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Reporting on the Sustainable Development Goals: A Survey of Reporting Indicators

Abstract

This research paper provides an original survey of indicators used by enterprises in the area of environmental, social and governance (ESG) reporting. The goal of the paper is to provide empirical inputs for the identification of a set of core indicators for companies, which would form a potential baseline for ESG reporting, while not precluding more extensive disclosures in the private sector. In order to accomplish this, the paper surveys the practices of the global top 100 listed companies, as well as a number of ESG rating agencies, in the context of the Sustainable Development Goals.

This empirical analysis has served as one of several inputs into UNCTAD's work in the area of core indicators for company reporting on the contributions towards the attainment of the Sustainable Development Goals. Therefore, this paper should be read in conjunction with background notes TD/B/C.II/ISAR/78 and TD/B/C.II/ISAR/81, prepared for discussions of the Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting (ISAR).

Key words: Environmental, Social, and Governance (ESG) data, Sustainable Development Goals (SDGs), universal indicators, investors, sustainability, integrated reporting, corporate reporting, and ESG rating agencies



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Introduction

A myriad initiatives, guidelines and good practices on Environmental, Social, and Governance (ESG)¹ reporting exist, against which corporates can benchmark their own reporting methods. Some of these initiatives are global and cover all or most of the aspects of ESG. In particular, UNCTAD has provided cutting-edge research into ESG reporting for decades via its programme on enterprise accounting and reporting, which services the Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting (ISAR). Further examples include initiatives by the United Nations Global Compact (UNGC), the Organization for Economic Co-operation and Development (OECD), the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB).² Other global initiatives are confined to particular issues, such as the Greenhouse Gas (GHG) Protocol and CDP (the former Carbon Disclosure Project).

UNCTAD, the Climate Disclosure Standards Board (CDSB) and the International Integrated Reporting Council (IIRC) are among a number of organizations spearheading initiatives to integrate the logic and structure of the International Financial Reporting Standards (IFRS) into the various international ESG reporting frameworks. However, to date, corporates' use of these overarching initiatives has been sporadic. A KPMG survey (KPMG, 2015), for instance, found that only 11 per cent of corporates used and referred to IIRC (10 per cent in 2013) in their ESG reporting.³ None of the global initiatives are legislative, but rather indicative of the direction in which local law and global practice may be moving (FEE, 2015).

Other initiatives are regional (e.g. at the European Union level⁴) or national (e.g. King IV in South Africa or the Sustainability Accounting Standards Board in the United States of America⁵). Unlike global initiatives on the subject, these regional or national initiatives are often, for good reason, legally binding. They are also often based on "comply or explain" requirements, which are less helpful to facilitate comparative reporting than frameworks such as IFRS, which use specific mandatory indicators and notes. Moreover, regional and national initiatives are, by nature, less useful for multinational corporations and their investors and capital providers.

Local and regional initiatives often build on, or are influenced by, existing global frameworks such as UNGC (UNEP, 2015). Like global frameworks, they often focus on general principles for reporting, while leaving the choice of specific indicators up to the individual firm and potentially to its stakeholders.⁶ At the same time, certain global frameworks, including GRI and SASB, do provide specific indicators in the area of sustainability information. This context leads to thousands of non-comparable ESG reports, which do not only differ in scope, quality and metrics, but also between companies and often even from the corporate's own financial data.

1 ESG, being the term used by investors and other capital providers, will be used in this paper as the word for non-financial data.

2 This is not a definite list of available frameworks and tools, but merely the ones most commonly referred to.

3 Interesting and inspiring examples of corporates using the IIRC framework can, for instance, be found in the 2014 report for Itaú Unibanco Holding of Brazil or the 2015 report for BASF of Germany.

4 See <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014L0095>. Unless otherwise indicated, all websites were last accessed 14 September 2017.

5 See UNEP et al. (2013) for an overview of local and regional rules and guidelines.

6 See more in the section on Materiality and stakeholders.

The lack of standardization means ESG reporting cannot be relied on to determine whether corporates are increasing their ESG efforts at a pace and level of depth adequate to ensure the achievement of goals within the defined timeframes (IMPACT, 2014). What is more, this lack of standardization is often also a problem for corporates themselves. Integrating ESG metrics with their own financial metrics is a challenge, since the boundaries are rarely aligned.⁷ This is not only problematic for the individual company's own performance evaluation but also for its peers, investors and other capital providers, as they have difficulties applying the reporting metrics to analyse a firm's alignment with and progress on implementing the SDG targets (ACCA and CDSB, 2016).

As indicated in the SDG Compass (GRI et al., 2016, p. 4), "the SDGs present an opportunity for business-led solutions and technologies to be developed and implemented to address the world's biggest sustainable development challenges". But if neither the corporate nor its capital providers can accurately and easily interpret information from the firm's ESG reporting, is ESG reporting really supporting the SDG agenda? Current reporting guidelines, initiatives and best practice often provide disclosure suggestions, rather than guidance on how to interpret the report content (Herriott, 2016). This is where the SDG agenda can offer a valuable new framework, a reference for the interpretation of the content of ESG reporting.

Cognizant of the potential of ESG reporting, UNCTAD launched in 2016 a project to select a limited number of core indicators for company reporting on the SDGs. Such core indicators are intended to provide a comparable baseline for reporting based on existing practice and the SDG monitoring framework, which would allow cross-firm, cross-industry and cross-geography monitoring of company progress towards attaining the SDGs.⁸ The indicators would also focus the efforts of standard-setters in building mechanisms and methods to ensure that data - at least on such a limited set of indicators - would be fully comparable, thereby enhancing the usefulness of ESG reporting.

This research paper provides relevant inputs into UNCTAD's work by exploring current reporting practices, from an empirical perspective.

This requires a couple of sub-analyses. Thus, this paper will:

- Describe the reporting practices of the global top 100 listed companies, including:
 - frameworks used
 - data boundaries
 - ESG accounting principles
 - data reviews
 - the indicators corporates report on;

⁷ Throughout this paper, "boundaries" refers to the definition of the extent of the reporting entity, considering corporate structures that may include subsidiaries, affiliates, joint ventures, franchises and fixed asset investments, among others. The analysis performed as the basis for this report on the world's 100 largest listed companies' ESG reporting shows that only five among them have full alignment with the financial boundaries for reporting. The rest use operational boundaries, homemade/convenient boundaries, or do not define their boundaries. See more in Results section on boundaries.

⁸ Additional information on this project can found in background notes TD/B/C.II/ISAR/78 and TD/B/C.II/ISAR/81, prepared for ISAR sessions in 2016 and 2017. Such

- Describe the use of ESG indicators by ESG rating agencies. These are indicative of the information required by investors and capital providers, who are the customers of ESG rating agencies; and
- Conclude by considering overarching data principles needed in order to collect comparable and useful data.

1. Material and methods

In order to be able to identify a set of limited core SDG indicators, it is necessary to identify indicators that the typical corporate can feasibly report on, regardless of sector or geography. Furthermore, indicators need to be picked that are material for the corporates' primary stakeholders, namely their investors and capital providers.⁹ And finally, to ensure that the identified indicators can be tangibly interpreted—whereby one can tell: “What does good look like?”— the identified indicators are compared with the 17 SDGs. Therefore, this research paper assesses the following potential sources of indicators:

- ESG reporting from the global top 100 listed companies;
- ESG rating agencies' requests of indicators from corporates; and
- The 17 SDGs.

The area of overlap between these three sources is assumed to comprise the bare bone components of:

- What corporates can and will report on;
- What investors and other capital providers deem to be material; and
- What is important for the world.

The result is a set of suggested inputs on core reporting indicators, to be considered by UNCTAD and ISAR.

1.1 The global top 100 listed companies' reporting on ESG

The list of the 100 largest listed companies is sourced from *Forbes Global 2000* (2015 ranking), which is based on a ranking by revenue, net profits, total assets and market value. The list of corporates can be found in Appendix A. *Forbes* is the preferred source, as it provides financial rankings based on empirical criteria. The ranking is balanced, as it is based on four indicators of equal weighing (the *Financial Times*' FT 500, for instance, ranks solely by market capitalization).

The companies' own most recent publicly available ESG reporting, found on their websites, is included in the analysis. This information is contained in CSR reports, integrated reports, online reporting, financial reports, proxy statements and other SEC filings, among others, and data points are extracted. The analysis for all

⁹ The choice of primary stakeholders is a much debated matter – see more in the chapter “Materiality and stakeholders” to understand this paper's choice of primary stakeholders.

companies was performed between March and May 2016, and most reports cover 2015. In some instances, ESG reports for 2014 were used, where reports for 2015 were not available.¹⁰

The first stage of analysis determined each company's:

- ESG reporting media;
- The frameworks used;
- Data boundaries;
- Reporting of data accounting principles; and
- Data reviews.

Subsequently, the indicators or metrics each corporate reports on are categorized (i.e. environmental, social, and governance). Each new metric not reported on in earlier reports, is added to the database's metadata. The analysis does not judge the quality, validity, completeness or usefulness of the corporates' reporting.

Over and above the ESG indicators, the financial indicators that the corporates choose to highlight as key performance indicators are also included. This is done to identify which financial indicators the corporates find most important, placing the ESG indicators in the context of their financial performance.

