









Table of Contents

About this Report 1	Chapter I	3
A Bout tino Report	Overview of Sustainability Reports in Taiwan	
	Overview 1 / Over 600 sustainability reports were published in Taiwan during 2020	5
	Overview 2 / 47.6% of companies/organizations voluntarily compiled and published sustainability reports	9
	Overview 3 / 53.7% of the sustainability reports had third-party certifications/assurance	10
	Overview 4 / Among companies with a paid-in capital between NT\$ 2 billion and NT\$ 5 billion, 29.0% of them prepared ahead of future regulations in 2020	12
	Chapter II	15
	Trust-Displaying ESG to Gain Trust	
	Displaying ESG-financial performance to build high trust with investors	17
	Proactive engagement within and outside the company to build consensus on	18

Aligning with international standards to build community trust: In response to the United Nations' Sustainable Development Goals (SDGs)

22

49

62

Resilience - Strengthening ESG to Face Evolving Ris	sks	The state of TCFD reporting in Taiwan and Asia-Pacific	
Facing unpredictable global risks, companies are actively strengthening their resilience Companies strived for survival despite the threats of COVID-19 Companies must make early preparation for sustainability reporting regulations and response to investors' expectations and requirements Facing the ongoing issue-climate crisis, companies shall proceed cautiously to building resilience	27 29 31 33	The state of TCFD reporting among Taiwanese companies The state of TCFD reporting among APAC companies Expert views TCFD is not about what to do, but about why we do it	51 52 60
Chapter IV S-thermometerAnalysis	37	Appendix	61
Overview of Taiwan's S-thermometer scores	41	The 10 largest public companies from 10 selected economies in the Asia Pacific in 2020	61

44

25

Chapter V

"2020 Taiwan and Asia

Pacific Sustainability Reports Analysis" Errata

Chapter III

Overview of Asia-Pacific companies S-thermometer scores

Chapter III

About this Report

The publication "Trends of Sustainability Report in Taiwan and APAC 2021" is the ninth edition of the research published annually by CSRone since 2013. In 2016 Sinyi School, NCCU College of Commerce joined our research team. Since then, Sinyi School has contributed with knowledge and human resources to this publication, allowing its research quality to further improve on an ongoing basis. Each year, the research team collects all corporate sustainable development reports, corporate social responsibility reports, or environment safety reports (collectively, hereinafter referred to as the "sustainability reports") published across Taiwan, and establishes the analysis indicators according to the latest trends in sustainability and registers the collected information in the database accordingly. Furthermore, every year in March the team publishes the latest key findings as source of reference for industry experts, government officials, and academia in Taiwan.

As of the end of December 2020, CSRone has collected an aggregate of more than 4,200 sustainability reports. The scope primarily focuses on the sustainability reports published in Taiwan by companies, but also includes sustainability reports produced by other organizations ranging from government agencies, schools, hospitals, and non-profits. Moreover, we also collect information disclosed by the largest ten companies from ten selected economies in the Asia Pacific region. CSRone is the operator of the knowledge platform with the most comprehensive information related to sustainability in the Greater China region. moreover our database offers the most complete database on sustainability reports, allowing stakeholders to get a broader of picture of how corporations are addressing sustainability issues in Taiwan.

Currently, this research report has become one of the most trusted guides to gain an in-depth understanding of corporate sustainability in Taiwan and APAC.

Latest updates in the past three years

2021

- We collected an all-time high of over 600 sustainability reports published by Taiwanese companies/organizations in 2020.
- We included COVID-19 within the scope of analysis and examined related disclosures across Taiwanese companies/organizations.
- First-time that we analyzed the TCFD recommendations related disclosures across Taiwanese and APAC companies.

2020

- First-time that we made our database available for companies to understand the content of the research, its indicators and facilitate re-examination in order to maximize the value of sustainability data through practical applications.
- First-time that we included the largest ten Australian public companies within the scope of analysis and disclose findings within the section covering disclosures in APAC.

2019

- First-time that we included the sustainability reports published by the largest ten public companies in nine selected Asia Pacific countries within the scope of analysis for the purpose of benchmarking companies and promoting continuous improvement through best practice learning.
- First-time that we adopted the "S-thermometer" concept as a way of to measure the company's management involvement level across the eight major sustainability themes, and by calculating the average scores, we aim to provide readers a clear and concise understanding of corporate sustainability actions.













Trends of
Sustainability
in Taiwan

Research and analysis approach

Number of Reports

sustainability reports in total

(601 from Taiwanese companies/organizations, 89 from APAC companies)

Time of Research

Number of Indicators

Number of Researchers

Research Sample

The research has examined 690 sustainability reports in total, including 601 sustainability reports published in Taiwan and 89 sustainability reports published by APAC companies.

Research Method

The research team read the research samples on a one-by-one basis and registered the sustainability performance of the samples into the system. Each data entry has been reexamined by two researchers to ensure data accuracy.

Period Covered

Sustainability reports publicly issued in 2020 with disclosure periods from 1 January 2019 to 31 December 2019; the disclosure period covered by certain reports is from 1 July 2016 to 31 May 2020.

Research Sample Profile

- 1. All companies and organizations that published a sustainability reports in Taiwan.
- 2. The ten largest public companies from ten selected economies in the Asia Pacific, including Taiwan, Japan, China, Hong Kong, India, Singapore, Malaysia, Thailand, Australia, and Korea.

Sources

All the reports are obtained from the official websites of the companies/organizations and/or Taiwan Stock Exchange (TWSE); the financial data of companies is obtained from the TWSE and Taipei Exchange (TPEX) websites; the largest APAC companies is based on the list from Forbes Global 2000: The World's Largest Public Companies in 2020.

Industry Classification Definitions

The analysis items are based on the industry classification regulated by the TWSE and TPEX, which are divided into four super-sectors: traditional sector, technology sector, services sector, financial sector, and other organizations. The classification basis is as follows.

Super-sector Category	Industry Classification
Traditional Sector (221)	Chemical industry; Chemical, Biotechnology and Medicine industry; Cement industry; Biotechnology and Medicine industry; Automobile industry; Oil, Gas and Electricity industry; Building Material and Construction industry; Glass, Ceramics industry; Food industry; Textiles industry; Paper, Pulp industry; Plastics industry; Agricultural Technology industry; Electrical and Cable industry; Electric Machinery industry; General; Rubber industry; Iron and Steel industry
Technology Sector (221)	Semiconductor industry; Optoelectronic industry; Other electronics industry; Communications and Internet industry; Information Service industry; Electronic industry; E-commerce industry; Electronic Products Distribution industry; Electronic Parts/Components industry; Computer and Peripheral Equipment industry
Services Sector (93)	Culture and Creative industry; Other industries; Shipping and Transportation industry; Trading and Consumers' Goods Industry and Tourism industry
Financial Sector (53)	TDR; Trust and Investment Advisory companies; Financial and Insurance industry; Financial industry; Futures Commission Merchant; Stock industry; Securities and Securities Finance Managing companies
Other Organizations (13)	Academic Institutions; Government Agencies; Medical Institutions and Nonprofit Organizations

Chapter

Overview of Sustainability Reports in Taiwan

In 2020, the severe threats of the COVID-19 pandemic affected the global economy and the general public's health, ultimately causing severe turbulences across society. In an era full of uncertainties and risks, companies and the wider-society need mutual support more than ever to find the balance of coexistence and co-prosperity with

the Earth. Studies of the research team revealed that the number of companies publishing sustainability reports in Taiwan had continued to increase year by year. Some companies publish reports due to local regulatory requirements or upon requests from investors and supply chains. More and more companies/organizations are proactively

taking the initiative to regularly disclose their management measures and performance concerning the environment, society, and corporate governance (ESG) factors through sustainability reports. This chapter will summarize the overview and important findings from examining the sustainability reports published in Taiwan during 2020.

Overview 3 / Overview and Key Findings $53.7\% \, \text{of the sustainability}$ Overview 2/ 47.6% of companies/organizations reports had third-party certifications/ voluntarily compiled and published assurance sustainability reports



Overview 1/

Over 600 sustainability reports were published in Taiwan during 2020



Overview 4/

Among those companies with a paid-in capital between

NT\$2 billion and NT\$5 billion, 29.0% of them have prepared ahead for upcoming regulations

Appendix

Over 600 sustainability reports were published in Taiwan during 2020

Looking at the preparation and publication of sustainability reports in Taiwan, since the government announced relevant regulations in 2015, the number of reports published by companies/organizations has increased year by year. The research team collected data from various industries, and a total of 601 sustainability reports were published by Taiwanese companies/organizations in 2020, an increase of 8.1% compared to the 556 reports in 2019.

There were 545 sustainability reports published by listed- and OTC-companies in 2020 (accounting for 90.7% of the total reports). Among them, 69.7% were listed-companies, 21.0% were OTC-companies, and the remaining 9.3% were non-listed companies, foreign companies in Taiwan, academic institutions, non-profit organizations, public agencies, etc.

Overview on the Evolution of Sustainability Reporting-related Regulations in Taiwan

2014

Promulgation

1. The Taiwan Stock Exchange Corporation began to promulgate the "Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed Companies."

2.The Taipei Exchange began to promulgate the "Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TPEx Listed Companies."

-Industries and capital range for report preparation: In response to food and industrial safety issues, the Financial Supervisory Commission (FSC) worked with TWSE and TPEx to jointly announce the above rules in 2014, requiring companies in the "food industry," "financial and insurance industry," and "chemical industry" as well as companies with a paid-in capital exceeding NT\$10 billion to prepare an annual corporate social responsibility (CSR) report for the preceding year 2015 by referring to the latest Global Reporting Initiatives (GRI) sustainability reporting standards.



Amendment

Expanded the scope of reporting: Companies with a paid-in capital between NT\$5 billion and NT\$10 billion are now within the scope of regulation and are required to prepare and publish their 2016 CSR reports starting from 2017.



Amendment

Complying with the "GRI Standards": Listed- and OTC-companies are now required to prepare CSR reports referring to the latest GRI Standards published by GRI.



Amendment

Promulgated future enhancement of disclosures of risk assessments and climate change: After referring to best practices in reporting of other Asian countries, in addition to the above requirements, companies shall include ESG-related risk assessments in their reports. Regarding the "Recommendations of the Task Force on Climate-related Financial Disclosures" from the Financial Stability Board (FSB), governance of climate-related risks and opportunities shall also be disclosed.

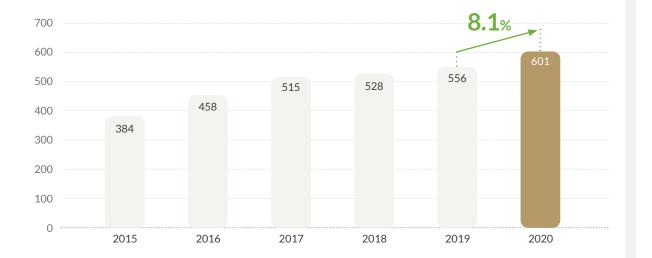
The FSC issued the "Corporate Governance 3.0 - Sustainable Development Roadmap" to enhance ESG information disclosure.

- -Renaming the reports: The report shall be renamed as "sustainability report" starting from 2022, and an English translation is required.
- -Expand the reporting scope: Companies with a paid-in capital between NT\$2 billion and NT\$5 billion are required to prepare and file their 2022 sustainability reports starting from 2023.
- -Expand the scope of third-party assurance: Listed- and OTC-companies of specific industries required to compile sustainability reports shall obtain third-party certifications starting from 2022.

