The use of environmental sustainability reporting by South African companies to promote environmental sustainability

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Presented at the Actuarial Society of South Africa’s 2014 Convention
22–23 October 2014, Cape Town International Convention Centre

ABSTRACT
Over the last decade, there has been greater emphasis on corporate environmental sustainability reporting. The aim of these reports is to make companies accountable for the effects of their activities on the environment. This paper aims to demonstrate whether South African companies, based on the information provided in these reports, are promoting environmental sustainability. Economic sustainability is affected by environmental sustainability. Therefore, if there is evidence to suggest that companies are not promoting environmentally sustainability, then this will affect their economic sustainability. This has implications for the advice that actuaries give on SRI. This paper analyses the environmental disclosures of ten South African companies in each industry which were included in the JSE Socially Responsible Investment Index as at the end of 2012. This paper finds that these companies disclose very little information about how environmentally sustainable they are. Rather, the environmental disclosures are used to enhance the public image of these companies.

KEYWORDS
Sustainability; environmental sustainability; environmental sustainability reporting; Global Reporting Initiative; accountability; South Africa

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1. INTRODUCTION

1.1 Concerns about sustainability are well-known. As institutional and individual investors increasingly incorporate sustainability issues into their investment decisions, socially responsible investing (SRI) is growing. This is particularly true in South Africa with the development of the Code for Responsible Investment in South Africa, as well as the amendment to Regulation 28 of the Pension Funds Act to incorporate sustainability issues. As a result, actuaries are actively involved in advising clients on SRI.

1.2 SRI “is based on the premise of investing in entities that demonstrate good financial performance and corporate governance and protect the environment and society” (Reddy & Thomson, unpublished). The rationale for good corporate performance underpinning SRI is that by investing in such entities, the investor will achieve a sustainable return because the risk that returns will be eroded by financial risks, which arise from imprudent business practice, is minimised (Sethi, 2005). The rationale for the protection of the environment and society underpinning SRI is that financial performance of companies is affected by their social and environmental performance. Therefore, SRI focuses on the performance of companies and not on the ultimate effects of their activities (Reddy & Thomson, op. cit.). However, the ultimate effects of a company’s activities are important to achieving accountability which is required for sustainability (Reddy & Thomson, op. cit.).

1.3 Sustainability reports produced by companies are used when applying SRI criteria to investment decisions. A sustainability report is a report on the environmental, social and economic effects of a company’s activities (Hubbard, unpublished) over a fixed period of time. They aim to make companies accountable for these effects (Brown, Dillard & Marshall, unpublished). Environmental sustainability reporting is a subset of sustainability reporting. It is a report on the environmental effects (both positive and negative) of a company’s activities. A number of frameworks has been suggested to try to formalise the process of sustainability reporting and hence environmental sustainability reporting. In this paper, it is argued that these frameworks do not succeed in meeting the requirements of accountability by Reddy & Thomson (op. cit.).

1.4 Since 2002, sustainability reporting has been practised widely within the South African business community. In February 2010, companies seeking a listing on the Johannesburg Securities Exchange (JSE) were compelled to report on environmental

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3 King Committee, 2009, www.idsa.co.za

ACTUARIAL SOCIETY 2014 CONVENTION, CAPE TOWN, 22–23 OCTOBER 2014
and social issues as stipulated by the King Report on Corporate Governance for South Africa.\textsuperscript{4} As such, South Africa is viewed as a world leader in the fields of sustainability reporting and environmental sustainability reporting.\textsuperscript{5}

1.5 This paper aims to demonstrate whether South African companies, based on the information provided in their environmental sustainability reports, are promoting environmental sustainability. Economic sustainability is affected by environmental sustainability (Brown, Dillard & Marshall, op. cit.; Giddings, Hopwood & O’Brien, 2002; Van der Vorst, Grafe-Buckens & Sheate, 1999). Therefore, if there is evidence to suggest that companies are not promoting environmental sustainability, then this will affect their economic sustainability. This has implications for the advice that actuaries give on SRI.

1.6 In order to achieve the aim of the paper in §1.5, this research will consider the following questions:
— Do the environmental sustainability guidelines address environmental sustainability?
— What information should be disclosed in environmental sustainability reports as per the current environmental sustainability guidelines?
— Are South African companies promoting environmental sustainability based upon the information they should be disclosing?

1.7 Determining whether South African companies are promoting environmental sustainability requires an understanding of what the requirements for environmental sustainability are. This is dealt with in section 2. Section 2 also provides examples of how companies are not being accountable for the environmental effects of their activities. In light of companies’ increased indifference to their environmental impacts, environmental sustainability guidelines have been developed to make companies accountable for these impacts. An exposition of these guidelines is provided in section 2. The information that should be provided in an environmental sustainability report is also discussed in section 2. Section 3 details the methodology used to address the last research question. In section 4, the results from the analysis of the company reports against the framework in section 2 are provided. Section 4 also provides a discussion of these results. The paper ends with a conclusion in section 5 and areas for further research in section 6.

\textsuperscript{5} King Committee, 2009, www.iodsa.co.za
2. LITERATURE REVIEW

2.1 Requirements for Sustainability

2.1.1 Sustainability requires companies to be accountable to stakeholders, and not just shareholders, for the effects of their activities (Van der Vorst, Grafe-Buckens & Sheate, op. cit.).

2.1.2 At sustainability’s core is the need to take a long-term view. According to the King Code on Corporate Governance for South Africa, a company’s board of directors cannot solely make decisions based on short-term profits, especially if these decisions are a burden on the long-term needs of stakeholders. For example, a company’s activities in a reporting year can lead to effects decades into the future. There is increasing evidence to suggest that greater long-term financial performance is associated with companies adopting a long-term view of their activities (Slaper & Hall, 2011).

2.1.3 Sustainability requires a panoptic view of a company’s effects. Van der Vorst, Grafe-Buckens & Sheate (op. cit.) state that the principle underlying sustainability is to “act locally and think globally”. This requires an organisation to recognise that the effects of its activities are not only felt by that organisation, but also have global effects (Reddy & Thomson, op. cit.).

2.1.4 There are three domains to sustainability, namely environmental, social and economic sustainability (Giddings, Hopwood & O’Brien, op. cit.; Van der Vorst, Grafe-Buckens & Sheate, op. cit.). There are two common models used to describe the relationship between environmental, social and economic sustainability. In the first model, economic sustainability hinges on environmental sustainability and social sustainability hinges on environmental sustainability (Van der Vorst, Grafe-Buckens & Sheate, op. cit.). In the second model, environmental, social and economic sustainability need to be achieved simultaneously (Giddings, Hopwood & O’Brien, op. cit.).

