



**Sustainability reports of a multinational mining corporation:
A pilot study**

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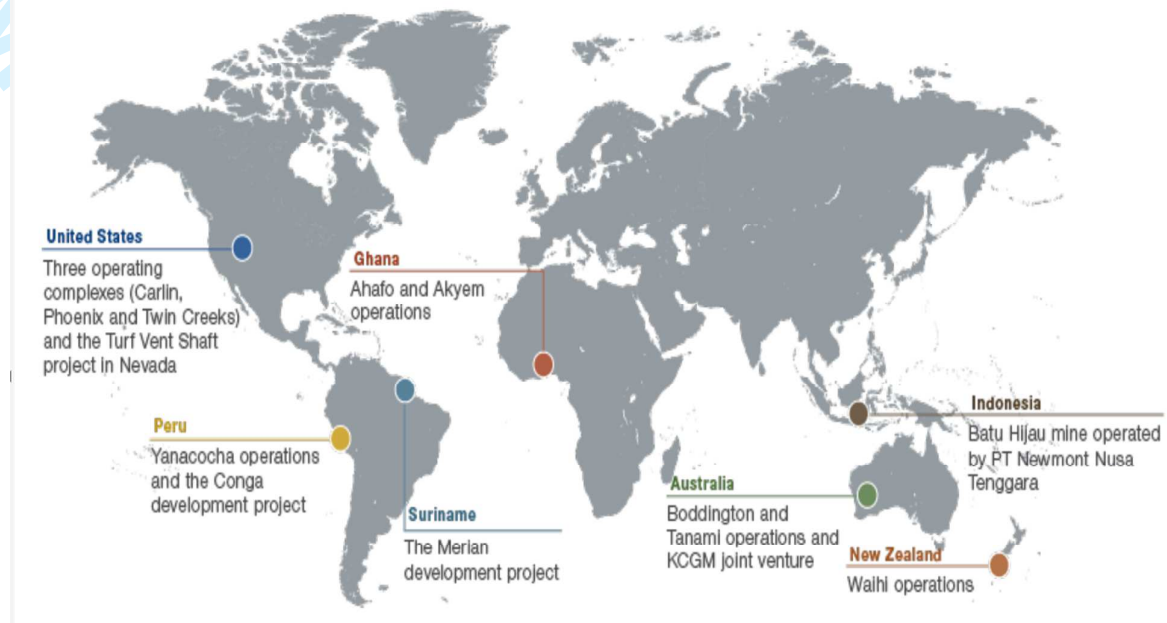
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Figure 1: Locations of Newmont Mining Corporation operations



(Source: Newmont Mining Corporation, 2015)

Table 1: Locations and sizes of Newmont plants across the globe

Year of first operations	Continent	Country	Locations	Employees and contractors	Output (ounces)
2006	Africa	Ghana	* Ahafo	4,400	442,000
2013	Africa	Ghana	Akyem	2,000	472,000
1999	Asia	Indonesia	* Batu Hijau	5,700	37,000
2009	Australasia	Australia	* Boddington	2,000	696,000
1983	Australasia	Australia	Tanami	950	345,000
1989	Australasia	Australia	Kalgoorlie	1,000	329,000
1965	N. America	USA	* Twin Creeks, NV	5,100	1,500,000
	N. America	USA	Carlin, AZ		
1993	S. America	Peru	* Yanacocha	6,800	498,000

(Source: Newmont, 2015)

Table 2: Economic aspects reported

Aspects	Narrative					Physical					Monetary				
	Africa	Asia	Austr.	N.Am.	S.Am.	Africa	Asia	Austr.	N.Am.	S.Am.	Africa	Asia	Austr.	N.Am.	S.Am.
Economic performance	■	▨	▩	□	▩	■	▨	▩	□	▩	■	▨	▩	□	▩
Market presence	■	▨	▩	□	▩	■	▨	▩	□	▩	□	□	□	□	□
Indirect economic impacts	■	▨	▩	□	▩	■	▨	▩	□	▩	■	□	▩	□	□
Procurement practices	■	□	▩	□	□	□	□	□	□	□	□	□	□	□	□

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Table 3a: Environmental aspects reported – Material Inputs

Aspects	Narrative					Physical					Monetary				
	Africa	Asia	Austr.	N.Am.	S.Am.	Africa	Asia	Austr.	N.Am.	S.Am.	Africa	Asia	Austr.	N.Am.	S.Am.
Raw materials	█	▨	▩	░		█	▨	▩		▩					
Auxiliary materials	█	▨	▩	░		█	▨	▩							
Packaging materials					▩										
Operating materials	█	▨	▩	░		█	▨	▩	░						
Water	█	▨	▩	░	▩	█	▨	▩	░	▩					
Energy	█	▨	▩	░		█	▨	▩		▩					

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Table 3b: Environmental aspects reported – Material Outputs (product)

Aspects	Narrative					Physical					Monetary				
	Africa	Asia	Austr.	N.Am.	S.Am.	Africa	Asia	Austr.	N.Am.	S.Am.	Africa	Asia	Austr.	N.Am.	S.Am.
Products (including packaging)	█	▨	▩	░	▧	█	▨	▩	░	▧	█	▨	▩	░	▧
By-products (including packaging)	█	▨	▩	░	▧	█	▨	▩	░	▧					

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Table 3c: Environmental aspects reported – Non-product Outputs