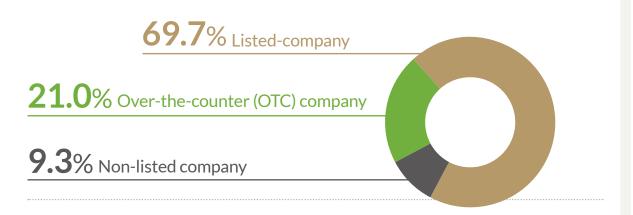
Sources: - TWSE Corporate Governance Center

- TWSE, "Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed Companies"
- TPEx, "Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TPEx Listed Companies"

Number of sustainability reports published over the years (Unit: Number of reports)



Percentage of companies/organizations publishing sustainability reports in Taiwan in 2020 (by listed-exchange type, sample: 601 entities)

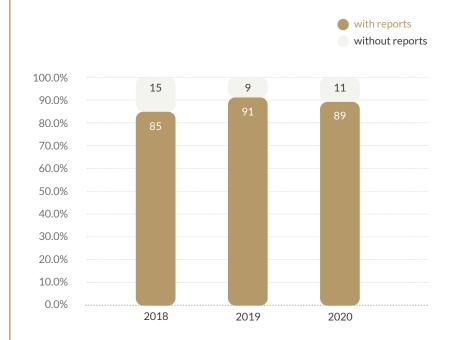


11 of the top 100 companies by revenue in Taiwan have not published sustainability reports, and five of the top 5% companies in the annual Corporate Governance Evaluation haven't done so either

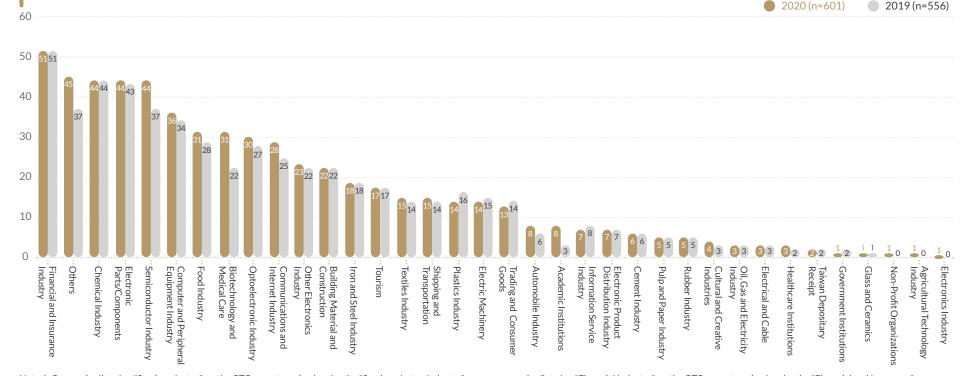
According to our research, 89% of the top 100 companies by revenue in Taiwan have prepared and published sustainability reports in 2020, a decrease of 2% comparing to the 91% in 2019. (Editor's note: The top 100 companies by revenue in 2020 were not the same as those in 2019. Six companies were replaced.)

Besides, only one company in the top 5% TWSE-listed companies (45 companies based on the "6th Corporate Governance Evaluation" released by TWSE and TPEx with the evaluation period being 2019) did not publish a 2020 sustainability report during this research period. Whereas among the top 5% OTC-companies (35 companies), 4 companies failed to publish their 2020 sustainability reports.

Number of top 100 companies by revenue in Taiwanwith sustainability reports over the years (Unit: %)



Comparison on number of sustainability reports published in Taiwan by industry between 2020 and 2019 (Unit: Number of companies/organizations)



Note 1: Companies listed as "Semiconductor" on the OTC are categorized under the "Semiconductor Industry" group; companies listed as "Financial Industry" on the OTC are categorized under the "Financial and Insurance" group; and the companies listed as "Chemical, Biotechnology and Medical Industry" on the OTC are categorized under the "Biotechnology and Medical Care" group.

Note 2: The research team examined 601 sustainability reports in 2020, an increase of 45 reports to the 556 reports in 2019.

Note 3: There were a total of 45 companies in the "others" category in 2020, of which 44 companies were classified as members of the services sector, and the remaining one was classified as the traditional sector of the four supersectors (technology, traditional, financial, and services).

Number of sustainability reports published in Taiwan by industry

The research team's analysis on sustainability reports published in Taiwan by industry in 2020 showed that the number of reports published increased slightly in most industries compared to 2019. Biotechnology and medical care (+9), semiconductors (+8), and others (+7) had significant increases in particular in the number of sustainability reports published. Moreover, these three industries had more "voluntary publications" and "first-time publications" than others. These results indicate that these industries have the foresight to think and act ahead regarding early adoption of regulation, expectation of international alignment, and understanding of the benefits of sustainability.

Top three industries by the increase in number of reports in 2020

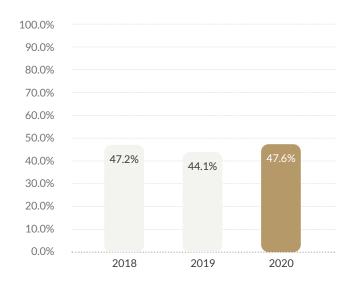
Industry category	Number of reports in 2019	Number of reports in 2020 (Annual Change)	Number of voluntary publications (Overall industry ranking)	Number of first-time publications (Overall industry ranking)
Biotechnology and medical care	22	31(+9)	29(3)	6(2)
Others	37	45 (+8)	36(1)	7(1)
Semiconductors	37	44 (+7)	23(4)	2(7)

47.6% of companies/organizations voluntarily compiled and published sustainability reports

Besides the 315 companies/organizations required to publish sustainability reports by law, there were 286 voluntary publications in 2020, which accounted for 47.6% of the total number of reports. The percentage of voluntary publications increased slightly by 3.5% in 2020 compared to last year. In recent years, driven by global sustainable development efforts and requests from institutional investors, several companies/ organizations have begun to publish annual sustainability reports to communicate with stakeholders in ESG aspects regularly.

At the same time, the FSC issued the "Corporate Governance 3.0 - Sustainable Development Roadmap" in 2020, announcing that it will extend the legal requirements and request listed- and OTC-companies with a paid-in capital between NT\$2 billion and NT\$5 billion to start preparing and filing sustainability reports from 2023. In response to the increasingly strict regulatory requirements imposed by the Taiwanese government and stakeholders' expectations (investors in particular), the number of companies that voluntarily publish sustainability reports is expected to increase continuously between 2021 and 2022.

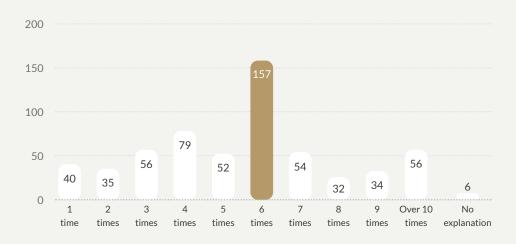
Percentage of voluntary publications of sustainability reports over the years



64.0% of the companies have published sustainability reports more than five times

Research data showed that the average number of sustainability report publications by each of the 601 Taiwanese companies/organizations as of 2020 was 5.7 times. Among them, 64.0% of companies/organizations have published more than five reports at the reporting frequency of once a year. The majority of companies/organizations (157) have published sustainability reports annually since 2015 and have recently published their 6th report this year.

Number of sustainability reports published by individual Taiwanese company/organization as of 2020 (Unit: Number of companies)



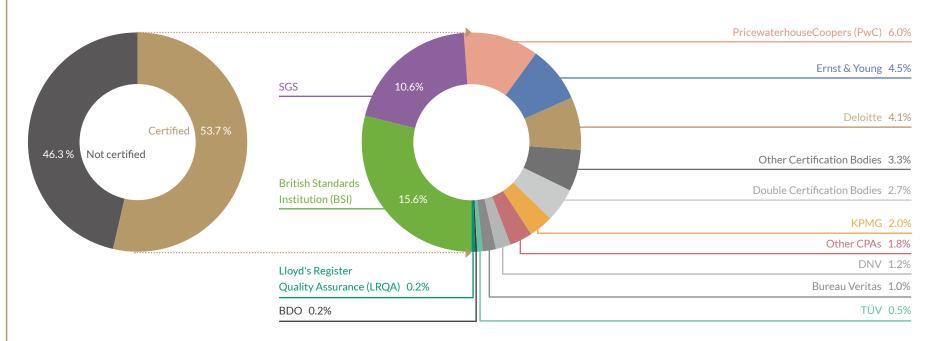
53.7% of the sustainability reports had third-party certifications/assurance

The research team found that 323 sustainability reports published by Taiwanese companies/ organizations in 2020 had obtained third-party certifications/assurance, accounted for 53.7% of the total number of reports. Compared with data from the previous year, the number of reports with third-party certification increased by 23, showing that Taiwanese companies/organizations have attached a certain degree of importance to sustainability reports' credibility.

Overview

Further analysis on the certification standards adopted by reports with third-party certifications found that 59.8% of companies/organizations used the AA1000 Assurance Standard (AA1000), 25.4% used the International Standard on Assurance Engagements 3000 (ISAE 3000), and 2.2% adopted both the AA1000 and ISAE 3000.

Percentages of Taiwanese sustainability reports certified by third-party service provider in 2020



95.2% of the sustainability reports adopted the GRI Standards, a steady increase in the past three years

The "GRI Standards" formally replaced the GRI G4 on July 1, 2018. The Taiwanese government also amended the "Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed and TPEx Listed Companies" in 2019. Specific listed- and OTC-companies are required to refer to the GRI Standards issued by the GRI, sector disclosures, and other applicable standards by industry characteristics to prepare sustainability reports.

According to our research, among the 601 companies/organizations that published sustainability reports in 2020, 572 companies/organizations (accounted for 95.2%) adopted the GRI Standards. The proportion has increased year by year in the past three years.

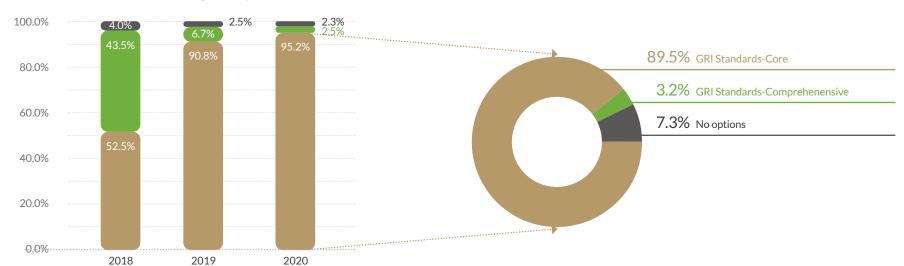
Among the 572 companies/organizations that adopted the "GRI Standards" framework, 89.5% of the companies/organizations adopted the "core option" while 3.2% adopted the "comprehensive option" for their ESG disclosures. The companies/organizations that adopted the "comprehensive option" were all listed- or OTC-companies, and the majority of them were in the technology industry. Regardless of whether the companies/organizations adopt the core or the comprehensive options of the "GRI Standards" as the basis for their ESG disclosures in the sustainability reports, it is important to ntoe that the key is not data quantity but the maintenance and improvement of disclosure quality.

Adoption of the GRI Standards by type of reporting in 2020

Frameworks adopted by Taiwanese companies/organizations for

sustainability reports over the years

- No / Other frameworks
- GRIG4/GRIG3.1/GRIG3



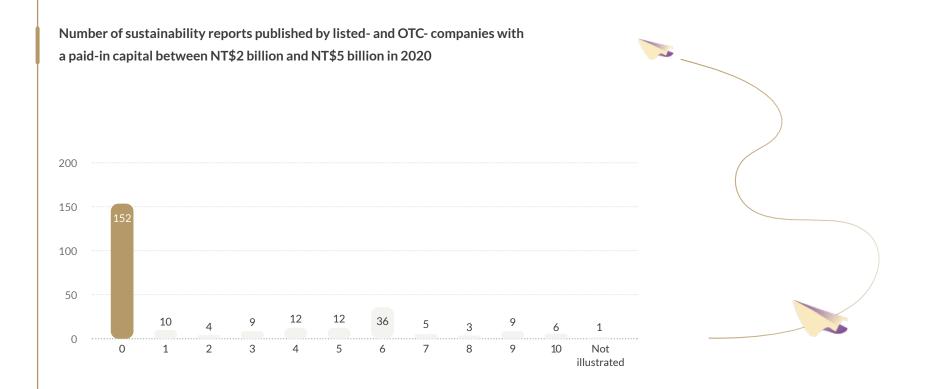
GRI Standards / GRI Standards + Integrated Report (IR)

Among companies with a paid-in capital between NT\$ 2 billion and NT\$ 5 billion, 29.0% of them prepared ahead of future regulations in 2020

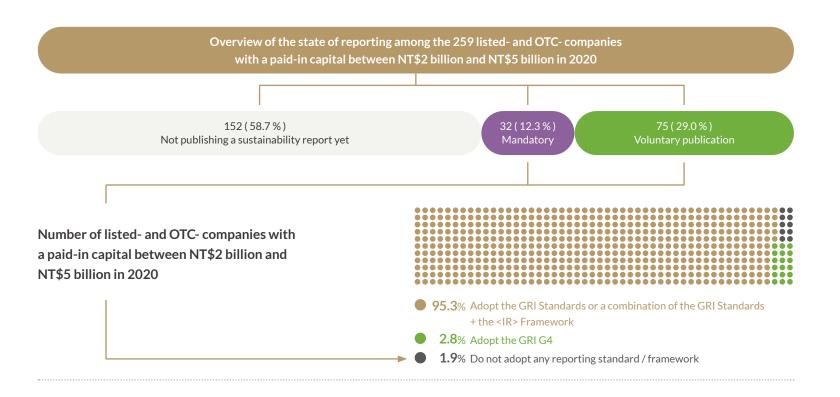
In August 2020, the FSC officially launched the "Corporate Governance 3.0 - Sustainable Development Roadmap" to promote Taiwanese companies' in-depth corporate governance and improve the ESG ecosystem. It demands TWSE and TPEx-listed counters with a paid-in capital exceeding NT\$2 billion to annually prepare and report their ESG sustainable actions of the previous year starting 2023. According to the statistics as of December 2020, 107 companies out of the 259 TWSE or TPEx-listed companies with a paid-in capital between NT\$2 billion and NT\$5 billion have published sustainability reports, an equivalent of 41.3%.

