



SECTION B.3

Data

Accurate and meaningful sustainability reporting requires the use of quantitative and qualitative data in many areas. The introduction (section A – *“3. Key topics and indicators in sustainability reporting”, on page 43*) has outlined the role of indicators in monitoring sustainability performance including the following:

1. The key characteristics of effective key performance indicators.
2. The role of absolute and relative indicators.
3. Existing indicator frameworks.
4. Core indicators for sustainability reporting.

This section provides a closer look at the role of data in sustainability reporting. It includes the following:

1. An overview of data; what it is, its importance for governments and how it can most effectively be utilized.
2. Examples of effective data management systems at different scales.
3. An overview of how government actors can support the effective use of data in sustainability reporting.

1. WHAT IS DATA?

'Data' is defined as the facts, details and statistics collected in raw form. It is produced in huge quantities from different sources and is increasingly being measured in real time. This increasing collection of data is not in itself useful unless it is collated and analysed so that it can be put in context and used in a timely fashion – data can quickly become out of date and lose its value.

Once data has been analysed it becomes 'information'. Information is in effect analysed data that has been put into a meaningful context and can be used to:

- measure performance and change in performance
- set targets and commitments and measure progress
- verify the achievements of goals and objectives
- measure the impact of initiatives and disseminate this information.

When focusing specifically on corporate sustainability reporting the data is defined as the economic, social and environmental data that organizations produce through their everyday activities. Once analysed, data becomes a key component in building knowledge and understanding on a system that can enable organizations to understand their social and environmental impacts and the risks to which they are exposed.

Some of the key challenges in data management and analyses include:

- data availability – gaps in data, or potentially overwhelming quantities
- data accuracy – inaccurate data can render detailed analysis useless
- comparability – putting the data in a form that enables fair comparison to relevant comparable standards.

Some of these challenges can be overcome by providing a standardized set of indicators and providing local and international context on data. Indicators are covered in section A – *"3. Key topics and indicators in sustainability reporting"*, on page 43, while the provision of context is explained further in this section.

It is also important to note that not everything can be measured, and that in some cases data and indicators may not be the appropriate tool for monitoring and

this is especially the case for social issues. Taking the example of human capital, there are many definitions of this term, amongst which is 'the stock of knowledge, habits, social and personality attributes, including creativity, embodied in the ability to perform labour so as to produce economic value'.¹⁵⁶ The indicators proposed in *"Table 9. Most frequently used environmental indicators and guidance for key issues"*, on page 49, are effective at measuring efforts to increase certain components of human capital, specifically knowledge, but are unable to measure issues like creativity. Good health and well-being (SDG 3) are other aspects where indicators are not able to fully capture the issue. Common indicators, such as health and safety performance, report on the absence of a negative impact on well-being as opposed to an actual increase in human well-being.

There is no doubt that data has a key role to play in measuring and monitoring sustainability performance but other sources, including photos and interviews, can also have an important role to play.



156 Claudia Goldin (Department of Economics Harvard University and National Bureau of Economic Research), Human Capital, 2014

2. ROLE OF GOVERNMENTS IN RESPECT TO DATA

Accurate data is crucial to be able to understand the sustainability performance of a company and government actors are likely to have a key role to play in ensuring that data is consistent, reliable and meaningful. Key roles of government actors may include:

- utilizing the data reported by companies
- providing context – local benchmarks, baselines, national and international goals
- establishing a centralized system of data management – potentially through a national or regional platform in order to enabling comparability, linking to national performance and avoiding double counting
- linking to SDG monitoring.

Potentially the most important way that government actors can encourage companies to report is to make use of the data published by companies by reading the reports and clearly utilizing the data, this in itself will drive improved data quality and increase the likelihood of companies reporting. The Government of Colombia and the GRI conducted a pilot project to assess the contribution of national private companies to five SDGs. Information was collected from 80 Colombian companies and aggregated into a National Voluntary Report¹⁵⁷ with an English Summary¹⁵⁸.

A further example of the potential role of government actors is suggesting core indicators to ensure consistency between company reporting and macro-level statistical data; this approach could enhance national statistical offices' ability to measure the contribution of the private sector to the attainment of the SDGs and other frameworks, while also exploring synergies between the accounting and statistics communities.