Once ESG material of all 100 firms has been analyzed, the statistical analysis is performed. The statistics are analyzed generically and subsequently also by region¹¹ and sector,¹² in order to determine whether any regional particularities emerge that could affect the universality of the SDG Indicators.

1.2 ESG rating agencies' use of indicators

ESG rating agencies sell their ratings to investors and other capital providers, which means the indicators used by these agencies can be assumed to match the data sought by investors. This is confirmed by a recent survey by the CFA Institute of 1,325 portfolio managers, who indicated that they use non-financial data (73 per cent) in their analyses and that they obtain some of this information directly from public sources (75 per cent of the 73 per cent), but also from third parties, such as ESG agencies (66 per cent of the 73 per cent) (CFA Institute, 2015).

The database of the Global Initiative for Sustainability Ratings (GISR), established by the Ceres and Tellus Institute, was used in order to determine which ESG rating agencies to include and evaluate for this analysis. GISR indicates that "more than 100 sustainability raters administer questionnaires to thousands of companies worldwide, comprising a mix of investor and consumer-facing instruments ranging from issue-specific (e.g. climate change) to multi-issue (integrated environmental, social and corporate governance factors) ratings, rankings and indices".¹³ Of these, only the global ESG rating agencies that have investors

¹⁰ Note that one is from 2013.

¹¹ Defined in accordance with the UN geographical regions: <http://unstats.un.org/unsd/methods/m49/m49regin.htm>.

¹² As defined in the three sector theory (Clark, 1940). Conglomerates are subsequently added as the fourth sector. Oil companies with retail operations, as indicated in their annual reports, are also included in the category Conglomerates.

¹³ <http://ratesustainability.org/about/why-gisr>.

as their primary users have been included in this analysis, and only those that cover all three elements of ESG. To increase the sample of ESG rating agencies for the analysis, five additional ESG rating agencies from ARISTA¹⁴ – a primarily European research standard for responsible investment from which the rating agencies can obtain certification – were added. In total, 41 ESG rating agencies were evaluated (See Appendix A).

Many of the ESG rating agencies are not particularly transparent about what and how they measure when doing their ratings¹⁵ – “many raters ... strive to maintain ‘black boxes’ for commercial purposes” (SustainAbility, 2011, p. 3). Thus, of 41 rating agencies, only six provide detailed information about the indicators they track for their ratings on their websites – and only one was partially available down to indicator level. Most ESG rating agencies only provided some overall guiding principles about the way ratings are performed. Some indicated only the overall themes they track, but most often not to the level of indicators. For some it was also clear that they did not collect all the data themselves, but used other rating agencies’ databases, either in full or as a supplement to their own data. But most often, the indicator selection, weighing and screening methodologies were not – or only partially – provided.

The methodologies and indicator lists of the seven ESG rating agencies, for which data are publically or partially available, were compared with the database of ESG indicators used by the global top 100 companies. An indicator tracked by ESG rating agencies that is not also reported on by the global top 100 largest listed firms, cannot be considered to be a core indicator. Based on this analysis, no new indicators were added to the database’s metadata as it was performed after the corporates’ ESG reporting had been extracted.

1.3 Deriving the core SDG indicators

For both the analysis of the companies’ ESG reports and for the ESG rating agencies, the assumption is that if half of the population uses the indicator, it is considered material and universal for either data provider or user. The two indicator lists are then paired and if an indicator is part of both lists, it is considered to be material for both the data provider and the user. The list of material indicators is then paired with the 17 SDGs – and if there is an overlap, the indicator in question is considered to be relevant for the world and thus a relevant candidate to be part of UNCTAD’s core indicators for company reporting on the SDGs.

1.4 Overarching data principles

Finally, the overarching data principles are defined. This is based on a review of the data-quality needs of primary data users, investors and capital providers, as analyzed by the ACCA, EuroSif, IIRC and others. The definitions adopted by overarching initiatives, seeking to make the ESG data integrable with financial data, are also taken into account. Sometimes, the initiatives’ definitions are contradictory. In those cases, the user needs will prevail over the initiatives’ guidance.

14 ARISTA 3.0 is a voluntary quality standard comprising guidelines and rules, commitments, and verifiable evidence of the transparency, quality, accountability and verifiability of the processes involved in responsible investing research.

15 For this reason SustainAbility in 2010–2013 undertook a fairly large analysis of the rating agencies’ methods.

1.5 Method, results and implications for future research and practice

In the following, various topics that might be critical for this paper's choice of method, results, and the implications for future research and practice are evaluated.

1.5.1 Africa and Latin America and the Caribbean

Africa does not host any of the top 100 listed companies surveyed in this research paper's original dataset. In the interest of representativeness, the top five African companies (all based in South Africa, variously occupying ranks between 317 and 523 on Forbes 2000 list) were considered as part of this study. This inclusion did not change the indicators in the overall result. They were, therefore, not included in the final analysis.

While companies from Latin America and the Caribbean are listed under the geographic category Americas, only two companies headquartered outside of North America are, in fact, part of the top 100 companies surveyed by Forbes (both are located in Brazil).

It should be noted that most of the top 100 corporates have affiliates in Africa or in Latin America and the Caribbean that also report on indicators adopted by their parent companies. It can therefore be assumed that the common indicators identified are also representative and useful for the two regions.

For the reader interested in African reporting, it can be pointed out that the five top African corporates report on ESG issues both in standalone ESG reports and as integrated reports, which probably stems from the King III regulation. The ESG reports are on average 168 pages in length, which is much higher than the average for the world – at 102 pages. The reports contain 51 indicators on average, which is on par with the global average.

Taking into account data boundaries, the numbers for African corporates are similar to those of the rest of the world's, with none using financial boundaries, one using operational boundaries, two using homemade/convenient boundaries,¹⁶ and two not informing about their boundaries. African corporates are less likely to provide their accounting principles than corporates in the rest of the world -- one does, one does so partly, but three do not – in this respect resembling their Asian counterparts. Their use of frameworks matches the use of the rest of the world -- two refer to UNGC, two to CDP, none to ISO 26000, one to other ISO standards, and three to GRI.

African corporates' use of review is much higher than that for the rest of the world, with four of five options for review, whereas only 57 per cent of global corporates opt for review. All four reviews are done within the ISAE 3000 review framework, and all only to a limited extent – similar to the rest of the world. The preferred

¹⁶ Throughout this paper, "homemade/convenient" refers to boundaries established by the reporting entity based on its own assessment of operational context and corporate structure, which may consist of a mix of financial and operational boundaries.

review firms differ somewhat from those preferred by the rest of the world: EY and Veritas. Neither of these firms is used by any of the African corporates. Two firms use PwC, one Deloitte, and one uses KPMG.

1.5.2 Non-listed enterprises

Since the analysis is only based on listed corporates' ESG reporting, it is possible that an analysis of private enterprises' and state-owned enterprises' ESG reporting would change the suggestions for core indicators, leaving room for future research. However, ESG rating agencies typically do not cover unlisted companies, which means a three-tier comparative analysis, as done in the present study, would not be possible.

1.5.3 Small and medium-sized listed companies

This paper's apparent exclusion of small and medium-sized listed corporates/companies might be contentious. However, it warrants noting that large listed corporates typically have a range of affiliates of varying size, which have to report on the same indicators to headquarters to facilitate consolidated reporting at group level. The conclusions of this paper therefore also ought to be valid for small and medium-sized enterprises (SMEs).

As for SMEs that are not affiliated with large, listed companies, there is an open research possibility here. However, ESG ratings agencies tend to exclude smaller and medium-sized companies from their ratings, which therefore precludes a comparative analysis as done in this study.

1.5.4 The number of ESG rating agencies included

One of the biggest limitations of this paper is that only seven ESG rating agencies could be included because of the dearth of public information in the industry. This could be remedied by approaching the ESG rating agencies to provide the data – even if anonymously. However, an inherent conflict of interests may bedevil such an endeavour. The purpose of work in this area is to simplify and standardize ESG reporting. This would conflict with the commercial concerns of ESG rating agencies in this area and therefore limit their appetite to participate in such a project.

ESG rating agencies' tracking of specific indicators was scrutinized because it can be a proxy for investor and capital provider needs. Another method to obtain the same data could be to simply ask investors themselves. However, the type of data that they currently buy from ESG rating agencies, namely, rankings on homemade schemes such as CCC to AAA or 0-100, seems to indicate that at least some investors are not interested in the individual indicator data per se, but rather in the ranking. The CFA Institute survey of 1,325 portfolio managers, indicate that only 55 per cent of respondents use non-financial data directly from corporates' public information (CFA Institute, 2015). Possibly investors and capital providers currently have little use for individual indicators in the absence of standardized benchmarks. The lack of comparability may also limiting use, or investors might not trust the data per se, because of limited data review. These are some issues open for future research.

1.5.5 SDGs and country targets

Another possible shortcoming of the core indicators derived through this study is the fact that they are based on corporate data, which are not delineated by country. However, the UN has already defined country-specific indicators for SDG-tracking,¹⁷ and established a database of indicators, with data provided by local statistical offices. Moreover, the German foundation Bertelsmann Stiftung has established an SDG index,¹⁸ which ranks individual countries' performance on the 17 SDGs.