Overview 4

Excluding the 32 companies subject to mandatorily publication requirements due to their industry category from the 107 companies, 75 companies have voluntarily published sustainability reports, representing 29.0% of the companies within this capital range. This was a slight increase of 3.8% comparing to the 25.2% in the previous year. Simultaneously, the 152 companies in this capital range that have yet to publish reports are expected to gradually start preparing sustainability reports during the next two years to comply with the new law that the FSC will officially implement in 2023.

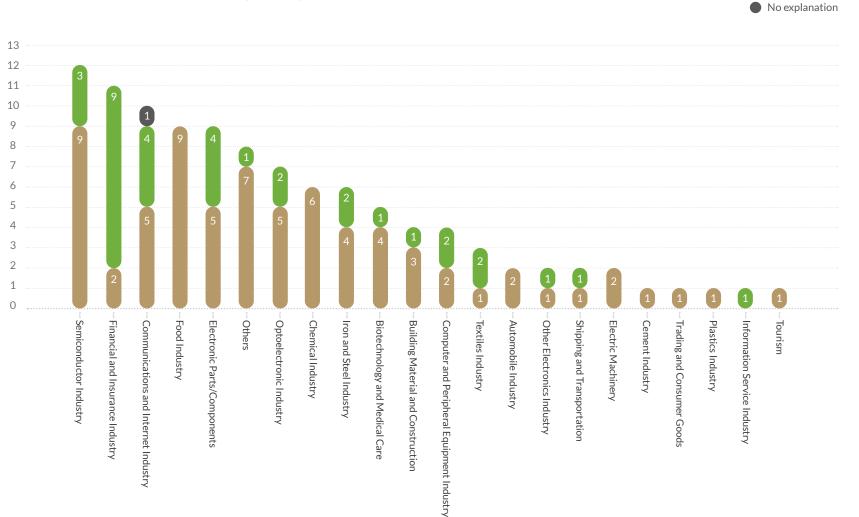


Overview of the state of reporting among the 259 listed- and OTC- companies with a paid-in capital between NT\$2 billion and NT\$5 billion in 2020



Five and aboveOne to four

Number of sustainability reports published by listed- and OTC-companies with a paid-in capital between NT\$2 billion and NT\$5 billion by industry (A total of 107 companies)



Note 1: The capital amount of listed- and OTC-companies was based on statistics released by the TWSE and TPEx as of December 2020.

Note 2: The average number of sustainability report publications by each of the 601 Taiwanese companies/organizations as of 2020 was 5.7 times.

Chapter II

Abstract

Trust – Displaying ESG to Gain Trust

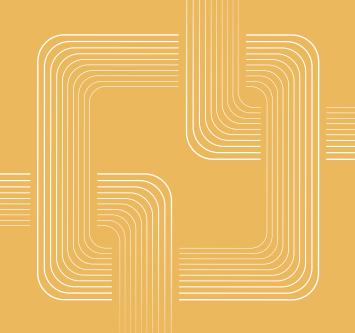
"Integrity" is the cultural spirit and virtue that the Chinese people has passed on for thousands of years. It is like what Confucius' saying, "I do not know how people without credibility can get along in the world. If a large carriage has no crossbar to yoke the oxen, or a small carriage has no crossbar to yoke the horses, it simply cannot go anywhere." Integrity is that key piece of device, like the crossbar which connects carriages with oxen or horses. Without the device, how would people use the carriages? How would it maintain balance? How would it move forward? "Integrity" is the basis for the survival of individuals, families, organizations, nations, countries, and the world.

Nowadays, companies/organizations rely on trust, support and resources from shareholders, investors, employees, consumers, customers as well as their supply chain to achieve sustainable growth. Our world is a global village build on trust and a community founded on trust. As non-financial disclosures in economic, environmental, and social aspects continue to receive attention and gain importance, how shall companies/organizations disclose information, conduct transparent communications and interactions with internal/external stakeholders, maintain business reputation, and pass on their

sustainable culture and brand value have become major tasks.

This chapter identifies indicators that are closely related to the integrity of companies/organizations for in-depth study and comparison, in hope to demonstrate how Taiwanese companies/organizations communicate, build and gain stakeholders' trust in their sustainability reports in 2020. These key indicators will become the core elements for business resilience built by companies/organizations over the next ten years.





Key takeaways

The average **EPS** and **ROE** of companies publishing sustainability reports have outperformed the market

for **SIX** consecutive years

62.7% of the companies/organizations had established

reported directly to the Board of Directors



The top three material issues in Taiwan in 2020

are "economic performance," "occupational health and safety," and "labor-management relations."



Double-fold growth:

388 Taiwanese companies/organizations reported on the SDGs and implemented

Displaying ESG-financial performance to build high trust with investors

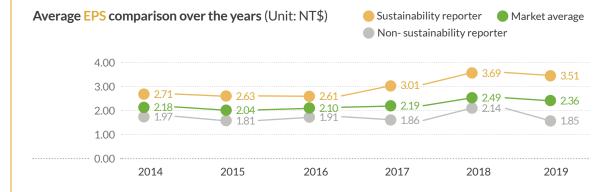
cus 1

The average EPS and ROE of companies publishing sustainability reports have outperformed the market for six consecutive years

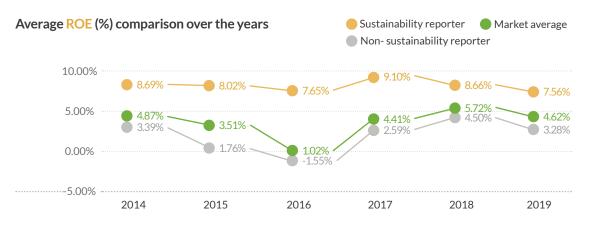
Profit is the main objective for most businesses and one of the key conditions for the long-term co-existence between business and society. Companies with sound financial performance tend to earn the trust of capital markets and society more easily. In practice, financial indicators such as Earnings per Share (EPS) and Return on Equity (ROE) are frequently used by the market to measure corporate profitability and as a key basis for investment decisions.

Based on CSRone's research, listed- and OTC-companies with sustainability reports have recorded better EPS and ROE on average than the market for six consecutive years. Moreover, these companies have enjoyed increasing competitive advantages. On the contrary, listed- and OTC-companies without sustainability reports have profitability slightly worse than the market for six consecutive years. For those companies that have published sustainability reports, the transparent disclosure of ESG information based on the GRI framework and annual improvement would seem to indicate a better position for those companies compared against the ones without sustainability reports.

EPS: The average EPS of companies publishing sustainability reports in Taiwan have outperformed the market for six consecutive years



ROE: The average ROE of companies publishing sustainability reports in Taiwan have outperformed the market for six consecutive years



Notes: The data of EPS and ROE are calculated based on the publicly disclosed information from the companies.

Proactive engagement within and outside the company to build consensus on materiality for sustainable governance

88.5% of Taiwanese sustainability reports disclosed materiality identification procedures

The "materiality analysis" is the focal point of sustainability reports and serves as the main basis for ESG information disclosure. Through a proper "materiality analysis," companies/ organizations collect and list material issues prioritized by its multiple stakeholders with profound impact on the environment, society, and the economy. The procedures help companies/organizations to not only identify potential industrial risks in advance, but also gain further understanding on the needs of ecosystem to create new business opportunities.

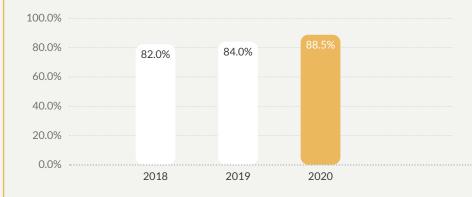
Focus

The research showed that 88.5% of the 601 companies/organizations with sustainability reports published in 2020 had disclosed their procedures for materiality identification. This percentage has been increasing for the past three years. Further analysis revealed that 75.4% of the 532 companies/organizations that had disclosed the materiality identification

procedures not only clearly disclosed material issues, but also marked the most relevant ones by sorting or drawing a materiality matrix as well as drawn up management approaches. This indicated that most Taiwanese companies/organizations have understood the use of "materiality analysis" and begun to pay more attention on the meticulousness and appropriateness of its output processes.

The research team also noticed that some Taiwanese companies/organizations have made good use of websites, emails, and social media to collect feedback from stakeholders more extensively. However, companies/organizations still need to improve their explanations regarding the "source of identification," "analysis process," and "management approach" to properly communicate with stakeholders.

Status of materiality identification procedures disclosed in sustainability reports in Taiwan over the years



CSR Encyclopedia

[Materiality analysis]: Materiality analysis is the process of assessing the importance and relevance of the double-sided impact of specific ESG topics (including energy-saving and carbon emissions reductions, climate change, political events, innovations, digitalization, etc.) on companies/organizations themselves or with various stakeholders.

CSRone exclusively developed a proprietary materiality analysis tool, M-Tool, aimed at assisting companies/organizations to complete their materiality analysis faster and to obtain the essence of sustainability reports.

The top three material issues in 2020 are "Economic performance," "Occupational health and safety," and "Labor-management relations."

This research found that the three material issues for the 601 Taiwanese companies/ organizations in 2020 are "Economic performance," "Occupational health and safety," and "Labor-management relations," and more than 50% of companies/ organizations were concerned with these issues. The ranking of the first two issues remained unchanged for three consecutive years, while the attention on "labormanagement relations" increased significantly and ranked third for the first time. Further cross-year analysis revealed that two issues made to the top ten list for the first time in the past four years, namely: "Compliance with economic regulations" at the 5th place and "Risk management" at the 10th place. In addition, the top three issues with the largest increase in the number of companies/organizations comparing to last year were: "Compliance with economic regulations," "Labor-management relations," and "Training and education."

Top ten material issues listed by Taiwanese companies/organizations over the years

Ranking	2018	2019	2020	Annual Change
1	Economic performance	Economic performance	Economic performance	-
2	Occupational health and safety	Occupational health and safety	Occupational health and safety	-
3	Marketing and labels/responsible products and services	Corporate governance	Labor-management relations	↑
4	Customer health & safety	Waste and effluents	Training and education	↑
5	Compliance with environmental regulations	Labor-management relations and recruitment	Compliance with economic regulations	↑
5			Compliance with environmental regulations	↑
6	Labor-management relations and recruitment	Compliance with environmental regulations	Corporate governance	\
7	Career development/training and education	Career development/training and education	Waste and effluents	\
8	Energy and resource management	Compliance with social regulations	Energy and resource management	↑
9	Corporate governance	Energy and resource management	Compliance with social regulations	↓
10	Emissions	Marketing and labels/responsible products and services	Risk management	↑

- Represents economic aspects
- Represents environmental aspects
- Represents social aspects

62.7% of the companies/organizations had established CSR committees and 41.6% of the CSR committees reported directly to the Board of Directors

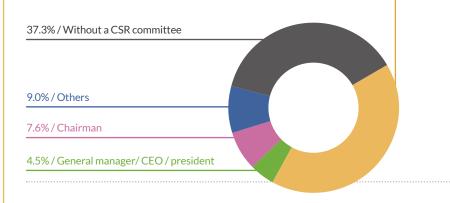
The research team found that 62.7% (377) out of 601 Taiwanese companies/organizations that published sustainability reports in 2020 disclosed their establishment of CSR committees. 41.6% of these CSR committees reported directly to the highest-level management, such as the Board of Directors while 7.6% report directly to the Chairman.

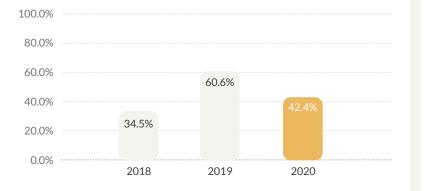
The study also found that only 42.4% (255) of companies/organizations clearly disclosed the departments or representatives participating in the CSR committees in their sustainability reports.

Highest-level management body that the CSR committee reported to as disclosed by Taiwanese companies in their 2020 sustainability reports

Disclosure of departments or representatives participating in CSR committees as disclosed by Taiwanese companies/ organizations in sustainability report over the year







Focus

77.7% of companies/organizations formulated ESG policies or management approaches, and only 9.3% of them linked CSR performance with remuneration

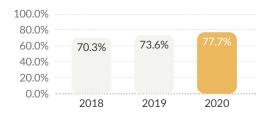
In the past, the discussion of Corporate Social Responsibility (CSR) was based on the traditional perspective of "social responsibility" and "social welfare." Companies were expected to contribute to the society and the environment in addition to making profits. However, as sustainability issues in various ESG fields continue to develop and flourish worldwide, "sustainability" now contains a more comprehensive meaning and value. It is an issue that all companies/organizations will and must face regardless of their operational size and regional differences.