2.1.5 For the purposes of this paper, the requirements for sustainability deduced by Reddy & Thomson (op. cit.) will be used. They state that in order for an entity to achieve accountability to stakeholders for the sustainability of its activities, each entity must be held accountable for:

- “the effects of its activities during a reporting period on the environment, on society and on the economy as at the end of that period (this satisfies the criterion of immediate accountability for short-term effects);
- the effects of its activities during that reporting period on each of those domains as at future time horizons (this satisfies the criteria of immediate accountability for long-term effects);
- the effects of its activities during future reporting periods on each of those domains as at subsequent time horizons (this satisfies the criteria of accountability for long-term sustainability).”

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2.1.6 To meet the requirement that entities need to adopt a global view of the effects of their activities (see ¶2.1.2), entities need to be held accountable for their contribution to system-wide effects. For this purpose entities’ proportional accountability for regional and global effects needs to be determined (Reddy & Thomson, op. cit.).

2.1.7 The requirements for environmental sustainability refer to those components, presented in ¶2.1.4, relating to the environment.

2.1.8 According to Adams, Frost & Webber (2004) measuring the outcomes—i.e. the ultimate effects—of entities’ activities is required to achieve accountability. This measurement is also important for comparing the severity of the effects of the activities between entities (Reddy & Thomson, op. cit.). An outcome refers to the ultimate effect of an entity’s operations on the environment—not the immediate results of its practices over a reporting period. Performance is the result of practices which are implemented to effect a desired outcome. Most environmental sustainability reporting guidelines focus on an entity’s performance and practices and not the ultimate effects of the entity’s activities. For example, the Global Reporting Initiative (GRI) requires companies to report on the sum of their water effluents discharged into nearby watercourses over the reporting period. The ultimate effect of these water effluents will be the loss in biodiversity, for example. It is the outcome that is central to sustainability, not the entities’ performance. Therefore, the effects referred to in ¶2.1.4 need to be ultimate effects (Reddy & Thomson, op. cit.).

2.1.9 The requirements in ¶2.1.4 refer to entities. An entity is “any person or organisation that is engaged in economic activities” (Reddy & Thomson, op. cit.). In this paper, only private organisations—i.e. companies—will be considered.

2.2 Lack of Accountability

2.2.1 Despite environmental sustainability requiring companies to be accountable, there is evidence supporting a lack of accountability for the effects of companies’ activities on the environment.

2.2.2 During the 1990s, there had been growing criticism around the adverse environmental effects caused by multinational corporations (Kolk, 2003). In a South African context, there have been a number of high-profile cases in which companies have adversely affected the environment through their operations.

2.2.3 In the early 2000s, a Dow Chemical Company chlorine plant had been producing chemicals such as chloroform and chlorinated benzenes (Katz, 2010). These chemicals were then openly released into the company’s evaporation ponds around the densely populated area of Thembisa. According to Katz (op. cit.), Dow Chemical Company had failed to acknowledge the hazards that these chemicals posed to the

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people in the Thembisa area. Moreover, the company did not disclose the effects that these chemicals were having on the environment and humans.

2.2.4 Another example of corporate environmental abuse involves York Timbers. From January 2002 to January 2006, York Timbers had operated an illegal dumping site near Sabie.9 Furthermore, in 2007 the company unlawfully widened a forest road without the necessary authorisation from an environmental assessment practitioner.10 Despite knowingly contravening South Africa’s National Environmental Management Act, York Timbers maintained that it was “committed to practising sustainable forestry”11 in its 2010 annual report. Throughout this period, previous years’ annual reports failed to disclose that York Timbers was breaching environmental law as a result of its operations.

2.3 Environmental Sustainability Reporting Guidelines

2.3.1 In light of companies’ increased indifference to their environmental effects, discussed in section 2.2, environmental sustainability reporting guidelines have been developed to make companies accountable for these effects.

2.3.2 For the purposes of this paper, the following guidelines are considered because of their popularity and prominence as environmental sustainability reporting frameworks (Brown, Jong & Levy, 2009; Kolk, op. cit.):

— the GRI’s G3.1 and G4 Sustainability Reporting Guidelines;
— the International Organisation for Standardisation’s (ISO) 14001 and 14004 standards;
— the 2010 Eco-management and Audit Scheme (EMAS III) Regulation;
— the International Integrated Reporting Council’s (IIRC) International Integrated Reporting Framework;
— the United Nations Global Compact’s (UNGC) Communication on Progress;
— the King Code on Corporate Governance for South Africa;
— the King Report on Corporate Governance for South Africa;
— AccountAbility’s AA1000 Accountability Principles Standards (AA1000 APS);
— AccountAbility’s AA1000 Assurance Standard (AA1000 AS); and
— the International Auditing and Assurance Standards Board’s International Standards on Assurance Engagements 3000 (ISAE 3000).

2.3.3 It should be noted that some of these guidelines refer to ‘integrated reporting’ as opposed to ‘sustainability reporting’. In contrast to the definition of a sustainability report given in ¶1.3, an integrated report is a report on the interrelatedness of the company’s social, economic and environmental effects (IIRC,

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unpublished) disclosed in a single document. Furthermore, an integrated report is supposed to show how sustainability concerns across the three dimensions have been integrated into the strategy and operations of the business (Glass, 2012). Despite this definition, the distinction between sustainability and integrated reports is not clear. This is supported by the fact that the GRI refers to sustainability reporting as an integral component of integrated reporting (GRI, unpublished b). Furthermore, the GRI views its single reporting framework as being able to simultaneously guide the preparation of sustainability and integrated reports (GRI, unpublished b). Both the GRI and the IIRC state that cross-referencing information between different reports and sources is important (GRI, unpublished a; IIRC, op. cit.). According to the King III Practice Notes on Integrated Reporting, an integrated report aims to:

- allow stakeholders to make informed decisions;
- assess the company’s long-term value creation for its stakeholders; and
- establish that a company’s value cannot be considered only in a financial context.12

Because the aims of the integrated and sustainability reports are so similar, this research maintains that the core elements of the information should be similar. Therefore, in order to establish the information that needs to be included in an environmental sustainability report, both types of reports and guidelines were used.

2.4 Information that should be disclosed in Environmental Sustainability Reports

2.4.1 This section aims to identify the main questions, and hence information, that companies should answer in an environmental sustainability report. These questions have been identified based upon the guidelines listed in ¶2.3.2. Based on these guidelines, the questions have been categorised under the following key areas:

- environmental policy;
- environmental effects;
- environmental performance indicators and other information;
- stakeholders;
- objectives and targets; and
- assurance.