For these reasons, a country-by-country delineation of the SDG data from corporates to measure individual country performances is deemed unnecessary. In this paper, the SDG agenda is solely used as a measurement device to answer the question: "What does good look like?" – to facilitate to interpretation of corporates' ESG data.

2. Results

2.1 Analysis of the global top 100 listed corporates' ESG reporting

The figures below show the global top 100 listed by region and sector:

17 <http://unstats.un.org/sdgs>.

18 www.sdgindex.org/download.

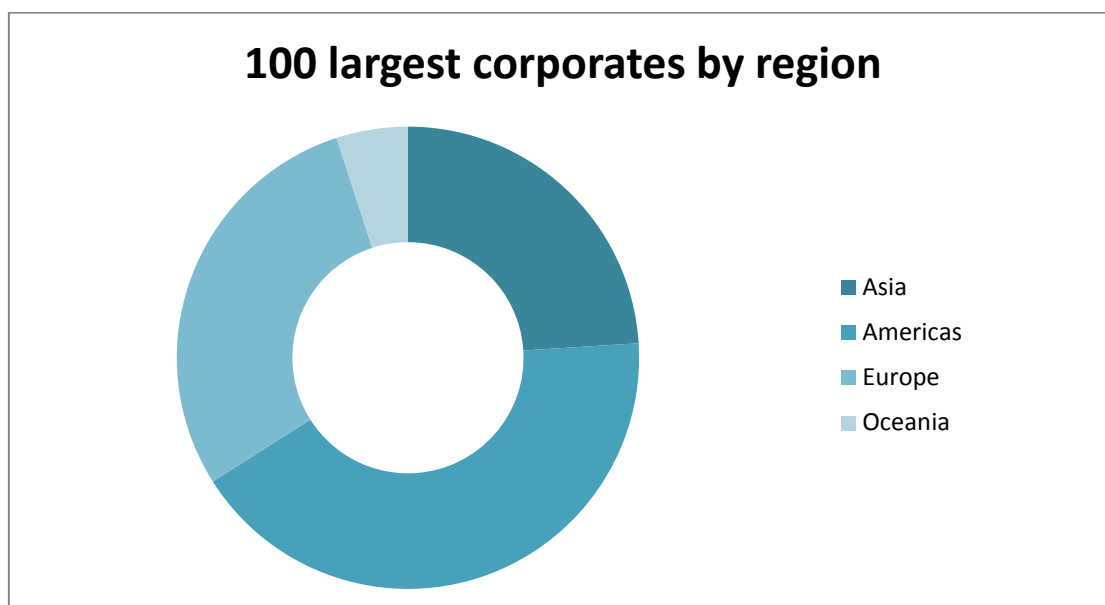


Figure 1
100 largest corporates divided by region

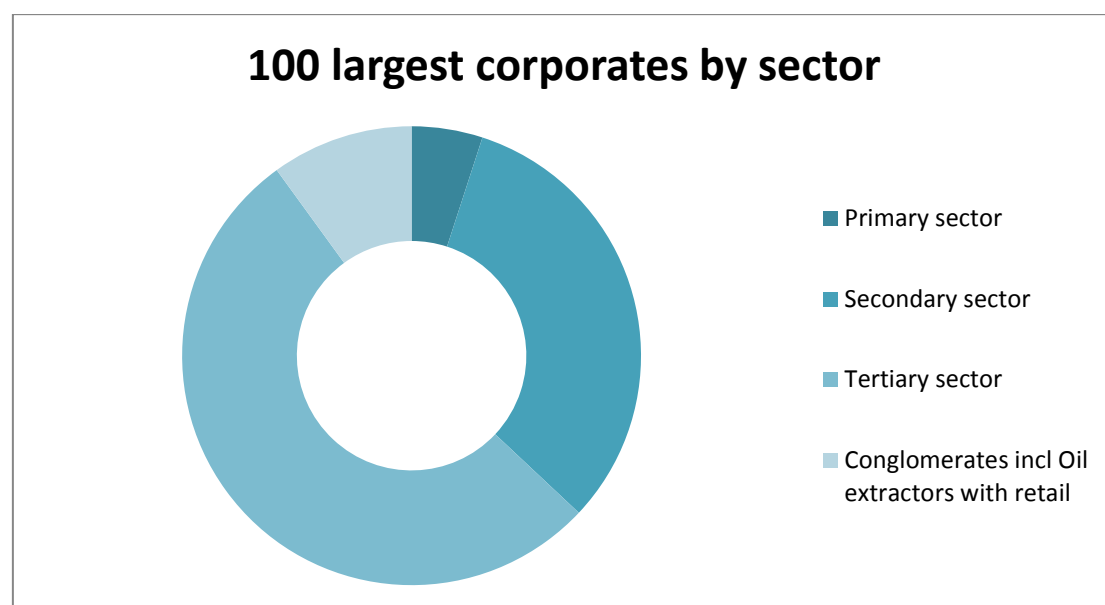


Figure 2
100 largest corporates divided by sector

Overall, the analysis shows that out of 100:

- 99 corporates produce some sort of ESG reporting.
- 85 corporates produce standalone ESG reports, of which nine also produce some sort of integrated/combined reports.

- The average report¹⁹ is 102 pages in length, with information on 49 indicators.

Corporates from Oceania are found to produce shorter reports (75 pages) and provide more indicators (65). The Secondary sector produces reports that are much longer than average (143 pages), but with only a few more indicators (55). Conglomerates produce the shortest reports (61 pages), with a number of indicators that is close to the dataset average of 49 indicators.

- It was found that five corporates use financial boundaries; the rest use operational (9) or homemade/convenient boundaries (43), or do not define their boundaries (42).²⁰

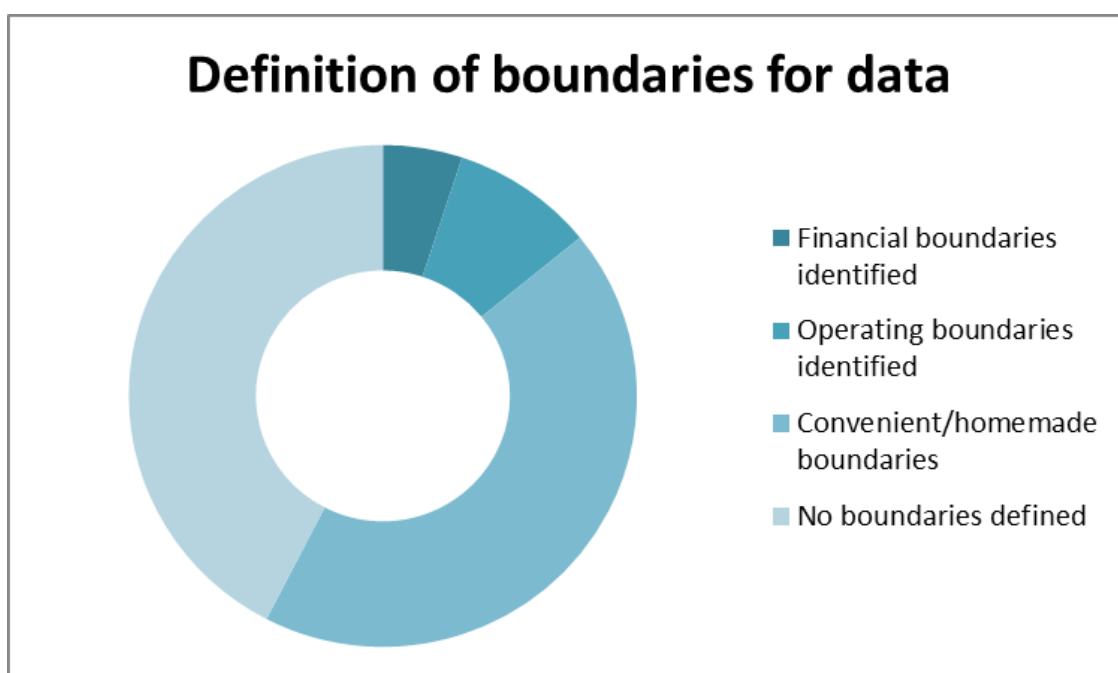


Figure 3
Definition of boundaries for data

Asian corporates, in particular, (58 per cent) do not define their reporting boundaries, while Europe (52 per cent) and Oceania (60 per cent) tend to use convenient/homemade boundaries. Assessing the boundaries from a sectoral point of view, firms in the secondary sector appear to be more inclined to use financial (9 per cent) and convenient/homemade boundaries (50 per cent).

¹⁹ Only the 85 standalone ESG reports have been included in this data point. Supplementary information and indicators may have been extracted from elsewhere in publicly available reporting, which can raise the number of identified indicators.

²⁰ See explanations about the issues of boundaries in section 2.4.3 “Boundaries and consolidation rules”.

- 40 corporates provide their ESG accounting principles, while 48 do not; 12 provide some accounting principles.

Among Asian corporates, only 25 per cent report on accounting principles, while 80 per cent of the corporates from Oceania report on their accounting principles. Considered by sector, corporates in the primary sector (80 per cent) do not report their accounting principles, while those in the secondary sector do (53 per cent fully and 22 per cent to some degree).

Based on the last two findings, the question arises whether there is a correlation between those that report without defining their data boundaries and those that do not report on their accounting principles. It turns out that there is only a moderate correlation (0.61), but among those that do not define their data boundaries, 80 per cent do not report on their accounting principles either.

