

Environmental Reporting: An Analysis Of Global Creditability Initiatives

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ABSTRACT

The ultimate question of most business practitioners and policy makers now is how to reduce corporate negative environmental performance. One of the most effective ways is to help corporations to set the key performance indicators (KPIs) of their sustainability performance and to report these KPIs to their stakeholders using corporate reporting cycle. To improve the environmental reporting quality, companies generally adopt and follow widely recognised reporting guidelines and third-party assurance standards, thus improving their environmental disclosure quality and trustworthiness in minds of their stakeholders. Over the last two decades a number of global initiatives (e.g. GRI, ISO, DEFRA, AA1000 APS, and ISAE 3000) have been developed for use in sustainability reporting. This chapter, therefore, aims to shed light on these credibility initiatives developed by governmental and non-governmental bodies to improve the quality of environmental reporting and to see the extent to which these credibility initiatives are different or similar.

Keywords: Reporting Quality, Environmental Reporting, Reporting Initiatives, Assurance Initiatives

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INTRODUCTION

Sustainable development, climate change, biodiversity, and global warming are now widely recognized as the major environmental problems facing the globe. In large part, this is due to the production of energy using fossil fuels, air and water pollution, misuse of natural resources, etc. The ultimate question of most business practitioners and policy makers now is how to reduce/eliminate this negative environmental performance vulnerability of socio-economic systems in a cost-effective manner. One of the most effective ways is to help corporations to report and disseminate useful information about their environmental performance to stakeholders using the corporate reporting cycle (i.e. annual reports, stand-alone environmental reports, websites, press, and/or any other means of communication).

In an attempt to improve the quality and, in turn, the usefulness of the corporate environmental reporting (CER), and enhance trustworthiness in minds of their stakeholders, companies adopt various widely recognised reporting guidelines and third-party assurance standards. In particular, over the last two decades, a number of global initiatives (e.g. GRI, ISO, DEFRA, AA1000 APS, AA1000 AS, and ISAE 3000) have been developed for use in CER. For example, the ISO14031 deals with environmental performance, evaluation, and environmental performance indicators, and the ISO14063 provides useful tools for assessing the quality of environmental communication. As of yet, there is no substantive legislation for issuing either corporate environmental reports or their accompanying assurance statements; therefore, the adoption of such reporting guidelines and assurance standards remain on a strictly voluntary basis and at the discretion of the reporting company. This has created a number of challenges such as the persistent lack of consensus on what and how to report on environmental matters, so undermining the comparability of information as a key qualitative characteristic of useful corporate information.

The main purpose of this chapter is to investigate the available global credibility initiatives (i.e. reporting guidelines and assurance standards) developed by governmental and non-governmental bodies to improve the quality and reliability of CER and to see the extent to which these initiatives are different or similar. To this end, this chapter will be organized into six main sections including this introduction. The next section reviews related literature of defining and assessing corporate reporting quality. The following section outlines existing credibility initiatives of CER, classifying them into two sub-sections that deal with CER guidelines and CER independent third-party assurance standards, and discussing the commonalities and differences among them. This will be followed by a discussion on the need for generally accepted CER creditability principles. Finally, the chapter concludes and offers directions for future research in the following two sections respectively.

CORPORATE REPORTING QUALITY

Reporting quality is difficult to define and measure due both to its subjectivity and the multifaceted nature of the concept. The meaning of quality of information is much debated in the literature of voluntary disclosure (Hooks et al., 2002). It can be defined in a variety of ways as it is a complex, multi-faced concept (Beattie et al., 2004). Singhvi and Desai (1971) claim that reporting quality refers to completeness, accuracy, and reliability of this reporting. Brown and Hillgeist (2007) point out that this term reflects the overall informativeness of firms' disclosures and that the actual quality of a disclosure depends on the quantity, timeliness, and accuracy of the disclosed information. Diamond and Verrechia (1991) believe that disclosure quality is evaluated by logical investors' beliefs about the value of shares and bonds after receiving the disclosure. According to Kothari (2000) the term quality has been used in company reporting interchangeably with the term transparency and, therefore, both concepts are elusive. Gallery et al. (2008) say that quality of information can be achieved where more specific quantitative information, as opposed to less specific qualitative

information, is published and distributed to the firm's stakeholders. Additionally, from an analytical studies point of view, quality of disclosure can be defined as the precision of a Bayesian investor's beliefs about security value after receiving such disclosure (Diamond and Verricchia, 1991); or to what extent investors can easily read and interpret the information presented (Hopkins, 1996).

Regarding assessing reporting quality, the literature has advanced to include more comprehensive dimensions to assess reporting quality such as the quantity of disclosure, the style of disclosure, the range of issues addressed, the nature of the disclosure, the type of news being reported, and the time period covered (Cooke, 1989; Guthrie and Parker, 1990; Gray et al., 1995; Deegan and Gordon, 1996; Smith and Taffler, 2000; Unerman, 2000; Morhardt; 2001; Robb et al., 2001). According to Imhoff (1992) quality is an important attribute of accounting information regardless of whether that accounting is traditional, social, or environmental in focus. Although the meaning of accounting quality is not made clear in many studies, a large number do use the disclosure index methodology, thus implying a general view that disclosure quality can be assessed in this way. Using this methodology also implies that disclosure quality can be used to evaluate the potential usefulness of the information content of annual reports and other accounts (Wallace et al., 1994); hence disclosure quantity is being used as a proxy for its quality without addressing this concern (Cowen et al., 1987; Gray et al., 1995; Deegan and Gordon, 1996; Unerman, 2000; Hammond and Miles, 2004; Balata and Breton, 2005). A case can therefore be made for building a more representative and comprehensive model for measuring quality (Core, 2001; Beattie et al., 2004). Such a model will need to consider the following three dimensions of quality (3Cs):

- A. Quality of Content: quantity of disclosure; range of themes covered; style and nature of disclosure; types of disclosed news, and time period of disclosure.
- B. Quality of Credibility: following reporting standards and guidelines and inclusion of third-party assurance.
- C. Quality of Communication: use of presentation tools, images, tables, and graphs, to disseminate information.

In practice, the users of corporate reporting need useful, relevant, comparable, and reliable information. To enhance these features of corporate reporting, reporters should comply with admitted reporting guidelines, and inclusion of assurance statement (Aras and Crowther, 2008; IASB, 2010). This chapter, therefore, aims to discuss the global initiatives for corporate sustainability reporting and assurance standards and guidelines. These initiatives were developed to help companies to enhance the quality and usefulness of corporate environmental reporting.

ENVIRONMENTAL REPORTING AND ASSURANCE INITIATIVES

Companies seek credible CER to demonstrate their commitment to corporate sustainability. In doing so, they adopt specific reporting guidelines (in preparing their environmental reports) and seek independent third-party assurance (for environmental reports) in order to build up the trust that their stakeholders have in the information disclosed.

Environmental Reporting Initiatives

Environmental reporting guidelines provide a framework indicating what information might be of interest to users. In particular, they provide direct guidance to reporters on what and how to report, aiming to increase comparability of environmental performance from year to year,

between branches, and/or with industrial peers in different contexts. In preparing CERs, preparers are free to use from various reporting guidelines as are detailed below.