2.1. PROVIDING CONTEXT AND COMPARABILITY

One of the key uses of data and indicators is to be able to judge whether a performance is good or bad. This can be done by comparing to goals or requirements or by

157 Government of Colombia, Reporte Nacional Voluntario Colombia 2018

158 GRI and the Government of Colombia, The Private Sector and its Contribution to the SDGs: A Journey to Data Gathering Through Corporate Sustainability Reporting in Colombia, 2018

comparing to similar companies. In order to be able to compare absolute requirements, the context needs to be understood and to compare to relevant organizations, consistent units and monitoring approaches need to be used. Government actors can help in these areas by providing national or regional context and providing recommended sector-specific reporting metrics.

As noted in section A – *“2.2. Context”, on page 37*, setting the context of sustainability performance is a key challenge that needs to be addressed to ensure that the information can be correctly acted upon. The table below lists examples of key indicators that could benefit from additional context.

Data and indicators can also be used to benchmark a company against its peers – but only if they are using consistent units. This is where relative indicators become very important, as it is possible to make comparisons between operations of different sizes or types. For the key environmental issues that are relatively straightforward to quantify (carbon emissions, energy, water and waste) UNCTAD suggests a relative indicator for all these issues, essentially ‘unit of resource used (kWh, m3)/unit of economic activity’.¹⁵⁹ GRI also includes disclosures for reporting on energy and greenhouse gas intensity, though not water intensity. SASB focuses on absolute indicators.

While this is a useful general description, providing more specificity over the ‘unit of economic activity’ for key industries is likely to be useful. The tourism industry is a good example where the unit used is normally ‘guest bed night’.

A summary of sector-specific units for energy (kWh), water consumption (litres or m3) and carbon emissions (kgCO₂eq) can include:

- per m² or employee for office buildings either by day or year
- per m² for retail
- per guest bed night for tourism

Benchmarks are generally harder to identify, and they are often country specific. For example, in the United Kingdom, the Chartered Institute of Building Service

159 UNCTAD, Core indicators for company reporting on the contribution towards the attainment of the Sustainable Development Goals (2017)

Engineers (CIBSE) provides energy and carbon benchmarks for a range of building types and the Construction Industry Research and Information Association (CIRIA) provides water benchmarks. Example tables of relevant buildings are provided below:

Category	Indicator	Useful context
Sustainable water	Total water use and recycling	Total water extracted nationally or total embodied water consumed
	Water use efficiency	Industry benchmarks for key sectors
	Water stress	Water stress map and companies publish water consumption by location
	Integrated water resource use management	Water quality map and companies publish water discharge by location
Waste management	Reduction of waste generation	Industry benchmarks for key sectors
GHG emissions	GHG - scope 1	National GHG reduction targets; breakdown of national emissions by sector
Energy consumption	Energy efficiency	National energy statistics
Biodiversity	Renewable energy	National renewable energy statistics
	Operational sites in areas of high biodiversity	National map of biodiversity hotspots, companies required to report location of operations by area
	IUCN Red List species	National map of IUCN red list species and companies required to report location of operations by area
Gender equality	Proportion of women in managerial positions	N/A target is 50 per cent
Research and development	Expenditure on research and development	National benchmarks
Human capital	Employee training	National benchmarks
	Employee wages and benefits	Good practice standards
Employee health and safety	Frequency rates/incident rates of occupational injuries	Industry benchmarks for key sectors
Collective agreements	Employees covered by collective agreements	National benchmarks
Corporate governance disclosures	Female board members	National benchmarks
Donations	Expenditures on charitable donations	National benchmarks
Anti-corruption practices	Value of fines paid or payable due to convictions	National benchmarks

Table 19. Context and consistency guidelines for social and environmental indicators.

	kWh/m ² (electricity and thermal)	kgCO ₂ /m ²
General Office	215	75
General retail	165	90
Large non-food store	240	70
Large food store	500	240
Restaurant	460	120
Hotel	435	120

Table 20. Energy consumption and carbon emission benchmarks for UK buildings¹⁶⁰

	m ³ /employee/year	litres/m ² /day
Typical	4	2.4
Best Practice	2	1.6
Excessive use	7	3.2

Table 21. Water use benchmarks for offices.¹⁶¹

	m ² /bed space/year		
Hotel - without swimming pool	Best practice	Typical	Excessive
1 star	5	10	15
2-3 star	10	20	50
4-5 star	15	30	65

Table 22. Water use benchmarks for hotels without swimming pools¹⁶²



2.2. ALIGNING CORPORATE SUSTAINABILITY REPORTING DATA AND THE SDGS

Company sustainability reports will not be able to replace country-level reports, but if well aligned, they will be able to effectively augment and enrich the information, particularly for the SDG indicators that align with the key sustainability reporting indicators listed in section A – 3.7 of the introduction.