The research team observed data over the years and found that many Taiwanese companies/organizations have gradually adopted sustainability to their management level, promoting sustainable governance from the inside out. This research

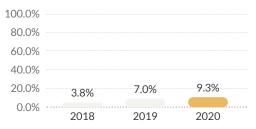
found that 77.7% of the companies/organizations have already formulated ESG policies or management approaches. This proportion has grown steadily year by year in the past three years.

However, while we welcomed the formulation of ESG policies or management approaches, only 9.3% of the 601 companies/ organizations linked ESG performance with remuneration in 2020. Management's awareness and promotion of sustainability has substantial influence on the driving force and internal culture which push the companies/organizations towards sustainable development. We look forward to more Taiwanese companies/organizations linking sustainable performance goals to the remuneration of employees, senior executives, directors and supervisors.

Disclosures of ESG-related policies or management approaches in Taiwanese sustainability reports over the years



Disclosures of the link between ESG performance and remuneration in Taiwanese sustainability reports over the years



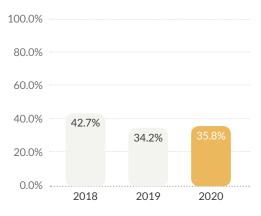
35.8% of companies/organizations disclosed negative issues, more efforts are required to achieve balanced reporting

In recent years, countries have been committed to advocate diversity public issues. As the internet enhances the transparency and timeliness of information, negative issues of companies/organizations have no place to hide. Therefore, if companies can make honest responses in due course, examine the problems precisely, and establish improvement targets when encountered with negative issues, they can turn risks into business opportunities. Companies that disclose negative issues honestly and illustrate handling methods in sustainability reports have always been able to establish a more positive corporate image and reputation, which raise their stakeholders' level of trust. According to research, 35.8% of the companies/organizations disclosed negative issues that

occurred during the year in their 2020 sustainability reports. However, the research team also found that companies/ organizations often addressed the negative issues lightly, without describing the underlying reason for the occurrence, let alone made mention of the improvement methods and their reviews on the improvement progress.

When responding to negative issues, the research team recommended companies/organizations to be transparent and honest in their communications, examine the reason for the occurrence, establish improvement targets as well as invest appropriate resources, and set measurement and review mechanisms.

Disclosures of negative issues in sustainability reports by Taiwanese companies/ organizations over the years



Aligning with international standards to build community trust: In response to the United Nations' Sustainable Development Goals (SDGs)

The United Nations (UN) released the "Transforming our world: the 2030 Agenda for Sustainable Development" to promote global sustainable development collective action at its 70th anniversary in 2015. It proposed 17 SDGs to become action plans worldwide, prompting governments and companies/ organizations of each country to unite and co-work toward common goals. Furthermore, the UN ambitioned to establishing and foresting strong and stable partnerships by 2030, with the ultimate objective of realizing the global sustainable vision of peace and justice, leaving no one behind.

The Global Exchange under Chief Executives for Corporate Purpose (CECP), which is composed of over 200 companies around the world, published its "Global Impact at Scale: 2020 Corporate Action on ESG Issues and Social Investments" for the first time in January 2021. The report contains ESG trends analyses on 168 companies with annual revenues up to US\$580 million to US\$129 billion in 23 countries and regions.

The survey found that as many as 81% of the companies integrated SDGs into their business strategies and daily-operations. It is evident that companies are aligning with international goals based on their core business values. They select the SDGs in the planning and implementation of ESG strategies, and actively work with stakeholders to build a community of trust.





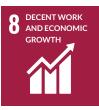
































Focus

The top three prioritized SDGs are "Decent Work and Economic Growth," "Responsible Consumption and Production," and "Quality Education."

To understand the state of Taiwanese companies/organizations' responses to the SDGs, the research team specifically examined the SDGs of top concern by them. The statistics showed that the top five SDGs in 2020 were "Goal 8 - Decent Work and Economic Growth," "Goal 12 - Responsible Consumption and Production," "Goal 4 - Quality Education," "Goal 13 - Climate Action," and "Goal 3 - Good Health and Well-being."

The cross-year analysis showed the top five SDGs most prioritized by Taiwanese companies/organizations have remained consistent for four consecutive years. Moreover, the order of the top three SDG "Goal 8 - Decent Work and Economic Growth," "Goal 12 - Responsible Consumption and Production," and "Goal 4 - Quality Education" has remained

the same since 2019, with more than 300 companies/ organizations had responded, showing that Taiwan had its own particular direction for SDGs. It is worth noting that " Goal 13 - Climate Action" fell out of Taiwan's top three list for the first time. It is a significant difference considering it had been on the list for the past four years.

Most prioritized SDGs by Taiwanese companies/organizations over the years

Ranking		2018		2019	20	220 (Percentage of 601 Taiwan companies/organizations)	ese	Annual Change
1	Goal 8	Decent Work and Economic Growth	Goal 8	Decent Work and Economic Growth	Goal 8	Decent Work and Economic Growth	(56.4%)	-
2	Goal 12	Responsible Consumption and Production	Goal 13	Climate Action	Goal 12	Responsible Consumption and Production	(52.1%)	↑
3	Goal 13	Climate Action	Goal 4	Quality Education	Goal 4	Quality Education	(50.2%)	-
4	Goal 3	Good Health and Well-being	Goal 12	Responsible Consumption and Production	Goal 13	Climate Action	(48.9%)	\downarrow
5	Goal 4	Quality Education	Goal 3	Good Health and Well-being	Goal 3	Good Health and Well-being	(48.3%)	-
6	Goal 7	Affordable and Clean Energy	Goal 7	Affordable and Clean Energy	Goal 5	Gender Equality	(39.9%)	↑
7	Goal 5	Gender Equality	Goal 5	Gender Equality	Goal 16	Peace, Justice and Strong Institutions	(38.1%)	↑
8	Goal 16	Peace, Justice and Strong Institutions	Goal 9	Industry, Innovation and Infrastructure	Goal 7	Affordable and Clean Energy	(37.1%)	\
9	Goal 9	Industry, Innovation and Infrastructure	Goal 16	Peace, Justice and Strong Institutions	Goal 9	Industry, Innovation and Infrastructure	(34.3%)	\
10	Goal 6	Clean Water and Sanitation	Goal 6	Clean Water and Sanitation	Goal 6	Clean Water and Sanitation	(33.8%)	-
11	Goal 11	Sustainable Cities and Communities	Goal 11	Sustainable Cities and Communities	Goal 17	Partnerships for the Goals	(30.3%)	↑
12	Goal 17	Partnerships for the Goals	Goal 1	No Poverty	Goal 11	Sustainable Cities and Communities	(29.3%)	\
13	Goal 10	Reduced Inequalities	Goal 17	Partnerships for the Goals	Goal 1	No Poverty	(27.5%)	↓
14	Goal 1	No Poverty	Goal 10	Reduced Inequalities	Goal 10	Reduced Inequalities	(26.5%)	-
15	Goal 2	Zero Hunger	Goal 2	Zero Hunger	Goal 2	Zero Hunger	(19.8%)	-
16	Goal 15	Life on Land	Goal 15	Life on Land	Goal 15	Life on Land	(17.3%)	-
17	Goal 14	Life Below Water	Goal 14	Life Below Water	Goal 14	Life Below Water	(16.1%)	-

Double-fold growth: 388 Taiwanese companies/organizations reported on the SDGs and implemented 4,134 projects in total

According to the research this year, 64.6% (388) out of 601 Taiwanese companies/organizations that published sustainability reports in 2020 responded to the SDGs. Further analysis revealed that these companies/organizations proposed 4,134 projects to implement SDG solutions. The increase doubled comparing to the 2,107 projects in 2019.

Among these projects, the top five SDGs-related projects implemented by Taiwan companies/organizations were "Implement educational trainings for employees," "Employee health management," "Promote public education plans," "Implement energy saving and carbon reduction measures," and "Promote waste sorting and reuse."

In view of the fact that the SDGs have become a common sustainability language worldwide and there are even international companies that issue special reports on SDGs, the research team targeted the top five SDGs of top concern for Taiwanese companies/organizations for four consecutive years this year, and identified the top three projects for each one of them, providing an innovative way of assessment.

The top five SDGs-related projects implemented by Taiwan companies in 2020



1. Implement educational trainings for employees



2. Employee health management



Promote public education plans



4. Implement energy saving and carbon reduction measures



5. Promote waste sorting and reuse

Top three projects for the top five SDGs of concern for Taiwanese companies/organizations in 2020

	Top 5 SDGs	No. 1 most implemented project	No. 2 most implemented project	No. 3 most implemented project
8 DECENTWORK AND ECONOMIC GROWTH	Goal 8 Decent work and economic growth	Build friendly working environments	Implement occupational safety and health management	Improve operational performance
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	Goal 12 Responsible consumption and production	Promote waste sorting and reuse	Introduce relevant management system	Green supply chain management
4 QUALITY EDUCATION	Goal 4 Quality education	Implement educational trainings for employees	Promote public education plans (rural education, after school program, and fellowships & scholarships, etc.)	Promote industrial-academic collaboration
13 CLIMATE ACTION	Goal 13 Climate action	Implement energy saving and carbon reduction measures	Formulate adaptive plans for climate changes	Introduce relevant management system
3 GOOD HEALTH AND WELL-BEING	Goal 3 Good health and well-being	Employee health management (health check, on-site clinic, etc.)	Promote health-related activities	Implement occupational safety and health management

Background

Resilience - Strengthening ESG to Face Evolving Risks

The severe acute respiratory syndrome coronavirus 2 (hereinafter referred to as "COVID-19") has spread since the end of 2019. The COVID-19 crisis not only has devastated the global economy, but people around the world have also come to realize that "uncertainty" has become part of the "new normal" of future human societies. Survival in the mindset of uncertainty is no stranger to the Chinese people and their history, which dates back to ancient times. The I Ching (The Book of Change, 《易經》) advocates that the patterns of the universe and the laws of life have always been in a process of constant change and evolutions. Moreover, there is an old

Chinese proverb that says "when a thing reaches its limit it turns around into its opposite direction"; thus, people must stay on guard and be prepared for the unexpected. In the "Commentary on I Ching II," people are reminded to keep three things in mind, "be aware of possible dangers at the time of peace; be aware of possible ruins in the state of existence; and be aware of possible disorders when governance is in place." By complying with these rules, people and countries can persevere.

"The Great Reset" was set as the theme of the World Economic Forum (WEF) 's recently held Annual Meeting in January 2021 with the hope that in the post-pandemic era, the world will review the destructive nature of our current economic development models and strengthen our resilience while rebuilding trust with the communities to sustain amidst uncertainty. This chapter aims to present how Taiwanese companies are strengthening their corporate resilience under the risks and impact of the global pandemic and climate change.

The top three risk in Taiwan: climate-related risks, financial risks, and cybersecurity risks



Only 3.2% of the companies/organizations referred to SASB in their sustainability reports in response to emerging investor requirements on ESG data



53.4% of companies/organizations did not disclose information on the impacts of the COVID-19 in their 2020 sustainability reports



Key takeaways

78.2% of companies/organizations did not disclose information on their "Business Continuity Plans"



67.6% of companies/organizations disclosed information on climate-related risks and opportunities, exceeding 50% for the first time in the last three years

Facing unpredictable global risks, companies are actively strengthening their resilience

The top three risks in Taiwan: climate-related risks, financial risks, and cybersecurity risks

The research team found that the top five risks listed among the 601 Taiwanese companies/organizations in 2020 are: "climate-related risks", "financial risks", "cybersecurity risks", "operating risks", and "regulatory risks" that descending order. Among these risks, it is noteworthy that "climate-related risks" have climbed every year in the past three years, and this year was listed as the top risk of top concern. Besides that, "operating risks" have also risen to fourth place compared to 2019's ranking, which like supply chain disruptions affected by pandemic. As the FSC is actively promoting its newest "Green Finance Action Plan 2.0".

"Corporate Governance 3.0 - Sustainable Development Roadmap", and "Capital Market Roadmap", and the EPA is revising its "Greenhouse Gas Reduction and Management Act" and is planning to turn it into the "Climate Change Response Act", as well as to introduce stricter regulations on electricity consumption, more comprehensive green energy certifications and a trading system, hence "regulatory risks" have become a key focus in this year.

Meanwhile, the research team referred to the WEF's latest data on how global risk experts view the risks faced by

Taiwan to provide a more comprehensive perspective for readers interested in evaluating the risk landscape. The data in the last column of the table (from left to right) comes from the report, "Regional Risks of Doing Business 2020" which is a WEF's survey based on 11,860 responses from risk experts in 126 countries/regions. The data shows that from the international stakeholders' perspective, the top five risks in Taiwan are: "interstate-conflict", "spread of infectious diseases", "extreme weather events", "natural catastrophes", and "energy price shock" in that descending order.

