SUSTAINABILITY REPORTING IN SINGAPORE

November 2018

Project Leaders
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asean CSR Network

NUS National University of Singapore

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LIST OF ABBREVIATIONS

AA1000 AS	AccountAbility 1000 Assurance Standard
ACN	ASEAN CSR Network
AVA	Agri-Food and Veterinary Authority of Singapore
CDP	Carbon Disclosure Project
CGIO	Centre for Governance, Institutions and Organisations
CSR	Corporate Social Responsibility
EES	Economic, Environmental, Social
ESG	Environmental, Social and Governance
FSB	Financial Stability Board
GRI	Global Reporting Initiative
IIRC	International Integrated Reporting Council
IMCSD	Inter-Ministerial Committee on Sustainable Development
ISAE 3000	International Standard on Assurance Engagements 3000
MAS	Monetary Authority of Singapore
MEWR	Ministry of the Environment and Water Resources
MND	Ministry of National Development
MOF	Ministry of Finance
MOT	Ministry of Transport
MPA	Maritime and Port Authority of Singapore
MTI	Ministry of Trade and Industry
NEA	National Environment Agency
NUS	National University of Singapore
RSPO	Roundtable on Sustainable Palm Oil
SASB	Sustainability Accounting Standards Board
SDG	Sustainable Development Goals
SSB	Sustainable Singapore Blueprint
SSIC	Singapore Standard Industrial Classification
TCFD	Task Force on Climate-related Financial Disclosures
UNGC	United Nations Global Compact

ABOUT ASEAN CSR NETWORK (ACN)

Founded in December 2010, ASEAN CSR Network (ACN), an accredited ASEAN entity, is a regional network that promotes responsible business conduct, to achieve a sustainable, equitable and inclusive ASEAN Community. Its vision is to create a responsible business community that makes ASEAN a better place to live for all.

ACN creates changes by influencing and working with different actors, ranging from ASEAN bodies, ASEAN member states to the private sector, civil society and international organisations, who have the power to influence the way businesses operate. It provides a platform for networking and cooperation at the ASEAN level, supports capacity-building and training activities, helps catalyse thought leadership and collective actions on CSR and key related issues including business integrity, business and human rights, gender equality, and environmental sustainability.

For more information, please visit **www.asean-csr-network.org**

ABOUT CENTRE FOR GOVERNANCE, INSTITUTIONS AND ORGANISATIONS (CGIO), NUS BUSINESS SCHOOL

The Centre for Governance, Institutions and Organisations (CGIO) was established by the National University of Singapore (NUS) Business School to spearhead relevant and high-impact research on governance and sustainability issues that are pertinent to Asia. This includes corporate governance and corporate sustainability, governance of family firms, government-linked companies, business groups, and institutions. CGIO also organises events such as public lectures, industry roundtables, and academic conferences on topics related to governance and sustainability.

More information about CGIO can be accessed at
https://bschool.nus.edu.sg/cgio

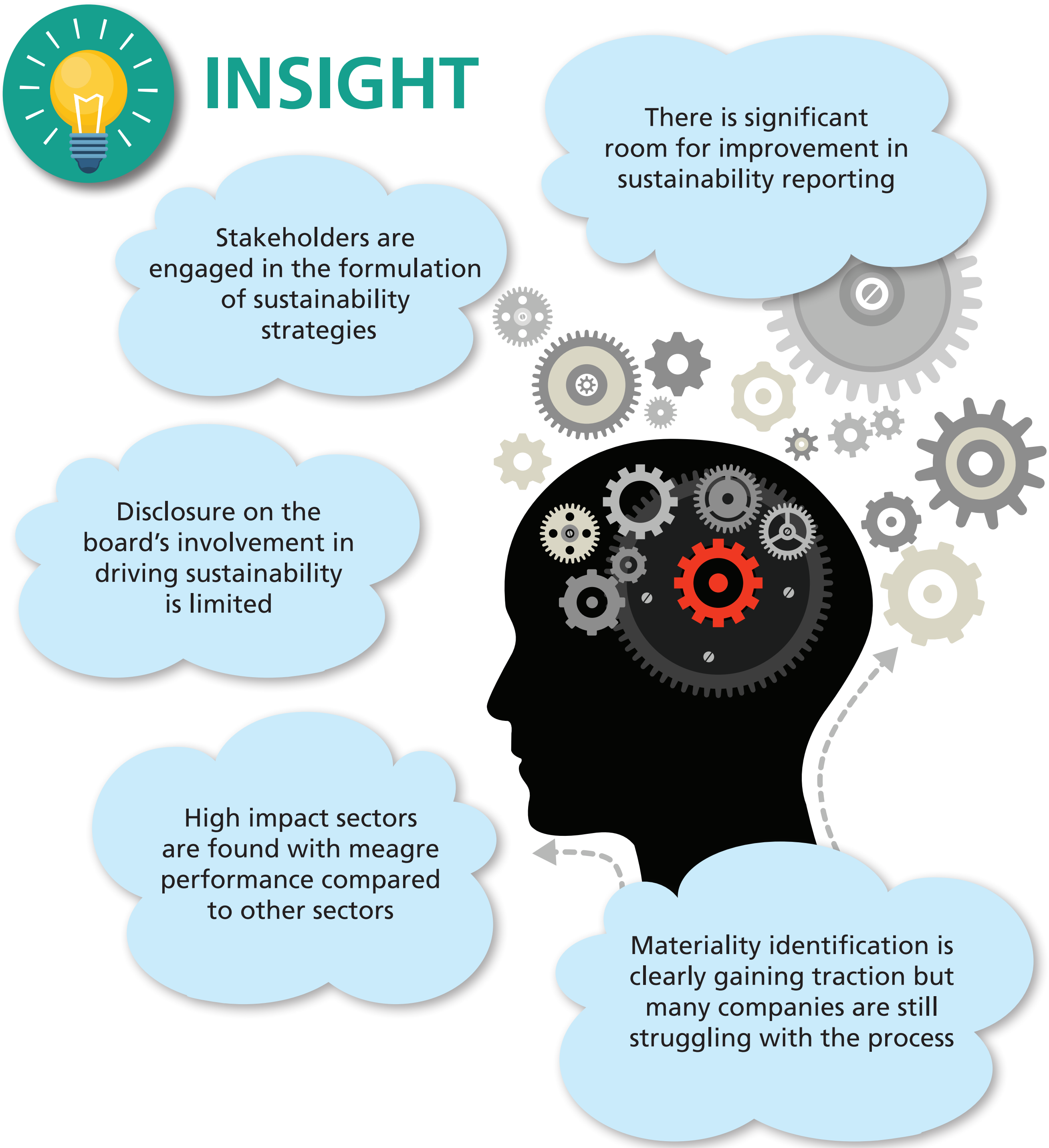
NUS Business School is known for providing management thought leadership from an Asian perspective, enabling its students and corporate partners to leverage global knowledge and Asian insights.

The School is one of the 17 faculties and schools at NUS. A leading global university centred in Asia, NUS is Singapore's flagship university which offers a global approach to education and research, with a focus on Asian perspectives and expertise. Its transformative education includes a broad-based curriculum underscored by multi-disciplinary courses and cross-faculty enrichment. Over 38,000 students from 100 countries enrich the community with their diverse social and cultural perspectives.

For more information, please visit **bschool.nus.edu.sg**, or go to the Think Business portal which showcases the School's research.

1. EXECUTIVE SUMMARY

Recent changes to Singapore Exchange reporting requirements and increasing stakeholder awareness have brought about a new focus on sustainability disclosures. This study seeks to understand how these changes have impacted the companies in Singapore. We have identified five key insights around the uptake and maturity of sustainability disclosures.



327 companies with sustainability disclosures, on social or environmental dimensions, by 31 May 2018

3 percentage points increase in level of disclosure since 2016

44% in 2014 — **52%** in 2016 — **55%** in 2018

Agriculture sector had the **highest** level of disclosure

Construction sector had the **lowest** level of disclosure

61.5% of companies adopted recognised frameworks

15 sought independent assurance

Most common materiality of environmental and social topics:

- Training and Education
- Occupational Health & Safety
- Philanthropy

Least common materiality of environmental and social topics:

- Biodiversity
- Products & Service Stewardship
- Emissions

49 → 95

Almost double the number of companies in the high impact sector reporting sustainability but the disclosure is below the average performance among the non-high impact sectors

2. INTRODUCTION

2.1 Objective

This study evaluates the sustainability reporting performance of the listed companies on the Singapore Exchange. ASEAN CSR Network (ACN) and Centre for Governance, Institutions and Organisations (CGIO) investigated the comprehensiveness and depth of sustainability disclosures prepared by the Singapore-listed companies. Specifically, this study analyses the factors driving current development in the non-financial reporting landscape, conducts comparative analysis with the findings from previous studies and provides recommendations on how to improve the adoption and quality of sustainability reporting. It also notes whether or not such communication satisfies the five primary components required by the Singapore Exchange.

