carbon-emitting firms through content analysis and found that the majority of firms did not disclose anything about their CERs. Black (2013) examined a sample of 62 businesses from 16 industrialized nations, representing 10 distinct industry sectors. According to content analysis results, 69.5% of businesses classify allowances as intangible assets. In the balance sheet, most businesses (62.9%) report free allocations at zero value. All but one (88.9% of the sub-sample) of the businesses that recognize allowances in inventory (14.5% of the sample) record free allocations at zero value. The valuation of allocations at nil or market value is ambiguous when the allowances are regarded as intangibles.

Disclosure has a complex effect on businesses, affecting several facets of their operations, reputation, and relationships with stakeholders (Aragon-Correa et al., 2016). By offering crucial information for well-informed decision-making, transparent and thorough disclosure processes can boost investor trust and perhaps draw in socially conscious investors. Additionally, businesses that promote open dialogue around their ESG performance may find that their interactions with regulators, employees, and customers can improve. Good disclosure processes lower the risks connected with false information or a lack of openness, strengthen a company's brand, and cultivate stakeholder confidence (Rainero & Modarelli, 2020). Furthermore, as concerns about sustainability in the global economy continue to grow, businesses that show their dedication to ethical business practices by disclosing information may be able to outperform their competitors in the market and better navigate the changing regulatory environment, both of which will ultimately contribute to long-term resilience and success (Ratnatunga & Balachandran, 2009; Sahore & Verma, 2021).

In brief, accounting for carbon does not have a specific standard for its disclosure in annual

reports. The present study aims to examine the recognition, measurement, and disclosure practices of CERs received by Indian firms to understand the accounting practices used for a clear understanding of current CERs accounting practices adopted.

### 3. RESEARCH METHODOLOGY

This study used content analysis to understand the disclosure practices of Indian-listed firms for CERs (Jose & Lee, 2007). The analysis examined the extent of accounting policies disclosed in the annual reports of selected sample companies. According to Colton and Covert (2007), content analysis is "a systematic, objective, and quantitative procedure for summarizing the content of written, recorded, or published communication" (p. 63). Given its versatility in analyzing large volumes of data and its ability to offer insightful information about patterns, themes, and trends, content analysis is widely used as a methodology. It is especially helpful when examining complex and diverse qualitative datasets; thus, the study adopted this particular methodology.

#### 3.1. Unit of analysis

To carry out content analysis, the present study used several counts as well as the volume of disclosure adopted by Indian firms concerning CERs. This study examined the publicly available annual reports to gather information on CERs disclosure. Moreover, annual reports are the primary source of information gathered from the company's website. The sample of the present study includes different sectors such as steel (15), sugar (14), cement (12), chemicals (12), power (12), textile (7), oil (6), and others (58): fertilizers (5), paper (5), diversified (5), miscellaneous (4), pharmaceuticals (3), construction (3), refineries (3), food processing (3), automobiles (2), casting & forging (2), finance (2), infrastructure (2), mining & minerals (2), trading (2), transport (2), aluminium (1), breweries & distiller (1), cigrates (1), electricals (1), electrodes & graphite (1), glass & glass products (1), hotels (1), metals (1), packaging (1), personal care (1), plastic (1), rubber (1), and tyres (1).

#### 3.2. Sample selection

A two-stage processes were adopted by the study to select samples. Firstly, data was fetched about CERs projects from Indian firms from the CDM website from October 21, 2005, to December 7, 2022. By using a daily search on the CDM project issuance calendar, an initial sample of 2010 projects were identified. Then, a sample size of 745 observations was reached by removing the non-listed firms. Furthermore, 595 observations were excluded by eliminating the duplicate announcements. Finally, the study reached the sample of 136 observations by removing the observations for which annual reports were not available and which involved more than two companies. Out of 136 companies, 129 companies are listed in both BSE as well as NSE, and the remaining seven companies are listed in either one of the indices.