Risk outlook comparison between Taiwanese companies/ organizations and WEF's survey

lanking	2018	2019	2020	Annual Change	Risks of Doing Business in Taiwan 2020 by the WEF
1	Financial risks	Financial risks	Climate-related risks	↑	Inter-state conflict
2	Cybersecurity risks	Cybersecurity risks	Financial risks	↓	The spread of infectious diseases
3	Operating risks	Market risks	Cybersecurity risks	↓	Extreme weather events
4	Regulatory risks	Climate-related risks	Operating risks	†	Natural catastrophes
5	Market risks	Foreign exchange risk	Regulatory risks	†	Energy price shock
6	Climate-related risks	Interest rate risks	Market risks	↓	Asset bubble
7	Occupational health and safety risks	Credit risks	Foreign exchange risk	↓	Failure of regional and global governance
8	Foreign exchange risk	Human resources/human rights risks	Human resources risks	-	Cyber attacks
9	Credit risks	Occupational health and safety risks	Credit risks	↓	Human-made environmental catastrop
10	Human resources/human rights risks	Liquidity risks	Interest rate risks	↓	Unemployment or underemployment

- Environmental risks
- Social risks
- Technological risks
- Geopolitical risks

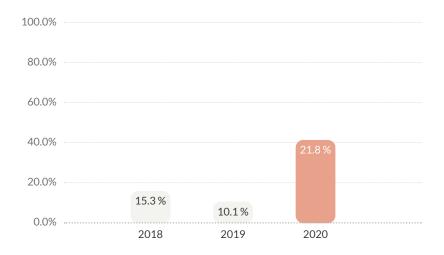
78.2% of companies/organizations did not disclose information on their "Business

Continuity Plans"

In recent years, climate-related risks and the COVID-19 have pushed companies/ organizations to pay more attention or initiate the formation of a "Business Continuity Plan" (BCP) to prevent and mitigate the potential impact of hazards on their operations. Research data showed that only 21.8% of the 601 Taiwanese companies/organizations disclosed information on their BCPs in 2020, representing an increase of 11.7% compared to 2019. The research team interpreted the increase in 2020 to be closely tied to the outbreak of COVID-19.

However, there was still 78.2% of companies/organizations that did not disclose information on their BCPs, which illustrated the fact that as natural and man-made disasters occur frequently, these companies/organizations could be vulnerable to deliver timely responses or effective adjustments and in serious instances, might be at risk of business interruption.

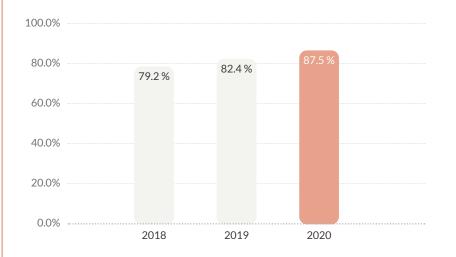
Comparison of disclosures on Business Continuity Plans in sustainability reports



87.5% of companies/organizations disclosed information on their risk management process

Companies/organizations constantly face all sorts of risks. Therefore, the first step is to establish an effective risk management mechanism to develop corporate resilience capabilities for overcoming risks. Research data showed 87.5% of the 601 Taiwanese reporting companies/organizations disclosed information on their risk management mechanisms or formulated risk management procedures in 2020. The percentage increased 5.1% comparing to 2019.

Comparison of disclosures on risk management systems in sustainability reports



Companies strived for survival despite the threats of COVID-19

53.4% of companies/organizations did not disclose information on the impacts of the COVID-19 in their 2020 sustainability reports

The outbreak of COVID-19 has highlighted the close interconnections of the present world and the fragility of operating under a linear economic model, exposing the lack of organizational resilience. Confronted by the risks of possible outbreaks of infectious diseases in the future, how companies/organizations shall respond and act quickly to reduce damages and to strengthen stakeholder communications have become a major component of effective risk management.

The COVID-19 crisis has shown no sign of slowing down since its outbreak in early 2020. However, research data indicates that 53.4% of the 601 Taiwanese reporting companies/organizations did not disclose information regarding the COVID-19 in their 2020 sustainability reports. Among the 46.6% of companies/organizations that did disclosed this information, most of them simply mentioned the pandemic without disclosing specific strategies or countermeasures.

Further analysis indicates that specific countermeasures disclosed in the sustainability reports included: "measuring the impact on supply chain", "building a BCP", "implementing remote working", "developing contingency measures", "setting up a task force" and "taking care of employee health".

Percentage of disclosures regarding the COVID-19 in the sustainability reports of Taiwanese companies/organizations



97.3% of the companies/ organizations implemented employee health care measures and programs

Among the ESG topics, social issues are often ignored by companies/organizations because they tend to be more difficult to quantify. However, the COVID-19 outbreak has turned around in companies/organizations perceptions on ESG and completely rewritten the "prioritization approach" of ESG issues.

Companies/organizations were forced to reevaluate the importance of employees' health and its close relation with business performance. According to the results of research, up to 97.3% of companies/organizations have implemented employee health care measures or assistance programs, and the proportion of disclosures on these issues shows an upward trend in the past three years.

Comparison of disclosures on employee health care measures or assistance program



95.2% of the companies/organizations disclosed information on their "supplier management policies", whereas 40.1% did not disclose information on "supplier-related risk management and assessments"

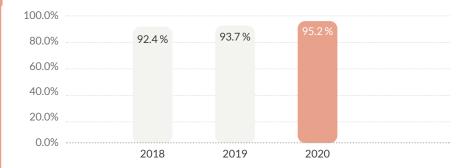
A study from CDP suggests that the amount of carbon emission is 5.5 times in global supply chains compared to those of a company's direct emissions. Whether a company/organization can initiate a due supply chain management mechanism would be the key to the success of global carbon emission reduction efforts.

According to the data, among 601 reporting companies/organizations in 2020, 95.2% of them disclosed information on their "supplier management policies", and 58.9% of them disclosed on their "ESG actions guidance for suppliers". However, 40.1% of them did not disclose

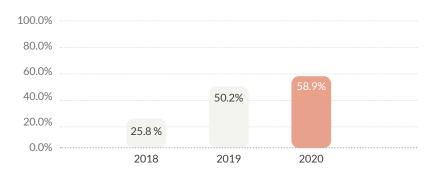
information on their "supplier-related risk management and assessments" and only 13.1% of them disclosed information on their "collaboration with suppliers in terms of sustainability".

Looking at the trends in the past three years, the proportion of disclosures of the four above-mentioned supply chain management measures has increased year by year. However, in an operating environment full of risks and threats, companies/organizations shall proactively continue to strengthen their efforts on the identification, tracking, assistance, and management of sustainability-related risks in the supply chain to build a truly resilient value chain.

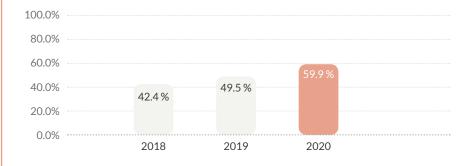
Comparison of disclosures on supplier management policies



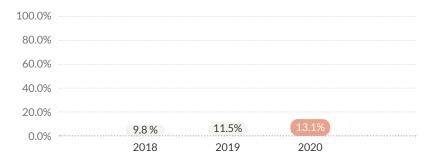
Comparison of disclosures on ESG actions guidances for suppliers



Comparison of disclosures on supplier-related risk management and assessments



Comparison of disclosures on collaboration with suppliers in terms of sustainability



Appendix

Companies must make early preparation for sustainability reporting regulations and response to investors' expectations and requirements

Only 3.2% of the companies referred to SASB in their sustainability reports in response to emerging

investor requirements on ESG data

With the rapid development of sustainable investments in the market in recent years, investors are no longer satisfied with limited accessible information such as annual reports and financial reports. Instead. They have started to focus more on diverse and comprehensive disclosures. At the same time, the FSC has officially released its newest edition of the "Corporate Governance 3.0 - Sustainable Development Roadmap" in August 2020 to strengthen ESG disclosures among TWSE-Listed and TPEx-listed companies, urging companies to enhance their disclosure quality on sustainability topics. The SASB Standards is one of the international sustainability reporting standards that

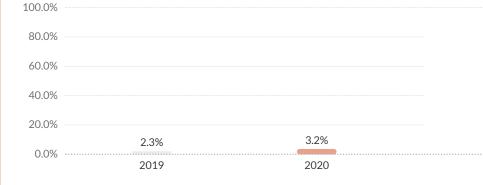
the FSC has clearly stated an intention of using as a reference.

According to the survey, only 3.2% of the 601 Taiwanese companies/organizations (19 companies) are currently disclosing information on their adoption of the SASB Standards as a reference in their 2020 sustainability reports. This figure was a slight increase of 6 companies compared to the 13 companies in 2019.

The research team also found that among the 19 companies that used the SASB Standard as a reference, the financial

and insurance industry accounted for the largest proportion with 26.3% (5 companies). Besides, 6 of the 19 companies had adopted the SASB Standards for two consecutive years. Although the proportion of companies using the SASB Standards is low at present, facing the evolving international financial institutions needs and international regulatory requirements, companies must advance progress on understanding the comparisons and disclosures of the SASB Standards to strengthen their resilience.

Percentage of sustainability reports with references to the SASB Standards



For details in responses to the TCFD recommendations, please refer to <u>Chapter 5 Current Status of TCFD in Taiwan</u> and Asia-Pacific

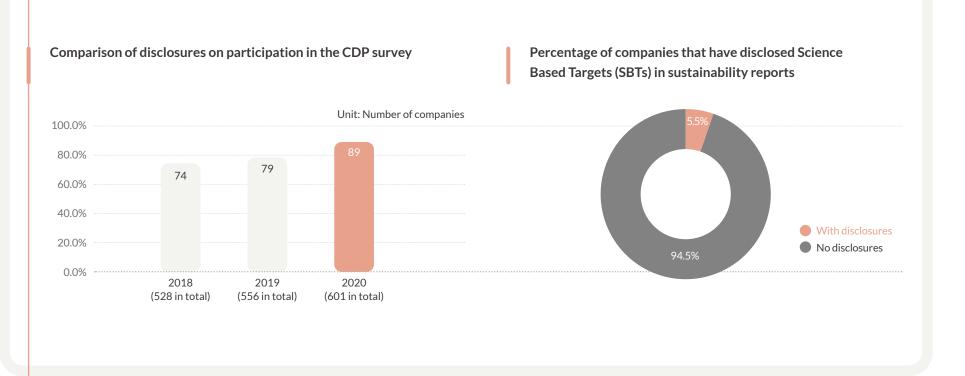
14.8% of companies disclosed information on their responses to CDP

To mitigate the severity of global climate change in our natural environment and reduce our impact of carbon emissions, more and more international financial institutions and suppliers have started to demand companies to disclose their carbon emissions data and emission reduction targets.

The CDP official website shows that 239 companies in Taiwan were invited to provide responses in 2020 and 65 companies were ultimately assessed with published results.

According to the research, among the 601 sustainability reports in 2020, 14.8% (89) of companies disclosed their participation in the CDP survey. As for disclosing commitments on formulating carbon emission targets following Science Based Target (SBT) methods, the percentage was 5.5%(33) of companies.

(Editor's note: As of February 2021, there were 14 Taiwanese companies which had made relevant public commitments on the SBTi official website.)



Facing the ongoing issue-climate crisis, companies shall proceed cautiously to building resilience

For companies today, climate change mitigation is no longer a "social responsibility" but an imminent "risk". In January 2021, the WEF published its 16th edition of the "Global Risks Report 2021". In the report, four out of the top five risks in terms of likelihood were related to environmental-related risks (including extreme weather,

climate action failure, human-led environmental damage, and biodiversity loss). In terms of "impact," three out of the top five risks were related to environmental-related risks (including climate action failure, biodiversity loss, and natural resource crises).

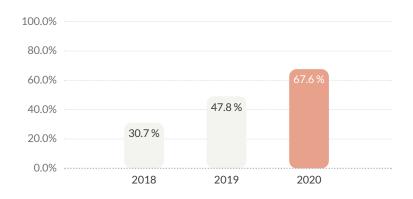
ocus

67.6% of companies/organizations disclosed information on climate-related risks and opportunities, exceeding 50% for the first time in the last three years

On January 2, 2020, the FSC amended and implemented a new set of regulations, requiring specific TWEX- and TPEx-listed companies to disclose information on their governance on climate-related risks and opportunities, the actual and potential impacts related to climate change, the procedures used to identify, evaluate, and manage climate-related risks, as well as the indicators and targets for assessment and management, in essence, the recommendations of the TCFD.

