



RAISING THE BAR – ADVANCING ENVIRONMENTAL DISCLOSURE IN SUSTAINABILITY REPORTING

UNITED NATIONS ENVIRONMENT PROGRAMME



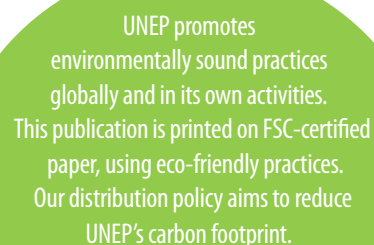
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DISCLOSURE IN SUSTAINABILITY
REPORTING

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FOREWORD

Through their use of resources and production of waste and pollution, enterprises produce costs and impacts that are borne in the long term by human and environmental systems. A 2013 study from Trucost and the TEEB for Business Coalition estimates that the world's top 100 externalities are costing the economy US \$4.7 billion in terms of environmental and social costs of lost ecosystem services and pollution. The sectors analysed for the report are estimated to have natural capital costs totalling US \$ 7.3 trillion mainly from greenhouse gas emissions, water and land use. However, through the provision of employment, goods and services and investment in research and innovation, enterprises also support social and economic development and growth. Understanding and communicating to shareholders and stakeholders the positive and negative impacts of business activities is fundamental to fully appreciate their engagement and contribution to sustainable development. Sustainability reporting is an important tool for corporate transparency and accountability and has become a common practice in many industries. Research by KPMG estimates that two-thirds of large companies in 41 countries published sustainability reports in 2013, a figure that rises to 93% among the world's 250 largest companies. Recent years have seen an increasing number of policies and initiatives encouraging environmental disclosure, as well as the development of numerous guidance materials for reporting organizations.

However, less focus has been placed on the quality of reports. Raising the Bar – Advancing Environmental Disclosure in Sustainability Reporting, a report under the MERITAS initiative (Making Environmental Reporting Important to All Stakeholders), aims to assist companies and organizations to improve the quality of the environmental information they disclose. Many stakeholders still consider that current sustainability reports do not always reflect companies' environmental impacts accurately and therefore are not useful for decision-making purposes. For businesses, it is not always easy to address the concerns from all stakeholders in one document, or to rethink their approach to reporting in a way that is meaningful to their strategies.

This publication is a landmark in corporate sustainability reporting, providing a strategic approach by addressing issues that are material both for company operations and their stakeholders. It offers ready-to-use guidance for companies to identify the tools best suited to their needs as well as insights into audiences' expectations. It also incorporates emerging areas of research and innovative reporting practices. The publication advocates a collaborative approach, engaging all stakeholders and businesses in the value chain to develop a high-quality sustainability report. It also encourages placing the disclosed information within the context of environmental limitations identified by scientific evidence, enabling a more accurate reflection of the company's contribution to sustainable development.

Many businesses have found sustainability reporting to be a powerful decision-making tool, and the international community also recognized its importance for corporate transparency in the Outcome Document of the Rio+20 UN Conference on Sustainable Development, where it called for the UN system to support the integration of sustainability information into companies' reporting cycles. Enhanced transparency and responsibility will be instrumental to monitor global progress made towards the Sustainable Development Goals and to fostering their uptake and implementation. UNEP intends to advance this shared goal by Making Environmental Reporting Important to All Stakeholders – and chiefly to reporting organizations themselves.

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EXECUTIVE SUMMARY

Sustainability reporting is on the increase globally, in particular among large companies. Reasons for this increase include the pressing environmental and social challenges and a growing interest in sustainability reporting by governments, investors and stock exchanges (resulting in regulations and incentives for reporting). We are also seeing increased focus on value chain reporting, which may lead to a greater uptake of sustainability reporting by small- and medium-sized enterprises (SMEs).

Although it is remarkable to see that a considerable number of the world's largest public and private companies now voluntarily report on their sustainability activities, sustainability reporting faces a number of challenges. These challenges can broadly be divided into two categories:

- Challenges pertaining to **quantity** of reporting organizations, including the low share of SMEs that are reporting;¹
- Challenges pertaining to **quality** such as lack of contextual information in sustainability reporting and the common criticism that sustainability reporting does not cover the most material issues and that it is difficult to compare and use for decision making.

This Report examines ways to improve the quality of sustainability reporting with a focus on its environmental dimension. The Report includes four key focus areas, which are outlined below, namely:

- 1. the importance of materiality assessments**
- 2. an overview of the most commonly reported environmental areas**
- 3. the communication to and engagement with stakeholders, and**
- 4. the importance of placing reported information into context and ensuring its credibility through assurance**

THE NEED FOR STRENGTHENING AND HARMONIZING THE MATERIALITY ASSESSMENT PROCESS

Materiality assessments are an essential tool for improving the quality of sustainability reporting and ensuring relevance of the reported information to stakeholders. The focus on the importance of materiality assessments in defining reporting content is growing if judging from the emphasis on the materiality principle in reporting frameworks. This is the case for the latest version of the well-established framework of the GRI as well as the more recent frameworks of the SASB and IIRC.

While guidance on how to conduct materiality assessments is included in key reporting frameworks and tools there is no standardized approach to conducting such assessments and companies rarely provide information on the methodology they use. This Report outlines the core steps involved in a comprehensive materiality assessment process (building on key guidance from reporting standards organizations) and provides an overview of key guidance available to reporting companies. Further harmonization between guidance on materiality assessments by reporting standards organizations is important to enhance the quality of sustainability reporting.

¹ <https://www.globalreporting.org/resourcelibrary/carrots-and-sticks.pdf>, p. 17.

The effort and cost of conducting materiality assessments should take account of the size and sustainability impact of the reporting company. We acknowledge that many companies, in particular SMEs, may not have the expertise and resources to go through an extensive materiality assessment process but they can still take measures for such assessments in line with their size and sustainability impact and define their most material reporting areas, for instance through discussions with key stakeholders and by analyzing the core sustainability impacts of the business.

Building on an extensive desktop research of 108 companies and engaging 59 international experts, this Report identifies that the most common areas of environmental disclosure in sustainability reporting are the following:

- ▶ **Greenhouse Gas (GHG) Emissions**
- ▶ **Energy**
- ▶ **Water**
- ▶ **Materials/Waste**

We would expect stakeholders to want to find information on companies' impacts on those areas in sustainability reporting and in cases where a company does not consider one or more of the areas to be material to its operations, the reasons for this should be explained.

REPORTING QUALITY VARIES FOR COMMON AREAS OF ENVIRONMENTAL DISCLOSURE

When looking at the quality of disclosures on the four environmental areas noted above, shared challenges to effective reporting include a lack of agreement on reporting methods, including metrics and methodologies, and a lack of environmental context to the reported information. The quality of reporting between the areas varies widely. This Report lists the core components of comprehensive reporting on these areas, and provides examples, as well as recommendations to companies and their stakeholders on how to improve the environmental disclosures.

Reporting on GHG emissions has reached a relatively high level of maturity, with the most advanced companies linking their GHG emissions reporting to scientific targets. The reporting on energy is also relatively well established. On the other hand, reporting on water and materials/waste is neither well established nor comparable between companies.

The GHG Protocol is the most commonly referred standard for GHG emissions reporting, and forms the basis for guidance on GHG emissions reporting in other widely used frameworks for reporting on the area, notably the GRI and CDP. GRI and CDP are also the key frameworks for energy reporting, which is often performed alongside GHG emissions reporting in light of the close link between the two areas.

There are various tools available for reporting on water, including the GRI reporting framework, the CEO Water Mandate of the UN Global Compact and the Global Water Tool of the World Business Council for Sustainable Development. Building on on-going work by reporting standards organizations and others, tools for water reporting need further harmonization to enhance quality. Further focus on the context principle for water reporting is also a crucial factor for increasing reporting quality. The success of the GHG Protocol in advancing GHG emissions reporting could guide further advancement of water reporting. Real progress in the area will require involvement of governments and the scientific community as well as commitment of reporting organizations.

Reporting on materials and waste is the least advanced among the four environmental areas. Reporting practices in this area vary greatly between companies, which hampers performance comparison. Collaboration between companies in a value chain can help advance reporting of material flows and support the development towards a more circular economy with an emphasis on waste reduction and increased use of reusable and recycled materials. Greater emphasis is needed on the use and disposal of hazardous substances and chemicals in reporting frameworks to enhance reporting on this area.

THINKING THROUGH THE EYES OF STAKEHOLDERS AND PUTTING REPORTING INTO CONTEXT

The communication of reporting information from companies to their stakeholders plays an important role in ensuring that the reporting exercise is of value. It was observed through the research that the drivers behind sustainability reporting are frequently not communicated clearly to stakeholders. It is important that companies target their sustainability reporting to their various stakeholder groups given different stakeholder needs. The stakeholder groups that the research identified as having the most influence on reporting quality are investors, governments, businesses and stock exchanges. These groups generally prefer detailed and raw data, e.g. found in stand-alone sustainability reports, whereas other groups such as consumers may prefer direct communication through advertising or social media. Ideally companies provide their stakeholders with different means for accessing the reported data to cater to their diverse needs.

In order for sustainability reporting to provide an accurate picture of a company's impact on the economy, environment and the society in which it operates, context must be given to the reported information, such as availability of water in the area of operation along with disclosure on the water use of the company (compared to other water users in the watershed). The context principle was introduced as early as 2002 when it was embedded in the second generation of the GRI reporting framework. However, partially due to lack of available guidance on how to apply context to the reporting, it has largely been absent in corporate reporting.

In an effort to fill this context gap, several organizations have taken important steps to put scientific context back into sustainability reporting. At the core of the context-based reporting movement is the Center for Sustainable Organizations (CSO). CSO developed Context-Based Sustainability (CBS), a framework for implementing Sustainability Context through the use of *thresholds* and *allocations*. Other initiatives, including the Future Fit Business Benchmark, the ThriveAbility Foundation and the MultiCapital Scorecard, are developing frameworks to assess business-level impacts with the principle of applying scientific context to business reporting. Companies that have embraced context-based reporting include Autodesk, BT, EMC, Ford, Mars and Nedbank.

COLLABORATING AND BUILDING TRUST IN REPORTED INFORMATION

As sustainability reporting increasingly focuses on the impact of a company's full value chain, the reporting exercise is growing in complexity. Challenges include system incompatibility and definition of boundaries for reporting content. To meet these growing challenges collaboration initiatives have emerged between buyers and suppliers as well as between companies in the same industry. Collaborative reporting can be assisted through online reporting platforms where information is shared between companies of the same value chain. Collaborative reporting carries the potential to apply very broadly across the value chain, transforming reporting from a one-way broadcast format into a more multi-directional, dynamic, on-going dialogue between stakeholders.

Increased uptake of data verification and principles based assurance of sustainability reporting is another crucial factor in achieving meaningful, high-quality reporting. Greater harmonization between methodologies and increased standardization can support improved assurance practice. Requirements to gain independent assurance of key environment risks and opportunities, both for regulatory and competitive reasons, should be strengthened to drive uptake to levels consistent with financial auditing.

The recommendations in this Report, as discussed above and further outlined throughout the Report, are designed to enhance environmental disclosure in reporting to meet pressing environmental challenges and make the disclosure more relevant and useful for stakeholder decision making.

1

INTRODUCTION

Although still mainly a practice of large companies,² sustainability reporting is on the rise globally.³ We will likely see further increase in the near future, as there are several factors pushing companies to disclose their sustainability impact. For instance, a growing number of countries are regulating and urging sustainability reporting and many stock exchanges around the world are encouraging or mandating listed companies to report.⁴ A number of companies are also beginning to ask their suppliers, including small- or medium-sized companies (SMEs), to report on their sustainability impact as a procurement requirement.

While there is no internationally agreed definition of sustainability or corporate responsibility reporting, it is generally understood as being the practice of measuring and disclosing sustainability information alongside, or integrated with, companies' existing reporting practices. Sustainability information can be understood as information relating to the manner in which companies use financial, natural and human resources, and their impacts on the environment and society, as well as their corporate governance.⁵

Sustainability reporting can be delivered through reports or through other means such as websites, videos or social media. For more general information on sustainability reporting, UNEP's publication *Frequently asked questions on sustainability reporting* can be consulted.⁶

Although it is remarkable to see that a considerable number of the world's largest public and private companies now voluntarily report on their sustainability activities, sustainability reporting faces a number of challenges. These challenges can broadly be divided into two categories:

- ➡ Challenges pertaining to **quantity** of reporting organization, including the low share of SMEs that are reporting;⁷
- ➡ Challenges pertaining to **quality** such as lack of contextual information in sustainability reporting and the common criticism that sustainability reporting does not cover the most material issues and that it is difficult to compare and use for decision making.

This Report addresses the second category of challenges, and more specifically explores **how to improve the quality of the environmental dimension of sustainability reporting**. It is the first contribution of the MERITAS⁸ initiative, which aims to:

2 <http://www.unep.org/resourceefficiency/Business/SustainableandResponsibleBusiness/CorporateSustainabilityReporting/tabid/78907/Default.aspx>

3 <http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/corporate-responsibility/Documents/kpmg-survey-of-corporate-responsibility-reporting-2013.pdf>, p. 11.

4 See publication *Carrots and Sticks: Sustainability reporting policies worldwide – today's best practice, tomorrow's trends 2013* for a comprehensive overview of policies and initiatives of stock exchanges on sustainability reporting: <https://www.globalreporting.org/resourcelibrary/carrots-and-sticks.pdf>. For further information on sustainability within stock exchanges the website of the Sustainable Stock Exchanges Initiative <http://www.sseinitiative.org/> can be consulted, including the initiative's 2014 progress report: <http://www.sseinitiative.org/wp-content/uploads/2012/03/SSE-2014-R0P.pdf>

5 The term 'ESG' or environmental, social and governance, is also a common reference for sustainability information.

6 [http://www.unep.org/resourceefficiency/Portals/24147/Business-Resource%20Efficiency/UNEP%20\(2013\)%20Frequently%20Asked%20Questions%20on%20Corporate%20Sustainability%20Reporting%20\(1\).pdf](http://www.unep.org/resourceefficiency/Portals/24147/Business-Resource%20Efficiency/UNEP%20(2013)%20Frequently%20Asked%20Questions%20on%20Corporate%20Sustainability%20Reporting%20(1).pdf)

7 <https://www.globalreporting.org/resourcelibrary/carrots-and-sticks.pdf>, p. 17.

8 "Making Environmental Reporting Important to All Stakeholders". For further information see: <http://www.unep.org/resourceefficiency/Business/SustainableandResponsibleBusiness/CorporateSustainabilityReporting/MERITAS/tabid/794770/Default.aspx>

- ➡ Make environmental information in sustainability reports as relevant and valuable as financial information for companies and their stakeholders;
- ➡ Help companies understand why they should report, what they should report on, how they should report, and how stakeholders can assist in advancing the quality of reporting.

The Report is based on the belief that sustainability reporting can be a powerful decision-making tool for businesses, investors, stock exchanges and governments, and that it can help the reporting companies make important strategic and operational choices as well as manage risk.

1.1 About this Report

1.1.1 Research Methodology

The Report draws on an extensive analysis of 108 of the leading sustainability and integrated reporting companies worldwide, mostly large companies that have been recognized as leading reporters (See Appendix 1). In addition, 59 experts were interviewed,⁹ across multiple organizations and sectors (see Acknowledgements). The geographical scope of the Report is global.

The research explored whether companies are effectively disclosing their contribution to environmental sustainability. In order to answer this question we looked into:

- ➡ Which environmental areas are most commonly reported on;
- ➡ Which reporting frameworks, tools, metrics and methodologies are most commonly used for reporting on those areas;
- ➡ The quality of reporting on the most commonly reported environmental areas, particularly within the sustainability context of the limits and demands of social, ecological and economic resources;
- ➡ The methods used for communicating environmental performance data to stakeholders.

The results from the desktop research and expert interviews were subsequently discussed in a validation workshop to further advance the study. The workshop included the report researchers, company representatives and others (see Acknowledgements). In addition, further feedback was gathered through two rounds of peer reviews of the report.

1.1.2 Notes on the Report's Content

This Report looks at the quality of reporting of key environmental areas in corporate sustainability reporting. The research revealed that most companies report on four environmental areas in one form or another. Those areas are:

- ➡ **Greenhouse Gas (GHG) Emissions**
- ➡ **Energy**
- ➡ **Water**
- ➡ **Materials/Waste**

⁹ Interviews were conducted with experts from a wide range of sectors and stakeholder groups including health care; financial; materials; metals and mining; IT and telecommunication services; automotive; energy; consumer products and retail; process industries; services; transportation, travel and tourism; academia; stock exchanges; government; citizen sector and NGOs; international organizations and investors (see Acknowledgements).

The findings of the Report and its recommendations are intended to help improve the quality of the reporting of the above-mentioned areas for the benefit of the reporting companies as well as their stakeholders. This Report is not intended to cover the social aspects of sustainability reporting such as human and labour rights. While there are many ways in which sustainability reporting can be improved this Report specifically focuses on improving environmental performance disclosure.

We have strived to limit general information on sustainability reporting and other information that has already been comprehensively covered in other publications. For general information on sustainability reporting, UNEP's publication *Frequently Asked Questions on Sustainability Reporting* can be consulted.¹⁰

A number of examples of good company practices are portrayed throughout the report. To the extent possible, an effort has been made to provide a diverse range of companies in terms of industry sectors and geography.

In line with feedback from discussions with experts, specific attention has been given to the areas of context-based reporting, collaborative reporting and third party assurance, as these areas were identified as being potentially instrumental in advancing a higher quality of reporting.

It is important to note that the Report is not proposing an alternative framework for sustainability reporting. Rather, it identifies which frameworks and tools are most widely used for reporting on the above-mentioned topics. Although referring mainly to reporting companies, this Report and its recommendations are also applicable for other types of reporting organizations. The Report is expected to be useful both for experienced reporting companies as well as those new to sustainability reporting.

This Report is intended for those who have the capacity to influence the quality of the environmental dimension of sustainability reporting.

10 [http://www.unep.org/resourceefficiency/Portals/24147/Business-Resource%20Efficiency/UNEP%20\(2013\)%20Frequently%20Asked%20Questions%20on%20Corporate%20Sustainability%20Reporting%20\(1\).pdf](http://www.unep.org/resourceefficiency/Portals/24147/Business-Resource%20Efficiency/UNEP%20(2013)%20Frequently%20Asked%20Questions%20on%20Corporate%20Sustainability%20Reporting%20(1).pdf)

2

SETTING THE STAGE FOR SUSTAINABILITY REPORTING

The world is facing a growing number of sustainability challenges and there is increasing pressure on companies to account for their contribution to environmental and social sustainability. Companies are also affected by these challenges and can therefore benefit from an understanding of the associated operational impacts. The reporting process can help companies in reaching such an understanding.

Originally a voluntary exercise, sustainability reporting is progressively being encouraged and steered through government and stock exchange regulations and guidance, as well as through pressure from investors who demand non-financial information to enhance their investment decisions.

While the number of reporting companies has grown in recent years less emphasis has been put on reporting quality. There has been a lack of focus on the utility of reporting to the users of the reported information. A lack of standardization of reporting metrics and methodologies, and a general absence of scientific context to the reported information, prevents stakeholders from using the information in their decision-making.

This chapter takes a closer look at some of the key drivers and context of sustainability reporting as well as the core challenges presently facing the sustainability reporting practice.

2.1 Drivers and Context of Sustainability Reporting

2.1.1 Global Challenges

The growing trend of sustainability reporting¹¹ coincides with and is driven by the increasing global social¹² and environmental challenges currently affecting our society and businesses. Environmental challenges include climate change, energy and fuel demands, resource scarcity, pollution, waste and biodiversity loss.

Several organizations have produced publications on these and other pressing global trends that will affect our society and businesses over the next decades. These include UNEP's *GEO5* and *GEO5 for Business*,¹³ WBCSD's *Vision 2050*¹⁴ and *Action 2020*,¹⁵ *The Millennium Ecosystem Assessment*,¹⁶ KPMG's *A New Vision of Value: Connecting corporate and societal value creation*,¹⁷ among many others. This Report sheds a light on how companies disclose their environmental performance through

11 More than 90% of the world's largest companies publish sustainability information, and 51% include it in their annual report, see <http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/corporate-responsibility/Documents/kpmg-survey-of-corporate-responsibility-reporting-2013.pdf>, p. 11.