Aspects	Narrative					Physical					Monetary				
	Africa	Asia	Austr.	N.Am.	S.Am.	Africa	Asia	Austr.	N.Am.	S.Am.	Africa	Asia	Austr.	N.Am.	S.Am.
Solid waste	█	▨	▩	░	▩	█		▩	░	▩					
Hazardous waste	█	▨	▩	░	▩			▩	░	▩					
Wastewater	█	▨	▩	░	▩	█		▩		▩					
Air emissions			▩	░	▩			▩		▩					
Noise emissions	█		▩	░	▩			▩		▩					
Biodiversity	█	▨	▩	░	▩	█		▩	░	▩					▩
Compliance	█	▨	▩	░	▩										
Transport	█		▩	░				▩		▩					▩
Supplier environmental assessment															
Environmental grievance mechanisms	█	▨	▩	░	▩					▩					

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Table 4a: Social aspects reported – Labour practices reported

Aspects	Narrative					Physical					Monetary				
	Africa	Asia	Austr.	N.Am.	S.Am.	Africa	Asia	Austr.	N.Am.	S.Am.	Africa	Asia	Austr.	N.Am.	S.Am.
Employment	■	▨	▩		▩	■	▨	▩		▩			▩		
Labour / management relations	■	▨	▩		▩			▩		▩			▩		
Occupational health and safety	■	▨	▩	■	▩	■		▩		▩	■		▩		▩
Training and education	■	▨	▩	■	▩	■		▩	■	▩	■		▩	■	▩
Diversity and equal opportunity	■	▨	▩		▩			▩		▩					
Equal remuneration for women and men	■	▨	▩		▩			▩		▩					
Supplier assessment for labour practices					▩					▩					
Labour practices grievance mechanisms	■	▨	▩		▩					▩					

Table 4c: Social aspects reported – Societal reporting

Aspects	Narrative					Physical					Monetary				
	Africa	Asia	Austr.	N.Am.	S.Am.	Africa	Asia	Austr.	N.Am.	S.Am.	Africa	Asia	Austr.	N.Am.	S.Am.
Local communities	■	▨	▩	■	▩	■		▩	■	▩	■		▩	■	▩
Anti-corruption		▨	▩		▩										
Public policy	■	▨	▩	■	▩										
Anti-competitive behaviour															
Compliance	■	▨	▩	■	▩										▩
Supplier assessment for impacts on society			▩		▩			▩		▩			▩		
Grievance mechanisms for impacts on society	■	▨	▩		▩					▩					
Emergency preparedness	■	▨	▩	■	▩										
Artisanal and small-scale mining															
Resettlement	■					■					■				
Closure planning	■		▩	■	▩			▩					▩		

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Appendix 1: United Nations Division for Sustainable Development Index

Environmental cost/expenditure categories	Environmental media									
	Air / Climate	Waste water	Waste	Soil / Groundwater	Noise / Vibration	Biodiversity / Landscape	Radiation	Other	Total	Source document
1. Waste and emission treatment										
1.1. Depreciation for related equipment										
1.2. Maintenance and operating materials and services										
1.3. Related personnel										
1.4. Fees, taxes, charges										
1.5. Fines and penalties										
1.6. Insurance for environmental liabilities										
1.7. Provisions for clean-up costs, remediation										
2. Prevention and environmental management										
2.1. External services for environmental management										
2.2. Personnel for general environmental management activities										
2.3. Research and development										
2.4. Extra expenditure for cleaner technologies										
2.5. Other environmental management costs										
3. Material purchase value of non-product output										
3.1. Raw materials										
3.2. Packaging										
3.3. Auxiliary materials										
3.4. Operating materials										
3.5. Energy										
3.6. Water										
4. Processing costs of non-product output										
Total Environmental expenditure										
5. Environmental revenues										
5.1. Subsidies, awards										
5.2. Other earnings										
Total Environmental revenues										

(Source: UNDSO, 2001)

Appendix 2: Global Reporting Initiative Index – Mining and Metals Sector

Category	Economic	Environmental			
Aspects	Economic Performance Market Presence Indirect Economic Impacts Procurement Practices	Materials Energy Water Biodiversity Emissions Effluents and Waste Products and Services Compliance Transport Overall Supplier Environmental Assessment Environmental Grievance Mechanisms			
Category	Social				
Sub-Categories	Labor Practices and Decent Work	Human Rights	Society	Product Responsibility	
Aspects	Employment Labor/Management Relations Occupational Health and Safety Training and Education Diversity and Equal Opportunity Equal Remuneration for Women and Men Supplier Assessment for Labor Practices Labor Practices Grievance Mechanisms	Investment Non-discrimination Freedom of Association and Collective Bargaining Child Labor Forced or Compulsory Labor Security Practices Indigenous Rights Assessment Supplier Human Rights Assessment Human Rights Grievance Mechanisms	Local Communities Anti-corruption Public Policy Anti-competitive Behavior Compliance Supplier Assessment for Impacts on Society Grievance Mechanisms for Impacts on Society Emergency Preparedness Artisanal and Small-scale mining Resettlement Closure Planning	Customer Health and Safety Product and Service Labeling Marketing Communications Customer Privacy Compliance Materials Stewardship	

(Source: GRI, 2015)

ABSTRACT

Purpose

– Environmental reporting serves as a means of communication between organisations and their stakeholders on sustainability issues. This study identifies which aspects of sustainability are reported by the leading plant sites of a multinational mining firm operating on five continents. It further identifies disclosure variations by comparing and contrasting the sustainability information on the different plant sites with each other and with the parent company.

Design/methodology/approach

– This study uses the triple bottom line reporting elements of the Global Reporting Initiative and the United Nations Division for Sustainability Development to benchmark the sustainability information found on the websites of a multi-national mining firm's largest plant sites on five continents: Africa, Asia, Australasia, and North and South America.

