Journal of the Asia-Pacific Centre for Environmental Accountability

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EDITORIAL

FEATURE ARTICLES

Assurance of corporate greenhouse gas disclosures in the mining and crude oil production sector: a comparative international study

Anirban Chatterjee

Oil company annual report disclosure responses to the 2010 Gulf of Mexico oil spill

Kimberley Summerhays and Charl de Villiers

ENVIRONMENT EXTRA!

CALL FOR PAPERS

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Editorial

Oil and the wheels of industry currently move hand in hand, but the world continues to grapple both with this fossilised energy source and the notion of new industry which might exist in a green world but cannot pay its way – yet. It grapples because of power concentrations in the hands of big business and government. It grapples because of the relatively slow implementation and suspect economic feasibility of new technologies such as wind power and solar. It grapples because of the world financial crisis and pressing short term survival issues for people with responsibility, commitments and no income; for industry where demonstrating leadership in the face of unsustainability challenges future existence; for politicians who play games with our futures – the reality of austerity or the reality of hope and a horizon of peace and global calm in matters social, environmental and economic.

Enter the current edition, June 2012, of the *Journal of the Asia Pacific Centre for Environmental Accountability* where the authors have messages to get across in the context of the previously outlined milieu.

In the first feature article *Assurance of corporate greenhouse gas disclosures in the mining and crude oil production sector: a comparative international study* by Anirban Chatterjee from the University of South Australia, power, big business, old fuel and global issues come together in a comparative study of assurance of greenhouse gas disclosures by fourteen multinational companies in the crude oil and mining industry. Anirban identifies two major groups of greenhouse gas reporting – the ‘differentiators’ who disclose just about everything in the ISO 14064 standard on greenhouse gas accounting and the ‘fast learners’ passing through a ‘strategic transition phase’ which conjures up pictures of power plays – a type of mimetic isomorphism is implicitly involved in the catch-up game. It leaves the question are the reports of this significant powerful group of companies relevant and credible and suggests standardisation is important for assurance and the reports in future if stakeholders are to be served well.

The second feature article written by Kimberley Summerhays from the University of Auckland and Charl de Villiers from the Universities of Waikato and Pretoria is entitled *Oil company annual report disclosure responses to the 2010 Gulf of Mexico Oil Spill* and takes a strong look at BP’s post oil spill activities and interlinkages with disclosures by related oil companies following the biggest oil disaster in history to date. Here power and intrigue raise their ugly heads again in the context of the types of disclosures made to band aid the situation – image enhancement, disclaiming of responsibility, deflection of attention strategies are all considered. There are no ‘it’s a fair cop’ or ‘responsibility accepted’ strategies and who would expect such in the modern litigious world just
off the coast of one of the most litigious countries on the planet. The article supports legitimacy theory, but more importantly it recognises the need for multiple survival disclosure strategies for companies in times of disaster management.

The feature articles are followed by the usual sections *Environment Extra!* and *Calls for Papers.*
Notes for contributors

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Articles should be submitted in a word document, Times New Roman, 12 point, single spaced, single column, and attached to an email. References should be in the UniSA Harvard referencing style, available from the following link:

http://www.unisa.edu.au/ltu/students/study/referencing/harvard.pdf

As a guide to authors, articles should be no more than 6,000 words unless negotiated with the editors. The submission of shorter articles is particularly welcome. Each article should be preceded by an abstract of no more than 150 words.

To ensure anonymous review, authors should not identify themselves directly or indirectly in their manuscript. A ‘Paper Title Page’ should show the title of the manuscript; the author(s)’s details and an abstract. Refer to web page for full guidelines and style guide, available from the following link:


The reviewing process

Feature articles are independently reviewed by members of the Editorial Board in accordance with the requirements for classification as a C1 journal article in Australia: ‘For the purposes of the HERDC, an acceptable peer review process is one that involves an assessment or review of the research publication in its entirety before publication by independent, qualified experts. Independent in this context means independent of the author’.

Each article published in the Journal of the Asia Pacific Centre for Environmental Accountability is blind reviewed by at least two members of the Editorial Board. The journal is listed on the ARC’s ERA 2010 journal list which is considered acceptable as evidence of peer review for HERDC purposes.

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Editorial objectives

The objectives of the journal are, first, to explore the development of ideas about environmental and social accounting, reporting, accountability and assurance. Submission of research based on all methodologies and methods, e.g. qualitative, quantitative, mixed methods, inductive, deductive, abductive, inter-, multi-, and trans-disciplinary, are welcome.

The second objective is to promote environmental, social and sustainability accounting, accountability, reporting assurance and taxation research to members of APCEA, professional practitioners and accountancy and finance academics, professional bodies and government policy makers.

Editorial criteria

Major criteria used to evaluate papers are:

- subject matter must be of importance to the accounting discipline;
- research questions must fall within the journal’s objectives;
- research must be well designed and executed; and
- presentation is well written and in conformance with the journal’s style.

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Journal of the Asia-Pacific Centre for Environmental Accountability

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Assurance of corporate greenhouse gas disclosures in the mining and crude oil production sector: a comparative international Study

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Abstract

Ecologically sensitive reporting entities increasingly publish separate, non-compulsory sustainability reports as a supplementary source of information to display multiple dimensions of socio-environmental responsiveness. Some of these reports are independently assured by assurers, who may or may not possess any acknowledged credentials. This explanatory work is primarily based on historical records and examines environmental reports relating to assurance of greenhouse gas (GHG) disclosures and carbon governance. An evidenced-based content analysis research method is being utilised to identify the factors associated with variability and unevenness of reporting content against the indicators determined by the ISO 14064 standard. A stronger political-economic infrastructure and the stakeholder-orientated business culture have complementary effects, which collectively influence the demand for selecting a member of the external auditing profession to verify the non-compulsory GHG disclosures. In contrast, companies domiciled and operating within a weaker political-economic environment and currently experiencing shareholder-orientated corporate governance models are primarily driven by the objective of maximising profit and overall shareholders’ wealth.

Keywords

Corporate GHG disclosures, independent external assurance provider, ISO 14064 principles, stakeholder-orientated business culture, shareholder-orientated corporate governance model, shareholders’ wealth.

1. Introduction

Multinational companies (MNCs) worldwide have adopted varying levels of producing greenhouse gas (GHG) disclosures accompanied by assurance statements ranging from simple narrative paragraphs within an entity’s annual report to separate, stand-alone sustainability reports as a
supplementary source of information (O’Dwyer & Owen 2005; Kolk, Levy & Pinkse 2008). However, the information remains voluntary because of the absence of any appropriate legislation, regulation and generally accepted verification and validation protocols. Consequently, the current reporting practices adopted by the chosen companies remain inconsistent, incomplete and are not being accompanied by increasing levels of public confidence (Adams & Frost 2007).

Concerns about the importance of managing environmental issues pertaining to anthropogenic climate change are growing with scientific (IPCC 2007), economic (Stern 2009) and political (Gore 2009) arguments emphasising that critical and urgent actions are required. Despite continuous corporate support for different accounting and reporting initiatives, there has been consistent concern that traditional reports do not adequately represent the multiple dimensions of corporate GHG disclosures. The need for different approaches to both acknowledging and taking subsequent actions is beginning to be recognised, even though the rate of progress is exceedingly slow (Patten 2002; Adams 2004).

The specific objective of this study is to determine how strictly companies around the world are complying with the ISO 14064 principles to prepare and present stand-alone GHG emissions reports. Apart from examining the current reporting practice, this paper also highlights another interesting empirical aspect of verifying such information externally through engaging an independent assurance practitioner. A deeper and improved understanding of independent third-party verification is crucial for a number of reasons. Firstly, the information needed to support improved corporate GHG management has received increasing attention over the last two decades because of the introduction of an Emissions Trading Scheme (ETS), the Cleaner Development Mechanism and Joint Implementation Measures (Ratnatunga 2008). Secondly, corporate GHG emissions are now subject to standardised quantitative measurement and are one of the common environmental attributes appearing in the published external reports (WBCSD/WRI 2004; WRI 2009). Thirdly, there are no globally agreed standardised reporting criteria for recording, reporting and projecting levels of GHG emissions and removals in a particular reporting entity. Consequently, the nature and scope of published disclosures are entirely dependent on management discretion. Besides that, the reporting patterns of corporate GHG disclosures are erratic, deregulated, incomplete, and therefore difficult to compare because of the absence of any standardised guidelines, market regulations or even an auditing and assurance standard (Okereke 2007; Jeswani, Wehrmeyer & Mulugetta 2007). Fourthly, there is a lack of specific guidance relating to the assurance of corporate GHG emissions reporting. Consequently, the assurance statements may vary considerably in scope in the standards applied in performing the assurance engagement. Finally, managing and reporting carbon and carbon-equivalent emissions have recently gained significant importance.
Some researchers have questioned the actual or potential benefits of engaging an independent external assurance practitioner. Benefits could include increased stakeholders’ confidence in the quality and completeness of reported GHG information and increased stakeholders’ confidence in the level of organisational commitments to environmental agendas (including GHG emissions and removals). Moreover, independent assurance is important to improve the credibility of the disclosed information.

It is evident from the literature that assurance statements are typically produced under a strict management brief and are not an outcome of a truly independent enquiry (Gray 2000). According to Deegan, Cooper and Shelly (2006), wide variability of assurance statements both in terms of content and format undermines their contribution. In other words, the credibility of assurance statements is reduced by inconsistent approaches adopted by practitioners to address this issue so that regulation and standardised practices need to be developed and implemented worldwide immediately. Hence, further research to address the importance of assurance engagement of stand-alone GHG document is paramount to increase report users’ confidence and perceptions to inform both the international standard-setting process and the development of best practice guidelines.

The paper proceeds as follows. The next section reviews recent concerns with regard to current corporate reporting practices to measure and report GHG emissions data and the selection of an assurance provider to enhance the credibility of such reported information. The relevant theoretical backgrounds are subsequently discussed to develop the research propositions. The following section briefly explains the research method and sample of assurance statements. This is succeeded by the results pertaining to the assurance statements and the current corporate reporting practices to address the GHG-related information. Concluding comments and some recommendations for future research are discussed in the final section.

2. Prior literature

Accountants and the accounting literature have begun to acknowledge that environmental issues are subject to intense scrutiny by a wide range of stakeholders and the probability is that the relationship between accounting and the environment will develop further over the coming years (Unerman, Bebbington & O'Dwyer 2007; Hopwood 2009). Jones (2010) suggested that the interaction between the natural environment and human beings has always been complex, but human beings have a responsibility to protect and maintain the global ecosphere. Many companies which have been credited with economic and technological contributions have been severely criticised for creating significant
ecological damage (Hackston & Milne 1996; Bebbington & Gray 2001). An increasing recognition of the impact of human beings on the environment has emerged since the implementation of the Kyoto Protocol.

Enormous pressures have been placed on the corporate sector from a variety of sources to accept responsibility for the detrimental impacts on the environment caused by their principal revenue-producing activities. Management is responsible to account for environmental liabilities associated with their normal business activities (Gray, Kouhy & Lavers 1995; Bebbington, Brown & Frame 2007). Companies are being urged to become accountable to a wider population rather than focussing only on the requirements of shareholders and creditors. Companies, because of their stewardship functions, should accurately report their GHG-related information (Jones 2010). Associated with these massive social pressures, there has been a growing tendency for companies to comply with regulatory bodies’ requirements for information related to emissions reduction and ETSs (Bebbington & Larrinaga-Gonzalez 2008; Ratnatunga & Balachandran 2009).

Corporate responses to climate change and global warming have changed significantly over the last two decades. Organisations domiciled and operating in the US were the first to respond to this climate change problem, followed by European companies. Quite surprisingly, European companies have demonstrated a greater willingness to invest in new technologies to mitigate GHG emissions compared with their counterparts located in the US (Kolk, Levy & Pinkse 2008). Soon companies from both the European continent and the US recognised the need for country-level and firm-level participation either to control or ideally minimise this unprecedented global challenge. In particular, a few specific sectors like, mining, petroleum refining, energy, transportation, chemical, and crude oil production began to invest in low-carbon technologies (IPCC 2007; Cook 2009). In the economic context, competitive pressure and the element of interdependence have compelled the organisations to respond to each other’s moves. Firms are also obliged to track and report their emissions for managing and assessing climate-related business risks and opportunities due to the powerful presence of environmental pressure groups. Consequently, several initiatives emerged which attempt to leverage the influence of institutional investors to create demand for carbon disclosures; the Carbon Disclosure Project (CDP) is the most prominent and successful example amongst all (Garnaut 2008, Kolk, Levy & Pinkse 2008). The centrepiece of the CDP, an independent, not-for-profit organisation operating on behalf of institutional investors, focuses on carbon emissions and energy usage of individual companies in all industrial sectors. The central theme of CDP is to invite all companies worldwide to report their GHG emissions on behalf of the world’s largest institutional investors. Globally, companies are increasingly participating in the CDP to produce carbon disclosure reports. The CDP operates the only global climate change reporting system and holds the largest database
of primary corporate climate change information in the world. CDP has challenged the world’s largest companies to measure and report their carbon emissions. In 2009, CDP comprised 534 institutional investors, holding $64 trillion in assets under its management compared to just 35 institutional investors with $4.5 trillion assets’ backing in 2003 (CDP 2009). CDP requested GHG emissions and climate change data from more than 5,500 companies located in some 60 countries around the world in the 2009 fiscal year. The result shows that almost 2,500 companies measured and disclosed their GHG emissions, removals and climate change strategies.

There are several theories that explain a company’s underlying motivation to disclose GHG information; however, it is not within the scope of this paper to provide a detailed explanation of such theories. The factors include: regulations and standards, impacts and influences of external pressures, greater stakeholders’ scrutiny, extent of media attention, and political-economic infrastructure of the company’s country of domicile\(^1\).

In examining the selection of assurance providers, this research draws a distinction between companies that choose assurance from specialist consultant assurors (environmental scientists, chemists, engineers) and companies that choose assurance services from the external auditing and assurance profession. As independent external assurance is an expensive process, it is reasonably expected that the companies that have reports assured will receive considerably greater net intangible benefits than the cost of undertaking external assurance. Every rationally minded individual usually seeks assurance services to help improve the credibility of information being used as a basis for decision making. This particular classification is supported by the fact that auditing is a profession with an established history and long-standing reputation that is well-known to various cross-sectional stakeholders (McDaniel, Martin & Maines 2002). These factors collectively help to eliminate possible conflicts of interest and increase public confidence in the competency, independence, legitimacy, ethical requirements, and quality control mechanism of the external auditing profession to ensure quality, completeness and credibility of the reports that are being prepared by their members. The argument is further supported by the fact that enterprises (especially the major audit firms) within the profession also bring a high level of reputation capital to their active assurance engagement. In addition, prestigious accounting firms (KPMG, PriceWaterhouseCoopers, Ernst & Young, Deloitte and BDO) have invested substantial resources in developing and offering a variety of sustainability services. Continuous publicity, active participation and presence through various professional seminars, workshops, conferences, and well-developed websites help to enhance public

\(^1\)Political-economic infrastructure of any country indicate seven dimensions of governance: political stability, voice and accountability, absence of violence/terrorism, government effectiveness, regulatory quality, rule of law and control of corruption (Kaufmann, Kraay & Mastruzzi, 2008)
consciousness. Thus accountants’ strong profile as high-quality professional service providers in the field of corporate reporting is likely to provide greater appeal to report users on their ability and expertise to provide a high-quality assurance of GHG documents (O’Dwyer & Owen 2005; Simnett, Nugent & Huggins 2009).

A valid counter argument reaffirms that those specialist consultants who do not have any regular membership of the external auditing profession claim to have a higher level of subject-matter expertise in the assurance of environmental activities. Specialist consultants appear to focus more on completeness, fairness and overall balance in the opinion statements. Consequently, report users may find these statements to be more informative, comprehensive and to provide greater clarity (Hodge, Subramaniam & Stewart 2009). On the other hand, assurance statements issued by practising accountants generally do not include recommendations, appraisal or additional commentary about the organisation’s processes and systems. However, the accounting profession has been long recognised as possessing the skills, competencies and market recognition to perform financial statements audits, and these attributes can be transferred to the verification and vouching of non-financial information. Moreover, specialist consultants generally tend to be smaller in size and enjoy limited market capitalisation to gain scale efficiencies. The nature and scope of specialist consultants’ work have tended to be narrow and environmentally focused; for example, compliance-type audits with respect to meeting environment regulatory requirements. Furthermore, such specialist, non-professional expertise can always be hired or meaningfully employed by top tier accountancy firms to verify the stand-alone GHG emissions reports (Deegan, Cooper & Shelly 2006; Simnett 2007).

Apart from addressing the current nonfinancial reporting practices, this study focuses on country-specific and industry-specific factors that influence the benefits of undertaking external verification of corporate GHG disclosures. More specifically, this study examines whether the organisational benefits resulting from external assurance are functions of the judicial infrastructure of the company’s country of domicile and the industry to which the company belongs. Consistent with the recent accounting literature, it may reasonably be assumed that companies operating in a stronger political-economic environment will be more inclined to legitimise their operations through greater disclosures and are likely to seek external verification to increase reports users’ confidence in the credibility of their stand-alone, GHG reports (Deegan, Rankin & Tobin 2002; Simnett, Vanstraalen & Chua 2009). In contrast, the volume of information elected to be disclosed and the demand for assurance is expected to be lower in countries with weaker political-economic environments because of the absence of any country-level protection mechanisms.
3. Development of the research propositions

P1A: Environmentally damaging companies domiciled and operating within strong country-level political-economic infrastructures are more inclined to provide greater information in accordance with prescribed guidelines to prepare and present voluntary GHG disclosures, and will be more likely to have their GHG reports assured by an independent external assurance practitioner.