2.2 Sustainable Development and Reporting in Singapore

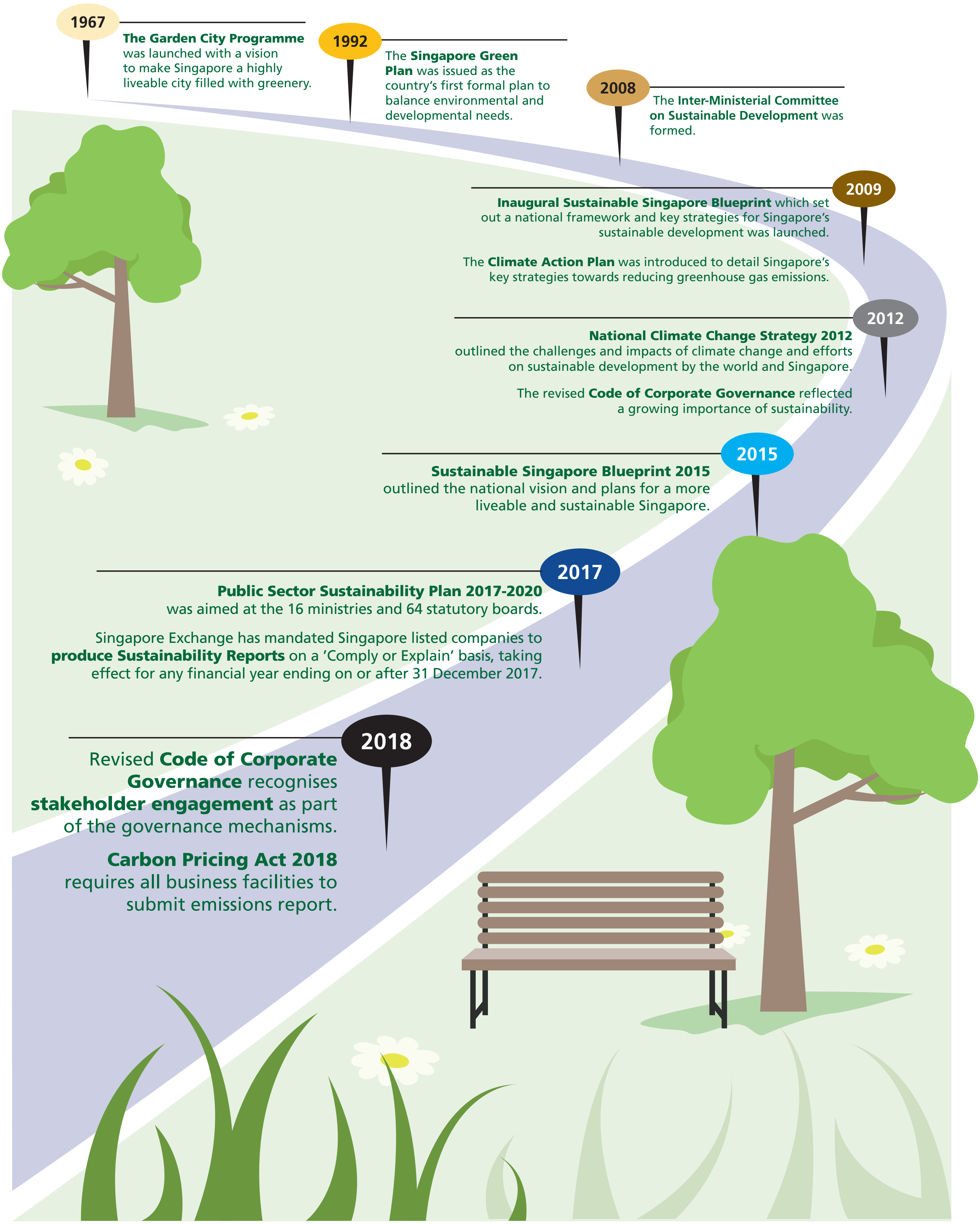


Figure 1: Singapore's sustainability journey

From humble beginnings since achieving independence in the 1960s, Singapore began its sustainability journey before environmental issues became a global concern. Just two years after its independence in 1967, the Garden City programme was launched with a vision of developing Singapore into a highly liveable city filled with greenery (The Straits Times, 1967 May 12). At that time, Singapore was a fledgling nation faced with high unemployment rates and an unskilled workforce living in urban slums with poor sanitation, polluted surroundings and inadequate public infrastructures. In an effort to drive transformation, a series of campaigns, laws and clean-up efforts were enacted, including the Keep Singapore Clean Campaign in 1968, which limited air pollution until the 1971 Clean Air Act, which also relocated industries away from residential areas (The Straits Times, 2015 August 9). Increasing environmental laws, developmental plans and campaigns steadily followed these initials efforts. By the 1980s, Singapore transformed into a beautiful and vibrant destination.

Fast forward a few decades, as the city progressed, the paradigm shifted from problem solving to embracing environmental sustainability. In January 2008, the Inter-Ministerial Committee on Sustainable Development (IMCSD) was set up to formulate a national strategy for Singapore's sustainable development, in the context of emerging domestic and global challenges. International collaboration is essential to tackling regional and global issues, the IMCSD is co-chaired by the Ministry of the Environment and Water Resources (MEWR) and the Ministry of National Development (MND), with supporting members including Ministry of Finance (MOF), Ministry of Transport (MOT) and Ministry of Trade and Industry (MTI), unanimously driving local actions while collaborating with international bodies moving in alignment the United Nations Sustainable Development Goals challenges (Ministry of the Environment and Water Resources, 2017).

Singapore's current developments are guided by the Sustainable Singapore Blueprint 2015[1] (SSB), which encompasses 5 pillars to drive the nation towards an active and gracious community. Recent efforts also champion "Eco-smart" enduring towns, a zero-waste nation, a leading green economy and a car-lite Singapore. The 3P sectors – the People, the Public and Private businesses – are equally vital players driving the nation towards sustainability. Advancing in line with sustainable development, the Monetary Authority of Singapore (MAS) has also revised the Code of Corporate Governance in 2018 to take on a more stakeholder inclusive approach to governance. Locally, the notion of sustainability reporting surfaced in the late 2000 and, as the country grows in affluence, investors are increasingly looking into non-financial indicators to evaluate the long-term viability of businesses.

[1] Sustainable Singapore Blueprint 2015 outlines the national vision and plans for a more liveable and sustainable Singapore. Source: https://www.mewr.gov.sg/ssb/about-ssb

[2] SGX-ST Listing Rules Practice Note 7.6 Sustainability Reporting Guide.
Source: http://rulebook.sgx.com/net_file_store/new_rulebooks/s/g/SGX_Mainboard_Practice Note_7.6_July_20_2016.pdf

Sustainability Reporting in Singapore

Sustainability reporting has evolved from the traditional corporate social responsibility (CSR) paradigm to incorporate environmental, social and governance (ESG) practices in business practices and strategy. This evolution parallels the growing demands from consumers and investors that financial returns are achieved with integrity, backed with environmental and social considerations.

In 2011, the Singapore Exchange had developed voluntary guidelines for sustainability reporting[2] in an attempt to encourage listed issuers to disclose the extent to which their businesses are conducted in a sustainable manner. Subsequently, in recognition of the changing trends and growing demand, the Singapore Exchange introduced a new listing rule, specifying that every listed issuer is expected to submit sustainability reporting by financial year ending on or after 31 December 2017, on a 'comply or explain' basis. Under listing rule 711A of Singapore Exchange listing rules, every listed issuer is to prepare an annual sustainability report that must describe its sustainability practices with reference to the primary components set out in Listing Rule 711B. In cases where the issuer is unable to report on any primary component, it must state so and explain what it does instead, and reasons for doing so.

In addition to the Singapore Exchange's efforts in driving non-financial reporting, supporting government agencies have stepped up to promote industry best practices. For example, the maritime sector has embraced the reporting requirements, with close support by the Maritime and Port Authority (MPA) of Singapore organising regular sustainability workshops and co-funding initiatives to help Singapore-listed maritime companies with the cost of their sustainability reports (The Straits Times, 2016 August 23).

In light of the advantages of non-financial reporting, the Institute of Singapore Chartered Accountants (ISCA) has released the Sustainability Reporting Implementation Roadmap to assist new reporting companies with their first sustainability reports (Institute of Singapore Chartered Accountants, 2017).

The sectorial initiatives reflect increasing popularity and growing demand for businesses to communicate their commitment to ESG factors in their strategy and practices.

Global Sustainability Reporting Trends and Benefits

Stock exchanges and financial market regulators are increasingly active in promulgating sustainability reporting (KPMG International, GRI, United Nations Environment Programme, & Centre for Corporate Governance in Africa, 2016). The emerging global trend reflects the importance for businesses to grasp and internalise the ESG principles to reap the benefits of sustainability reporting. Effective sustainability reporting enables companies to review operational efficiencies, achieve cost reduction and deliver on stakeholders' expectations, while keeping abreast of legislations and performance standards that would enable companies to mitigate criticism and any potential social, as well as environmental risks.

Sustainability promotes the formulation of long-term strategies and policies for resilient business models. Essentially, well-employed sustainability reporting ensures a continuous review cycle and integration of sustainable practices, propelling a company's brand value and competitive advantages. The increase in stakeholders' awareness of the company culture and policies, along with its long-term plans and targets builds investors' confidence as shareholders are presented with greater assurance.

3. METHODOLOGY

3.1 Scope of Study

The assessment coverage involves 678 Singapore Exchange listed companies, comprising of Mainboard and Catalist listings as of 31 May 2018. This study analyses companies with sustainability disclosure in the financial year ending 2017 communicated up to 31 May 2018.

The modes of sustainability reporting registered in this study include reporting communicated on the corporate website, annual report, standalone report, integrated report or any combination of the above-mentioned. A standalone report is either a sustainability report or CSR report, and represents a complete and comprehensive type of sustainability reporting.

3.2 Research Framework

To evaluate the sustainability performance of all companies, the Global Reporting Initiative[3] (GRI) Standards was adopted as a reference to develop a robust framework and to assess the level of the companies' sustainability disclosures. In assessing the sustainability disclosures, this methodology builds on previous sustainability studies (Loh, Nguyen, Sim, Thomas, & Wang, 2016). Guided by the GRI Standards, the extensive framework developed for this study extends beyond internal sustainability performance to external sustainability issues including those related to supply chain management and human rights.

This assessment framework comprises of a two-pronged approach, condensed into 27 criteria. The first prong sets the foundation which is guided by Reporting Principles and Governance. The second level of the assessment is grouped into the 3 following aspects: Economic, Environmental and Social (*please refer to Table 1*). The depth of disclosure is analysed through the assignment of points ranging from 1 to 5 for each criterion. 1 point is awarded if there is no information provided or specified for the particular criterion, while 5 points are awarded if detailed information substantiated with target and performance measurements are furnished.

Each of the two levels accounts for 50% of the total score. In the first level, the 2 aspects are converted to a relative score out of 25% for Reporting Principles and 25% for Governance. In the second level, equal weightage is assigned to each of the three aspects, Economic, Environmental and Social, equating to a total of 50%. The absolute score obtained reflects the level of sustainability disclosure of the company to the areas of assessment in this methodology. The level of disclosure thereby also reflects the quality of sustainability disclosure of the company. It is noted that this scoring method is a quantitative means employed to gauge the comprehensiveness of information disclosed by a company, and does not represent its actual sustainability performance.