12 In line with the focus of the Report, discussion of the social aspects of sustainability reporting is not included here.

13 <http://www.unep.org/geo/geo5.asp> and http://www.unep.org/geo/pdfs/geo5/geo5_for_business.pdf

14 <http://www.wbcsd.org/vision2050.aspx>

15 <http://www.wbcsd.org/action2020.aspx>

16 <http://www.maweb.org/en/index.aspx>

17 <http://www.kpmg.com/Global/en/topics/climate-change-sustainability-services/Documents/a-new-vision-of-value-v1.pdf>

sustainability reporting to meet some of the above-mentioned challenges and contribute to sustainable development.

In 2012 UN Member States gathered at the Rio+20 Conference, which led to the outcome document *The Future We Want*. Paragraph 47 of the document stresses the importance of corporate sustainability reporting as a tool to promote the advancement of corporate transparency and accountability.¹⁸ Following Rio+20, UN Member States also agreed to build upon the Millennium Development Goals (MDGs), to be completed in 2015, and develop a set of Sustainable Development Goals (SDGs) that will link the MDGs with the UN post-2015 development agenda.¹⁹ One of the proposed SDGs has the specific target of encouraging companies to integrate sustainability information in their reporting cycles.²⁰

2.1.2 Frameworks and Tools

In order to assist companies in disclosing their contribution to environmental and social sustainability, a number of frameworks and guidance have been developed in recent years to define how and what to report on.²¹ These include the reporting framework of the Global Reporting Initiative (GRI),²² the International Integrated Reporting Framework of the International Integrated Reporting Council (IIRC), and the sustainability accounting standards of the Sustainability Accounting Standards Board (SASB).

Co-launched by CERES and Tellus Institute (with support from UNEP) in the late 1990s, the GRI provides the most widely used framework for sustainability reporting.²³ According to the GRI, almost 6,000 organizations worldwide produce a sustainability report using the GRI framework.²⁴ Also, over 8,000 companies and 12,000 non-business organizations have joined the United Nations Global Compact (UNGC), a platform for the advancement of responsible business practices. UNGC's business participants are required to publish a yearly progress report (Communication on Progress) on their implementation of the ten principles of the UNGC, which concern the environment, human and labour rights and anti-corruption.²⁵

Businesses and investors are placing increasing emphasis on integrating sustainability reporting with traditional financial reporting, towards the aim of improving the quality and consistency of global corporate reporting. At the core of this development is the International Integrated Reporting Council (IIRC), which has developed the International Integrated Reporting Framework (December 2013). The framework puts emphasis on disclosures of how companies utilize six "capitals", across their value chains, in order to create long-term value and support sustainability. These include natural, social and human capitals among others.²⁶

SASB is developing sustainability accounting standards for corporate disclosing of material information, deemed helpful for investor decision making. SASB standards are designed for disclosure of material sustainability information in mandatory SEC filings (such as the Form 10-K and 20-F).²⁷

18 http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/66/288&Lang=E, p. 9.

19 <http://sustainabledevelopment.un.org/?menu=1300>

20 <http://sustainabledevelopment.un.org/focussdgs.html>

21 It is emphasized that these are the frameworks and tools most commonly observed through the desktop research but not a definite list of available frameworks and tools.

22 Note that guidance in this document refers to the latest version of GRI's reporting framework, the G4, whereas it differed between the analysed companies, which use the GRI reporting framework, whether they referred to the G3.1 or G4.

23 <http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/corporate-responsibility/Documents/corporate-responsibility-reporting-survey-2013.pdf>, p. 31.

24 <http://database.globalreporting.org/>

25 <http://www.unglobalcompact.org>

26 <http://www.theiirc.org/>

27 <http://www.sasb.org/>

As the above examples show (notably those of SASB and IIRC) we are seeing an evolution of sustainability reporting moving from being a voluntary endeavor to gaining a harder market footing. More emphasis is being put on sustainability reporting being an issue of importance to mainstream investment and markets that want to understand whether companies are at risk or gaining opportunities for value creation.

2.1.3 Governments and Stock Exchanges

Governments around the world have in recent years taken steps to regulate or guide corporate sustainability reporting. According to the 2013 edition of the publication *Carrots and Sticks*⁴⁵ countries and regions currently have mandatory or voluntary initiatives for sustainability reporting (an increase from 32 in 2010).²⁸ Most commonly government policies target large companies and often build on existing international frameworks such as the GRI framework and the principles of the UN Global Compact referred to above (chapter 2.1.2).²⁹

Following the 2012 United Nations Conference on Sustainable Development (Rio+20) the governments of Brazil, Denmark, France and South Africa formed a government initiative under the name *Group of Friends of Paragraph 47*³⁰ to advance sustainability reporting through government policy and regulation. Since its formation the group has grown to also include the governments of Argentina, Austria, Chile, Colombia, Norway and Switzerland.³¹ The governments in the Group all have policies or initiatives to advance sustainability reporting in their countries.

Several stock exchanges also require listed companies to disclose sustainability information, such as Brazil's BM&FBovespa and South Africa's Johannesburg Stock Exchange (JSE). In order to provide the world's stock exchanges with a learning platform on transparency and corporate sustainability performance, the United Nations established the United Nations Sustainable Stock Exchanges (SSE) Initiative in 2009. Partners of the initiative include the above-mentioned BM&FBovespa and JSE, the New York Stock Exchange and the Nigerian Stock Exchange, among others.³²

2.2 Challenges to Achieving Quality Sustainability Reporting

Despite the urgency to address pressing sustainability challenges, the quality of sustainability reporting continues to lag and so needs to be improved to allow for more accurate measurement of the positive and negative impacts of companies' operations on the sustainability of the social and environmental systems within which they operate. In addition, contextualizing company performance through linkages to external systems enhances comparability between companies' sustainability performance.

Many frameworks, guidelines, indices, ratings and questionnaires from various stakeholders often result in 'checklist' compliance instead of comprehensive sustainability reporting. The consequence of this checklist compliance trend is that many companies are reactively reporting historical information, rather than proactively reporting the most material impacts and trends for the company and its stakeholders. In addition, many of the leading reporting frameworks and guidelines leave room for interpretation in their

28 <https://www.globalreporting.org/resourcelibrary/carrots-and-sticks.pdf>

29 <https://www.globalreporting.org/resourcelibrary/carrots-and-sticks.pdf>, p. 16.

30 The name refers to article 47 of Rio+ 20 Outcome Document, which acknowledges the importance of corporate sustainability reporting. For the full text of the article, see <http://www.uncsd2012.org/content/documents/727The%20Future%20We%20Want%2019%20June%201230pm.pdf>, p. 7.

31 <http://www.unep.org/resourceefficiency/Business/SustainableandResponsibleBusiness/CorporateSustainabilityReporting/GroupofFriendsOfParagraph47/tabid/105011/Default.aspx>

32 <http://www.sseinitiative.org>

reporting requirements, resulting in inconsistent reporting among companies using the same framework or guidelines which in turn affects comparability.

An important factor for effective sustainability reporting is placing the reported information in context, i.e. to include relevant information on the environmental, social and economic setting in which the company operates. The importance of context is highlighted in key reporting frameworks such as the GRI framework but, judging from the desktop research, the topic generally does not get sufficient attention from reporters. The importance of context is further discussed later in the Report.

According to a recent study by Corporate Knights Capital (October 2014) less than 3% (128 companies out of 4,609) of the largest companies listed on the world's stock exchanges disclose information on the following sustainability indicators – employee turnover, energy, GHG emissions, injury rate, pay equity, waste and water. The share of disclosure of each of the indicators is higher although it still remains modest – for example 39% of the companies disclose their GHG emissions and 25% their water consumption.³³

Sustainability reporting is also challenged by the fact that there is no bookkeeping with “debit and credit”, and third party verification (assurance) is often done on a voluntary basis and does therefore not hold the same credibility as mandatory financial auditing. In addition, while many companies now understand the benefits of managing and reporting on sustainability information, many stakeholders are having a difficult time comparing the information from companies’ sustainability reports and making meaningful decisions based on the reports from different industries and geographies.

33 http://www.corporateknights.com/wp-content/uploads/2014/10/2014_World_Stock_Exchange.pdf

3

MATERIALITY ASSESSMENTS

A core element of achieving a high quality sustainability reporting is ensuring that it covers the most material aspects. A materiality assessment is the process through which a company identifies the topics that impact its ability to conduct its operations and generate value, and inversely, those environmental issues that are affected by the company's activities. The identification of material issues is based on their relevance and significance for the reporting company as well as its stakeholders.

A key finding from the interviews with experts was the fine balance between dictating what companies should report through rigid frameworks versus not providing sufficient guidance on what to report on. The experts generally believed that if companies are forced to comply with rigid frameworks, reporting often becomes an exercise of box ticking rather than an opportunity to understand how tracking progress on sustainability can improve the business (e.g. through sustainability related innovation such as new products, reduction of costs and management of risk).

Many of the interviewed experts emphasized the importance of materiality assessments as the basis for producing a meaningful sustainability report. When done correctly and transparently, materiality assessments can help companies, and their stakeholders, understand the most relevant sustainability information to report on. In the latest version of its reporting framework (G4), the GRI has placed great importance on companies evaluating the materiality of the different sustainability areas to their business and stakeholders, instead of simply reporting on a predefined list of indicators. The concept of materiality is also at the core of the IIRC and SASB frameworks.

UNEP believes that all companies should strive to conduct their own materiality assessment. However, it is acknowledged that many companies, especially SMEs, may not have the resources, expertise, and experience to go through an extensive materiality assessment process. Nonetheless, SMEs can take steps towards materiality assessments, for instance by defining the most material reporting areas through discussions (even informal) with their stakeholders (e.g. employees and customers) and by being transparent about their methods of choosing reporting topics. In addition, SMEs can appeal to external materiality determinations for the sectors, such as the SASB Materiality Map or the Governance and Accountability Institute's *What Matters* report.³⁴

This Report provides an insight into the key environmental areas that are most commonly reported on by companies and which are shown to significantly impact the environment. These are areas on which it can be expected that companies either disclose their performance or explain why they do not feel that the area is material to their operations. We emphasize the importance and relevance of materiality assessments in enhancing the focus and quality of sustainability reporting.

34 <http://www.sasb.org/materiality/sasb-materiality-map/>; <http://www.ga-institute.com/sustainability-what-matters.html> *What Matters* examined 1,246 GRI reports in 35 sectors to discover which of the 84 GRI indicators were most reported on, per sector, interpreting the most reported indicators as a proxy for the most "material" issues in that sector.

3.1 Key Frameworks and Tools for Materiality Assessments

In the last decade there has been significant advancement in guidance on materiality assessments at different organizations. The following were identified as being of key importance by interviewed experts:

- ➡ AA1000 Accountability Principles Standard provides guidance on how to conduct a materiality assessment;³⁵
- ➡ GRI G4 Framework puts great emphasis on materiality assessments and provides relevant guidance;³⁶
- ➡ IIRC Reporting Framework includes materiality as a key component³⁷ and the IIRC has produced a background paper on materiality;³⁸
- ➡ SASB is developing sectoral guidance on materiality.³⁹

There are however, key differences in the intended users of the information, the definition of “materiality” and the processes to determine an organization’s material issues. The IIRC and SASB are primarily focused on providing guidance for reporting to investors with SASB specifically developing materiality guidance for US-based publicly traded companies covered by SEC regulation, based on the US Supreme Court definition of materiality.⁴⁰ The guidance and framework of Accountability and the GRI on the other hand have a global application scope, with a wider definition of materiality and are designed for all stakeholders.

Below is a snapshot of the approaches to materiality assessments of these organizations.⁴¹

35 <http://www.accountability.org/images/content/0/7/074/AA1000APS%202008.pdf>

36 <https://www.globalreporting.org/resourcelibrary/GRIG4-Part1-Reporting-Principles-and-Standard-Disclosures.pdf>

37 <http://www.theiirc.org/wp-content/uploads/2013/12/13-12-08-THE-INTERNATIONAL-IR-FRAMEWORK-2-1.pdf>

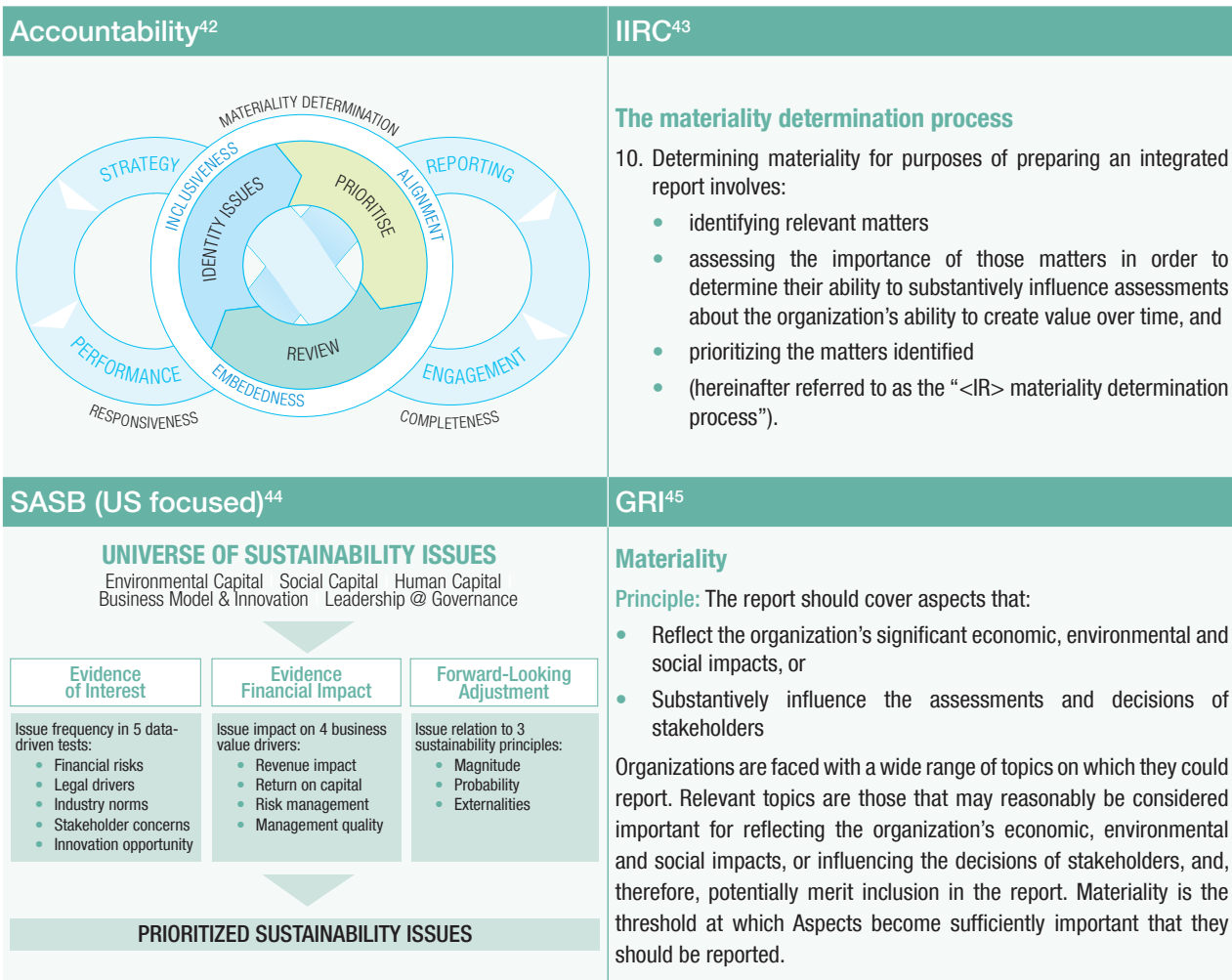
38 <http://www.theiirc.org/wp-content/uploads/2013/03/IR-Background-Paper-Materiality.pdf>

39 <http://www.sasb.org/materiality/important/>

40 <http://www.sasb.org/approach/legal-faqs/>

41 These snapshots are only provided to give an insight into the extensive guidance of the organizations on materiality assessments.

FIGURE 1 EXAMPLES OF GUIDANCE ON MATERIALITY ASSESSMENTS



3.2 Key Components of Materiality Assessments

The underlying common themes in guidance on materiality assessments include the following steps that we consider to be of key importance, and therefore recommend:

- ➡ **Involvement of stakeholders** in identifying the issues and throughout the materiality process;
- ➡ **Identification of issues** that:
 - » Have significant economic, social or environmental impacts, across the company’s value chain;
 - » Connect to the company’s strategy and risk management and influence its ability to generate value in the short, medium and long terms;
 - » May affect the decision making of stakeholders, for example, whether to buy its products, invest in the company, support a new plant in a local community etc.;
- ➡ **Prioritization of issues.** Depending on which approach is used this may be from a purely organizational perspective or a broader perspective which takes ecological limits, resource constraints and broader stakeholder perspectives into account.

42 <http://www.accountability.org/images/content/0/8/088/The%20Materiality%20Report.pdf>, p. 5.
 43 <http://www.theiirc.org/wp-content/uploads/2013/03/IR-Background-Paper-Materiality.pdf>, p. 2.
 44 <http://www.sasb.org/materiality/determining-materiality/>
 45 <https://www.globalreporting.org/resource/library/GRIG4-Part1-Reporting-Principles-and-Standard-Disclosures.pdf>, p. 17.

Companies are encouraged to be transparent about their materiality assessment process (methodology). Ideally this process is a strategic one which is then reflected in reporting, rather than being one completed just to determine what goes in a report.

Companies may take different approaches to the above steps depending on internal processes and other parts of their sustainability management. The general means of communications and stakeholder engagement of the companies can serve as the basis for conducting materiality assessments, such as websites, forums, surveys, in-person discussions, etc.

It has become common practice for companies to represent material issues in a “matrix”, based on guidance from GRI in G3 (the third generation of its Sustainability Reporting Guidelines), released in 2006.⁴⁶ The illustrative materiality matrix represents “Influence on Stakeholder Assessments and Decisions” on the vertical axis, and “Significance of Economic, Environmental, and Social Impacts” on the horizontal axis. In practice, however, companies have replaced the horizontal axis with “Impact on Business”, thereby diminishing the focus on the broad economic, environmental and social impacts of the company.⁴⁷ G4, released in May 2013, retained the recommended representation from G3, but common practice continues to focus on “impact on business”.⁴⁸

Example

Below is an example from Ford on the application of the above-mentioned steps for its materiality analysis 2013/14. Note that the example only provides a summary of the key aspects of Ford’s materiality analysis, the company’s website can be consulted for more details.⁴⁹

Ford updates the materiality analysis on an annual basis, based on the materiality analysis of 2010/11, using a three-step process as outlined below.

Identification of Issues / Involvement of Stakeholders

Ford developed a list of approximately 550 issues, grouped into 15 topics. The issues were identified within the company (suggestions from employees, business strategy, performance tracking tools, etc.) and from major external stakeholders (customers, communities, suppliers, investors and NGOs).

Assessment of Value Chain Impacts

Ford first added a formal value chain analysis step to its materiality process for its sustainability report 2012/13. The value chain analysis is updated on an annual basis as part of the global materiality analysis. The results from the value chain analysis feed into the “identification of issues” process outlined above and “prioritization of the issues” process outlined below.

Prioritization of the Issues

Ford noted the frequency with which issues were raised and rated each issue as low, moderate or high for current or potential impact on the company in a 3-10 year timeframe as well as for the degree of concern to stakeholder groups.

The issues and their ratings were then plotted on a “materiality matrix” (see image below), which is an interactive tool showing the relative importance of an issue to Ford and its stakeholders. By clicking on each square a list of issues comes up with links to relevant information.