P1B: Environmentally damaging companies domiciled and operating within weak country-level political-economic infrastructures are reluctant to provide greater information in accordance with prescribed guidelines to prepare and present voluntary GHG disclosures, and will be less likely to have their GHG reports assured by an independent external assurance practitioner.

Aside from the need to increase reports users’ confidence, it may be argued that the business culture of any country, particularly if that country is more shareholder-orientated or stakeholder-orientated, can significantly influence the demand and scope for assurance and the selection of assurance practitioners (Bradley et al. 1999; Deegan & Blomquist, 2006). Stakeholder theory is a major driving theory for undertaking this research which has both a prescriptive and a predictive aspect. The prescriptive phase explicitly considers the existence of various cross-sectional stakeholders within the society and how the expectations of any particular stakeholder group may have an impact on corporate environmental strategies. Organisations domiciled in a stakeholder-orientated business culture usually operate under a code-law legal system and experience relatively strong influences on accounting at national and organisational levels. Co-operation and fulfilment of true needs are the cornerstone of stakeholder theory which is based on the notion of humanism and methodological collectivism (Ball, Kothari & Robin 2000).

On the other hand, a shareholder-orientated business culture is one in which companies are primarily considered as instruments for maximising shareholders’ wealth. Individual liberty and competition are the central themes of this theory which views the corporation as a collection of explicit and implicit contracts that bind various self-interested and rationally minded shareholders, who are enjoying freedom to bargain with each other within the bounds and norms set by existing contracts. Management is primarily responsible for, and committed to, maximising the return on shareholders’ investment, earnings per share (EPS) and overall value (V) of the firm through maximisation of profit (Bradley et al.1999; Garnaut 2008). Fulfilment of socio-environmental responsibilities is not considered an important corporate responsibility.

In the light of the above discussion, two further research propositions can be formally introduced:
P2A: Environmentally sensitive companies domiciled and operating within stakeholder-orientated corporate governance business cultures are more inclined to provide adequate disclosures in accordance with the prescribed guidelines and are more likely to verify their stand-alone, non-compulsory GHG reports by an independent external assurance practitioner.

P2B: Environmentally sensitive companies domiciled and operating within shareholder-orientated corporate governance business cultures are reluctant to provide adequate disclosures in accordance with the prescribed guidelines and are less likely to verify their stand-alone, non-compulsory GHG reports by an independent external assurance practitioner.

4. Methods

This study is an extension of the accounting literature which adopts an evidence-based content analysis research method. The new international GHG accounting and verifications ISO 14064 standard prescribed by the International Standardisation Organisation (ISO) in 2006 is considered an important guiding framework for this research. The intention of ISO 14064 is to provide a standardised framework for organisations’ environmental policies, plans and actions with respect to GHG emissions and removals. However, ISO 14064 is a voluntary consensus for managing significant environmental aspects which is expected to control and influence corporate environmental responsiveness. The overall aim of this international standard is to support environmental protection and prevention of pollution in order to balance socio-economic needs (WBCSD/WRI 2004; ISO 2007; WRI 2009).

This study investigates the greenhouse gas reports to compare and contrast the information communicated in them. More specifically, this research is strictly confined to the publicly accessible sustainability reports presented by 14 quoted multinational companies belonging to the mining and crude oil production sector operating in eleven different countries worldwide in the 2010 financial year (latest complete year of observation). The major source of these reports is the Corporate Register (http://www.corporateregister.com) which is a comprehensive directory of publicly available corporate socio-environmental reports. This source is supplemented by other multi-disciplinary databases for academic research. An evidence-based content analysis research method is particularly appropriate and the most commonly applicable technique of assessing corporate socio-environmental disclosures (Milne & Adler 1999; Krippendorff 2004; Guthrie & Abeysekera 2006). This method takes into account the ISO 14064 standard for analysing, interpreting, comparing and contrasting the present reporting patterns of the 14 best-known mining and crude oil production companies around the globe.
The companies have been intentionally chosen for this study. Firstly, these are highly visible Global 500 companies from *Fortune* magazine’s list belonging to the mining and crude oil production industry. Secondly, these companies are well known and are internationally reputed to be good corporate citizens. Thirdly, these companies have huge assets backing, substantial market capitalisation and receive greater media attention, which collectively encourages them to disclose more information in their stand-alone sustainability summary reports. Fourthly, most of them have received awards and other recognition in recent times for the reporting of non-financial performance. Last but not least, none of them has prepared and presented a separate, stand-alone GHG emissions report in accordance with the ISO 14064 principles. Given these common characteristics, it may be meaningfully expected that there will be a greater element of comparability and consistency between and amongst the companies. This would be particularly true for those companies operating in the same industry, inasmuch as they face similar opportunities and challenges to present their socio-environmental disclosures.

A 1/0 binary coding has been assigned for each indicator. This method is technically known as codifying the content of corporate GHG disclosures into a quantitative scale (Frost et al. 2005). This study acknowledges that the company has addressed some information regarding the relevant issues prescribed by the ISO 14064. It is, however, worth remembering that ISO standards are not governed or enforceable by any environmental laws and do not regulate the environmental activities. Adherence to these standards is purely voluntary and subject to management discretion of any ecologically exposed reporting entity.

The initial stage of the analytical process involves comprehensively reading and analysing the reports. Empirical literature available on GHG disclosure is limited, largely because the current corporate reporting practices to disclose GHG related information are still in the early stage of development. This study utilises the existing literature on sustainability reporting, since GHG disclosure is one particular aspect of the entire reporting process designed to provide managerial information that will assist companies facing short-term and long-term decisions about GHG emissions issues in a world where corporate activities are strongly implicated in the related ecological crisis. For each company, the 2010 sustainability reports were collected and investigated. The data analysis on corporate GHG emissions and removals was undertaken between 24

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2One “1” refers to the present reporting practices about corporate environmental activities including GHG emissions and removals which comply with the prescribed guidelines as per ISO 14064. This reporting practice has positive, beneficial and comprehensive impacts on corporate citizenship due to fulfilling the prescribed reporting criteria. On the other hand, zero “0” refers to the present reporting practices about corporate environmental activities, exerting negative, harmful and inadequate effects on corporate citizenship due to non-fulfilment of the prescribed reporting criteria.
August and 30 September 2011. Analysis of the disclosures for each company was undertaken independently by two researchers. Discrepancies between the researchers were identified and logged. A third researcher then adjudicated on any discrepancies from the initial analysis. The primary aim of involving multiple coders is to assess the reliability of coding performance against the predetermined indicators set by ISO 14064. Weber (1988, acknowledged in Milne & Adler 1999, p.238) defined this concept as inter-rater or reproducibility reliability. The evidence was continually evaluated, analysed and updated in order to refine the concepts and to ensure the quality of data with an expectation to avoid the anachronism problem (Neuman 2006). Finally, evidence and arguments were arranged to communicate a coherent and convincing research report in the following section.

Consistent with Schaltegger and Burritt (2000) and Simnett, Vanstraalen and Chua (2009) the principal revenue-generating operations undertaken by the mining and crude oil production sector are commonly regarded as some of the most environmentally damaging. The industry extracts non-renewable resources with major environmental consequences. Depletion of mineral resources should be adequately compensated for by the creation of new streams of wealth which can benefit present and future generations (Deegan & Rankin 1997). Consistent with stakeholder theory, procurement of a licence is an essential prerequisite for accessing scarce resources and gaining, as well as retaining, sustainable competitive advantage over other contemporary organisations, which are conducting their operations under the same conditions. Organisations do not possess any inherent rights, rather, the right to access such limited, economically useful resources must be earned through some socially acceptable organisational performance. Stakeholders are primarily responsible for, and play an important role in, granting a community licence to an organisation subject to fulfilment of various non-financial expectations. Stakeholders are also responsible for identifying problems and developing efficient and effective solutions. The products of mining and crude oil industries are some of the main sources of atmospheric emissions on a global scale and contribute substantially to overall GHG emissions. Consequently, key stakeholders are extremely interested in inspecting the operating activities of these environmentally sensitive companies.

5. Findings

The research identified two major groups of GHG reporting performance. Companies in Group-I have an exceptional standard and quality of reporting. They cover almost every aspect of the ISO 14064 standards, providing consistent depth in terms of quality and uniformity of reporting. This group is termed as “Differentiators” which comprises of five leading companies. Group-II contains the remaining nine companies which exhibit an excellent standard of reporting in specific categories, but lack
consistency across all areas and produce somewhat inconsistent information. This group is categorised as “Fast Learners”.

5.1 Differentiators

The five leading companies demonstrated an extraordinarily high standard of reporting across all prescribed areas. These companies as listed in Table 1 strictly comply with the ISO 14064 principles to differentiate their reporting patterns with their existing and potential stakeholders. This helps to access future resources from local, national and international levels. Quite interestingly, these resources do not necessarily comprise nor are limited to minerals under the ground, but also include efficient employees, advanced technology, latest equipment, performance, market capitalisation, access to external finance, and positive community support to continue their extracting operations for an indefinite period of time. Companies belonging to this group have been actively engaged in managing carbon emissions beyond the prescribed legal standards. Reducing GHG emissions intensity is treated as a key performance indicator and these companies aim to improve the energy intensity of all their operations.

Table 1: Content analysis of the 14 publicly available reports (2010) selected for this research

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*Information is missing from the table because of the unavailability of necessary data for the 2010 fiscal year.*
All five companies have been enjoying leadership in the mining and crude oil production sector for many years. All five companies are committed to surpassing the established standards of excellence in Research & Development (R&D), GHG emissions reductions initiatives, project implementation and business operations. All five companies are included in Fortune magazine’s (2009-10) list as the world’s most renowned companies in the mining and crude oil production sector (Perez & Sanchez 2009; Fonseca 2010). As a result, these companies have significant financial and geographic impact, adequate asset backing and a long-standing reputation to prepare and present comprehensive reports with an objective to exhibit multiple dimensions of socio-environmental responsiveness. All five companies have reported the six different compositions of GHG emissions in carbon dioxide (CO₂) equivalent over the last three fiscal years.

CO₂ is the predominant component of BHP Billiton’s and Occidental Petroleum’s GHG emissions and the remainder is methane (CH₄). Emissions of other GHGs are insignificant from a reporting perspective. Both companies have taken reasonable initiatives to convert the materially significant GHG components into carbon and carbon-equivalent emissions on the basis of their global-warming potential. It is, however, worth mentioning that methane has 21 times higher global warming potential than that of carbon dioxide. CO₂ is the major component of Alcoa’s GHG emissions followed by perfluorocarbons. It is evident from the reports that all of them have installed system administrators to account for the volume of gas emitted into the atmosphere with sufficient detail and accuracy. Different sources of indirect emissions (such as Scope 2 emissions) associated with electricity purchases from off-site suppliers are also being disclosed appropriately (IPCC 2007).

Occidental Petroleum has consistently ranked amongst the safest companies in the US for fourteen consecutive years. Alcoa has been a leader in reducing GHG emissions from its operations for nearly two decades. These companies are working proactively with climate change legislators to ensure that the significant benefits of their extracting operations play a key role in the climate change solutions (Corporate Register 2010).

Rio Tinto displays substantial growth in expenditures on applied environmental controls. A number of initiatives and investments have been taken into consideration to improve the efficiency and environmental standards of Rio Tinto mining operations. An emergency response system for oil leaks has also been developed and is technically termed as mobile environmental ambulance. Planned activities, including modernisation and improvements of construction as well as installation of monitoring equipment, have been included within the Anglo American’s agenda. Several projects are aimed to reduce the amount of oil used to reduce the
risk of oil leaks, oil spills in accordance with the ISO 14000 environmental management systems (Corporate Register 2010).

The Australian Government enacted section 299(1)(f) of the Corporations Act in 1998, reissued in 2002. This is a federal government initiative to encourage better and more transparent reporting (Frost 2007; Lipton, Herzberg & Welsh 2010). The inclusion of Energy Efficiency Opportunities (EEO) Act in 2006 is another important Australian Government initiative to improve the identification and evaluation of energy efficiency opportunities by large scale energy users. Every Australian organisation is required to fulfil the legislative criteria irrespective of its primary line of operations. Directors of Australian companies are required to submit detailed performance reports if a company’s operations are subject to any particular and significant environmental regulation.

BHP Billiton’s environmental practices are based around optimal usage of resources (water, energy) with a focus on reuse, reduction and mitigation of environmental impacts. It is expected that the application of EEO program governed by the EEO Act 2006 will contribute to BHP Billiton’s strategy for meeting the energy intensity target on a global basis. In 2009, the company experienced a five per cent increment in the GHG emissions intensity index for the company’s global sites. This was largely because of the switching of fuels used by third-party electricity generators that serve the company’s operations. The company’s overall strategy is to achieve GHG intensity targets including improving energy efficiency and investigating cost effective alternative energy sources. BHP Billiton and its technology provider MEGTEC System were the first to develop plant at a cost of A$30 million which is capable of generating six megawatts of electricity per hour. This plant will reduce the company’s GHG emissions by 250,000 tonnes of CO₂ equivalent per annum. The company is constantly seeking the highest standard of return on shareholder’s investment along with world-class performance in sustainability and carbon and carbon-equivalent management.

In response to increasing stakeholder pressures, CEOs of large mining companies launched the Global Mining Initiative (GMI), one of the most comprehensive sustainability-orientated efforts ever seen in that sector. All five companies are active members of the GMI with an intention to move forward their present reporting practice up to the next level (Young 2005; Jenkins & Yakovleva 2006; Fonseca 2010). They have admitted that climate change is a defining challenge and there is an urgent need to take meaningful action towards addressing its multidimensional causes. Most importantly, all operations are externally audited against the ISO standards. Audit results reveal that, whilst some operations are fully compliant with the prescribed standards, others are still working to improve their present performance level. This is the most interesting point which clearly re-affirms an association between the choice of an assurance
provider and the stronger political-economic atmosphere of a company’s
country of domicile. Organisations operating in stronger political-
economic frameworks have a greater incentive to provide more positive
perspectives of their activities to re-establish their legitimacy and justify
their existence. Hence, the results provide strong support for propositions
P1A and little support for P2B.

It may be concluded that despite the presence of two contrasting features:
a shareholder-orientated corporate governance model and strong political-
economic environment, the latter component has a more prominent
influence over non-financial disclosures and in selecting an independent
external assurance practitioner to verify non-compulsory GHG documents.

5.2 Fast Learners

The remaining companies belonging to this group as listed in the Table 1
are currently passing through the “strategic transition phase”. They are
rapidly improving their current reporting performance and striving to
adapt the leading practices displayed by Differentiators. These companies
are not only complying with the prescribed legal guidelines from a
reporting perspective, but also addressing a broad range of environmental
programs purely from a risk minimising and cost leadership point of view.
These companies have outstanding reporting practices in specific
categories but fail to achieve consistency across all aspects as
recommended by the ISO 14064. These companies have shown strong
willingness to adopt the reporting styles and patterns demonstrated by the
differentiators.

Analysis and interpretation of their non-financial reports clearly reveals
that there are plenty of opportunities for further improvement. Companies
are committed to continuous advancement in building an environmentally
appropriate business model. Fast Learners are striving to reduce emissions
as far as possible by using advanced technologies to keep their emission
levels within the prescribed limits as per national and regional
requirements. Companies are trying to manage their operations with
openness, effectiveness and accountability. Companies are doing their best
to choose modern, effective and environmentally efficient technologies
whilst making a sound assessment of their environmental responsiveness.
The proper balance between environment and economy is also being taken
care of at the time of making major investment decisions. Companies are
investing significantly in R&D activities to improve energy efficiency in
their regular operations, especially in renewable and low emissions energy
sources.

Husky Energy, Xstrata, CVRD, and Nippon Mining Holdings have a
structured and systematic approach to take environmental aspects into
account, including setting requirements and targets as well as performing
follow-ups. Health, safety, welfare, and sustainable development have
been given first priority in the companies’ agenda. Environmental effects
of their activities are kept to a minimum and all of them are striving to make sure that local communities can exploit benefits as much as possible from their regular extracting operations. Companies handle these factors as an integral part of the business management. Social, environmental and ethical performances are also being taken into account when selecting suppliers, contractors and partners.

Training is an important foundation for raising awareness in any environmental work. Most of the companies have developed on-line safety orientation programs for their staff. This particular initiative will enable the employees and contractors to receive the relevant information relating to health and safety, prior to arriving at the work place. Most of them are striving to provide electronic learning facilities to all employees. Environmental issues are included in management training programs with an intention to share knowledge and know-how amongst the participants who are actively involved in the extracting operations.

Husky’s on-line safety orientation program has been recognised with two world-class awards in 2010. Xstrata implement regular training programmes to raise employees’ awareness about environmental issues and educate relevant personnel about the environmental risks and opportunities specific to their sites. The company’s management regularly sponsors research and brings in environmental experts to provide specialist advice. CVRD has invested significant resources to develop its own corporate guidelines to establish a carbon management program in 2009. This program will help to improve the quality of its GHG inventory. More importantly, the company consumes (89%) hydroelectric power to carry out its regular extracting operations with an expectation to preserve the non-renewable resources.

Only Pemex, Nippon Mining Holdings, Xstrata, CVRD, and Husky Energy are actively engaged in the Global Investment Community and their operations are aligned with the International Council on Mining and Metals sustainable development principles. Pemex and Husky Energy are the only two companies in this group to have taken reasonable initiatives to verify their reports externally. This particular finding provides strong supports for propositions P1A, P2A and little support for P2B. The reporting structure and assurance section for third-party assurance information of the remaining companies reveal the active participation of managers and employees in the reporting process through structured communication activities. These activities have supported the establishment of an internal culture with the relevant ISO principles being a performance reference in their internal verification practices and internal management decision making. The companies’ environmental management systems are strictly aligned with the ISO 14000 principles. The reports produced by the remaining companies are not verified by any independent assurance practitioner and management do not rely on external ISO certification as an indicator of environmental performance.
These companies operate their own rigorous sustainable development assurance program.