Findings

– It was discovered that the leading sites in Australia, South America and Africa produced more reports than the Asian and North American leading sites. Similar to findings from a previous study, most of the reports were in narratives with few physical measures and very limited monetary information. With the exception of the leading site in Asia, all the plant sites had the same headings but the contents of reports differed.

Originality/value

– Studies on sustainability and environmental reporting have mainly focussed on manufacturing and a few on service delivery organisations, ignoring the mining sector in spite of the effects of the mining industry's activities on the environment. This study provides an empirical insight into the sustainability and environmental reports of a multinational mining firm.

Key words: sustainability reports, mining industry, continents, triple bottom line reporting, content analysis.

1. Introduction

Deegan and Rankin (1997) claim that since the late 1980s there has been a rise in awareness of the environmental repercussions of doing business. This has led to the concept of sustainability becoming increasingly relevant globally and arguably has led to changes in the business world (Moneva *et al.* 2006; Perego, 2009; Mori Junior *et al.*, 2014). Thus, stakeholders of companies can no longer ignore sustainability and the environmental agenda since they affect operations and finances of businesses. According to Rondinelli and Berry (2000), many multinational corporations have voluntarily initiated environmental programmes to directly address public concerns about the possible environmental impacts of their plants, facilities, and operations. These environmental programmes are expected to improve local economic, environmental, and social conditions.

Although Azapagic *et al.* (2004) argue that minerals are essential to human life and vital raw materials in a large number of industries, the extraction and processing of minerals are associated with a number of sustainability and environmental challenges, including various economic, environmental and social issues (Bebbington *et al.*, 2008; Jaskoski, 2011). These include depletion of non-renewable resources, disturbance of the landscape, environmental conflicts, and threats to the health and safety of workers and communities (Azapagic *et al.*, 2004; Bebbington *et al.*, 2008; Jaskoski, 2011). Van Berkel (2000) argues that the expectations of society regarding the mining and metals industry extend beyond just running operations with minimal environmental impact, and rehabilitating processing sites when mining ends, to making a positive contribution in reducing the burden of its activities on the global environment (in areas such as climate change, depletion of natural resources and loss of biodiversity). Azapagic *et al.* (2004) claim that these and other issues have impelled the mining and minerals industry to engage in various sustainability debates and to start developing strategies for addressing the challenges of sustainable development. For example, Perez and Sanchez (2009) establish that mining companies are pioneers in the production of environmental reports and that "Noranda, a Canadian mining and metals company, released its first report in 1991 and then reported annually" (p. 3).

Conventional accounting, with its focus on financial performance, has been accused of not providing adequate information to properly support decision-making on environmental management duties (see for example, Milne, 1996; Shleifer and Vishny, 1997; Bebbington *et*

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3 *al.*, 2001; Schaltegger *et al.*, 2013). Consequently, Environmental Accounting, also known as
4 Sustainability Accounting, came into being (Milne, 1996; Birkin, 1996). Environmental
5 accounting supplements financial reports with information on environmental and social
6 impacts and results (i.e., the three "bottom lines" – economic, environmental and social).
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10 The development and focus of sustainability-related reporting has been evolving (Fifka and
11 Drabble, 2012; Kolk, 2010), with Lozano and Huisingh (2011) claiming that it is an
12 important factor contributing to corporate sustainability. Several authors note that mining
13 corporations are preparing triple bottom line sustainability reports in order to show
14 stakeholders what they are doing and to foster good community relations (see, for example,
15 Murguía and Böhling, 2013; Jenkins and Yakovleva, 2006; Marimon *et al.*, 2012). Similarly,
16 Warhurst (2001) believes that environmental, social, or sustainability reporting enables
17 mining companies to communicate their environmental policies and achievements.
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20 A considerable amount of research has already been conducted on sustainability reporting in
21 different industries and countries (such as Jasch, 2006a, 2006b; Hackston and Milne, 1996;
22 Albelda, 2011; Doorasamy and Garbharran, 2015). However there has been little focus on the
23 mining and metal sector, even though mining is one of the industries most likely to affect the
24 environment (Schueler *et al.*, 2011; Bland, 2014), leaving indelible environmental, social and
25 economic foot prints wherever it is found (World Bank, 2002). The few sustainability
26 reporting studies in the mining sector focus on issues such as trends in social and
27 environmental disclosure (Kolk, 2003; Jenkins and Yakovleva, 2006), the requirements for
28 and barriers to strengthening sustainability reporting among mining corporations (Fonseca,
29 2010), the assurance of sustainability reports (Mori Junior *et al.*, 2014), and sustainability
30 reporting on large-scale mining conflicts (Murguía and Böhling, 2013). Some recent studies
31 critique the Global Reporting Initiative (GRI) approach to sustainability reporting in the
32 mining sector (Fonseca *et al.*, 2014). These studies mainly applied quantitative techniques
33 and the focus has been on the sustainability reports produced by parent companies and not by
34 the individual mining plant sites. In examining what a mining firm reports from two different
35 plant sites in Ghana, [the authors] (2015) found the content of the sustainability reports
36 differs between the two sites even though the websites had the same headings. This study
37 extends that research, looking at what is reported on the websites of the largest plant site on
38 each continent in which Newmont Mining Corporation is operating, using the reporting
39 elements of the United Nations Division for Sustainability Development (UNSD) and the
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3 GRI indexes as benchmarks. The contents of sustainability external reports by the five plant
4 sites on different continents are compared and contrasted with each other and with the parent
5 company. The findings point to further opportunities for research on sustainability accounting
6 in the mining sector.
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10 11 **2. Sustainability Reporting** 12