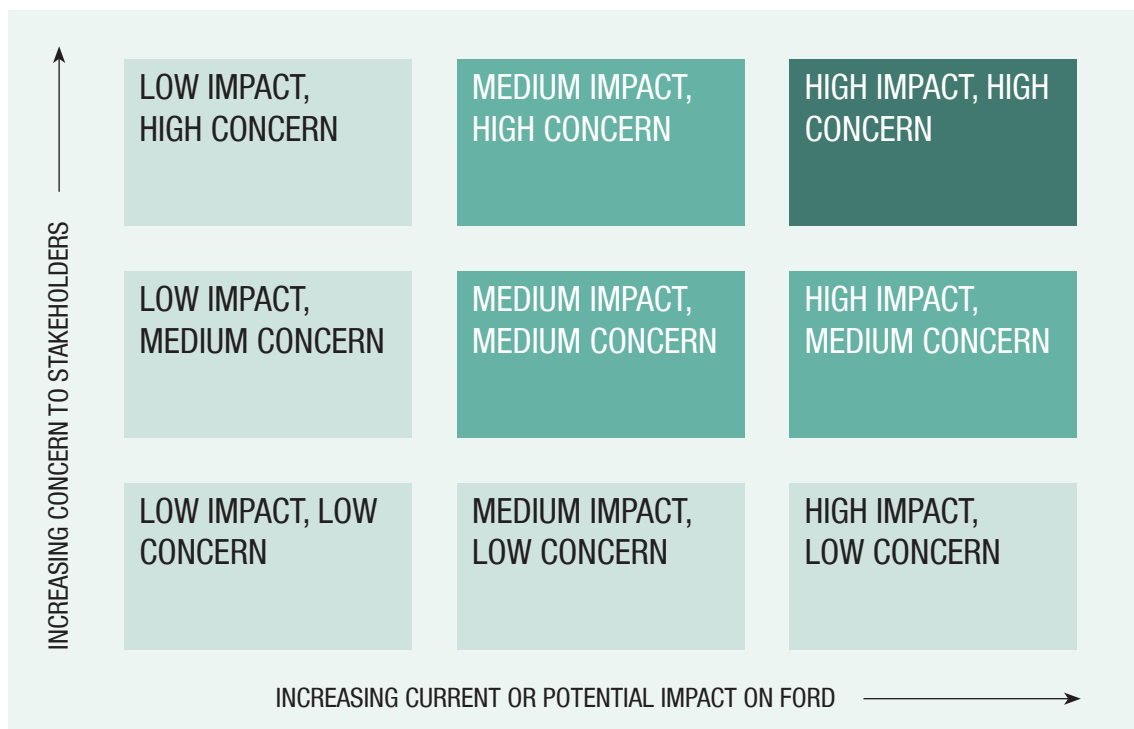
46 <https://www.globalreporting.org/resourcelibrary/G3-Guidelines-Incl-Technical-Protocol.pdf>

47 http://www.sustainablebrands.com/news_and_views/articles/are-materiality-matrices-really-material

48 http://www.sustainablebrands.com/news_and_views/new_metrics/g4-revamps-materiality-while-staying-true-its-roots

49 See <http://corporate.ford.com/microsites/sustainability-report-2013-14/blueprint-materiality-analysis.html>

FIGURE 2 FORD'S MATERIALITY MATRIX 2013-2014



Source: Ford Materiality Matrix⁵⁰

3.3 Recommendations

- It is recommended that companies take the steps noted in the subchapter 3.2 “Key Components of Materiality Assessments” when conducting materiality assessments. It is highlighted that the assessment should ensure a focus on significant economic, social and environmental impacts of their operations.
- Companies should disclose the process and methodologies used to conduct the materiality assessment as well as the key results from stakeholder discussions when possible (i.e. what disclosures are of key importance to which stakeholder group. See further information in chapter 7 on communicating environmental data to stakeholders).
- Reporting standards organizations should strive to further harmonize their guidance on materiality assessments and provide more detailed guidance on the recommended methodologies for conducting the assessments.
- Materiality assessment processes should adequately take account of the strategic implications of the environmental science on the company over the short, medium and long terms.

50 <http://corporate.ford.com/microsites/sustainability-report-2013-14/blueprint-materiality-matrix.html>

4

THE MOST COMMONLY REPORTED ENVIRONMENTAL AREAS

The desktop research revealed that most companies report on four environmental areas in one form or another, although the specific disclosure items and methods of measurements and disclosure greatly differed. The areas are:

- ➡ **Greenhouse Gas (GHG) Emissions**
- ➡ **Energy**
- ➡ **Materials and Waste**
- ➡ **Water**

Interviews with experts (see Acknowledgements) confirmed the importance of companies reporting on the above topics to their stakeholders. It is important to note that this Report gives a descriptive overview from the desktop research and expert interviews but does not provide a quantitative analysis of reporting trends.

Although not reported on as consistently as the four areas noted above, there is a growing interest in, and demand for, reporting on companies' impacts on biodiversity. Various tools and resources have been developed for reporting on biodiversity.⁵¹ The topic of biodiversity came up frequently through the research and development of this Report but given that reporting on biodiversity has not reached the same maturity as the other four areas it was decided, in line with conclusions of workshop discussions, not to cover the topic here. However, in light of the great importance of biodiversity to the health of the Earth and the global economy, the need for further research and ongoing emphasis on reporting on biodiversity is highlighted.

4.1 Background and Link between the Environmental Areas

Before looking into the quality of reporting of each of the four areas, below is a brief outline of the relevance of the areas to environmental sustainability and their importance to companies. It is emphasized that the environmental areas are interlinked, i.e. an impact on one of the areas can influence another (as well as interconnecting with social impacts). These inter-linkages are outlined under the environmental areas below.

4.1.1 GHG Emissions

If business and society at large were to continue releasing GHG emissions at the current rate, we are on course towards a global temperature rise of 3.7-4.8°C by 2100.⁵² Expected outcomes include more extreme weather, variable agricultural yield, rising sea levels, spread of disease, among others. This will have vast implications on both businesses and societies. Long-term business impacts of GHG emissions and climate change range from operations and supply chain disruptions to higher energy prices.⁵³

51 For example WBCSD's Eco4Biz: <http://www.wbcsd.org/eco4biz2013.aspx> and TEEB (The Economics of Ecosystems & Biodiversity) publications: <http://www.teebweb.org/our-publications/>

52 For further details see http://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_SPM.pdf, p. 15.

53 http://www.unep.org/geo/pdfs/geo5/geo5_for_business.pdf, p. 3.

4.1.2 Energy

Fossil fuels are the largest contributor to GHG emissions and the reporting of the two areas is therefore closely intertwined – and in some cases companies report on them together. Over 80% of energy consumed today is based on fossil fuel⁵⁴ and research indicates that 60-80% of global fossil fuel reserves cannot be burnt if we are to keep global warming within the internationally agreed target of 2°C.⁵⁵ Fossil fuel markets are likely to become increasingly volatile in coming years due to higher global demand, supply uncertainties and increased regulation.⁵⁶ Energy consumption is therefore directly linked with both financial performance and risk management.

Energy security is also an important factor for companies, concerning both the availability of energy sources as well as energy prices.⁵⁷ Energy security considerations will vary depending on the energy source of the company, including whether the company mixes energy sources or depends on a single source.

4.1.3 Water

Water withdrawals have tripled over the last 50 years to meet demands of business and society⁵⁸ and with a growing global population this trend is likely to continue. At the same time, the availability and quality of water is decreasing across the globe. According to the 2030 Water Resources Group, global freshwater demand will exceed supply by 40% in 2030.⁵⁹

According to CDP's Global Water Report 2014, although water risk assessments of companies still lack in depth, larger companies are increasingly acknowledging the importance of water security as a corporate issue. The sectors that are most subject to water risks are companies in the energy and materials sector as well as consumer staples and utilities.⁶⁰ Water is closely connected to energy and food in light of the fact that agriculture accounts for 70% of water withdrawal and energy is needed for pumping water and other agricultural processes.⁶¹

4.1.4 Materials and Waste

We are living in times where companies are starting to feel a shortage of raw materials, such as earth minerals used in electronics and oil for plastic production. The next 20 years will see increasing competition for material resources as they become scarcer.⁶² With an ever more interconnected global economy, and growing industrialization, an increasing volume of materials are being transported across the world, consumed and converted into waste. Waste in turn contributes to GHG emissions. There is an increasing emphasis on companies using materials in a more efficient way (waste avoidance) and resource recovery (reuse and recycling), in the interest of the company (e.g. in terms of cost reduction), and the environment.

54 <http://www.iea.org/newsroomandevents/news/2013/june/name,38548,en.html>

55 <http://www.carbontracker.org/report/wasted-capital-and-stranded-assets/>

56 <http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Documents/building-business-value.pdf>, p. 17-18.

57 <http://www.iea.org/topics/energysecurity/>

58 http://www.unep.org/geo/pdfs/geo5/GE05_for_Business.pdf, p. 3.

59 <http://www.2030wrg.org/wp-content/uploads/2013/01/2030-WRG-Annual-Report1.pdf>, p. 8.

60 <https://www.cdp.net/CDPResults/CDP-Global-Water-Report-2014.pdf>

61 <http://www.unwater.org/topics/water-food-and-energy-nexus/en/>

62 <http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Documents/building-business-value-part-1.pdf>, p. 21.

5

GENERAL SHORTCOMINGS OF ENVIRONMENTAL DISCLOSURE

The desktop research revealed some common shortcomings of reporting on the key environmental areas. Before going into the individual areas we will briefly touch upon the main shortcomings.

Most of the analysed companies use recognized reporting frameworks (the GRI framework is most common) for their reporting, which provides for some level of standardization. However, the application of some of the principles and guidance of the reporting frameworks leaves room for improvement and further standardization.

5.1 Boundary

For instance, we found that most companies are not very transparent and clear about the boundary⁶³ of their reporting. Despite comprehensive guidance in reporting frameworks, including the GRI's and IIRC's, there seem to be no globally established practices on whether data from wholly owned companies, subsidiaries, joint ventures, support services, and suppliers in the value chain should be included in environmental disclosures. Companies often fail to disclose the reasons for not including their value chains in their reporting.

The most advanced companies report on the entire value chain, using a lifecycle perspective, and provide a clear picture of what is included in calculations. Few companies are however explicit on exactly which parts of the value chain they report on. Furthermore, some companies only report on certain business units or locations. It is noted that this Report does not specifically address the issue of boundary.

5.2 Reporting Methodologies and Metrics

The range of different measurement techniques for environmental disclosures (including estimates and assumptions) can result in significantly different reporting outcomes and thereby affect comparability with other companies. In some cases companies report in absolute terms whereas in others companies use intensity metrics, such as energy or water consumption per unit of goods produced or another relevant factor. From the analysed reports, very few companies explained the measurement methods for each area, both when they use recognized reporting tools and frameworks and also when they have developed their own tools for environmental disclosure. We found that excluding this information devalues the reported information because it makes it less understandable and less comparable. Disclosure on methodologies used to collect the information (reporting process) is also generally missing. The issues of methodologies and metrics are specifically addressed in this Report.

⁶³ "Boundary" is part of the "completeness" principle for defining report content in the GRI G4 reporting framework (along with "scope" and "time"). The GRI G4 Implementation Manual defines boundary as the "description of where impacts occur for each relevant topic. In setting the Boundaries, an organization should consider impacts within and outside of the organization", see <https://www.globalreporting.org/resourcelibrary/GRIG4-Part2-Implementation-Manual.pdf> p. 34 for further information.

5.3 Reporting Context

A final important factor is the common lack of context in reporting which is needed to get a clear view of the company's real environmental performance. An example of context of environmental disclosure is when companies provide information on the availability of water in the area of operation along with disclosure on the water use of the company (compared to other water users in the watershed). The importance of context is highlighted in reporting frameworks such as the GRI and IIRC but it is rare that companies make an effort to include relevant data for context. Further information on the concept of context of reporting can be found in chapter 8 of this Report.

6

IMPROVING THE QUALITY OF ENVIRONMENTAL DISCLOSURE

6.1 Overview

The subsequent sections of this chapter provide details on the reporting of GHG emissions, energy, water and materials/waste. Each section starts with key research findings on the current state of reporting on the environmental area and an overview of key related reporting guidance and tools.

Following the section on frameworks and tools is an overview of components of key importance for comprehensive reporting on material environmental impacts. We consider the components to cover the information a reader would expect to find, taking into consideration key reporting frameworks and tools as outlined in the chapter. If companies feel that some of the components or reporting indicators are not relevant to them, the reasons for this should be explained.⁶⁴

The overview of the key components for comprehensive reporting for each of the areas is followed by an example. The aim of the example is to show how companies can report in line with the recommendations. It is noted that the examples only cover part of the companies' reporting with further details available on the companies' websites.

Where applicable, we have included an outline of on-going research on reporting on the environmental areas.

At the end of the chapter there is a section dedicated to recommendations on how to improve the quality of reporting of the four areas, addressed to companies and other stakeholders.

6.2 Reporting on Greenhouse Gas (GHG) Emissions

6.2.1 Current State of Reporting on GHG Emissions/Key Research Findings

Most of the analysed companies reported on GHG emissions referencing the Greenhouse Gas Protocol (GHG Protocol, see following section). Of the four key environmental areas, GHG emissions are the most consistently reported. The high GHG emitting sectors such as mining and metals, cement, power generation, airlines, automobile and agriculture are generally expected to place particular emphasis on their efforts to reduce GHG emissions.

Today, investors supporting CDP (see details below) expect that listed companies report on their GHG emissions.⁶⁵ Larger companies are also beginning to encourage or demand their suppliers to reduce and report on their emissions, as stakeholders are increasingly holding companies accountable for GHG emissions throughout their supply chains and value chains. This in turn has led to an increase in reporting requirements of SMEs.

⁶⁴ For information on the "report or explain" concept see the GRI website: <https://www.globalreporting.org/network/report-or-explain/>

⁶⁵ <https://www.cdp.net/en-US/Pages/HomePage.aspx>

There is some variance in how the data is presented and calculated by companies, due to flexible calculation methodologies, e.g. in the GRI reporting framework.⁶⁶ Some companies only report on total GHG emissions, while others provide more details in line with guidance of the key GHG emissions reporting frameworks outlined below.

6.2.2 Key Tools and Frameworks for GHG Emissions Reporting⁶⁷

GHG Protocol

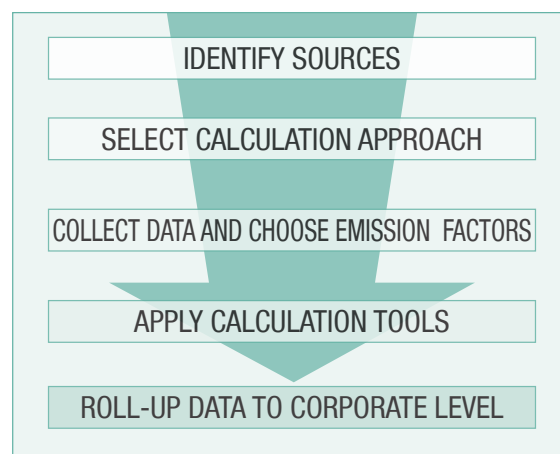
The GHG Protocol Corporate Accounting and Reporting Standard,⁶⁸ or the “GHG Protocol”, guides companies step by step through their GHG emissions accounting. Developed by the World Resource Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), the GHG Protocol is the most commonly referenced standard for GHG accounting and provides the accounting framework for most GHG standards and programmes in the world.⁶⁹

The standard has three scopes for GHG emissions:

- ➡ **Scope 1: Direct GHG emissions**
- ➡ **Scope 2: Electricity indirect GHG emissions**
- ➡ **Scope 3: Other indirect GHG emissions**

In addition to the standard, the GHG Protocol offers calculation tools and various guidance on its website.⁷⁰

FIGURE 3 STEPS IN IDENTIFYING AND CALCULATING GHG EMISSIONS



Source: GHG Protocol Corporate Accounting and Reporting Standard, p.41⁷¹

66 See for example different GHG emissions calculation methods in GRI’s <https://www.globalreporting.org/resourcelibrary/GRIG4-Part2-Implementation-Manual.pdf>, p. 108.

67 This chapter lists the frameworks and tools that were most commonly used in GHG emissions reporting by the analysed companies. There is a variety of other frameworks and tools for GHG emissions reporting such as ISO 14064 and the Climate Change Reporting Framework of the Climate Disclosure Standards Board (CDSB).

68 <http://www.ghgprotocol.org/files/ghgp/public/ghg-protocol-revised.pdf>

69 <http://www.ghgprotocol.org/>

70 <http://www.ghgprotocol.org/about-ghgp>

71 <http://www.ghgprotocol.org/files/ghgp/public/ghg-protocol-revised.pdf>, p. 41.

GRI (G4-EN 15, 16, 17, 18 and 19)

In the GRI G4 reporting framework there are five indicators for GHG emissions, which are based on the GHG Protocol. The indicators cover scopes 1, 2 and 3 of the GHG Protocol (outlined above) as well as GHG emissions intensity and reduction. The metrics used is tons of CO₂ equivalent.

Information is required on methodologies and standards used as well as assumptions the company makes.⁷² There is also some guidance provided on how to report, including different conversion methodologies.⁷³

CDP

CDP (the Carbon Disclosure Project) works with investors, governments and companies towards preventing climate change. It does so by requesting carbon, forest and water information from the world's largest companies through surveys.⁷⁴ CDP uses the GHG Protocol as the framework for information on GHG emissions.⁷⁵ CDP works with the GRI to ensure that its survey and the GRI indicators are aligned and complementary.⁷⁶

6.2.3 Comprehensive Reporting on GHG Emissions

Following the GHG Protocol methodology, most companies break down GHG emissions into scopes 1 (direct), 2 (indirect from purchased electricity), and 3 (other indirect). This has become an established methodology although calculation methods for GHG emissions vary. The most advanced companies are the ones that attempt to measure and report GHG emissions throughout the entire value chain for the full life-cycle of their products and who report absolute as well as normalized emissions using intensity metrics. A small vanguard of companies reports their GHG emissions in the context of their fair share of the carbon budget determined by climate science (refer to chapter 8.1).

Presentation of GHG Emissions Data

The most comprehensive GHG emissions reporting outlines:

- The methodology used for reporting on GHG emissions;
- A global overview of GHG emissions (scope 1-3) in line with guidance provided by the GHG Protocol, indicating where emissions occur;
- Information on the GHG intensity of the company's operations;
- Tables outlining details of scope 1-3 (scope 3 is often portrayed in a separate table);
- Performance/emissions change (increase/decrease) over a time period, indicating a base year and performance goals;
- Efforts made to reduce the level of GHG emissions;
- Alignment with science-based GHG reduction targets.

Energy consumption and type of energy is often reported alongside GHG emissions data as the two reporting areas are closely related (see further information on energy reporting in the following chapter).

72 <https://g4.globalreporting.org/specific-standard-disclosures/environmental/emissions/Pages/default.aspx>

73 <https://www.globalreporting.org/resourcelibrary/GRIG4-Part1-Reporting-Principles-and-Standard-Disclosures.pdf>, p. 57.

74 <https://www.cdp.net/>

75 <http://www.ghgprotocol.org/about-ghgp>

76 <https://www.cdp.net/CDP%20Questionnaire%20Documents/CDP-climate-change-information-request-2014.pdf>, p. 16.

Example

The US-based software company Autodesk is an example of a company with a clear presentation of its GHG emissions. It has been chosen as one of CDP's Climate Change Leaders since 2012.⁷⁷ Autodesk covers the components for comprehensive reporting on GHG emissions as outlined above.