This is the most striking feature which clearly re-states an association between the choice of an independent external assurance provider and the stronger political-economic infrastructure of a company’s country of domicile. Hence, the research findings confirm that the demand for assurance is higher amongst companies belonging to the mining and crude oil production industry. It is also evident from the analyses based on current reporting practice that companies domiciled and operating in weaker political-economic environments are rather inclined to seek assurance of voluntarily published GHG reports from internal assurers (specialist consultants) who may or may not possess any approved training, qualifications and expertise with respect to verification of non-financial performance documents.

6. Discussion

The results presented in the preceding section generally support the propositions being developed that the incidence of assurance of non-compulsory GHG reports is higher amongst companies belonging to the highly visible industrial activities with larger carbon footprints. The first four indicators prescribed by the ISO 14064 (as mentioned in the Table 2) are purely procedural. In the absence of any specific information, it has been reasonably assumed that every chosen company has adequately complied with these guidelines for preparation of a non-compulsory GHG document. The mining and crude oil production sector started producing separate environmental reports in the 1990s, after which the reporting practice gradually gathered momentum, and now the industry enjoys a leadership position in GHG disclosures. However, the fact remains that there are considerable elements of variation in the maturity of reporting content and styles amongst the top fourteen chosen MNCs (Young 2005; Jenkins & Yakovleva 2006). Analysis and interpretation of the fourteen non-financial reports clearly reveals that none of them has prepared a stand-alone statement intended to communicate GHG-related information to its target users. Findings provide added strength to the arguments for the need to improve current corporate practice pertaining to the assurance of GHG disclosures and the development of globally agreed standards for preparation and presentation of such reported information.

In the last two decades, the accounting literature has witnessed a significant amount of research to address corporate environmental responsibilities. However, most research in this area has been incomplete and simplistic (Schaltegger & Burritt 2000). Leading researchers have commented that the whole process of environmental (including GHG emissions and removals) auditing is incomplete and vague because of the absence of any globally agreed reporting framework and measurement
criteria. In most instances, researchers are still in the dark with their investigations concerning the content of information elected to be disclosed, how to disclose the materially significant information meaningfully and convincingly and how to compare and evaluate business viability on environmental grounds.

Table 2: Indicators prescribed by the ISO 14064

<table>
<thead>
<tr>
<th>Code</th>
<th>Description (summary)</th>
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<tbody>
<tr>
<td>A</td>
<td>Description of the reporting organisation</td>
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<tr>
<td>B</td>
<td>Person responsible</td>
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<tr>
<td>C</td>
<td>Reporting period covered</td>
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<tr>
<td>D</td>
<td>Documentation of organisational boundary</td>
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<tr>
<td>E</td>
<td><strong>Direct</strong> GHG emissions, quantified separately for each GHG, in tons of CO₂ equivalent</td>
</tr>
<tr>
<td>F</td>
<td>A description of how CO₂ emissions from the combustion of biomass are treated in the GHG inventory.</td>
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<tr>
<td>G</td>
<td>GHG removals quantified in tons of CO₂ equivalent.</td>
</tr>
<tr>
<td>H</td>
<td>Explanation for the exclusion of any GHG sources or sinks from the quantification.</td>
</tr>
<tr>
<td>I</td>
<td>Energy <strong>indirect</strong> GHG emissions associated with the generation of imported electricity, heat or steam, quantified separately in tons of CO₂ equivalent.</td>
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<tr>
<td>J</td>
<td>The historical base year selected and the base-year GHG inventory.</td>
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<tr>
<td>K</td>
<td>Explanation of any change to the base year or other historical GHG data, and any recalculation of the base year or other historical GHG inventory.</td>
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<tr>
<td>L</td>
<td>Reference to or description of, quantification methodologies including reasons for their selection.</td>
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<tr>
<td>M</td>
<td>Explanation of any change to quantification methodologies previously used.</td>
</tr>
<tr>
<td>N</td>
<td>Reference to, or documentation of, GHG emissions or removals factors used.</td>
</tr>
<tr>
<td>O</td>
<td>Description of the impact of uncertainties on the accuracy of the GHG emissions and removals data.</td>
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<tr>
<td>P</td>
<td>A statement that the GHG report has been prepared in accordance with this part of ISO 14064.</td>
</tr>
<tr>
<td>Q</td>
<td>A statement describing whether the GHG inventory, report or assertion has been verified, including the type of verification and level of assurance achieved.</td>
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The first four indicators prescribed by the ISO 14064 are procedural. In the absence of any specific information in stand-alone sustainability reports, it has been reasonably assumed that every company selected in this research has adequately complied with these guidelines for preparation and presentation of non-compulsory GHG disclosures.

*Information is missing from the table because of the unavailability of necessary data for the 2010 fiscal year.*
Researchers and professionals are striving to incorporate every aspect according to the latest version of ISO 14064 standard with a view to presenting information comprehensively. Moreover, no commonly accepted accounting techniques, analytical tools or statistical methods are available to report, review and objectively evaluate the corporate environmental responsiveness. Additionally, there are no proper guidelines and standards available that adequately cover the environmental audit process including GHG emissions and removals. Consequently, researchers have tended to use their own measurement criteria rather than using the pre-existing definitions, concepts, techniques and tools provided by the regulatory bodies. This is not only hampering the comparisons and analyses, but also limiting the desired progress. This finding is consistent with Burritt, Hahn and Schaltegger’s (2002) conclusion that despite the presence of very stringent market regulations, collections of environmental information (including GHG emissions and removals) remain unsystematic and poorly co-ordinated from an international context.

The findings are consistent with the comment made by Burritt, Schaltegger and Zvezdov (2011), that environmental regulations with regard to corporate GHG emissions are becoming increasingly stringent worldwide. Many countries and a few specific industries are facing stricter regulations, which mean companies need to address the issue in their external reports. Current corporate reporting practice and the critical review of literature clearly indicate that some companies are trying to comply only with legal requirements to avoid fines, penalties or loss of licence in order to continue their operations. On the other hand, a few leading companies have been actively engaged in managing carbon emissions beyond the prescribed legal level of compliance, with a view to obtaining a sustainable competitive advantage in the long run.

Efforts have been devoted to improving the content and structure of external reports and making them concise, quantitative, cost-effective, performance-orientated, and comparable (Simnett, Nugent & Huggins 2009). Consistent with compulsorily announced mainstream financial reports, there are different motives for preparing and presenting GHG disclosures. Firstly, every organisation has social and moral obligations to engage in environmentally responsible activities because of ethical corporate practice. Secondly, corporate environmental disclosures have risen substantially over the last two decades because of the existence of environmental pressure groups (Tilt 1994). Consequently, environmental information has increasingly become economically relevant for decision making and corporate responsibility. Thirdly, scientific findings illustrate that the impacts of collective human actions on the natural environment are not only local, national or regional but also pose a threat to the global ecosphere (Maunders & Burritt 1991; Schaltegger & Burritt 2000). Fourthly, comprehensive disclosures relating to GHG emissions create a better and more persistent corporate reputation and help to enhance a corporate credibility that will eventually create shareholders’ wealth via
increased net operating profits. Finally, “watchdog groups” pay regular attention to the extracting operations of mining and crude oil production sector worldwide. Hence, it is no longer possible to expect that less stringent environmental restrictions in a survival economy are the valid excuse to avoid the standards imposed by environmental pressure groups (Gray, Owen & Adams 1996). However, despite continuous corporate support, significant disparities prevail between the perceived norms and ethics expected by a wide range of stakeholders and the published GHG disclosures due to regulatory uncertainty and the absence of any commonly agreed standardised guidelines.

Consistent with the literature, the findings clearly reveal that corporate GHG disclosures vary significantly because of several of the following country-specific characteristics: country of origin, prevailing legal infrastructure of the company’s country of domicile, corporate governance business culture, greater exposure to stakeholder scrutiny, and the severity of socio-environmental problems or other external events (Adams 2002). In addition to this, availability of resources, companies’ profit earning capacity, size and volume of the company, the extent of media attention, volume of assets backing, and substantial market capitalisation also have noticeable impacts on the current reporting practice. One of the greatest challenges in assessing the value that is being added by the published reports is the extraordinary amount of variation and the considerable level of unevenness in the form, style and content of GHG disclosures.

The results support the comment made by Guthrie and Parker (1989) that corporate non-financial reports cannot be considered a neutral and representationally faithful document because of the presence of various suggestions and guidelines prescribed by different professional accounting bodies worldwide. However, stand-alone GHG emission reports can be considered a product of the interchange between the corporation and its environment and society at the broadest level, and an attempt to facilitate and accommodate conflicting non-financial interests of diverse cross-sectional stakeholders.

Many companies are still working with company-specific provincial and federal regulators on the development of GHG-related information and climate change regulations whilst supporting the climate change action plan. In the absence of national and international agreements, many provinces in the European Union, Canada, Australia, and the northern US have developed individual climate change regulations. It is evident from this research that companies domiciled and operating in stronger political-economic environments and stakeholder-orientated corporate governance business cultures are inclined to provide greater disclosures in the stand-alone environmental reports in accordance with the prescribed guidelines and are more likely to seek assurance of the non-compulsory GHG disclosures from an external, independent assurance practitioner.
Several difficulties in data gathering need to be acknowledged. The selected companies prefer to avoid additional compliance costs associated with the production of a stand-alone GHG emissions report. This leaves limited common ground for undertaking meaningful comparison. Different reporting practices are adopted by companies registered under the legislation of developing countries (such as Africa, South America and Asia) that are currently passing through a transitional economy, where local communities often face the impacts of socio-environmental costs without necessarily gaining any materially significant benefits. Local populations view a mine as an economic boost which is capable of creating future employment thereby minimising or ideally eliminating poverty. The populace is less concerned with potentially polluting activities so long as they have a source to earn a living. Moreover, companies located in these regions are not inclined to develop a compliance mentality; rather they prefer to follow the traditional approach. Consequently, separate, stand-alone GHG emissions reports are not readily available to assist constructive managerial decision making.

Another contributory factor towards the formation of stand-alone GHG emissions reports within the mining industry is the amalgamation of companies domiciled and operating in two different countries. A cross-border merger of two mining companies contributes to more sophisticated and comprehensive reporting style, for example Billiton from South Africa merged with BHP from Australia in 2000 financial year. The new merged company’s (BHP-Billiton) disclosure policies are likely to be heavily influenced by the stronger reporter, in this case BHP.

7. Concluding comments

This study aims to develop an understanding of the international market for assurance services provided on stand-alone, non-compulsory GHG emissions reports and the selection of assurance practitioners. This research uses an evidenced based content analysis to (1) provide background information on the factors associated with the decision to produce these comprehensive reports, (2) the factors associated with the independent verification of such information, and (3) factors associated with the selection of assurance practitioners. Analyses and interpretation reveal a general trend towards increasing sophistication of the medium of reporting and content of information elected to be disclosed in the published external reports. Moreover, the nature and scope of GHG emissions and removals have been generally qualitative and favourable to the company concerned (Jenkins & Yakovleva 2006; Lodhia & Martin 2012). Consequently, the elements of subjectivity which leave room for personal judgment and opinion to influence the reporting style persist. As a result of such ambiguity, corporate GHG disclosures remain a part of additional explanatory notes and fail to warrant any place in the mainstream statement. Furthermore, the prevailing styles, formats, content
and standards of reporting vary greatly across the fourteen MNCs because of the presence of cross-country variation. Findings reveal that there is no separate, independent GHG emissions report in accordance with the ISO 14064. Information relating to GHG emissions and removals has been merged with the stand-alone sustainable development reports as a part of their broader environmental responsiveness. The elements of discrepancy and deregulated reporting practices indirectly allow the companies to be broadly clustered into two different categories, as discussed in the preceding section.

The last two decades since the implementation of the Kyoto protocol in 1997 have witnessed a significant development of corporate environmental responsiveness especially related to GHG disclosures. Corporate environmental responsibility is increasingly becoming instrumental for ecologically sensitive reporting entities. Amongst the various initiatives that a modern company should adopt to assume this responsibility, its position concerning climate change should be highlighted. The environmental responsibility should be towards controlling or reducing GHG emissions and also contributing toward the reduction of vulnerabilities, not only at the national level but also on a global scale. Climate change is a relatively new and unprecedented global challenge to which government, political parties, corporate sectors, not-for-profit organisations and individual citizens are called to respond within the scope of their respective duties and responsibilities.

This research has theoretical, practical and policy level implications. At a theoretical level, it adds to the limited but emerging literature on corporate GHG accounting and reporting. In relation to practice and policy, this project has several implications. Firstly, assurance service providers, particularly specialist consultants, may need to review their profile and credentials carefully in the market prior to accepting any assurance engagement. Likewise, client organisations seeking an assurance practitioner would also need to devote greater attention to select the type of service provider. With the growing number of independent third-parties other than top tier accounting firms within the profession currently providing assurance service of non-financial performance reports (including GHG emissions and removals); this issue is becoming increasingly important.

Secondly, stakeholder theory does not specifically mention the definition and scope of the intended population or target audience to whom the report should be made available. Given the lack of defined user groups for the report, it remains difficult to make clear decisions about what information should be included, what should be the minimum reasonable length and depth of such information and how to prepare and present such information in order to address various non-financial stakeholders’ expectations. Hence, the definition and scope of relevant stakeholders
need to be refined and clearly identified in order to minimise ambiguity and improve generalisability of the reported information.

Thirdly, the benefits of production and independent verification of stand-alone GHG emissions reports are not clearly defined. Although prior research has examined some of the motivating factors that drive an enterprise to produce a separate document, there is a scarcity of empirical evidence that inspects the underlying motivations to provide assurance with these reports. Examination of these ranges of issues is likely to lead to the identification of factors that would improve the quality and usefulness of GHG reports. It is evident from the literature that approaches adopted by accountants and consultant assurance practitioners are often very different. An examination of these different approaches to assurance and how they add value to stakeholder expectations would be a valuable contribution to the future development of assurance practices with respect to GHG emissions and removals.

Fourthly, every environmentally exposed reporting entity is accountable to release a separate stand-alone GHG document along with economic, environmental and social information. Accounting can play a number of potentially important roles in helping to address and resolve these urgent issues and thus could help to make the world more environmentally sustainable. For reporting practice to be more effective and efficient, it would require fundamental shifts in a number of accounting principles and policies and in the underlying assumptions and premises upon which analyses and interpretations are based. Environmental accounting is only perceived as an important technique if it is capable of enhancing the overall value of any reporting entity. Even though the generally accepted carbon accounting and assurance standards have yet to be developed and implemented from an international standard-setting perspective, the progress and collaboration in this direction is worth considering. Prescribing a commonly accepted standard would be one of the most important and influential contributions accounting could make to the business world. The accounting profession must play its part in correcting the greatest and arguably one of the widest ranging market failures ever faced by the world, namely the need for prescribing globally agreed carbon emissions regulations and legislations.

These conclusions must be moderated by the following considerations. The limited selection of industries, companies and countries implies that the results are industry specific and not necessarily applicable to other organisations that have completely different lines of operations and belong to different industries altogether. Such choices will certainly impact on the results, which are undertaken from a macro perspective utilising the available aggregated resources. Furthermore, it is important to clarify that many companies belonging to the mining sector do not produce relevant external reports and are screened out. More specifically, smaller companies are less likely to appear on the type of database used in this
research to provide additional non-financial performance information, primarily because of the resource constraints. Hence, they are automatically excluded from this analysis.

In summary, separate, stand-alone GHG emissions reporting is only considered to be meaningful if such reports are perceived as being relevant and credible. The provision of assurance can assist ecologically sensitive organisations in achieving this objective worldwide. This research supports the need for prescribing one commonly accepted standardised guideline for corporate GHG disclosures and independent third-party verification of such reported information. The growing availability of data, even with their limitations, provides opportunities for more in-depth investigations of corporate responses to anthropogenic climate change and carbon accounting and reporting. Nevertheless, future research on the assurance of GHG disclosures is tremendously important for the effectiveness of these reports. Accounting researchers can play an important role in helping to put things in the right perspective.

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Oil company annual report disclosure responses to the 2010 Gulf of Mexico oil spill

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Abstract

This paper analyses the annual report disclosures of the other six largest oil companies in reaction to the 2010 Gulf of Mexico oil spill. It focuses on changes in disclosures that can be ascribed to the oil spill. The companies all increased their environmental disclosures, with positive disclosures increasing most. It shows the use of an image enhancement disclosure strategy and a (partial) disclaiming of responsibility disclosure strategy, but do not find evidence consistent with a deflection of attention disclosure strategy, probably due to the high profile of the incident. It is found that BP’s strategy of repeating disclosures about remedial activities several times in different parts of the annual report ensures: an emphasis on the positive, that all stakeholders regardless of their area of focus are likely to notice this disclosure, an increase in the volume of environmental disclosure, and that less detail can be disclosed, reducing litigation-related risks.

Key words

Environmental accounting, environmental reporting, legitimacy theory, legitimisation strategies

1. Introduction

Environmental issues have become an increasingly important matter for companies to manage as various stakeholder groups continue to put pressure on companies to accept accountability for the environmental impact of their operations (Deegan, Rankin & Voght 2000). These stakeholder groups demand that companies minimise the negative environmental impacts of their operations. Under these conditions, legitimacy theory predicts, a company will use various disclosure strategies to preserve an image of a socially responsible corporate citizen
to ensure continued access to the resources needed for businesses success (Lindblom 1993).

Companies with bad environmental news have been shown to react by ignoring the negative and disclosing more positive environmental information (Deegan & Rankin 1996). Patten (1992) showed that companies facing an environmental crisis will increase the environmental disclosures within their annual report in an attempt to regain their legitimacy. By doing this, companies can use disclosures to manage society’s perceptions about their crisis, legitimise their operations, and ensure their continued success (Deegan, Rankin & Voght 2000). However, to maximise the potential of these companies to regain their legitimacy, O’Donovan (2002) shows that they will use different disclosure strategies.