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14 Sustainability reporting (also called environmental, triple bottom line, corporate
15 responsibility, or corporate citizen reporting) is a broad term for reporting on economic,
16 environmental, and social impacts of business operations. It is defined by the GRI (2015) as
17 "a process that assists organizations in setting goals, measuring performance and managing
18 change towards a sustainable global economy – one that combines long term profitability
19 with social responsibility and environmental care" (p. 85). The corporate sustainability report
20 is said by Warhurst (2001) and Milne and Gray (2013) to be a medium a company uses to
21 manage and control corporate activities and support communication with stakeholders,
22 especially those interested in environmental and social issues. KMPG (2015) posits that
23 "companies are getting better at reporting the environmental and social trends and risks that
24 affect their businesses" (p. 5), with over 90 percent of the 250 largest companies in the world
25 producing corporate responsibility reports.
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35 Sustainability reports contain both qualitative information, in narratives, and quantitative
36 measures of economic, environmental and social performance. Quantitative information may
37 be expressed in monetary or physical terms. Monetary sustainability information includes
38 environment-related costs, earnings and savings. Physical information includes the use, flows
39 and destinations of energy, water and materials, including waste (IFAC, 2005).
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44 In 2001 the United Nations developed a framework focusing on techniques for quantifying
45 environmental expenditures or costs as a basis for the development of national sustainability
46 accounting guidelines and frameworks. Covering only the environmental (ecological) aspect
47 of sustainability, the UNDSO framework recommends that two main types of sustainability
48 information be reported: physical and monetary (see appendix 1).
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53 The GRI was established in 2007 by a group of environmental organizations and social
54 investors to establish a permanent institutional stewardship organization for the continuing
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3 development of Guidelines for sustainability reporting (GRI, 2015). It published its first
4 guideline for preparing sustainability reports in 2000 and its newest revised version, known
5 as "G4", was recently published (GRI, 2015). The GRI index "remains the most popular
6 voluntary reporting guideline worldwide" (KPMG, 2015, p. 5) and is currently the benchmark
7 in several sectors (Fonseca *et al.*, 2011; KPMG, 2015).
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12 In order to evaluate the reporting of the mining company examined in this research, the
13 elements of both the UNDS and the GRI indexes are grouped together under the three
14 bottom line categories, noting if and how the case company sites report on each element.
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18 19 **3. Literature review**