The IASB Conceptual Framework

The updated International Accounting Standard Board (IASB) Conceptual Framework¹, issued in September 2010, states that if financial information is to be useful then it must be *relevant* and *faithfully* represent what it purports to represent. Additionally, this usefulness of financial information is enhanced if it is *comparable*, *verifiable*, *timely*, and *understandable*. According to the federation des experts compatibles européens (FEE, 1999) and the United Nation environment programme (UNEP, 1994), despite these qualitative characteristics are clearly established for financial reporting, they should be adapted and applied to CER.

There are two groups of qualitative characteristics – fundamental and enhancing – that make the information provided in a corporate financial report *useful*, comprising six qualitative characteristics as follows (IASB, 2010, pp. A33- A38):

1. Fundamental qualitative characteristics are *relevance* and *faithful representation*.
 - a. For information to be *relevant* it must have:
 - i. The ability to influence the economic decisions of users;
 - ii. The predictive value by helping users to confirm their past evaluations; or
 - iii. The confirmatory value by helping users to confirm their past evaluations
 - b. For information to be faithful representation it must be complete, neutral, and free from error:
 - i. A complete depiction includes all information necessary for a user to understand the phenomenon being depicted, including all necessary descriptions and explanations.
 - ii. A neutral depiction is without bias in the selection or presentation of financial information. A neutral depiction is not slanted, weighted, emphasised, de-emphasised or otherwise manipulated to increase the probability that financial information will be received favourably or unfavourably by users.
 - iii. Free from error means there are no errors or emissions in the description of the phenomenon, and the process used to produce the reported information has been selected and applied with no errors in the process.
2. Enhancing Qualitative Characteristics are *Comparability*, *Verifiability*, *Timeliness*, and *Understandability*.
 - a. For information to be comparable, users are able to:
 - i. Identify and understand similarities in, and differences among items. For information to be comparable, like things must look alike and different things must look different.
 - b. For information to be verified, it should:
 - i. Help assure users that information faithfully represented the economic phenomena it purports to represent. Verifiability means that different knowledgeable and independent observers could reach consensus, although

¹ For more details see www.iasb.org.

not necessarily complete agreement, that a particular depiction is a faithful representation.

- c. For information to be timely, it should be:
 - i. Available to decision-makers in time to be capable of influencing their decisions.
- d. For information to be understandable, it is capable of being:
 - i. Classifying, characterising and presenting clearly and concisely to be understandable by users/readers with a reasonable knowledge of business activities and accounting, and willingness to study the information with reasonable diligence.

Global Reporting Initiatives (GRI)

The Global Reporting Initiatives (GRI)² is a leading international organization in sustainability field whose mission “is to develop and disseminate globally applicable sustainability reporting guidelines” (GRI, 2000, p.1). GRI is the result of a project of the coalition for environmentally responsible economies (CEREs) in Boston, Massachusetts that is run in conjunction with the United Nations environmental programme (UNEP). They published their first sustainability guidelines in June 2000 with more than 700 reporters from 43 countries are currently producing sustainability reports based on GRI sustainability principles (Thomson and Bebbington, 2005). The most recent KPMG survey of corporate responsibility reporting covers 4,100 companies across 41 countries comparing to 3,400 companies in 34 countries in 2011. Further, over three quarters (78%) of global N100 companies now refer to the GRI in their sustainability reports, an increase of 9% since 2011. Among the world’s largest G250 companies the rate increased to 82% in 2013 from 78% in 2011. These show that the GRI remains the most widely used voluntary reporting framework, far exceeding the use of national standards and other guidelines.

In May 2013, GRI had progressed to the fourth generation (G4) of their reporting guidelines. This new G4 version updated the G3.1 version that was launched in 2011 based on the culmination of two years of extensive stakeholder consultation with hundreds of global experts from a wide range of industrial sectors (GRI, 2013). One of the key targets of the G4 reporting guidelines is to help reporters prepare sustainability reports that matter and to make robust and purposeful sustainability reporting standard practice. In the main, this new version of G4 guidelines is a mixture of the traditional financial accounting scheme of the FEE and the IASB conceptual framework for financial reporting. The process of defining material aspects and boundaries of sustainability reporting and guidelines for sustainability reporting according to G4 are shown in Figures 1 and 2 (GRI, 2013b).

² For more details see www.globalreporting.org.

Figure 1: Defining material aspects and boundaries

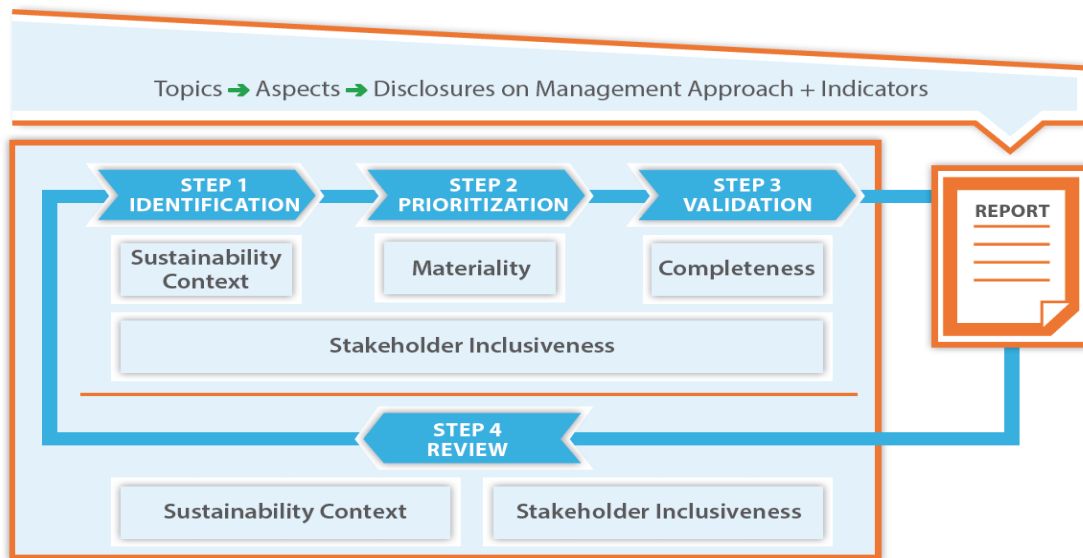
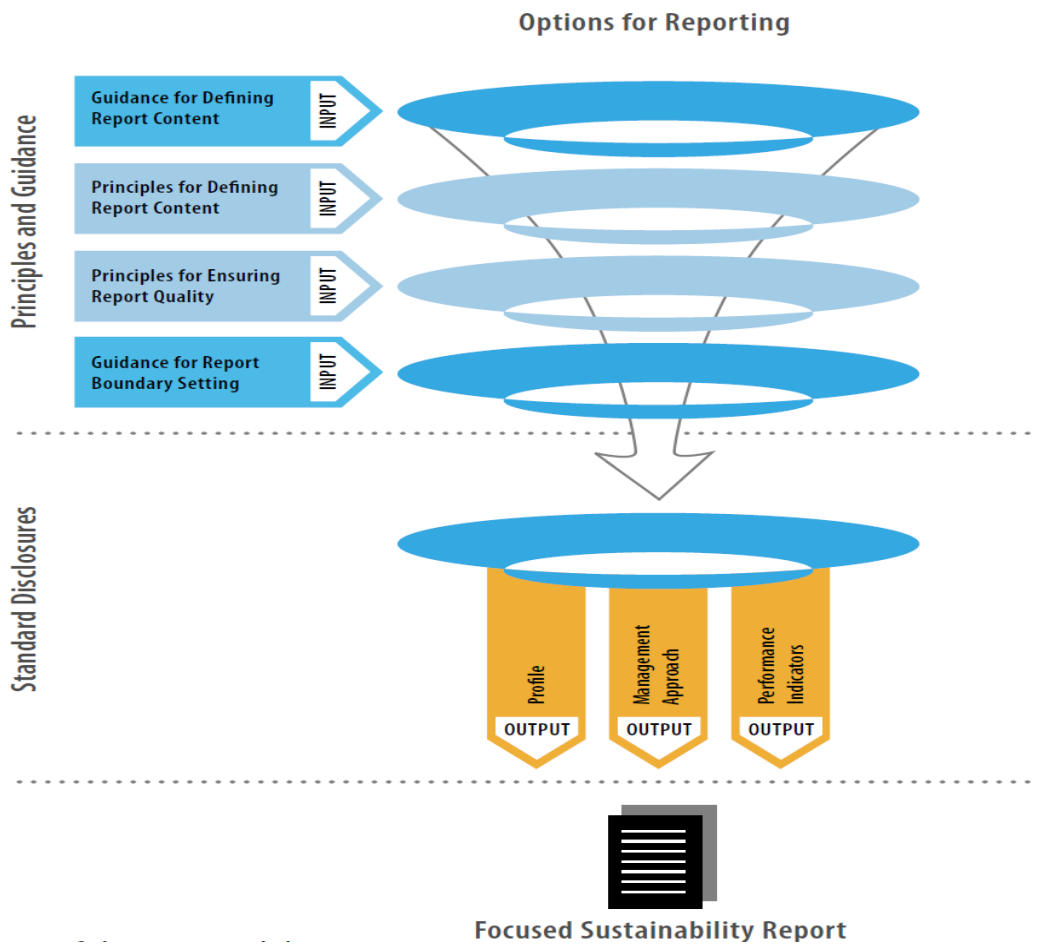