According to Cho (2009), companies facing an environmental crisis are most likely to undertake an image enhancement strategy where they attempt to restore their image through increased self-praising environmental disclosures. Companies may also disclaim responsibility and/or attempt to deflect attention away from the event (Cho 2009).

In spite of the insights provided in the prior literature, disclosure decisions can be complex and are still not fully understood. For example, Wilmhurst and Frost (2000) highlight the need for research into the trade-off that occurs when companies facing a crisis have competing strategic requirements for information to include in their annual reports. Given the increasing public awareness of and concern about environmental issues, stakeholders increasingly challenge companies to respond with appropriate disclosure trade-offs (Manning 2004). An examination of the disclosures following a significant social or environmental crisis that affects a variety of stakeholders can therefore potentially provide further insights into these disclosure decisions and disclosure strategies.

This paper examines the disclosure patterns and strategies used by oil companies in response to the Gulf of Mexico oil spill. It focuses on the annual report, because despite recent research attention to websites (e.g. Barac 2004), stand-alone reports, and media release disclosures, managers still use the annual report in unique ways within their overall corporate communications strategies (De Villiers & Van Staden 2011). BP’s first annual report after this crisis, their 2010 report, was published on 5th March 2011. Therefore, this is one of the first papers to investigate the reactions of the oil companies to the Gulf of Mexico oil spill. The crisis conditions are unique because of the scale of the crisis, the setting of the crisis as it affected a highly populated area in an OECD country, and because of the increased environmental awareness after the oil spill that had not accompanied many prior environmental crises. These extreme conditions make this an ideal case to examine for the purpose of extending existing theory. The Gulf of Mexico oil spill raised questions about the extraction methods used by the entire oil industry. Therefore, not only BP’s annual reports analysed, but also those of the five largest oil
companies other than BP, namely, Total, Shell, ExxonMobil, Chevron and ConocoPhillips, before and after the Gulf of Mexico oil spill. Among other analyses, the research followed Hackston and Milne (1996) in counting environmental disclosures sentences and classifying them into positive, negative and neutral categories. Analysis of all environmental disclosures was performed, but oil spill related disclosures were kept separate in the case of BP. Cho (2009) was also used in identifying whether the oil companies adopted image enhancement, disclaimer and/or deflection disclosure strategies. These strategies are discussed in detail below, but a glance at Table 1 would answer any questions the reader may have at this stage. Finally, disclosures are appraised for any other prominent characteristics.

The findings show that the overall environmental disclosures of the oil companies increased after the oil spill. Disclosures that reflect positively on the company increased more than negative or neutral disclosures. It is also find that an image enhancement disclosure strategy was mainly chosen by all of the major oil companies, not just BP, to regain legitimacy. Further, the paper makes a contribution to the understanding of disclosure strategies following a crisis by showing that BP repeated exactly the same remedial action information over and over, sometimes within the same section and also in different sections in their annual report, in each instance without further elaboration. Interpretation of this strategy is made as an attempt to ensure that all relevant publics, independent of their areas of interest, were likely to get the positive information regarding BP’s remediation without BP incurring the risk of providing additional information that may be useful to future litigants.

These results and insights will be of potential interest to investors, accountants, managers of crisis hit companies, regulators, environmental groups, the research community, and individuals with a specific interest in the Gulf of Mexico oil spill. Additional disclosure insights will potentially allow: investors in future to make better risk assessments based on disclosures, managers and accountants to better understand the legitimising strategies usually used in response to a crisis, regulators to identify if there is a need for regulatory intervention, environmental groups to improve their assessments of corporate environmental responsibility based on disclosures, and the research community to have a more comprehensive understanding of the legitimising disclosure strategies managers use following an environmental crises.

The remainder of this paper proceeds as follows. The next section discusses theoretical perspectives on legitimacy theory, the disclosure decisions of crisis affected companies, and expectations regarding the disclosure decisions of all the major oil companies after the Gulf of Mexico oil spill. Next, background information about the Gulf of Mexico oil spill is provided, before discussion of the methods of data collection and analysis. This is followed by the results section, a discussion that provides
an explanation for the results in relation to prior literature and an analysis of the implications of these results. The paper then concludes with a summary, limitations, and suggestions for potential future research.

2. Literature review and expectations

2.1 Legitimacy theory

Legitimacy theory is based on the concept of a social contract whereby companies are in need of a positive relationship with society in order to ensure access to resources (Shocker & Sethi 1974). Companies seek congruence between perceptions of outsider’s of the company’s social values and society’s conception of acceptable organisational conduct (Mathews 1993). A perceived disparity between a company’s values and societal values represents a threat to the company’s legitimacy and a breach of their social contract (Dowling & Pfeffer 1975). A legitimacy threat can be serious, even endangering continued survival, because stakeholders can withdraw support and limit resources (Parsons 1960; Pfeffer & Salancik 1978). This threat to resource access can take many forms, such as government increasing regulations and reporting requirements, decreased customer demand for the companies’ products, decreased interest in employment in the company by sought after candidates, or shareholders and lenders disinvesting from the company (Deegan, Rankin & Voght 2000). Therefore, it is important for companies, not only to do the right thing, but also to manage the perceptions of their various relevant publics, otherwise known as their stakeholders (Oliver 1991).

2.2 Perception management through disclosure

Perception management can be difficult as legitimacy is dynamic and a company can lose legitimacy due to shifts in the interests of their relevant publics or the composition of their relevant publics (O’Donovan 2002). Disclosure provides a relatively cost effective means of influencing opinion and reducing any legitimacy gap (Cormier & Gordon 2001). It can also be argued that remedial action without disclosure is not enough to repair legitimacy, because relevant publics need to be informed about actual changes before their perceptions can change. Therefore, corporate disclosure strategies are important legitimising/perception management tools.

2.3 Disclosures after a legitimacy crisis

Legitimacy crises can be precipitated by sudden revelations of new information about a company that differs from prior perceptions (Sethi 1977). An environmental accident event linked to a company can lead to such a legitimacy crisis (Elsbach 1994). Many studies have investigated how a crisis can affect a company’s legitimacy, the effect of industry on
legitimacy (Doppegieter & De Villiers 1996; De Villiers & Lubbe 2001),
trends over time (Antonites & De Villiers 2003), and the disclosure
patterns of the companies in reaction to a legitimacy threat (Sutton &
Callahan 1987; Patten 1992; Elsbach 1994; Deegan & Rankin 1996;
Walden & Schwartz 1997; Deegan, Rankin & Voght 2000). Studies
focussing on legitimacy following ExxonMobil’s 1989 Alaskan oil spill
caused by the Exxon Valdez are particularly relevant here (e.g., Patten
1992; Deegan, Rankin & Voght 2000). Patten (1992) shows that this oil
spill was followed by increased self-laudatory environmental disclosures
by all of the oil companies. Walden and Schwartz (1997) demonstrate that
these increased environmental disclosures were made in response to
increased public policy pressure. Oil companies responded immediately to
the legitimacy threat (Walden & Schwartz 1997). Deegan, Rankin and
Voght (2000) extended these studies by showing that the annual reports of
oil companies two years subsequent to the Exxon Valdez oil spill,
contained information about the preventative methods and emergency
response procedures undertaken in response to the spill. Deegan, Rankin
and Voght (2000) also investigated the reactions of oil companies to
BHP’s Iron Baron oil spill. Oil companies responded to the Iron Baron
incident by increasing incident related social disclosures two years
subsequent to the spill in an attempt to regain legitimacy (Deegan, Rankin
& Voght 2000).

An increase in positive disclosures has been identified as the most
prevalent way to manage relevant publics’ perceptions (Deegan 2002).
Further examination of disclosure strategies following a legitimacy threat
will potentially provide further insights (Dowling & Pfeffer 1975;
Ashforth & Gibbs 1990; Oliver 1991) and information about the
company’s motivations for disclosing environmental information
(O’Donovan 2002).

each developed categories of disclosure strategies that companies trying to
repair their legitimacy will adopt. Cho (2009) synthesises and reclassifies
these prior classifications into three disclosure strategies. Suchman (1995)
also identifies three disclosure strategies that companies dealing with a
legitimacy threat could implement. Prior classifications are shown in
Table 1 to facilitate comparison. Note that because Suchman’s (1995)
strategies are all legitimacy repairing strategies, his classifications are
somewhat different. Nevertheless, similarities emerge as explained below.

According to Disclosure Strategy 1, the disclosure of self-laudatory
environmental information can increase the appearance of legitimacy (Cho
2009). Disclosures under this strategy are aimed at enhancing the image of
the company by either, reiterating past achievements (Lindblom 1993),
emphasising current positive environmental activities (Dowling & Pfeffer
1975; O’Donovan 2002; Cho 2009), or framing the actions taken in
regards to the activity that was a threat to their legitimacy in a positive
manner (Suchman 1995). Also by changing the focus towards positive activities, a company is able to symbolically fulfil its social contract, whilst not actually altering activities or methods (Buhr 1998; Neu, Warsame & Pedwell 1998).

**Table 1: Legitimising disclosure strategies**

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<tr>
<td><strong>Dowling and Pfeffer (1975, p.127)</strong></td>
<td>Adapt – change outputs, goals and methods of operation to conform to prevailing definitions of legitimacy</td>
<td>Alter – change the definition of social legitimacy so that it conforms to the organisations present practices, output and values</td>
<td>Identification – become identified with symbols, values or institutions which have a strong base of social legitimacy</td>
</tr>
<tr>
<td><strong>Lindblom (1993, pp.13-16)</strong></td>
<td>Educate – inform the relevant public about recent organisational actions that remedy previously perceived deficiencies</td>
<td>Alter – change the perceptions of external parties</td>
<td>Deflection – deflect attention from the perceived problem areas by changing the focus of external parties</td>
</tr>
<tr>
<td><strong>Suchman (1995, pp.598-599)</strong></td>
<td>Restructure – selectively confess that limited aspects of organisations operations were flawed (Second in process)</td>
<td>Avoid panic – use a mixture of gain (intense activity) and maintain (sensitivity to environmental reactions) in order to repair legitimacy (Third in process)</td>
<td>Normalise – separate threatening revelation from larger assessments of organisation as a whole (First in process)</td>
</tr>
<tr>
<td><strong>O’Donovan (2002, pp.359-360)</strong></td>
<td>Conform – change to conform to what society expected</td>
<td>Alter – shape the social perceptions of the corporation</td>
<td>Avoidance – make no disclosures about the negative event</td>
</tr>
<tr>
<td><strong>Cho (2009, pp.37-38)</strong></td>
<td>Image Enhancement – appear legitimate by linking itself to positive social values by disclosing self-praising information</td>
<td>Disclaimer – appear legitimate by issuing disclaimer statements denying its responsibilities</td>
<td>Deflection – appear legitimate by redirecting attention from specific social and environmental concern</td>
</tr>
</tbody>
</table>
An oil company trying to regain legitimacy might make symbolic disclosures that announce an immediate inquiry into the cause of the spill and assure the public that any measures necessary to prevent a similar future accident will be undertaken (O’Donovan 2002, p.348). Therefore, in using the first disclosure strategy, labelled "image enhancement", the company makes symbolic, selective, positive, self-laudatory disclosures aimed at repairing image and legitimacy (Deegan & Gordon 1996).

The second disclosure strategy involves disclosures that change the expectations of the companies’ relevant publics, so that the company is not held responsible for the event which threatens their legitimacy (Lindblom 1993; Cho 2009). In undertaking this strategy a company attempts to redefine its legitimacy so that no changes have to be made to their environmental activities (Dowling & Pfeffer 1975). It is only the perceptions of the external parties about the company that will be changing (Lindblom 1993; O’Donovan 2002). Suchman (1995) maintains that companies adopt this strategy in an attempt to alleviate the concerns of their relevant publics due to the high remediation costs attached to a crisis. In denying responsibility, the company gains time to plan and manage any remediation they may be forced into (Suchman 1995). Therefore, disclaiming responsibility can be a valuable strategy that is commonly used by companies for disclosures in their annual reports (Preston, Wright & Young 1996). Companies can claim that they are not responsible and that it is unfair to expect companies like themselves to be held responsible.

In the final disclosure strategy, companies use their disclosures to deflect attention away from the crisis that has caused the threat to their legitimacy (Cho 2009). This is done by identifying with symbols or values seen as legitimate (Dowling & Pfeffer 1975), and/or by making no disclosures about the event (Neu, Warsame & Pedwell 1998; O’Donovan 2002). The company typically keeps information about the threatening event separate from information about general operations in order to normalise and lend legitimacy to the company (Suchman 1995). Companies thus repair their legitimacy by challenging the link between the crisis and the company (Stephens, Malone & Bailey 2005). Companies often use this deflection disclosure strategy in conjunction with the first, image enhancement, where positive environmental disclosures are used to enhance the company’s image and to divert attention away from the environmental crisis (Cho 2009).

Cho (2009) examines the disclosure strategies of the oil company Total after two major environmental crises, namely the sinking of a tanker that caused an oil spill and an explosion at a chemical plant. After both crises the main disclosure strategy adopted was an image enhancement strategy (Cho 2009). Total was attempting to restore image and reputation and regain legitimacy (Cho 2009). However, after the second crisis, Total shifted towards using deflection and disclaimer strategies, leading Cho
(2009) to conclude that when a company faces major and multiple crises, there is an increasing need to use deflection and disclaimer disclosure strategies to manage their relevant public’s perceptions to regain their legitimacy. It is suspected that a particularly high profile single crisis event, such as the Gulf of Mexico oil spill, is enough to require the increased use of deflection and disclaimer strategies.

In summary, after a legitimacy threatening crisis, a company is likely to attempt to regain legitimacy with disclosures aimed at image enhancement, disclaiming responsibility, and/or deflecting attention from the crisis. Companies attempt to enhance their image by increasing positive, self-laudatory disclosures. Companies attempt to disclaim responsibility by altering their relevant publics’ expectations through these positive disclosures. When repairing legitimacy, companies are most likely to use symbolic disclosures that conform to social values, and alter the expectations of their relevant publics, rather than using disclosures that avoid the event, because companies are thus able to portray themselves as being proactive and repentant without actually apologising, allowing them to decouple their actions from the event (O’Donovan 2002). Companies will also sometimes use positive disclosures to deflect attention away from the crisis event, making no attempt to change the expectations of their relevant publics (Cho 2009), but according to O’Donovan (2002), completely ignoring a high-profile crisis event is not feasible. The size of the Gulf of Mexico oil spill and the extent of the media attention it generated probably mean that oil companies were not able to ignore the incident in their disclosures. Therefore, deflecting attention should not be a viable option here. Therefore, it is expect that BP and other major oil companies to have reacted to the Gulf of Mexico oil spill with image enhancing and disclaiming responsibility disclosures, but not deflection disclosures.

2.4 Annual report disclosures

Annual report disclosures are commonly used by companies to manage their relevant public’s perceptions and to regain legitimacy after a crisis (O’Donovan 2002) and studies have shown that many different stakeholders call for the disclosure of environmental information in annual reports (De Villiers 1998; De Villiers & Vorster 1995) and that the managers who make the disclosure decisions are aware of it (De Villiers 1999). Being a major public document ensures that the annual report is influential in relevant publics’ perceptions (Andersen & Epstein 1995). By increasing the environmental disclosures within these reports, companies that have directly caused an environmental crisis, or that operate within the crisis industry, are able to convey an image of ethical responsibility and accountability (Deegan, Rankin & Voght 2000). The Gulf of Mexico oil spill was an environmental crisis of unprecedented proportions. Therefore it impacted severely on BP’s legitimacy. The extent of the crisis also raised the question whether similar disasters could be expected in future.
In this way, it also impacted on the image and legitimacy of other oil companies. Therefore, it is expected that all of the major oil companies responded with annual report disclosures.

2.5 BP’s legitimacy crisis versus the other oil companies

Prior research shows that all companies in a crisis industry respond with additional disclosures (Patten 1992; Deegan, Rankin & Voght 2000). We expect BP, who caused the crisis, to have perceived their legitimacy questioned most, because the crisis made BP appear less responsible than the rest of the industry, making it harder for them to regain their legitimacy (Deegan, Rankin & Voght 2000). Therefore, BP would have had to increase environmental disclosures more than the other companies in the industry in order to regain legitimacy (O’Donovan 2002; Patten 1992).

3. Background: Gulf of Mexico Oil Spill

On April 20th 2010 an explosion and fire occurred on the Deepwater Horizon oil rig at the Macondo well just off the coast of Louisiana, which eventually sank the vessel on April 22nd 2010 (BP 2010). During that time and in subsequent months until the well was permanently plugged with cement on September 19th 2010 (Det Norske Veritas 2011, p.2), a total of 4.9 million barrels of oil were discharged from the Macondo well into the Gulf of Mexico (Schaaf & Apple 2010). The event caused the death of 11 people, serious injury to 17 others, and the greatest environmental disaster in the United States’ history (Bryant & Hunter 2010). The oil spill caused permanent ecological, environmental and economic destruction to the Gulf of Mexico area (Gore 2010). There was damage to the coastline, unsightly pollution, the death of fish and wildlife, and the elimination of jobs that were the livelihood of many people including fishermen, and restaurant and hotel owners (Lee 2010). For example, the Gulf of Mexico fishing industry, which in 2008 supported over 213,000 workers was prohibited from fishing in the Gulf until November 15th 2010, causing workers to be dismissed and sales to decrease as customers became concerned about the safety of Gulf seafood (Upton 2011).