The second stage of sample selection involves choosing annual reports for analysis. Thus, this study used the latest annual report after the announcement date of the project. Moreover, the selection criteria to analyse the annual reports were that the annual reports must be in English, be publicly available, and disclose about its CERs treatment.

### 3.3. Coding of disclosure on certified emission reductions

For analysis, the disclosed information on CERs in annual reports was downloaded from websites, and this study examined five broad accounting policy choices: intangible assets, inventory, other income, partial disclosure, and no disclosure. ICAI (2012) issued guidance notes on the accounting of CERs; this study additionally includes two more headings, i.e., partial disclosure and no disclosure. After that, responses were grouped as per similar treatment, and then the count function was used to analyze the response sheet.

## 4. RESULTS AND FINDINGS

### 4.1. Description of sample firms

The present section of the study provides empirical findings about the CERs disclosure of Indian listed firms. This analysis includes 137 firms that received CERs rights under the UNFCCC from 2005 to 2022. Content analysis has been employed to analyze the CERs generated under CDM regarding recognition, measurement, and disclosure in annual reports. Table 2 illustrates the descriptive statistics of the sample firms included in this study, which shows the diversity of sectors included in the sample. Out of the 137 companies in the sample, the majority of companies are from the cement, chemicals, oil, power, steel, and sugar sectors.

**Table 2.** Sectors represented in the sample and selected in the study

Sector	Frequency	% of total	Cumulative %
Cement	12	8.82	8.82
Chemicals	12	8.82	17.64
Oil	6	4.41	22.05
Power	12	8.82	30.87
Steel	15	11.03	41.9
Sugar	14	10.29	52.19
Textile	7	5.15	57.34
Others	58	42.66	100
Total	136	100	100

### 4.2. Accounting of CERs in annual reports

The content analysis of annual reports for disclosing CERs reveals that most of the companies partially disclose their CERs treatment, both before the issuance of ICAI guidelines (45.83%) and even after the issuance of ICAI guidelines (48.22%). The partially disclosed CERs companies are those that reported only the receiving of CERs certification but did not provide any treatment in financial reports. As shown in Table 3, the frequency of disclosing CERs as inventory and intangible assets increased from 0% to 11.61% and 0% to 0.89%, respectively. The low number of CERs disclosure as inventory is consistent with Lovell et al. (2010).

According to Abbasi et al. (2017), CERs income is not generated from the ordinary course of business activities, thus it is appropriate to treat it as other income. In contrast, in the case of Indian companies, CERs income treatment as other income has been reduced from 16.67% to 7.14%. Moreover, the number of non-disclosures has also been reduced from 37.5% to 32.14% after the issuance of ICAI (2012) guidance notes. This indicates that the reason for non-disclosure may be the lack of specific guidelines for the treatment of CERs, and the reduction in the percentage of non-disclosure after the issuance of ICAI guidelines suggests that companies now have some guidelines on the disclosure of CERs in financial reports.

**Table 3.** Recognition of certified emissions reduction in annual reports

Before ICAI Guidelines			After ICAI Guidelines		Total		
Treatment	Frequency	% of total	Frequency	% of total	Frequency	% of total	Cumulative
Intangible asset	0	0	1	0.89	1	0.73	0.73
Inventory	0	0	13	11.61	13	9.55	10.29
No disclosure	9	37.5	36	32.14	45	33.08	43.38
Other income	4	16.67	8	7.14	12	8.82	52.20
Partial disclosure	11	45.83	54	48.22	65	47.79	100
Total	24	100	112	100	136	100	100

The analysis of the annual report discloses that 121 (88.97%) companies did not disclose the valuation method of CERs in financial reports. Out of 136 companies, only 15 (11.03%) provided details on how they valued CERs, under which six different responses were recorded. Table 4 reveals that only six (4.42%) companies valued CERs at a lower cost or net realizable value, consistent with the conservatism concept of accounting. Moreover, only three (2.21%) companies valued their CERs at cost, consistent with historical cost conventions. Furthermore, three (2.21%) companies

recorded their CERs at realizable value.