Figure 2: Overview of GRI guidelines

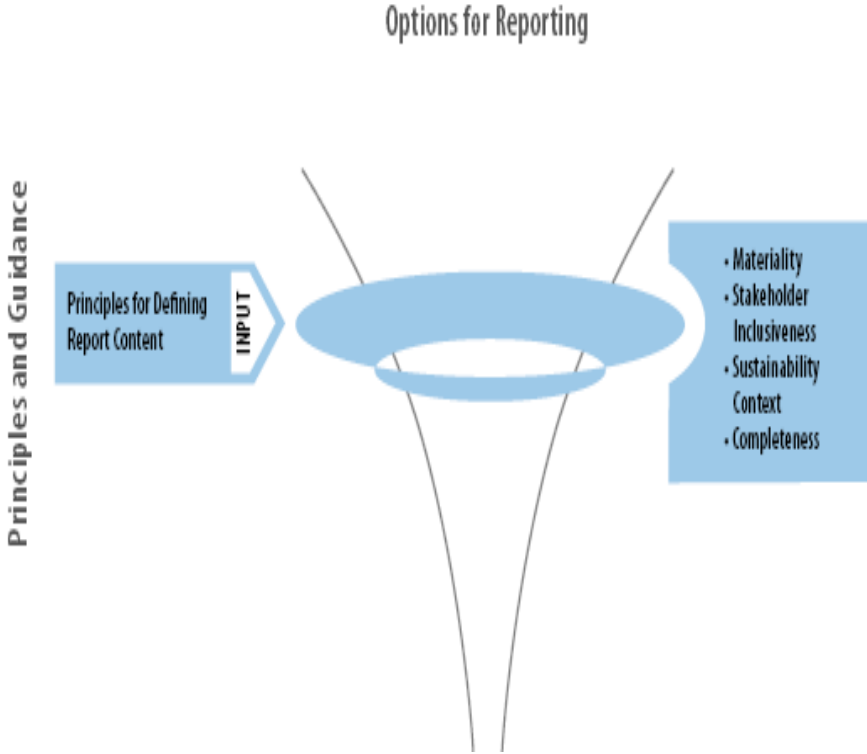


The G4 mission is to provide trusted and credible guidelines for CER, which can be used by organisations of any size, industrial sector, or location (GRI, 2013a, 2013b). These reporting guidelines are divided into two groups: principles for defining report content (see Figure 3) and principles for defining report quality (see Figure 4) (GRI, 2013, pp. 16- 18):

1. Principles for Defining Report Content

- a. Stakeholders Inclusiveness Principle: The organisation should identify its stakeholders and explain in the report how it has responded to their reasonable expectations and interests. Stakeholders can include those who are invested in the organisation as well as those who have other relationship to the organisation.
- b. Sustainability Context Principle: The report should present the organisation’s performance in the wider context of sustainability.
- c. Materiality Principle: The report should cover Aspects that:
 - i. Reflect the organisation’s significant economic, environmental and social impacts;
 - ii. Substantively influence the assessments and decisions of stakeholders.
- d. Completeness Principle: The report should include coverage of material Aspects and their Boundaries, sufficient to reflect significant economic, environmental, and social impacts and to enable stakeholders to assess organisation’s performance in the reporting period.

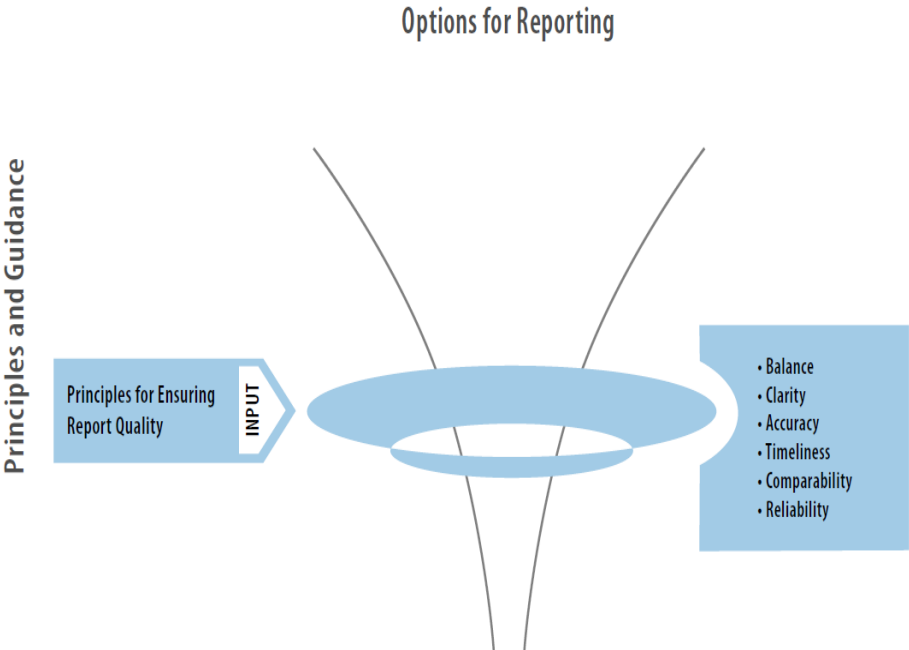
Figure 3: GRI Principles for defining report content