BP made many attempts to stop the discharge of oil before succeeding. The successful method was to drill two relief wells and to seal the Macondo well with a static-kill procedure (Det Norske Veritas 2011). The depth of the well added to the complexity and cost of these methods. According to BP’s 2010 Income Statement, the cost of sealing and the clean-up and remediation costs totalled $40.9 billion. This cost was expected to increase considerably as BP faces future litigation and remediation expenses (BP 2010). Although payment of such costs will impact significantly on BP’s operations, they expect to recover some of these costs from Transocean who own the site of the oil spill, the
Deepwater Horizon rig, which BP had leased from March 2008 until September 2013 (Det Norske Veritas 2011).

4. Method

This study examined oil company annual report disclosure responses to the 2010 Gulf of Mexico oil spill. This research focussed on two issues, namely changes in the volume of environmental disclosures, and the disclosure strategy used (image enhancement, disclaimer, and/or deflection). In addition, disclosures were reviewed for any other prominent characteristics. Environmental disclosures in the annual reports of BP, Total, Shell, ExxonMobil, Chevron, and ConocoPhillips, being the largest oil companies by market capitalisation (Fortune 2010) for 2009 (before the crisis) and 2010 (after) were compared and the 2010 reports further examined in light of our legitimacy theory derived expectations. These oil companies frequently benchmark against each other (BP 2010; Total 2010). According to the legitimacy derived expectations, it is likely that a major environmental crisis in one of these companies will impact the legitimacy of the other companies.

The annual reports were chosen as the basis of analysis because, as shown by Warsame, Neu and Simmons (2002), they are the primary source of information for institutional investors (Hutchins 1994), individual investors (Epstein & Freedman 1994) and environmental groups (Patten 1992). So annual reports are used by many different relevant publics and managers can be expected to use annual reports to attempt to manage the perceptions of these relevant publics. Annual reports are perceived as highly credible due to the considerable amount of regulations monitoring its preparation including the financial audit (Warsame, Neu & Simmons 2002). These regulations cause some uniformity across companies, facilitating comparison and increasing reliability of comparison (Neu, Warsame & Pedwell 1998).

Changes in the environmental disclosures of the six oil companies’ 2009 (BP 2009; Chevron 2009; ConocoPhillips 2009; ExxonMobile 2009; Shell 2009; Total 2009) and 2010 (BP 2010; Chevron 2010; ConocoPhillips 2010; ExxonMobile 2010; Shell 2010; Total 2010) annual reports, were examined initially by way of sentence counts, a method used extensively in environmental reporting research (e.g., Hackston & Milne 1996; De Villiers & Van Staden 2011). This method allowed qualitative information to be divided into different categories to facilitate an analysis of the increases in the types of environmental disclosures made (Abbott & Monsen 1979). The primary interest was in changes in volume of environmental disclosures from 2009 to 2010, making this sentence count method appropriate. Also, Hooks and Van Staden (2011) demonstrate that volume counts and quality scores of environmental disclosures yield highly correlated results, providing further support for our method. This
volume measure has the added advantage that it can be more reliably coded, because it is less likely that coders disagree on coding categories than with other methods (Milne & Adler 1999; Hooks & Van Staden 2011).

Following Wiseman (1982), disclosures were regarded as environmental if it relates to environmental regulations or requirements, actions taken to alleviate an environmental issue; environmental policies, efforts to reduce environmental impact; expenditures on environmental activities, or litigation for environmental actions. Prior research was followed and disclosures were categorised on the basis of whether the disclosures reflect positively, negatively, or neutrally on the company (Hackston & Milne 1996; Cormier & Magnan 1999). A separate category for information in BP’s 2010 annual report was created which directly relates to the Gulf of Mexico oil spill. This category includes any information that would not have appeared in the annual report had the oil spill not occurred. This category allows for more comparisons and additional analyses.

Percentage increases/decreases were calculated between 2009 and 2010 for all the categories of disclosure mentioned above. Percentage changes are deemed appropriate, because the annual report lengths range from 40 to 320 pages, arguably rendering direct comparisons less effective. We expect a relatively large increase in disclosure from 2009 to 2010 for each of the companies, with BP showing the largest increase. Such a finding would be consistent with legitimising disclosure behaviour.

The disclosure strategies used were also examined. This was undertaken to learn more about the disclosure patterns, motivations, and strategies companies use to regain legitimacy. These disclosure strategies are image enhancement, disclaimer, and deflection strategies aimed at regaining legitimacy. Better understandings of disclosure strategies following a known environmental disaster will potentially enhance our ability to interpret disclosures in general, e.g., when there is no known environmental disaster.

5. Results

5.1 BP disclosures

5.1.1 Sentence count comparison

Table 2, Panel A shows the percentage change from 2009 to 2010 for the number of sentences of environmental disclosures in BP’s annual reports. As expected, there was an increase in the overall amount of environmental information that BP disclosed from 2009 to 2010. Specifically, BP provided 43% more positive disclosures in their 2010 annual report than in their 2009 annual report. Negative (27%) and neutral (5%) disclosures also increased, but by smaller proportions than positive disclosures. These large increases in disclosure show that BP felt the need to provide more
information to their relevant publics about their environmental activities. These increases were interpreted as a need to regain legitimacy after the oil spill, a strategy that takes more disclosure than to maintain legitimacy (O’Donovan 2002).

**Table 2: Comparison of BP annual reports – environmental disclosures**

<table>
<thead>
<tr>
<th></th>
<th>Percentage Change (2009 – 2010)</th>
<th>Sentence Count</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Positive</td>
<td>Negative</td>
</tr>
<tr>
<td>Gulf Spill</td>
<td>+43.31%</td>
<td>+26.89%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PANEL A - Total for Report</th>
<th>958</th>
</tr>
</thead>
</table>

**Total for Sections**

<table>
<thead>
<tr>
<th>PANEL B - Section Percentage of Total for 2009 A</th>
<th>Positive Total = 254</th>
<th>Negative Total = 119</th>
<th>Neutral Total = 304</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Review (Total)</td>
<td>75.98%</td>
<td>66.39%</td>
<td>65.46%</td>
</tr>
<tr>
<td>Corporate Responsibility</td>
<td>34.65%</td>
<td>42.86%</td>
<td>32.89%</td>
</tr>
<tr>
<td>Directors and Senior Management</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Corporate Governance</td>
<td>12.60%</td>
<td>5.04%</td>
<td>11.51%</td>
</tr>
<tr>
<td>Directors’ Remuneration Report</td>
<td>5.91%</td>
<td>0.00%</td>
<td>3.95%</td>
</tr>
<tr>
<td>Additional information for shareholders</td>
<td>2.36%</td>
<td>19.33%</td>
<td>8.88%</td>
</tr>
<tr>
<td>Financial Statements</td>
<td>3.15%</td>
<td>9.24%</td>
<td>10.20%</td>
</tr>
<tr>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PANEL C - Section Percentage of Total for 2010</th>
<th>Positive Total = 362</th>
<th>Negative Total = 151</th>
<th>Neutral Total = 320</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Review (Total)</td>
<td>78.57%</td>
<td>70.86%</td>
<td>64.38%</td>
</tr>
<tr>
<td>Corporate Responsibility</td>
<td>34.89%</td>
<td>12.25%</td>
<td>28.43%</td>
</tr>
<tr>
<td>Directors and Senior Management</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Corporate Governance</td>
<td>9.62%</td>
<td>0.66%</td>
<td>7.81%</td>
</tr>
<tr>
<td>Directors’ Remuneration Report</td>
<td>6.32%</td>
<td>1.32%</td>
<td>1.56%</td>
</tr>
<tr>
<td>Additional information for shareholders</td>
<td>3.02%</td>
<td>22.52%</td>
<td>15.62%</td>
</tr>
<tr>
<td>Financial Statements</td>
<td>2.47%</td>
<td>4.64%</td>
<td>10.63%</td>
</tr>
<tr>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
<td></td>
</tr>
</tbody>
</table>

Notes:

A As the structure of the annual reports was different, the sections for the 2009 annual report were amended to correlate with the structure of the 2010 sections to facilitate comparison.

B Calculations were done as follows: Total positive environmental disclosures for Business Review for 2009 were 193 and total positive environmental disclosures in 2009 annual report were 254 so 193/254 = 75.98%.

Table 2, Panels B and C show the proportion of the total environmental disclosures contained within the various sections of the 2009 and 2010 annual reports for each disclosure category. The table shows that although BP increased their total environmental disclosures in 2010 (Panel A), the
proportion of these disclosures contained within the various sections of their annual reports remained very similar to 2009. There is a difference between the proportions of environmental disclosures in the Additional Information for Shareholders section for the neutral disclosure category. There were 9% of the neutral disclosures in that section in 2009 and 16% of the neutral disclosures in that section in 2010. A possible explanation for this difference that is consistent with Neu, Warsame and Pedwell (1998), is that BP sees the provision of environmental information to shareholders as more important because of shareholders’ significant power over the company. Another difference was identified with the proportion of total environmental disclosures in the Corporate Responsibility section of BP’s annual reports for the negative disclosure category. There were only 12% of the negative disclosures in that section in 2010, but 43% in 2009. This large difference must be due to the imperative of trying to manage relevant publics’ perceptions regarding the oil spill.

Table 2, Panel C also provides information about the number of sentences contained within the different sections of the 2010 annual report pertaining to the Gulf of Mexico oil spill. Every section in BP’s annual report apart from Directors and Senior Management contained some information about the oil spill. The dispersion of this information was quite even across the different sections. This dispersion was interpreted as an indication that BP recognised the importance of signalling to all stakeholders that the company was taking responsibility, that the damage was under control, and that future surprises would be unlikely.

5.1.2 Disclosure strategies

The above results show that BP increased their environmental disclosures and provided information about the oil spill to regain their legitimacy. Further insights can now be gained by examining the strategies undertaken by BP to communicate with their relevant publics.

Image enhancement strategy

In a similar response to Total after their environmental crises, BP used the image enhancement strategy most extensively to regain their legitimacy after the Gulf of Mexico oil spill. They undertook two different methods when using this strategy. Both methods involved making self-praising disclosures about the company to deflect attention away from the negative aspects of the oil spill, and to show their relevant publics that they were committed to being environmentally and socially responsible. Firstly, BP reiterated their commitment to undertake all actions to remedy any damage caused by the incident.

[BP] have set up a $20-billion fund to show our willingness and capacity to pay all legitimate claims for compensation. [...] [BP] have committed $500 million to a 10-year independent research programme that will examine the environmental impact of the oil spilled and dispersants used. [...] Having taken a total pre-tax charge of $40.9 billion in relation to the accident and oil spill, we
announced our intention to sell up to $30 billion of assets. […] changes we have made following the Gulf of Mexico incident […] creating an enhanced, independent Safety and Operational Risk function (BP 2010, pp.6-14).

In making these disclosures BP also demonstrated how important they felt those actions were to assist in regaining their legitimacy. This is illustrated in Table 3 showing the number of times information about significant actions taken in response to the oil spill appeared in different sections of BP’s 2010 annual report.

### Table 3: Number of sentences in sections of BP annual report 2010 containing information about the Gulf of Mexico oil spill

<table>
<thead>
<tr>
<th>Section</th>
<th>$20bn Oil Spill Fund</th>
<th>$500m Research Programme</th>
<th>$30m Asset Disposal</th>
<th>Safety &amp; Operational Risk Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business Review</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chairman’s letter</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Group Chief Executive’s letter</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Progress in 2010</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group Overview</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Gulf of Mexico Oil Spill</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exploration and Production</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Refining and Marketing</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Liquidity and Capital Resources</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Corporate Responsibility</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Environment</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Research and Technology</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Corporate Governance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Board Performance Report</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Directors’ remuneration report</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part 2 Executive Directors’ remuneration</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Additional information for shareholders</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical accounting policies</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal proceedings</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Financial Statements</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes on financial statements</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
BP repeated this commitment to remedial activities without elaborating on them. Information about these remedial activities was sometimes repeated more than once within one subsection, e.g., the creation of the safety and operational risk function was mentioned twice in the *Group Overview* subsection. The fact that BP repeated the same remedial information in different sections shows an attempt to regain legitimacy from different relevant publics, because different relevant publics would be focussed on different sections in the annual report. The most disclosures about the $20 billion oil spill fund were made in the *Financial Statements* section indicating that BP views this information as valuable for their financial stakeholders. Also, two disclosures were made about the $500 million research programme in a relatively small section, *Environment* indicating that BP wanted any environmental groups to know about their commitment to repairing any long term damage caused by the oil spill.

The second method BP adopted in using an image enhancement strategy involved attempts to use positive disclosures to divert their relevant public’s attention away from the oil spill.

> BP will continue to be a leader of high-quality hydrocarbons today, while developing the intelligent options we will all rely on tomorrow. Lower-carbon resources remain central to this long-term strategy [...] To achieve this, we must ensure that safety and responsibility are at the heart of everything we do (BP 2010, p.7).

Although this statement can be seen as largely symbolic, it nevertheless associates BP with positive imagery and appears to commitment the company to eventually exit the oil business while presumably remaining in the energy business.

*Disclaimer strategy*

A disclaimer strategy was used by BP to ensure they were not seen as totally responsible for the actions that caused the oil spill.

> BP holds a 65% interest in the Macondo well, with the remaining 35% held by two joint venture partners. While BP believes and will assert that it has a contractual right to recover the partners’ shares of the costs incurred, no recovery amounts have been recognized in the financial statements (BP 2010, p.38).

By disclaiming total responsibility BP attempts to lessen the negative association their relevant publics might harbour. This facilitates the framing of BP’s actions in response to the oil spill in a positive and proactive manner as might be expected of a responsible corporate citizen.

*Deflection strategy*

There was no indication of BP solely using a deflection strategy after the Gulf of Mexico oil spill. This strategy may not have been possible due to the high profile of the oil spill and the established public perception that BP was to blame (Dittrick 2010). However, aspects of a deflection strategy
can be discerned. A deflection strategy was used in conjunction with an image enhancement strategy to divert attention away from the oil spill through the use of positive disclosures.

In summary, this analysis shows how BP provided information to their relevant publics about the oil spill in a way that optimised any legitimacy regaining possibilities. This was done through positive disclosures that were aimed at enhancing their image, while simultaneously deflecting attention away from the negative consequences of the oil spill, and also by disclaiming some of the responsibility for the oil spill.

5.2 Major oil companies’ disclosures

5.2.1 Sentence count comparisons

Table 4 provides the percentage change from 2009 to 2010 for the total number of sentences of environmental disclosures made in the annual reports of BP, Shell, Total, Chevron, ConocoPhillips, and ExxonMobil for each disclosure category. The BP disclosure information is repeated here to facilitate comparison.

**Table 4: Comparison of oil companies annual reports 2009 and 2010 – environmental disclosure**

<table>
<thead>
<tr>
<th>Positive Sentence Count</th>
<th>Total – 2009</th>
<th>Total – 2010</th>
<th>Positive % Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP</td>
<td>254</td>
<td>364</td>
<td>+43.31%</td>
</tr>
<tr>
<td>Shell</td>
<td>84</td>
<td>128</td>
<td>+52.38%</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>192</td>
<td>+45.45%</td>
</tr>
<tr>
<td>Chevron</td>
<td>32</td>
<td>48</td>
<td>+50.00%</td>
</tr>
<tr>
<td>ConocoPhillips</td>
<td>40</td>
<td>65</td>
<td>+62.50%</td>
</tr>
<tr>
<td>ExxonMobil</td>
<td>41</td>
<td>67</td>
<td>+63.41%</td>
</tr>
<tr>
<td>Mean excluding BP</td>
<td></td>
<td></td>
<td>+54.75%</td>
</tr>
<tr>
<td>Mean including BP</td>
<td></td>
<td></td>
<td>+52.84%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Negative Sentence Count</th>
<th>Total – 2009</th>
<th>Total – 2010</th>
<th>Negative % Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP</td>
<td>119</td>
<td>151</td>
<td>+26.89%</td>
</tr>
<tr>
<td>Shell</td>
<td>43</td>
<td>68</td>
<td>+58.14%</td>
</tr>
<tr>
<td>Total</td>
<td>99</td>
<td>96</td>
<td>-3.03%</td>
</tr>
<tr>
<td>Chevron</td>
<td>63</td>
<td>66</td>
<td>+4.76%</td>
</tr>
<tr>
<td>ConocoPhillips</td>
<td>0</td>
<td>1</td>
<td>+100.00%</td>
</tr>
<tr>
<td>ExxonMobil</td>
<td>5</td>
<td>5</td>
<td>0%</td>
</tr>
<tr>
<td>Mean excluding BP</td>
<td></td>
<td></td>
<td>+31.97%</td>
</tr>
<tr>
<td>Mean including BP</td>
<td></td>
<td></td>
<td>+31.13%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Neutral Sentence Count</th>
<th>Total – 2009</th>
<th>Total – 2010</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP</td>
<td>304</td>
<td>320</td>
<td>+5.26%</td>
</tr>
<tr>
<td>Shell</td>
<td>77</td>
<td>112</td>
<td>+45.45%</td>
</tr>
<tr>
<td>Total</td>
<td>189</td>
<td>218</td>
<td>+15.34%</td>
</tr>
<tr>
<td>Chevron</td>
<td>96</td>
<td>166</td>
<td>+72.92%</td>
</tr>
<tr>
<td>ConocoPhillips</td>
<td>15</td>
<td>13</td>
<td>-13.33%</td>
</tr>
<tr>
<td>ExxonMobil</td>
<td>35</td>
<td>33</td>
<td>-5.71%</td>
</tr>
<tr>
<td>Mean excluding BP</td>
<td></td>
<td></td>
<td>+22.93%</td>
</tr>
<tr>
<td>Mean including BP</td>
<td></td>
<td></td>
<td>+19.99%</td>
</tr>
</tbody>
</table>
As expected, there is an increase in the environmental disclosures for all of the major oil companies. This is most pronounced for the positive environmental disclosures with all of the oil companies showing an increase. Four of the six oil companies also increased their negative and neutral environmental disclosures.