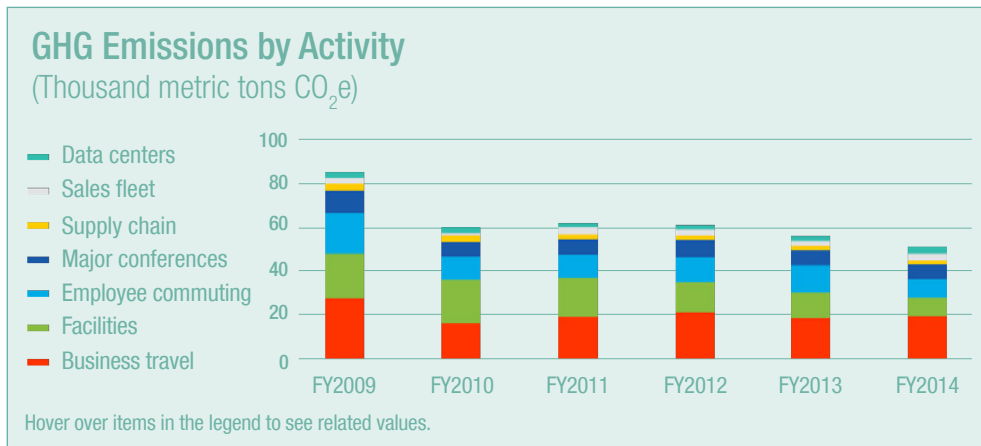
Methodology

For its GHG emissions reporting, Autodesk refers to the GHG Protocol⁷⁸ and GRI's G3 Sustainability Reporting Guidelines.⁷⁹

Global overview

Autodesk provides an overview of its GHG emissions 2009-2014 by activity, as shown below. In Autodesk's sustainability report, from which this overview is taken, exact values appear when hovering over the items in the legend.

FIGURE 4 AUTODESK'S GHG EMISSIONS 2009-2014 (GRAPH)



Source: Autodesk's Sustainability Report 2014, p.11⁸⁰

Tables outlining details of scope 1-3

Various tables are provided with information on the GHG emissions, divided between scopes 1, 2 and 3. Autodesk provides information on global emissions as well as information on changes in emission intensity over time. Autodesk also portrays the division of emissions by type of operation, notably for scope 3 emissions. The information in the table below is taken from the company's sustainability report. The table has been considerably shortened and simplified here for illustration purposes. Please refer to the comprehensive performance summary in Autodesk's sustainability report for more complete and detailed information.

77 <https://www.cdp.net/CDPResults/CDP-SP500-leaders-report-2014.pdf>

78 http://static.autodesk.net/dc/content/dam/autodesk/www/sustainability/docs/pdf/Sustainability_Report_2014.pdf p.11.

79 http://static.autodesk.net/dc/content/dam/autodesk/www/sustainability/docs/pdf/Sustainability_Report_2014.pdf p.28.

80 http://static.autodesk.net/dc/content/dam/autodesk/www/sustainability/docs/pdf/Sustainability_Report_2014.pdf

TABLE 1 AUTODESK'S GHG EMISSIONS 2009-2014

Environment	FY2010	FY2011	FY2012	FY2013	FY2014
Climate change					
Greenhouse gas (GHG) emissions [metric tons CO ₂ e]	60,600	62,500	61,600	56,400	53,100
GHG emissions intensity [metric tons CO ₂ e/million US\$ revenue]	35.3	33.5	27.8	24.4	23.4
Scope 1: Direct emissions from owned/controlled operations [metric tons CO ₂ e]	2,360	4,320	3,140	2,160	2,480
Scope 2: Indirect emissions from the use of purchased electricity, steam, heating, and cooling [metric tons CO ₂ e]	7,360	5,780	3,710	3,390	1,970
Scope 3: Upstream	50,000	51,800	54,100	50,300	48,300
Scope 3: Downstream	875	642	675	542	393

Source: Autodesk's Sustainability Report, p. 21⁸¹

Autodesk's sustainability report includes a link to its CDP 2014 Climate Change Response, where the company provides information about the geographic distribution of its scope 1 and 2 GHG emissions, as well as scope 3 information based on the type of operation. The tables below are taken from the CDP's database of company and city responses.

TABLE 2 AUTODESK'S GHG EMISSIONS REPORTING BY COUNTRY/REGION

Country/Region	Scope 1 t CO ₂ e	Country/Region	Scope 2 t CO ₂ e
United States of America	306	Argentina	6.74
Canada	310	Australia	169.58
United Kingdom	30	Brazil	2.6
Rest of world	1834	Canada	381.88
		China	52.84
		Czech Republic	15.44
		France	8.49
		Germany	78.2
		Italy	0
		Mexico	25.32
		Poland	126.42
		Singapore	388.43
		Spain	14.17
		Switzerland	34.2
		Rest of world	35.69
		America	630

Autodesk communicates its plans to reduce its GHG emissions by 9.08% per year (relative to 2010) through 2020, at which point the company will evaluate the plans' success and continue on the path to 2050.⁸²

81 http://static.autodesk.net/dc/content/dam/autodesk/www/sustainability/docs/pdf/Sustainability_Report_2014.pdf

82 http://static-dc.autodesk.net/content/dam/autodesk/www/sustainability/docs/pdf/greenhouse_gas_white_paper000.pdf p. 9.

Efforts made to reduce GHG emissions

On its website, Autodesk outlines its efforts for reducing GHG emissions including energy reduction activities and energy efficiency measures.⁸³ Its sustainability report provides more details on these activities, focusing on its supply chain, energy use in its facilities, data centre energy use and employee travel and meetings.⁸⁴

Alignment with science-based GHG reduction targets

Autodesk's plans to reduce GHG emissions have been set specifically to reach scientific and policy climate stabilization targets. In its C-FACT methodology, made publicly available for use by other companies, Autodesk calls for alignment of reduction targets with the Intergovernmental Panel on Climate Change (IPCC) target of 85% GHG emission reduction by 2050 for industrialized countries and 50% reduction for developing countries.⁸⁵

6.2.4 Ongoing research on GHG Emissions Reporting

In May 2014 the Climate Disclosure Standards Board (CDSB) issued a discussion paper on organizational boundary setting for non-financial reporting. The paper specifically addresses the topic of boundary setting for GHG emissions, building on existing guidance on the topic by organizations including the GRI, IIRC, SASB and the GHG Protocol. The paper is a start of a wider discussion and work on clarifying how businesses should set the boundary for non-financial topics including GHG emissions, or as stated in its conclusion:

“... this is the just the start of what we anticipate being a much larger exercise that will need to investigate in detail questions such as whether:

- a) A single approach to organizational boundary setting as proposed above will enable all sectors to make disclosures that provide investors with the full range of information they need for decision-making;
- b) The single approach proposed above aligns precisely with the already established and widely used “financial control” approach under the GHG Protocol;
- c) Certain entities should be specifically excluded from non-financial reporting such as discontinuing operations or those earmarked for disposal, and whether such an approach would align with financial reporting rules whilst satisfying the objectives of non-financial reporting ...”⁸⁶

UNEP emphasizes the need for further alignment of reporting boundaries for GHG emissions and endorses the work taken on by CDSB for advancing the topic in collaboration with the relevant stakeholder groups.

Integrating Context into GHG Emissions Reporting: *Science Based Targets*

In September 2014, the organizations CDP, WWF, World Resource Institute, and the UN Global Compact publicly launched the *Science Based Targets* initiative to provide guidance on setting science-based carbon targets.⁸⁷ The project highlights existing methodologies and metrics for measuring GHG emission reductions in the context of trajectories and scenarios from the climate science community, such as

83 <http://usa.autodesk.com/adsk/servlet/index?siteID=123112&id=11215396>

84 http://static.autodesk.net/dc/content/dam/autodesk/www/sustainability/docs/pdf/Sustainability_Report_2014.pdf, p. 11-13.

85 http://static-dc.autodesk.net/content/dam/autodesk/www/sustainability/docs/pdf/greenhouse_gas_white_paper000.pdf, p.9.

86 http://www.cdsb.net/files/Proposals_for_mainstream_report_boundary_setting.pdf

87 <http://www.sciencebasedtargets.org/>

the Center for Sustainable Organizations Context-Based Carbon Metric, Autodesk's C-FACT, and BT's Climate Stabilizing Intensity (CSI) Targets.⁸⁸ It is also developing a new Sectoral Decarbonization Approach (SDA) that applies GHG reduction targets at the sector level.⁸⁹

6.3 Reporting on Energy

6.3.1 Current State of Reporting on Energy/Key Research Findings

Energy consumption is typically measured by the amount of fuel and electricity purchased from a third party or created onsite, often reported in kWh or Joules. GRI has five indicators for energy (see below). In the analysed reporting, a range of units were seen, including GJ/ton and kWh/m² for total electricity and gas use. Some companies associate their energy consumption with the amount of goods produced or area used for operations (intensity metrics). kWh/FTE is commonly used to demonstrate electricity use per full-time employee in service industry sector companies (i.e. banks).

Information on energy consumption can generally be rather easily gathered through fuel and electricity bills, although where companies rent space in larger complexes (such as shopping malls), information on energy consumption is not always accurately available. Generally, however, the reporting methodology for energy is rather consistent and straightforward compared to the other environmental areas and given its direct cost implication, reducing energy consumption has a clear business case for companies. However, what is often missing is the environmental impact of the energy consumption, i.e. information on the larger environmental context in which the company operates, such as availability of renewable energy.

6.3.2 Key Tools and Frameworks for Energy Reporting

GRI (indicators G4 EN3, 4, 5, 6 and 7)

In the GRI G4 reporting framework there are five indicators relevant for energy. The indicators cover energy consumption (in joules, watt-hours or multiples) within and outside the company (value chain), energy intensity, reduction of energy consumption and reductions in energy consumptions of products and services.

More detailed information on energy source (non-renewable, renewable etc.) is demanded for information on energy consumption within the company than outside the company. Information is required on methodologies and standards used as well as assumptions the company makes.⁹⁰

CDP

As part of its climate change survey CDP (see section 7.2 above on GHG emissions) asks companies about information on energy consumption (MWh) for its information requirements on emissions.⁹¹

88 <http://sciencebasedtargets.org/existing-methodologies>; <http://www.sustainableorganizations.org/context-based-metrics-in-public-domain.html>; <http://www.autodesk.com/sustainable-design/business-practices/cfact-corporate>; <http://www.btplc.com/Betterfuture/NetGood/OurNetGoodgoal/OurCSIMethodology/index.htm>

89 <http://sciencebasedtargets.org/methodology>

90 <https://g4.globalreporting.org/specific-standard-disclosures/environmental/energy/Pages/default.aspx>

91 <https://www.cdp.net/CDP%20Questionnaire%20Documents/CDP-climate-change-information-request-2014.pdf>, p. 10.

6.3.3 Comprehensive Reporting on Energy

In line with guidance from the GRI and CDP as summarized above, at minimum, companies should outline the following when reporting on their energy use:

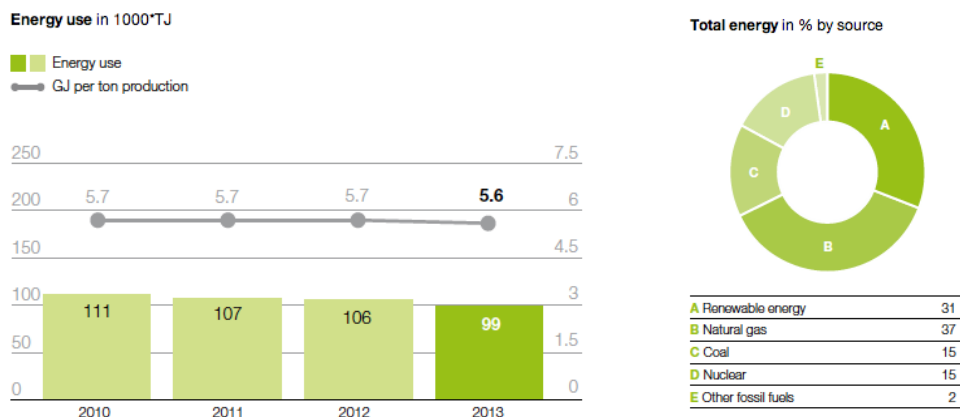
- ➡ Overview of total annual energy use over a time period (in joules or watt-hours);
- ➡ Information on the energy intensity of the company's operations;
- ➡ Overview of energy sources, including share of renewable energy;
- ➡ Steps taken to increase energy efficiency and use of renewable energy, in the context of the company's sustainability performance goals and strategy;
- ➡ When possible, the monetary value of energy savings should be provided.

Example

The Netherlands headquartered chemical company Akzo Nobel reports on its energy use in line with the GRI reporting framework and CDP.⁹²

The image on the left provides an overview of the total annual energy use over a time period and the image to the right gives an overview of the company's energy sources including the share of renewable energy.

FIGURE 5 AKZO NOBEL'S ENERGY REPORTING 2013



Energy use [TJ] is the sum of fuels, electricity, steam, hot water and other utilities (expressed as fuel equivalents).

- Energy use per ton of production reduced slightly to 5.6 GJ/ton. Absolute energy use was down 7 percent to 99,000 TJ in line with lower production volumes
- The total costs of energy used in our production was about €0.6 billion
- The indicative monetary value of the energy savings is €20 million
- Total energy consumption for Specialty Chemicals was 92,000 TJ; Performance Coatings 5,000 TJ and for Decorative Paints 2,000 TJ
- More details about the energy sources can be found on our website

Our Renewable Energy Supply Strategy has three focus areas: protecting our current renewable share, participating in cost effective, large energy ventures, and exploring commercially feasible on-site renewable energy generation. Specific projects in progress include:

- Investment in wind power in the Nordics as part-owner of the VindIn consortium. VindIn already has 35 wind turbines in operation, with many more to come over the next couple of years (1,000 GWh targeted annually)
- A long-term power purchase agreement with the largest and most efficient biomass power plant in the Benelux region
- A custom-built, two-kilometer long pipeline providing steam from a waste-to-energy plant to AkzoNobel's salt site in Hengelo, the Netherlands

Source: Akzo Nobel's Report 2013⁹³

The images are accompanied with key information on energy savings (including monetary value) and investments in renewable energy. On the website (see link under image) there is further information on projects for increasing the share of renewable energy and energy efficiency.

92 https://www.akzonobel.com/sustainability/managing_sustainability/reporting_verification/gri_content_index/
 93 <http://report.akzonobel.com/2013/ar/sustainability/environment/note-14-energy.html>

6.4 Reporting on Water

6.4.1 Current State of Reporting on Water/Key Research Findings

Water usage is typically reported in terms of total volume of water withdrawn. Some companies also measure water intensity, quality and percentage of recycled water. The details and measurement methods, however, vary significantly. Companies that draw water from sources for their operations generally do not include information on the availability of water in their area of operations, i.e. contextual information is missing for readers to understand the real impact of the company on water sources. Furthermore, companies rarely address in their reporting the qualitative characteristics of water that is discharged, as most companies typically report on their wastewater in terms of volume only. This is an area which would benefit from stronger guidance given the variety of scientific indicators that can be used to measure the quality of water.

Several frameworks and tools for reporting on water exist, as shown below, but their consistency is limited, which prevents effective performance comparison. Although there are three GRI indicators for water (see below), few companies report on all three, and there is still much variance in terms of the reporting quality. Some companies opt for reporting qualitatively on water rather than using metrics.

6.4.2 Key Tools and Frameworks for Water Reporting⁹⁴

GRI (indicators G4 EN8, 9 and 10)

In the GRI G4 reporting framework there are three indicators relevant for water. The indicators cover volume of water withdrawal by source, number and size of water sources significantly affected by withdrawal of water and percentage and total volume of water recycled and reused. Information is required on methodologies and standards used as well as assumptions the company makes.⁹⁵

WBCSD Water Tool

The WBCSD Global Water Tool (GWT) was launched in 2007 and is used by over 300 companies. The tool consists of two key parts:

- ➡ An Excel workbook for site location and water use data entry for generating a water inventory, reporting indicators (GRI, CDP Water, DJSI and Bloomberg), with other risk and performance metrics;
- ➡ An online mapping system enabling companies to plot their sites with external water datasets and download those locations on a map.⁹⁶

CDP Water Questionnaire

Aimed at investors, the CDP Water Disclosure builds on survey based reports on companies' water management. The first version of the CDP water reporting requirements was released in December 2013.⁹⁷

94 This chapter lists the frameworks and tools that were most commonly used in water reporting by the analysed companies. There is a variety of other frameworks and tools for water reporting, such as the WRI Aqueduct (<http://www.wri.org/our-work/project/aqueduct>) and CERES Aqua Gauge (<http://www.ceres.org/issues/water/corporate-water-stewardship/aqua-gauge/aqua-gauge>).

95 <https://g4.globalreporting.org/specific-standard-disclosures/environmental/water/Pages/G4-EN10.aspx>

96 <http://www.wbcd.org/work-program/sector-projects/water/global-water-tool.aspx>

97 <https://www.cdp.net/Documents/Guidance/2014/Water-reporting-guidance-2014.pdf>

UNGC CEO Water Mandate

The UNGC CEO Water Mandate, a public-private partnership, is designed to assist companies in “the development, implementation and disclosure of water sustainability policies and practices.”⁹⁸ Part of the CEO Water Mandate is The Corporate Water Disclosure Guidelines (September 2014),⁹⁹ which include three key pillars:

- ➡ Company Water Profile (company’s relationship with water resources);
- ➡ Defining Report Content;
- ➡ Detailed Disclosure.

The Detailed Disclosures embed the following areas:

Current State	Implications	Response
<ul style="list-style-type: none"> • Context • Performance • Compliance 	<ul style="list-style-type: none"> • Business risks • Business opportunities • External impacts 	<ul style="list-style-type: none"> • Policies, governance and targets • Internal actions • External engagement

6.4.3 Comprehensive Reporting on Water

Summarizing GRI’s and the CEO Water Mandate Guidelines, companies should at minimum consider the following steps when reporting on water:

- ➡ Water withdrawal and usage in the company’s operations, when possible providing information at the level of the different withdrawal sources;
- ➡ Risk management and mapping of the company’s impact on water sources with a key focus on impact on water scarce regions;
- ➡ Information on the water intensity of the company’s operations or products;
- ➡ Information on water volumes and quality that is discharged or recycled and reused (where applicable) in total volume and percentage of total water used;
- ➡ Measures undertaken to reduce the company’s impact on water sources and to increase water efficiency in its operations.

Example

The US-based biopharmaceutical company Amgen provides information on its water withdrawal, use and management primarily through its website, a “Sustainability Highlights” report and CDP Water Response. The table below, taken from the 2013 Sustainability Highlights report, provides a comprehensive overview of most steps outlined under “Comprehensive Reporting on Water” above.

98 http://ceowatermandate.org/files/Mandate_Brochure.pdf

99 <http://ceowatermandate.org/files/Disclosure2014.pdf>

TABLE 3 AMGEN'S WATER REPORTING 2013 (OVERVIEW TABLE)

TYPE	UNIT	2007	2010	2011	2012	2013
Total Water Withdrawal (k,c)	1,000 CM	3,286	2,574	2,577	2,720	2,725
Municipal	1,000 CM	3,249	2,561	2,560	2,707	2,712
Other – (Reservoir) Trucked In	1,000 CM	8	–	–	–	–
Ground	1,000 CM	29	14	17	13	13
Total Water Withdrawal Normalized to Net Sales	1,000 CM/\$B net sales	230	176	169	163	150
Water Fate	1,000 CM	–	2,576	2,584	2,720	2,739
Consumed Into Products	1,000 CM	–	20	20	21	21
Lost to Evaporation	1,000 CM	–	736	633	713	684
Discharged to Treatment	1,000 CM	–	1,554	1,663	1,662	1,758
Discharged Directly to Environment	1,000 CM	–	267	267	324	276
Recycled	1,000 CM	–	453	533	535	655
Percentage of Water Recycled per Total Water Withdrawal	%	–	18	21	20	24.0
Confirmed Results of Water Reduction Projects (b)	1,000 CM	–	663	673	690	19

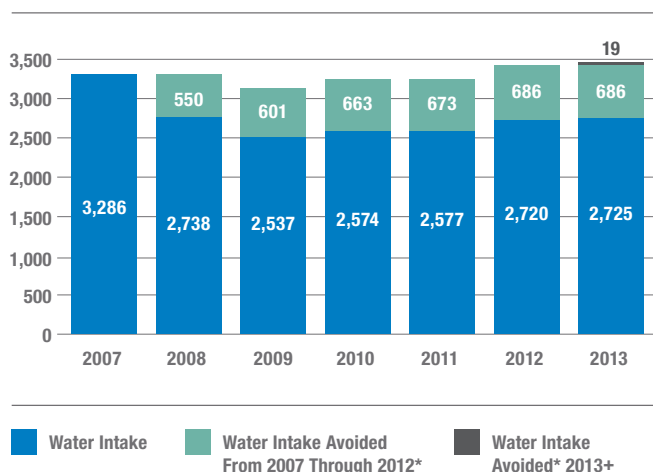
Source: Amgen 2013 Sustainability Highlights, p.11¹⁰⁰

Water withdrawal and usage in the company's operations

The graph below, taken from Amgen's 2013 Sustainability Highlights report, provides an overview of total water withdrawal by the company.