- 51 corporates refer to UNGC, 62 to CDP, 10 to ISO 26000, 48 to other ISO standards, and 72 refer to GRI (both G3 and G4).²¹

Corporates from Europe and Oceania, in particular, refer to UNGC (83 per cent and 80 per cent, respectively), which is much less common among Asian and American corporates (33 per cent and 36 per cent, respectively). Corporates from Oceania, the Americas and Europe (100 per cent, 74 per cent, and 69 per cent, respectively) tend to refer to CDP and GRI much more often than Asian (25 per cent) corporates. From a sectoral perspective, the secondary sector most frequently refers to frameworks generically, while the tertiary sector is below the average. ISO 26000 is fairly rarely referred to generically, but mostly so in Asia (33 per cent) and by corporates from the tertiary sector (15 per cent). The corporates in Oceania in general do not refer to ISO very often (none to ISO 26000 and 20 per cent to other ISO standards).

- 57 corporates get some sort of external review, mostly on a limited level. A few have a reasonable review on some of the indicators reported, typically with regard to reporting on GHG.

²¹ For more information about the frameworks, see Jagd (2015). G3 and G4 refer to the generation names within GRI.

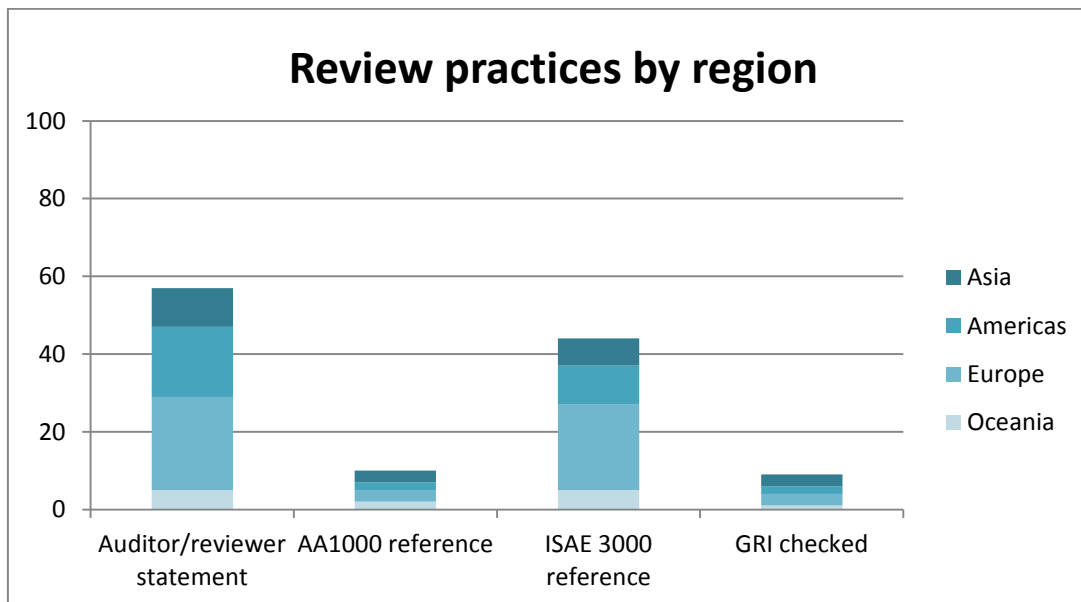


Figure 4
Review habits by region

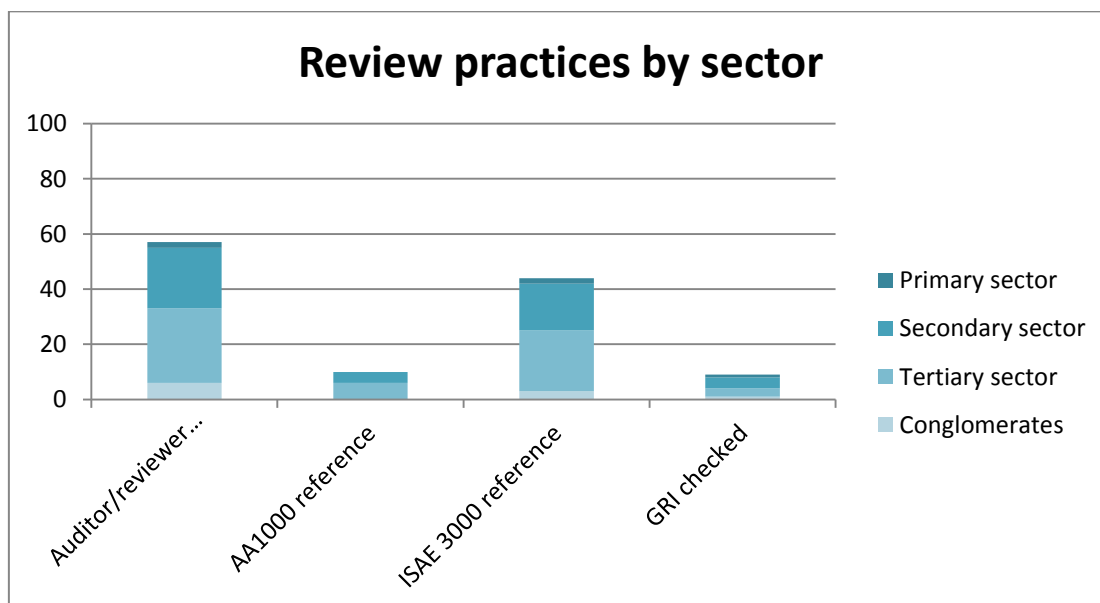


Figure 5
Review habits by sector

The review can be made within various frameworks as well, while some of them can be combined, such as ISAE 3000 and AA1000 type 2.²² Looking at the use of the review frameworks, 44 corporates obtain an ISAE 3000 review, 10 are reviewed by AA1000, while nine have their report GRI-checked. Considering the geographical distribution of the use of the ISAE 3000 review, Europe and Oceania are inclined to use these review frameworks (76 per cent and 100 per cent of the corporates use ISAE 3000, respectively), while most Asian and American corporates do not (only 29 per cent and 24 per cent, respectively). By sector, use is more evenly spread, with conglomerates the least frequent (30 per cent) and firms in the secondary sector the most frequent users (53 per cent).

The following auditors / reviewer firms are being used:

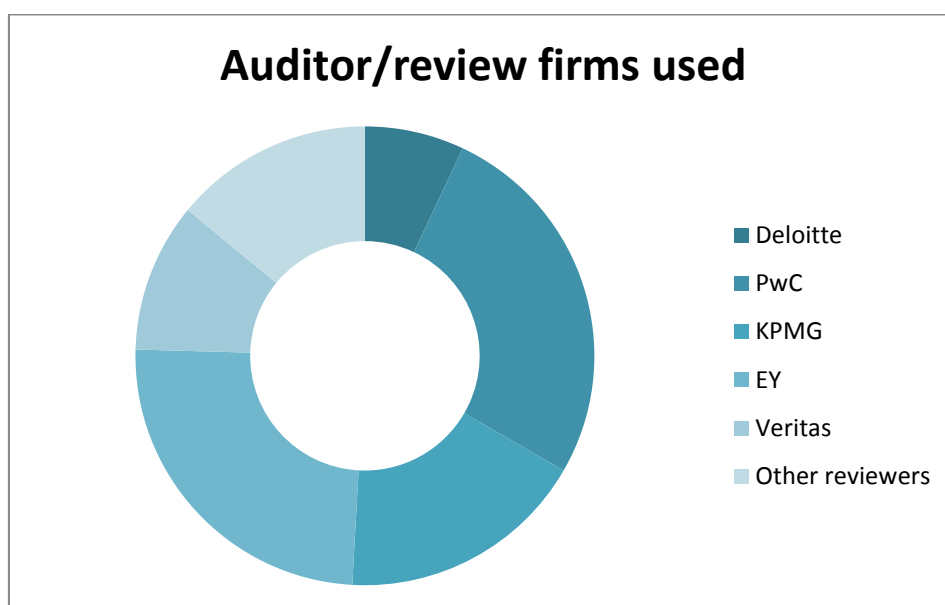


Figure 6
Auditor/review firms used

We note that PwC and EY hold a big share of the market. Remarkably, Veritas's stake of the market trumps that of Deloitte, which is one of the Big Four auditing firms. From a geographical perspective, corporates in the Americas tend to use firms other than the Big Four and Veritas, while PwC and EY are more present in the European market. The spread of auditing firms used is more evenly distributed if taken by sector, however, PwC and EY are far more frequently used than other firms by the tertiary sector.

²² For more information about review frameworks, see Jagd (2015) and Kamp-Roelands (2002).

2.1 The top 100 listed companies' use of indicators

The global top 100 listed corporates report on 202 different non-financial indicators. The most frequently used indicators are contained in Appendix B.