It was expected that BP would increase their disclosures by more than the other oil companies, because BP had a greater need to regain legitimacy. However, Table 4 shows that when BP is excluded, the mean increase is larger (54.75% for positive, 31.97% for negative and 22.93% for neutral) than when BP’s disclosures are included (52.84% for positive, 31.13% for negative and 19.99% for neutral). These results show that the Gulf of Mexico oil spill affected all of the major oil companies. They all felt the need to increase in their environmental disclosures in 2010. The legitimacy theory framework leads to a belief that this was in order to ensure legitimacy under conditions where the oil spill made it likely that oil company legitimacy would be questioned and that oil companies could suffer due to the withdrawal of resources.

5.2.2 Disclosure strategies

Image enhancement strategy

An image enhancement strategy was mostly used by the major oil companies to try to regain oil industry legitimacy. By making disclosures that emphasised their commitment to help repair any damage from the oil spill and prevent any future incidents, the oil companies could ensure that their relevant publics recognised their efforts and rewarded them with legitimacy. Here are some disclosure examples:

The Macondo incident in the U.S. Gulf of Mexico underscored that safe operations are fundamental to our ability to operate. Following Macondo, we led the industry in working with regulators to enhance operating standards in the Gulf (Chevron 2010, p.2).

Since April 2010, public discussions about safety in the oil industry have been dominated by the Deepwater Horizon incident in the Gulf of Mexico. This tragic incident reflects poorly on our industry. It will take a lot of effort to re-establish trust in our industry. Drilling responsibilities at our rigs are clear, and we assure both ourselves and regulators that all necessary safety measures have been put in place (Shell 2010, p.6).

Following BP’s accident in the Gulf of Mexico in 2010, TOTAL geared up to learn lessons from the disaster, analyze the potential risks for its operations in the light of these events and make recommendations to improve safety in deep-offshore environments, leading to a creation of three task forces (Total 2010, p.303).
We were saddened by the tragic oil spill in the deepwater Gulf of Mexico this past summer, and assisted in response efforts (ConocoPhillips 2010, p.4)

The majority of these disclosures were made in the Chief Executive Officer’s letters allowing the oil companies to convey to their relevant publics the importance of this information to them. They could also convey to their relevant publics the significant effect that their remedial actions would have by making them more socially and environmentally responsible. The oil companies also assured readers that a similar disaster would be unlikely to occur in their company. They tried to show that they are already operating in a way that ensures the protection of the environment. Here are some examples:

The company’s performance was grounded in a strong safety culture, which resulted in our safest year ever (Chevron 2010, p.2).

Our good safety record shows that we have the capability to access oil and gas safely and responsibly. [...] The number of operational oil spills was down significantly from 2009 (Shell 2010, p.6).

In 2010, Total reasserted the priority on safety and the environment as part of its operations and investments throughout its business (Total 2010, p.52).

[...] recording our safest year since the inception of ConocoPhillips in 2002 (ConocoPhillips 2010, p.2).

We continued our industry-leading safety performance achieving our best ever lost-time incident rates in 2010 (ExxonMobil 2010, p.2)

Disclaimer strategy
There were no direct disclaimers in the annual reports of the other oil companies. However, as mentioned above, they made a point of mentioning the actions they had undertaken to remedy the damage caused by the spill and prevent any future disasters. Therefore, the oil companies were able to indirectly disclaim responsibility for the oil spill, while also portraying themselves as responsible corporate citizens and fixing problems caused by others.

Deflection strategy
There was no evidence of a deflection strategy being used by the other oil companies in their environmental disclosures. The likelihood of their relevant publics knowing that BP is responsible and the amount of publicity about the oil spill would have made a deflection strategy ineffective.

In summary, the other oil companies mainly used an image enhancement strategy to regain their industry’s legitimacy after the oil spill. They used positive disclosures about the oil spill and the state of their current operations to make themselves appear socially and environmentally
responsible, while also allowing them to indirectly disclaim responsibility for the oil spill. Due to the fact that the oil spill was a high profile known event, the oil companies did not try to deflect attention away from the oil spill. Instead they emphasised their own superior controls that would prevent such spills in their firms and the actions they had undertaken to remedy the damage caused by the spill.

6. Discussion

The preceding analyses show that oil companies’ annual report reactions to the 2010 Gulf of Mexico oil spill are consistent with legitimacy theory explanations. In the case of BP, the amount of environmental information they disclosed, the sections in their annual report in which this information was disclosed, and the strategies used to convey that information are all consistent with a strategy to regain legitimacy. BP increased the amount of environmental disclosures for all disclosure categories after the oil spill, but particularly for the positive disclosures, demonstrating their desire to repair their threatened legitimacy.

The method BP used to attempt to repair this legitimacy was to adopt disclosure strategies that framed their increased environmental disclosures in a way that attempts to manage their relevant publics’ perceptions (Dowling & Pfeffer 1975). BP predominantly used an image enhancement strategy when making disclosures. This is consistent with Cho (2009), who found Total using this strategy after their Erika oil spill. The disclosures were made in several sections in the annual report. We interpret this as an attempt by BP to ensure that different relevant publics, who focus on different sections, all got the image enhancing message they were trying to send. For example, BP made more neutral disclosures in 2010 within the Additional Information for Shareholders section, typically aimed at financial stakeholders, but made less negative disclosures within the Corporate Responsibility section, likely to be more important to environmental groups. In doing this, and by keeping the proportion of the total environmental disclosures within the sections of the annual report similar to 2009, BP could ensure their relevant publics received information that would reflect more positively on their environmental responsibility, thereby facilitating the regaining of legitimacy.

The image enhancement strategy also allowed BP to respond to the negative publicity about the oil spill (Douglas 2010). As environmental issues are becoming increasingly important (Manning 2004) and there is a heightened emergence of ethical investors (Bauer, Derwall & Otten 2007), any events that negatively impact on the environment are now likely to receive much media attention (Deegan, Rankin & Tobin 2002). Therefore, it is not surprising that BP chose to disclose positive information to put a positive spin on the negative media attention (Deegan & Rankin 1996). The combination of using an image enhancement strategy with a partial
disclaimer strategy meant BP could provide their relevant publics with information that challenged the negative publicity from the media. They could show that they recognised their part in the oil spill through their significant remedial activities, while also showing that they were maintaining their other social and environmental responsibilities.

The remedial activities disclosures show that BP found it important to manage the perceptions of all of their relevant public groups. This is contrary to the findings of Oliver (1991) and Neu, Warsame & Pedwell (1998), who showed that companies are likely to privilege their most important relevant publics, such as shareholders, whilst ignoring or paying only symbolic attention to less important ones, such as environmental groups. This may be due to the well-known, high profile nature of the Gulf of Mexico oil spill, where a concerted effort targeting all of the relevant publics were deemed necessary. The constant repetition of the same remedial activities information throughout all sections of the 2010 annual report was an interesting approach. This strategy is interpreted as an attempt to increase the volume of environmental disclosure without providing any additional information that may lead to further litigation against the company. An example of this repetition is information about the $20 billion oil spill trust fund, which was disclosed five times in the “Financial Statements” section, a section that is of interest to financial stakeholders. Also, information about the $500 million research programme was disclosed two times in the relatively short “Environment” section. Environmental groups would be interested in BP’s commitment to fix the damage caused by the oil spill and are likely to refer to this section. These examples show BP attempting to positively influence different relevant publics’ perceptions by repeating positive aspects such as remedial actions without further elaboration. The bad news regarding the oil spill was common knowledge and could not be denied. The only credible positive spin BP could put on it was the fact that they were paying for the remediation. The fact that they had no choice in the matter, that they were forced to take remedial action (Juhasz 2011), was not mentioned in the annual report. This is an important finding as it extends prior literature such as Patten (1992) and Cho (2009) by showing that BP attempted to ‘pad’ the volume of their environmental disclosures by repeating the same information without elaborating. This could have been driven by the fears of disclosing additional information that could lead to further claims. As a result, the annual report actually provides very little information to BP’s relevant publics about the oil spill.

The disclosures of the other major oil companies suggest they were also affected by the Gulf of Mexico oil spill. These oil companies also attempted to regain their legitimacy through increases in environmental disclosures in their 2010 annual reports. This is consistent with Patten’s (1992) finding that an environmental crisis affects the legitimacy of the entire industry, not just the responsible company. Apparently companies
respond to this challenge more noticeably when a company’s industry experiences an environmental crisis.

When increasing these disclosures the oil companies mainly used an image enhancement strategy to manage their relevant publics’ perceptions. They provided information about their preparedness to assist in repairing the damage of BP’s accident and to claim a high level of safety for their own operations. Whilst using this image enhancement strategy, they could simultaneously disclaim responsibility for the oil spill, while also proclaiming that a similar incident would be unlikely to occur within their companies (Suchman 1995). Disclosing information about their remedial activities is an attempt to manage relevant publics’ perceptions that could lead to access to resources withdrawn from BP (Bryant & Hunter 2010).

Cho (2009) shows that there is an increased need for various disclosure strategies when a company faces a sequence of multiple crises. The findings show that companies also require the use of various disclosure strategies when faced with a single major crisis characterised by negative media attention. This is true even for other companies in the same industry as the crisis company.

7. Conclusion

The purpose of this paper was to assess the disclosure patterns and disclosure strategies used by the major oil companies in response to BP’s Gulf of Mexico oil spill in order to develop a better understanding of disclosure decisions and strategies made under crisis conditions. The findings show that after the oil spill there was an increase in the amount of positive, negative, and neutral, environmental disclosures made by BP and the other major oil companies in their 2010 annual reports. In BP’s case, the proportion of these disclosures contained within the various sections of their annual report appeared to remain similar to the proportion used by them in 2009.

According to our analyses, image enhancement was the most common disclosure strategy. In addition, BP disclaimed total responsibility but claimed partial responsibility for the oil spill. The other major oil companies used remedial activity disclosures to demonstrate their innocence in the events surrounding the oil spill. No evidence of a deflection strategy was found and put this down to the fact that this crisis was too large and well known to ignore.

These findings are generally consistent with our legitimacy theory expectations. The increase in the disclosure of positive environmental news that was identified in all of the major oil company’s environmental disclosures after the oil spill shows that when their legitimacy is threatened by a crisis they will use their disclosures to manage their relevant publics’ perceptions in an attempt to regain that legitimacy. They
will also use disclosure strategies that are suited to their operating environment and that will enable them to manage perceptions most effectively. This was shown by the use of image enhancement and partial disclaimer disclosure strategies but not a deflection strategy, the latter probably due to the extensive media attention surrounding the spill.

By way of extension, it was evident that BP made an effort to increase environmental disclosures whilst limiting the content of the disclosures. Specifically, information about certain significant remedial activities is repeated various times in the annual report, often verbatim, and sometimes within the same section, but often between the different sections. This information was given without further elaboration. This strategy ensured that readers of the annual report were likely to encounter these positive disclosures independent of the readers’ particular focus or interests. These disclosures ensure that relevant publics could obtain (and could hardly miss) positive remedial activity disclosures, as well as about other positive environmental activities.

This research contributes to the understanding of corporate disclosure strategies aimed at regaining legitimacy after an environmental crisis by identifying that:

- companies within an industry are likely to use the same annual report disclosure strategies to regain legitimacy after a crisis, namely an increased volume of environmental information that reflect positively on the company, along with disclaiming responsibility for the crisis, either in full or partially, depending on the extent to which the company can credibly disclaim responsibility;

- the company responsible for the crisis is likely to disclose a large volume of information about the crisis, especially given a significant amount of negative media attention;

- the disclosures are likely to provide information that is largely already known, in order to minimise the risk of providing information that could be useful to potential litigants against the crisis company;

- the company is likely to achieve larger volumes of disclosure without providing additional information by duplicating the same remedial activity information (including impressive sounding dollar amounts) over and over again, both within the same sections and between sections in the annual report; and

- if the crisis company was forced into remedial actions (such as in this case by the US Government), the company is unlikely to disclose this fact in the annual report.
These disclosure strategies put the best spin on a negative situation and managers see this as providing the best likelihood of appeasing corporate relevant publics.

The findings have implications for the interpretation of environmental disclosures by annual report users and by researchers. Regulators may also factor these findings into their decisions regarding possible future disclosure regulations. In addition, although the use of these disclosure strategies is not advocated, the possibility that managers may find these disclosure strategies of interest cannot be ruled out.

Some possible limitations need to be mentioned. Firstly, the extent to which the findings can be generalised can be questioned, because the research examined disclosures in an environmentally sensitive industry and the response to a very high profile environmental crisis. As a result, the reactions examined may have been exaggerated and may not be evident in other industries and under conditions of lesser legitimacy threats. However, it is believed that this high profile case makes the reactions easier to identify and this could improve the understanding of reactions to lesser incidents.

Taking these limitations into account, there are various issues that could be addressed by future research to help further explain the reactions of companies to a crisis, e.g. examining corporate disclosure reactions to other social or environmental crises in different industries, a longitudinal study on the disclosure decisions of the oil companies after the oil spill, and a longitudinal study of other industries after social or environmental crisis. Such studies could provide additional insights useful in further theory development.

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Environment Extra!

Two-faced climate policy

Matthew Wright ABC Environment, 19 Mar 2012

http://www.abc.net.au/environment/articles/2012/03/19/3455327.htm

It’s ironic that Australia is moving toward a ‘cap’ on carbon emissions because while we’ve got this paper target for a five per cent reduction in carbon dioxide (CO₂) emissions by 2020 we’ve also got the foot on the accelerator and running in overdrive expanding coal and gas mining at an unprecedented rate.

Australia is on target to increase CO₂ emissions originating from our shores by over 400 per cent. It’s a simple trick of accounting: claim a five per cent reduction by ignoring our fossil fuels that are burnt off shore.

This approach, of saying one thing while doing another, isn’t new to politics, but normally doesn’t keep currency with the population for so long. Trumpeting supposed carbon action while quadrupling our carbon emissions is a complete farce and has been going on for half a decade.

Amongst a population of 20 million, Australia has a very high level of climate denialism when compared to the political will and actions of 300 million people in Europe.

The difference is that we currently have a “national imperative” to issue as many coal and gas extraction licenses as possible before the world wakes up and will not buy our dirty energy. Europe, despite having significant coal (Germany has much more brown coal than Australia but chooses not to expand the sector) wants to lead the rest of the world and profit from the inevitable shift to 21st century renewable energy powered economies. Germany is the powerhouse economy of Europe. It is a world leader in research, design, manufacture and deployment of renewable energy technologies. This is what first tier economies of the 21st century look like, not the Australian or Nigerian model of allowing rampant exploitation of resources by overseas multinationals. As in Nigeria, well over 80 per cent of fossil fuel mining in Australia is carried out by foreign owned companies.

Labor’s Craig Emerson came out with the most hysterical of comments last week after details of a coalition of environment groups plan to fight coal and gas mining were leaked to the media. Craig Emerson’s position epitomises the position held by protectionists who want us caught in the past. Emerson said of Greenpeace, that they are “living in a fantasy land and flirting with the risk of a global recession”.
He went on to claim the environment groups’ campaign would lead to “mass starvation and a global depression”, and that “they ought to wake up to that instead of living in a fantasy land and organising these campaigns”.

It is in fact Craig Emerson that is living in a fantasy land. Today much of the electricity industry runs on European technology. Victoria’s coal plants utilise lignite burning technology from Germany, almost half of our gas and coal plants include Siemens technology, the company’s Danish division operates the second biggest wind turbine manufacturer in the world, much of the electricity grid itself relies on control technology from Siemens.

This begs the question; what are Germans and Danes doing? They are reducing coal and gas consumption towards zero. The Germans are shifting to 100 per cent renewable electricity by 2050, having achieved their 20 per cent target last year, ten years ahead of schedule. Denmark already runs one quarter of the nation’s electricity on wind power and will raise this to half by 2020. They’ll be fossil fuel free for electricity by 2035 and for all energy - heat, liquid fuels and electricity by 2050.

Does Emerson really think that these countries which are the pace setters, standard setters for most of the world are leading the world to “mass starvation” or a “global depression”? These are the countries that have the most modern competitive, automated and efficient industrial sectors and they have chosen to go renewables taking the rest of the world with them.

The vision of some old-guard Australians including Craig Emerson have a view that we’ll empower the world with coal and gas, when the reality is that we’ll poison the world with coal and poison ourselves in the process.

We don’t need coal or gas, and if Germany and Denmark have decided to go 100 per cent renewable energy then it is clear that we can do the same as the buyers of our coal. The main factor that is slowing the global shift to wind and solar is the price lowering impact of our Government flooding world markets with cheap coal and gas in their fervour for selling as much coal and gas out the port as possible.

It is time now to close the chapter on coal and gas mining expansion.

No new extraction or exploration licenses should be issued, and we must begin an immediate planned phasing out of existing coal and gas operations. This will allow Australia to fully realise our place as a leading 21st century renewable powered clean tech economy and not be 19th century fossil fuel economy. We cannot afford to be stuck with 19th century fossil fuel thinking and the potential that after spending up big on a one horse gamble that no country will want to buy our dirty energy.
Barker: ‘UK solar is back in business’

James Murray, BusinessGreen, 24 May 2012


Climate Change Minister Greg Barker has today urged businesses and households to consider investing in solar installations, after the government brought to an end months of uncertainty by announcing a new system for managing the feed-in tariff incentive scheme.

Speaking to BusinessGreen, Barker said his message for households and businesses considering deploying solar panels was that “UK solar is back in business – this is no bubble, this is a strong foundation for ambitious and sustainable growth”.

Barker today announced the government would delay the next wave of cuts to solar feed-in tariff incentives until August 1 and reduce incentives for installations with under 4kW of capacity by 24 per cent to 16p/kWh – a cut that is at the bottom end of the range considered by the government.