FIGURE 6 AMGEN'S WATER INTAKE 2007-2013

2007–2013 Water Intake and Intake Avoided* Through Conservation Efforts (1,000 m³)



*Value represents year-over-year, cumulative, and continuing avoidance.

Source: Amgen 2013 Sustainability Highlights, p.7¹⁰¹

100 http://environment.amgen.com/files/13ESR_Brochure_Web.pdf
 101 http://environment.amgen.com/files/13ESR_Brochure_Web.pdf

Mapping of the company's impact on water sources (focus on impact on water scarce regions)

As displayed in the overview table at the beginning of the example, most of the water used by Amgen comes from municipal sources and, to a minor extent, from groundwater sources. Amgen's 2013 CDP Water Response¹⁰² provides more details on the geographical distribution of withdrawal among operation in the USA, the Netherlands, the United Kingdom, Canada and Ireland.

Information on the water intensity of the company's operations

In its annual response to CDP's water questionnaire, Amgen communicates on the overall average water intensity of its products at group level, differentiating by intensity in production and in financial terms. Amgen's 2013 CDP Water Response can be consulted on CDP's database for the detailed tables.¹⁰³

Information on water that is discharged or recycled and reused

As displayed in the overview table at the start of this example, 324,000 m³ of water were directly discharged to the environment and 1,662,000 m³ to treatment in 2012. In that same year, Amgen recycled 535,000 m³ of water (655,000 m³ in 2013), accounting for 20% of its total withdrawals. Amgen's 2013 CDP response provides more details on the geographical distribution of these recycling efforts, 98% being concentrated in its USA operations and 2% in Ireland.

Amgen's disclosure in this area is in line with the common practice of reporting exclusively in terms of volume, as outlined above under "Current State of Reporting on Water/Key Research Findings". The German chemicals group Lanxess is an example of a company that reports on the quality of the water it discharges. The table displayed below has been taken from its 2013 sustainability report and simplified here for illustration purposes. More details, including on measurement methods, can be found in the sustainability report.

TABLE 4 LANXESS' REPORTING ON QUALITY OF DISCHARGED WATER

WASTEWATER IN MILLION CUBIC METERS/YEAR	2011	2012 ^{c)}	2013 ^{c)}
TOTAL WASTEWATER DISCHARGE (EN21)	272 ^{b)}	291	276
Cooling water (uncontaminated, without treatment) ^{d)}	239 ^{b)}	257	244
Production wastewater (with treatment)	33 ^{b)}	34	32
EMISSIONS IN WASTEWATER (AFTER TREATMENT)			
Total nitrogen	0.54 ^{b)}	0.53	0.48
Total organic carbon (TOC)	2.2 ^{b)}	2.2	2.0
Heavy metals ¹⁰⁾	0.0045 ^{a)}	0.0060	0.0045

Source: Lanxess Annual Report 2013, p. 38¹⁰⁴

102 http://environment.amgen.com/files/Amgen_2013_CDP_Water_Disclosure.pdf

103 http://environment.amgen.com/files/Amgen_2013_CDP_Water_Disclosure.pdf

104 <http://lanxess.com/en/corporate/investor-relations/publications/annual-reports/>

Measures undertaken to reduce the company's impact on water sources and to increase water efficiency in its operations

The bottom line of the overview table at the start of this example provides a measure of savings through water reduction projects. In addition, Amgen's website¹⁰⁵ section dedicated to its water approach includes highlights on water mapping activities to improve understanding of its footprint, a corporate Water Conservation Programme, and energy reduction efforts with an impact on water. The company has received municipal awards for wastewater management.

6.4.4 On-going Research Relevant for Water Reporting

Further research is needed to advance reporting on water. A number of organizations and initiatives are currently working together to bring about much needed standardizations for water reporting. These include WFN (Water Footprint Network), ISO, CDP, WBCSD, WRI (World Resources Institute), WULCA, WWF and GRI, among others.¹⁰⁶

Research by the Water Footprint Network (WFN)

The WFN published the Global Water Footprint Standard¹⁰⁷ in 2009 (updated in 2011), for use of both companies and governments. Among others it introduced the distinction between blue, green and grey water categories. The standard is maintained through on-going research under the WFN Technical Work Programme.¹⁰⁸

Research by the WULCA working group

Established in 2007 and now counting around a hundred expert members, the WULCA (Water Use in LCA) working group is advancing work on harmonizing water use impact assessment and water footprint, taking a life cycle perspective with a focus on product sustainability. The group was founded under the auspices of the UNEP/Society for Environmental Toxicology and Chemistry (SETAC) Life Cycle Initiative. Several WULCA members were also involved in the creation of the standard ISO 14046:2014 on water footprinting.¹⁰⁹ WULCA's methodology – expected at the end of 2015 – will provide companies with a consensus-based indicator and guidance to, among others, quantify their water consumption and associated potential impact from depriving other users, including humans and ecosystems. This information can prove valuable both for the elaboration of sustainability reports and for the reporting company to better assess and understand its water related processes and potential impacts.

While many water methodologies and metrics measure water use in the broad context of water stress and water scarcity, they generally do not apply a full context-based approach – which would require measuring the availability of renewable water resources to individual companies in the context of existing draws on water resources at a watershed level. Additional details on this approach are provided in chapter 8.1.

105 <http://environment.amgen.com/performance/focus/water#approach>

106 <https://www.cdp.net/en-US/Pages/guidance-water.aspx>

107 <http://www.waterfootprint.org/downloads/TheWaterFootprintAssessmentManual.pdf>

108 <http://www.waterfootprint.org/?page=files/TechnicalWorkProgramme>

109 <http://www.wulca-waterlca.org/mission.html>

6.5 Reporting on Materials and Waste

6.5.1 Current State of Reporting / Key Research Findings

Reporting on materials and waste commonly includes:

- ➡ Origins of materials used for production;
- ➡ Results of applying a 3R approach (reduce, reuse, recycle) including reduction of hazardous elements in products and percentage of waste sent to a landfill;
- ➡ Identification of major waste streams;
- ➡ Categorization of types of waste, including non-hazardous and hazardous waste.

Where companies report on their use of materials, this is generally limited to the two dedicated GRI indicators of weight or volume and type of materials used (see below). Companies rarely include a more detailed reporting of the flow of material throughout their supply chain.

Waste is commonly measured by weight or volume (depending on the type of waste). The key framework for reporting on materials and waste is the reporting framework of the GRI.

Although there are five GRI indicators for waste (see below), few companies report on all five (in line with water disclosure trends), and there is still much variance in terms of the reporting quality. Information on treatment of chemicals and hazardous waste is often lacking, including information on when hazardous waste is transported for treatment elsewhere. No particular methodology seems to be followed and the reporting scope varies. There is generally no information about how waste data is being measured or estimated.

6.5.2 Key Tools and Frameworks for Materials and Waste Reporting

GRI (indicators G4-EN 1, 2, 22, 23, 24, 25 and 26)

Materials (G4-EN 1 and 2)

In the GRI G4 reporting framework there are two indicators relevant for materials. Those indicators cover materials used by weight or volume (divided into renewable and non-renewable materials) and percentage of materials used that are recycled input materials.¹¹⁰

Effluents and Waste (G4 EN-22, 23, 24, 25 and 26)

In the GRI G4 reporting framework there are five indicators relevant for waste (referred to as “effluents and waste”). The indicators cover total water discharge (waste water), weight of waste by disposal method, number and volume of significant spills, weight of hazardous waste (transported, imported, exported and treated) and water bodies and related habitats affected by the company’s water discharge and runoffs.¹¹¹

Information is required on methodologies and standards used as well as assumptions the company makes.

¹¹⁰ <https://g4.globalreporting.org/specific-standard-disclosures/environmental/materials/Pages/default.aspx>

¹¹¹ <https://g4.globalreporting.org/specific-standard-disclosures/environmental/effluents-and-waste/Pages/default.aspx>

6.5.3 Comprehensive Reporting on Materials and Waste

Comprehensive reporting on materials and waste should typically include:

- Type and quantity of materials used for production and daily operations;
- Total quantity of waste produced, when possible differentiating by operation;
- Total quantity and/or percentage of waste recycled/sent to a landfill and if applicable, reused as inputs for productions and/or daily operations;
- Total quantity of hazardous waste and its management, where applicable.

Example

The Abu-Dhabi company Masdar¹¹² reports on its waste management in line with GRI indicators as described above.

Type and quantity of materials used for production

The figure below, taken from Masdar's 2013 Sustainability Report, shows the type and quantity of materials used for construction and operation of buildings. The tables below are only provided as examples, more details can be found in the sustainability report.

TABLE 5 MASDAR'S WASTE REPORTING 2013 – TYPE OF WASTE

MAJOR MATERIALS USED (OCT 12-SEPT 13)	QUANTITY (TONS)	RECYCLED CONTENT (TONS)	RECYCLED (%)
Concrete	31,750	2,294	7.23
Steel	6,767	3,721	55
Aluminium	54.4	49	90

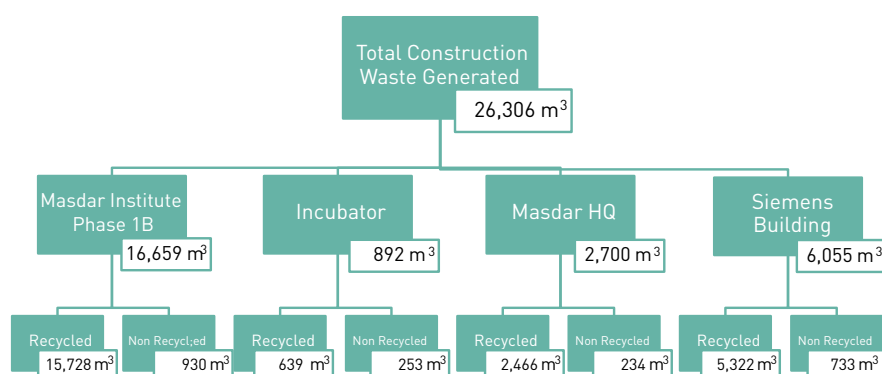
Source: Masdar 2013 Sustainability Report, p. 106.113

The figure below outlines the division of waste between construction projects.

112 Masdar is involved in renewable energy, clean technology and real estate development, see <http://www.masdar.ae/> for further information.

113 http://www.masdar.ae/assets/downloads/content/669/advancing_sustainability_masdar_2013_sustainability_report_final.pdf, p. 106.

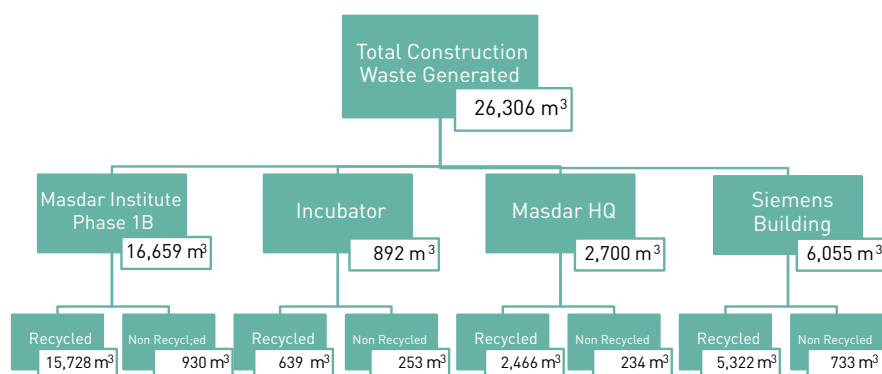
FIGURE 7 MASDAR WASTE REPORTING 2013 – TOTAL QUANTITY OF WASTE PRODUCED PER PROJECT (CONSTRUCTION)



Source: Masdar 2013 Sustainability Report, p. 95.¹¹⁴

The figure below illustrates how much waste is generated in each project as well as information on how much waste is recycled.

FIGURE 8 MASDAR WASTE REPORTING 2013 – TOTAL QUANTITY OF WASTE PRODUCED AND RECYCLED (PER PROJECT)



Source: Masdar 2013 Sustainability Report, p. 95.¹¹⁵

Total quantity and management of hazardous waste

The table below outlines the amount of hazardous waste generated through operations and construction. The report also includes information about the management of hazardous waste.

TABLE 6 MASDAR WASTE REPORTING 2013 – OVERVIEW OF HAZARDOUS WASTE

		2012			2013								
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Operational Hazardous Waste	kg	-	-	100	100	100	200	100	260	100	100	100	200
Construction Hazardous Waste	m³	-	-	-	15	-	-	20	-	-	-	10	60

Source: Masdar 2013 Sustainability Report, p. 95.¹¹⁶

114 http://www.masdar.ae/assets/downloads/content/669/advancing_sustainability_masdars_2013_sustainability_report_final.pdf, p. 95.

115 http://www.masdar.ae/assets/downloads/content/669/advancing_sustainability_masdars_2013_sustainability_report_final.pdf, p. 95.

116 http://www.masdar.ae/assets/downloads/content/669/advancing_sustainability_masdars_2013_sustainability_report_final.pdf, p. 95.

6.5.4 On-going Research Relevant to Materials and Waste Reporting

The efficient use of resources has gained a lot of attention and a number of initiatives focus on the opportunities associated with closed material loops, such as cradle-to-cradle design¹¹⁷ and the movements on circular economy¹¹⁸ and “zero waste”.¹¹⁹

At the moment there are no recognized metrics for measuring how effectively companies are moving towards a circular economic model but one of the circular economy's lead organization, the Ellen MacArthur Foundation, received a grant in 2013 to develop a web-based measuring system which will allow companies to track and measure their progress.¹²⁰

We emphasize the importance of the development of metrics to track companies' progress in moving towards closed material loops and encourage further research in this area. More specific recommendations that relate to this topic are listed below in chapter 6.6.5.

6.6 Recommendations

In addition to the steps recommended in the preceding sections on comprehensive reporting on the four environmental areas, below are some additional recommendations to enhance the quality of reporting. The recommendations are primarily addressed at reporting companies (and other reporting organizations) but some recommendations concern other stakeholders. Recommendations mainly aimed at companies are highlighted in dark green for easier reference.

6.6.1 General (for all four environmental areas)

- More effort needs to be made to place the reported environmental information into scientific context, taking into account availability of resources, the broader demand on these resources and the ability of the earth to reabsorb the outputs of the resource transformation. This recommendation will be further expanded in chapter 8.1.
- An agreement is needed on methodologies for reporting on the four environmental areas in particular for reporting of water and materials/waste.
- There is a need for more comparable corporate sustainability reporting. This is an area where reporting frameworks (standards) organizations have a key role to play. Investors could also play a stronger role in demanding more standardization in reporting from companies on key areas of interest, such as those areas highlighted in this Report.
- More information on the impacts of the reported figures on a global scale is needed, e.g. what impact do GHG emission figures have (increase or decrease) on global climate change? This is an area where governments could play a stronger role.
- Reporting on environmental areas should further link to the companies' strategy, risk management and financial reporting for a clearer picture of the impact on companies' operations and value for investors, e.g. through integrated reporting.

117 http://en.wikipedia.org/wiki/Cradle-to-cradle_design

118 The Ellen MacArthur Foundation has been one of the frontrunners of this research, for further information see publications under: <http://www.ellenmacarthurfoundation.org/business/reports/>

119 For further information on the “zero waste” movement Deloitte's 2012 report *Towards Zero Impact Growth: Strategies of leading companies in 10 industries* can be consulted under <http://www.vno-ncw.nl/SiteCollectionDocuments/Meer%20informatie/deloitte%20csr%20onderzoek.pdf>

120 <http://www.ellenmacarthurfoundation.org/business/metrics>

6.6.2 GHG Emissions

- ➔ Companies should put further emphasis on scope 3 reporting (GHG emissions in the full value chain) through engagement with suppliers and other stakeholders. A collaborative approach to measurement and reporting would be advisable where this is an option.
- ➔ Companies should report on which method they use to convert their energy use or direct GHG emissions into reporting metrics, such as tons of CO2 equivalent.

6.6.3 Energy

- ➔ In addition to the recommendations outlined in chapter 6.3, reporting on energy would improve by including explicit references to the energy strategies and management and their impact. This would follow a hierarchy that looks first at reporting results in energy reduction and efforts to design out energy needs; followed by energy efficiency initiatives in current operations; selection of renewable energy supply; selection of lower carbon fossil generated energy supply and finally efforts linked to reduce impacts of conventional generated energy sources.

6.6.4 Water

- ➔ Further guidance is needed for reporting on water (in line with guidance provided by the GHG Protocol for reporting on GHG emissions and the above-mentioned WBCSD global water tool). This guidance should build on work already advanced by key reporting framework developers and tools for water reporting.

6.6.5 Materials and Waste

- ➔ This environmental area is probably the one where most experts feel there is a need for further guidance to be developed to help strengthen the quality of sustainability reporting.
- ➔ Additional attention to and effort is needed on the reporting of the use and disposal of hazardous materials and chemicals, both from reporting companies and in reporting frameworks.
- ➔ Greater reporting collaboration using comparable metrics covering recycling of materials within sectors to see if progress is being made on a wider industry scale.
- ➔ Companies should report on their efforts to avoid waste, e.g. innovative design, efficient selection and use of materials, their performance and goals for using reusable and recyclable materials.
- ➔ Companies should identify and report on the type of materials used in their operations, especially those that produce waste in significant volumes or whose products become problematic waste.
- ➔ Where applicable, companies should include information on the flow of materials through their value chain.
- ➔ Companies should identify where they are using scarce non-renewable materials of which supply might be limited in the future and what measures the company is taking to meet that challenge.
- ➔ Companies should place more emphasis on reporting on the treatment of hazardous waste, and where it is treated (including if it is being transported elsewhere for treatment).

7

COMMUNICATING ENVIRONMENTAL DATA TO STAKEHOLDERS

7.1 Discussion of Research Findings

The research revealed that there is a common lack of information on what drives companies to report on environmental data. Companies generally do not clarify whether they report because of pressure from specific stakeholders (and if so who are the key stakeholders the company is addressing), to comply with regulation, to manage operational risks, because it is common industry practice or for other (or all of those) reasons. In many cases there are likely many combined reasons for the reporting but it is helpful for the reader to understand the drivers behind the reporting, and whether they differ between reported information. Providing this information should also be relatively easy for companies.

In addition to not disclosing the drivers, companies generally do not indicate to which stakeholder group the reported information is relevant and/or interesting. If the company has gone through a materiality assessment, it should have an indication of what areas are of key interest to which stakeholder group, and to the company itself. Leading companies not only highlight which issues are of importance to whom and where along the value chain these issues are apparent, but also their responses to those issues of relevance and significance and stakeholder concerns raised.

An interesting example of a company communicating clearly which area is reported for which stakeholder group is the Colombian utilities company EPM. In addition to giving clear visual overviews (through its sustainability reporting website) of the different stakeholder groups and their key interests, EPM outlines the stakeholder engagement process behind this information. The image below portrays EPM's overview of key areas of interest for investors.