Not all of these indicators are universally reported on across sectors and geographies, notably:

- Energy use, is primarily reported on by the secondary sector and conglomerates (78 per cent and 60 per cent, respectively), but to a lesser extent by the primary and tertiary sectors (20 per cent and 47 per cent, respectively).
- Reuse of waste is primarily reported on by the secondary sector and conglomerates (69 per cent and 50 per cent, respectively), but less so by the primary and tertiary sectors (20 per cent and 43 per cent, respectively).
- Total Assets, is primarily reported on by Asian and American corporates (88 per cent and 64 per cent, respectively), while European and Oceanian corporates reporting on this indicator to a lesser extent (38 and 20 per cent, respectively).
- Operating Income, which is mostly reported on by the secondary and tertiary sectors (69 per cent and 60 per cent, respectively), while the primary sector and conglomerates less frequently report on it (40 per cent and 30 per cent, respectively).

The analysis also indicates that human rights and anti-corruption are not among the indicators most frequently reported on. This analysis does not suggest including these indicators in the list of suggested core indicators, as it is for corporates to agree on what is material enough for them to report on. However, anti-corruption is on the radar of 43 per cent of corporates, as they report on one or more indicators under this theme. Moreover, reporting on anti-corruption is very much linked to geography. Europe and Oceania (59 per cent and 80 per cent of the corporates in these regions, respectively) report on it, while corporates from Asia and the Americas are less inclined to (29 per cent and 36 per cent, respectively). Taken by sector, the inclination to report on anti-corruption is more evenly spread, although conglomerates are the most frequent reporters (70 per cent).

Another theme not reflected among the most-used indicators is the concern about upstream and downstream data, meaning impact on society, customers, suppliers, etc. These indicators appear within each of these subthemes with the following frequencies:

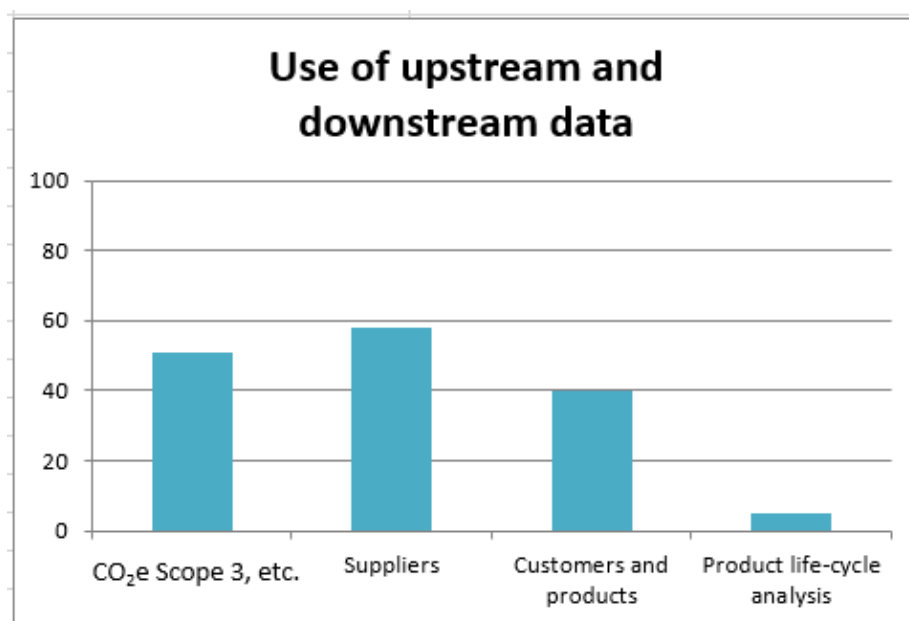


Figure 7
Use of upstream and downstream data

Europe and Oceania-based corporates frequently report (66 and 100 per cent, respectively) on CO₂e Scope 3, which for the purposes of this study also includes indicators on air miles, diesel consumption from commuting, etc. Reporting among Asian corporates is rarer (25 per cent), while corporates in the Americas are close to the global average (50 per cent). Taken by sector, 62 per cent of secondary corporates report on CO₂e Scope 3 and other indicators that are related to Scope 3 reporting, etc., while the primary sector and conglomerates are much less frequent reporters (20 per cent and 30 per cent, respectively). Just over half (51 per cent) of tertiary sector firms report on it.

The use of indicators on suppliers (supplier screenings, supplier training, supplier diversity, etc.) and customers and products (customer satisfaction, customer dialogue, product complaints, etc.) differs according to geographical location of the corporate. Corporates from the Americas (71 per cent) report substantially on suppliers, Asian corporates are less inclined (29 per cent), while Europe and Oceania are almost average (62 per cent and 60 per cent, respectively). In contrast, Asian and Oceanian corporates (54 per cent and 100 per cent, respectively) report most diligently on Customers and products, while this is far less frequent in the Americas (24 per cent). Europe is slightly above the average, at 47 per cent.

Only secondary sector corporates, primarily in the Americas, report on the indicator Product full-life-cycle analysis, which is the least commonly reported on.

2.2 Analysis of ESG rating agencies' requests of indicators

The table in Appendix C shows the indicators that are used by three or more of the seven ESG rating agencies. The ESG rating agencies appear to be more congruent about which indicators to track and measure, but this may be ascribed to the fact that the population is much smaller than the number of corporates analyzed in this study.

2.3 Towards a set of core SDG indicators

From the corporate reports, 20 indicators were identified as universal, while 55 common indicators were identified from the ESG rating agencies' methodologies. The two lists had 14 indicators in common.

To these 14 indicators were added 10 more indicators, whose inclusion is warranted because they either (i) provide a necessary foundation for the identified indicators; (ii) they are the missing element to make an indicator truly comparable; or because (iii) an extra indicator allows to significantly improve the data quality of other indicators. For instance, only 47 of the corporates reviewed report on the combusted quantities of fuels consumed – but these are necessary as the base for CO₂e calculation and reporting. Or, when information about female managers is collected, it is fairly easy, and actually ensures better quality data if all FTE data are classified by gender and management layers and to present this information in one note, even if the common rating agencies do not specifically request this information.

As such, we obtain the table below, with 24 indicators that are deemed empirically relevant and could be used as core indicators of company progress on the SDGs:

Core Indicators	SDG relevance
Environmental indicators	
CO ₂ e – scope 1 (t)	3, 12, 13, 14, 15
CO ₂ e – scope 2 (t)	3, 12, 13, 14, 15
Use of combustibles (t)	3, 12, 13, 14, 15
Use of electricity (GJ)	3, 12, 13, 14, 15
Use of district heating/cooling (GJ)	3, 12, 13, 14, 15
Water consumption (m ³)	6, 14
Waste (t)	3, 6, 12
CO ₂ e per production quantity (t)	3, 12, 13, 14, 15
Water per production quantity (m ³)	6, 14
Waste per production quantity (t)	3, 6, 12
Social Indicators	
Number of employees (FTEs)	5, 8
Number of female employees (FTEs)	5, 8, 10
FTEs divided by management layers (FTEs)	8, 10
Share of female managers (per cent)	10
Donations incl. community projects and value of employees' voluntary work within working hours (monetary unit)	1-17
Governance Indicators	
Number of board meetings (#)	8, 17
Attendance rate at board meetings (per cent)	8, 17
Female board members (#)	5, 8, 10, 17
Board members divided by age ranges (#)	8, 10, 17
Existence of audit committee (boolean)	8, 17
Number of audit committee meetings (#)	8, 17
Attendance rate at audit committee meetings (per cent)	8, 17
Compensation total (monetary unit)	8, 17
Compensation per member of the board and executives (monetary unit)	5, 8, 10, 17

Table 1
List of suggested core indicators

As can be seen, all of the 17 SDGs,²³ and many of the 169 individual targets are reflected in this relatively limited set of indicators. However, not all the individual targets are covered by the core indicators. Some corporates may want to report in more detail and cover more targets. The core indicators should be seen as a prototype outlining the core elements comprising a SDG reporting schema, upon which corporates can add more elements as they see fit.

2.4 The overarching data principles

In order for the suggested core indicators for company reporting on the SDGs to be meaningful, it is essential that they also reflect adherence to a number of principles for information quality. Based on the experience of identifying core indicators from an empirical perspective, this section elaborates on such principles, including the discussions at ISAR sessions since 2016.²⁴

To ensure that the ESG data are useful and comparable for primary stakeholders and integrable with financial data -- which contextualize the ESG data – corporates ought to apply some overarching data principles:

- Materiality and stakeholders need to be aligned;
- Data need to be quantified and comparable;
- Boundaries and consolidation rules need to be aligned;
- Data have to be verified and match the quality of financial data;
- ESG accounting principles have to be published; and
- Data must be accessible for users, therefore standard notes on core indicators have to be applied.

2.4.1 Materiality and stakeholders

When choosing what to report on, most corporates use materiality as guideline. Therefore, it is imperative to determine how materiality should be defined and by whom. Materiality and stakeholder definitions are some of the most debated elements of ESG reporting, and most of the initiatives, guidelines and good practices also provide different versions of these.

GRI, for instance, defines materiality as follows: “Material Aspects are those that reflect the organization’s significant economic, environmental and social impacts; or substantively influence the assessments and decisions of stakeholders.” Stakeholders are defined by GRI as follows: “...entities or individuals that can reasonably be expected to be significantly affected by the organization’s activities, products, and services; and whose actions can be reasonably expected to affect the ability of the organization to successfully implement its strategies and achieve its objectives. This includes entities or individuals whose rights under law or international conventions provide them with legitimate claims vis-à-vis the organization” (GRI, 2015, p. 7 and 92).