2.4.2 Environmental Policy

2.4.2.1 A company’s environmental policy is its commitment towards environmental sustainability (GRI, unpublished a). The company’s mission and vision regarding environmental sustainability must be included in its environmental policy (IIRC, op. cit.). Therefore, a company must answer to what its core missions and values are with regard to environmental sustainability?

2.4.2.2 Both the GRI and IIRC require that the policy has approval from those in senior positions (GRI, unpublished a; IIRC, op. cit.). This requirement is founded on the belief that those in senior positions, through their endorsement of report disclosures, become accountable for the content and direction of the disclosures.\(^\text{13}\) This then lends credibility to the information released in the sustainability and integrated reports. Therefore, a company must answer: has a person or body in a governing position at least acknowledged the sustainability and/or integrated report disclosures?

2.4.2.3 Finally, the company must disclose the standards and/or framework used to shape its environmental policy (UNGC Office, unpublished). Therefore, a company must answer: What environmental sustainability or integrated reporting guidelines have been used by the company?

2.4.2.4 According to the IIRC (op. cit.), the company’s commitment to sustainability is essential, because it sets the company’s sustainability purpose and helps the company to understand the context in which it operates. However, the current literature has stated that companies tend to make virtuous commitments to promoting environmental sustainability when very little has changed regarding their core beliefs on and values about how they operate (Boiral, 2013; Milne & Gray, 2013).

2.4.3 **Environmental Effects**

2.4.3.1 According to these reporting guidelines, a company must disclose the environmental effects of its operations. A key feature of a sustainability or integrated report is that the report presents a balanced and unbiased picture of the company’s environmental effects (GRI, unpublished a). As such, the company is required to disclose both the positive and negative effects that its operations have on the environment (GRI, unpublished b; European Commission, unpublished).

2.4.3.2 Nonetheless, the call to present a balanced view of the company’s environmental effects has fallen on deaf ears. Almost all sustainability reports produced by companies focus solely on how the companies have positively contributed towards environmental sustainability (Bell & Lundblad, 2011; Hahn & Kuhnen, 2013; Sonnenberg & Hamann, 2006). In fact, Boiral (op. cit.) labels sustainability reporting as a “simulacrum” that provides an “artificial and idealized [sic] representation” of a company’s sustainability contributions which is very much “disconnected from reality”. Boiral (op. cit.) makes a convincing argument that as the written content in sustainability reports becomes more scrutinised, companies are using pictures to inveigle report users. According to Boiral (op. cit.), companies strategically place images depicting “unspoiled nature” and ecological abundance as a way to make report users believe that the company positively affects the environment.

2.4.3.3 The company may, however, have a variety of effects on the environment and not all of these effects may be equally important. Only those environmental effects

that are deemed significant or material (GRI, unpublished b) by the organisation need be included in the environmental sustainability report. The company should provide in its sustainability reports some sort of criteria, method (ISO, unpublished) or narrative information (GRI, unpublished b) outlining how the material environmental effects are identified. Therefore, a company must answer the following questions:

— Have the company’s positive and negative environmental effects been identified?
— Have the material effects been disclosed?

2.4.3.4 One of the main problems with these sustainability reporting guidelines is that there is little consensus on what is meant by ‘materiality’. The ISO allows a company to have full discretion over the evaluation criteria and methodologies it uses to determine a significant environmental effect (ISO, op. cit.). The only condition is that the results produced by the method are consistent (ISO, op. cit.). The GRI states that a certain threshold (GRI, unpublished a) must be breached in order for the effect to be considered material. The GRI does not provide clarity on the exact nature of this threshold or how it is calculated. In fact, the updated GRI guidelines simply define a threshold by merging it with the Brundlandt Report’s definition of sustainability (World Commission on Environment and Development, 1987). It defines a threshold as the criteria that when reached and/or surpassed affects the company’s “ability to meet the needs of the present without compromising the needs of future generations” (GRI, unpublished b). Such general definitions are a hallmark of sustainability reporting guidelines. This is a prominent reason for vague reports being produced. When companies are unclear about their environmental effects, it becomes difficult to hold companies accountable for their actions. Furthermore, when companies are not accountable, it is unlikely that they will promote environmental sustainability.

2.4.3.5 A company must, in identifying its significant environmental effects, describe the challenges and opportunities associated with those effects (GRI, unpublished a). Should the effect cause environmental damage, the company must address how it will either prevent or correct this going forward (ISO, op. cit.). A company must answer the following questions:

— Have the challenges and opportunities from the company’s environmental effects been described?
— How does the company plan to correct or prevent its environmental effects going forward?

2.4.4 Stakeholders

2.4.4.1 According to Adams and McNicholas (2007), stakeholder engagement should be part of best practice in sustainability reporting. This process identifies the key parties who affect and are affected by a company’s activities. Stakeholder engagement is necessary so that the views and expectations about a company’s sustainability performance and effects influence the disclosures in sustainability and integrated reports (AccountAbility, unpublished a). The GRI requires that sustainability reports
describe how the company’s stakeholders are identified and prioritised. A company should therefore answer the following questions:
— Have the key stakeholders been identified?
— What are their views and expectations regarding environmental sustainability for the company?
— How has this influenced the content of the report?

2.4.4.2 According to the EMAS III, the significance of an environmental effect is linked strongly to its importance to the company’s stakeholders (European Commission, op. cit.). This ensures that environmental performance disclosures are relevant to those who hold the company accountable. In doing so, the stakeholders are more receptive to the preparation of the report, which enhances the accountability of the company to its stakeholders (GRI, unpublished b). This is necessary for the achievement of sustainability.

2.4.4.3 The main problem with stakeholder engagement is that companies are not providing substantive reasons for their selection and prioritisation of key stakeholders (Glass, op. cit; Van Zyl, 2013). This problem arises because of the lack of direction regarding stakeholder engagement offered by these reporting frameworks. The updated GRI guidelines outline what companies should be doing regarding stakeholder engagement, but they do not provide guidance on how companies can do it practically. Therefore, companies may exploit the ambiguity of the guidelines to enhance their public image rather than to legitimately promote environmental sustainability.