FIGURE 9 EXAMPLE OF AN EPM'S STAKEHOLDER ENGAGEMENT OVERVIEW (FOR INVESTORS)

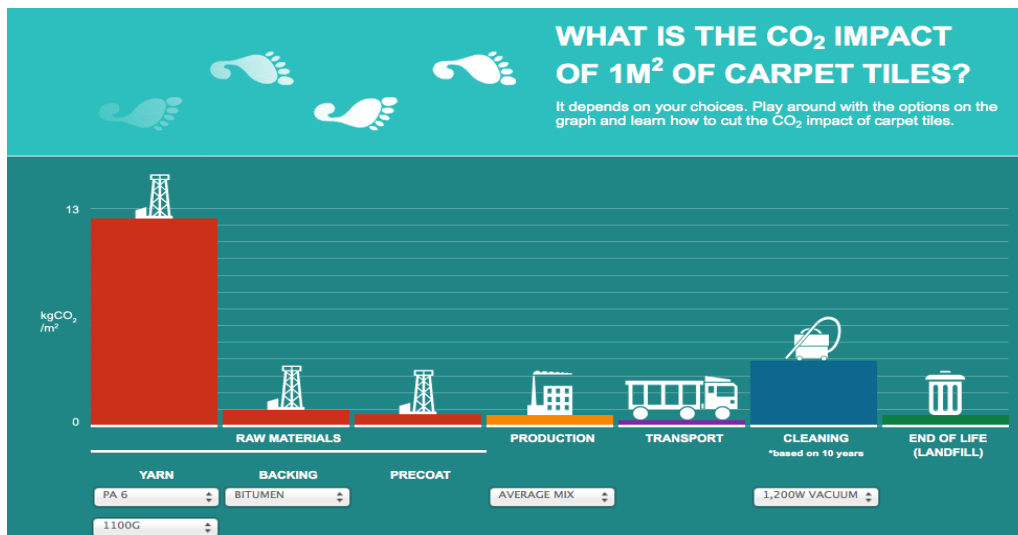
Composition		This stakeholder group comprises agents who are determinant for the provision of long-term financial resources to EPM. They act directly or indirectly in the capital market and they do not share ownership in EPM or its subsidiaries. The following are several of the investors: local and international bond holders, long-term funding resource suppliers, facilitators, and governmental entities.
Relations objective		To consolidate the trustworthiness with the investors and other local and international security market agents, aiming to ensure the corporate purpose.
Relations Plan Leader		Corporate Finance Vice-Presidency
Topics	Relevant topics	<ul style="list-style-type: none"> Social mobilization Human Rights Comprehensive water management Fees and prices
	Supplementary information	<ul style="list-style-type: none"> Environmental Responsibility and Culture Sustainable Production and Consumption

Source: EPM Stakeholder Engagement Overview 2013.¹²¹

121 <http://informedesostenibilidadepm.com.co/2013/en/gestion-social-y-ambiental/grupos-de-interes/gestion-por-grupos-de-interes/inversionistas>

An alternative type of stakeholder directed communication is when companies provide stakeholders with an opportunity for direct engagement, e.g. through the company website. An example of this is a tool that the company Interface (producer of carpet tiles) has developed for its customers. The tool shows the customer the different CO₂ emissions associated with the company's products. By using the tool the customer can take CO₂ emission information into account when making its purchasing decision.

FIGURE 10 INTERFACE'S CO₂ IMPACT TOOL FOR CUSTOMERS



Source: Interface's website, "Go Beyond" section.¹²²

Another important element observed by the research is the lack of information on the target readers, i.e. stakeholders of environmental disclosures. Few companies direct the information at a specific stakeholder group or connect the disclosures directly to results of stakeholder discussions, e.g. as a part of a materiality assessment.

Further clarity on these two areas – reporting drivers and relevance of the reported information to stakeholders – would help improve the quality of reporting. To further address these important areas we will look more closely at the key stakeholder groups identified through the research as being the most active users of sustainability information and examples of information of interest to those groups.

7.2 Key Stakeholders and their Communication/Engagement Needs

Interviews with experts and workshop discussions indicated that long-term investors, stock-exchanges, governments and companies have the ability to influence the behaviour and performance of the reporting company as well as the quality of reporting.

Table 4 provides further insight into these stakeholder groups:

¹²² http://www.interfaceflor.in/web/in/sustainability/CO2_calculator

TABLE 7 STAKEHOLDERS WITH THE MOST INFLUENCE ON QUALITY OF ENVIRONMENTAL DISCLOSURES

Stakeholder	Examples of influence	Examples of environmental information of interest
Long-term Investors	Existing or potential investment in the company enables to directly influence the company's environmental performance.	<ul style="list-style-type: none"> • What is the company's approach to enhancing energy efficiency and what are the estimated cost savings in the long term? • Is the company adequately factoring risk of future water shortage, due to growing stress on water supplies, into its financial planning?
Stock Exchanges	Stock exchanges can add sustainability related conditions to the listing of companies, such as disclosure on environmental performance, either in general or on a particular area of interest (e.g. depending on key sustainability challenges in the geographical scope of the stock exchange).	<ul style="list-style-type: none"> • Is the company's performance in key environmental areas such as GHG emissions in line with requirements from the stock exchange and is the performance communicated in line with expectations of the stock exchange? • Does the company merit listing on a sustainability index of the stock exchange? • Does the company communicate its performance on key environmental areas? • What is the relationship between sustainability and financial (stock price) performance?
Governments	<p>Governments can explicitly require sustainability disclosure from companies or regulate the activity of companies, e.g. by setting limits on pollution.</p> <p>Governments may also use other incentives for improved sustainability performance, e.g. through tax breaks.</p>	<ul style="list-style-type: none"> • How is the company addressing and maintaining the supply of natural resources? • How is the company affecting or contributing to the incline or decline of natural capital in the country? • Is the company compliant with regulations and agreed limits for pollution? • How will the company be impacted should energy or water costs change?
Companies	Companies affect reporting companies through the various business relationships, such as suppliers and client buyers of products and services. Companies are increasingly evaluating their business partners on the basis of sustainability performance.	<ul style="list-style-type: none"> • How are the GHG emissions of a key supplier affecting the company's overall GHG emissions? • What are the environmental impacts associated with the flow of materials from natural resources to the end product of the company (through the value chain)? • Is the water management of a potential business partner in line with requirements of a company that wishes to enter into a business relationship?

Other stakeholders such as Non-Governmental Organizations (NGOs), consumers and citizens in general are not included in the table. The reason for this non-inclusion is the perception from workshop discussions and expert interviews that these groups may not have the same influence on the quality of environmental disclosure as the stakeholders listed in the table above.

When it comes to communication and engagement methods for the groups listed in the table, raw-data (e.g. through a data based sustainability report) is generally the most useful form of information as these groups are often interested in data for multiple purposes (e.g. investors may want to compare trends and build risk models). Other stakeholder groups, such as consumer groups, may benefit more from a visual based communication, through advertising or social media.

Where possible, companies can best cater to different stakeholder needs by offering different ways of accessing the data. Some companies provide sustainability information through their website with an option to download the information to a report format, thereby meeting different stakeholder needs.

A summary overview of performance on key environmental indicators against goals is generally helpful for a quick insight into environmental performance for any stakeholder group. An example of such an

overview is shown below, taken from the 2013 sustainability report of Baxter, an American healthcare company.¹²³

TABLE 8 BAXTER'S ENVIRONMENTAL PERFORMANCE OVERVIEW 2013

	2005	2009	2010	2011	2012	2013	2015 GOAL
Energy Usage	0%	-20%	-21%	-25%	-26%	-27%	-30%
GHG Emissions	0%	-27%	-30%	-35%	-39%	-40%	-45%
Total Waste **	0%	-16%	-23%	-12%	-24%	-26%	-30%
Water Usage	0%	-30%	-32%	-34%	-35%	-34%	-35%
Environmental Incidents ***	0%	7%	71%	80%	107%	1,317%	-75%

Source: Interface's website, "Go Beyond" section.¹²⁴

7.3 Recommendations

- ➡ Companies should provide an improved description of their materiality determination processes;
- ➡ Companies should disclose the key drivers for their reporting as well as a mapping of which stakeholder group is interested in which reported area and how the company has responded to their needs and interests;
- ➡ The stakeholder groups that have the most influence on the quality of corporate environmental disclosure (investors, stock-exchanges, governments and companies) should actively engage with reporting companies in order to increase the quality of the disclosure and to make it more relevant for their decision making;
- ➡ Companies should ensure stakeholders can understand how the issue is being managed, e.g. by following GRI disclosure of management approach or similar guidance. Important disclosure information includes information on roles and responsibilities for sustainability management, information on the reporting process and the company's approach to assurance;
- ➡ Companies should follow established criteria to ensure ease of use by stakeholders and data quality such as the GRI quality of information principles: Accuracy; Reliability; Comparability; Clarity; Balance and Timeliness;
- ➡ Companies should present an overview of key environmental performance data against goals. The performance goals should be SMART (specific, measureable, achievable, relevant and time bound);
- ➡ Trend data should be included for 5 years where available with clear information about baselines, targets and timeframes;
- ➡ Consideration should be given to the best methods of engagement and formats for provision of information depending on the audience/stakeholder group.

123 Note that the table shown is accompanied by a chart that can be accessed through the link under the overview table.

124 <http://sustainability.baxter.com/environment-health-safety/environmental-performance/performance-at-a-glance.html>

8

LOOKING TOWARDS THE FUTURE

Some of the key challenges that we have noted through our research include the lack of context to the reported information and the complexity involved with value chain reporting. In order to address these challenges the practices of context-based reporting and collaborative reporting are emerging. We will take a closer look at these two reporting areas in this chapter.

Another important factor for improving quality of reporting is ensuring accuracy and quality of the reported information through third party assurance. While the practice of assurance is not new, assurance can be used to a greater extent and in a more coordinated way to bring greater confidence to stakeholders. The assurance practice is further explored at the end of this chapter.

8.1 The Need for Context

8.1.1 Current State

More than a decade after GRI established the concept of *Sustainability Context* – in the second generation of its *Sustainability Reporting Guidelines* (G2) in 2002 – implementation of the Principle in current organizational reporting is “incipient, uneven, and occasional”, according to GRI’s Co-Founder and inaugural CEO.¹²⁵ The *Sustainability Context* Principle, which remains essentially unchanged since its first articulation,¹²⁶ calls for

“discussing the performance of the organization in the context of the limits and demands placed on environmental or social resources at the sector, local, regional, or global level. For example, this can mean that in addition to reporting on trends in eco-efficiency, an organization may also present its absolute pollution loading in relation to the capacity of the regional ecosystem to absorb the pollutant.”¹²⁷

This near-universal lack of application of the Sustainability Context Principle is highly problematic, as supplying such context “lies at the heart of sustainability reporting”. The primary reason for this lack of uptake of the *Sustainability Context* Principle is the absence of “specific guidance for how to do so”, according to members of the Sustainability Context Group (SCG),¹²⁸ a global advocacy network.

125 Bill Baue, “A Dialogue with Allen White of GISR, the Godfather of Sustainability Context”, *Next Generation Sustainability Targets: Toward Big, Context-Based Goals*, Sustainable Brands, May 2014. <http://e.sustainablebrands.com/resources-ebook-next-generation-sustainability-targets.html> “In the best of worlds, reporting would have evolved to supply... context-based disclosures,” White states. “But this is not the case.”

126 Global Reporting Initiative, *Sustainability Reporting Guidelines* (G2), 2002, pp 27-8. <http://www.epeat.net/documents/EPEATreferences/GRIguidelines.pdf> One significant change warrants mention: GRI originally defined *Sustainability Context* in relation to multiple capitals, setting precedent subsequently followed by IIRC, SASB and GISR: sustainability reporting draws “significant meaning from the larger context of how performance at the organisational level affects economic, environmental, and social capital formation and depletion at a local, regional, or global level” GRI stated in G2. Simply reporting “on the trend in individual performance (or the efficiency of the organisation) leaves open the question of an organisation’s contribution to the total amount of these different types of capital.” Interestingly, reference to capitals disappeared in G3 (2006) and has remained absent since, even while the rest of the field embraces the multi-capital approach.

127 Global Reporting Initiative, *Sustainability Reporting Guidelines* (G4), 2013. <https://g4.globalreporting.org/how-you-should-report/reporting-principles/principles-for-defining-report-content/sustainability-context/Pages/default.aspx>

128 <http://www.sustycontext.org/>

8.1.2 Key Tools and Frameworks

Recognizing the need to translate the Principle into practice, the Center for Sustainable Organizations (CSO) was founded as a U.S.-based NGO in 2004 to develop Context-Based Sustainability (CBS), a framework for implementing *Sustainability Context*.¹²⁹ Two concepts in particular serve as pillars for Context-Based Sustainability and the related application of Context-Based Metrics (CBMs):

- ➡ **Thresholds** that demarcate the carrying capacities of vital capital resources (natural, social, human, constructed, financial) and therefore divide sustainable from unsustainable performance;¹³⁰ and
- ➡ **Allocations** that apportion to companies fair shares of responsibility and accountability for their positive and negative impacts on common capital resources that are vital to stakeholder wellbeing.¹³¹

CBMs have been applied most comprehensively to GHG mitigation in the context of science-based decarbonization pathways, with a number of similar methodologies and metrics emerging in the marketplace.

CSO's Context-Based Carbon Metric

In 2006, CSO developed a Context-Based Carbon Metric used by Unilever subsidiary Ben & Jerry's, Cabot Creamery Cooperative, and, most recently, by U.S.-based NGO Climate Counts in a pilot study of 100 companies globally.¹¹⁷

BT's Climate Stabilizing Intensity (CSI) Targets

Concurrently and independently, U.K. telecommunications firm BT developed a context-based approach to GHG mitigation called Climate Stabilizing Intensity (CSI) Targets, based on a concept from academia called greenhouse gas emissions per unit of value added (GEVA).^{118, 119} BT also sponsored the 2009 CDP Carbon Chasm report that analysed the gap between corporate carbon targets and what climate science demanded.

Autodesk's Corporate Finance Approach to Climate-Stabilizing Targets (C-FACT)

U.S.-based software design company Autodesk adapted BT's CSI approach to build out its own C-FACT (Corporate Finance Approach to Climate-Stabilizing Targets) metric, which it made freely available. U.S.-based digital data storage company EMC took advantage of this accessibility to modify C-FACT with even more aggressive targets.¹²⁰

129 Mark W. McElroy, *Social footprints: Measuring the social sustainability performance of organizations*, Thesis, University of Groningen, 2008. <http://irs.ub.rug.nl/dbi/492bfc845ae9>; Mark McElroy & Jo van Engelen, *Corporate Sustainability Management: The Art & Science of Managing Non-Financial Performance*, EarthScan 2012.

130 Mark McElroy, "The Carrying Capacities of Capitals," *GreenBiz*, June 18, 2013. <http://www.greenbiz.com/blog/2013/06/18/carrying-capacities-capitals>

131 <http://www.sustainableorganizations.org/corporate-sustainability-management.html>; CSO also developed Context-Based Metrics (CBMs) for water and waste that it is applying at other companies and also making available in the public domain: http://www.sustainablebrands.com/news_and_views/jan2012/how-leadership-cabot-creamery-makes-all-difference-0; <http://www.sustainableorganizations.org/context-based-metrics-in-public-domain.html>

132 Ben & Jerry's, "Global Warming Social Footprint" 2007 *Social & Environmental Assessment Report*, 2007. <http://www.benjerry.com/about-us/sear-reports/2007-sear-report#Global Warming>; Mark McElroy, "Groundbreaking Cabot Study Reveals Shortcomings of Conventional Sustainability Metrics," *Sustainable Brands*, September 26, 2012. http://www.sustainablebrands.com/news_and_views/new-metrics/groundbreaking-study-reveals-shortcomings-conventional-sustainability; Climate Counts & Center for Sustainable Organizations, *Assessing Corporate Emissions Performance through the Lens of Science*, Dec 2013. <http://climatecounts.blob.core.windows.net/carbonstudy/Climate%20Counts%202013%20Carbon%20Study.pdf>

133 http://www.btplc.com/Betterfuture/NetGood/OurNetGoodgoal/OurCSIMethodology/CSI_Methodology.pdf; <http://www.sciencedirect.com/science/article/pii/S0301421512003461>

134 https://www.cdp.net/CDPResults/65_329_219_CDP-The-Carbon-Chasm-Final.pdf;

135 <http://www.autodesk.com/sustainable-design/business-practices/cfact-corporate>; http://www.sustainablebrands.com/news_and_views/new-metrics/open-source-sustainability-autodesk-frees-climate-stabilizing-method; http://www.sustainablebrands.com/news_and_views/new-metrics/accelerating-reduction-emc-advances-practice-climate-stabilizing-targets

136 <http://www.theguardian.com/sustainable-business/blog/green-house-gas-emissions-targets-reporting>; <http://www.mars.com/global/about-mars/mars-pia/our-operations/sustainable-in-a-generation.aspx>

Mars' Sustainable in a Generation Programme

Mars, the privately-held candy conglomerate based in the U.S., launched its "Sustainable in a Generation" programme setting science-based targets for GHGs.¹²¹

Ford's CO₂ Glide Path Methodology

U.S.-based automaker Ford applies a science-based CO₂ target to its future product development, which represents the lion's share of its carbon footprint across its value chain.¹²²

CDP/WWF/McKinsey's 3% Solution

In 2013, CDP and WWF partnered with McKinsey to launch the 3% Solution, a science-based approach to GHG emissions strategizing that identified specific profit opportunities linked to reductions.¹²³

Science Based Targets Sectoral Decarbonization Approach (SDA)

In 2014, a consortium of top global NGOs (CDP, WRI and WWF), later joined by UN Global Compact, partnered to launch the Science Based Targets project focused on creating guidance for companies to set science-based targets for GHG reductions allocated according to physical attributes that differ for specific sectors. As well, the project maintains a listing of existing metrics (that includes those above), and plans on identifying benefits and limitations of each methodology in a future phase of the project.¹²⁴

In addition, a number of context-based tools apply to other environmental areas beyond carbon. For example, CSO's Corporate Water Gauge places company's water use in the context of water availability at the watershed level, after taking into account other, higher priority draws on local water resources.¹⁴⁰ This granular level of analysis enacts a full context-based approach to sustainability measurement and management, and most comprehensively insulates companies from water risk while simultaneously enabling companies to clearly identify opportunities associated with water use that fits within the local context of reliable water availability.

Mars also applies a science-based approach to water (as well as waste) in its "Sustainable in a Generation" programme, and CSO has developed a context-based metrics for waste, with the eventual goal of zero waste. A number of other companies have zero-waste targets, as mentioned earlier in this report.

As well, capital markets are starting to call for context.¹⁴¹ Two prominent examples include:

- ➡ The fossil fuel divestment campaign spearheaded by 350.org and underpinned by Carbon Tracker Initiative (CTI) research advances a science-based case that existing fossil fuel reserves' embedded carbon far exceeds the threshold of the global carbon budget, effectively rendering much of these reserves "unburnable", transforming them into "stranded assets".¹⁴² A recent CTI report documents that most fossil fuel companies fail to disclose these financial risks.¹⁴³

137 Ford, "Ford's Science-Based CO₂ Targets," *Ford Sustainability Report 2013/14* <http://corporate.ford.com/microsites/sustainability-report-2012-13/environment-climate-strategy-targets>; Ford, "The 'CO₂ Model': The Science Behind Our Scientific Approach," *Ford Sustainability Report 2013/14* <http://corporate.ford.com/microsites/sustainability-report-2013-14/environment-climate-strategy-targets-model.html>

138 <http://www.worldwildlife.org/projects/the-3-solution>

139 <http://sciencebasedtargets.org/>

140 <http://www.sustainableorganizations.org/Corporate-Water-Gauge.pdf>

141 http://www.sustainablebrands.com/news_and_views/new_metrics/crossing-thresholds-fossil-fuel-divestment-sustainable-investment; <http://www.theguardian.com/sustainable-business/sustainable-investing-assessing-companies>

142 <http://gofossilfree.org/>

143 <http://www.carbontracker.org/wp-content/uploads/2014/10/CTI-Climate-risk-disclosures-Report-Web.pdf>

- ➡ The Investor Initiative for Sustainable Exchanges (IISE) Listing Standards Proposal expressed a significant desire for “a more explicit connection between company activities and sustainability impacts to the broader marketplace (externalities and systemic risk).”¹⁴⁴

Example


Nedbank’s Fair Share 2030: Making a Thriving South Africa Happen

Nedbank, a South African financial services firm, has advanced context-based sustainability (CBS) reporting in this emerging market. Specifically, Nedbank’s *Fair Share 2030* initiative sets eight sustainability goals necessary to “make a thriving South Africa happen”.¹⁴⁵ These goals span the full spectrum of the Triple Bottom Line, from environmental to social to economic issues. Importantly, Nedbank links its goals to external *thresholds* in the broader context it operates within, and sets *allocations* for its fair share proportion of operating within these boundaries:

“We have calculated that, to achieve these goals between now and 2030, capital equal to 2% of the South African gross domestic product (GDP) will have to be invested and lent differently into the economy annually. Our ‘fair share’ of this equates to our market share of debt provision in the economy.”