Therefore, if national governments can encourage and enable a consistent reporting format they will be able to use the data and information in national-level reports. For example, they would be able to provide additional information on the performance and contribution of different sectors. Double counting can also be avoided through providing a consistent process and approach and gaps and omissions identified.

As introduced in section A – “1.4.2. *The Sustainable Development Goals (SDGs)*”, on page 19, the GRI and United Nations Global Compact have undertaken a detailed analysis¹⁶³ of all major disclosure and indicator systems¹⁶⁴ to identify how they map to the SDG targets. This can be used as a starting point for developing recommended indicators for companies that can

contribute to national-level SDG reporting. They have also produced a Practical Guide¹⁶⁵ that outlines three steps for companies to embed the SDGs in existing business and reporting processes in alignment with GRI standards and recognized principles. The proposed steps are:

1. Define priority SDG targets, for example using a materiality process to identify upon which SDG targets the company’s operations may impact on.
2. Set business targets and measure and monitor progress using the appropriate GRI disclosure.
3. Report and implement change.

There are further emerging initiatives such as the SDG Compass¹⁶⁶ and the World Benchmarking Alliance.¹⁶⁷ The SDG Compass is a GRI, United Nations Global Compact and World Business Council for Sustainable Development (WBCSD) initiative that provides guidance on how companies can align their strategies and reporting with the SDGs can support companies in selecting SDG target appropriate indicators. It contains a database of tools and indicators cross-referenced against the SDG targets. The World Benchmarking Alliance is an alliance of private sector and not-for-profit organizations investigating options to create a database of free, publicly available corporate sustainability benchmarks aligned with the SDGs to raise awareness and promote a race to the top.

160 CIBSE, Energy Benchmarks – TM46 (2008)

161 CIRIA, Water key performance indicators for offices and hotels (2006)

162 *Ibid.*

163 GRI and the United Nations Global Compact, Business Reporting of the SDGs – Analysis of the goals and targets, 2017

164 *Ibid.* – Appendix V

165 GRI and the United Nations Global Compact, Integrating the SDGs into Corporate Reporting: A Practical Guide , 2017

166 <https://sdgcompass.org/>

167 www.worldbenchmarkingalliance.org

3. DATA MANAGEMENT SYSTEMS

In the context of sustainability reporting, a data management system is a tool to organize relevant sustainability data in order to transform it into information that can be effectively acted upon. At a company-level this is a system for collating data so that it can be used to manage performance and report upon. A national-level system would be more likely to collate the data of different companies so that their relative performances can be easily compared and an overall sector, regional or national impact calculated.

There is a range of sustainability reporting databases or platforms at different scales: regional, international or city.

3.1. INTERNATIONAL SUSTAINABILITY REPORTING DATABASES

Both the Global Reporting Initiative (GRI) and the Carbon Disclosure Project (CDP) have searchable databases. Additionally, the Corporate Register is a membership organization that also provides a database of corporate responsibility reports.

The GRI database¹⁶⁸ is simply a database of all the registered organizational sustainability reports, all of which are publicly available. The main features of the GRI database are:

- Search function enabling users to identify all country- or region-specific reports
- 'Live tracker' of SDG 12.6.1 by country listing, indicating:
 - Whether the country has a policy requiring sustainability reporting
 - Number of reports on the database and a searchable database of registered reports using the GRI Standards.¹⁶⁹

The CDP database contains analysed data, such as summaries of corporate water or energy targets or performance but is not so easily available; as corporate data must be purchased and many datasets cannot simply be downloaded, it is required to contact the dataset owner and request information.