2.4.5 Environmental Performance Information

2.4.5.1 The IIRC and GRI require that a company’s environmental effects are communicated both qualitatively and quantitatively in sustainability reports (GRI, unpublished b; IIRC, op. cit.). Most quantitative information disclosed in corporate environmental sustainability reports takes the form of environmental performance indicators (EPIs). There is no commonly accepted description of EPIs, which has led to a lack of standardisation of corporate environmental reports. The main reasons there are no universally used EPIs are that:
— most companies don’t know how to define environmental sustainability (Roca & Searcy, 2012);
— there is a vast array of EPIs put forth by the GRI (Moneva, Correa & Arche, 2006); and
— there are different levels at which a company can choose to apply the EPIs in the GRI.

2.4.5.2 In order to achieve greater standardisation, it may be worthwhile for companies to reference the guidelines influencing their choices of EPIs. It must, however, be stated that the IIRC recognises the GRI as one of the “standard setters”\textsuperscript{16} of EPIs. Considering the advocacy of the GRI by the King Report on Corporate Governance for South Africa,\textsuperscript{17} it is expected that most South African sustainability reports will use the set of EPIs put forth by the GRI. According to the IIRC, not all environmental effects can be quantified. In these cases, qualitative explanations must accompany environmental performance (IIRC, op. cit.). Therefore, a company should answer the following questions:

— Have both quantitative and qualitative information been disclosed?
— Has the report disclosed the guidelines on which the EPIs are based?

2.4.5.3 Companies must disclose a set of core indicators. According to the GRI, these indicators measure the environmental performance of effects common to most companies (GRI, unpublished a). Without such EPIs, an environmental sustainability report is likely to be incomplete regarding its representation of the material environmental effects on a company’s key stakeholders (Adams & Frost, 2008). The GRI and European Commission also accept that the nature of companies’ effects will vary according to their sector. As such, EPIs should also be sector-specific (European Commission, op. cit.). Should a report be unable to disclose an EPI, then the EPI’s exclusion must be justified (European Commission, op. cit.). The company must, therefore, answer:

— Have both generic and sector-specific EPIs been provided?
— Are the EPIs that are excluded justified?

2.4.5.4 In order to ensure that the report content is credible, a company should only disclose information on performance if it can be substantiated by evidence (GRI, unpublished a). To address issues around uncertainty of EPIs, the GRI requires data measurement techniques and assumptions to be disclosed (GRI, unpublished a). Therefore, a company must answer the following questions:

— Have the scientific validity, subjectivity and uncertainty of the EPIs been disclosed?
— Have the assumptions and data measurement techniques in producing the EPIs been referred to?

2.4.5.5 The European Commission also requires that EPIs are presented in absolute and normalised terms (European Commission, op. cit.). An EPI is normalised by expressing the EPI as a ratio, where the denominator is some measure of the company’s production that gives rise to an environmental effect. The GRI gives the


following example of a normalised indicator: “waste per unit of production” (GRI, unpublished a). The report must therefore present absolute and normalised EPIs.

2.4.5.6 Currently, sustainability reporting guidelines focus on an entity’s practices and not the ultimate effects of the company’s activities (see ¶2.1.8). Therefore, since stakeholders cannot gauge the ultimate environmental effects of companies’ activities from these sustainability reports, it is difficult for them to hold companies accountable for these effects. Additionally, since accountability is required to achieve sustainability, if companies are not being held accountable, then sustainability is unlikely to be achieved.

2.4.5.7 As mentioned above, comparability of information is crucial. According to the GRI, EPIs and other information should be disclosed in such a way that performance can be assessed over time and relative to other organisations (GRI, unpublished b). The GRI requires that EPIs be compared against at least two periods (GRI, unpublished a) of past EPIs. Moreover, Isaksson & Steimle (2009) state that EPIs need to be compared with an industry benchmark so that the readers of the report can gauge how the company compares with its peers. Therefore, a company must answer the following questions:
— Have the EPIs been compared against time i.e. at least two periods?
— Has the information been benchmarked against the industry or more broadly?

2.4.6 Objectives and Targets

2.4.6.1 According to the GRI, the sustainability report must disclose the targets and objectives that it sets in order to achieve environmental sustainability (GRI, unpublished a). The environmental reports must set short-term, medium-term and long-term targets (GRI, unpublished a). Nevertheless, it is the setting of long-term targets which is most essential for achieving corporate sustainability (Crifo & Forget, 2013; Daizy & Das, 2013). Furthermore, the GRI, ISO and IIRC state that past performance must be compared against these targets. The sustainability report must also provide reasons for under- or over-performance (GRI, unpublished a). Once this has been done, the company should report on lessons learnt from past performance and how these lessons will be used to determine future strategic directions for becoming more environmentally sustainable (IIRC, op. cit.; ISO, op. cit.). The company should therefore ask:
— Have targets related to achieving environmental sustainability been set?
— Have short-, medium- and particularly long-term targets been provided?
— Has past performance been compared with the targets?
— Have reasons for over- or under-performance been given?
— How has past performance shaped future environmental targets and policies?

2.4.6.2 In order for a company to set an environmental target, it first needs to determine whether its operations are environmentally sustainable or not (Reddy & Thomson, op. cit.). However, these frameworks do not provide guidance on
determining whether a company’s operations are environmentally sustainable or not and therefore companies do not set measurable targets (Van Zyl, op. cit.). In addition, the environmental effects of a company’s activities in the short-term can have long-term effects and it may take years to reverse the damage done by one year’s activities (Reddy & Thomson, op. cit.). These guidelines do not provide a framework for measuring these long-term effects. In addition, one of the requirements for sustainability is that companies’ need to take a global view of the effects of their activities (see ¶2.1.2). These frameworks do not suggest how a company can determine its contribution to the global effects of its activities.

### 2.4.7 Assurance

2.4.7.1 According to Hubbard (op. cit.), assurance—i.e. auditing—is fundamental to ensuring that the content in environmental sustainability reports is credible. As part of the assurance process, the GRI, European Commission and ISO all require companies to set up processes that will internally ensure the integrity of the sustainability report disclosures (European Commission, op. cit.; GRI, unpublished a). Nevertheless, a stakeholder cannot place full confidence in the sustainability disclosures if the party—i.e. the company—making the disclosures is also the party assuring them. Therefore, all the guidelines require assurance to be carried out by an ‘external third party’ that is accredited (Van der Vorst, Grafe-Buckens & Sheate, op. cit.) and independent of the organisation’s auditors and/or auditing processes (European Commission, op. cit.).

2.4.7.2 Additionally, the assurance of sustainability reports must demonstrate that the assurers are both objective and competent (AccountAbility, unpublished b). Finally, both the ISAE 3000 and AA1000AS require the company to disclose the level at which its sustainability disclosures are assured. This means that a company must answer the following questions regarding assurance:

- Have the environmental disclosures been internally and externally assured?
- Has the company demonstrated how the assurance was objective and competent?
- Has the level of assurance been stated?