[3] The Global Reporting Initiative is an international independent standards organization that helps business, government and other organizations understand and communicate their impacts on critical sustainability issues.
Source: https://www.globalreporting.org/Information/about-gri/Pages/default.aspx

Drivers Score: 50%		EES Disclosures Score: 50%		
REPORTING PRINCIPLES	GOVERNANCE	ECONOMIC	ENVIRONMENTAL	SOCIAL
RP 1. Organisational profile	Gov 1. Sustainability-centric corporate governance	Econ 1. Economic value generated	Env 1. Energy	Soc 1. Diversity and equal opportunity
RP 2. Materiality and boundaries	Gov 2. Strategy and analysis regarding sustainability	Econ 2. Value and supply chain	Env 2. Water	Soc 2. Labour and industrial relations
RP 3. Stakeholder engagement and inclusiveness	Gov 3. Corporate responsibility for sustainability	Econ 3. Economic impact from climate change	Env 3. Waste management	Soc 3. Occupational health and safety
	Gov 4. Anti-corruption and code of ethics	Econ 4. Indirect economic impact	Env 4. Emissions	Soc 4. Training and education
		Econ 5. Anti-competitive behaviour	Env 5. Biodiversity	Soc 5. Human rights
			Env 6. Compliance	Soc 6. Community involvement
			Env 7. Product and service stewardship	Soc 7. Product responsibility
				Soc 8. Philanthropy

Table 1: Assessment framework

3.3 Definitions and Assumptions

Sustainability Reporting

For the purpose of this report, this study defines 'sustainability reporting' as the disclosure of publicly available, non-financial information by companies to their stakeholders. This non-financial information generally ranges from disclosure of governance, economic, environmental and social aspects of the respective companies' business operations. It can also include general standard disclosures such as strategy, analysis, materiality and stakeholder engagement. This disclosure encourages companies to be transparent about the details of their operations pertinent to their stakeholders and thereby reflects their commitment and accountability to adhere to their responsibility in ensuring the sustainability of their practices.

In the assessment of this study, a company must discuss at least one environmental or social topic which is relevant to its business, in order to be regarded as communicating sustainability.

Accessibility of Information

In communicating their sustainability efforts, companies can share the information through their corporate websites, standalone reports or as a part of their annual reports. A standalone report is either a sustainability report or a CSR report and it discloses a comprehensive and detailed reporting that a company is encouraged to do. Either a standalone report or a sustainability section embedded in an annual report can be supplemented with or without additional reporting on their corporate website. Nevertheless, all three mediums should be publicly available and readily accessible to all stakeholders.

Practicing versus Communicating Sustainability

This study assesses companies' comprehensiveness and level of disclosure from the information provided. This assessment does not seek to evaluate companies' actual performances in their implementation of sustainability policies. However, it is inherently assumed that a company's actual and implemented sustainable business practices are reflected through its sustainability reports and communications.

Assessment as Separate Entities

When a company is a subsidiary of a larger corporation group, each company is assessed as a separate entity. Even though the parent company may have reported sustainability practices of all entities, individual entities will not be constituted as having communicated its sustainability efforts, unless independent reports are made available separately. The rationale for this is to prevent the overstating and ensuring reporting is proportional to their actual efforts as per our other assumption.

4. STATE OF SUSTAINABILITY REPORTING PROGRESS IN SINGAPORE

4.1 Overview of Sustainability Disclosures

327 of the 678 (48.2%) listed companies in Singapore communicated their sustainability practices before 31 May 2018. First time reporting companies are given up to twelve months from the end of the financial year to publish their report. This takes effect for any financial year ending on, or after, 31 December[4]. The majority of the companies that had not been captured are first time reporters and have chosen to take on the extended deadline.

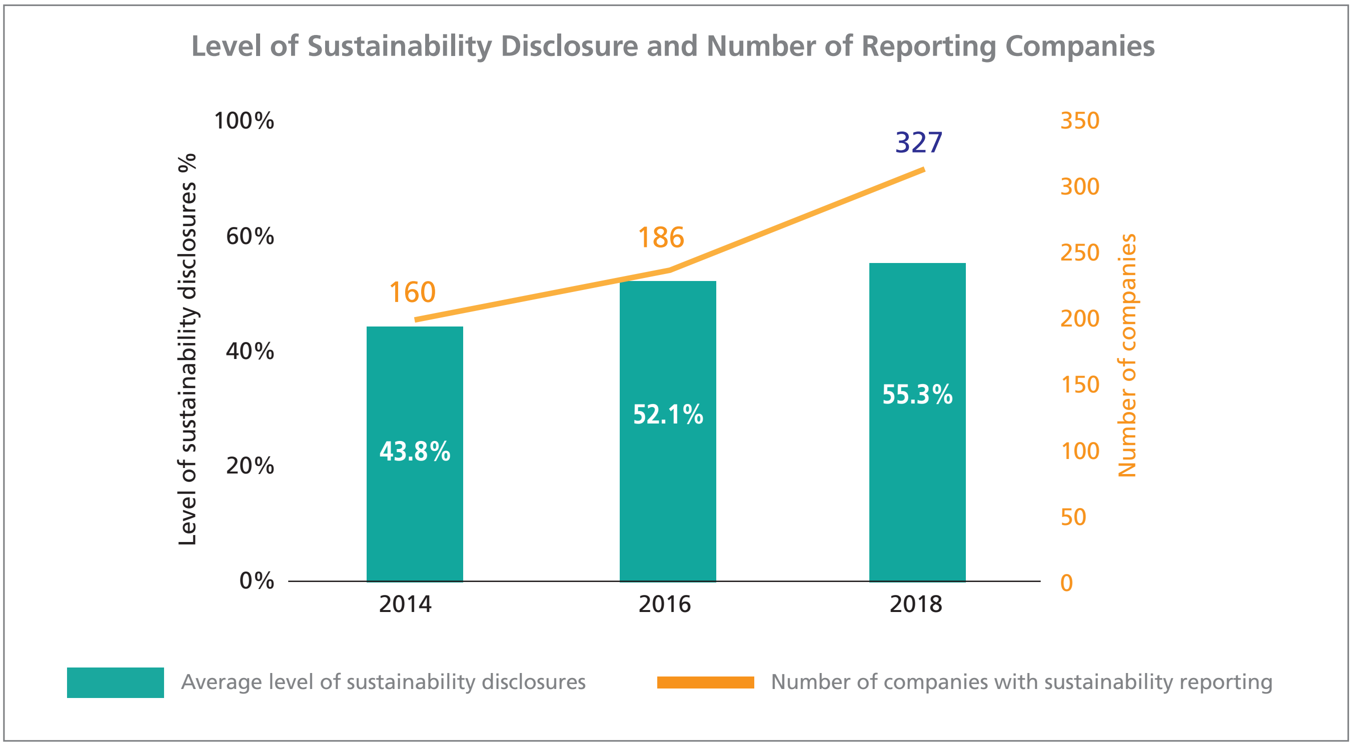


Figure 2: Level of sustainability and number of reporting companies

Note: Level of sustainability disclosures in 2014 and 2016 are restated in accordance with 2018 assessment framework.

The sustainability disclosures in 2018 marginally increased since 2016 by about 3 percentage points, less than half the 8 percentage points improvement seen from 2014 to 2016. We noticed a newness effect wherein, in spite of the significant rise in the number of reporting companies, close to half of companies were first time reporters that lacked quantitative measurements, targets and policies. The newness effect had resulted in an overall 2018 average disclosure level that was close to stagnation. Tracking of business activities impacts across supply chains was an inherent challenge for first time reporting companies, likely because they have not established systems and protocols for the purpose

[4] SGX launches Sustainability Reporting Guide and rule; will provide training and tools to companies. Source: http://sgx.com/wps/wcm/connect/sgxlite/sgx_en/home/higlights/news_releases/SGX_launches_Sustainability_Reporting_Guide_and_rule_will_provide_training_and_tools_to_companies?presentationtemplate=design_new/PT_Lite_Friendly

Figure 3: Types of sustainability reports

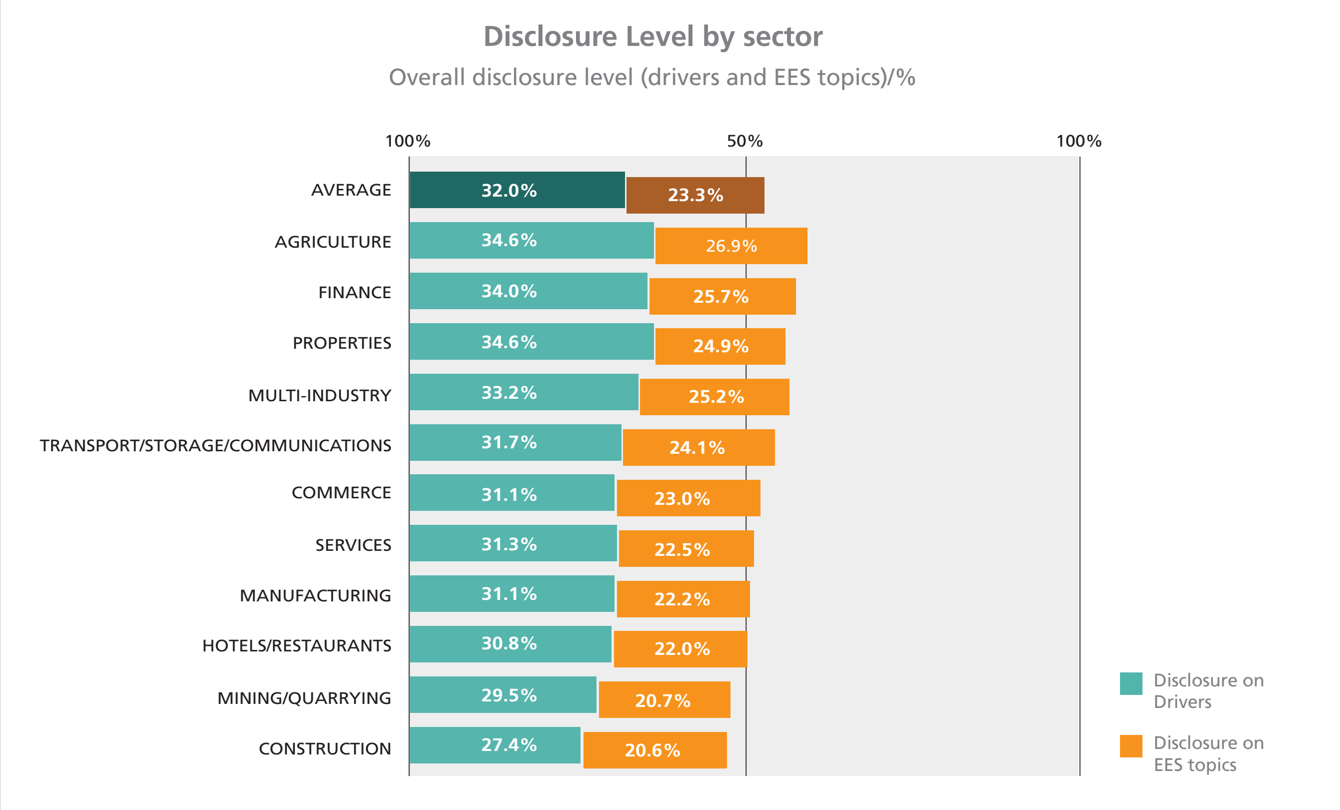
of tracking sustainability data. Concerted efforts by the Singapore Exchange and sustainability consultants to train and guide new reporters would drive a higher quality of sustainability disclosures.