GOAL 1

Atmospheric GHG emissions stabilise at a level that, according to the Intergovernmental Panel on Climate Change (IPCC), gives a greater than 50% chance of avoiding a 2 °C temperature rise above the long-term pre-industrial average.




Goal 1, for example, calls for setting “a science-based carbon budget for South Africa for the period 2015-2029”, exemplifying CBS’s two key elements – *thresholds* and *allocations*:

- ➡ A science-based carbon budget (which the Intergovernmental Panel on Climate Change set at 1,009 Gt of CO₂ emissions between 2012 and 2099 for a 66% chance of staying below 2°C) represents a *threshold* expressed at the planetary level;
- ➡ Nedbank calculates South Africa’s *allocation* as 1.5% of this global budget, making it “possible to plot a credible emissions trajectory for South Africa for the remainder of the century and to calculate the corresponding carbon budget up to 2030”.
- ➡ Nedbank further extrapolates this *allocation* to the company level, enabling “a succession of five-year carbon budgets [to] be developed from which Nedbank will calculate what the total emissions of its lending book should be in every five-year period”.

GOAL 2

Water resources are not being extracted beyond sustainable levels.



¹⁴⁴ Ceres & Investor Network on Climate Risk, *Investor Listing Standards Proposal: Recommendations for Stock Exchange Requirements on Corporate Sustainability Reporting*, Mar 2014. <https://www.ceres.org/resources/reports/investor-listing-standards-proposal-recommendations-for-stock-exchange-requirements-on-corporate-sustainability-reporting/view> “Reporting that focuses exclusively on risks and opportunities to the issuer usually omits any discussion of risks and opportunities issuers present to others”, the surveyed investors stated. “It is important for investors to understand how ESG issues are integrated into business strategy, and to be able to judge the impact of these issues on the market as a whole.”

¹⁴⁵ http://www.nedbankgroup.co.za/pdfs/Nedbank_group_Fair_share_2030_Long_term_goals.pdf

Similarly, Goal 2 sets the context-based condition that “water resources are not being extracted beyond sustainable levels”, and proposes targets that “ecological water requirements are maintained in catchment areas” and “groundwater is not extracted beyond the rate that it is replenished”.



On the social and economic front, Goal 3 sets forth that “South Africa’s labour force is employed at percentages comparable to other countries”. This goal contextualizes itself in relation to employment rates in other nations, implicitly assuming these rates are sustainable. A more explicit approach would identify a threshold for sustainable rates of employment, and then apply Nedbank’s proportionate responsibility for supporting the achievement of such employment rates.

8.1.3 Recommendations

- All companies should apply a context-based approach to sustainability reporting, allocating their fair share impacts on common capital resources within the thresholds of their carrying capacities.
- Multilateral organizations should collaborate to create a global governance body of scientists, academics, business practitioners, NGOs and other stakeholders to provide guidance on methodologies for determining ecological (and social) thresholds, as well as guidance on approaches to allocations, all of which are broadly applicable to the business level.
- Raters should develop frameworks and mechanisms to apply Context-based assessments of corporate sustainability performance based on publicly available data routinely disclosed in sustainability reports.
- Reporting standards/guidance bodies such as GRI, IIRC, SASB, CDP, etc. should integrate *Sustainability Context* more explicitly into their frameworks, for example by applying the concept of carrying capacities to multiple capitals-based frameworks.

8.1.4 On-going Research

A number of initiatives are seeking to accelerate the pace of change needed to scale up solutions to the multiple inter-related crises humanity faces. The Future Fit Business Benchmark, the ThriveAbility Foundation, Reporting 3.0, and the MultiCapital Scorecard are creating frameworks to assess business-level impacts through a context-based lens for backcasting from a truly sustainable and flourishing future to identify current systems conditions that respect the global ecological thresholds documented by the Planetary Boundaries research from the Stockholm Resilience Center (SRC), the Thresholds Database from the Resilience Alliance, and the UNEP GEO-5 reports, among others.¹⁴⁶ The World Business Council for Sustainable Development (WBCSD) is partnering with SRC to embed the Planetary Boundaries in its Action 2020 and Vision 2050 initiatives, but it acknowledges challenges around translating the science on thresholds into company-level allocations and business-ready applications.¹⁴⁷ Or, as articulated in the IIRC *Value Creation* Background Paper:

146 <http://futurefitbusiness.org/>; <http://thriveability.zone/>; <http://reporting3.org/>; <http://www.multicapitalscorecard.com/>; <http://www.stockholmresilience.org/21/research/research-programmes/planetary-boundaries.html>; http://www.resalliance.org/index.php/thresholds_database; <http://www.unep.org/geo/geo5.asp>

147 <http://action2020.org/>; <http://www.wbcds.org/vision2050.aspx>; <http://www.theguardian.com/sustainable-business/blog/planetary-boundaries-bankrupting-nature-wijkman-rockstrom>

“Ultimately value is to be interpreted by reference to thresholds and parameters established through stakeholder engagement and evidence about the carrying capacity and limits of resources on which stakeholders and companies rely for wellbeing and profit, as well as evidence about societal expectations... *The challenges will be to reach agreement at corporate, national and international level on what those thresholds and limits are, how the resources within those limits should be allocated, and what action is needed to keep activity within those limits so that value can continue to be created over time* (Emphasis added).”¹⁴⁸

Resolving such challenges will breathe vital life into the continued advancement of *Sustainability Context* necessary to achieve a future that arcs away from collapse, toward thriving.

8.2 Assurance

8.2.1 Current State

Increased uptake of data verification and principles based assurance, including of sustainability reporting is a crucial factor in achieving meaningful, high quality reporting and delivering greater value to the company as well as its stakeholders.¹⁴⁹ Assurance however is a broad concept, which can range from checking a very narrow scope at a very low level of investigation to complete report assurance covering principles and all data and claims to a high level. It can be defined as a process for evaluating a sustainability or integrated report against a clearly defined set of criteria and providing an opinion on its reliability.¹⁵⁰

Sustainability reporting is currently assured predominantly on a voluntary basis and to a limited extent, in response to a requirement of legislation such as for the largest companies listed on the Johannesburg Stock Exchange in South Africa.¹⁵¹ Companies are increasingly getting some form of third party assurance. There is, however, broad variation from region to region, by sector and by size of organization. Our research indicates that assurance is not the exclusive preserve of large corporations.

When uniquely looking at large global companies, the KPMG’s Survey of Corporate Social Responsibility Reporting 2013¹⁵² revealed the following findings:

- ➡ 59% of the world’s largest 250 companies that report on sustainability also invest in external assurance (up from 46% in 2011);
- ➡ Among the world’s 100 largest companies in 41 countries (N100)¹⁵³ 72% chose a limited rather than reasonable level of assurance; and
- ➡ Over half (52%) of the N100 assure their whole report rather than selected indicators or chapters;
- ➡ 67% of the N100 choose to engage a major accountancy firm to provide assurance services.¹⁵⁴

148 <http://www.theiirc.org/wp-content/uploads/2013/08/Background-Paper-Value-Creation.pdf>

149 Nonna Martinov-Bennie, Geoff Frost and Dominic S. B. Soh, p. 270 Chapter 11, *Assurance on Sustainability Reporting – State of Play and Future Directions*, in *Contemporary Issues in Sustainability Accounting*, eds Stewart Jones and Janek Ratnatunga 2012, Emerald Group Publishing.

150 Global Reporting Initiative (GRI), *The External Assurance of Sustainability Reporting*, p. 6, 2013, <https://www.globalreporting.org/resource/library/GRI-Assurance.pdf> In the sustainability reporting context, assurance refers to the use of external, independent reviews of sustainability management processes and final disclosures to increase the accuracy, reliability and usefulness of disclosed information.

151 Ioannis Ioannou, George Serafeim, *The Consequences of Mandatory Corporate Sustainability Reporting: Evidence from Four Countries*, Working paper 11-100, 2014, Harvard Business School.

152 KPMG International, *The KPMG Survey of Corporate Responsibility Reporting 2013*, <http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/corporate-responsibility/Documents/corporate-responsibility-reporting-survey-2013.pdf>

153 Out of 4100 companies in total survey.

154 KPMG International, *The KPMG Survey of Corporate Responsibility Reporting 2013*, p. 33, 2013, <http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/corporate-responsibility/Documents/corporate-responsibility-reporting-survey-2013.pdf>

➡ In addition, according to a GRI database search, there were 160 GRI 3.1 reports published by SME's in 2013, of which 50, or 31%, had some form of assurance. Out of these assured reports, whilst most were from Europe, there were examples from Argentina, Brazil, Peru, Saudi Arabia, Singapore, South Africa, the United Arab Emirates, and other countries, covering businesses, NGO's, public bodies and smaller companies. At an aspect specific level, one of the commonest scopes for assurance is of GHG emission inventory data. The assurances of those reports were in most cases (64%) conducted by accountancy firms, with 23% of the reports assured by sustainability consultancies and 13% by engineering firms.¹⁵⁵

Benefits of assurance are seen to include increased scores in indices and as GRI identified¹⁵⁶ increased recognition, trust and credibility; higher data quality and reliability; strengthened internal reporting process and management systems; improved Board and broader stakeholder engagement.

8.2.2 Key Standards

There is reluctance by the main reporting standard and guidance setting organizations to state a firm position on assurance standards; moreover, they currently focus on what good quality assurance should look like. GRI G4 offers seven key points¹⁵⁷ and the IIRC has issued a white paper on assurance¹⁵⁸ and is completing a public consultation on what assurance for integrated reports could look like.

The lack of standardization in sustainability reporting, assurance standards, their scope and application is indicative of some of the challenges to achieving high quality assurance. In fact, there are two key standards used internationally for assurance of sustainability reporting.¹⁵⁹ The International Standard on Assurance Engagements (ISAE) 3000, of 2003 (its 2013 revision becomes effective on 15th December 2015), and the AA1000 Assurance Standard, (AA1000AS) of 2008.¹⁶⁰ There are also regional equivalent and similar standards such as the Australian (ASAE 3000) and the Attestation Standards established by the American Institute of Certified Public Accountants/AICPA (AT101) as well as proprietary assurance protocols used by assurance providers which fulfill similar purposes to the standards.¹⁶¹ The Table below provides a limited comparison with AA1000AS (08) and ISAE3000 (04).

155 The Global Reporting Initiative (GRI), *The External Assurance of Sustainability Reporting*, p. 10, 2013, <https://www.globalreporting.org/resource/library/GRI-Assurance.pdf>

156 The Global Reporting Initiative (GRI), *The External Assurance of Sustainability Reporting*, p. 6, 2013, <https://www.globalreporting.org/resource/library/GRI-Assurance.pdf>

157 Global Reporting Initiative (GRI), *[External Assurance webpages]* Retrieved 3 Nov 2014 <https://www.globalreporting.org/reporting/report-services/external-assurance/Pages/default.aspx>

158 International Integrated Reporting Council (IIRC), *Assurance on <IR> An Exploration of Issues*, 2014, <http://www.theiirc.org/wp-content/uploads/2014/07/Assurance-on-IR-an-exploration-of-issues.pdf>

159 *Corporate Sustainability Reporting*, Retrieved 3 Nov 2014 http://www.reportingcsr.org/sustainability_assurance-p-211.html

160 Global Reporting Initiative (GRI), *The External Assurance of Sustainability Reporting*, p. 12, 2013, <https://www.globalreporting.org/resource/library/GRI-Assurance.pdf>

161 For example, DNV GL *Verisustain Report Assurance Protocol*, April 2012, http://www.dnvba.com/my/DNV%20Downloads/VeriSustain_External%20v%204%201%20April%202012_tcm109-514553.pdf

TABLE 9 COMPARISON BETWEEN ISAE 3000 (03) AND AA1000 AS (08)

Comparator	ISAE 3000 (04)	AA1000 AS (08)
<i>Objective of Standard</i>	The review of anything other than historic financial information	The assurance of sustainability reports
<i>Scope</i>	Defined and agreed with management. Can include physical or performance characteristics, systems or processes and behaviours	The reporting of organization in relation to global sustainable development. Must include an evaluation of the reporting of stakeholder inclusivity, materiality assessments and the organizations responses to them (Type 1) Can also include assessment of specified performance information (data and claims) which should be defined by materiality (Type 2)
<i>Levels of assurance</i>	Limited or Reasonable	Moderate or High
<i>Statement</i>	Written primarily for internal management	Written for all stakeholders. Must include observations and recommendations

A good quality assurance process should be sufficiently rigorous to provide confidence to the users of the reported information that it is reliable and a sound basis for decision making. The following elements should be included in a good quality assurance statement:

- ➡ Assurance standard(s) used
- ➡ Scope
- ➡ Disclosures covered
- ➡ Assurance Criteria
- ➡ Methodology (including additional standards and guidance used) and any limitations
- ➡ Level of assurance provided
- ➡ Findings/Opinion and Conclusions
- ➡ Observations and/or Recommendations
- ➡ Notes on competencies and independence of the assurance provider
- ➡ Name of the assurance provider
- ➡ Date and place

An example of a good quality assurance statement can be found in Annex 2.

8.2.3 On-going Research

The International Integrated Reporting Council (IIRC) consultation on assurance of Integrated Reporting highlighted a number of key areas of research and clarification required for future assurance. The need for further guidance was noted, developed specifically for sustainability and integrated reporting that can help ensure consistency of approaches and set minimum standards.

The competency of practitioners, ensuring that assurance team members are skilled in assurance practice as well as in sustainability science, as well as providing definitions of what constitutes an appropriate amount of work, checks and tests for the different levels of assurance offered and methods for checking the robustness of internal systems were all considered important issues for future assurance guidance.

Additional areas for consideration include an evaluation of the adequacy of narrative around topic or issue based performance; how an assurance process can tackle future looking information and sustainability

context based assessment as there are concerns about litigation and managing risks of providing more positive, useful statements about a company's performance and prospects.¹⁶²

Ways to adequately assure innovative business models and collaborative or value chain reporting are currently unclear. Companies are wanting to ensure that the maturity of their approaches are reflected in an assurance process¹⁶³ and are interested in how data reliability can be ensured and trust built for a reasonable cost.

8.2.4 Recommendations

- ➡ Our key recommendation is that assurance of non-financial disclosures be standardized through a unique globally valid standard. Such a standard should include points covered in the other recommendations.
- ➡ Increase regulation and mandating of sustainability or integrated reporting with a requirement for assurance of a defined quality and scope for organizations above a defined size threshold to ensure reliability of the disclosures. At a minimum the scope of both reporting and assurance should include: energy, GHG emissions, water and materials/waste.
- ➡ Require sustainability report assurance to focus on how well organizations apply sustainability principles as well as data and claim reliability. These principles should include: stakeholder inclusivity, the identification of material issues and the consideration of what constitutes an appropriate response from organizations over short, medium and long term.
- ➡ Develop clear professional requirements, procedural guidance and codes of conduct that apply to all assurance engagements and all practitioners.
- ➡ Increased use of the materiality principle to enable assurors to focus the depth and nature of their assurance activities towards the biggest risks and the most significant issues.
- ➡ Ensure the provision of assurance can deliver confidence to a broad range of stakeholders as well as providers of financial capital.

8.3 Collaborative Reporting

With a growing emphasis on companies reporting on the sustainability impact of their value chains,¹⁶⁴ we expect a growing number of SMEs to start responding to demands for sustainability information from business partners. This will likely increase SME reporting in the coming years and eventually put further emphasis on collaboration between reporting companies to achieve comprehensive and accurate reporting of sustainability data.

As the sustainability data gathering throughout the supply chain is often very complex, we expect a growing emphasis on collaboration between reporting of companies in the same value chain to improve data quality. Leading companies have been collaborating with companies in their value chain for already some years and there are also some interesting examples of sector collaboration through industry

162 Eccles, Robert G., Michael P. Krzus, and Liv A. Watson. "Integrated Reporting Requires Integrated Assurance". In *Effective Auditing for Corporates: Key Developments in Practice and Procedures*, edited by Joe Oringel, pp. 161–178. London: Bloomsbury Information Ltd., 2012.

163 PWC, *Inspiring Trust through Insight*, p.7, 2014, <http://www.pwc.com/gx/en/audit-services/publications/assets/trust-through-insight.pdf>

164 Value chain reporting is encouraged in the GRI and IIRC reporting frameworks.

associations. Collaboration in the context of sustainability is not always primarily intended for reporting purposes,¹⁶⁵ although the collaboration often feeds into the reporting process.

Boundary setting and determining reporting responsibility is important to effective collaborative reporting. A trend, which is consistent with the desire to integrate sustainability information with financial reporting practice, is to use the financial control test to determine who should take responsibility for reporting. In practice this might mean more collaboration is needed as, for example, an oil platform might be operated by one company but owned by another, so their reporting systems need to be compatible.

8.3.1 Examples of Collaborative Reporting

Companies in various industry sectors are working together to improve their sustainability reporting practices, including companies in the auto industry, oil and gas industry, extractive industries and the cement industry. Below are two examples of reporting collaboration, one of companies in the oil and gas sector and the other on companies in the cement industry.

Reporting Collaboration in the Oil and Gas Industry

Member companies of IPIECA (International Petroleum Industry Environmental Conservation Association) have been working together on a common industry approach to sustainability reporting since 2002. Among key aims of the collaboration is increased reporting quality and comparability between companies in the oil and gas sector. IPIECA, along with the API (the American Petroleum Institute) and OGP (the International Association of Oil Producers) issued the second edition of the *Oil and gas industry guidance on voluntary sustainability reporting* in 2010. Although separate from the GRI reporting framework and the GRI sectorial guidance for the oil and gas industry, there has been close collaboration between the oil and gas associations and the GRI to ensure optimal harmonization between their reporting guidance.¹⁶⁶

Reporting Collaboration in the Cement Industry

The Cement Sustainability Initiative (CSI) of the World Business Council for Sustainable Development (WBCSD) is currently composed of 24 companies in the cement industry. CSI has collaborated with a range of stakeholders resulting in the development of common industry sustainability targets for 2050, as well as the common sustainability reporting guidelines *The Cement CO₂ and Energy Protocol*, which include key performance indicators and materiality assessment methodology specifically adapted to the cement industry. In the case of reporting on operations involving several companies, the guidelines include guidance on the share of GHG emissions a company should report on according to the share it holds in the operation or its financial or operational control.¹⁶⁷ In addition, CSI has developed the “Getting the Numbers Right” (GNR) database¹⁶⁸ to which companies can voluntarily contribute. The aim of GNR is to provide the industry with information on its present and future sustainability performance and currently covers over 20% of worldwide cement production.

165 See for example the example of the Higgs Index of the Sustainable Apparel Coalition based on work by Nike and other organizations: <http://www.apparelcoalition.org/higgindex/>

166 <http://www.ipieca.org/focus-area/reporting>

167 http://wbcscement.org/pdf/tf1_co2%20protocol%20v3.pdf, pp. 34-36.

168 <http://www.wbcscement.org/index.php/key-issues/climate-protection/gnr-database>

8.3.2 Stakeholder Collaboration

Stepping back to look more broadly, the notion of collaborative reporting that applies upstream to suppliers applies equally downstream to encompass all impacted stakeholders. AccountAbility's AA1000 Stakeholder Engagement Standard (AA1000SES) maps out the levels of engagement from mere *consultation* and *negotiation* through *involvement* all the way to *collaboration* and ultimately *empowerment*, where relationships between organizations and their stakeholders become more fully integrated.¹⁶⁹ Applied to reporting on environmental performance, this framework supports a shift from adversarial relationships between companies and environmental advocates, to a more collaborative partnership model.