Similar cuts will also come into effect for larger installations, while the government has trimmed the payment period under the feed-in tariff scheme from 25 years to 20 years, while ensuring that all payments remain index-linked to inflation.

Most significantly, DECC also set out a new system for automatically reducing or freezing feed-in tariffs every three months based on the level of installations carried out during the preceding quarter.

“We now have a framework to take the politics out of the degression decisions,” said Barker. “We have created the opportunity for deployment at scale that is both ambitious and affordable. It is transparent, predictable, and responsive to the market.”

He added that the changes marked a significant increase in the government’s ambition towards the solar sector that will result in the projected number of rooftop installations climbing from 250,000 by 2015 to one million by the same date.

“We have a vision of a more decentralised energy economy,” he said. “We expect to see not just investment at a domestic level, but real investment in business schemes... There is now a strong case for taking advantage of solar for cost reasons – the transformation in the costs of the technology have been remarkable.”

The proposals were broadly welcomed by the solar industry and green campaigners.
“We remain very concerned that the market has stalled, and the recession certainly hasn’t helped,” said Paul Barwell of the Solar Trade Association. “However, today’s announcement means we can now be confident that even when tariffs are adjusted on August 1, solar will still offer attractive returns to consumers – certainly when compared to other investments currently available.”

His comments were echoed by Jeremy Leggett, chairman of Solarcentury, who argued that while the prospect of tariff cuts every three months would result in “uncertain” levels of investor confidence, “the majority of the government’s policies may herald a new seriousness of intent on solar, and indicate that a meaningful solar industrial policy is now a real prospect for the UK”.

Similarly, a spokeswoman for Friends of the Earth, which had campaigned against the government’s proposed cuts, said that “broadly solar has been put back on its feet” by the changes.

“The cuts will be difficult for installers, but they are manageable, and it is great news that the payments remain linked to inflation,” she added.

However, some solar firms remain concerned at the scale of the cuts and reduction in the feed-in tariff payment period to 20 years.

“We are pleased that ministers have listened to the deluge of complaints from the solar industry about the scale and speed of the cuts proposed in their consultation document earlier this year”, said David Hunt, a director at Eco Environments. “But we are also disappointed that the Government still seems hell-bent on making life very difficult for the solar industry… While the return on investment remains attractive at around six per cent, by reducing the FiT lifetime by five years consumers will earn approximately £20,000 less than they would have done if the 25 year term had been left in place.”.

Peter Creasy, managing director at Eco Solar Equipment Limited, gave the announcement of further cuts short shrift, telling BusinessGreen that they raised the prospect of further job losses across the sector.

“The PV (photo voltaics) industry is on its back, the phones have stopped ringing,” he said. “The fact they have put the cuts back a month is neither here nor there and the fact they are cutting it at all when the industry is in such a dire straight shows a total misunderstanding of the commercial reality. They are putting a lot of jobs in danger.”

Some commentators also expressed concerns the changes could undermine investment in larger scale business and community-owned deployments.

“Larger projects can take up to 12 to 18 months of planning and as such businesses could struggle to make investment decisions given they will not know the tariff rates when the project comes online,” said one industry
source, adding that businesses would also note that the shortening of the
feed-in tariff payment period would impact their return on investment.

However, Barker countered that the shortening of the payment period had
been taken into account when DECC calculated that average returns on
investment would stand at between six and eight per cent.

He also indicated that the government would publish the second part of its
response to the feed-in tariff consultation before the summer recess,
including a response on proposals that would allow community projects to
pre-register at the current feed-in tariff rate before undertaking work.

In addition, he said that the way in which cuts to feed-in tariffs would be
triggered by deployment rates more than three months previous meant
companies would be able to get a “good feel for what the rate is going to
be”.

Barker praised an improvement in relations between the solar industry and
the DECC team in recent months for helping to deliver the latest reforms,
adding that there was “a real sense of partnership at work” as the
government seeks to make good on its pledge to deliver 22GW of installed
capacity by 2020.

However, he tacitly acknowledged the difficulties the sector had faced
following the deep cuts to solar feed-in tariff cuts late last year that
prompted a successful legal challenge against the government’s handling
of the changes.

“Anything in hindsight could have been done better,” he said. “But was it
right to intervene to stop the budget being blown? Absolutely. Is it right to
put in place a more transparent system? Absolutely.”

Attention will now turn to how the solar industry can help reignite demand
following a collapse in new installations from over 10,000 a month before
April to currently around 1,500 a month.

Barwell urged businesses and households to consider investing in solar,
arguing that with rising energy bills the technology offered an effective
means of reducing running costs while cutting carbon emissions.

“It is vital consumers understand tariffs can come down because the costs
of solar have come down – there is a faulty perception out there that cuts
mean solar doesn’t pay,” he said. “In fact, solar offers similar returns
today as when the FIT scheme began because the industry has been so
successful at reducing technology and installation costs.

“Furthermore, the relative income from a PV system is likely to be better
than DECC suggests today because energy bills are set for another
significant increase this year. So we expect to see more and more people
turning to solar to save money, not just the planet.”
**Official: UK’s green goods and services grew £5.4bn last year**

Will Nichols, BusinessGreen, 25 May 2012


Record growth over the last year pushed the UK green goods and services market past the £122bn mark, according to new government figures that reveal the low carbon economy now employs almost one million people.

The sector grew 4.7 per cent against the 2009/10 figure of £116.8bn, providing an additional £5.4bn of economic activity as green industries continued to defy the sluggish progress made by the rest of the economy.

The new report, released earlier this week by the Department for Business, Innovation and Skills, also confirms that the UK comfortably outperformed the worldwide Low Carbon and Environmental Goods and Services (LCEGS) market, which expanded by 3.7 per cent to £3.3tr. Low carbon sales activities accounted from £1.6tr of this, around 48 per cent, with renewable energy clocking up £1tr, and environmental goods and services accounting for £700bn.

As such the UK secured a 3.7 per cent share of the global market and also retained its place as the sixth largest LCEGS sector in the world, behind the US with £645bn, China on £435bn, Japan with £205bn, India at just under £205bn, and Germany at £140bn.

The UK sits sixth in 18 of the 24 sub-sectors measured by the report, but showed particular strength in carbon financing and wave and tidal energy, where it ranked second and fifth in the world respectively.

Alternative fuels, building technologies, and wind energy formed the three largest components of the UK’s LCEGS sector, although carbon finance, wind, wave and tidal, and carbon capture and storage saw the highest year-on-year increases.

This strong performance helped the UK to an LCEGS export surplus of £5bn. Exports grew just under four per cent to £11.8bn and dwarfed the £6.8bn of imports, which showed a smaller increase of 3.1 per cent.

China is by far the largest destination for UK exports and the largest source of imports, purchasing £794m of UK goods and services and selling £464m – a surplus to the UK of £330m. The strength of the
nation’s LCEGS exports is clearly demonstrated by the £188m it makes on trading with its next largest partner, Hong Kong, and the £193m it brings in from Spain, third on the list.

The number of UK companies involved in the LCEGS sector also grew by 0.1 per cent to just under 51,700, reversing a downwards trend that saw numbers fall by 1.2 per cent in 2008/09 and show zero growth the year before that.

However, employment jumped 2.8 per cent over the year to 939,627, which the report notes is “the first really positive sign of employment growth in the sector since the recession in 2008”.

Led by wind and carbon finance, the government expects the green economy to continue to expand, growing between 4.9 per cent and 5.5 per cent a year from 2011 to 2015.

Globally, Africa saw the highest growth in LCEGS with 6.5 per cent growth, although the report acknowledged this is from a low base. In comparison, Europe grew 3.9 per cent, just ahead of the Americas on 3.6 per cent, and Asia on 3.7 per cent.

Scotland launches £18m marine energy fund

James Murray, BusinessGreen, 23 May 2012


The Scottish government’s ambitions to establish the country as “the Saudi Arabia of marine energy” have today taken a step forward with the opening of a new £18m fund targeted at commercial scale wave and tidal power arrays.

The announcement formed the centrepiece of a speech from first minister Alex Salmond to the All-Energy Conference in Aberdeen in which he also confirmed that the government had awarded the first £500,000 from its £70m National Renewables Infrastructure Fund to support the development of a new renewable energy hub at a port on the River Cart near Glasgow.

“Europe’s greatest wind, wave and tidal resources are heavily concentrated in the waters around these islands and Scotland is at the forefront of developing offshore and low carbon energy generation technologies,” said Salmond.

“The new fund brings together the marine renewables expertise of the Carbon Trust, the Scottish government and our enterprise agencies. It will
help move the wave and tidal sector from prototype devices to commercially viable arrays, producing increasing amounts of electricity solely from the power of the seas and deliver a lasting legacy for future generations.”

The fund, known as the Marine Renewables Commercialisation Fund (MRCF), is now seeking bids and will be open for funding applications for two months. The majority of bids are expected to come from high-profile projects planned for the waters off Orkney and the Pentland Firth with the government expecting to announce funding awards before the end of the year.

Salmond also announced that WB Westway has secured £500,000 to aid the development of a 53-hectare industrial site in Renfrewshire. The company is now planning to dredge the dock area, create a navigable channel on the River Cart and deliver quayside improvements to allow loadings from heavy components manufactured on site for the offshore renewables sector.

“This initial funding award will help Westway to transform the site, to win new tenants, as well as new orders for existing tenants, which include Steel Engineering – an exciting, dynamic Scottish company that is increasingly expanding its renewables business,” said Salmond. “Further awards are expected later this year to support additional investment in key port locations around Scotland – ensuring communities across the country are ideally placed to seize the huge opportunities of the global renewables revolution.”

The announcements, which were accompanied by the publication of a new industry strategy to accelerate the roll out of smart grid technologies, will further underline Scotland’s position as one of the UK’s leading renewable energy hubs. They also come just a day after the Westminster government unveiled its new Energy Bill, featuring wide-ranging plans to drive investment in low carbon technologies.

Dr Richard Dixon, director of WWF Scotland, welcomed the announcements as further evidence that Scotland is leading the development of the UK’s renewables sector.

“This boost for renewables is welcome news coming the day after the UK government revealed its plans to rig the energy market in favour of nuclear and gas,” he said. “Scotland needs to keep sending the strong signal that renewables are the future here.

However, Salmond also reiterated his support for Scotland’s North Sea oil and gas sector with the announcement of a new Centre for CO2-Enhanced Oil Recovery in Scotland, designed to examine how carbon capture and storage technologies could be used to extract more oil from the North Sea.
EU moves to sink shipping sulphur emissions

BusinessGreen staff, BusinessGreen, 24 May 2012


The EU is pushing ahead with moves to clean up shipping fuel after agreeing provisional regulations to reduce vessels’ sulphur emissions, one of the main sources of air pollution and acid rain.

Member states yesterday agreed draft legislation that would reduce the maximum percentage of sulphur in fuels to 0.5 per cent, down from 3.5 per cent for cargo ships and 1.5 per cent for passenger vessels. On average, fuel used by ships in EU waters contains 2.7 per cent sulphur.

Ships operating in “sulphur emission control areas”, including the North Sea, the Baltic Sea and the Channel, will have to reduce content even further, from one per cent to 0.1 per cent. Non-compliance could be punished with fines from national authorities, once the rules are rubber-stamped by environment ministers and the full European Parliament.

Shipping companies have complained about the high cost of meeting the regulations, but the Commission said governments can provide investment support to help avoid losing competitiveness, subject to EU state aid rules.

The Commission has also said the estimated bill of between €2.6bn and €11bn for switching fuels or fitting exhaust filters will be far outweighed by public health savings worth up to about €30bn. This includes preventing 50,000 premature deaths a year in Europe through air pollution caused by the high sulphur content of marine fuels, according to campaign group Transport and Environment.

EU Environment Commissioner Janez Potočnik praised the Danish delegation, current holders of the rolling EU presidency, for getting the new limits accepted, although they were initially proposed by UN body the International Maritime Organisation (IMO) in 2008.

“This is excellent news for our health and the environment, especially in ports and coastal areas, as it means that an agreement with the European Parliament on the Directive on the sulphur content of marine fuels is now possible,” Potočnik said in a statement.

“Without this Directive emissions from shipping would by 2020 exceed emissions from all land-based sources.”

The move will raise hopes that a global market-based mechanism can be agreed to reduce shipping greenhouse gas emissions. A decade of talks have yielded a series of efficiency improvements, but critics say only measures such as a levy on fuel or emissions trading can manage the
industry’s predicted contribution rising from three per cent of global CO2 output to 18 per cent by 2050.

The rising tide of climate change

Sara Phillips ABC Environment, 14 Mar 2012

http://www.abc.net.au/environment/articles/2012/03/14/3452994.htm

THE CLIMATE IS CHANGING, according to a new report from the Bureau of Meteorology and the CSIRO. Days and nights are getting hotter, sea levels are rising, rainfall patterns are changing. Yawn. Heard it all before. And yet, Australia’s pre-eminent scientific organisations feel the need to keep telling us this. Again and again and again.

Perhaps it’s because not everyone is convinced. Enough voices in the Australian and international media have expressed doubt that climate science is correct that some have started to believe them.

Those voices are in the minority, but the idea is beguiling. If climate change were not true, major structural changes to our economy and our way of life would not be needed. We could continue on as before, untrammelled, unperturbed, blissful in our dominion over nature.

We could continue to expand our cities, grow our wealth, and generate electricity from cheap coal as before. The idea of having to change things because our way of life is changing the very atmosphere of the planet is not a lot of fun. And we humans like fun a lot more than work.

The BoM (Bureau of Meteorology) and CSIRO are probably also aiming to support the argument that something needs to be done with yet another report showing the problem is worsening.

Repetition is the key to remembering information and CSIRO and the BoM seem to have taken that message to heart.

It might be said that the CSIRO and the BoM are wasting their time; most people won’t listen. Those who are sceptical of the science of climate change have proved that they are immune to scientific information. Despite a vast body of information confirming and reconfirming the same finding, climate change deniers choose to focus of the crumbs of information that contradict that finding. They are like a man in a lifeboat arguing that the ocean can’t be wet, because his feet are dry.

Yet another report from scientific institutions entrusted with the research essential for Australia’s economic success, national security and engineering successes will be met with a wall of disbelief and derision. Just look for it in the comments section below.
Those who believe that climate change is a real danger, immediate and urgent will similarly ignore this report. “The climate is changing? We know.”

But for the BoM and CSIRO, they must continue. Their researchers are rightly continuing to better understand the full implications of climate change for Australia’s future. Updating their information and keeping their scientific outputs current is part of their job.

But if they were hoping to break through the public malaise on climate change with this new report they will be dashed. One more scientific report is not the answer. It is only part of the answer.

I’ve written before about the concept of ‘framing’. Climate scientists are turning to psychology in an effort to understand why their best communication efforts are not being received as intended. The stumbling block is that everyone encounters new information with pre-existing knowledge and experiences, which inform how the new information is interpreted.

For the message about climate change to be received and understood it needs to arrive in as many different forms as possible. Science, yes. But also climate change as a technological advance; a business opportunity; an economic reformation. Artists need to be recruited to paint climate change; writers need to write about climate change; it needs to be shown through interpretative dance. The message needs to come from different voices from all aspects of our diverse society: sports stars; comedians; accountants; ethnic leaders; church leaders; doctors; lawyers; professional associations.

These messengers, like the scientists at the BoM and CSIRO, need to communicate on repeat. The same message, slightly new format, over and over.

Climate change was all the rage in 2007, but that rage needs to be maintained if our society has any hope of preventing the most destructive aspects of it. The changes we are told are necessary to address climate change are so large that a single public push will not be enough. Major reform of this nature is like a rising sea level, it ebbs and flows, but moves inexorably forwards.

The latest report from Australia’s atmospheric research specialists will be like a new gas guzzler on the road - the difference seems negligible but it all adds up.
Island nations warn of climate disaster at UN

Gregory Katz, 24 September 2011


The island nation of Tuvalu wants the United Nations to act — now — to keep their state above water. … The U.N. General Assembly, … heard from the leaders of island nations where the impact of climate change is already having a profound effect.

They argue that the U.N. is moving too slowly despite many initiatives designed to reduce carbon emissions worldwide. U.N. officials have recognized climate change as the greatest environmental threat to the planet but efforts to slow its inexorable progress have foundered.

The message Saturday from island leaders was that there is little time left for concerted action that could prevent their small, vulnerable countries from facing severe problems, or worse, as sea levels rise and flooding and storm activity increases.

Tuvalu Prime Minister Willy Telavi said his country’s very existence is at risk as he urged U.N. members to move more quickly to limit the damage of climate change, and to come up with real, practical plans to help the most vulnerable countries.

“For a small island developing state like Tuvalu, climate change is no doubt a security issue which threatens our survival,” he said, adding that time was quickly running out for his tiny island nation, located roughly halfway between Australia and Hawaii.

The low-lying country, built on nine coral atolls, is one of the most endangered Pacific Islands, but others are also at risk as sea levels rise. It is not clear if Tuvalu, with its porous coral base, can be saved without a tremendous financial commitment from the international community, which may be reluctant to invest heavily in a country with only about 12,000 residents.

The country’s leaders have faced this reality — more than a decade ago, they asked Australia and New Zealand to be willing to take in the Tuvalu’s residents if evacuation ultimately becomes necessary.

The problem goes well beyond the vast Pacific region. Leaders from the Indian Ocean and Caribbean also warned Saturday of severe problems facing their regions.

Navinchandra Ramgoolam, prime minister of the Indian Ocean island nation of Mauritius — larger and more developed than Tuvalu — warned
Saturday that the threat has to be addressed more quickly if horrendous consequences are to be avoided. He said the existence of some small island nations is at stake.

“Climate change is real,” he said. “Air temperatures have risen. The sea level is rising at the rate of 1.2 millimeters per year in the southwest Indian Ocean. Our annual rainfall has decreased by 8 percent in comparison to the 1960s. Extreme weather conditions like flooding are becoming more frequent. Without international cooperation and concerted effort the impact of climate change will be devastating for all our nations.”