Methods of reporting and communication are changing to increasingly include digital or hybrid platforms beyond traditional printing channels. Leading reporters have ventured into integrated reporting by the International Integrated Reporting Council[5] (IIRC), going a step further to communicate how it manages long term shared value creation by adopting an integrated approach to both traditional risks and the wider sustainability risks. Instead of reporting on financial performance and sustainability performance separately, or even within the same annual report, integrated reporting presents how companies create value through a more sustainable business model.

[5] The International Integrated Reporting Council (IIRC) is a global coalition of regulators, investors, companies, standard setters, the accounting profession and NGOs. The coalition is promoting communication about value creation as the next step in the evolution of corporate reporting. Source: http://integratedreporting.org/the-iirc-2/

4.2 Disclosure Level by Sector

Each sector demonstrated varying level of commitment to transparency, which correlate with their varying degrees of social visibility, media pressure, environmental sensitivity and stakeholders' expectations. The agriculture sector, finance sector, properties sector, multi-industry sector, transport, storage and the communications sector all had above average levels of disclosure.



Note: 1. Sector classification is referred to Singapore Exchange websites. 2. The electric, gas and water sector was excluded from this figure due to the small number of companies with sustainability disclosures which should not be made representative of this sector.

Figure 4: Disclosure level by sector

The agriculture sector, as Singapore's top performing sector in sustainability disclosure, imports 90% of food and excels in advanced agriculture technology to address pertinent local constraints of land scarcity and risks of crop shortage caused by climate change (Ichioka, 2016). The rise in consumer awareness of ethical and environmentally conscious practices has spurred growing interest and disclosure on food source integrity, deforestation-free supply chain management and screening of suppliers using environmental and socially consciousness parameters. Closely monitored by the Agri-Food and Veterinary Authority of Singapore (AVA), the sector is well known for engaging in high-tech agriculture business techniques that reaps high yields and productivity with smaller amount of farmland (Tortajada, 2017).

The financial sector was the second top performer. Given that the global sustainability agenda and responsible investment movement pose both risks and opportunities, the critical success of the financial sector is partially determined by their ability to anticipate global trends and respond with economically, environmentally and socially sound investments. We have observed companies aligning themselves with the global movement towards a low carbon economy by devising financing tools that drives sustainable markets. For instance, green financing initiatives, green bonds and disclosures on climate related risks.

The construction sector demonstrated the lowest level of commitment in communicating their sustainability practices, despite notable sustainable technologies (Construction Singapore, 2017). The majority of the companies in this sector have not adopted a recognised framework when communicating sustainability information. Hence, a large number of critical material topics including product responsibility, supplier human rights assessments, forced or compulsory labour and biodiversity were neglected. Communicating transparently on critical issues would increase competitive advantages because businesses build trust with its stakeholders when they are seen to actively develop strategies to mitigate their business and climate risks.

Likewise, the mining and quarrying sector discloses comparatively less non-financial information. We anticipate a higher level of disclosure when the ASEAN Reporting Mechanism (RM) takes effect. This is a sector specific new reporting mechanism which will monitor the adoption of sustainability assessment framework and tools implemented by the mineral sector in ASEAN (The ASEAN Secretariat, 2017).

4.3 Findings on Sustainability Reporting Strategies

Reporting strategies are fundamental to achieving transparency in sustainability reporting and should therefore be tactfully applied by all companies when preparing a sustainability report.

Finding 1: Formulating sustainable strategies at board level

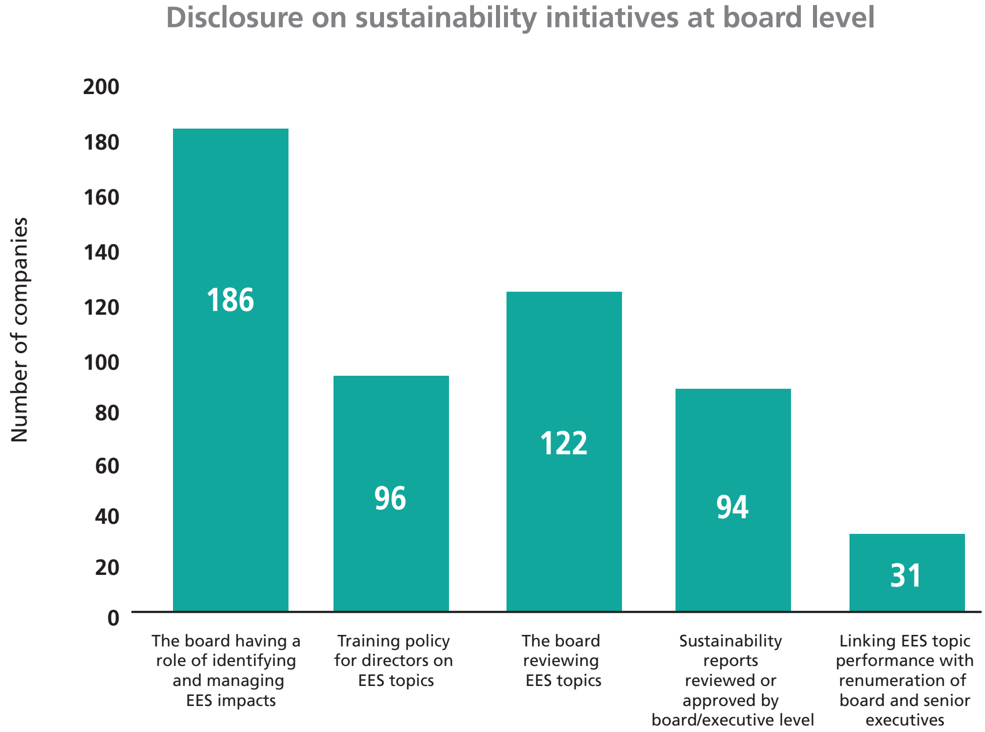


Figure 5: Disclosure on sustainability initiatives at board level

Effective leadership is often seen as the linchpin of a successful organisation. In the context of sustainability reporting, the board, as the highest governance body in a company, undertakes the responsibility of setting strategic directions, reviews and monitors EES risks and approves sustainability reports. Boards that assume ownership of sustainability issues tend to perform better.

As shown in the Figure 5, a number of boards have recognised the need to incorporate sustainability risks into strategy formulation. However, to fulfil all responsibilities, more incentives must be incorporated into performance indicators and remuneration policies. Leading reporters have incorporated ESG key performance indicators at the board and staff level, often with performance bonuses attached. Other observations include the lack of sustainability-related trainings for the board and the involvement of the board on approval of sustainability reports which communicate board level of commitment in driving sustainability movement.

INSIGHT

Disclosure on the board's involvement in driving sustainability is limited.

Finding 2: Identifying sustainability risks and opportunities

A minority of 42 companies in the sample disclosed the impact of sustainability trends, risks and opportunities on the long-term prospects and financial performance of the organisation, with more than half of the companies omitting this reporting practice.

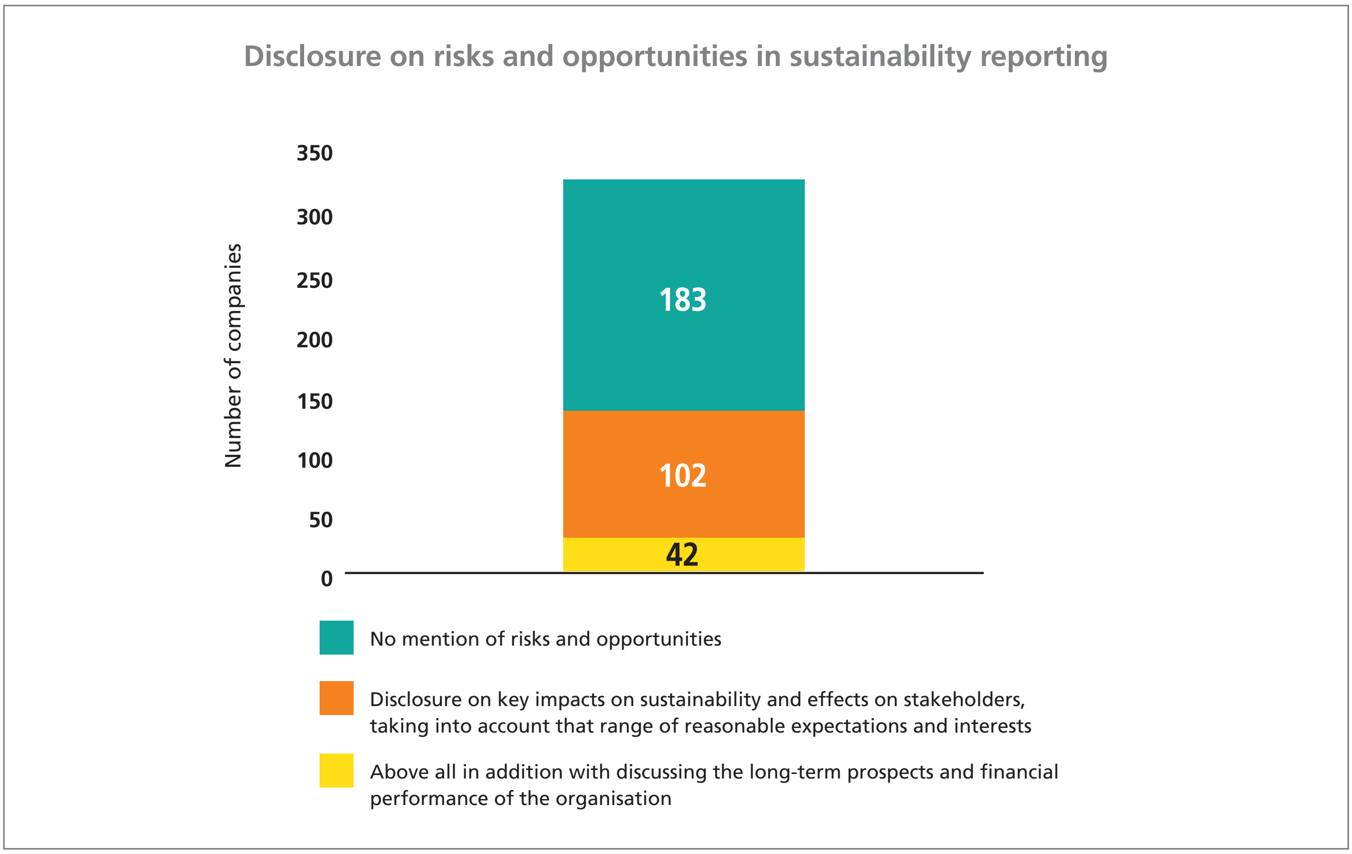


Figure 6: Disclosure on risks and opportunities

Common challenges to identifying sustainability risks and opportunities are due to the lack of sophisticated tools and techniques to quantify and monetise non-financial data. Bridging and communicating quantifiable non-financial results within the ambit of sustainability reporting presents another challenge. Quantifying opportunities or risks, such as climate-related risks, clearly reflects the potential impact in profit and loss for some measure that would facilitate more efficient usage and allocation of environmental resources and social capital.