The study found that there were already as many as 67.6% of companies/organizations (406) that had disclosed climate-related risks and opportunities in their sustainability reports in 2020. This was the first time that more than half of the companies/organizations have disclosed this risk for the last three years, showing that the impact of Taiwanese government's laws and regulations on climate actions are an important driving force for companies/organizations' sustainability.

Comparison of disclosures on climate-related risks and opportunities

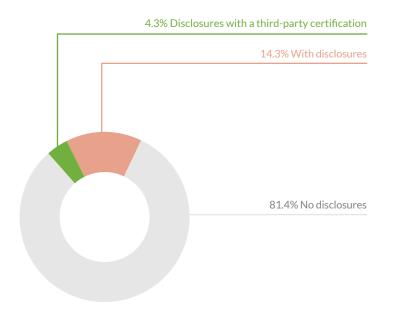


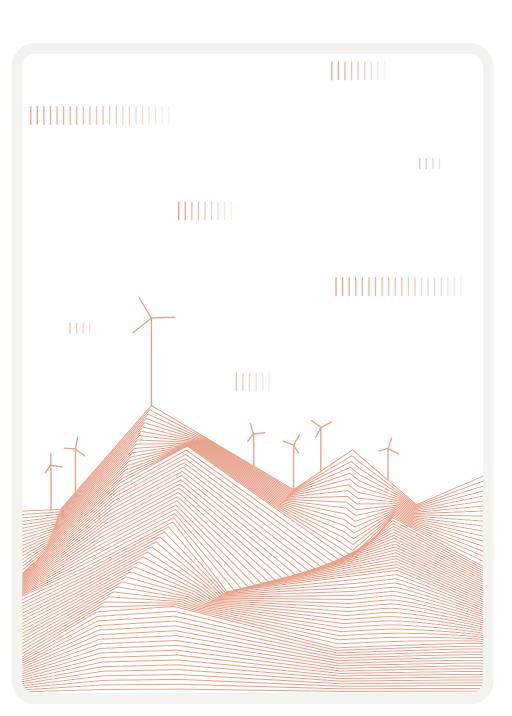
81.4% of companies/organizations did not disclose information on their Carbon Footprint Verification (CFV)

The signing of the Paris Agreement in 2015 emphasized the global targets of limiting global warming to well below 2°C by the end of the century, implying that carbon emissions should be reduced by 50% by 2030 and having zero emissions by 2050. To achieve these ambitious carbon reduction targets, countries have started to announce their carbon neutrality targets. For example, in 2019, the EU has officially declared to be climate neutral by 2050. As for the Asia-Pacific region, in September 2020, China announced that it would achieve carbon neutrality by 2060. Soon afterwards, in October 2020 Japan and South Korea also declared to be carbon neutral by 2050.

To accelerate the pace of progress in greenhouse gas emissions reductions and address the impact of climate change, Environmental Protection Administration(EPA) in Taiwan is planning on amending the name of its "Greenhouse Gas Reduction and Management Act" to the "Climate Change Response Act". EPA's goal is to clarify accountability and propose more aggressive policy tools in handling the imminent climate crisis. To assess the progress on the carbon reduction goal, the Carbon Footprint Verification (CFV) method can be adopted to effectively measure and manage the carbon footprint, as well as provide stakeholders with more reliable greenhouse gas emission information. The research results found that 81.4%(489) of the 601 Taiwanese companies/ organizations are yet to disclose information on their carbon footprint verification. Only 4.3% (26) of companies/organizations disclosed information on their carbon footprint verifications as well as third-party assurance certifications.

Disclosures on Carbon Footprint Verification (CFV) in 2020





34.3% of companies/organizations disclosed information on their state of green or

renewable energy consumption

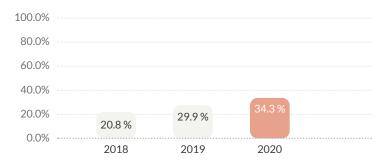
Focus 3

On January 1, 2021, Taiwan's Ministry of Economic Affairs implemented "Regulations Governing the Chartered Capacity on Electricity Consumption Agreements Which the Users Shall Install Renewable Energy Facilities for Exceeding a Certain Capacity". The regulation provided four actions for users to follow, including installing renewable energy power facilities, purchasing renewable energy certificates, installing energy storage facilities, and paying for surcharges.

For companies which have yet being regulated, many of them are export-oriented and internationally renowned OEMs. If they do not use green energy in the future, they may face increasing levels of pressure in terms of order reductions from their clients. Therefore, Taiwanese companies shall make early preparations and draft plans on green power procurement to maintain their competitiveness worldwide.

This study found that 34.3% (206) of the 601 Taiwanese companies/organizations disclosed information on their use of renewable or green energy in 2020. Although the proportion has gradually increased in the past three years, there is still room for significant improvement and adoption of green or renewable energy.

Comparison of disclosures on renewable or green energy consumption



Taiwanese companies scored a low average of 4.4 points in climaterelated management disclosures, while the financial sector made the most progress in 2020

To have a more comprehensive understanding and benchmarking on Taiwanese companies' level of management involvement over climaterelated risks, the research team has established four core aspects, including "management policies and vision", "product life cycle (PLC)", "climate actions", and "monitoring and management processes", with 16 corresponding indicators (with a maximum total score of 20 points) to assess the climate-related performance of Taiwanese corporates (include technology sector, traditional sector, financial sector, and the services sector).

Among the 601 companies/organizations which published a sustainability report in 2020, the research team removed 13 organizations including schools, hospitals, government agencies, and non-profit organizations, and categorized the remaining 588 companies into the four sectors to facilitate overall analysis and observation. The scoring on the level of management involvement over climate-related issues is described in the following table. Besides, to present the results more clearly, the research team converted the points of companies (with a maximum of 20 points) into a 1-10 scale.

The results showed that among the 588 companies in Taiwan had an average score of 4.4 points (out of 10 points) for their climaterelated management disclosures in 2020. It still required substantial improvement. When scrutinizing the data by sector, the financial sector made the most progress in 2020 with a score of 4.7 points, surpassing the technology sector (4.6 points). The traditional sector had an average performance (4.3 points) while the service sector shown small growth (3.9 points), and the technology sector had a downward trend.

Evaluation on the level of management for climate change adopted by Taiwanese companies (out of 10 points)

Sector Category	Industry average	Technology sector	Traditional sector	Financial sector	Services sector
Level of management involvement in 2019	4.4 points (549 companies)	4.8 points (203 companies)	4.3 points (208 companies)	4.2 points (53 companies)	3.8 points (85 companies)
Level of management involvement in 2020	4.4 points (588 companies)	4.6 points ▼ (221 companies)	4.3 points (221 companies)	4.7 points (53 companies)	3.9 points (94 companies)

Description of the scoring system for the level of management involvement of Taiwanese companies in terms of climate-related issues

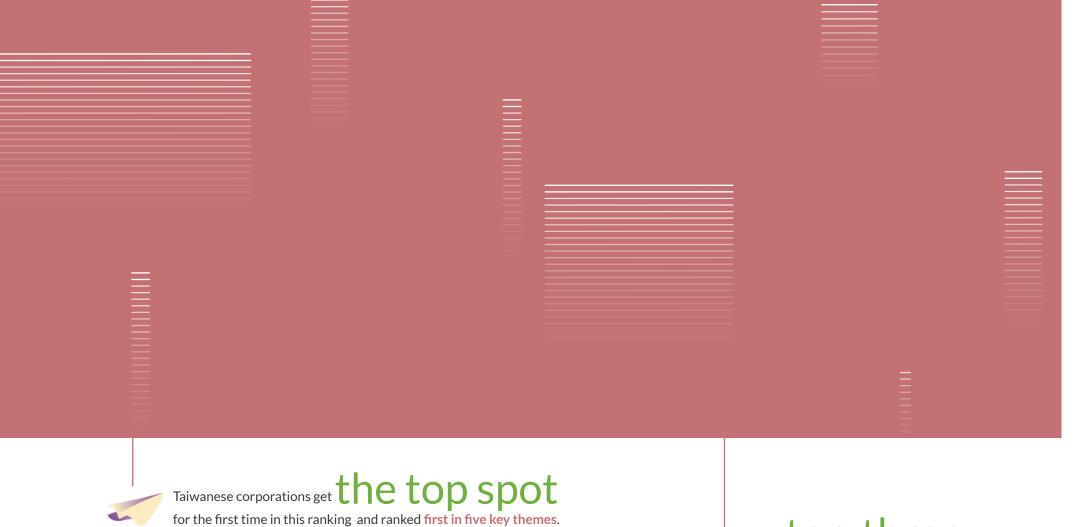
Scoring method	Aspect	Indicator				
	Management	Discloses any management policies				
	policies and vision	Identifies any risks and/or opportunities				
		Discloses "green design" practices				
		Discloses "green purchase" practices				
		Discloses "green production" practices				
No disclosure: 0 points	Product life cycle	Discloses "green packaging" practices				
With disclosures: 1 point	(PLC)	Discloses "green transportation" practices				
		Discloses "green marketing" practices				
		Discloses "green products and services" practices				
		Discloses "green recycling" practices				
	Climate actions	Uses renewable energy or green electricity				
	Climate actions	Discloses actual energy-saving and carbon emission reduction				
No disclosure: 0 points		Discloses any environment management system				
With disclosures: 1 point	Monitoring and	Discloses any energy management system				
Disclosures with a third-party	management processes	Discloses any greenhouse gases reviewing conditions				
certification: 2 points	F	Discloses any carbon footprint reviewing conditions				

S-thermometer Analysis



The **top three** Asia-Pacific economies in terms of overall S-thermometer scores are: **Taiwan**, **Australia**, and **South Korea**; Malaysia showed the most remarkable improvement.

The S-thermometer scores of 601 companies/ organizations analyzed improved across the board. The theme of "corporate governance" received the most attention, and the financial sector showed the highest level of involvement.





The top three themes are concerned mainly by the APAC companies are:

"energy-saving and carbon emissions reductions",

"social investment", and "waste management".

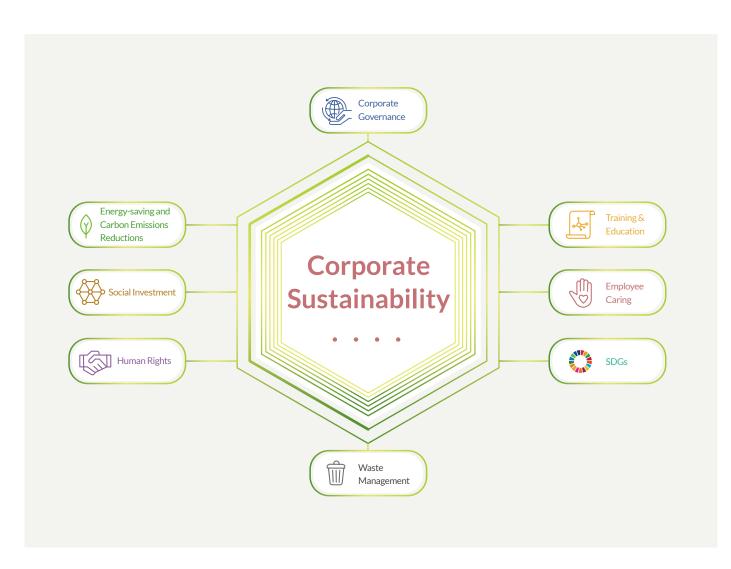


Singapore, Japan, and Malaysia exhibited rapid growth in terms of

"waste management".

Appendix

CSRone initiated the "S-thermometer analysis" to provide a comparison of corporate sustainability actions and management involvement level



Corporate ESG is broad in scope. In 2020, the research team analyzed as many as 877 indicators for each company/organization. In 2018, the research team launched the "S-thermometer analysis" to enable stakeholders to quickly grasp the state of sustainability actions and management involvement level of companies and to facilitate benchmarking.

The analysis took into account reporting standards and guidelines from GRI, ISO, along with specificities of the Asia Pacific and Taiwanese leading companies, and from which the research team selected eight key sustainability themes of focus for the region: "corporate governance," "employee caring," "energy-savings and carbon emissions reductions," "human rights," "SDGs," "social investment," "training & education" and "waste management." We adopted the concept and analogy of a "thermometer" for performance measurement. Based on the levels of management involvement exhibited by companies/organizations on each of the eight specific themes, we assigned different scores according to the sustainability report's level of disclosures.

Apper

The analysis has an aggregate scoring system using a 1-5 scale. 5 degrees represented the highest score while 0 degree was the lowest score.