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21 Some studies on sustainability reporting have indicated a positive influence of foreign
22 ownership on the level of sustainability reporting (such as Cormier and Magnan, 2004;
23 Haniffa and Cooke, 2005). These studies claim that due to the need to reduce information
24 asymmetry, sustainability reporting is used by foreign business owners. In contrast, Da Silva
25 Monteiro and Aibar Guzmán (2010a,b) and Ertuna and Tukul (2010) found that there is no
26 relationship between the level of sustainability reporting and foreign ownership.
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32 The relationship between firm characteristics and sustainability reporting has also been
33 studied. Buhr and Freedman (2001) report that geography, history, the political and legal
34 system as well as the business climate are likely to influence reporting of firms. Albelda
35 (2011), KPMG (2015) and Doorasamy and Garbharran (2015) also confirm that reporting is
36 to a certain extent country and industry variant. KPMG (2015) claims that "the main driver
37 for CR [corporate responsibility] reporting continues to be legislative: there is a growing
38 trend of regulations requiring companies to publish non-financial information" (p. 30).
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46 Bouma and Wolters (1998) found that smaller firms are less likely to use accounting
47 information for accomplishing their environmental targets than larger firms. In explaining
48 this finding, some authors argue that bigger firms need to comply with regulations more than
49 small and medium sized companies and that larger companies cause greater impacts, are
50 more visible, and therefore face greater stakeholder scrutiny and pressure (Ross and
51 Kovachev, 2009; Gallo and Christensen, 2011). However, Choi (1998), Frost and
52 Wilmshurst (1998) and Ferreira *et al.* (2010) argue that sustainability accounting
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3 implementation and reporting has not much to do with the size of a company, but rather the
4 type of industry it relates to. The latter authors agree that the more environmentally sensitive
5 an industry is, the more substantial its environmental reporting as shareholders are more
6 concerned about environmental information for decision making. Parsa and Kouhy (2008)
7 and Sotorrío and Sánchez (2010) also agree with these assertions, adding that companies in
8 industries with high social and environmental impacts may need to engage in sustainability
9 reporting in order to respond to sector-specific stakeholder pressure.
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15 Other determinants of the extent of sustainability reporting include a high level of
16 indebtedness, leverage, or gearing (e.g., Cormier and Magnan, 2003; Stanny and Ely, 2008);
17 information cost (e.g., Cormier and Magnan, 2003); disclosure to retain competitive
18 advantage (e.g., Daub, 2007) and to retain employees (e.g., Welford and Frost, 2006); and
19 sustainability reporting as a risk reduction device (e.g., Welford and Frost, 2006; Unerman,
20 2008; Spence, 2009).
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27 Several environmental accounting researchers have investigated companies that belong to
28 environmentally sensitive industries, such as mining, chemical, energy, petroleum, utilities,
29 motor vehicle, and resource companies (Bebbington *et al.*, 1994; Neu *et al.*, 1998; Kolk *et al.*,
30 2001; Brammer and Pavelin, 2004). Patten (1992) explains that these industries disclose more
31 environmental information in their annual reports as a result of the sensitive nature of their
32 activities. Some authors have also argued that it is one thing to report on sustainability but
33 another thing to act sustainably (e.g., Deegan and Rankin, 1997; Font *et al.*, 2012; Milne and
34 Gray, 2013). In support of this argument, Cho *et al.* (2012) found a negative relationship
35 between environmental performance and the level of environmental disclosure, concluding
36 that "worse performing companies make more extensive disclosures" (p. 10). In contrast to
37 these findings, others have argued that companies with good social or environmental
38 performance tend to report more (e.g., Belkaoui and Karpik, 1989; Gelb and Strawser, 2001;
39 Clarkson *et al.*, 2008).
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50 Realising that the first generation of environmental performance reports contained large
51 volumes of inconsistent and unverified information, White (1999) encouraged a common
52 reporting approach. Similarly, Perez and Sanchez (2009) establish that even though there is a
53 clear evolution in the comprehensiveness and depth of sustainability reports, with context,
54 commitment and social performance scoring high marks and regular improvement, there is
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3 still room for improvement in accessibility, and assurance of environmental and economic
4 performance. Similarly, Mori Junior *et al.* (2014), in exploring trends in social and
5 environmental disclosure and the extent of sustainability assurance, found that, although all
6 the organizations they analysed provided some type of information in relation to their social
7 or environmental performance on their official website, not all of them provided assurance,
8 such as auditing, of their sustainability reports.
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14 The level of sustainability disclosure has been partly attributed to cultural issues surrounding
15 a company. Carels *et al.*, (2013) show how sustainability reporting serves as a managing
16 device of stakeholder expectation and conclude that corporate governance developments and
17 the “integrated reporting project have gone hand-in-hand with an increase in the level of
18 disclosures and the extent to which these disclosures are integrated in corporate reports” (p.
19 957). However, Mathews (2004) and Carels *et al.* (2013) argue that there is no guarantee that
20 all organisations perceive integrated reporting as a meaningful medium for stakeholder
21 dialogue. In addition, Khelif *et al.* (2015b) states that “individualism, masculinity and long-
22 term orientation moderate the relationship between profitability and corporate social
23 environmental disclosures” (p. 313). In addition, Maroun (2015a), studying the relationship
24 between corporate social environmental disclosures and financial measures, discovered that
25 in different jurisdictions the sustainability reporting levels are affected by the importance of
26 corporate governance systems, differing accounting standards, the use of fair value measures,
27 and the relevance to the users of corporate reports.
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38 The KPMG report (2013) states that "CR reporting is now undeniably a mainstream business
39 practice worldwide, undertaken by almost three quarters (71 percent) of the 4,100 companies
40 surveyed in 2013" (p. 10) and the "use of Global Reporting Initiative (GRI) guidelines is
41 almost universal" (p. 11). In terms of who produces quality reports, they state that "large
42 companies in the electronics and computers, mining and pharmaceuticals sectors produce the
43 highest quality CR reports" (p. 13). However, academic studies express doubt about the
44 quality of sustainability reports, claiming that the content of sustainability reports may differ
45 from what is actually happening (e.g., Morhardt *et al.*, 2002; Sinclair and Walton 2003;
46 Chapman and Milne 2004; Morhardt , 2010; Milne and Gray, 2013). Cho *et al.* (2012) claim
47 that “the higher levels of environmental disclosure appear to mediate the potential negative
48 effects of poorer performance on environmental reputation” (p. 23).
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3 In regard to the mining sector, de Villiers and Alexander (2014) examined corporate social
4 responsibility reporting structures in Australia and South Africa by a comparison of the
5 disclosures in the two countries with different social issues. They conclude that even though
6 there are common trends in corporate social responsibility reporting in diverse settings,
7 differences exist in the content of corporate social responsibility reports at a more detailed
8 level. Perez and Sanchez's (2009) studies of four mining companies over a period of six years
9 discovered that "all companies improved their sustainability reports in terms of form,
10 comprehensiveness and depth" and that "there is a general trend toward improvement and
11 adherence to best practices of reporting guidelines." (p. 10). Jenkins and Yakovleva (2006)
12 conclude that whilst there is evidence of increasing sophistication in the development of
13 social and environmental disclosure in the global mining industry, the maturity of reporting
14 content and styles vary considerably. Guenther *et al.* (2006) reviewed GRI-style reports of 29
15 mining firms and discovered that only three elements of the GRI (water use, noncompliance
16 and direct energy use) are completely reported; indicators of air emissions, spills, indirect
17 energy use for products, greenhouse gas emissions, and total amount of land use are included
18 in more than 50% of the reviewed reports. Murguía and Böhling (2013) carried out a content
19 analysis of sustainability reporting on large-scale mining conflicts assessments, revealing that
20 environmental and economic indicators are the most contentious and least reported. Fonseca
21 (2010) and Fonseca *et al.* (2014) outline specific changes that should be promoted in mining
22 corporations' frameworks if their reports are to provide meaningful and accurate information
23 about sustainability progress. The authors recommend a more systematic consideration of
24 items such as site-level performance, scenario building, and legacy effects. They further
25 argue that meaningful and reliable standardized disclosures of contributions to sustainability
26 are unlikely to emerge any time soon, and that the geographical dispersion of mining
27 facilities are immense barriers to the contextualization of sustainability evaluations.
28 Similarly, [the authors of this paper] found that the content of the sustainability reports of two
29 plant sites of a mining firm operating in Ghana differs considerably, despite the websites
30 having the same headings. Consequently, the researchers extend the research in this paper to
31 answer the following questions:
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52 i. What aspects of sustainability are externally reported by five plant sites of Newmont
53 Mining Corporation, compared to the UNDS and the GRI reporting elements?
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- 3 ii. How do the contents of sustainability external reporting by these five plant sites on
- 4 different continents compare and contrast with each other and with the parent
- 5 company?
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- 8 iii. What further opportunities are there for research on sustainability accounting in the
- 9 mining sector?
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11 **4. Theoretical framework**