23 For the full list of SDGs, please see: www.un.org/sustainabledevelopment/sustainable-development-goals.

24 Reference is made to background notes TD/B/C.II/ISAR/78 and TD/B/C.II/ISAR/81 prepared on these matters.

However, with such a broad definition of stakeholders, it is difficult to establish a content standard that ensures comparability. “A standard would be unworkable if any person having a reason to lob a complaint at a corporation would qualify as a stakeholder and the topic of their complaint would be deemed material” (Herriott, 2016, p. 200). However, that is exactly what happens in practice, which is why ACCA and CDSB recently concluded in their mapping report of the sustainability reporting landscape that “the identification of material matters is increasingly determined through stakeholder engagement. In practice, where sustainability matters are concerned, everything is material to someone, which begs the question: from whose perspective should materiality be identified?” (ACCA and CDSB, 2016).

To ensure more comparability, it is therefore suggested to use IFRS as far as possible within the non-financial area, whereby the financial and non-financial data are aligned and integrable, and comparable across corporates. To use IFRS as far as possible also means that materiality and primary stakeholders are aligned with IFRS, rendering information material if its omission or misstatement could influence investors' and other capital providers' actions. This is also aligned with IIRC's and CDSB's choices of primary stakeholders (IIRC, 2013; CDSB, 2015), and a range of local guidelines such as, for instance, SASB.²⁵

This choice of primary stakeholder does not prevent the corporates from choosing more supplementary stakeholders, as long as the primary stakeholders' needs prevail.

2.4.2 Quantified and comparable data

The ESG data must be quantified and comparable. In a survey among investors on non-financial reporting, it was found that “96 per cent agreed or strongly agreed that quantitative key performance indicators are essential to assess corporate sustainability performance” (Eurosif and ACCA, 2013, p. 7–8). Thus, even though qualitative data are important, it must be emphasized that this type of data is supplementary for the investors and capital providers, and is potentially only used once the base analysis of the corporates is finalized and interesting corporates have been singled out.

The same analysis also showed that “92 per cent disagreed or strongly disagreed that current reporting is sufficiently comparable”. If the corporates, investors, and other capital providers are to be able to tell if a corporate is performing well, the ESG data need to be comparable, which also requires that they are put in the context of the corporate's financial data. If this is not done, a corporate, for instance, whose pollution decreases simply as a result of a decrease in production would be considered to perform better than before, which obviously is not the case. Thus, to be able to trace such a situation, the ESG data have to be integrable with financial data and, therefore, the IFRS rules should be used to the greatest extent possible.²⁶ Only then will it be possible to generate integrated notes and Key Performance Indicators (KPIs). In this way, it will be possible to establish and use integrated KPIs such as, for instance, Return on Pollution or Return on Governance.²⁷

²⁵ See www.sasb.org/sasb/vision-mission.

²⁶ See also UNCTAD (2008)

²⁷ See also Jagd (2015).

To enhance the comparability, this paper suggests all corporates use at least the same indicators regardless of industry or geography. Since the core indicators constitute merely a skeleton, corporates have wiggle room and may opt to expand the scope of issues or indicators they report on in line with their or their stakeholders' requirements. The core indicators do not prevent corporates from doing more, as long as they report on the basic set of indicators and adhere to the overarching data principles.

2.4.3 Boundaries and consolidation rules

Using IFRS to the greatest extent possible means, most importantly, that IFRS 10 and 11 on consolidation and joint arrangements, and IAS 17 and the forthcoming IFRS 16 on leasing are used to determine the boundaries for the direct report (scope 1 for GHGs²⁸) on both environmental and social data. This is the kind of non-financial data that has to be collected per legal entity by activity and consolidated with corporate data, as is done with financial data. It means that the consolidation must follow these rules:

- All subsidiaries are included 100 per cent (regardless of minorities), similarly as they are consolidated line-by-line for revenue, cost, cash flow, etc.;
- Joint operations (but not joint ventures) are included in proportion to ownership, as they are only consolidated line-by-line pro rata; and
- Joint ventures, associates, and other affiliated entities are not included, but can be in scope 3.

Using IFRS as far as possible also means that if an asset is leased out, it will be the asset user (lessee) and not the owner (lessor) who is liable for the use of the asset and how much it pollutes. The lessee is liable, as the leasing arrangement is simply the financing for having the asset available for use over a shorter or longer period, as opposed to buying it. It is of no importance whether it is a financial or operating lease, or with or without "operators on board". The IFRS lease regulation also helps to determine if the arrangement is a lease or sale-of-services. The lessor can still choose to report on emissions and other indicators from the leased-out asset or when buying a service, but it should be reported separately in scope 3 to maintain comparability with other corporates' reports.

It is the norm in some industries only to include ESG data from the "operated" legal entities and leased assets and then to include these data for 100 per cent and leave everything from non-operated legal entities and assets outside the boundaries. This is called "operational boundaries", and this practice sometimes causes boundaries to be too wide or too narrow compared with the financial data, so that the ESG and financial data are not integrable with each other.

²⁸ The GHG Protocol splits emissions in three scopes – see the list of Acronyms and Definitions at the end of the paper. As mentioned previously, the crux of this protocol is to determine when the company has scope 1 consumption (i.e. direct consumption) of chemicals, fuels and gases. The answer depends entirely on whether the company uses financial, operational, homemade, or convenient boundaries.

See also Jagd (2015) and CDSB (2014) to get more information about boundaries.

Using IFRS to determine the boundaries means also that these operational, homemade, or other convenient boundaries²⁹ cannot be used for the core indicators. These alternative boundaries can of course be used for all supplementary data, but that would serve no purpose,³⁰ as the use of non-financial boundaries leads to data mismatch, so that valid integrated reporting, KPIs and analyses cannot be achieved.

2.4.4 Verified data quality at the same level as financial data

The data quality must be verifiable and of the same quality as financial data: "...investors want assurance that this data is of high quality, as they want information that they can rely on for their decision making" (Sullivan, 2011, p. 11). And just as a financial report consists of items that can be verified fairly easily (e.g. cash and loans) and more complicated items (e.g. provisions or intangible assets), so it is with ESG data. However, for investors and other capital providers to be sure that the data are of the same quality as the financial data, the review quality needs to be improved. As mentioned in the analysis of the top 100 listed corporates, only 57 get external assurance of some sort – and all of those only to a limited extent.³¹

Given that the materiality definition for the core indicators is aligned with IFRS, it is suggested that the audit/review of the core indicators is done within the ISAE 3000 review framework, as the materiality definitions are aligned (see also ISA 320³²). The advantage of ISAE 3000 is that the indicators to be reviewed are already defined, just like the indicators in financial reporting are predefined. Apart from aligned materiality definition, one of the other benefits of using ISAE 3000 is that the review statement is easier to understand for the investors and other capital providers: "as the approaches to the assurance of social and environmental performance have become increasingly technical, the language and presentation of assurance statements has become increasingly impenetrable to all but the specialists in the area (a group that excludes most institutional investors)" (Sullivan, 2011, p. 118).³³ Using ISAE 3000 for the core indicators does not prevent corporates from also using AA1000, as the latter is open for such integration.

2.4.5 Publication of ESG accounting principles

Accounting principles are being left out of ESG reports more often than not,³⁴ but UNCTAD (2008) suggests including them. If the investors and capital providers are supposed to be able to determine the comparability of the data, it is important that they get an overview of the ESG accounting principles used, as with principles for depreciation of various assets, for instance.

29 From the analysis of the world's 100 largest listed companies, there are examples of companies that, for instance, do not include ESG data from a newly bought subsidiary until it has been with the corporate a full year or even up to three years, or small subsidiaries or subsidiaries in specific areas are not included. That would never happen in financial reporting.

30 For a more detailed explanation of boundaries, please see CDSB (2014) or Jagd (2015).

31 A few get reasonable assurance on some of the data – primarily GHG.

32 Read more about ISAE 3000, AA1000, ISA 320 and other standards on data verification in Jagd (2015).

33 To understand more about the difference between ISAE 3000 and AA 1000, please see Kamp-Roelands (2002).

34 Only 40 corporates out of 100 provide their ESG accounting principles.

2.4.6 Standard notes on Universal SDG Indicators

The quantified data must be easy to find and recognize, via standard notes, for example. Today, all investors and capital providers can easily find their way around any financial report, as standards are made, for instance, for Balance Sheets or Cash Flow notes. One of the key problems for ESG reporting is that they are very long (the average standalone ESG report of the top 100 listed corporates is 102 pages). Furthermore, it can be complicated to find information in them, even if some of the reports also have included helpful GRI tables with references. Often, the data are still spread out in the narratives, and/or they are transformed into graphs and other illustrations, but not provided in user-friendly tables with figures and units, etc.

3. Conclusions

This paper has provided original research into ESG reporting practices, with a view to providing an empirical input for UNCTAD's project on the selection of a limited number of core indicators for company reporting on the SDGs.

These indicators are derived from the reporting practices of the top 100 listed companies, and are all measured and tracked by the ESG rating agencies (and thus indirectly by their customers, investors and capital providers), as well as paired with the 17 SDGs. It should be noted that these indicators are not intended to cover the full SDGs monitoring framework, given that some areas of the SDGs are not currently being reported by companies at a significant level. The core indicators provide a comparable baseline for reporting, which does not preclude companies from providing more thorough disclosures, on the basis of their own materiality assessments, in compliance with national and regional regulatory requirements, or following guidelines issued by ESG standard-setters and industry associations.