The labels and scoring scale are as follows:

"No mentions" ------(0 degree)

"Mention in the report" ------(1 degree)

"Specific project/initiative" -----(2 degrees)

"Track record of performance" ---(3 degrees)

"Specific targets/goals" ------(4 degrees)

"Plans for improvement" ------(5 degrees)

The higher the scores, the more comprehensive and deeper the level of management involvement of the company/organization are regarding the specific themes. The scores of each "S-thermometer analysis" were subject to cross-verification to ensure the accuracy of results.

Rating scales and description of the S-thermometer analysis



Overview of Taiwan's S-thermometer scores

Taiwan's scores in S-thermometer analysis improved across the board. The theme of "corporate governance" received the most attention.

The research team conducted the S-thermometer analysis on 601 companies/organizations in Taiwan. Research results showed that Taiwanese companies/organizations' scores increased across the board in the eight themes in 2020. These results indicate that Taiwanese companies/organizations have comprehensively enhanced their sustainability management practices.

Taiwanese companies/organizations maintained similar rankings as previous for their management involvement level across the eight key themes. The only exception was that "corporate governance" surpassed "energy-saving and carbon emissions reductions" for the first time, becoming the theme with the highest management involvement level were of most attention for Taiwanese companies. The uptake in awareness towards corporate governance correlates with the increased level of attention and requirements by Taiwanese regulatory authorities in recent years.

Besides, Taiwanese companies'/organizations' management involvement level in the following five themes: "corporate governance," "energy-saving and carbon emissions reductions,"

"training & education," "employee caring," and "social investment" exceeded 3 degrees this year, proving emerging universal track records of performance across these themes.

The research team also observed that this year's themes with the highest increase in average scores for Taiwanese companies/organizations are "human rights" (+0.16) and "social investment" (+0.14). "Employee caring" followed next by surpassing the "3 degrees" threshold for the first time, indicating that most companies have moved onwards from just briefing mentions in the report and disclosing specific projects/initiatives to disclosing proven tracks record of "employee caring" performance.

The "SDGs" had the lowest average score for three consecutive years. Although its score has gradually increased year by year, the overall result had not exceeded the 2 degrees threshold. This shows that most Taiwanese companies/organizations, on average, mention the SDGs in their reports without disclosing specific projects/initiatives nor track record of performance attached to the Global Goals.

Average
S-thermometer
scores of
Taiwanese
companies for
the past three
years

Ranking	2018 (528 compani	ies)	2019 (556	companies	5)	2020 (601 companies)			
	Key Theme	Scores	Key Theme	Scores	Annual Change	Key Theme	Scores	Annual Change	
1	Energy-saving and carbon emissions reductions	3.30	Energy-saving and carbon emissions reductions	3.16	-0.14	Corporate governance	3.23	+0.09	
2	Corporate governance	3.30	Corporate governance	3.14	-0.16	Energy-saving and carbon emissions reductions	3.17	+0.01	
3	Training & education	3.10	Training & education	3.03	-0.07	Training & education	3.13	+0.10	
4	Social investment	3.00	Employee caring	2.97	+0.07	Employee caring	3.07	+0.10	
5	Employee caring	2.90	Social investment	2.86	-0.14	Social investment	3.00	+0.14	
6	Waste management	2.80	Waste management	2.73	-0.07	Waste management	2.82	+0.09	
7	Human rights	2.50	Human rights	2.34	-0.16	Human rights	2.50	+0.16	
8	SDGs	1.35	SDGs	1.57	+0.22	SDGs	1.64	+0.07	
Average	2.78		2.72		-0.06	2.82		+0.10	

The financial sector secured its leading position in the S-thermometer analysis, with the services sector catching up fast

To observe the differences in the management involvement level on the eight themes by various sectors, the research team divided Taiwanese companies into four super-sectors: financial industry, technology sector, traditional sector, and services sector (please refer to the Definition of Industry Classification on page two for a complete list of industry and sector classifications) and performed a cross-comparison on their S-thermometer scores. According to the 2020 research results, the four super-sectors in Taiwan were ranked as follows: financial sector, services sector, technology sector, and traditional sector.

The research team also observed that the average S-thermometer scores increased across all four supersectors in 2020. The financial sector improved the most, with a score exceeding the "3 degrees" threshold for the first time. The services sector improved its score compared to last year and got 2.80 degrees, ranking it in second place tied with the technology sector, which brought the same score.

The financial sector ranked first in all themes, except "waste management", which is not a material topic for the industry, at least directly. However, in contrast to the financial sector's score of 1.98 degrees in 2019, there was a significant improvement of 0.4 degrees in terms of waste management in 2020, indicating that the financial industry is committed to fulfilling its broader corporate social responsibilities regarding waste management including financing of innovating solutions.

The financial sector controls enormous resources and plays a vital role in promoting other sectors' sustainable reforms. Therefore, governments actively collaborate with financial markets to drive the sustainable development of their countries and industries. Through its corporate governance roadmaps and green finance action plans, the Financial Supervisory Commission of Taiwan is helping the financial sector enhance its sustainability practices and information transparency and integrate ESG considerations in the

investment process. The research team believes that these initiatives have significantly influenced the financial sector and allowed it to be better positioned to rank in the S-thermometer analysis.

The services sector achieved excellent results and ranked second this year. It advanced to positioned itself at the forefront half of the top four super-sectors in Taiwan. The services sector surpassed the "3 degrees" threshold for the first time on the following three themes of "energy-saving and carbon emissions reductions," "social investment," and "employee caring," showing that the services sector is moving beyond mere mentions and disclosures on individual projects/initiatives, towards disclosures on comparable and relevant performance. We hope that the services sector can continue taking further steps and setting specific targets/goals to carry out more effective and aggressive management measures.

Average S-thermometer scores of the four super-sectors in Taiwan for the past two years

Ranking	2019 (556 con	npanies)	2020 (601 com	npanies)
	Super-sector	Scores	Super-sector	Scores
1	Financial sector	2.78	Financial sector	3.02
2	Technology sector	2.73	Services sector	2.82
3	Traditional sector	2.72	Technology sector	2.82
4	Services sector	2.68	Traditional sector	2.77

Ranking of Taiwanese super-sectors by average S-thermometer scores across the eight key themes in 2020

(total number of companies: 601)

Ranking	Energy-sav	ring and carbon reductions	Waste I	management	Corporate	governance	Social	investment
	Theme	Scores	Theme	Scores	Theme	Scores	Theme	Scores
1	Financial sector	3.55	Traditional sector	2.91	Financial sector	3.51	Financial sector	3.43
2	Services sector	3.20	Technology sector	2.91	Services sector	3.28	Services sector	3.01
3	Traditional sector	3.13	Services sector	2.68	Traditional sector	3.20	Technology sector	2.95
4	Technology sector	3.10	Financial sector	2.38	Technology sector	3.18	Traditional sector	2.91

Ranking	Training & education		Employee caring		EST	Human rights	STORE STORES	SDGs
	Theme	Scores	Theme	Scores	Theme	Scores	Theme	Scores
1	Financial sector	3.40	Financial sector	3.17	Financial sector	2.81	Financial sector	1.92
2	Services sector	3.16	Services sector	3.09	Technology sector	2.62	Services sector	1.87
3	Technology sector	3.14	Technology sector	3.07	Traditional sector	2.41	Technology sector	1.57
4	Traditional sector	3.03	Traditional sector	3.05	Services sector	2.30	Traditional sector	1.51

Overview of Asia-Pacific companies S-thermometer scores

For companies, the pursuit of progress in sustainable development and innovation goes hand-in-hand and requires cooperation. To promote better benchmarking and best practice sharing among leading international corporations in Asia, the research team has referred to the annual Forbes Global 2000 and screened the ten largest companies from each of the ten selected Asia-Pacific economies (Australia, China, Hong Kong, India, Japan, Malaysia, Singapore, South Korea, Taiwan, and Thailand) as the target group of this research (herein after referred to as APAC companies) for three consecutive years. We then conduct a detailed analysis using S-thermometer indicators to scrutinize

the disclosures from companies on their annual sustainability reports. The ten largest companies from each country vary each year according to the Forbes yearly evaluation. Thus, although the numbers across different years may not be completely comparable, by analyzing the ten largest companies of various countries' sustainability disclosures, we can get a glimpse of each country's state of corporate sustainability. The corporate sustainability disclosures are mainly accessed from the company's annual sustainability reports and supplemented with the revelations in other channels such as annual reports and corporate websites. Companies that did not publish sustainability reports during the research period nor disclosed ESG matters in their annual reports are not included in this evaluation.

A total of 99 companies in the Asia-Pacific region were analyzed this year (see appendix for a detailed list of companies). There was only one company, Oil & Natural Gas - an Indian company, which the research team could not access their disclosures during the research period. Thus, it was excluded from the scope of this year's research.

The top three Asia-Pacific economies in terms of overall S-thermometer scores are Taiwan, Australia, and South Korea, and Malaysia showed the most remarkable improvement.

In 2020 the top five economies with the highest average S-thermometer scores across the eight themes were: Taiwan, Australia, South Korea, Thailand, and Singapore. Among them, Taiwan outperformed the other nine economies for the first time and was ranked first. Australia and South Korea remained in the top three list. Both countries had been short-listed in the forefront places in the past editions of this research. Research data also showed that three of the ten Asia-Pacific economies had higher S-thermometer scores in 2020. They were Taiwan (+0.05), Japan (+0.06), and Malaysia (+0.16). Furthermore, the average S-thermometer score of Malaysia exceeded the "3 degrees" threshold for the first time, showing that the top ten companies in Malaysia had devoted considerable attention to the eight key themes and demonstrated their track record of performance on each theme through public disclosures.

Seven of the ten Asia-Pacific economies had declining average S-thermometer scores in 2020, resulting in a decrease of 0.13 degrees in the overall average scores for the region compared with the previous year. Countries with the most significant score declines were India (-0.46), Thailand (-0.34), and South Korea (-0.27).

Average S-thermometer scores of the ten Asia-Pacific economies for the past three years

Ranking	2018 (88 cor	npanies)		2019	(94 companies)		2020	(99 companies	
	Economy	Scores	Economy	Scores	Annual change in ranking	Annual change in score	Economy	Scores	Annual change in ranking	Annual change in score
1	South Korea	3.36	South Korea	3.73	-	+0.37	Taiwan	3.55	4	+0.05
2	Singapore	3.06	Thailand	3.63	▲ 2	+0.72	Australia	3.48	▲ 2	-0.07
3	Taiwan	3.03	Australia	3.55	NA	NA	South Korea	3.46	▼ 3	-0.27
4	Thailand	2.91	Taiwan	3.50	▼ 1	+0.47	Thailand	3.29	▼ 2	-0.34
5	Hong Kong	2.86	Singapore	3.34	▼ 3	+0.28	Singapore	3.21	-	-0.13
6	China	2.81	Japan	3.04	A 1	+0.41	Japan	3.10	-	+0.06
7	Japan	2.63	India	3.02	▲ 2	+0.68	Malaysia	3.05	A 1	+0.16
8	Malaysia	2.57	Malaysia	2.89	-	+0.32	Hong Kong	2.61	A 1	-0.17
9	India	2.34	Hong Kong	2.78	▼ 4	-0.08	China	2.60	1	-0.09
10	(Australia was included in the		China	2.69	▼ 4	-0.12	India	2.56	▼3	-0.46
Average	2.84			3.22	2	+0.38		3.09		-0.13

Note: Companies that did not publish sustainability reports during the research period nor disclosed sustainability information in their annual reports were not included in the research.

Taiwanese companies improved despite adversities and ranked first in five key themes.

During the three consecutive years of study by the research team, the top ten Taiwanese companies have performed well with S-thermometer scores that ranked them in the top half among APAC companies. In 2020, Taiwan surpassed Australia, South Korea, and Thailand for the first time and ranked number one in the overall S-thermometer results of the Asia-Pacific region. This demonstrated that Taiwanese companies are taking proactive measures concerning sustainability.

While the S-thermometer scores of the other nine economies generally declined this year, Taiwanese companies improved despite the adversities and achieved the highest score. The uptake of Taiwanese companies' scores can be attributed to the two following observations. First of all, the top ten Taiwanese companies, in addition to having the highest

overall average scores for the eight key themes, the scores in the following five themes: "corporate governance," "social investment," "employee caring," "human rights" and "SDGs" surpassed that of the other nine economies.

Secondly, Taiwanese companies' scores on the eight key themes had all reached the "3 degrees" and above threshold since 2019. This year, the results on all eight themes exceeded 3.20 degrees. Compared with India, Malaysia, Hong Kong, and China, which had overall average scores under the "3 degrees" threshold, Taiwan demonstrated a relatively more outstanding performance.

The research team further examined the top ten Taiwanese companies' sustainability performance in the past three years.

The theme with the highest score in 2020 was "corporate governance" with 3.90 degrees, an increase of 0.30 degrees from the previous year. The score reflected the results of Taiwanese authorities' engagement with companies on promoting better corporate governance practices.