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13 Scott (2005) states that institutionalisation is the process “by which structures, including

14 schemas, rules, norms, and routines, become established as authoritative guidelines for social

15 behavior” (p. 2). Thus, a particular way of doing things can be regarded as institutionalised

16 and deviations from the accepted way are likely to result in social sanctions or loss of

17 legitimacy (Streeck and Thelen, 2005). DiMaggio and Powell (1983) describe three

18 institutional isomorphic forces: mimetic, coercive, and normative. Mimetic isomorphism is a

19 response in which organisations imitate other firms that they view to be more legitimate and

20 successful (DiMaggio and Powell, 1983; DiMaggio, 1988). In such situations, companies

21 follow early adopters from the same sector if they are uncertain about new technology, often

22 resulting in adoption as a "fashion" (Xiao *et al.*, 2004). Most mining firms are now

23 conforming to the reporting requirements of the GRI voluntarily (KPMG, 2013) and this is

24 might be seen as a fashion. Coercive isomorphism refers to companies being forced into a

25 course of action. According to Carpenter and Feroz (1992), coercive isomorphism results

26 from political influence and problems of legitimacy. Bogdan *et al.* (2009) argue that “formal

27 and informal pressures will be exerted on the organization by other organizations or by

28 cultural expectations in the society in which the organization is a member” (p. 772).

29 Legislation relating to mining company practices and disclosures in different countries may

30 be sources of coercive pressure (de Villiers and Alexander, 2014). Normative isomorphism

31 refers to the professionalisation of norms (Haveman, 1993; Suddaby and Viale, 2011; Walls

32 and Hoffman, 2013) by the setting of standards and homogenous organizational routines to be

33 followed (Xiao *et al.*, 2004). DiMaggio and Powell (1983) explained that there are two

34 features of professionalisation: through formal education (e.g. universities and polytechnics)

35 which advocates the adoption of innovation, and through the establishment and expansion of

36 professional networks (e.g. GRI, UNDS and ICCM) across which new models might

37 diffuse rapidly (Bogdan *et al.*, 2009). Sustainability reporting patterns are potentially

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3 influenced by each of the three types of isomorphic forces (Villiers and Alexander, 2014).
4 Although it has been found that all three types of isomorphic force in most cases do apply
5 concurrently (Tuttle and Dillard, 2007, de Villiers and Alexander, 2014), the degree of its
6 prevalence in CSR reporting remains highly contested at transnational level (Brammer, *et al.*,
7 2012).
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11 12 **5. Overview of Newmont Mining Corporation**

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14 Newmont Company was founded in 1916 as a holding company for private acquisitions in oil
15 and gas, mining and minerals enterprises (Newmont Mining Corporation, 2015). Newmont,
16 headquartered in Denver, is the world's second largest gold miner in terms of output (4.85
17 million attributable ounces of gold in 2014), with approximately 28,000 employees and
18 contractors operating in five on different continents (Ghana in Africa, Indonesia in Asia,
19 Australia, the United States in North America and Peru in South America). The multinational
20 mining firm has publicly traded on the New York Stock Exchange since 1940 and has spent a
21 century primarily in the natural resources industry mining gold, silver, lead, zinc, lithium
22 copper, uranium, coal, nickel as well as even developing oil and gas (Mining.com, 2015;
23 Newmont Mining Corporation, 2015).
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33 Out of the several multinational mining firms, Newmont was chosen as a case study because
34 it has lot of mining experience and a reputation for sustainability. Newmont was the first gold
35 mining company selected to join the Dow Jones Sustainability World Index, in 2007, and for
36 the past eight years it has been included on this index which is based on a rigorous analysis of
37 corporate economic, environmental and social performance (The Herald Team, 2013;
38 Newmont Mining Corporation, 2015). As a member of the International Council on Mining
39 and Metals and to maintain inclusion on the Dow Jones sustainability index, the Newmont
40 Mining Corporation parent company reports on sustainability in accordance with a number of
41 voluntary initiatives, including the GRI. Figure 1 shows the locations and approximated
42 output of Newmont Mining Corporation operational sites as at December 2014.
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53 The largest plant on each continent, in terms of employees, was selected from the nine plants
54 operated by Newmont (see table 1 – selected plants indicated with an asterisk).
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[insert Table 1 about here]

Findings are presented in tabular format for ease of comparison and benchmarking with each table presenting a category or sub-category of sustainability data (economic, environmental or social). Each table has four main columnar sections with details in this order: aspects that fall under that category; and whether information on sustainability was found in the narrative or in physical or monetary measures (see tables below). In the "aspects" columns are the elements of sustainability recommended by the UNDSO and the GRI combined. If an aspect of sustainability was found on any page of the website or in the documents accessed, be it in narrative, physical or monetary form, the appropriate cell was shaded for African, Asian, Australian, North American and South American sites respectively. This analysis of the content of corporate environmental performance reports was not meant to be comprehensive or exhaustive, or to measure quantitatively environmental citizenship activities. Rather the review sought to illustrate the diversity and scope of a multinational corporation's sustainability reports at the plant level. Daub (2007) and Morhardt (2010) assigned weights to categories and topics of the GRI, thus deriving a "final mark" for each report. Our approach is simpler, noting whether an aspect is reported somewhere on the website, and including aspects from both the UNDSO and the GRI frameworks combined.