Top sustainability reporters have gone beyond identifying climate risks and opportunities to quantify the financial impacts on its business by presenting their climate related financial risk disclosures with the support of the Financial Stability Board[6] (FSB) Task Force on Climate-related Financial Disclosures[7] (TCFD) and the Carbon Disclosure Project[8] (CDP). Financial figures corresponding to sustainability risks and opportunities are effective foundations to building a business case for sustainability.

[6] Financial Stability Board (FSB) is an international body that monitors and makes recommendations about the global financial system. Source: http://www.fsb.org/about/

[7] Task Force on Climate-related Financial Disclosures (TCFD) develops voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to investors, lenders, insurers, and other stakeholders. Source: https://www.fsb-tcfd.org/about/#

[8] Carbon Disclosure Project is a not-for-profit charity that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts. Source: https://www.cdp.net/en/info/about-us

Finding 3: Tracking of sustainability performance

201 companies have tracked their performance in either one of the environmental topics (e.g., carbon emissions, biodiversity and product and service stewardship) or social topics (e.g., diversity and equal opportunity, labour and industrial relations and human rights). 277 companies have disclosed at least an environmental or social target.

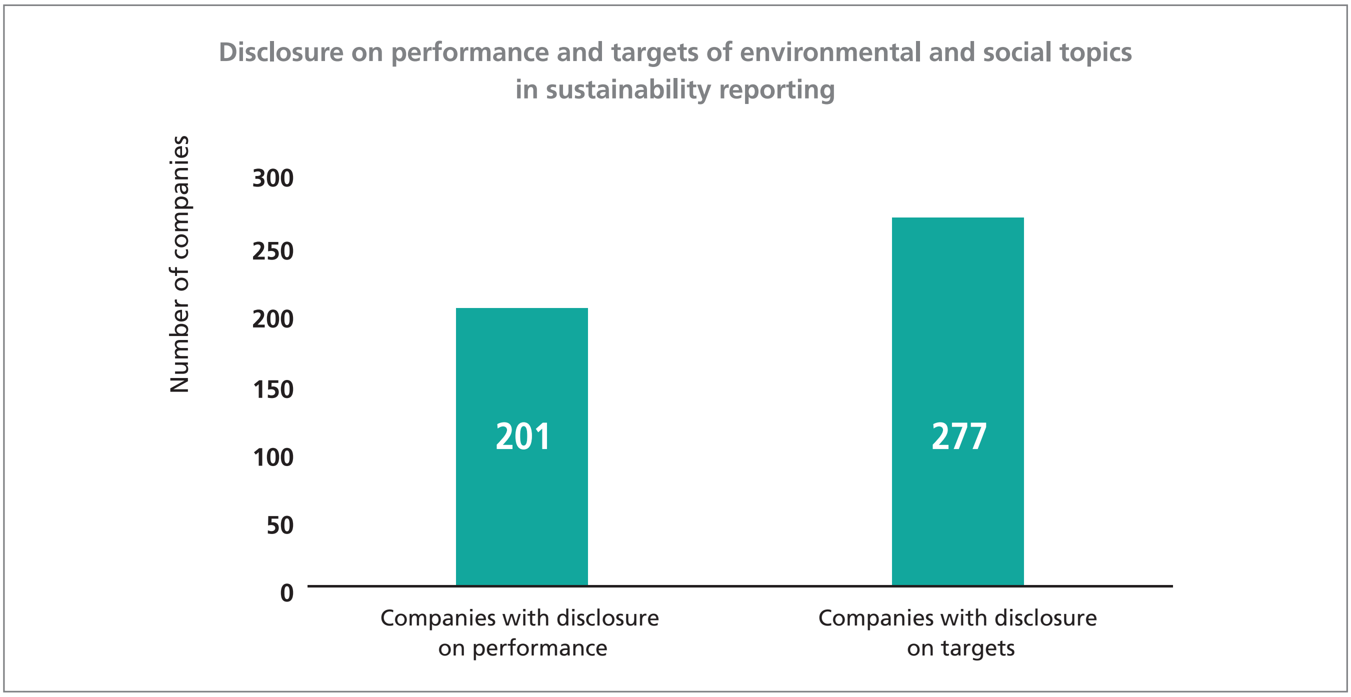


Figure 7: Disclosure on performance measurement system

This is unsurprising, as companies are required to adhere to regulatory requirements. As such, the tracking of certain indicators had already been established prior to Singapore Exchange's new ruling. We observed that the most commonly disclosed environmental indicators were energy, water and waste management, while the most commonly disclosed social indicators were occupational health and safety, training and education and philanthropy.

Before meaningfully establishing their performance measurements and the linkage to performance incentives, businesses must first evaluate their sphere of sustainability risks and opportunities. This effort would assist in crafting effective policies and sustainability strategies. A transparent performance measurement system allows business to benchmark performance against stated objectives and facilitates comparison of disclosure over time and across entities. Clearly linking sustainability risks and opportunities with strategy, other organisational risks, operational indicators, performance measures and performance incentives not only enhance understanding but drive innovation and accountability.

Finding 4: Adopting globally recognised frameworks

Of the 327 companies, 201 companies have adopted globally recognised frameworks. The average sustainability disclosure level of companies with recognised frameworks was 59.8%, higher than that of companies that developed their reports without referring to recognised frameworks, 49.1%.

The group difference in level of disclosure indicates that quality sustainability reports are guided by recognised frameworks, which offers comparability of sustainability disclosure among peers and across time. The GRI framework is the most commonly adopted framework. Other internationally recognised frameworks and industry specific guidelines gaining in popularity are the Sustainable Development Goals[9] (SDGs), Roundtable on Sustainable Palm Oil[10] (RSPO), the Ten Principles of the United Nations Global Compact[11] (UNGC) and the Carbon Disclosure Project[12] (CDP).

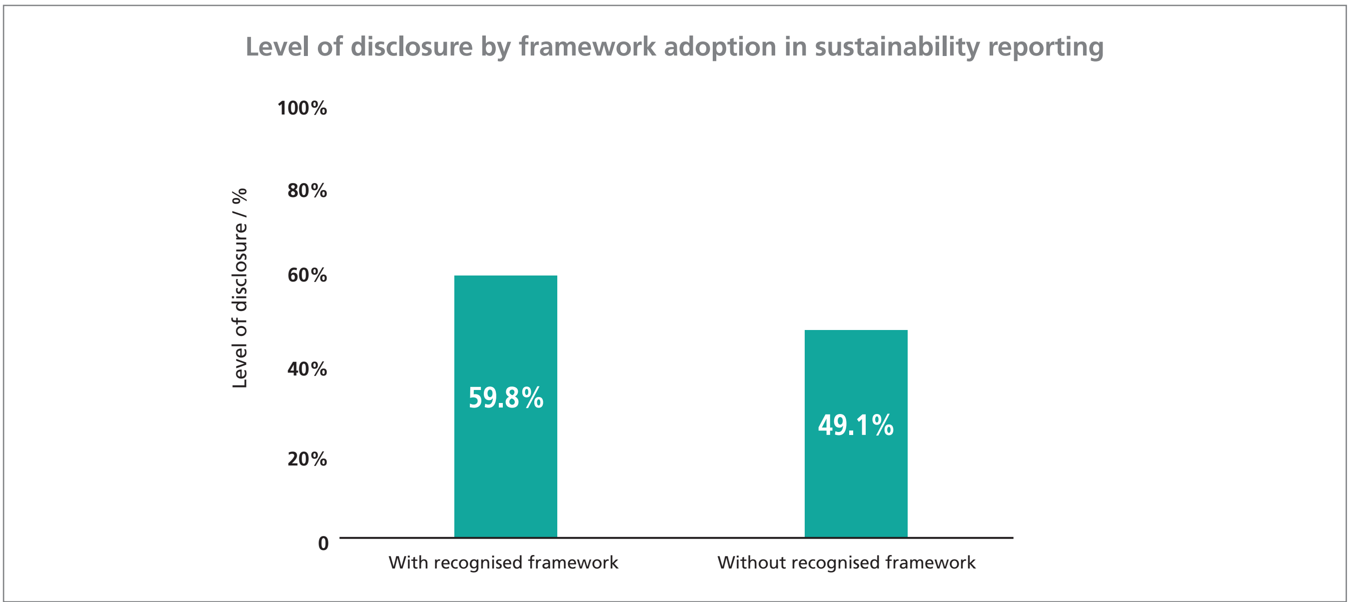


Figure 8: Average level of disclosure by framework adoption

Consistency in presentation and disclosures from the adoption of recognised framework increases compatibility across peer industries. Similarly, stakeholders are able to garner insights into the organisations' year on year performance, targets and long-term plans.

[9] Sustainable Development Goals (SDGs) are the blueprint to achieve a better and more sustainable future for all which address the global challenges we face. Source: https://www.un.org/sustainabledevelopment/sustainable-development-goals/

[10] Roundtable on Sustainable Palm Oil (RSPO) has developed a set of environmental and social criteria which companies must comply with in order to produce Certified Sustainable Palm Oil (CSPO). Source: https://www.rspo.org/about

[11] The Ten Principles of the United Nations Global Compact (UNGC) are derived from: the Universal Declaration of Human Rights, the International Labour Organisation's Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, and the United Nations Convention Against Corruption. Source: https://www.unglobalcompact.org/what-is-gc/mission/principles

[12] Carbon Disclosure Project (CDP) runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts. Source: https://www.cdp.net/en/info/about-us

Finding 5: Engaging stakeholders

223 companies discussed their stakeholder engagement efforts, an essential process in developing the scope and contents to be included in a sustainability report. Importantly, sustainability reports need to be stakeholder-centric. Distilling the concerns of stakeholders sets the company in the right trajectory. Companies should articulate their approach to stakeholder inclusiveness and engagements. Top performing companies capture the list of stakeholders' concerns with concise actions taken to proactively maintain a dynamic stakeholder communication process.