168 GRI, <http://database.globalreporting.org/search/>, accessed January 2019

169 <https://www.globalreporting.org/reportregistration/verifiedreports>

The CDP City level data is publicly available¹⁷⁰ and contains a global map¹⁷¹ of cities or regions that are disclosing their carbon emissions where additional information on each city can be accessed.

The Corporate Register database¹⁷² aims to include all significant (defined as more than six pages) non-financial reports that are publicly available and includes a search function by company name. It also has a search function and map for reports that use GRI or the IIRC.

3.2. REGIONAL-LEVEL PLATFORM – ARAB SUSTAINABILITY

Arab Sustainability¹⁷³ is an open, online platform, which contains a database of the 'most up-to-date organizational sustainability performance' in the Middle East and North Africa (MENA) region. The stated objectives of the platform are:

- To challenge every organization in the region to report and improve its sustainability performance.
- To provide organizations with related tools and resources to improve performance.
- To be the best source of sustainability performance data and insights in the region.

For companies, the platform proposes itself as a data management and benchmarking tool, and the companies can use the platform to store, manage and analyse their data. The services offered are:

- Storage – applications that enable companies to automatically input their data directly into the platform.
- Management – companies can import and export the data in various formats for presentations.
- Analysis – there are benchmarking and data visualization functions. Companies are also able to customize the indicators.

To a wider stakeholder group (media and the public), the site offers the following:

170 CDP, <https://data.cdp.net/Cities/2017-Cities-Emissions-Reduction-Targets-Map/5zb-bfpp>, accessed January 2019

171 CDP, <https://data.cdp.net/Cities/2016-Citywide-Emissions-Map/iqbu-zjaj>, accessed January 2019

172 Corporate Register, <http://www.corporateregister.com/>, accessed January 2019

173 <http://arabsustainability.com/>

- Sustainability data and insights: regional, sectoral, and company-specific sustainability data and insights from more than 400 MENA organizations and spanning 120 ESG indicators.
- Case studies: sustainability best practices adopted by MENA companies including how companies tackle regional economic and social challenges.
- Annual rankings: annual sustainability performance rankings of companies across the Arab region on each of eight comprehensive sustainability themes.

The platform's home page shows the top performers under a range of indicators in the categories, and each company has their own profile page on the platform with an overview of the company, its performance and all sustainability reports available to download. The platform also allows direct comparison of the performance of different companies to be made for specific indicators.

3.3. CITY PLATFORMS

As the concept of Smart Cities develops there are a range of platforms and information aimed at utilising city data and information. While this is not directly comparable to a national database of company sustainability data it serves as a useful indicator of where the fields of data management and collaborative platforms are evolving to.

The World Council on City Data – data visualization

The World Council on City Data (WCCD)¹⁷⁴ provides a consistent and comprehensive platform for standardized urban metrics in 17 categories. By allowing the comparison of standardized data the WCCD aims to be a global hub for creative learning partnerships across cities, private companies, and academia to further innovation and build better and more liveable cities.

The carbonn Climate Registry

The carbonn Climate Registry¹⁷⁵ (sic) is a voluntary and public reporting platform for local and other subnational governments. These entities can report on their climate and energy commitments, greenhouse gas (GHG) emissions performance and climate change mitigation and adaptation actions. Each participating city has a page where they list their targets, actions and performance.

174 World Council on City Data, <http://www.dataforcities.org/>, accessed January 2019

175 The carbonn Climate Registry, <http://carbonn.org/>

C40 – data management and visualization

C40 is a network of the world's megacities committed to addressing climate change. C40 supports cities to collaborate effectively, share knowledge and drive meaningful, measurable and sustainable action on climate change. It has a range of initiatives and platforms to manage, organize and analyse sustainability data.

C40 has created a Global Protocol for Community-scale GHG Emission Inventories (GPC) to provide a methodology for measuring city- or community-scale carbon footprints. They have developed a dashboard to represent the data.¹⁷⁶ This covers data in six categories:

1. World GPC map: GHG emissions for C40 cities by the three key sectors: stationary energy, transportation and waste.
2. City trends and targets: historical emissions for an individual city.
3. City comparisons: GHG emissions profiles for C40 cities, enabling in-depth comparisons through multiple views and filters (e.g. type of emissions, inventory level, city characteristics).
4. City overview: detailed data table summarizing an individual city's emissions profile in a specific year.
5. City emissions heatmap: uses the most recently reported city GHG emissions to provide insight into each sub-sector and scope for GPC activities.
6. Data quality heatmap: enables users to view how city-reported data quality varies across GPC sub-sector and scope. Users can explore data quality for activity data, emission factors or an overall score.