2. Principles for Defining Report Quality

- a. Balance Principle: The report should reflect positive and negative aspects of the organisation’s performance to enable a reasoned assessment of overall performance.
- b. Comparability Principle: The organisation should select, compile and report information consistency. The reported information should be presented in a manner that enables stakeholders to analyse changes in the organisation’s performance over time, and that could support analysis relative to other organisations.
- c. Accuracy Principle: The reported information should be sufficiently accurate and detailed for stakeholders to assess the reporting organisation’s performance.
- d. Timeliness Principle: The organisation should report on a regular schedule so that information is available in time for stakeholders to make informed decisions.
- e. Clarity Principle: The organisation should make information available in a manner that is understandable and accessible to stakeholders using the report.
- f. Reliability Principle: The organisation should gather, record, compile, analyse and disclose information and processes used in the preparation of a report in a way that they can be subject to examination and that establishes the quality and materiality of the information.

Figure 4: GRI principles for defining report quality



AccountAbility Principles Standards (AA1000 APS) 2008

AccountAbility is a global non-profit network with representatives in London, Washington, Beijing, Geneva, Sao Paulo, and San Francisco. It was established in 1995 to promote accountability innovations that advance sustainable development. AccountAbility’s leading-

edge accountability innovations include the AA1000 series sustainability principles, assurance, and stakeholder engagement standards. The main aims of AA1000³ are to help accountable organisations to take action to:

1. Establish a strategy based on a comprehensive and balanced understanding of, and response to material issues and stakeholder issue and concerns;
2. Establish goals and standards against which the strategy and associated performance can be managed and judged, and
3. Disclose credible information about strategy, goals, standards, and performance to those who base their actions and decisions on this information.

There are three AA1000 AccountAbility Principles (AA1000, 2008a, pp. 9- 14) as follows:

1. The Foundation Principle of Inclusivity: For an organisation that accepts its accountability to those on whom it has an impact and who have an impact on it, inclusivity is the participation of stakeholders in developing and achieving an accountable and strategic response to sustainability.
2. The Principle of Materiality: An organisation shall identify its material issues. Materiality is determining the relevance and significance of an issue to an organisation and its stakeholders. It is also an issue that will influence the decisions, actions and performance of an organisation or its stakeholders.
3. The Principle of Responsiveness: An organisation shall respond to stakeholder issue that affect its performance. Responsiveness is an organisation's response to stakeholder issues that affect its sustainability performance and is realised through decisions, actions and performance, as well as communication with stakeholders.

The first foundation principle of inclusivity is crucial for the achievement of the other two principles: materiality and responsiveness. Jointly, the three principles sustain the recognition of accountability. Further, inclusivity is the starting point for determining materiality. The principle of materiality determiners the most relevant and significant issues for an organisation and its stakeholders while the principle of responsiveness refers to the decisions, actions, and performance of a company related to material issues and concerns.

Department of Environment, Food, and Rural Affairs (DEFRA)

DEFRA⁴ is the UK department for Environment, Food, and Rural Affairs. Its key mission is to develop specific guidelines with the aim of helping organisations in providing and producing CERs. These guidelines explain how to produce CERs, to classify contents of CER, suggesting key environmental performance indicators. Table 1 demonstrates the CER process and the classification of the contents of CER. These guidelines are not only used in the food industry, but are set for all businesses. They place no mandatory requirements on any business. DEFRA guidelines are divided into two key groups. While the first group outlines general principles of CER such as transparency, accountability, and credibility, the second group encompasses desirable characteristics of Key Performance Indicators (KPIs). Both groups are presented as follows (DEFRA, 2006):

³ For more details see <http://www.accountability.org/standards/aa1000aps.html>

⁴ For more details see <http://www.defra.gov.uk/>

Table 1. DEFRA framework for environmental reporting process

No.	Reporting Process of CER	Contents of CER
1	Identify your audience	CEO Statement
2	Review and identify your environmental impacts	Environmental Policy
3	Prepare an environmental policy	Profile of your organisation
4	Consider what to include in a report-an incremental approach	Description of management system
5	Consider how to report & consider assurance arrangement	Key environmental impacts
6		Environmental performance indicators.
7		Targets for improvements/ Process against targets
8		Legal compliance

1. The Principles of Environmental Reporting

a. Transparency Principle

- i. The level of public disclosure;
- ii. Responsibility for environmental/ sustainable development exists;
- iii. Clear definition of boundaries of the company to which the report applies; and
- iv. An explanation of internal process to manage and report risk.

b. Accountability Principle

- i. The definition, level, and nature of stakeholders' engagement;
- ii. The existence and quality of third party assurance statements;
- iii. Integration of environmental reporting within the annual reports and accounts and business review;
- iv. The existence and success of the communication strategy; and
- v. The extent to which information is specifically identified and tailored to the needs of institutional investors.

c. Credibility Principle

- i. Understanding of the concept of SD and how it applies to the business;
- ii. A company's procurement policy and efforts to manage the impacts of its supply chain and products; and
- iii. The existence and description of externally certified or other environmental management systems (EMS) and other data collection, measurement, and management procedures

2. The Key Performance Indicators

- a. Quantitative Principle: KPIs should be measured and should be quantitative in nature. In this way the effectiveness of environmental policies and management systems can be sustained.
- b. Relevance Principle: A KPI should be accompanied by a general narrative, explaining its purpose and impacts.
- c. Comparability Principle: All companies should be able to report data in a comparable format, so users of CER can assess the environmental performance of a single company over time and relative to its competitors.

In June 2013, DEFRA designed a new guidance for companies in complying with the green house gas (GHG) reporting regulations as a requirement from the Climate Change Act 2008, and all organisations with voluntary reporting on a range of environmental matters, including voluntary GHG reporting using key performance indicators (KPIs) (DEFRA, 2013). Drawn from accounting principles and the internationally-recognised GHG Protocol Corporate Accounting and Reporting Standard from the World Resources Institute and World Business Council for Sustainable Development (known as the GHG Protocol Corporate Standard), DEFRA (2013) set the following principles for accounting and reporting environmental impacts:

1. Relevance: Ensure the data collected and reported appropriately reflects the environmental impacts of your organisation and service the decision-making needs of users- both internal and external to your organisation.
2. Quantitative: KPIs need to be measurable. Quantitative information should be accompanied by a narrative, explaining its purpose, impacts, and giving comparators where appropriate.
3. Accuracy: Seek to reduce uncertainties in your reported figures where practical. Achieve sufficient accuracy to enable users to make decisions with reasonable confidence as to the integrity of the reported information.
4. Completeness: Quantify and report on all sources of environmental impact within the reporting boundary that you have defined. Disclose and justify any specific exclusion.
5. Consistent: Use consistent methodologies to allow for meaningful comparisons of environmental impact data over time.
6. Comparable: Companies should report data using accepted KPIs rather than organisations inventing their own versions of potentially standard indicators. Use of accepted KPIs will aid you in benchmarking your organisation and will aid users of your report to judge your performance against that of your peers.
7. Transparent: This is essential to producing a credible report. Address all relevant issues in a factual and coherent manner, keeping a record of all assumptions, calculations, and methodologies used.