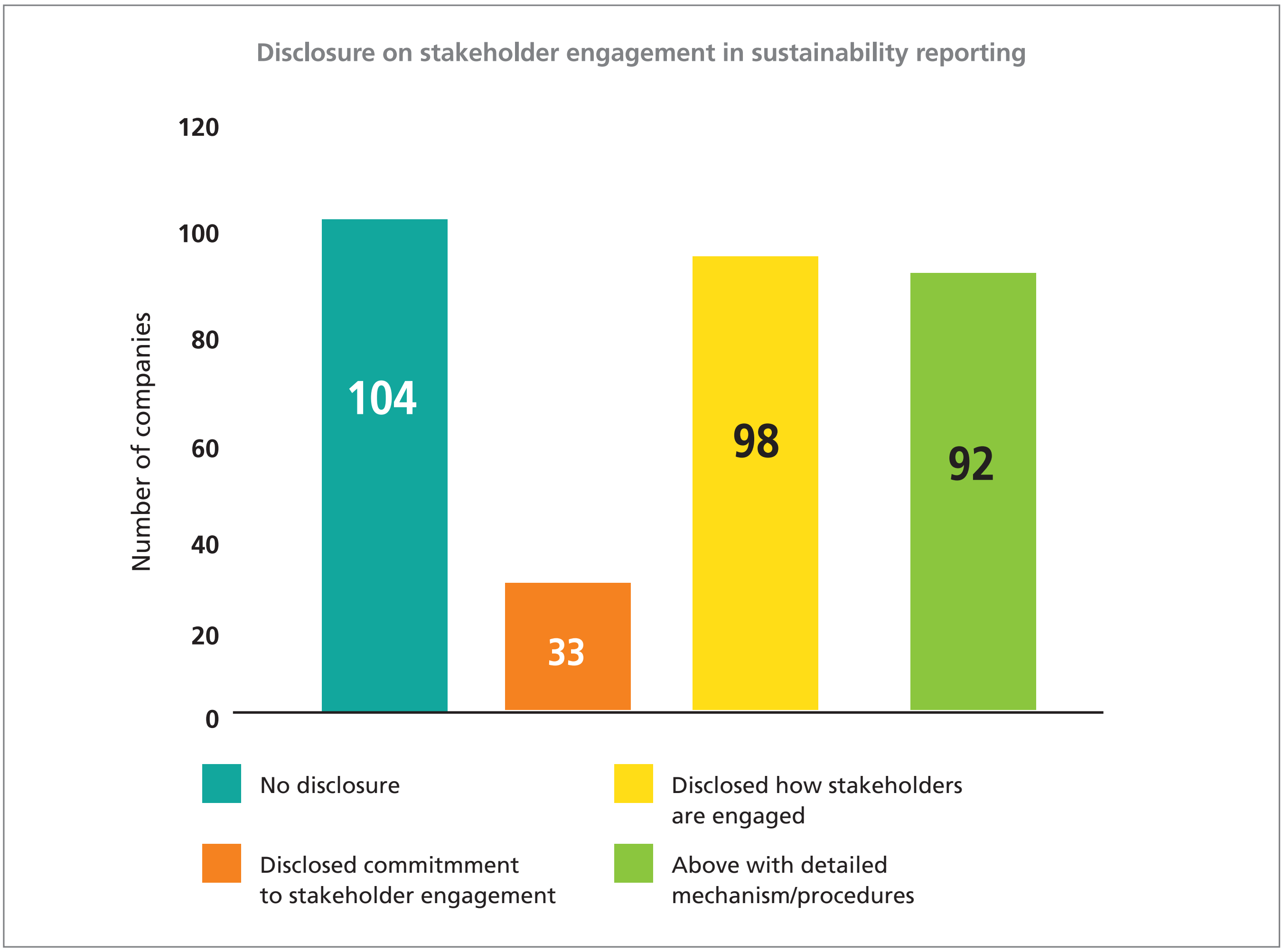


Figure 9: Disclosure on stakeholder engagement

Finding 6: Obtaining external verification

15 companies have sought external, independent assurance in order to enhance the stakeholders' confidence in the credibility of sustainability reporting. In practice, this voluntary practice is conducted in different ways, whether judging reported performance or assessing the adequacy of report content based on information written by the reporting company. Either way, inputs of a third party will serve as an unbiased comment on performance and suggest improvements on sustainability initiatives.

Figure 10: Disclosure on external assurance

We observed that non-financial verification standards, such as the AccountAbility AA1000 Assurance Standard[13] (AA1000AS) 2008 and the International Standard on Assurance Engagements 3000[14] (ISAE 3000), were among the most common frameworks or guidelines adopted by the companies assessed.

[13] The AccountAbility 1000 Assurance Standard (AA1000 AS) is a methodology used for sustainability-related assurance engagements to evaluate the nature and extent to which an organization adheres to the AccountAbility Principles. Source: http://www.accountability.org/standards/

[14] International Standard on Assurance Engagements 3000 (ISAE 3000) deals with assurance engagements other than audits or reviews of historical financial information.
Source:https://www.ifac.org/publications-resources/international-standard-assurance-engagements-isae-3000-revised-assurance-enga

5. REPORTING IN ACCORDANCE TO SINGAPORE EXCHANGE LISTING RULES AND GUIDE

5.1 Singapore Exchange Sustainability Reporting Guide - Five Primary Components

The Singapore Exchange requires all listed companies to disclose the following five components in their sustainability reports: material ESG factors, policies, practices and performance, targets, sustainability reporting framework and board statement[15].

Reporting across all five primary components has surged since the Singapore Exchange ruling took effect in 2016. This reaffirms the essential role that regulator plays in driving transparency. Among the five primary components, "policies, practices and performance" gained the highest reporting rate followed by "targets" in 2018 sustainability reporting. This study scored companies based on a minimum of one environmental or social related "policies, practices and performance" and "targets". We expect to see more concerted efforts in setting policies and targets as companies' progress in their sustainability journey. Our future research will examine the policies and targets that are essential and unique to each sector.

Sustainability framework adoption had the lowest level of adherence. Nearly 40% of the issuers in our assessed sample chose self-constructed internal frameworks as opposed to adhering to international standards. The most widely adopted frameworks were the GRI G4 Guidelines and GRI Standards. Additionally, we have observed that board level commitment is lacking in one-third of sample companies. Similarly, there is room for growth, as more companies seek to understand the ESG factors material to their business.

INSIGHT

There is significant room for improvement in sustainability reporting.

[15] SGX-ST Listing Rules Practice Note 7.6 Sustainability Reporting Guide. Source: http://rulebook.sgx.com/net_file_store/new_rulebooks/s/g/SGX_Mainboard_Practice_Note_7.6_July_20_2016.pdf

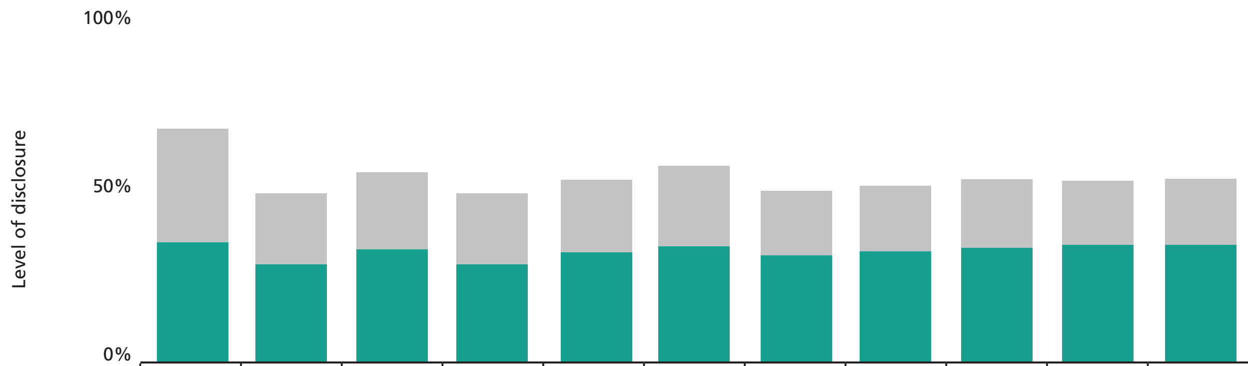
Five primary components	Requirements (Reference: Singapore Exchange Listing Rules Practice Note 7.6 - Sustainability Reporting Guide)	Number of companies reporting the component
Material ESG factors Report a list of the material topics identified in the process for defining report content	"The sustainability report should identify the material ESG factors, and describe both the reasons for and the process of selection, taking into considering their relevance to the business, strategy, business model and key stakeholders."	2018 223 2016 24
Policies, practices and performances Disclose policy/practices/ performance of at least one environmental or social topic	"The sustainability report should set out the issuer's policies, practices and performance in relation to the material ESG factors identified, providing descriptive and quantitative information on each of the identified material ESG factors for the reporting period. Performance should be described in the context of previously disclosed targets."	2018 308 2016 171
Targets Disclose target of at least one environmental or social topic	"The sustainability report should set out the issuer's targets for the forthcoming year in relation to each material ESG factor identified."	2018 277 2016 157
Sustainability reporting framework Use a recognized framework in sustainability reporting	"The issuer should select a sustainability reporting framework (or frameworks) to guide its reporting and disclosure. The sustainability reporting framework(s) selected should be appropriate for and suited to its industry and business model. The issuer should state the name of the framework(s), explain its reasons for choosing the framework(s) and provide a general description of the extent of the issuer's application of the framework(s)."	2018 201 2016 34
Board statement Have a statement from the most senior decision-maker of the organization about the relevance of sustainability to the organization and its strategy for addressing sustainability issues	"The sustainability report should contain a statement of the Board on the Board having considered sustainability issues as part of its strategic formulation, determined the material ESG factors and overseen the management and monitoring of the material ESG factors."	2018 203 2016 106

Figure 11: Reporting on five primary components

5.2 Disclosure Level of High Impact Sectors

Companies operating in high-impact sectors are more likely to receive greater public scrutiny as their business carry larger environmental and social impacts. In comparison to 2016, when 49 companies from the high impact sector communicated their sustainability practices, the numbers almost doubled in 2018 to 95 companies.