Another relevant contribution made by this paper is related to the overall principles for data quality that are important in ensuring the meaningfulness of the suggested core indicators.

Appendix

Appendix A: Base data for the analyses

A.1 Overview of the world's top 100 listed corporates according to Forbes Global 2000

Rank	Company	Country	Sales	Profits	Assets	Market Value	Sector /Industry
#1	ICBC	China	\$166.8 B	\$44.8 B	\$3,322 B	\$278.3 B	Bank
#2	China Construction Bank	China	\$130.5 B	\$37 B	\$2,698.9 B	\$212.9 B	Bank
#3	Agricultural Bank of China	China	\$129.2 B	\$29.1 B	\$2,574.8 B	\$189.9 B	Bank
#4	Bank of China	China	\$120.3 B	\$27.5 B	\$2,458.3 B	\$199.1 B	Bank
#5	Berkshire Hathaway	United States	\$194.7 B	\$19.9 B	\$534.6 B	\$354.8 B	Investment Services
#6	JPMorgan Chase	United States	\$97.8 B	\$21.2 B	\$2,593.6 B	\$225.5 B	Bank
#7	ExxonMobil	United States	\$376.2 B	\$32.5 B	\$349.5 B	\$357.1 B	Oil & Gas
#8	PetroChina	China	\$333.4 B	\$17.4 B	\$387.7 B	\$334.6 B	Oil & Gas
#9	General Electric	United States	\$148.5 B	\$15.2 B	\$648.3 B	\$253.5 B	Conglomerate
#10	Wells Fargo	United States	\$90.4 B	\$23.1 B	\$1,701.4 B	\$278.3 B	Bank
#11	Toyota Motor	Japan	\$252.2 B	\$19.1 B	\$389.7 B	\$239 B	Auto & Truck Manufacturers
#12	Apple	United States	\$199.4 B	\$44.5 B	\$261.9 B	\$741.8 B	Computer hardware
#13	Royal Dutch Shell	Netherlands	\$420.4 B	\$14.9 B	\$353.1 B	\$195.4 B	Oil & Gas
#14	Volkswagen Group	Germany	\$268.5 B	\$14.4 B	\$425 B	\$126 B	Auto & Truck Manufacturers
#15	HSBC Holdings	United Kingdom	\$81.1 B	\$13.5 B	\$2,634.1 B	\$167.7 B	Bank
#16	Chevron	United States	\$191.8 B	\$19.2 B	\$266 B	\$201 B	Oil & Gas
#16	Wal-Mart Stores	United States	\$485.7 B	\$16.4 B	\$203.7 B	\$261.3 B	Retail
#18	Samsung Electronics	South Korea	\$195.9 B	\$21.9 B	\$209.6 B	\$199.4 B	Semiconductors
#19	Citigroup	United States	\$93.9 B	\$7.2 B	\$1,846 B	\$156.7 B	Bank

#20	China Mobile	China	\$104.1 B	\$17.7 B	\$209 B	\$271.5 B	Telecommunication
#21	Allianz	Germany	\$128.4 B	\$8.3 B	\$979 B	\$82 B	Insurance
#22	Verizon Communications	United States	\$127.1 B	\$9.6 B	\$232.7 B	\$202.5 B	Telecommunication
#23	Bank of America	United States	\$97 B	\$4.8 B	\$2,114.1 B	\$163.2 B	Bank
#24	Sinopec	China	\$427.6 B	\$7.7 B	\$233.9 B	\$121 B	Oil & Gas
#25	Microsoft	United States	\$93.3 B	\$20.7 B	\$174.8 B	\$340.8 B	Software
#26	Daimler	Germany	\$172.3 B	\$9.2 B	\$229.5 B	\$103.3 B	Auto & Truck Manufacturers
#27	Gazprom	Russia	\$158 B	\$24.1 B	\$356 B	\$62.5 B	Oil & Gas
#27	AT&T	United States	\$132.4 B	\$6.2 B	\$292.8 B	\$173 B	Telecommunication
#29	AXA Group	France	\$153.8 B	\$6.3 B	\$1,016.6 B	\$64.2 B	Insurance
#30	Nestlé	Switzerland	\$100.1 B	\$15.8 B	\$134.3 B	\$247.3 B	Food & Drink
#31	Banco Santander	Spain	\$56.4 B	\$7.7 B	\$1,532.3 B	\$109.4 B	Bank
#32	Ping An Insurance Group	China	\$75.3 B	\$6.4 B	\$645.7 B	\$113.8 B	Insurance
#33	Mitsubishi Financial	UFJ Japan	\$49.2 B	\$10.6 B	\$2,328.5 B	\$90.9 B	Auto & Truck Manufacturers
#34	Johnson & Johnson	United States	\$74.2 B	\$16.3 B	\$131.1 B	\$275.7 B	Medical Equipment and Supplies
#35	Total	France	\$211.4 B	\$4.2 B	\$229.8 B	\$120.2 B	Oil & Gas
#36	Procter & Gamble	United States	\$81.7 B	\$9.5 B	\$136.3 B	\$224.3 B	Household & Personal Products
#37	China Life Insurance	China	\$71.4 B	\$5.2 B	\$362.1 B	\$160.5 B	Insurance
#38	Bank of Communications	China	\$53.6 B	\$10.7 B	\$1,010.4 B	\$71.2 B	Bank
#39	Google	United States	\$66 B	\$13.7 B	\$131.1 B	\$367.6 B	Computer services
#40	Vodafone	United Kingdom	\$66.3 B	\$77.4 B	\$200.5 B	\$88 B	Telecommunication
#41	BP	United Kingdom	\$352.8 B	\$3.5 B	\$284.3 B	\$120.8 B	Oil & Gas
#42	American International Group	United States	\$67.5 B	\$7.6 B	\$515.6 B	\$75 B	Insurance
#42	Itaú Unibanco Holding	Brazil	\$76.6 B	\$9.2 B	\$424 B	\$63.7 B	Bank
#44	IBM	United States	\$93.4 B	\$12 B	\$117.5 B	\$160.2 B	Software
#45	BMW Group	Germany	\$106.6 B	\$7.7 B	\$187.3 B	\$81.4 B	Auto & Truck Manufacturers
#46	Comcast	United States	\$68.8 B	\$8.4 B	\$159.3 B	\$147.8 B	Broadcasting and Cable

#47	Commonwealth Bank	Australia	\$39.6 B	\$8.1 B	\$696.2 B	\$117.1 B	Bank
#48	Pfizer	United States	\$49.6 B	\$9.1 B	\$169.3 B	\$211.7 B	Pharmaceuticals
#49	Goldman Sachs Group	United States	\$40.1 B	\$8.5 B	\$856.2 B	\$86.5 B	Investment Services
#50	MetLife	United States	\$70.5 B	\$6.3 B	\$902.3 B	\$57.3 B	Insurance
#50	BHP Billiton	Australia	\$63.1 B	\$10 B	\$146.1 B	\$119.5 B	Metals and Mining
#52	Novartis	Switzerland	\$53.6 B	\$10.1 B	\$125.8 B	\$272.6 B	Pharmaceuticals
#53	Royal Bank of Canada	Canada	\$38.9 B	\$8.3 B	\$857 B	\$89.3 B	Bank
#54	Siemens	Germany	\$97.4 B	\$6.7 B	\$131.6 B	\$97.7 B	Conglomerate
#55	China Merchants Bank	China	\$45.5 B	\$9.1 B	\$762.7 B	\$64 B	Bank
#56	Prudential	United Kingdom	\$99 B	\$3.6 B	\$564.5 B	\$64.5 B	Insurance
#57	Anheuser-Busch InBev	Belgium	\$47.1 B	\$9.2 B	\$144.9 B	\$204.6 B	Food & Drink
#58	Nippon Telegraph & Tel	Japan	\$104.7 B	\$5.2 B	\$172.2 B	\$71.5 B	Telecommunication
#59	Rosneft	Russia	\$129 B	\$9 B	\$150 B	\$51.1 B	Oil & Gas
#60	Westpac Banking Group	Australia	\$35.6 B	\$6.9 B	\$674.5 B	\$94.2 B	Bank
#61	Banco Bradesco	Brazil	\$66.7 B	\$6.5 B	\$403.1 B	\$51.4 B	Bank
#62	Softbank	Japan	\$80.6 B	\$5.8 B	\$168.8 B	\$70.3 B	Bank
#63	Honda Motor	Japan	\$117.1 B	\$5.6 B	\$148.7 B	\$61.4 B	Auto & Truck Manufacturers
#64	General Motors	United States	\$155.9 B	\$3.9 B	\$177.7 B	\$59 B	Auto & Truck Manufacturers
#65	UnitedHealth Group	United States	\$130.5 B	\$5.6 B	\$86.4 B	\$112 B	Health Care
#66	TD Bank Group	Canada	\$32.7 B	\$7 B	\$851.9 B	\$80.4 B	Bank
#67	Intel	United States	\$55.9 B	\$11.7 B	\$92 B	\$147.2 B	Semiconductors
#68	EDF	France	\$96.7 B	\$4.7 B	\$324.3 B	\$46.3 B	Electric Utilities
#69	Ford Motor	United States	\$144.1 B	\$3.2 B	\$208.5 B	\$63.6 B	Auto & Truck Manufacturers
#70	Deutsche Telekom	Germany	\$83.1 B	\$3.9 B	\$156.5 B	\$85 B	Telecommunication
#71	BASF	Germany	\$98.6 B	\$6.8 B	\$90.2 B	\$93.5 B	Chemicals
#72	Boeing	United States	\$90.8 B	\$5.4 B	\$99.2 B	\$105.6 B	Aerospace & Defence
#73	Industrial Bank	China	\$39.4 B	\$7.6 B	\$650.8 B	\$57.9 B	Bank
#73	UBS	Switzerland	\$39.8 B	\$3.9 B	\$1,069.3 B	\$74.7 B	Bank
#75	ANZ	Australia	\$32.6 B	\$6.7 B	\$676.7 B	\$77.6 B	Bank