The final two datasets are highly detailed spreadsheets that could mainly be of interest to city specialists.

To support cities in calculating their GHG inventories, C40 has produced the City Inventory Reporting and Information System (CIRIS) which is a flexible Excel-based tool for managing and reporting city greenhouse gas inventory data. The tool aims to facilitate transparent and consistent calculations and reporting of emissions for all sectors.

176 <http://www.c40.org/other/gpc-dashboard>

C40 City – collaboration platform

A separate initiative of C40 Cities is the City Solutions Platform,¹⁷⁷ which aims to support early engagement between cities and the private sector to accelerate the deployment of climate solutions. Amongst the main objectives of the City Solutions Platform are:

- Build a platform for public and private entities to work together to develop innovative and implementable city solutions on the global stage.
- Create an inventory of appropriate engagement models according to specific city contexts and procurement rules and regulations.
- Act as a catalyst for deeper partnerships between global cities and leading sustainable solutions providers.

This provides an example of how an information platform can be used to drive collaboration and cooperation amongst public and private entities. It is possible that a similar approach could be developed building on the sustainability reporting data.



Getting started...

Data management systems relevance to country-level sustainability reporting

There are some important and useful elements that can be taken from all these data management and visualization platforms. Some key learnings are:

1. There are many competing platforms and in the case of cities, some are more adequately populated than others. Therefore, there needs to be a reason for an organization to upload their information – Is it a regulatory requirement? Will it help them gain new insights into their data?
2. Excel is a simple and powerful tool. While there is often a temptation to build a software-based online solution, this may not be the most adequate option.
3. To maximize participation, a variety of strategies are required to ensure the platform is comprehensively populated, this may include:
 - a. Incentives to participate, for example through free analysis tools.
 - b. A legal requirement to participate.
 - c. Manual searching and uploading of information (especially historic information) by the platform operators to ensure that the platform is comprehensively populated.

These examples, and in particular the C40 data management and visualization platform, provide a clear example of how a central authority can provide a standard procedure to be able to collate comparable data that can then be analysed and visualized. An analogous approach for sustainability reporting would be:

177 http://www.c40.org/programmes/city_solutions

1. Define what data should be gathered, including:
 - a. minimum requirements
 - b. wider range of indicators
 - c. standard units and calculation methodologies
2. Provide a standard data collection template
3. Develop a centralized database or platform to:
 - a. visualize the data to engage with wider stakeholder groups
 - b. enable the data to be analysed in detail so as to identify potential solutions and initiatives

National actors' role in data management

National actors can play a key role in maximizing the impact of corporate sustainability reporting, and align the reporting with the SDGs, by creating a standard structure for data gathering and management. This may involve:

1. Providing additional technical support to companies, such as:
 - a. guidance on the requested information on each of the indicators
 - b. an SDG expert team to improve data interpretation and consolidation into a central report; this team could follow up with companies to ensure the veracity of the information
 - c. directing companies to existing guidance – such as that outlined in section B.3 – *“2.2. Aligning corporate sustainability reporting data and the SDGs”, on page 87.*
2. Establishing and promoting sector-specific indicators to ensure consistent reporting. The experience in Colombia¹⁷⁸ in reporting

on business contributions to five of the SDGs highlighted the importance of supporting the companies in taking a more systemized approach to reporting, specifically for measuring energy and environmental impacts.

3. Providing context by:
 - a. undertaking national benchmarking studies of performance (for example of energy, water and waste) by different sectors
 - b. providing additional information, including which may include water scarcity hotspots, international carbon targets, etc.
4. Creating a centralized platform or data-registration mechanism for collating national-level reports.

¹⁷⁸ GRI and the Government of Colombia, The Private Sector and its Contribution to the SDGs: A Journey to Data Gathering Through Corporate Sustainability Reporting in Colombia, 2018