2.4.7.3 There are a number of problems with the assurance aspects of sustainability reports. Firstly, despite the GRI and the King Code on Corporate Governance requiring companies to assure their sustainability report disclosures externally, not all companies are doing so (Marx & Van Dyk, 2011; Sonnenberg & Hamann, op. cit.; Van Zyl, op. cit.).

2.4.7.4 Secondly, the criteria and methods used to assure non-financial disclosures are not applied consistently across companies (Marx & Van Dyk, op. cit.). According to Fonesca (unpublished), the GRI provides limited guidance to companies regarding the verification of reports. As a result, companies are encouraged to seek this guidance elsewhere, which leads to different levels of assurance amongst companies (Fonesca, op. cit.). This undermines the comparability and credibility of the reported information (ibid.).
2.4.7.5 Finally, “there is a lack of commitment to the expert auditing of reporting that does not pertain to the financial [reporting], making the quality of expert attestation applied to such reports significantly weaker than that applied to financial reports” (Gray & Milne (2002) cited in Reddy & Thomson (op. cit.)).

3. METHOD
3.1 Section 2.4 provides a framework of the core elements for an environmental sustainability report. In Appendix A, a checklist of 27 questions has been created. The checklist outlines the key questions a company should answer in an environmental sustainability report. These questions are derived from the discussions in section 2.4. These questions will be applied to the environmental sustainability reports of ten different companies. In order to assess whether or not each of the questions has been addressed in the reports, the following scale (given in Table 1) was used:

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<th>Score</th>
<th>Interpretation</th>
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<tr>
<td>0</td>
<td>Not fulfilled; or</td>
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<td></td>
<td>not included and exclusion not justified; or too unclear to assess.</td>
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<tr>
<td>0,5</td>
<td>Mentioned only briefly; or mentioned but very vague.</td>
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<td>1</td>
<td>Included in report; and clear.</td>
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3.2 The scale used is not intended to assess the detail or degree to which a company has reported on an environmental sustainability issue. This is because any assessment of the detail of sustainability disclosures in companies’ reports is beyond the scope of this research. Rather, a checklist approach is adopted to examine whether or not a certain area of the environmental sustainability report has been addressed by a company. The scoring system is aimed at being as objective as possible. Nonetheless, it could be argued that the 0,5 score introduces a measurement of the degree of disclosure. The 0,5 score has been introduced to address lack of clarity inherent in companies’ sustainability disclosures.

3.3 Table 2 refers to the companies and the reports that were analysed. The FTSE industry classification system was used. For each industry, companies which were included in the JSE Socially Responsible Investment Index as at the end of 2012 were selected. For industries that did not have a company included in this index, prominent companies in those industries were selected. Therefore, Rand Water was chosen for the utilities industry and Naspers was chosen for the technology industry. Although there were companies in the consumer services industry which were in the index, South African Airways was chosen for this industry because it is considered to be a higher impact company than the retail companies included in the index.
### Table 2 Reports of South African companies analysed

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<th>Sector</th>
<th>Company</th>
<th>Report</th>
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<tr>
<td>Utilities</td>
<td>Rand Water</td>
<td>Integrated annual report 2011–2012&lt;sup&gt;18&lt;/sup&gt;</td>
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<td>Consumer goods</td>
<td>SABMiller plc (SABMiller)</td>
<td>Sustainable development summary report 2012&lt;sup&gt;19&lt;/sup&gt;</td>
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<td>Annual report 2012&lt;sup&gt;20&lt;/sup&gt;</td>
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<td>Consumer services</td>
<td>South African Airways (SAA)</td>
<td>Annual report 2012&lt;sup&gt;21&lt;/sup&gt;</td>
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<td>Technology</td>
<td>Naspers</td>
<td>Integrated annual report 2012&lt;sup&gt;22&lt;/sup&gt;</td>
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<td>Telecommunications</td>
<td>MTN Group Limited (MTN)</td>
<td>Sustainability report 2011&lt;sup&gt;23&lt;/sup&gt;</td>
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<td>Integrated business report 2011&lt;sup&gt;24&lt;/sup&gt;</td>
</tr>
<tr>
<td>Financials</td>
<td>Nedbank Limited (Nedbank)</td>
<td>Integrated report 31 December 2012&lt;sup&gt;25&lt;/sup&gt;</td>
</tr>
<tr>
<td>Oil and gas</td>
<td>Sasol</td>
<td>Sustainable development report 30 June 2012&lt;sup&gt;26&lt;/sup&gt;</td>
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<td></td>
<td>Annual integrated report 30 June 2012&lt;sup&gt;27&lt;/sup&gt;</td>
</tr>
<tr>
<td>Basic materials</td>
<td>BHP Billiton</td>
<td>BHP Billiton sustainability report 2012&lt;sup&gt;28&lt;/sup&gt;</td>
</tr>
<tr>
<td>Industrials</td>
<td>Murray and Roberts (MR)</td>
<td>Annual integrated report 2012&lt;sup&gt;29&lt;/sup&gt;</td>
</tr>
<tr>
<td>Health Care</td>
<td>Aspen Pharmacare Holdings Limited (Aspen)</td>
<td>Annual report 2012&lt;sup&gt;30&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

3.4 Reports from 2012 were considered. If no sustainability or integrated report was available in 2012, the report from 2011 was considered. It is unlikely that the conclusions of this paper will be materially different if the most recent reports were used. Most of the checklist questions are based on the G3.1 GRI guidelines (GRI, unpublished a). These were published in 2011. The G4 guidelines were published in May 2013 (GRI, unpublished b). Therefore, the sustainability reports required for the end of 2013 2013 would most likely adopt the G4 guidelines. However, the guidelines have not changed significantly, therefore it is unlikely that the conclusions of the paper would change materially if a checklist produced based on the G4 guidelines is used.

3.5 Of the ten companies analysed, not all of the reports were environmental sustainability reports. For example, the BHP Billiton and Rand Water sustainability reports considered environmental as well as social and governance issues. For the purposes of this research, only the environmental areas of these reports were analysed. Any company that is listed on the JSE has been required, from 2010, to produce integrated reports. Thus, most companies no longer compile sustainability reports from 2011 onwards. For this reason, the checklist was applied to the integrated reports from 2011 for those companies who only refer to sustainability issues in their integrated reports. Examples are Naspers and SAA.

3.6 For Sasol, MTN and SABMiller, both the integrated and sustainability reports were analysed because:
— all three companies produced both reports for the same reporting period; and
— cross-referencing between the reports was made clear.