International Organisation for Standardisation (ISO)

The International Organisation for Standardisation (ISO)⁵ is a global body of national standardisation bodies. One of the most important ISO standard groups is ISO14000, which is concerned with environmental issues. ISO 14000 family is a group of standards – as a global benchmark for good practice – that cover the following environmental issues (ISO, 2010):

⁵ For more details see www.iso.org/iso.

1. Environmental Management System (ISO 14001, 14002, 14004)
2. Environmental Auditing and Related Investigations (ISO 14010, 14011, 14012)
3. Environmental Performance Evaluation (ISO 14031)
4. Environmental Labels and Declarations (ISO 14020, 14021, 14022, 14023, 14024)
5. Life Cycle Assessment (ISO 14040, 14041, 14042, 14043)
6. Terms and Definitions (ISO 14050)
7. Guide for Addressing Environmental Issues in Product Standards (ISO Guide 64)
8. Environmental Communication Guidelines (ISO 14063)
9. GHG Measuring and Reporting Frameworks (ISO 14064, 14065, 14066, 14067, 14069)
10. Sustainability Standards (ISO 21930) and Social Responsibility (ISO 26000)

In 2006, ISO issued standard 14063 entitled “Environmental Management – Environmental Communication – Guidelines for Environmental Communication/Reporting.” These guidelines are used to communicate or report environmental information. The ISO reporting principles are transparency, appropriateness, credibility, responsiveness, and clarity (ISO, 2010). However, it is clear that the standard concerns all types of environmental information without having a specific focus on the corporate environmental reporting (CER). This is because environmental communication is a wider that encompasses more than just CER. The environmental communication principles are:

1. Transparency Principle: The process, procedures, methods, and source of data, which are used in CER shall be available to all participants (CER users).
2. Appropriateness Principle: All the information reported should be relevant to the interested parties using format, language, and media that meet their needs.
3. Credibility Principle: Information reported should be provided in a fair manner and be truthful, accurate, traceable, and reproducible to all interested parties.
4. Responsiveness Principle: Environmental communication should be sensitive to the needs of interested parties. The enquiries and concerns of interested parties should be responded to in a full and timely manner.
5. Clarity Principle: Environmental communication should use understandable approaches and language to meet the needs of interested parties and to minimise ambiguity.

As shown above, ISO 14063 gives guidance to a company on general principles, policy, strategy, and activities relating to both internal and external environmental communication. It uses proven and well-established approaches for communication that have been adapted to the specific conditions that exist in environmental communication. It is applicable to all companies regardless of their size, type, location, structure, activities, products and services, and whether or not they have an environmental management system in place.

For addressing climate change, ISO also issued a series of GHG standards (ISO 14064, 14065, 14066, 14067, 14069) which continues to expand the need for a unified framework for GHG quantification, monitoring, reporting and verification. For example, ISO 14064-1 and 14064-2 provide specifications for quantification, monitoring and reporting of GHG emissions and emission reductions as well as removal enhancements. While ISO 14064-3 is a specification for the validation or verification of GHG assertions. ISO 14064-1 (2006) specifies the following principles for quantification and reporting of GHG emissions and removals:

1. General: The application of principles is fundamental to ensure that GHG-related information is a true and fair account. The principles are the basis for, and will guide the application of, requirements in this part of ISO 14064.
2. Relevance: Select the GHG sources, GHG sinks, GHG reservoirs, data and methodologies appropriate to the needs of the intended user.
3. Completeness: Include all relevant GHG emissions and removals.
4. Consistency: Enable meaningful comparisons in GHG-related information.
5. Accuracy: Reduce bias and uncertainties as far as is practical.
6. Transparency: Disclose sufficient and appropriate GHG-related information to allow intended users to make decisions with reasonable confidence.

By applying these principles, organisations can provide clear, useful and consistent GHG emissions reports (ISO, 2010).

Greenhouse Gas Protocol Initiative

The Greenhouse Gas Protocol Initiative⁶ is a multi-stakeholder partnership, launched in 1998, of businesses, non-governmental organisations (NGOs), governments, and others convened by the World Resources Institute (WRI), a USA- based environmental NGO and the World Business Council for Sustainable Development (WBCSD), a Geneva-based coalition of 170 international companies. The Initiative's mission is to develop internationally accepted greenhouse gas (GHG) accounting and reporting standards for business and to promote their broad adoption. This initiative comprises two separate but related standards, which are explained in turn.

1. GHG Protocol Accounting and Reporting Standard

The first edition of the GHG Protocol Corporate Accounting and Reporting Standard, published in September 2001, enjoyed broad adoption and acceptance around the globe by businesses, NGOs, and governments, aiming to ensure that the reported information represents a faithful, true, and fair account of a firm's six GHG emissions (i.e. carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride). The standard is based on the following principles (GHG Protocol, 2004):

- a. Relevance: Ensure the GHG inventory appropriately reflects the GHG emissions of the company and serves the decision-making needs of users – both internal and external to the company.
- b. Completeness: Account for and report on all GHG emission sources and activities within the chosen inventory boundary. Disclose and justify any specific exclusion.
- c. Consistency: Use consistent methodologies to allow for meaningful comparisons of emissions over time. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.
- d. Transparency: Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.
- e. Accuracy: Ensure that the quantification of GHG emissions is systematically neither over nor under actual emissions, as far as can be judged, and that uncertainties are

⁶ For more details see www.ghgprotocol.org www.wri.org www.wbcsd.org.

reduced as far as practicable. Achieve sufficient accuracy to enable users to make decisions with reasonable assurance as to the integrity of the reported information.

2. GHG Protocol Project Accounting: Quantification and Reporting Reduction GHG

This guide provides specific principles (GHG, 2004), concepts, and methods for quantifying reporting GHG reductions from climate change mitigation projects (GHG, 2005).

Oil and Gas Industry Guidance on Voluntary Sustainability Reporting

The International Petroleum Industry Environmental Conservation Association (IPIECA)⁷ is comprised of oil and gas companies from around the world, founded in 1974. IPIECA is the single global association representing both the upstream and downstream oil and gas companies on key global environmental and social issues including oil spill preparedness and response, global climate change, health, fuel quality, biodiversity, and social responsibility. IPIECA introduced the Oil and Gas Industry Guidance on Voluntary Sustainability Reporting to assist oil and gas companies that are interested in reporting on their environmental, health and safety, social, and economic performances. Further, the development of this guidance document was part of a larger initiative aimed at helping firms and industry associations improve upon the quality, scope, completeness, and consistency of reporting on issues commonly included under terms such as sustainable development, social responsibility, or corporate citizenship.