Disclosure level of high impact sectors



	Agriculture	Air Transport	Chemicals & Pharmaceuticals	Construction	Food & Beverages	Forestry & Paper	Mining & Metals	Oil & Gas	Shipping	Water	Not an High Impact Sector
EES topics	30.9%	21.7%	25.0%	21.6%	22.6%	26.5%	20.6%	21.6%	23.2%	22.0%	22.8%
Drivers	35.3%	27.6%	32.5%	28.3%	30.8%	32.3%	29.1%	30.8%	31.2%	32.4%	32.2%
Number of companies	12	4	5	15	17	1	15	17	7	2	

Note: The SSIC 1996 standard was referred to classify the companies in the high impact sector for this study.

Figure 12: Overall disclosure level of high impact sectors

Overall, the non-high impact sector scored an average of 55.1%. Notably, the majority of high impact sectors either matched or did not meet this level of disclosure. This meagre performance signifies a dire need for the high impact sector to step up and address sustainability issues in the face of rising eco-consumerism and scrutiny from watchdogs. Support from regulators and peer industries would spur sustainability improvements in the high impact sectors.

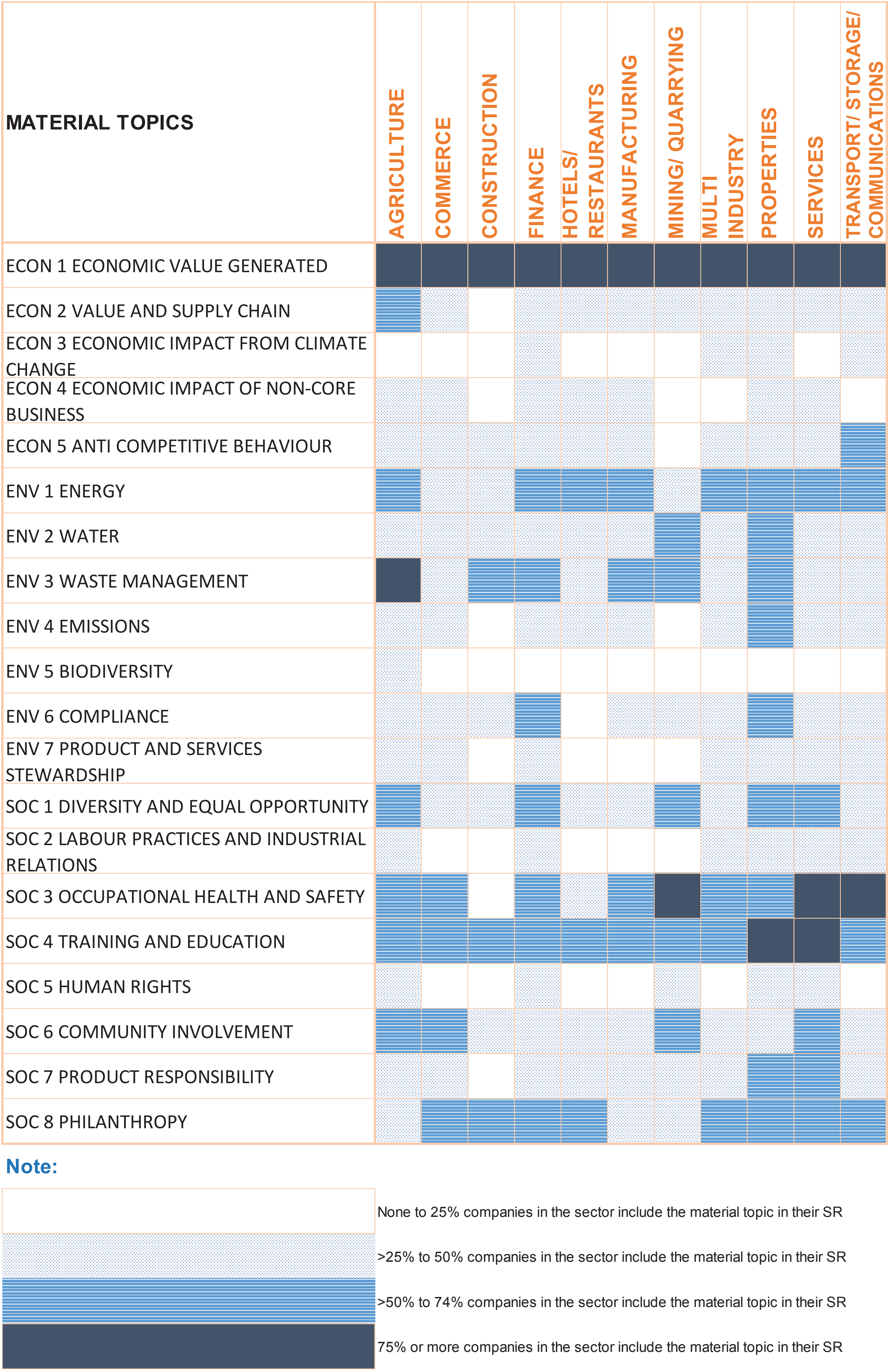
INSIGHT

High impact sectors were found with meagre performance compared to other sectors.

6. MATERIALITY TRENDS

6.1 Materiality Trends by Sector

According to GRI, relevant issues which merit reporting are those 'that can reasonably be considered important for reflecting the organisation's economic, environmental, and social impacts, or influencing the decisions of stakeholders' (GRI, 2016). 327 reporting companies disseminated information on at least one environmental or social topic. Of these, 94% have demonstrated their commitments through developing policies concerning social or environmental issues, with 85% of the companies publicly disclosing targets.



Note: 1. The electric, gas and water sector was excluded from this table due to the small number of companies with sustainability disclosure which should not be made representative of this sector. 2. The disclosure on Econ 1 Economic Value Generated has been common practice across sectors so the issue is not further discussed as the most cited material issues.

Table 2: Materiality trends by sector

The most cited material issues

Occupational health and safety. In Singapore, workplace health and safety is regulated through the Workplace Safety and Health Act[16] and Work Injury Compensation Act.[17] With synergistic efforts from agencies like the Workplace Safety and Health Council (Workplace Safety and Health Council, 2018), companies have begun to move beyond regulations to continuously shape and improve all aspects of their environment, providing healthier and safer workplaces.

Training and education. The governing authority Ministry of Manpower incentivises employers to provide training and development opportunities. Initiatives around human capital investments are well received by all stakeholder groups as the company strengthens and develops its intangible assets. Therefore, discussing this topic poses minimal risk but heightens a company's brand value.

Philanthropy. Sustainability is commonly clouded with misconceptions that it is about philanthropy. Therefore, many companies have delved into providing value added contributions to the local community. Historically, corporate philanthropy has always existed in one form or another. Companies disclose their support for social causes so as to strengthen their legitimacy by managing their local dependency and forging trust communities. Corporate philanthropy in Singapore has advanced towards more philanthropic foundations being set up by large companies as an avenue for continual contribution to society.

[16] Workplace Safety and Health Act (Chapter 354A). Original enactment: Act of 7 of 2006. Revised edition 2009. Source: https://sso.agc.gov.sg/Act/WSHA2006

[17] Work Injury Compensation Act (Chapter 354). Original enactment: Act 25 of 1975. Revised edition 2009. Source: https://sso.agc.gov.sg/Act/WICA1975

The least cited material issues

Biodiversity. Biodiversity conservation did not surface as a priority for any sector, even in the construction, agriculture or mining and quarrying sectors. In sectors with processes involving high degrees of fragmented outsourcing practices, companies are often more likely not to assume direct responsibility for the environmental performance of their supply chain. This is especially true if the companies limit its sustainability boundary within their own operations.

Product and services stewardship. Developing new products or new ways of doing business in which the pursuit of profit meets the needs of stakeholders creates new business opportunities. Throughout the development process, companies are expected to analyse environmental issues from the conceptual and design phase of a new product, using analytical tools like the life cycle assessment, to the consumption phase of a product and the final disposal phase that requires responsible handling. Product innovation was rarely discussed by Singapore companies despite it being a material topic in many sectors. This could be attributed to the fact that evaluating the potential impacts associate with the cradle to grave life cycle of a product or service requires much concerted efforts, time and resources.

Emissions. Most sectors have not recognised emissions as a material topic despite one-third of the sample operating in high impact sectors. Evidently, companies are not active in the international climate change development or emission mitigation initiatives. Locally, the government had recently announced the carbon tax which will take effect in 2019, impacting 30 to 40 of the largest emitters contributing to 80% of Singapore's greenhouse gas emissions (The Straits Times, 2018 February 28). This motivates companies to keep abreast with global trends and their sustainability risks in order to stay relevant.

6.2 Gaps between Current Practices and Expectations

Deciding which issues should be included in reporting remains challenging, for they must be relevant to the core operations of the business, as well as the industry and cultural context in which the business operates.

Table 3 is a list of most commonly identified material issues reported by each sector. It outlines the most common current practices of disclosed material topics for sectors and some information on the expectations of the disclosed material issues.

Some gaps exist between the material issues reported by each sector and what stakeholders expect the sectors to report. There are a few possible explanations for this gap. Firstly, a significant portion of data collected was from inaugural sustainability reports. Consequently, the transition to regular sustainability communication may begin by discussing issues that require fewer resources to track and manage. Secondly, ineffective stakeholder engagement or materiality mapping may result in the company not meeting all of stakeholders' expectations.

Addressing these gaps can bring many benefits to the reporting organisations. Firstly, the report provides an avenue by which the company can give significance to stakeholders by communicating the issues which attract their interest. Secondly, companies can improve their sustainability performance by measuring relevant indicators within these non-financial issues and benchmarking them with past performance, industry averages and national or international targets. These practices have the benefits of enhancing stakeholders' trust in the company, improving the company's reputation and eventually having better access to capital.

While there are a set of key material issues that transcend industries, the agriculture sector, finance sector, properties sector and services sector registered their concerns over eight or more material topics under the environmental and social topics. Identifying a set of material issues, topic boundaries and information that is reasonable and appropriate remains challenging for most companies. A sustainability report should take into account the impact caused by reporting companies, without omitting relevant information that would substantially influences stakeholder assessments and decisions. From this study, it is evident that materiality is gaining traction but companies are still struggling to accurately identify the material issues most relevant to their core business.