3.7 The King Report on Corporate Governance for South Africa states that the information that companies provide to their stakeholders should be accessible.³¹ For this reason, if any question in Appendix A could not be answered because the information was inaccessible, then a score of 0 was given. In this instance, information is considered to be inaccessible if the report does not indicate where certain information can be found and/or more time is spent looking for this information than is deemed reasonable by an average user of the report.

3.8 Finally, the results from the analysis are shown in Appendix B. Appendix B provides the scores for each company’s performance on each question put forth in Appendix A.

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4. DISCUSSION AND RESULTS

4.1 Environmental Policy

4.1.1 Most of the companies alluded to their missions and values regarding environmental sustainability. However, in almost every report, at least one of the three following problems is apparent:
— the core missions and values are vague;
— companies simply issue statements about the need to adopt a sustainable way of thinking; and
— most companies’ values and missions tend to focus more on the financial and social dimensions.

This finding is supported by Giamporcaro & Pretorius (2012).

4.1.2 All of the companies’ disclosures were holistically endorsed by a person in a high-governing position in the company. For example, Nedbank’s CEO, Mike Brown, referred specifically to Nedbank’s commitment to “deliver across social, economic and environmental”32 pillars. This may suggest that South African companies are willing to be accountable for their contributions towards sustainability.

4.1.3 Of the ten company reports that were investigated, nine were clear about the environmental sustainability reporting guidelines that have been followed. Only SAA had not adhered to a specific sustainability guideline. These nine companies all use the GRI framework for determining the reports’ general format and base content. All of these companies mentioned their adherence to the requirements of the King Report on Corporate Governance for South Africa. Furthermore, of these nine companies:
— five referred to implementing the UNGC’s principles for sustainability reporting (Nedbank, SABMiller, Sasol, Aspen, and BHP Billiton); and
— three referred to the application of the ISO14000 standards (Nedbank, Rand Water and Murray and Roberts).

4.1.4 Since 90% of the companies applied the GRI, the problems with the GRI reporting framework itself, discussed in section 2.4, will most likely carry through to these nine companies’ reports. Most importantly, according to Milne & Gray (op. cit.), the GRI does not guide a company on how to implement the principles necessary to achieve sustainability. Therefore, although, on average, companies are satisfying 88% of the requirements regarding their environmental policy, it is unlikely that they are achieving sustainability.

4.2 Environmental Effects

4.2.1 The most important aspect of environmental sustainability reporting is that companies identify both their positive and negative environmental effects. From Appendix B, it can be seen that only three of the companies successfully did this. Most of the reports identified where the company’s operations contributed positively to the environment but not where the company’s operations damaged the environment. Therefore, a score of 0 was given. Such a result is expected, because environmental sustainability reporting is used by companies to enhance their public image (Knoepfel, 2001) and the GRI framework, which is used by nine of the ten companies, affords companies too much autonomy regarding what they choose to disclose in their sustainability reports.

4.2.2 As mentioned in ¶2.4.3.2, companies use images in their reports to portray that their operations are environmentally sustainable. This supports the findings from the ten reports analysed. Table 3 below shows the number of images that could be interpreted as favourably representing the company’s impacts on the environment.

Table 3 Percentage of positive environmental images in companies’ reports

<table>
<thead>
<tr>
<th>Company</th>
<th>Number of images with environmental theme</th>
<th>Percentage of positive environmentally themed pictures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rand Water</td>
<td>8</td>
<td>75 %</td>
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<td>SABMiller</td>
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</tr>
<tr>
<td>SAA</td>
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<td>100 %</td>
</tr>
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<td>Naspers</td>
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</tr>
<tr>
<td>MTN</td>
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<td>100 %</td>
</tr>
<tr>
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<td>0</td>
<td>0 %</td>
</tr>
<tr>
<td>Sasol</td>
<td>15</td>
<td>33 %</td>
</tr>
<tr>
<td>BHP Billiton</td>
<td>4</td>
<td>100 %</td>
</tr>
<tr>
<td>Murray and Roberts</td>
<td>5</td>
<td>0 %</td>
</tr>
<tr>
<td>Aspen</td>
<td>0</td>
<td>0 %</td>
</tr>
</tbody>
</table>

4.2.3 From Table 3, it is evident that almost all of the companies used images that reflected their environmental effects favourably. This supports the result in ¶4.2.1 that companies disclose their positive environmental effects and not their negative environmental effects. Therefore, companies are not portraying a balanced view as suggested in ¶2.4.3.1. Sasol appears to be portraying a balanced image of its effects, but many of Sasol’s images were altered to portray a more favourable picture. Therefore, these companies use these images to promote their public image. Hahn & Kuhnen (op. cit.) reinforce that corporate accountability cannot be achieved if reporting is driven by strategic considerations. If companies are using the reports to portray a
favourable public image instead of trying to achieve accountability, which is required for sustainability, then it is unlikely that companies will achieve sustainability.

4.2.4 Based on the result from question 6, only half of the companies were able to clearly describe the challenges and opportunities that they face from the environmental effects of their activities. However, the results of questions 6 and 7 highlight a significant contradiction. For question 7, those companies that did not describe the challenges and opportunities that they face regarding their environmental effects—i.e. received a score of 0 for question 6—produced plans on how they intend to correct or prevent these effects going forward.

4.2.5 Although this research does not provide commentary on the detail of the environmental sustainability disclosures, it can be concluded that many of the issues are being addressed superficially. For example, Aspen states that to mitigate the risks that it faces “a review and improvement of health, safety and environmental management systems are receiving focus throughout the Group”. However, there is no evidence to support how these reviews and improvements have been realised. It is this generality that results in environmental sustainability reports being ‘statements of mere intent’ (Kolk, op. cit.) rather than expositions of contributions to environmental sustainability.

4.3 Stakeholders

4.3.1 Almost all of the companies identified their most significant stakeholders. Only BHP Billiton identified local and indigenous communities whose environment is affected by BHP’s operations.

4.3.2 Most of the stakeholders’ views are related to financial or social concerns of the company. Only Sasol included stakeholders’ commentary regarding Sasol’s environmental sustainability issues. The other nine companies either:
— failed to include stakeholder commentary whatsoever; or
— stated that the key issues expressed by stakeholders are of a sensitive nature and can, therefore, not be mentioned in the reports.

Therefore, it is unlikely that stakeholders influence the content of the environmental sustainability reports. This explains the average score of 20% for question 10. If companies are not engaging with stakeholders regarding the effects of the companies’ activities on the environment, then environmental sustainability cannot be achieved (Hahn & Kuhnen, op. cit.).