6. Data and Method

The technique of content analysis is used in this study to determine the extent of reporting of the economic, environmental and social performance of the plant sites. Parker (2005) found content analysis to be the dominant research method for collecting empirical evidence on accounting reporting. Content analysis is a research method for analysing written, verbal or visual communication messages in order to build up a model, a conceptual system, a conceptual map or categories, and/or to describe the phenomenon under consideration (Krippendorff, 1980; Vaismoradi *et al.*, 2013; Lodhia 2014 Bebbington *et al.* 2014). Hsieh and Shannon (2005) differentiate three approaches to content analysis: conventional, directed, or summative. In conventional content analysis, coding and categories are derived directly from the text data. In a directed approach, analysis starts with a theory or relevant research findings as guidance for initial codes. A summative content analysis involves counting and comparisons, usually of keywords or content, and then the interpretation of the essential context. In this study, the researchers used a directed approach to content analysis and there

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3 was no attempt to count or score the presence of sustainability information in the on the
4 websites. Elements of the UNDS and the GRI indexes in the text and linked documents on
5 the websites of five plant sites of a multinational mining company, Newmont Mining
6 Corporation were used as guidance. In total, about 150 web pages and 95 documents were
7 examined. The content of these websites were then compared to the elements in the UNDS
8 and the GRI.
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11 Findings are presented in tabular format for ease of comparison and benchmarking. Each
12 table presents one category/sub-category of sustainability data (economic, environmental or
13 social). For ease of presentation, the environmental and social categories and were broken
14 down into sub-categories and presented in different tables (see tables 3-4). Each table has
15 four main columns with details in this order: aspects that fall under that category; and
16 whether information on sustainability was found in the narrative or in physical or monetary
17 measures (see tables 1-4). Under each main column are sub-columns for the five leading
18 plant sites on each continent. When any of the elements are found on the websites, the
19 columns matching these elements were shaded to designate the presence of such
20 sustainability data on a particular plant website as well as the nature of such information
21 (narrative, physical or monetary).
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33 **7. Results**

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35 The economic aspect of sustainability covers economic performance, market presence;
36 indirect economic impacts and procurement practices (see Table 2). All plant sites reported
37 on economic performance, market presence and indirect economic impacts of operations in
38 both the narrative sections of their websites and in physical measures. All plant sites reported
39 on economic performance in monetary terms. Sites in Africa, Australia and North America
40 provided monetary measures of indirect economic impacts on the environment. Only the
41 plant sites in Africa and Australia mentioned procurement activities, and these only in
42 narratives.
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51 [insert Table 2 about here]
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53 See Table 3a for reporting of environmental aspects of material inputs. Material inputs
54 include raw, auxiliary, packaging and operating materials, plus water and energy. With the
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3 exception of the South American plant site, all the sites had narrative comments on raw
4 materials, auxiliary materials, operating materials, water, and energy consumption. The South
5 American site mentioned packaging materials and water inputs in their narratives. Physical
6 measures were given for water inputs by all sites; for operating material inputs by all except
7 the South American site; for raw material inputs and energy usage by all except the North
8 American site; and for auxiliary material by the sites in Africa, Asia and Australia. None of
9 the plant sites reported on raw material inputs in monetary terms.
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15 [insert Table 3a about here]
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18 On finished products, there were detailed reports by all plants sites in narrative, physical and
19 monetary terms (see Table 3b). Furthermore, narrative reports were available on by-products
20 (such as copper and silver). The African, Asian and Australian sites provided physical
21 measures of by-products. None of the plant sites reported monetary measures of the by-
22 products.
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27 [insert Table 3b about here]
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30 Non-product outputs are listed in Table 3c. All plant sites reported narratively on solid waste,
31 hazardous waste, wastewater, compliance, biodiversity and environmental grievance
32 mechanisms. On air and noise emissions, all plant sites reported narratively except the Asian
33 site. All except the Asian site reported in physical measures on solid waste and biodiversity.
34 Some of the sites gave physical measures for hazardous waste, waste water, air emissions,
35 noise emissions and transport. The Asian site did not report any physical measures. Apart
36 from the South American site which provided monetary reports on biodiversity and transport,
37 no monetary reports on waste and emissions were found.
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44 [insert Table 3c about here]
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47 Labour practices include aspects listed in Table 4a. All sites reported on occupational health
48 and safety and training and education in narrative sections. All except the North American
49 site also reported narratively on employment, labour/management relations, diversity and
50 equal opportunity, equal remuneration for women and men, and labour practices grievance
51 mechanisms. Only the South American plant site reported on the supplier assessment for
52 labour practices, both in the narratives and in physical measures. The South American plant
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3 site reported in physical measures on all aspects of labour practices, and the Australian plant
4 site on all except supplier assessment for labour practices and labour practices grievance
5 mechanisms. The other sites had few physical measures. For reports in monetary terms, the
6 Australian plant site reported on four aspects; the Africa and American sites on one or two;
7 and the Asian site on none.
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12 [insert Table 4a about here]
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15 Social aspects to do with human rights are listed in Table 4b. In narrative reports, the
16 Australia and the South America sites reported on all the aspects of human rights in the GRI,
17 and the African site on all except supplier human rights assessment. The Asian site also
18 reported narratively on many of the human rights aspects, but the North American site only
19 mentioned investment in human rights in the narratives. The Asian and North American sites
20 did not produce physical measures of human rights, and the other sites had few physical
21 measures. All except the Asian site provided monetary measures of investment in human
22 rights.
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29 [insert Table 4b about here]
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32 Social aspects to do with the societies in which mining firms are operating are listed in Table
33 4c. All plant sites reported narratively on local communities, public policy, compliance, and
34 emergency preparedness; and all except North America on grievance mechanisms for impacts
35 on society. However no site reported on anti-competitive behaviour and artisanal and small-
36 scale mining; and only the African site reported on resettlement. With the exception of the
37 Asian site, all the sites reported physical and monetary measures of investment in local
38 communities. There were few other physical and monetary measures found.
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44 [insert Table 4c about here]
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47 Social aspects to do with products and customers are listed in Table 4d. Only compliance was
48 mentioned by all sites, and that only in the narratives. Product and service labelling was also
49 mentioned in narrative sections of the African reports. No other product related social aspects
50 were reported.
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54 [insert Table 4d about here]
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8. Conclusions