These findings indicate that due to a lack of authoritative guidance, there exists inconsistency in the accounting of CERs between firms (Warwick & Ng, 2012). However, after the withdrawal of IFRIC 3, there is no national or international accounting standard to deal with carbon emissions reductions. This may be the reason for the high non-disclosure rate. Therefore, in the absence of authoritative guidance on the valuation of CERs inventory, various companies develop their guidance notes to deal with CERs (Abbasi et al., 2017).

**Table 4.** Valuation of certified emissions reduction inventory

<i>Particulars</i>	<i>Frequency</i>	<i>% of total</i>	<i>Cumulative</i>
Cost or net realizable value whichever is lower	6	4.42	4.42
Cost	3	2.21	6.63
Realizable value	3	2.21	8.84
Cost or market price whichever is lower	1	0.73	9.57
Market value	1	0.73	10.30
Accrual basis	1	0.73	11.03
No disclosure	121	88.97	100
Total	136	100	

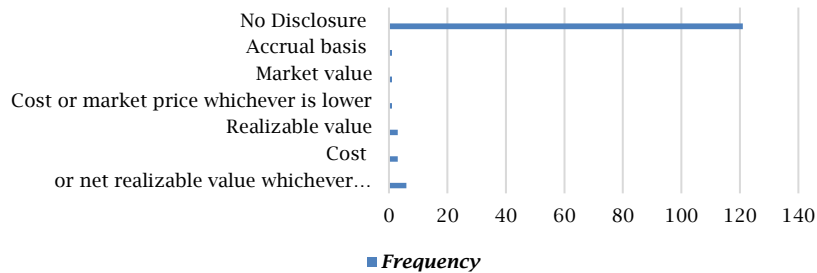
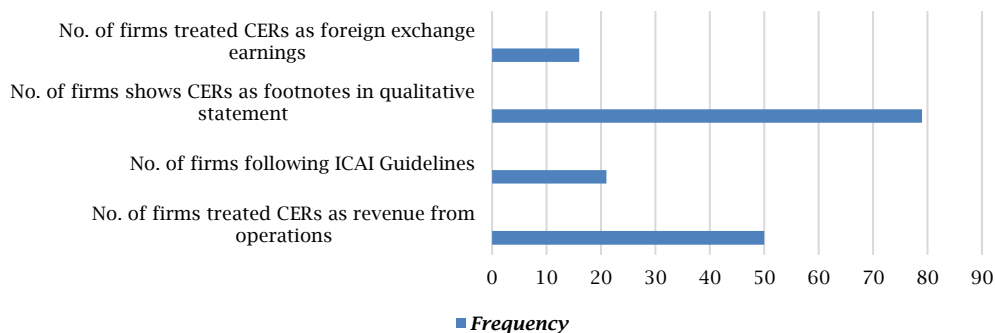
**Figure 1.** Valuation method of certified emissions reduction inventory

Table 5 indicates the recognition of CERs in financial reports. Table 5 depicts that 16 (11.76%) companies disclose their CERs as foreign exchange earnings. Moreover, as seen in Table 6 and Figure 2 79 (58.08%) companies disclose their CERs as footnotes in financial reports. Out of

136 companies, only 21 (15.44%) followed ICAI (2012) guidance notes, revealing that the lack of definitive guidance caused the high non-disclosure rate. Further, 50 (36.76%) companies treated CERs as revenue at the time of confirmation.