The increasing call for stakeholder involvement in sustainability reporting (fuelled, for example, by the requirements in GRI's G4 Guidelines that stakeholders help companies identify, prioritize and validate their material sustainability issues) creates a conundrum around sufficient processes for managing more engagement.¹⁷⁰ The rise of online stakeholder engagement platforms enables "blended engagement," which utilizes both in-person meetings as well as virtual communication modes ranging from traditional avenues such as teleconferences and email to dedicated engagement platforms such as 2degrees and Convetit.¹⁷¹ Major companies such as Tesco, GE and Allstate are employing these platforms to diversify their modes of engagement to tap into the wisdom of their stakeholders in order to make more informed decisions on their sustainability initiatives.¹⁷²

So the notion of "collaborative reporting" carries the potential to apply very broadly across the value chain, delving upstream to the supply chain, as well as downstream to the stakeholders impacted by corporate sustainability performance. This evolution is already transforming sustainability reporting from a one-way, broadcast format into a more multi-directional, dynamic, on-going dialogue.

8.3.3 Recommendations

- ➡ Companies can utilize best practice stakeholder engagement to identify key environmental issues across their entire value chain and to understand the degree of influence various stakeholders have on their key impact areas.
- ➡ Sector and industry bodies should help ensure information gathering and reporting amongst their member companies is aligned using common metrics and approaches.
- ➡ Multinational companies (MNCs) should research and publish information highlighting their key significant impacts across their value chain using Life Cycle analysis or similar methods.
- ➡ MNCs should encourage collaboration along the value chain for sustainable performance and should report on progress in their efforts.
- ➡ When taking a collaborative approach, reporting companies of the same value chain should strive to agree on the reporting framework and industry specific guidance (if available). This is particularly relevant for companies operating in the same industry/sector. Same sector reporting collaboration can be strengthened when coordinated through an industry association (such as IPIECA for the oil and gas industry).

169 <http://www.accountability.org/images/content/3/6/362/AA1000SES%202010%20PRINT.PDF>, p. 27.

170 <https://g4.globalreporting.org/how-you-should-report/how-to-define-what-is-material/Pages/default.aspx>; <https://g4.globalreporting.org/general-standard-disclosures/strategy-and-profile/identified-material-aspects-and-boundaries/Pages/G4-18.aspx>

171 http://www.hks.harvard.edu/m-rcbg/CSRI/publications/workingpaper_58_baumurninghan_full.pdf pp. 43-56; <https://www.2degreesnetwork.com/>; <https://convetit.com/>

172 <http://www.gecitizenship.com/blog/2013/01/ge-2011-citizenship-reporting-expert-exchange-summary/>; <http://www.allstate.com/corporate-responsibility/overview/about-this-report.aspx>

9

CONCLUSIONS

The last decade has seen an impressive advance in sustainability reporting. There remain, however, various challenges that prevent a clear view of a company's real sustainability performance. When looking specifically at the environmental dimension of reporting a certain level of standardization has been achieved in some areas. At the same time there is a sense of unease and confusion about the real meaning of the reported information in the context of pressing environmental challenges and it is currently difficult to compare the environmental performance of companies. There is a danger that current progress in environmental performance management and reporting, with some clear exceptions, does not adequately address the systematic changes required to transform to a sustainable economy.

Stakeholders expect companies to report on the environmental areas that are the most material to them in light of the sector of operations, views of customers, regulatory environment and so forth. Guidance on materiality assessments is available to companies but there is no standardized process for such assessments. Further harmonization and standardization of frameworks and tools would therefore help enhance the quality of materiality assessments. All companies are encouraged to conduct materiality assessments and to be transparent about their methodologies. This Report also stresses the importance of catering sustainability communication to the different stakeholder needs to ensure that the reported information is meaningful for the company and its stakeholders and not a wasted effort.

This research revealed that long-term investors, governments, stock-exchanges and companies are the stakeholder groups that exert the most influence on the quality of corporate environmental disclosure. Active engagement of these groups with reporting companies is vital to drive improvements of quality, for the benefit to the stakeholder groups and the reporting company.

The four environmental areas, which seem to be material to most companies, are GHG emissions, energy, water and materials/waste. The analysis concluded that reporting on GHG emissions and energy is largely standardized. On the other hand, further effort by companies, reporting framework developers and other stakeholders is needed to improve the quality of reporting on water and materials/waste. This Report has outlined the core steps for comprehensive reporting on the four areas as well as other recommendations for enhancing reporting quality.

Reflecting on why reporting of GHG emissions and energy is of higher quality than the other areas may be useful in guiding efforts for improvements on other areas. Obvious factors in the general clarity of GHG emissions and energy reporting include the agreement between key stakeholders on reporting process and content and a clear guidance that is universally applied and systematically referenced in reporting frameworks.

The reporting area of materials/waste is the least coherently reported of the four environmental areas. This is due in part to lack of guidance for reporting on the area, which we have highlighted in this Report. For instance, there is currently little guidance on reporting of the flow of material through a company's value chain and the use and disposal of chemicals, with the exception of hazardous waste.

Reporting on water could be improved by putting water performance and targets into scientific context, i.e. using scientifically based metrics to estimate the maximal sustainable water usage by a company. Context-based reporting also plays a role in the other environmental areas discussed in this Report.

Important work is being done in this area to define what targets companies need to meet for environmental performance to be meaningful for sustainable development.

The principle of context is not new to the area of sustainability reporting but it needs a coherent and harmonized effort from governments, reporting framework developers and the scientific community, among others, to become a mainstream reporting method. This Report highlights the momentum that context-based reporting has gained and supports its development.

Collaborative reporting across the value chain – with supplier partners upstream and impacted stakeholders downstream – is also an area of growing importance that has greatly increased the complexity of reporting. Collaborative reporting could be advanced through effective engagement between companies, suppliers, stakeholders and others in the reporting ecosystem. At present supplier collaboration is primarily done at the level of sustainability management, whereas stakeholder engagement tends to feed reporting while overlooking the value for operations. Supplier collaboration should move towards reporting, and stakeholder collaboration towards management, to take full advantage of the value of collaborative reporting throughout the value chain.

Research has shown that the proportion of reporting SMEs is far lower than that of larger companies. These companies would benefit from simpler guidance and tools tailored to their constraints. In addition, collaborative reporting along value chains might help share the reporting burden with companies confronted with similar material issues.

Finally, this Report emphasizes the importance of enhancing third party assurance of sustainability information, which at the moment is lacking in standardization and credibility. The focus of assurance should be guided by the materiality principle to help ensure the right emphasis in reporting as well as giving confidence in data. We believe that this will help increase the quality of environmental disclosures.

Unfortunately, reporting of environmental performance does not have the time that financial reporting has had to develop accepted procedures and common practice. To truly make environmental reporting important to all stakeholders, it needs to accelerate progress to its maturity and address the recommendations stated in this Report.



ANNEX 1

OVERVIEW OF COMPANIES ANALYSED FOR THE REPORT

1. Abbott Laboratories (USA)
2. Access Bank (Nigeria)
3. African Rainbow Minerals (South Africa)
4. Autodesk (USA)
5. AGL (Australia)
6. Akademiska Hus (Sweden)
7. Akzo Nobel (Netherlands)
8. Alliance One (USA)
9. Amcor (Australia)
10. Amgen (USA)
11. Anglo American Platinum (South Africa)
12. ANZ (Australia)
13. Aqaba Container International (Jordan)
14. Aramex (UAE)
15. Banco Santander Global (Spain)
16. Baxter (USA)
17. BHP Billiton (Australia)
18. Big Yellow (UK)
19. BMW (Germany)
20. Brasil Foods (Brazil)
21. Canal de Isabel II Gestión (Spain)
22. CapitalLand Ltd (Singapore)
23. Cathay Pacific (China)
24. Cementos Argos (Colombia)
25. CEMEX (Mexico)
26. Cheminova (Denmark)
27. Citibank (USA)
28. City Developments Ltd (Singapore)
29. CLP (China)
30. Commonwealth Bank of Australia (Australia)
31. CTICC (South Africa)
32. Dolphin Energy (UAE)
33. Du (UAE)
34. Dunia Finance (UAE)
35. EDP (Portugal)
36. Eisai Co Ltd (Japan)
37. Empresas Públicas de Medellín (Colombia)
38. Endesa (Chile)
39. Eskom (South Africa)
40. Etisalat (UAE)
41. Ford (USA)
42. Givaudan (Switzerland)
43. Gold Fields (South Africa)
44. Grupo Belen Winery (Chile)
45. GTBANK (Nigeria)
46. Hang Seng Bank (China)
47. HCL Technologies (India)
48. H&M (Sweden)
49. Interface (USA)
50. Isagen (Colombia)
51. Kenya Commercial Bank (Kenya)
52. Keppel Land Limited (Singapore)
53. Lanxess (Germany)
54. Lenovo (China)
55. LG Electronics (South Korea)
56. Maersk (Denmark)
57. Majid Al Futtaim (UAE)
58. Majid Society (Saudi Arabia)
59. Masdar (UAE)
60. Mayniland (Philippines)
61. Merck (USA)
62. Microsoft (USA)
63. Mitsubishi Heavy Industries Ltd (Japan)
64. MTR (China)
65. Natura (Brazil)
66. Nedbank (South Africa)
67. Newmont Mining Corporation (USA)
68. Nike (USA)
69. Nissan (Japan)
70. Nokia (Finland)
71. Novo Nordisk (Denmark)
72. Novozymes (Denmark)
73. Omantel (Oman)
74. Omincane (Mauritius)
75. Patagonia (USA)
76. Petrobras (Brazil)
77. PPC (South Africa)
78. Puma (Germany)
79. Q-Chem (Qatar)
80. Ricoh (Japan)
81. Samsung (South Korea)
82. Sanford (New Zealand)
83. SAPPI (South Africa)
84. Sasol (South Africa)
85. Sekem (Egypt)
86. Shinhan Bank (South Korea)
87. Sibanye (South Africa)
88. Siemens (Germany)
89. Songwon (South Korea)
90. StarHub (Singapore)
91. Statoil (Norway)
92. Stockland (Australia)
93. Sucroal (Colombia)
94. Suncor (Canada)
95. Tata Steel (India)
96. TC Transcontinental (Canada)
97. Transurban (Australia)
98. Triodos Bank (Netherlands)
99. UEME (Malaysia)
100. Unilever (Netherlands, UK)
101. Ventisquero Wine (Chile)
102. Vic Super (Australia)
103. Viña Montes (Chile)
104. Walmart (USA)
105. Watercare (New Zealand)
106. Wesfarmers (Australia)
107. Westpack Banking Corporation (Australia)
108. Woolworth (Australia)



ANNEX 2

EXAMPLE OF A GOOD QUALITY ASSURANCE STATEMENT

Assurance Statement of Kimberly-Clark's 2013 Corporate Responsibility Report

Independent Assurance Statement

33-GRI G4

Scope and Objectives

DNV Certification Inc. (DNV GL) was commissioned by Kimberly-Clark Corporation to conduct independent assurance of its 2013 Sustainability Responsibility Report ('the Report'), as published on the company's website at <http://www.kimberly-clark.com/sustainability.aspx>

The assurance process was conducted in accordance with the AccountAbility 1000 Assurance Standard [AA1000AS (2008)]. We were engaged to provide a high level of assurance on the company's adherence to the AA1000APS principles of inclusivity, materiality, and responsiveness (the Principles). In addition, we provided a Type 2 assurance to a moderate level which covered the reliability of specified sustainability performance information. This included data relating to: Energy; GreenHouse Gas emissions; Fiber sourcing; and Safety as well as any claims in the Report.

Information presented in the Report, with the exception of financial information presented in the Corporate Overview, was included in the scope of our assurance engagement. We used the Global Reporting Initiative (GRI) Quality of Information Principles (Balance, Clarity, Accuracy, Reliability, Timeliness and Comparability) as criteria for evaluating performance information.

Responsibilities of Kimberly-Clark Corporation and of the Assurance Providers

Kimberly-Clark has sole responsibility for preparation of the Report. DNV GL, in performing our assurance work, is responsible to Kimberly-Clark's management. Our statement, however, represents our independent opinion and is intended to inform all stakeholders including Kimberly-Clark.

DNV GL was not involved in the preparation of any part of the Report. This is our fifth year of providing assurance for Kimberly-Clark formerly as part of the Two Tomorrows group and now as part of DNV GL. In addition, DNV GL facilitated Kimberly-Clark's materiality assessment process from November 2013 through January 2014. Key activities under this scope of work included:

- Review of sustainability issues impacting the company and that are of interest to stakeholders
- Interviews with external stakeholders
- Facilitation of internal workshop where Kimberly-Clark employees prioritized sustainability issues based on importance to business performance
- Facilitation of workshop with the external Sustainability Advisory Board to validate the placement of issues on the materiality matrix

DNV GL was not responsible for establishing the significance or prioritization of the sustainability issues nor for their placement on the matrix.

We adopt a balanced approach towards all stakeholders when performing our evaluation.

Our team comprised: Dave Knight and Natasha D'Silva. Further information, including individual competencies relating to the team, can be found at: www.dnvgl.com/sustainability

Basis of our opinion

Our work was designed to gather evidence with the objective of providing assurance as defined in AA1000AS (2008). We undertook the following activities:

- We conducted interviews with senior executives and managers based in Roswell, GA, Neenah, WI, Irving, TX and Reigate, United Kingdom who are responsible for areas of management and stakeholder relationships covered by the Report. The objective of these discussions was to understand top-level commitment and strategy related to corporate responsibility and Kimberly-Clark's governance arrangements, stakeholder engagement activity, management priorities, and systems;
- We visited two facilities in Conway and Maumelle, Arkansas. During the on-site visits, we met with the plant manager, environmental coordinator, health and safety coordinator, and human resource manager to assess controls and processes present at the operational level in comparison with claims made at the Group level and to conduct a review of data samples on indicators contributing to the Report.
- We conducted a general review of issues that could be relevant to Kimberly-Clark's operations and policies to provide a check on the appropriateness of statements made in the Report;
- We assessed documentation and evidence that supported and substantiated claims made in the Report;
- We interviewed internal audit responsible for internal data verification, reviewed their work processes and approach, and discussed specific competencies related to data verification;
- We provided feedback on the Report based on our assurance scope.

Findings

On the basis of the work conducted, we can confirm that the Report accurately describes Kimberly-Clark's adherence to the Principles of Inclusivity, Materiality, and Responsiveness. Moreover, nothing came to our attention to suggest that the data and claims made in the Report are not accurate and complete.

Observations

Without affecting our assurance opinion, we have noted the following areas of strong practice as well as opportunities for Kimberly-Clark to further improve its adherence to the Principles and reporting of performance information:

Inclusivity: the participation of stakeholders in developing and achieving an accountable and strategic response to sustainability.

Kimberly-Clark has implemented numerous initiatives on an on-going basis to engage stakeholders from across the company's value chain. The company's approach to its sustainability strategy and report is informed by inputs at different levels of the company from varied sources such as its Sustainability Advisory Board, customers, and suppliers as well as through its partnerships with non-governmental organizations. We commend Kimberly-Clark for its empowerment of employees at its mills to address sustainability objectives at both the individual and team levels through incentivizing behavior change that contributes to the company's continued progress towards its Sustainability 2015 goals.

To further incorporate sustainability into key decision-making opportunities at the operational level, we recommend that Kimberly-Clark consider developing guidance on the integration of on-site third-party vendors into goal-setting, inspection, and communication processes at the mills. Systematic engagement of vendors, for example through an expansion of Contractor Safety Guidelines to encompass broader sustainability issues and engagement around this, will support their increased awareness of corporate as well as site-specific sustainability goals as well support alignment of third-party vendor policies with Kimberly-Clark's business objectives.

While Kimberly-Clark has a strong stakeholder engagement program, we recommend that the company continue to build on its consumer outreach efforts in its key markets. This will support the company in developing an effective response to key issues of concern for end-users at a regional level as well as to better reflect the consumer viewpoint in its reporting on material issues such as post-consumer waste, access to products, and women's empowerment.

Materiality: identification of those issues which are necessary for stakeholders to make informed judgments concerning Kimberly-Clark and its impacts.

The Report addresses the most material environmental and social issues facing the company and its stakeholders.

Kimberly-Clark has conducted a formal sustainability materiality assessment for the first time which has helped to confirm the topics covered in the Report. This was a recommendation made in our assurance statement for the 2012 Report, which the company has addressed. The company has demonstrated good practice by seeking external feedback on its materiality matrix from industry leaders and sustainability experts in order to validate the placement of issues and ensure that no material issues were omitted. While Kimberly-Clark's materiality matrix was developed at the corporate level, the process incorporated the regional sustainability context of Europe and South America by involving internal and external stakeholders based in those geographies. As Kimberly-Clark operates in markets globally, we recommend that the company continue to replicate these efforts in other regions to capture divergences across its business and reflect them appropriately in its business strategy and public disclosures.

As Sustainability 2015 will draw to a close next year, the Report can benefit from a discussion on how the company envisions using the findings from its materiality and ongoing stakeholder engagement processes to drive its sustainability strategy and reporting through 2022. In the 2014 Report, we suggest beginning a dialogue on

where the greatest leadership and collaborative opportunities may exist for the company as well as on how materiality has helped the company establish goals and define metrics that will measure the characteristic of the key issues with which stakeholders are most concerned.

Responsiveness: the extent to which Kimberly-Clark responds to stakeholder issues.

Stakeholder ideas and concerns influence decision-making throughout the organization. Through its next generation sustainability strategy, Kimberly-Clark has an opportunity to take on a more mature systems-thinking approach (enterprise-wide and reflecting the global sustainability context) to address deeply rooted issues such as the use of petrochemicals in products. We believe that Kimberly-Clark can further demonstrate its leadership in sustainability by communicating more fully the depth of its operational and product innovations as well as on the extent of its collaborative efforts across its value chains in different regions.

The company has begun to develop internal mechanisms which can demonstrate a strong return on investment based on an enterprise-wide approach as opposed to an initiative-by-initiative basis. By taking this approach to financial valuation, the company will be able to better reflect its strategic intent through its capital investments and demonstrate the wider range of business value that Kimberly-Clark's sustainability approach can bring. It will also serve for greater buy-in at mills where unique historic or

regulatory challenges may otherwise prevent implementation of a more environmentally efficient process or asset. We recommend increased emphasis in future reports on these efforts.

Performance Information

Sustainability 2015 goals and performance are generally presented in a clear manner. The inclusion of longer-term goals in the Report, which are linked to the scale and speed of change recommended by peer reviewed science, will support the company as it looks forward to executing its next generation sustainability strategy. It will also help stakeholders better understand Kimberly-Clark's medium- and long-term aspirational goals in the context of key sustainability challenges and opportunities. In addition, the company can consider publishing further detail on longer-term trends which require cross-sector collaboration and where in Kimberly- Clark's value chain these trends have the greatest impact.

The specified data presented in the Report are considered to be reliable and accurate as minimal technical errors have been identified based on the sampling conducted by internal audit at the corporate level and by DNV GL at the site level. There are opportunities for some minor process improvements such as establishing corporate guidelines on data retention at the site level that will help on-site data coordinators balance between a lean management culture and requirements for replicability and traceability. We recommend that Kimberly-Clark consider extending the function of internal audit to periodic on-site audits of sustainability-related data to reduce any risks to data accuracy and reliability.

DNV Certification Inc. Oakland, California June, 2014



ANNEX 3

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This global cross-sector report assesses the environmental dimension of sustainability reporting and provides recommendations to make environmental reporting relevant to all stakeholders. It analyses what the key and most common environmental disclosure items are and provides practical recommendations for companies and other reporting organizations on how these items should be measured and reported, supported with best practice examples. In addition, it explores emerging areas of research in this domain, as well as innovative reporting practices. This report contributes to the implementation of paragraph 47 of the Rio+20 Outcome Document, through the identification and dissemination of models of best practices on corporate sustainability reporting.