This is a pilot study on the contents of sustainability reporting information publicly available at a more detailed level (websites of individual plants) of a multi-national mining firm operating on five continents: Africa, Asia, Australia, and North and South America. Qualitative and physical and monetary quantitative reporting on sustainability was benchmarked against the UNDS and the GRI reporting elements. Variations between parent company reporting and reporting from individual sites appear to be driven by coercive isomorphism, as a result of political influence and problems of legitimacy (DiMaggio and Powell, 1983; DiMaggio, 1988; Bogdan *et al.*, 2009). This study supports the findings of de Villiers and Alexander (2014) that even though there are similar overall patterns of corporate social responsibility reporting in diverse settings, there exist differences in corporate social responsibility reporting content at a more detailed level. In explaining why these variations occur in sustainability reporting patterns, Maroun (2015) and other previous studies (e.g. Buhr and Freedman, 2001; Albelda, 2011; KPMG, 2013; Doorasamy; Carels *et al.*, 2013; Fifka, 2013; de Villiers and Alexander, 2014; and Garbharran, 2015; Khlif *et al.*, 2015) posit that in different jurisdictions, the importance of corporate governance systems, the effect of different accounting standards, the implications of the increasing use of fair value measures, the relevance of the users of corporate reports contributes to the variations in sustainability reporting in country and industry. Like these studies, we establish that even within the same firm there is heterogeneity in the content of reports at the level of operations in different countries. For example, more sustainability information was found on the African, Australian and South American websites because, apart from the general sustainability information available on the plants' websites, they had separate corporate social responsibility (CSR) reports uploaded onto the websites). This means that the cultural set up of the individual countries in which Newmont Mining Corporation is operating (Fifka, 2013, Khlif *et al.*, 2015) affect the content of its CSR reports at individual plant sites. It was apparent that even though, as a mining company that subscribes to the GRI and a member of the International Council on Mining and Metals as well as the Dow Jones sustainability index, the parent company reports on all elements of the UNDS and the GRI, the subsidiaries only reported on selected issues as different country have different rules, laws and stakeholders. Similar to de Villiers and Alexander (2014), even though the plant sites differ in the contents and details of reports the websites had the same headings implying their willingness to adopt global

standards to respond to environmental pressures and reporting expectations. This is consistent with previous findings that companies will report more and in more detail if managers feel isomorphically pressured from external interest groups, such as shareholders (Tilt, 1994; Frost and Wilmshurst, 1998; Ross and Kovachev, 2009; Khlif *et al.*, 2015; de Villiers and Alexander, 2015). In this case, pressure to comply and conform resulted in full disclosure on a parent company level, but this pressure was not evident at site level.

Carrels *et al.* (2013) assert that integrated reporting has resulted in both more disclosure and more integration between disclosure and corporate financial reports. In this case, the differences in disclosure could imply that, as subsidiaries, they do not prepare comprehensive environmental reports on their own but rather gather sustainability data and pass them on to the parent company for final reports to be created.

Prior research notes that, although the level of social and environmental disclosure has increased over the years, this increased reporting is often qualitative, not quantitative (see, for example, Adams and Parmenter, 1995; Jenkins and Yakovleva, 2006; Maroun, 2015). Similarly, most of the elements reported in this research were in the narrative sections of the websites and CSR reports, with some physical measures of the UNDS and GRI elements. There was little monetary information on sustainability aspects in the reports available. The most comprehensive reports, with narrative and both physical and monetary measures, were the economic reports on both websites (see Table 2). Environmental reports were moderately comprehensive with mostly narratives and some physical measures (see Tables 3a,b,c). Social aspects were reported mostly in narratives (see Tables 4a,b,c,d). Many studies (e.g. Guidry and Patten, 2012; de Villiers and Alexander, 2014) attribute the volume of non-financial reporting to the extent to which preparers feel compelled to adhere to laid down reporting standards as a result of underlying isomorphic pressures and the need to create and manage stakeholder impressions (Guidry and Patten, 2012; Maroun, 2015; Atkins *et al.*, 2015). The comprehensive nature of reporting of economic aspects could be attributed to the fact that since the parent firm is listed on the New York stock exchange, it must be obligatory for economic performance to be measured as investors will be most interested in that information (Milne and Gray, 2013; Ioannou and Serafeim, 2014).

Some aspects of the UNDS and GRI measures were repeated in different documents. As suggested by Waddock (2004) and Morsing *et al.* (2008), these repetitions could be due to the

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3 fact that aspects of sustainability sometimes overlap. For instance, an agricultural project for
4 community development could also result in biodiversity issues and vice versa, making it
5 both a social and a community sustainability project. Consequently, documents reporting on
6 such matters would include both community and social aspects.
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10 Explanations given above are assumptions based on theories and the literature reviewed for
11 this study. Such theories and assumptions are vulnerable to misinterpretation as the real
12 situation could be different. Consequently, there is the need for researchers to get closer to
13 have a look empirically at reasons why there are disparities in sustainability reporting
14 between plant sites belonging to one mining firm. Furthermore, the researchers recommend
15 that further studies be conducted to find out why mining firms prepare sustainability reports,
16 for whom they compile the reports, how the reports are used and by whom, and how
17 sustainability reporting could be enhanced.
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[one reference to a paper by the authors of this article has been deleted to preserve anonymity]

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