#76	Cisco Systems	United States	\$48.1 B	\$8.7 B	\$104.9 B	\$139 B	Communication Equipment
#77	Sumitomo Mitsui Financial	Japan	\$34.8 B	\$7.7 B	\$1,465.4 B	\$54.8 B	Bank
#78	Zurich Insurance Group	Switzerland	\$73 B	\$3.9 B	\$390 B	\$51.8 B	Insurance
#79	China Minsheng Banking	China	\$40 B	\$7.2 B	\$647.2 B	\$51.7 B	Bank
#80	Merck & Co	United States	\$42.2 B	\$11.9 B	\$98.3 B	\$162.3 B	Pharmaceuticals
#81	Roche Holding	Switzerland	\$51.8 B	\$10.2 B	\$76.1 B	\$240.4 B	Pharmaceuticals
#82	Citic Pacific	Hong Kong	\$51.9 B	\$5.1 B	\$767 B	\$44.3 B	Metals and Mining
#83	National Australia Bank	Australia	\$33.4 B	\$4.9 B	\$772.9 B	\$71.7 B	Bank
#84	Shanghai Pudong Development	China	\$38.2 B	\$7.6 B	\$676.3 B	\$49.2 B	Bank
#84	Walt Disney	United States	\$49.8 B	\$7.8 B	\$87 B	\$179.5 B	Broadcasting and Cable
#86	Telefónica	Spain	\$66.8 B	\$4 B	\$148 B	\$72.3 B	Telecommunication
#86	CVS Health	United States	\$139.4 B	\$4.6 B	\$74.3 B	\$117.4 B	Drug retail
#88	Oracle	United States	\$38.8 B	\$10.8 B	\$98.8 B	\$187.6 B	Software
#89	Sanofi	France	\$44.8 B	\$5.8 B	\$117.8 B	\$136 B	Pharmaceuticals
#89	ConocoPhillips	United States	\$52 B	\$6.9 B	\$116.5 B	\$80.5 B	Oil & Gas
#91	United Technologies	United States	\$65.2 B	\$6.2 B	\$91.3 B	\$107.1 B	Conglomerate
#92	ING Group	Netherlands	\$65.7 B	\$2.6 B	\$1,195.7 B	\$58.9 B	Bank
#93	Coca-Cola	United States	\$45.9 B	\$7.1 B	\$92 B	\$179.9 B	Food & Drink
#94	China Citic Bank	China	\$38.3 B	\$6.6 B	\$667.1 B	\$49.7 B	Bank
#95	Morgan Stanley	United States	\$39 B	\$3.5 B	\$803.1 B	\$70.8 B	Investment services
#96	Nissan Motor	Japan	\$106.7 B	\$4.3 B	\$138.9 B	\$45.9 B	Auto & Truck Manufacturers
#96	Hewlett-Packard	United States	\$109.8 B	\$5 B	\$100.9 B	\$57.9 B	Computer Hardware
#98	GDF SUEZ (from 2015 Engie)	France	\$99.1 B	\$3.2 B	\$200 B	\$49.5 B	Electric Utilities
#99	PepsiCo	United States	\$66.7 B	\$6.5 B	\$70.5 B	\$143 B	Food & Drink
#100	Lloyds Banking Group	United Kingdom	\$65.6 B	\$1.9 B	\$1,333 B	\$84.4 B	Bank

A.2 Overview of the ESG rating agencies evaluated

Rating agencies evaluated		
Anáhuac University	Ethos Fund	Reprisk
Bank J. Safra Sarasin	FTSE4GOOD	Rfu
Bloomberg	GES (Global Engagement Services)	RobecoSAM
CAER	Goldman Sachs	S&P Dow Jones Indices
Calvert Investments	HIP Investor	SD-M GmbH
Corporate Knights	Hong Kong Quality Assurance Agency	Solability
Covalence	Imug	Solarum Sustainability Services
CRD Analytics	Inrate	Standard Ethics
ECODES	IW Financial	Sustainability Research Center (GVCes)
Ecofi Investissements	Korea Exchange	Sustainable Investment Research Institute
ECPI	MSCI Global	Sustainalytics
Ethibel	Maala	Thomson Reuters Asset4
EthiFinance	Oekem Research	Vigeo EIRIS (now only EIRIS)
Etho Capital	Regnan	

Appendix B: Most-used indicators by corporates

Most-used indicators by corporates		
Categories	Indicators per category	Frequency
Environmental	CO ₂ e (scope 1 + 2) ³⁵	82 ³⁶
	Water consumption	74
	Waste	63
	Energy	57
	Reuse of waste	51
Social	Number of employees	93
	Donations (incl. community projects and employees' voluntary work, etc.)	89 ³⁷
	Number of employees divided by gender	66
	Number of managers divided by gender	62
Governance	Number of female board members	99
	Existence of Audit Committee	97
	Compensation – total	95
	Attendance rate to board meetings	87
	Compensation per member	86
	Board duration of service (tenure)	84
	Number of board meetings	83
	Age diversity of board members	77
	Number of Audit Committee meetings	74
	SOX activities	74
Existence of ESG Board, CSR Committee, Corporate Governance committee, etc.	50	

35 See more about the CO₂e and the 3 scopes in the list of Acronyms and Definitions at the end of the paper. The crux of the GHG protocol, which the scope division is based on, is determining whether a company has scope 1 consumption (i.e., direct consumption) of chemicals, fuels and gases. The answer depends entirely on whether the company uses financial, operational, or homemade/convenient boundaries. For further information about boundaries, please see Jagd (2015) and CDSB (2014).

36 65 GHG-scope 1 divided and 17 non-GHG scope divided. Within the group 65 scope 1, 61 also reported on scope 2.

37 Of the 89 corporates that reported on donations, 65 also reported specifically on community projects, and 1 reported only on community projects.

Appendix C: Most-used indicators by ESG rating agencies

Most-used indicators by ESG rating agencies		
Categories	Indicators per category	Frequency
Environmental	CO ₂ e (scope 1 + 2)	7/7 ³⁸
	Energy	7/7
	Water consumption	6/7
	Energy from sustainable sources	6/7
	Waste	5/7
	Reuse of waste	5/7
	Hazardous waste	5/7
	Use of specific materials/substances other than paper	5/7
	Waste water	4/7
	SO _x , NO _x , and other air emissions	4/7
	Violations of environmental law limits	4/7
	Energy intensity	3/7
	Use of combustions	3/7
	Use of electricity	3/7
	Spills	3/7
	Water consumption per source	3/7
	Waste water per ways of handling	3/7
	Land bought for conservation	3/7
	Environmental cost	3/7
	Social	Number of employees (FTEs) ³⁹
Employee Turnover		6/7
Fines for not being in compliance with the laws		6/7
Number of employees on union-agreed salaries		5/7
Average salary		5/7
Number of human rights cases (incl. discrimination)		5/7
Number of anti-corruption cases		5/7
Donations (incl. community projects and employees' voluntary work, etc.)		5/7
Lost Time Incidents	4/7	

³⁸ 4 use scope 1 and 2, while 3 use non-scope divided CO₂e. Only 2 use scope 3.

³⁹ FTEs = Full Time Equivalents, the standard for measuring numbers of employees. For more information, please see Jagd (2015).

	Training hours per employee	4/7
	Training cost per employee	4/7
	Number of managers divided by gender	4/7
	Number of fraud cases	4/7
	Number of complaints from customers	4/7
	Number of products withdrawn from the market	4/7
	Cost of employees (staff cost)	4/7
	Number of employees covered by performance development system	3/7
	Absence rate	3/7
	Number of fatalities	3/7
	Number of employees on reduced time or flexible hours	3/7
	Number of employees divided by race, ethnicity or nationality	3/7
	Average salary per gender	3/7
	Use of child labour	3/7
	Use of forced labour	3/7
	Number of human rights audits	3/7
	Consequence statistics of fraud/anti-corruption cases	3/7
	Share of suppliers trained in integrity	3/7
	Customer satisfaction	3/7
Governance	Number of female board members	7/7
	Compensation – total	5/7
	Compensation per member	4/7
	Existence of Audit Committee	3/7
	Attendance rate to board meetings	3/7
	Age diversity of board members	3/7
	Ethnicity/nationality diversity of the board	3/7
	Number of punishments to the senior management from the authorities	3/7

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⁴⁰ Unless otherwise indicated, all websites were last accessed 14 September 2017.

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