INSIGHT

Materiality identification is clearly gaining traction but many companies are still struggling with the process.

SECTORS	Current Practices	Expectations
	Key EES disclosures by sector	Key sustainability issues in industry sector
Agriculture	ENV: WASTE MANAGEMENT SOC: COMMUNITY INVOLVEMENT SOC: TRAINING AND EDUCATION ECON: VALUE AND SUPPLY CHAIN	They are expected to develop measures in response to labour conditions, climate change, soil degradation, water scarcity, and criticisms surrounding genetic modification of seeds and food organism (Savitz, 2013).
Commerce	SOC: TRAINING AND EDUCATION SOC: PHILANTHROPY SOC: OCCUPATIONAL HEALTH AND SAFETY SOC: COMMUNITY INVOLVEMENT	Concerns over changes in lifestyle and consumption patterns influenced by e-commerce. Managing the security of a diverse consumer base, changing regulatory requirements, logistic and supply chain, emissions caused by transportation in e-commerce are the key issues surrounding this sector (Berglund & Svanteson, 2018; FIA Communications, 2016).
Construction	SOC: OCCUPATIONAL HEALTH AND SAFETY SOC: TRAINING AND EDUCATION SOC: PHILANTHROPY ENV: WASTE MANAGEMENT	This sector is expected to safeguard the interests of future generations by minimising damage to society and the environment, comply to changing legislation and to create a healthy and safe living environment. Material topics should also include emissions, noise management, energy efficiency, materials sourcing, migrant workers and land use rights (Abidin, 2010; Shen, Li Hao, Tam, & Yao, 2007).
Finance	SOC: TRAINING AND EDUCATION SOC: DIVERSITY AND EQUAL OPPORTUNITY ENV: ENERGY SOC: PHILANTHROPY	Prior to providing financial support, this sector is expected to establish a systematic evaluation of the environmental, economic, and social impacts of the developmental projects (Savitz, 2013).
Hotels/Restaurants	SOC: TRAINING AND EDUCATION SOC: PHILANTHROPY ENV: ENERGY ENV: WATER	The hotel sector is expected to also disclose their indirect economic impacts on the community, materials sourcing, biodiversity, waste management, sustainable food, preservation of local culture, labour conditions and local community involvement (Withiam, 2017; Green Hotelier, 2013).
Manufacturing	SOC: TRAINING AND EDUCATION SOC: OCCUPATIONAL HEALTH AND SAFETY ENV: WASTE MANAGEMENT ENV: ENERGY	In addition to technological innovation, sustainability issues such as resources management, supply chain management and environmental impacts of the business activities deserves high attention in the manufacturing sector (Ibiyemi, Adnan, & Daud, 2015; Garetti & Taisch, 2012; Sreenivasan, Goel, & Bourell, 2010).
Mining/Quarrying	SOC: OCCUPATIONAL HEALTH AND SAFETY ENV: WASTE MANAGEMENT ENV: WATER SOC: DIVERSITY AND EQUAL OPPORTUNITY	Companies from this sector should demonstrate their concerns over environmental damage, emissions to water, workplace health and safety and disaster risk management (Savitz, 2013).
Multi Industry	SOC: TRAINING AND EDUCATION SOC: OCCUPATIONAL HEALTH AND SAFETY SOC: PHILANTHROPY ENV: ENERGY	Conglomerates operating with a mix of different industries would have to customise their sustainability approaches, building from the industry specific materiality guidelines to an overarching sustainability strategy that is aligned with the group's strategy (Narain, 2016).
Properties	SOC: TRAINING AND EDUCATION ENV: ENERGY SOC: DIVERSITY AND EQUAL OPPORTUNITY SOC: OCCUPATIONAL HEALTH AND SAFETY	The properties sector is expected to look into improvements in energy conservation, better coordination of land use, transportation, preservation of wildlife and their habitats, improvement in air quality and safeguarding drinking water sources (Nareit, 2017; Pivo & McNamara, 2005).
Services	SOC: OCCUPATIONAL HEALTH AND SAFETY SOC: TRAINING AND EDUCATION SOC: PRODUCT RESPONSIBILITY SOC: PHILANTHROPY	The principles that guide sustainable practices across a variety of service industries include culture of stewardship, dematerialisation and adoption of greener architecture and appliances (Dartmouth College, n.d.).
Transport / Storage / Communications	SOC: OCCUPATIONAL HEALTH AND SAFETY SOC: PHILANTHROPY SOC: TRAINING AND EDUCATION ENV: ENERGY	The transportation sector should consider issues pertaining to supply chain management, limitation of resources, emissions, consumer health and global warming. Telecommunication companies are expected to manage radiation and its associated impacts in their materiality list (Nigam, 2012; Dey, LaGuardia, & Srinivasan, 2011).

Note: 1. Electric, gas and water sector was excluded from this table as the number of reporting companies is too small for an accurate inference. 2. Information on "Expectations" is literature review based which may not be fully applicable to Singapore context.

Table 3: Gaps between current practices and expectations

7. COMPANIES DEMONSTRATING BEST PRACTICES IN SUSTAINABILITY DISCLOSURE

Of the 678 companies listed on Singapore Exchange, 20 companies with the highest level of sustainability disclosures have been tabulated as seen in Table 4. This is to facilitate understanding of the best performing companies among the Singapore companies assessed in this study.

COMPANIES	RANK ORDER
CITY DEVELOPMENTS LTD	1
CAPITALAND LTD	2
SINGAPORE TELECOMMUNICATIONS LTD	3
OLAM INTERNATIONAL LTD	4
DBS GROUP HOLDINGS LTD	5
GOLDEN AGRI-RESOURCES LTD	6
FRASER AND NEAVE, LTD	7
STARHUB LTD	8
SINGAPORE AIRLINES LTD	9
SINGAPORE EXCHANGE LTD	10
THAI BEVERAGE PUBLIC CO LTD	11
WILMAR INTERNATIONAL LTD	12
WHEELOCK PROPERTIES (S) LTD	13
UNITED OVERSEAS BANK LTD	14
Y VENTURES GROUP LTD	15
GENTING SINGAPORE LTD	16
CAPITALAND COMMERCIAL TRUST	17
JASON MARINE GROUP LTD	18
CAPITALAND MALL TRUST	19
INDOFOOD AGRI RESOURCES LTD	20

Table 4: Companies demonstrating best practices in sustainability disclosure

8. LIMITATIONS AND FURTHER RESEARCH

This study examined listed companies' sustainability disclosures from publicly available sources, which do not necessarily represent the company's actual sustainability performance. It is possible that some companies have sustainability practices in place that are not sufficiently captured in their reports. Nevertheless, the result of this assessment serves as a reference and the provided insights serves to motivate further research and improvements in the quality of sustainability reporting in Singapore.

First time reporting companies are given up to twelve months from the end of the financial year to publish their reports. This takes effect for any financial year ending on, or after, 31 December. As such, this study could only capture the sustainability reports that were published by 31 May 2018.

Future research should investigate the challenges companies encounter when striving to meet Singapore Exchange's requirements. Moving forward, potential research topics could also include in-depth analysis on the factors that influence sustainability practices and disclosures, the relationship between sustainability disclosure and actual sustainable practices, sustainability trends and attention areas in the high impact sectors or comparability studies on the materiality trends across industries and countries.

9. CONCLUSION

Sustainability reporting has increasingly evolved to be an integral part of a company's communication. The new Singapore Exchange requirement for all Singapore listed companies to produce a sustainability report on a 'comply or explain' basis has spurred a notable rise in the number of reporters from 186 before the new ruling to 327 companies by 31 May 2018. While the quality of reports varies significantly, there is a need for reporters to cover all five primary components required in the Singapore Exchange ruling. As such, companies are evolving their approach towards transparent non-financial reporting. We believe this approach may drive better risk management and business strategies, while providing a platform for innovation and improved operational efficiencies.

Although the number of reporting companies has risen, the average quality of sustainability disclosures in the past year did not improve in tandem with the rising number of reporting companies, likely due to the novelty of the Singapore Exchange ruling. Developing a sustainability structure requires a degree of radical change across all departments of a company. Firms that are reporting for the first time would need time to establish and coordinate the implementation of sustainable practices across all units in order to trigger synergistic effects and, thus, maximise returns. As the investment community evolves, we believe that corporate narratives will become more engaging in both form and substance. Sustainability reporting is not a sprint but a marathon: the process requires concerted effort, resources and time but the results will be highly rewarding.

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11. GLOSSARY

Boundaries	Description of where the impacts occur for a material topic, and the organization's involvement with those impacts. Note: Topic Boundaries vary based on the topics reported.
Governance Body	Committee or board responsible for the strategic guidance of the organization, the effective monitoring of management, and the accountability of management to the broader organization and its stakeholders.
Impact	In this study, unless otherwise stated, 'impact' refers to the effect an organization has on the economy, the environment, and/or society, which in turn can indicate its contribution (positive or negative) to sustainable development.
Material Topic/Materiality	Topic that reflects a reporting organization's significant economic, environmental and social impacts; or that substantively influences the assessments and decisions of stakeholders.
Reporting Principle	Concept that describes the outcomes a report is expected to achieve, and that guides deciisons made throughout the reporting process around report content or quality.
Stakeholder	Entity of individual that can reasonably be expected to be significantly affected by the reporting organization's activities, products and services, or whose actions can reasonably be expected to affect the ability of the organization to successfully implement its strategies and achieve its objectives. Note 1: Stakeholders include entities or individuals whose rights under law or international conventions provide them with legitimate claims vis-à-vis the organization. Note 2: Stakeholders can include those who are invested in the organization (such as employees and shareholders), as well as those who have other relationships to the organization (such as other workers who are not employees, suppliers, vulnerable groups, local communities, and NGOs or other civil society organizations, among others).
Supply Chain	Sequence of activities or parties that provides products or services to an organization.
Sustainability	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Note 1: Sustainable development encompasses three dimensions: economic, environmental and social. Note 2: Sustainable development refers to broader environmental and societal interests, rather than to the interests of specific organizations. Note 3: In this study, the terms 'sustainability' and 'sustainable development' are used interchangeably.

Source: GRI Standards Glossary 2018[18]

[18] GRI Standards Glossary 2018. Source: https://www.globalreporting.org/standards/media/1913/gri-standards-glossary.pdf

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