**Table 5.** Disclosure of certified emissions reductions in annual reports

<i>Disclosure in annual reports</i>	<i>Frequency</i>	<i>% of total</i>
No. of firms treated CERs as foreign exchange earnings	16	11.76
No. of firms shows CERs as footnotes in qualitative statement	79	58.08
No. of firms following ICAI Guidelines	21	15.44
No. of firms treated CERs as revenue from operations	50	36.76

**Figure 2.** Disclosure of certified emissions reductions in annual reports

The analysis demonstrated that there is a high non-disclosure rate of CERs in the annual reports of Indian firms. This may be due to the lack of a definite standard on carbon emissions reduction rights. Further, developing countries are currently not obliged to reduce their carbon emissions and report their liability in annual reports. However, there has been a significant rise in carbon emissions reduction disclosure after the issuance of ICAI (2012) guidance notes.

## 5. CONCLUSION

To protect the interests of stakeholders, better disclosure practices in annual reports are required. Proper accounts are needed for reporting carbon externalities and offsetting. There is an urgent requirement to develop a framework for accounting for carbon emissions. The disclosure of carbon footprints should be clear, simple, and in quantitative terms to help the public understand the company's impact way.

The present study found that there is currently no common accounting principle for CERs

measurement and disclosure. At present, very few firms disclose their CERs in annual reports in quantitative terms. Damage to the atmosphere in the form of releasing hazardous gases is a liability to the firm, and the task is to express this liability in monetary terms.

Disclosure of CERs should be clear, simple, and in quantitative terms, which will help the general public understand the company in a better way. Consistent with earlier studies (Warwick & Ng, 2012; Black, 2013), this study also showed that the disclosure rate of CERs is very low and departed from the IFRIC 3. Some of the sample firms followed the guidance notes issued by ICAI (2012), but most companies did not disclose their CERs accounting. Therefore, with the lack of authoritative guidance, companies are following a variety of accounting approaches to reporting their CERs. This study adds to the urgency of the need for accounting standards to measure and report the CERs consistently. Consequently, stakeholder groups also rely on the voluntary reporting of CERs. Therefore, there is an urgent requirement to develop a framework for accounting for CERs.

The findings of the study have practical implications for accounting standard setters, government, stakeholders, and credit agencies. The present study adds to the literature by extending the evidence from a developing country, India. The findings of the study state that 88.97% of the sample companies did not disclose the valuation of CERs in their annual reports. Furthermore, 58.08% of sample companies showed their CERs as footnotes in qualitative statements only rather than comprehensive elaboration. Although the disclosure rate of CERs has increased after the issuance of ICAI (2012) guidance notes, this indicates that specific standards on CERs disclosure can improve the overall ESG reporting status of Indian companies.

Thus, accounting standard setters should frame standards concerning the accounting treatment of CERs. Moreover, this study can be used as a baseline for formulating policies concerning

accounting. To protect the interests of stakeholders, better disclosure practices in annual reports are required. Hence, the results of the study have implications for various groups by assessing the CERs disclosure practices of Indian firms. To maximize social welfare, policymakers must make proper accounts for environmental externalities such as GHGs.

Several limitations may contribute to the open scope for further research. First, this study is limited to India only, which leaves room to extend the study by including foreign countries as well. Second, the study only analyzed annual reports, which can be further extended by adding interviews with accountants regarding CERs disclosure. Third, this research may be extended by including foreign companies or unlisted companies in the sample. Finally, future research could analyze the companies that do not provide information on carbon emissions reduction, better to analyze the characteristics of the firms, and can focus on the inductive approach by taking a case study that describes the reporting of CERs by industry.

Based on the findings of the study, it recommended some suggestions for the betterment of CERs accounting to show the true and fair position of the financial reports of companies. Firstly, there should be an independent section for CERs measurement and reporting in the annual reports shown in monetary terms. Secondly, there should be common protocols and guidelines for estimating carbon footprints so that the firms can redesign their production and supply chain processes. Thirdly, companies should emphasize disclosing their carbon emissions reduction and efforts to reduce these emissions to create a positive image in society by becoming environmentally sustainable. Lastly, a uniform CERs accounting standard should be developed for legitimate reporting by accounting standard setters. There should be mandatory CERs reporting by Indian firms so that annual reports can be better understood, reliable, and comparable.

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