Freundel Stuart, prime minister of Barbados in the Caribbean, told the General Assembly that small island nations in the Caribbean and Pacific may be destroyed if current trends are not halted.

“The planet has now begun to protest,” he said.

The warnings Saturday went beyond island leaders. Sheikh Hasina, prime minister of Bangladesh, said her country is making contingency plans because a one meter rise in sea levels because of global warming would inundate one-fifth of the country and displace more than 30 million people.

“This would be the largest humanitarian crisis in history,” she said.

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**Solar Paint Technology May Revolutionize the Renewable Energy Industry**

Matthew Speer, May 17, 2012

Global Warming is Real (http://s.tt/1bVet)

Lowering your carbon footprint and reducing greenhouse gasses may become as simple as painting your home or office, thanks to breakthrough research from the University of Notre Dame. The researchers, led by Professor Prashant Kamat, have created a new solar paint dubbed Sun-believable, which is laced with power producing nanoparticles capable of producing electricity. With the ability to generate renewable energy from this new, less invasive method, bulky solar panels as we know them today may soon become relics destined for the museum.

The sun is one of the most powerful forces humanity has ever encountered and we certainly would not exist without it. Throughout documented history our sun has been worshiped as a god or goddess by at least 19 different religions, stretching from one end of the planet to the other. Only recently, during the industrial revolution, did we begin to understand that
harnessing this raw power is not only plausible but critical to creating a sustainable earth.

Professor Kamat’s team of researchers set out to revolutionize the field of solar energy production by creating a cheap and effective way to harness the sun’s free and plentiful energy. The team developed a solar paint by coating semi-conductive nanoparticles of titanium dioxide with either cadmium sulfide or cadmium selenide and mixing with a water and alcohol solution to create a paste. When this paste is applied to a transparent conductive material it can create electricity when exposed to sunlight.

The Ups and Downs of Solar Paint

One of the drawbacks to traditional solar panel installations is cost, which for a modern residential installation can cost around $20,000, depending on the size of the install. This is where solar paint shines, it is cheap and simple to make. The compounds used to create Sun-Believable are quite common and are readily available on the open market. Based on the formula from Patexia, it would only cost about $100 to cover 400 square feet of roof with the solar paint.

The challenge the team faces is to improve the efficiency of the solar paint. Currently the paint operates at about 1 percent efficiency as compared to 10 percent from the traditional solar panels. Professor Kamat recognizes this and according to Mashable.com said “this paint can be made cheaply and in large quantities. If we can improve the efficiency somewhat, we may be able to make a real difference in meeting energy needs in the future.”

Energy Independence is a Paintbrush Away

Over 99 percent of the energy provided by the sun is wasted each day, leading to our continued burning of fossil fuels, further increasing the effects of global warming. To truly become energy independent all we need to do is wake up and support technical advances such as the solar paint technology. With a little bit of refinement, a sustainable living may just be a paintbrush away.
Green growth is the sum of many parts

Roland Kupers, ABC Environment, 25 May 2012

http://www.abc.net.au/environment/articles/2012/05/25/3510339.htm

Green growth might be an unknown, but we often make decisions without full knowledge.

While austerity in Europe faces increasing social resistance, in principle it has the merit of simplicity. As the debate on fiscal consolidation versus growth intensifies, it is clear that there is little agreement on how to kick-start the economy, beyond fielding broad stimulus packages.

One idea is that environmental technology might feed a virtuous cycle of innovation and employment. To some, green growth evokes a countryside covered with windmills and urban roofs lined with solar panels. But it is broader than that. For example, when Airbus moved from injection molding to 3D printing to produce the metal hinges for its aeroplanes’ doors, it reduced their weight by half, yielding phenomenal savings in material and associated fuel consumption over a lifetime of flying those hinges around the world.

Still, it is easier to find exciting anecdotes than it is to show how they scale up to revitalising an entire economy. Moreover, there is a great diversity of narratives on the green economy - and their proliferation is likely to grow.

This June, thousands of activists, policymakers, and business people will converge on Rio de Janeiro for the third giant United Nations Sustainable Development Conference (Rio+20), whose theme is the green economy. The conference will unleash new arguments about green jobs, growth, cost increases, cost reductions, changes in values, consumer choice - green this and green that.

As a co-author of A New Growth Path for Europe, a report commissioned by the German government, I am guilty of contributing to this cacophony of complementary perspectives on green growth. The European Climate Foundation had already published its Roadmap 2050, A Practical Guide to a Prosperous, Low-Carbon Europe. Since then, the UN Environment Program has released its Green Economy Report; McKinsey has written about the Resource Revolution; and the International Trade Unions Council has published Growing Green and Decent Jobs - to name but a few.

All take somewhat different approaches and offer different recommendations, making it hard for policymakers to see the forest through the trees. And, at the root of this multiplicity of perspectives lies
the fact that economics struggles to explain how growth and innovation move an economy as a whole. The macroeconomic models on which policymakers depend are solid tools in times of smooth and incremental evolution, but green growth is not about gradual change.

For example, the European Union’s goal of achieving an 80 per cent reduction in greenhouse gas emissions by 2050 implies a complete overhaul of EU infrastructure in just a few decades. Economists’ inability to model such rapid, radical change should not be taken as a condemnation of the discipline; it is simply a reflection of the state of our knowledge, and of the fact that the economy is really, really complicated. We simply do not yet have sufficiently precise insights into how all of its elements interact during times of far-reaching change, whether it be a financial crisis or a growth spurt.

Yet, the studies of green growth mentioned above all appear to provide such explanations. So, what do they really tell us?

In practice, each is limited to just one or two aspects of the economy, and describes how these interact. Growing Green and Decent Jobs looks at the relationship between investment and jobs. A New Growth Path for Europe examines the impact of expectations and learning-by-doing. Roadmap 2050 focuses on greening the power system. The authors then make a leap of faith to derive conclusions about the economy as a whole.

But, while the value of these studies is in the light that they shed on the parts, the ensuing headlines invariably are about the whole, articulated in terms of GDP and jobs. Each of the studies describes a part of a green economy, but none can capture the whole - not because they are deficient, but because it is simply beyond our capability.

That said, the fact that one cannot prove conclusively how green growth would work does not mean that we should give up on the idea. We know from history that waves of innovation, from the steam engine to the information and communications revolution, have led to dramatic increases in economic growth. We cannot prove that a wave of environmental innovation will have a similar effect, but the studies of the parts make such an outcome highly plausible.

As humans, we are uniquely equipped to make decisions on the basis of ambiguous information - in fact, we do it all the time. When we choose a career or a spouse in our private lives, or when a politician seizes an opportunity from a plethora of possibilities, the task at hand is always about making highly consequential decisions based on imperfect information.

A big pile of green-growth reports demonstrates the plausibility of this path to recovery from an historic economic crisis. It is now up to us to realize its potential. Green growth offers a realistic alternative to the
Companies “15 to 20 years” ahead of investors on sustainability

Will Nichols, BusinessGreen, 24 May 2012

Companies have realised the impact environmental issues and green business models have on the bottom line, but investors are yet to reach the same level of understanding and could take years to catch up.

That is the view of Christopher Greenwald, head of sustainability application and operations at Swiss-based Sustainable Asset Management (SAM), who yesterday told reporters at a briefing in London that investors rarely shared companies’ long-term approach to sustainability issues.

“Companies are 15 to 20 years ahead of investors in terms of understanding the impact of sustainability on their business performance and financial returns,” Greenwald said. “Investors are about where companies were in 1995 when sustainability reporting was just getting off the ground.”

He said many companies have moved beyond sustainability reporting and are integrating sustainability into their strategic goals, product strategies, overall metrics, and the way they think about improving their own business performance. But Greenwald added adoption of greener business models would need to reach a “critical mass” before impacting investors.

“You had about 50 companies in the mid-90s producing some kinds of environmental or social report - now you have over 4,000, and that number has been growing year over year,” he said.

“You have to have a critical mass for the investors to wake up and get their attention. We’ve got that over the last few years but I think it’ll take some time for investors to catch up to companies in terms of the way they think about how sustainability can impact returns and realise financial gains over time.”

SAM provides the data for the Dow Jones Sustainability Indexes (DJSI), which ranks over 340 companies by sector on their performance across economic, environmental, and social metrics.
The number of companies submitting data to be part of the index reached 800 in the last year, and Greenwald partially attributed the rise to an increased focus on sustainability caused by the financial crisis, which he said could start to shrink the gap between how much weight it is given by companies and investors.

“People got burned by relying on financial numbers alone and I think there’s a general recognition that measuring management quality is key for any kind of long-term investment performance,” he said.

“It’s probably the most important factor in determining a company’s long-term valuation. Sustainability analysis provides a way of systematically measuring management quality and getting a quantitative figure that’s objective... as opposed to just relying on a feeling on whether the company is well or poorly managed.”

However, John Prestbo, executive director of Dow Jones Indexes, cast doubt on whether sustainability would reach the mainstream investment community in his lifetime, blaming the “mismatch” between long-term thinking and the “attention deficient disorder stock market”.

He also suggested a generation of asset managers who could not be taught sustainability’s “new tricks” would need to be replaced.

“The growth is there, the trend is there, but it’s slow - it takes time for people to adjust their way of thinking,” he said.

“I think the current generation of asset owners and managers has to move on and make way for a younger group that has sensitivity to these kinds of considerations. So it’s going to take time as they pass from the scene and newer asset owners and managers take their place that do have their sensitivities attuned.”
Call for papers

11th Australasian Conference for Social and Environmental Accounting Research and EMAN – Environmental Management Accounting Network – Asia Pacific

University of Wollongong, Wollongong Australia
2 – 4 December 2012

Date to remember:
Deadline for submissions: 12 August 2012


A stream of papers on environmental and sustainability management accounting will be organised for the A-CSEAR conference in 2012. The environmental management accounting stream of papers at A-CSEAR 2012 will be organised by Professor Roger Burritt of the Environmental Management Accounting Network - Asia Pacific (EMAN-AP). EMAN-AP was established on the 27th September 2001 by professionals and academics working towards the development and promotion of Environmental Management Accounting in the Asia-Pacific region. EMAN-AP is closely linked with the EMAN Global network, and offers the latest information about environmental management accounting.

7th Asia Pacific Interdisciplinary Research in Accounting (APIRA) Conference

Kobe, Japan
26 – 28 July 2013

Date to remember:
Deadline for submissions: 31 January 2013

http://www.apira2013.org/about/

This interdisciplinary accounting conference is dedicated to the advancement of accounting knowledge and practice. It provides a platform to discuss the interaction between accounting/auditing and their social, economic, institutional and political environments. Conference sessions and papers will critique contemporary theory and practice, examine historical and interdisciplinary dimensions of
accounting, debate policy alternatives, and explore new perspectives for understanding and change in the accounting discipline.

Researchers interested in contributing to the conference should send papers for review and selection no later than January 31, 2013.

Social and Environmental Accountability Journal 34(1), April 2014

Special Issue on Carbon Accounting: The Contribution of Social and Environmental Accounting to the Debate

Special Issue Editor: Carlos Larrinaga, Universidad de Burgos

Date to remember:
Deadline for submissions: 28 February 2013

Anthropogenic induced global climate change (GCC) raises a diversity of questions in the domains of organisations, markets and policymaking. Accounting has a pivotal role in the process of developing metrics of greenhouse gases (GHG) emissions which enable interventions in different markets and policymaking areas. Scholars from disciplines such as economics, sociology or geography have revealed the contentious nature of carbon accounting, in all its guises, and there is a growing body of literature in social and environmental accounting. There is, however, still room for a contribution to broader debates on carbon accounting by, following the editorial policy of SEAJ, developing new literature drawing not only on accounting, but also on accountability, reporting and auditing practice, research, theory and teaching in the field of GCC.

This special issue invites papers that intend to move the social and environmental accounting literature in the direction of making a more ambitious contribution to broader debates about carbon accounting. In line with the editorial policy of SEAJ, methodology and character of papers is purposefully open, and shorter papers as well as directness, clarity, policy-relevance and novelty are sought in the contributions to this special issue. Topics that might be considered for publication in this special issue include, but are not limited to the following:

- Reviews of different literatures on carbon accounting, identifying potential intersections with and unique contributions of social and environmental accounting
- Explorations of different scales and forms of entity for which carbon accounting has been attempted (for example, nation state,
regionally, organisationally and by products) and the intersections between these scales

- Reflections on any regionally interesting GCC issues (such as accounting for the supply of carbon credits in developing world contexts or the operation of particular carbon accountability regimes)
- Controversies around the use and commensurability of uniform metrics to account for GCC and GHG emissions
- Explorations of how different metrics of GCC and GHG emissions are mobilized for the intervention in markets and policymaking areas
- Aspects of financial and non-financial carbon reporting, including compliance with public/private disclosure requirements and the vicissitudes of financial carbon accounting standardization
- The interplay between carbon accounting and the compulsory and voluntary schemes for emission rights trading
- Verification/assurance of carbon accounting and reporting (including exploration of the claims for ‘carbon neutrality’)

Authors interested in contributing to this Special Issue of *SEAJ* should follow the “Notes for SEAJ Contributors” and submit their manuscripts for review to: csear@st-andrews.ac.uk no later than 28th February 2013.

Authors are encouraged to contact the Guest Editor to discuss proposed topics.

**Contact Carlos Larrinaga, Universidad de Burgos**
**Email: carlos.larrinaga@ubu.es**

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**Journal of Accounting & Organizational Change, Volume 8, Issue 2**

**Special issue on the Balanced Scorecard**

**Guest editors**
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The Balanced Scorecard (BSC) has been a high profile performance measurement concept over the last two decades. Worldwide consultancy companies are selling the BSC concept and many companies have adopted a performance measurement framework labelled the balanced scorecard. Also, many research articles have been published on issues related to the BSC concept. However, the success of the BSC has been mixed. In particular, some of the good examples of BSC have faced serious problems. In addition, although it has been advocated as a feed forward mechanism, it was not able to forewarn of the financial crisis. Furthermore, during the years the conceptual framework of the BSC has changed and moved into different businesses and organizations. This raises issues such as, what are the key features of a good BSC? How do we know that the changes are an improvement? What drives the changes? Finally, the BSC has been advocated for various purposes. However, how well a BSC framework addresses its intended purposes remains unknown. There has been little insight into the unintended economic and social implications of a BSC, i.e. does it have dysfunctional implications? Does it solve new types of purposes? and does it favours some types of social groups? This special issue of Journal of Accounting & Organizational Change calls for papers providing penetrating insights into the features of the BSC technique and its organizational and social implications.

Addressing the aim of the issue, all types of research methods can be feasible. However, we consider conceptual analytical approaches and case studies as particular important to get a more penetrating insight into the matter. We invite papers from scholars across disciplines on the following issues:

- the balanced scorecard and profitability;
- what happens to the good examples of the balanced scorecard;
- the balanced score card and the financial crisis;
- balanced scorecards in banks;
- what drives the changes in the technical features of the BSC?;
- the quality of the design qualities of the BSC;
- relationships between non-financial and financial measures in the BSC;
- the balanced scorecard vs other performance measurement packages;
- the social impact of the balanced scorecard;
- adoption and diffusion of balanced scorecard;
• why did companies abandon BSC?; and
• what makes a BSC a success?

These themes are only indicative. Papers on other themes with relevance to understanding the design qualities, the functioning, and the organizational and social role of the balanced scorecard are welcomed. Enquiries re this special issue should be sent to Dr Hanne Nørreklit. Manuscripts must be submitted via online using the submission site at: http://mc.manuscriptcentral.com/jaoc

Supply Chain Management: An International Journal

Special Issue on Managing and Measuring Sustainability Performance of Supply Chains

Special Issue Editors:
Professor Dr Stefan Schaltegger, CSM Leuphana University, Lüneburg, Germany
Professor Roger L Burritt, CAGS, University of South Australia, Australia

Date to remember:
Deadline for submissions: 4 February 2013

The sustainability of supply chains and their management by organizations are of growing significance to businesses keen to gain a competitive advantage, or to industries which are risk sensitive to the environment or social issues. Yet, with the exception of sustainability assessments in pilot studies, research-based life cycle assessments, selected certification of green products, or demonstration cases, companies have largely struggled with or ignored the management and measurement of sustainability performance over their whole supply chains. Sustainability issues in supply chains, however, have become an important topic in procurement, innovation management and marketing. The rationale for this special issue is that sustainability issues in supply chains act as a catalyst for researching the links between consequences of adopting sustainability as a strategic goal and performance management, accounting, auditing and management control.

The need in focal companies and suppliers to gather data, make information available, and generate knowledge for decision making has never been stronger than in emerging areas such as the measurement and management of the social and environmental performance of suppliers and complete supply chains. In the process of globalization with high levels of specialization and outsourcing the reliable performance
measurement and effective management for sustainability of supply chains has been shown as essential for very different industries, either dealing with high reputational risk issues such as child or forced labour or for the market success of businesses offering particularly sustainable products and services. The increasing demand for the certification of sustainable products and services furthermore emphasizes the need for reliable sustainability performance measurement and management approaches. Whereas some focal companies emphasize supplier audit and selection, others implement a supplier development and training strategy of sustainable supply chain management; both with different roles and consequences for establishing information management systems, accounting, management control, auditing and reporting. Subsequently, thought leadership for policy and practice is needed to develop further frameworks and tools for information and performance managers to participate in and contribute effectively to sustainable development. Academics and practitioners will want to demonstrate best practice and business progress in environmental and resource management, as well as responsible corporate social activities and share this leading-edge practice. To have global reach, information systems managers, accountants, auditors, controllers and reporting specialists will need to contribute to a sustainable future for developed and emerging nations in relation to sustainable supply chains and the associated possibilities for society, nature, business and industry.