The reporting principles outlined below are based on the Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions, a general set of principles that were developed for the oil and gas industry in their voluntary reporting of greenhouse gas emissions, and the GHG Protocol Accounting and Reporting Standard. (IPIECA, 2010, p.10).

1. **Relevance:** The reported information should appropriately reflect the sustainability issues of the company and meet the needs of stakeholders—both internal and external to the company.
2. **Transparency:** Information should be reported in a clear, understandable, factual, and coherent manner, and should facilitate independent review. Transparency includes disclosure of the processes, procedures, assumptions and limitations affecting report preparation.
3. **Consistency:** For reports to be credible, information-gathering processes and definitions must be systematically applied. Consistency in what is reported and how it is reported enables meaningful review of a company's performance over time, and facilitates comparison internally and with peer companies.
4. **Completeness:** Information should be included in a manner that is consistent with the stated purpose, scope and boundaries of the report.
5. **Accuracy:** Information should be sufficiently precise to enable intended users to understand the relevance of information with a suitable level of confidence.

These reporting principles provide a foundation for developing sustainability or non-financial indicator reports. More specifics about general reporting practices that many oil and gas companies usually use in their reports are outlined below. These include:

1. **Scope:** What issues and aspects of their operations are covered in their sustainability reports

⁷ For more details see <http://www.ipieca.org/focus-area/reporting>.

2. Indicators: Information should be reported in terms of that can be quantitatively measured.
3. Information Quality: How quantitative data and qualitative information are produced and managed relative to measurement protocols and methodologies for collecting and completing information.
4. Timeliness: Publishing reports on a regular schedule.
5. Dissemination Methods: Disseminate information through a variety of media.
6. Baselines: Using baselines to maintain data consistency and track performance over time.
7. Performance Trends: Benchmarking with previous years, industry averages, etc.
8. Impacts: Discussion of the business unit activities' impacts, 'positive', or 'negative' and its meaning.

Based on the above, Figure 5 (IPIECA, 2010, p. 10) illustrates the typical steps that could be involved in the process of preparing sustainability reporting.

Figure 5: The Sustainability reporting process



Since GHG emissions reporting has become much more widespread, there is a need to update the original version of guidelines to reflect changing practices. In May 2011, IPIECA published the second edition of its guidelines for reporting greenhouse gas emissions. To maximize the acceptance and use of these guidelines they have been developed with the broad participation of petroleum operators. This edition is mainly based on its second edition outlined above (IPIECA, 2010) and the GHG Protocol in 2004.

Environmental Reporting Initiatives: Commonalities and Differences

It is evident from Table 2 below that great efforts have been made by many governmental and professional bodies (e.g. IASB, GRI, AA1000APS, ISO 14063, ISO 14064-1, DEFRA) to set guiding principles for both the environmental reporting process and quality of its content. In Table 2, the columns represent the key characteristics the IASB and other bodies state as important in determining the quality of reporting. Table 2 shows that some of these IASB characteristics are easier to transfer to corporate environmental reporting areas than others. Whilst the mimicking of financial reporting would be generally accepted as enhancing the

readability and usefulness of CER, each body works independently of the others. This leads to some potential weaknesses in the reporting guiding principles and their application, which, in turn, may undermine their key functions. These weaknesses are:

1. All these principles are to still be applied on voluntary basis;
2. There is no significant difference between the principles in meaning and application and they are mainly based on the qualitative characteristics of the financial reporting produced by IASB, and
3. Some of these bodies, for example, directed their efforts to specific industry sectors (e.g. DEFRA's principles are directed to the food industry sector and IPIECA's principles are directed to Oil and Gas companies).

Table 2: A comparison between IASB reporting framework and other environmental reporting initiatives

Reporting Initiative	Commonalities with IASB Framework						Differences from IASB Framework
	Relevance	Faithful Representation	Comparability	Timeliness	Verifiability	Understandability	
GRI	Materiality	Completeness; Accuracy; Reliability	Comparability	Timeliness	-	Clarity	Sustainability Context; Balance, and Stakeholders Inclusiveness
AA1000 APS	Materiality	-	-	-	-	-	Inclusivity and Responsiveness
ISO 14063 ISO 14064-1 for GHG	Appropriateness Relevance	Credibility Accuracy; Completeness	- Consistency	- -	- -	Clarity -	Transparency; Responsiveness General; Transparency
DEFRA 2006	Relevance	Credibility	Comparability	-	-	-	Transparency; Accountability, and Quantitative
DEFRA 2013 for GHG	Relevance	Accuracy; Completeness	Consistency; Comparability	-	-	-	Transparency; Quantitative
GHG Protocol	Relevance	Accuracy; Completeness	Consistency	-	-	-	Transparency
IPIECA	Relevance	Accuracy; Completeness	Consistency	-	-	-	Transparency

Environmental Reporting Assurance Initiatives

Third-party assurance is an important element of the function of corporate reporting and the broader corporate governance domain since it increases the credibility of the reported information. Greater credibility, in turn, determines the level of trust that stakeholders place on managerial disclosure (Beets and Souther, 1999; Gray, 2000; Healy and Palepu, 2001). In contrast to financial statements, gaining third-party assurance for CER is voluntary, unregulated, and there are no universally accepted assurance standards to guide the certification process nor are there rules on who should do this service. The AA1000 defines assurance as:

An valuation method that uses a specific set of principles and standards to assess the quality of a reporting organisation's subject matter ... Assurance includes the communication of the results of this evaluation to provide credibility to the subject matter for its users (www.accountability.org.uk).

A number of assurance standards have been developed, which assurance providers can use, as outlined below.

The AccountAbility Assurance Standards (AA1000 AS)

AA1000 AS⁸ (2008b) provides a comprehensive way of holding an organisation to account for its management practices, performance, and corporate responsibility reporting by evaluating the adherence to the AccountAbility Principles and the reliability of associated performance information. It also offers a platform on which non-financial matters of corporate responsibility can be compared with financial reporting and assurance through the principle of materiality. These standards provide a rigorous conclusion on the current status of an organisation's corporate responsibility performance and provide recommendations to encourage continuous improvements. This revised AA1000 AS (2008b) has undergone a thorough revision process based on 20 international consultations, a number of sector specific briefings and a transparent and accessible online wiki process in which more than 4,500 people participated from 90 countries. The following standards must be applied in an assurance process undertaken using the AA1000 AS (2008b):

1. **Inclusivity:** Refers to the participation of stakeholders in developing and achieving an accountable and strategic response to sustainability.
2. **Materiality:** Refers to the relevant and significant issues that will influence the decisions, actions, and performance of an organisation or its stakeholders.
3. **Responsiveness:** Refers to the response to stakeholder issues that affect firm's sustainability performance and is realised through decisions, actions, and performance as well as communication with stakeholders.