4.4 Environmental Performance Indicators

4.4.1 Eight of the companies are explicit about the guidelines on which they base their choice of EPIs. Most of the companies use the EPIs proposed by the GRI (Aspen, SABMiller, Sasol, Nedbank, MTN, BHP Billiton, Murray and Roberts, and Rand Water). Moreover, for performance indicators on carbon emissions, the companies refer to the Kyoto and Greenhouse Gas Protocols.
4.4.2 Only two of the ten companies commented properly on the scientific validity, subjectivity and uncertainty of the EPIs. This could be because there is no consensus on how to measure sustainability. In the first place, it is difficult to determine a finite measure of environmental sustainability (Dumay, Guthrie & Farneti, 2010). Secondly, it is difficult to determine whether a company is sustainable or not (Slaper & Hall, op. cit.). Finally, there is little consensus on what sustainability means (Lélé, 1991; Mebratu, 1998; Daly, 1990).

4.4.3 Only two companies compare their EPIs against industry benchmarks to some degree. Naspers states that approximately 44% of its waste was recycled which resulted in an estimated carbon footprint reduction of 194.9 tonnes”. However, this was not measured against an industry benchmark. According to Isaksson & Steimle (op. cit.), the lack of industry benchmarking is preventing environmental sustainability from being achieved. Without such benchmarking, environmental sustainability disclosure are simply “declarative” (Farneti & Guthrie, 2009) in nature with little meaning to report users. If the environmental effects of companies’ activities cannot be compared, then one cannot determine the severity of these effects. In addition, the EPIs given in all companies’ reports were not the ultimate effects (see ¶2.1.8). Sasol and BHP Billiton scored 0.5 for comparing their EPIs against benchmarks because the benchmarks in their reports were set internally.

4.4.4 Finally, there was no linkage between the EPI quantities and how it affected the companies’ progression towards environmental sustainability. This is because the sustainability guidelines, specifically the GRI, encourage companies to employ a tick-box approach to addressing their sustainability issues (Thomson, 2013; van Zyl, op. cit.). Therefore, companies report on the practices that they employ within the reporting period and not on the long-term and system-wide effects of their activities on the environment (see ¶2.1.6).

4.5 Objectives and Targets

4.5.1 For question 20, only three of the ten companies outlined clearly what their objectives and targets are regarding environmental sustainability. However, it was difficult to distinguish the objectives and targets from the environmental missions and values of the companies. The objectives and targets were also vague.

4.5.2 It was also found that most of the companies were unable to produce short-term, medium-term, and long-term environmental sustainability targets. Typically, most of the companies disclose targets for the next reporting period. This is because the reporting on environmental sustainability issues is viewed as analogous to financial reporting (Brown, Dillard & Marshall, op. cit.). Hence environmental sustainability targets are usually one-year targets. This short-term focus is unlikely to achieve sustainability because companies are required to adopt a long-term view of the effects of their activities to achieve sustainability (see ¶2.1.4).
4.6 Assurance

4.6.1 Only five companies’ reports were externally and internally assured namely SABMiller, Nedbank, Sasol, BHP Billiton and Murray and Roberts. These companies’ sustainability reports provide detailed assurance statements from:

- KPMG (BHP Billiton);
- Deloitte and Touche (Nedbank, Murray and Roberts);
- Corporate Citizenship (SABMiller); and
- Environmental Resources Management (Sasol).

4.6.2 It is widely accepted that KPMG and Deloitte and Touche are big audit firms (Ackers, 2009). BHP Billiton, Nedbank, and Murray and Roberts sought external assurance from these big audit firms. There could be a strategic reason for this. These audit firms are well-established in their ability to audit financial information. Therefore, companies use these firms to assure non-financial disclosures. However, on closer inspection, both KPMG and Deloitte and Touche assured BHP Billiton’s, Nedbank’s and Murray and Roberts’s environmental disclosures at a limited level. In contrast, these companies’ financial disclosures were audited at a reasonable level. For most report users, the distinction between “limited assurance” and “reasonable assurance” seems like pure semantics (Ackers, op. cit.). However, this difference is significant. Ultimately, the limited “disclaimer undermines the fundamental objective” of external assurance (Ackers, op. cit.). If the environmental sustainability disclosures have no credence, then the accountability of companies is questionable.

4.6.3 In a study conducted by Boiral (op. cit.), it was found that 18 of 22 externally assured reports from firms in the energy and mining sector were not adhering to all the GRI principles, despite their high ratings according to the GRI framework. BHP Billiton was one of these companies. In BHP Billiton’s 2012 sustainability report, the external auditors note that their involvement in relation to the application of the GRI framework was limited to checking whether the appropriate indicators were reported on. They add that they “do not provide any assurance on the amounts or information presented.” If external mechanisms are not effective at ensuring accountability, it is unlikely that sustainability will be achieved.

4.6.4 The other five companies did not externally assure their non-financial disclosures. Aspen states that “steps are being taken to systematically prepare for external verification of material [key performance indicators] during 2013”.

4.7 Overall Company Scores

4.7.1 From Appendix B, it can be seen that the companies fulfilling most of the criteria in Appendix A are Nedbank, Sasol and BHP Billiton. These companies fulfilled most of the criteria by addressing 91%, 96% and 93% of the core elements in an environmental sustainability report, respectively. Such a result is expected for Sasol and BHP Billiton. Guthrie & Parker (1989) state that those industries associated with greater environmental effects—like the mining and energy industries—tend to have
more experience with reporting on environmental issues. The high score for Nedbank is also expected because Nedbank claims to be the “green and caring bank” committed to incorporating environmental sustainability issues into its business practice. However, ticking all the boxes regarding reporting on the right information does not imply that a company is promoting sustainability. The measurement of the effects outlined in §2.1.4 would assist in determining whether companies are sustainable or not.

4.7.2 Furthermore, Naspers, MTN and Aspen were among the companies that fulfilled the fewest criteria, as shown in Appendix B. According to Kolk (op. cit.), non-industrial companies seem to report on sustainability issues insufficiently because of the lower levels of environmental effects of their operations. On the other hand, MTN and Naspers were constituents of the JSE Socially Responsible Investment Index as at the end of 2012. Therefore, one would expect these companies to have higher levels of disclosure.

4.7.3 SAA is considered to be operating in an industry with higher levels of environmental effects. But it only fulfilled 11% of the criteria. The authors do not suggest that a higher level of information disclosure is synonymous with a company’s progression towards sustainability. The process of using sustainability reporting to demonstrate sustainability is rife with problems as discussed in this paper. However, the disclosures provided in these reports do provide valuable information regarding the practices of companies. Therefore, one would expect that SAA would be more transparent regarding the effects of its activities on the environment. One would also expect more disclosure from Rand Water, SABMiller, and Murray and Roberts because of their dependence on the environment to operate these businesses.