International Standard on Assurance Engagements (ISAE)

The purpose of the International Standard on Assurance Engagements (ISAE 3000) is to set up basic principles and fundamental procedures for, and to offer guidance to, professional accountants in public practice. This ISAE uses the 'reasonable assurance engagement' and 'limited assurance engagement' to differentiate between the two types of assurances a practitioner is permitted to perform. The objective of a reasonable assurance engagement is a reduction in assurance engagement risk to an acceptably low level in the circumstances of

⁸ For more details see <http://www.accountability.org/standards/index.html>

the engagement as the basis for a positive form of expression of the practitioner's conclusion. The objective of a limited assurance engagement is a reduction in assurance engagement risk to a level that is acceptable in the circumstances of the engagement, but where that risk is greater than for a reasonable assurance engagement, as the basis for a negative form of expression of the practitioner's conclusion.

ISAE 3000 provides a framework in which accounting professionals can deliver sustainability assurance on selected information or assertions reported by the client company and, in so doing, the principles of materiality, completeness, and responsiveness to pre-determined subject matter or scope will be applied. Moreover, ISAE 3000 provides assurance providers with the elements and objectives of an assurance engagement, and identifies engagements to which International Standards on Auditing, International Standards on Review Engagements and International Standards on Assurance Engagements apply. The following is an overview of this framework (IFAC, 2014, pp. 2-3):

1. Introduction: This framework deals with assurance engagements, provides a frame of reference for practitioners and others involved in assurance services, etc.
2. Definition and objectives of an assurance engagement: This section defines assurance engagements and identifies the objectives of the two types of assurance engagement a practitioner is permitted to perform, etc.
3. Scope of the Framework: This section distinguishes assurance engagements from other engagements, such as consulting engagements.
4. Engagement acceptance: This section sets out characteristics that must be exhibited before a practitioner can accept an assurance engagement.
5. Elements of an assurance engagement: This section identifies and discusses five elements assurance engagements performed by practitioners exhibit: a three party relationship; a subject matter; criteria; evidence, and assurance report. It also explains the difference between reasonable and limited assurance engagements, etc.
6. Inappropriate use of the practitioner's name: This section discusses implications of a practitioner's association with a subject matter.

The IAASB (2013) developed and approved the revised ISAE 3000, which will be effective on or after 15 December, 2015, providing precise and accurate procedures for assessing the relevance, completeness, reliability, neutrality and understandability of information. In addition to the framework and the revised ISAE 3000, practitioners who perform assurance engagements are governed by: the code of ethics for professional accountants issued by the international ethics standards board for accountants (IESBA), and international standards on quality control (ISQC), which establish standards and provide guidance on a firm's system of quality control (IFAC, 2014). Part A of the IESBA code sets out the fundamental ethical principles that all professional accountants and assurers are required to *observe*: integrity, objectivity, professional competence and due care, confidentiality, and professional behaviour (IAASB, 2013; IFAC, 2014).

For assuring GHG disclosure and performance, the IAASB prepared and developed another international standard on assurance engagements, ISAE 3410, assurance engagements on GHG statements (IFAC, 2014). This ISAE 3410 expands on how ISAE 3000 to be applied in an assurance engagement to assure the firm GHG statement. For the assurance process, the ISAE 3000 assurance framework, which defines and describe the elements and objectives of an assurance engagement, could be used (IFAC, 2014; IAASB, 2013).

International Council on Mining and Metals (ICMM)

The International Council on Mining and Metals (ICMM)⁹ was established in 2001 to improve sustainable development performance in the mining and metals industry. At present, it brings together 20 mining and metals companies and 31 national and regional mining associations and global commodity associations. ICMM members are required to adopt and apply the sustainable development (SD) framework. This includes integrating a set of 10 principles and seven supporting position statements into corporate policy as well as setting up transparent and accountable reporting practices. The SD framework has been developed to assist ICMM member firms, which contract the services of assurance providers and providers of assurance service for CERs, to achieve a common understanding and consistency of interpretation in the practical application of the ICMM Assurance Procedure.

This SD Framework includes three elements. First, members must implement the 10 ICMM SD Principles throughout their business. These principles are based on the issues identified in the mining, minerals, and sustainable development project and were benchmarked against leading international standards such as GRI, the global compact, etc. The 10 principles are (ICMM, 2008, pp. 16- 25):

1. Implement and maintain ethical business practices and sound systems of corporate governance.
2. Integrate sustainable development considerations within the corporate decision-making process.
3. Uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities.
4. Implement risk management strategies based on valid data and sound science.
5. Seek continual improvement of our health and safety performance.
6. Seek continual improvement of our environmental performance.
7. Contribute to conservation of biodiversity and integrated approaches to land use planning.
8. Facilitate and encourage responsible product design, use, re-use, recycling, and disposal of our products.
9. Contribute to the social, economic, and institutional development of the communities in which we operate.
10. Implement effective and transparent engagement, communication and independently verified reporting arrangements with our stakeholders.

Second, CER should be prepared in line with the GRI guidelines. Finally, providing independent assurance that the ICMM commitments are met. Therefore, the ICMM procedures outline the commitment of ICMM firm members to obtain independent external assurance of the first two elements of ICMM SD framework.

In May 2010, the ICMM developed a guidance to assist both ICMM members and providers of assurance for sustainability reports to achieve a common understanding and consistency of interpretation in the practical application of ICMM assurance procedure (ICMM, 2010). For example, this guidance provides interpretation of each of the five subject matters and key topics of mutual interest or concern to assurance providers and member companies (ICMM, 2010).

⁹ For more details see www.icmm.com.

The Federation des Experts Comptables Europeans

The Federation des Experts Comptables Europeans (FEE)¹⁰ is the representative organisation of the accounting profession in Europe, 41 professional institutes of accountants in 29 countries. FEE's environmental activities began as early as 1992 as a response to the request of the European Commission (EC) to carry out research on the latest CER position of European Union (EU) members. In 1993, the FEE council created an environmental working party (EWP) and the membership of the EWP is open to all member bodies of FEE. The main EWP activities are grouped into three sections: environmental accounting, CER, and environmental auditing. By 2002, FEE had created assurance standards for third-party verification of CERs. These assurance standards include the principles of relevance, reliability, understandability, neutrality, and completeness by which CER users can evaluate the accuracy of environmental reports using these guiding principles (O'Dwyer and Owen, 2005).

Environmental Reporting Assurance Initiatives: Commonalities and Differences

Table 3 indicates great efforts are being made by non-governmental and professional bodies to develop assurance frameworks for sustainable development and to set a group of guiding principles for the assurance process. Although these efforts improve the reliability of the CER and increase the stakeholders' trust in the environmental disclosure, each body works as if it were in an island. As a result there are some weaknesses in these reporting principles that may destroy their key functions.

1. All these principles' sets are to be applied voluntary (i.e., the assurance provider has the right to choose one set among these sets);
2. There is no significant difference between the principles in meaning and its application (e.g., it is clear from Table 3 below that both AA1000 AS and ISAE 3000 are quite similar), and
3. They might be used as complementary not substitute option. As a result, assurance provider can adopt one set or more of these principles as a guide to assure CER.
4. It was found, for example, from analysing the recent FTSE 100 CRRs that seven reports (15%) were assured using both AA1000 AS and ISAE 3000 standards, while six reports (13%) were assured using GRI-G3 or ISO reporting guidelines.

Table 3: Summary of recommended assurance principles

Assurance Initiative	Recommended Assurance Principles
AA1000 AS	Inclusivity, Materiality, and Responsiveness
ISAE 3000	Materiality, Completeness, and Responsiveness
ICMM SD Framework	Assurance Providers should refer to the good practices guidelines such as AA1000 AS and ISAE 3000
FEE	Relevance, Reliability, Understandability, Neutrality and Completeness

¹⁰ For more details see: www.fee.be/

A NEED FOR GENERALLY ACCEPTED PRINCIPLES

Much work has been done in the area of CER over the past two decades, and many organisations and professional bodies have contributed to the development of frameworks for CER and third-party assurances. Although these guidelines and standards are comprehensive, informative, and serve as a useful handbook for reporters and assurers, they face some challenges and have some disadvantages. Hedberg and Malmborg (2003) note that GRI guidelines are just a guide: they make no concrete demands, only recommendations. They further add that the comparability of CERs suffers as the reporters can choose the level of reporting that suits the level of the reporters' ambitions. As a result, they ask for a verification system and clearer definition on how to use these guidelines. Further, the great variety of reporting guidelines leads to a great variety in the way environmental reports can be assessed. One of the main disadvantages of having so many systems is the persistent lack of consensus on what and how to report on environmental matters. This raises concern about the quality of the reports (Marshall and Brown, 2003). On the other hand, adopting reporting guidelines will benefit report readers by making the reports more consistent and comparable (Jonas and Blanchet, 2000).

In order to maximise the benefits of these reporting principles, organising bodies should work together to re-publish a set of new CER principles applicable across all industrial sectors whatever their environmental impacts and risks happen to be. This could be done by harmonising the various CER principles, which would work as a step towards a complete standardisation of CER principles. It is time to have one, global set of corporate responsibility reporting principles as well as one reporting framework. In short, like what happened before in accounting profession, generally accepted CER principles (GAERP) became a need not an end to protect and sustain what remains pure in our environment (Aras and Crowther, 2008).

In the absence of generally accepted assurance standards, assurers cannot provide high levels assurance (ACCA, 2004a & 2004b; O'Dwyer and Owen, 2005). So, to maximise the benefits of these assurance principles these bodies should work together as co-operated units to re-publish a generally accepted set of new environmental assurance principles for all the industrial sectors whatever their environmental impacts and risks. This could be done by harmonising these assurance principles as a step towards a complete standardisation of environmental assurance principles. It is the time for having one global set of social and environmental assurance principles as well as one reporting framework. In short, like what happened before in accounting profession, generally accepted environmental assurance principles (GAEAP) became a need not an end to enhance the reliability of CERs.

To achieve both GAERP and GAEAP standardisation among these credibility initiatives is needed. This standardisation can be achieved through the full involvement of all relevant and interested parties in the standardisation process. They must create assurance principles that are coherent and allow for technical innovation and competition. Such principles should also be based on sound scientific research, be updated regularly, and be performance-based where possible. In order to achieve these technical committees should be established to draft guidelines and standards based on the desire for consensus among the setters of these initiatives.

SUMMARY AND CONCLUSION

Corporate communications are as many and varied as their intended users. Some disclosures enjoy a degree of inherent credibility. For example, annual reports might be readily accepted by stakeholders as are prepared in line with the qualitative characteristics of financial reporting and are externally audited. Others, such as corporate environmental

reporting, may be exposed to more scepticism and require a supplementary measure to raise credibility. This will likely depend on the company, sector, region, medium, issue, and users of such disclosure. Nowadays, CER is a well-established means by which companies communicate their policies, performance, and objectives for directing and controlling the impacts of their operations, thus controlling and minimising surprises, especially negative ones, to avoid shocks that could affect both share price and market value. These are some of the reasons why companies would wish to prepare their CERs in line with specific reporting guidelines and then turn it to external assurance as a mark of credible business disclosure, otherwise such reports are neither comparable nor credible.

Firms can use many forms of CERs to publish their environmental information. Whatever the form, there are important CER initiatives to consider in order to help companies decide how to report and disclose CER information. Six professional bodies, the GRI, AA1000 APS, ISO, DEFRA, GHG Protocol, and IPIECA developed reporting frameworks of how to report and what to include in these reports. There are also principles for CER quality such as clarity, accuracy, timeliness, comparability, and reliability. By using these reporting guidelines, the firms will report accurate, sufficient, and understandable environmental information, so stakeholders can assess the firms' performance. However, there two areas of difficulty:

1. There are no generally accepted approaches as to how a firm should collect, assess, and report its non-financial disclosure
2. There are no generally accepted approaches or principles to producing non-financial assurances

Over the past few decades, public awareness of the issue of corporate environmental responsibility has increased at a dramatic speed; however, despite the best efforts of the private and public bodies interested in environmental impacts and performance, disclosure is still voluntary rather than mandatory. There is no uniformly recognised set of acceptable standards for reporting and externally assuring CERs. Moreover, there is no cooperation amongst various professional, standard-setting bodies as they continue to work in isolation from one another. Additionally, there are no significant differences between the reporting guidelines and assurance principles of these different bodies and, in fact, some of the guidelines are repeated between different guideline sets. The firms have the right not to report their environmental issues; therefore, we need to harmonise these efforts and to introduce one, global set of CER guidelines and assurance principles that we can call GAERP, and GAEAP. Furthermore, GAERP is more a need rather than an end these days for companies to standardise CER process, report on their environmental issues, and protect the environment from negative business impact. While GAEAP is required to unify these similar sets of assurance principles in one acceptable set to be applied to.

It is important to note that the CER guidelines discussed above are not necessarily mutually exclusive. Companies can (and do) use the GRI framework, for example, for board-based reporting on economic, social, and environmental performance, add to this by using more detailed information required by an international standard, ICMM, DEFRA, GHG Protocol, etc., (e.g., on GHG emissions, Water, Energy), and complement it further with sector-specific performance data, sometimes using a GRI Sector Supplement or other approach.

Adopting reporting guidelines and applying independent external assurance services have the potential to deliver real value to reporters, both in terms of the credibility and effectiveness of their corporate responsibility reporting practices and the integrity of their systems of internal control. In the same vein, it will improve the users' trust in the information disclosed and will be useful for decision makers as well.

FUTURE DIRECTION FOR RESEARCH

There is no uniformly recognised set of guidelines and standards that identify the specific content, presentation format, and external assurance criterion acceptable for CER. As explained above, this absence of standards has led to problems of comparability and consistency among CER reporters. So, to enhance the credibility of the information produced it is necessary to conduct further research into the development of common agreed frameworks and guidelines for corporate responsibility reporting as well as for standards for third-party assurances. Such research would need to bear in mind the diverse activities and impacts of differing industries.

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