5. CONCLUSIONS

5.1 With the endorsement of the King Report on Corporate Governance for South Africa, the GRI is the most applied and popular sustainability reporting guideline in South Africa. The major problem with the GRI is that it encourages companies to answer a defined set of disclosure items confined to a reporting period. Ultimately, the GRI reduces environmental sustainability to the practices a company implements rather than the long-term and global environmental effects of its activities.

5.2 In section 2.4, the information that environmentally sustainable companies should be disclosing was provided. It must be stressed that a company that successfully answers all of these questions is not necessarily environmentally sustainable. As was mentioned in §5.1, the GRI framework itself does not properly address corporate environmental sustainability. As such, any questions based upon the GRI are unlikely to be satisfactory. However, these guidelines are currently the best available guidelines on how to report on environmental sustainability matters.

5.3 The discussion of the results in section 4 provides evidence to suggest that South African companies analysed in this report are not promoting environmental
sustainability because of their dependence on the GRI framework. Most companies see sustainability as a way to enhance their corporate image. This is evident as almost all companies disclose only those environmental effects and initiatives that reflect positively upon their image. This is exacerbated by the fact that many companies do not externally assure their environmental disclosures. Those that do, however, assure environmental disclosures to a less rigid degree than their financial reports. The analysis and literature also suggest that companies are not setting measurable environmental sustainability targets, because guidelines like the GRI don’t provide guidance on how to measure environmental sustainability. Without measurable targets, environmental sustainability cannot be achieved. It is also very difficult to compare a company’s progress to its competitors if measurable targets cannot be set.

5.4 Therefore, since this paper provides evidence to suggest that companies are not promoting environmental sustainability, which affects their economic sustainability, this has implications for the advice that actuaries give on SRI. In addition, the contradictions in the results relating to some of the companies that belong to the JSE’s Socially Responsible Investment Index cast doubt on whether companies on this index are truly sustainable.

6. **FURTHER RESEARCH**

6.1 A similar approach used in this paper can be used to determine the extent to which social sustainability reporting by South African companies is promoting social sustainability.

6.2 As illustrated in this paper, the information provided in environmental sustainability reports does not demonstrate whether companies are promoting environmental sustainability. Actuaries advising clients on sustainable investing will need to consider the environmental, social and economic sustainability of potential investments. This requires measuring the sustainability of the entities our clients invest in (Reddy & Thomson, op. cit.). As stated by Reddy & Thomson (op. cit.) “if the entities in which an institutional investor is investing are unsustainable then that investor is unsustainable.” This requires measuring the sustainability of our client’s activities (op. cit.). Finally, the effects of unsustainability on economic returns will need to be determined (Reddy & Thomson, op. cit.).

6.3 The triple bottom line framework would be an appropriate framework to use to measure sustainability because it aims to make entities accountable for the effects that their activities have on the environment, on society and on the economy (Elkington, 1997). Reddy & Thomson (op. cit.) propose how the triple bottom line framework can be used for this purpose.
ACKNOWLEDGEMENTS

We the authors would like to acknowledge our debt to Professor Rob Thomson for his contribution to the development of the requirements for sustainability used in this paper. We also acknowledge the help we received from Mr Mark Hayes regarding the contextualising of this research.

REFERENCES


Brown, HS, Jong, M & Levy, DL (2009). Building institutions based on information disclosure: lessons from GRI’s sustainability reporting. Journal of Cleaner Production 17(6), 571–580


Daly, HE (1990). Toward some operational principles of sustainable development. Ecological Economics 2, 1–6


Hahn, R & Kuhnen, M (2013). Determinants of sustainability reporting: a review of results, trends, theory, and opportunities in an expanding field of research. *Journal of Cleaner Production* 59, 5–21


Sethi, SP (2005). Investing in socially responsible companies is a must for public pension funds: because there is no better alternative. Journal of Business Ethics 56(2), 99–129


APPENDIX A: CHECK-LIST
Criteria used to identify the components of a company’s environmental sustainability report

A company should answer the following questions in its environmental sustainability report:

**Environmental Policy**
1. What are the company’s core missions and values regarding environmental sustainability?
2. Has a person or body in a governing position at least acknowledged the sustainability and/or integrated report disclosures?
3. What environmental sustainability or integrated reporting guidelines have been used by the company?

**Environmental Impacts**
4. Have the company’s positive and negative environmental effects been identified?
5. Have the material effects been disclosed?
6. Have the challenges and opportunities from the company’s environmental effects been described?
7. How does the company plan to correct or prevent its environmental effects going forward?

**Stakeholders**
8. Have the key stakeholders been identified?
9. What are their views and expectations regarding environmental sustainability for the company?
10. How has this influenced the content of the report?

**Environmental Performance Indicators**
11. Have both quantitative and qualitative information been disclosed?
12. Has the report disclosed the guidelines on which the EPIs are based?
13. Have both generic and sector-specific EPIs been provided?
14. Are the EPIs that are excluded justified?
15. Have the scientific validity, subjectivity and uncertainty of the EPIs been disclosed?
16. Have the assumptions and data measurement techniques used in producing the EPIs been referred to?
17. Are the EPIs presented in absolute and normalised terms?
18. Have the EPIs been compared against time i.e. at least two periods?
19. Has the information been benchmarked against the industry or more broadly?
**Objectives and Targets**

20. Have targets related to achieving environmental sustainability been set?
21. Have short-, medium- and particularly long-term targets been provided?
22. Has past performance been compared with the targets?
23. Have reasons for over- or under-performance been given?
24. How has past performance shaped future environmental targets and policies?

**Assurance**

25. Have the environmental disclosures been internally and externally assured?
26. Has the company demonstrated how the assurance was objective and competent?
27. Has the level of assurance been stated?
APPENDIX B: COMPANY – QUESTION MATRIX

Scores attained by each company based on checklist in Appendix A

Table B.1 Matrix of each company’s adherence to the checklist in Appendix A

<table>
<thead>
<tr>
<th>Question</th>
<th>Rand Water</th>
<th>SAB Miller</th>
<th>SAA</th>
<th>Naspers</th>
<th>MTN</th>
<th>Nedbank</th>
<th>Sasol</th>
<th>BHP</th>
<th>Murray &amp; Roberts</th>
<th>Aspen</th>
<th>Mean</th>
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