Furthermore, in 2020, the top ten Taiwanese companies' most considerable improvement was on the theme of "employee caring," an increase of 0.40 degrees from the previous year.

However, the scores of these companies declined on the themes of "energy-saving and carbon emissions reductions," "waste management," "training & education," and "SDGs," indicating that Taiwanese companies still had room for improvement in these aspects.

Ranking of Asia-Pacific economies by average S-thermometer scores across eight themes in 2020 (total number of companies: 99)

Ranking	Energy-savin carbon emis reduction	sions	Waste manageme		Corporat governan		Social invest	ment	Training educatio		Employee ca	aring	Human rig	hts	SDGs	
1	Australia	4.00	Singapore	3.60	Taiwan	3.90	Taiwan	3.80	South Korea	3.50	Taiwan	3.80	Taiwan	3.40	Taiwan	3.20
2	Japan	4.00	Thailand	3.60	Australia	3.70	South Korea	3.70	Thailand	3.50	Australia	3.60	Australia	3.40	Australia	3.20
3	Singapore	4.00	Japan	3.40	South Korea	3.30	Thailand	3.70	Australia	3.30	Thailand	3.40	South Korea	3.40	South Korea	3.20
4	Thailand	3.90	South Korea	3.40	Thailand	3.20	Singapore	3.60	Malaysia	3.30	South Korea	3.30	Thailand	2.90	Singapore	2.80
5	South Korea	3.90	Taiwan	3.40	Malaysia	3.20	Australia	3.50	Taiwan	3.20	Malaysia	3.20	Japan	2.80	Japan	2.50
6	Taiwan	3.70	Australia	3.10	Japan	3.00	Malaysia	3.40	Singapore	3.20	Japan	3.10	Singapore	2.80	Malaysia	2.30
7	Malaysia	3.70	Hong Kong	3.00	Singapore	2.90	Japan	3.30	China	3.00	Singapore	2.80	Malaysia	2.50	India	2.22
8	Hong Kong	3.50	China	3.00	China	2.90	China	3.10	Hong Kong	3.00	China	2.80	Hong Kong	2.20	Thailand	2.10
9	China	3.20	Malaysia	2.80	Hong Kong	2.80	Hong Kong	3.00	Japan	2.70	Hong Kong	2.60	India	2.11	China	1.40
10	India	3.00	India	2.67	India	2.67	India	2.78	India	2.56	India	2.44	China	1.40	Hong Kong	0.80
Average	3.69		3.20		3.16		3.39		3.13		3.10		2.69		2.37	
Mean deviation	0.27		0.28		0.30		0.27		0.25		0.36		0.51		0.61	

Top ten largest **Taiwanese** companies' average **S-thermometer** scores across the eight key themes for the past three years (total number of companies: 10)

Focus 3

2018		20)19		2020			
Key Theme	Scores	Key Theme	Scores	Annual Change	Key Theme	Scores	Annual Change	
Energy-saving and carbon emissions reductions	3.70	Energy-saving and carbon emissions reductions	3.90	+0.20	Corporate governance	3.90	+0.30	
Corporate governance	3.20	Corporate governance	3.60	+0.40	Social investment	3.80	+0.20	
Social investment	3.20	Social investment	3.60	+0.40	Employee caring	3.80	+0.40	
Training & education	3.10	Waste management	3.50	+0.80	Energy-saving and carbon emissions reductions	3.70	-0.20	
Employee caring	3.00	Employee caring	3.40	+0.40	Waste management	3.40	-0.10	
Waste management	2.70	SDGs	3.40	+0.70	Human rights	3.40	+0.10	
SDGs	2.70	Human rights	3.30	+0.80	Training & education	3.20	-0.10	
Human rights	2.50	Training & education	3.30	+0.20	SDGs	3.20	-0.20	

The themes of "energy-saving and carbon emissions reductions," "social investment," and "waste management" are the top themes of APAC companies' focus.

In 2020, according to data on the eight themes, the top three themes of focus for APAC companies were "energy-saving and carbon emissions reductions," "social investment," and "waste management." Among the top three focus areas, environmental-related topics accounted for two of them, showing that the APAC companies paid particular attention to environmental management, actions, and performance. Moreover, the issue of "energy-saving and carbon emissions reductions" has been the No. 1 focus of the APAC companies' attention for three consecutive years since the inception of this study.

APAC companies Changes in the average S-thermometer scores across the eight themes for the past three years.

Ranking	2018 (88 companie:	s)	2019 (94 c	ompanies		2020 (99 c	ompanies)
	Key Theme	Scores	Key Theme	Scores	Annual Change	Key Theme	Scores	Annual Change
1	Energy-saving and carbon emissions reductions	3.50	Energy-saving and carbon emissions reductions	3.83	+0.33	Energy-saving and carbon emissions reductions	3.69	-0.14
2	Training & education	3.17	Social investment	3.49	+0.42	Social investment	3.39	-0.10
3	Corporate governance	3.10	Employee caring	3.37	+0.68	Waste management	3.20	-0.16
4	Social investment	3.07	Waste management	3.36	+0.46	Corporate governance	3.16	-0.06
5	Waste management	2.90	Training & education	3.35	+0.18	Training & education	3.13	-0.22
6	Employee caring	2.69	Corporate governance	3.22	+0.12	Employee caring	3.10	-0.27
7	Human rights	2.22	SDGs	2.60	+0.53	Human rights	2.69	+0.18
8	SDGs	2.07	Human rights	2.51	+0.29	SDGs	2.37	-0.23

The APAC companies are yet to achieve a satisfactory score on "SDGs" and "human rights," but the results have shown steady improvement.

The data from our research team showed that the APAC companies failed to achieve the "3 degrees" threshold on "SDGs" and "human rights" in the past three years. This indicates that most of the APAC companies have yet to demonstrate performance improvement concerning these two emerging themes. However, if we look at each country separately, the top ten companies in Taiwan, South Korea, and Australia surpassed the "3 degrees" threshold on the themes of "human rights" and "SDGs," reflecting that the top ten companies in these countries have quickly

adopted international initiatives and are committed to concrete practices. Thus, they exercise leadership by demonstrating a track record of performance.

Besides, the scores on the theme of "human rights" had steadily risen from 2.20 degrees in 2018 to 2.51 degrees in 2019 and then to 2.69 degrees in 2020. The main reason for the improvement is that companies in Malaysia and China had significantly improved their disclosures and management practices concerning "human rights."

Singapore, Japan, and Malaysia exhibited rapid growth in "waste management."

According to a report issued by the charity Tearfund, improper waste management causes the death of 400 thousand to 1 million people annually, and plastic waste pollution further exacerbates this issue's severity. In light of the seriousness of environmental pollution, rapid resource depletion, and changing stakeholder expectations, the topics and disclosures of waste management and new business models such as circular economy gradually attract companies' attention. GRI also released its latest "GRI 306: Waste 2020" in 2020. This standard reflects the global trend and imperative to transform from a traditional "linear economy (take-make-waste)" to developing new business models with minimum waste of resources.

The trend can also be observed in the disclosures of sustainability matters by corporates. Since the launch of the S-thermometer analysis for the Asia-Pacific region in 2018, waste management has risen from fifth place to third place in the overall ranking.

Among the ten Asia-Pacific economies, Singapore has grown steadily on waste management in recent years. In 2020 Singapore, together with Thailand which ranked

first in 2019, is rated No. 1 in the Asia-Pacific region on waste management. Although the scores of Thailand and South Korea have slightly changed in recent years, they both have stayed on the list of top three economies regarding waste management. The study suggests that waste management-related issues are generally taken seriously by leading companies in these three economies.

Furthermore, the research team observed the rapid growth of the top ten Japanese companies in waste management-related issues during the past two years and a rising S-thermometer score, making Japan move up significantly in the waste management rankings of the Asia-Pacific region to third place.

Although the top ten Taiwanese companies achieved satisfactory results (3.40 degrees) on waste management, there was still a significant gap compared with the average S-thermometer score of 2.82 degrees from the entire universe of 601 Taiwanese reporting companies/ organizations. The gap shows that Taiwanese companies/ organizations need to improve management practices and disclosures on waste.

S-thermometer scores on waste management in the Asia-Pacific region for the past three years

Ranking	2018 (88 compani	es)	201	9 (94 companies)		2020 (99 companies)			
	Economy	Scores	Economy	Scores	Annual Change	Economy	Scores	Annual Change	
1	South Korea	3.60	Thailand	4.00	+0.80	Singapore	3.60	+0.20	
2	Singapore	3.30	South Korea	3.90	+0.30	Thailand	3.60	-0.40	
3	Thailand	3.20	Australia	3.70	NA	Japan	3.40	+0.62	
4	China	3.20	Taiwan	3.50	+0.80	South Korea	3.40	-0.50	
5	Hong Kong	3.11	Singapore	3.40	+0.10	Taiwan	3.40	-0.10	
6	Taiwan	2.70	India	3.25	+0.65	Australia	3.10	-0.60	
7	India	2.60	Hong Kong	3.25	+0.14	Hong Kong	3.00	-0.25	
8	Malaysia	2.22	China	3.00	-0.20	China	3.00	0.00	
9	Japan	2.20	Japan	2.78	+0.58	Malaysia	2.80	+0.02	
10	(Australia was not included in	the survey)	Malaysia	2.78	+0.56	India	2.67	-0.58	
	Average	2.90	Average	3.36	+0.45	Average	3.20	-0.16	

The state of TCFD reporting in Taiwan and Asia-Pacific

Among 601 Taiwanese companies/organizations,

23.5% (141 companies) mention the TCFD recommendations in their reports.

57.5% of reporting companies/organizations with TCFD mentions disclosed information on its four core elements.

65.2% of reporting companies/organizations with TCFD mentions disclosed information regarding the financial impact of climate risks, but only 14% of them conducted scenario analyses.

The top three Asia-Pacific economies Among 99 Asia-Pacific companies/organizations, in terms of TCFD disclosures are Australia, Japan, and Taiwan. 57.6% (57 companies) mention the

TCFD recommendations in their reports.

 Among the 57 Asia-Pacific companies/organizations that mention TCFD in their reporting, **84.2%** disclosed information on the four core elements.

Inaugural edition on the analysis of the state of TCFD reporting in Taiwan and Asia-Pacific: TCFD-referenced regulations are being adopted rapidly in the region.

In 2017, the Task Force on Climate-Related Financial Disclosures (TCFD), which operates under the Financial Stability Board (FSB), officially released its "Recommendations of the Task Force on Climate-related Financial Disclosures," providing companies with a framework of recommended disclosures to identify climate-related risks and opportunities and connect them to potential and current financial impacts.

The TCFD recommendations facilitate companies to conduct better risk identification and management and benefit investors (including banks, insurance companies, asset owners, and asset managers) into making more accurate decisions in financial markets. According to the latest "TCFD 2020 Status Report" published by the TCFD in 2020, more than 1,800 companies and organizations in 78 countries have signed and expressed public support on the TCFD recommendations for their adoption by corporates.

Following the release of the TCFD recommendations, regulatory agencies in many countries worldwide have begun to incorporate the TCFD recommendations into relevant corporate regulations. Some of these examples include the following:

European Union / The European Commission (EU Commission) developed and published the "Guidelines on Reporting Climate-related Information" in June 2019. The Guidelines, which integrate the TCFD recommendations, are intended to support companies in disclosing climate-related information.

New Zealand / The New Zealand government <u>announced</u> in September 2020 that it would impose mandatory reporting requirements on large financial institutions, including banks, asset managersand insurance companies, to disclose against the TCFD recommendations annually starting from 2023.

United Kingdom / The British Chancellor of the Exchequer, Rishi Sunak, announced in November 2020 that the United Kingdom would require the local financial and non-financial sectors mandatorily to submit financial disclosures using the TCFD recommendations as a framework before 2025. The details on this regulation are expected to be formulated by 2023.

Japan / In 2019, the Japan TCFD Consortium, a private sector-led initiative, was formally established with the support of the Ministry of Economy, Trade, and Industry (METI) of Japan. The Japan TCFD Consortium convenes financial institutions and companies in Japan to promote regular dialogues between companies and financial institutions that support the TCFD recommendations. In 2020, it published the "Guidance on Climate-related Financial Disclosures 2.0," which incorporates the latest information on TCFD disclosures and urges more industries to follow the TCFD recommendations in their disclosures.

Malaysia / The stock exchange Bursa Malaysia incorporated the TCFD recommendations into the second edition of the "Sustainability Reporting Guide" and published it in 2018.

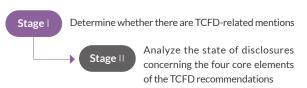
Taiwan /The Financial Supervisory Commission released the "Corporate Governance 3.0 - Sustainable Development Roadmap" and "Green Finance Action Plan 2.0" in 2020. The new reporting requirements include references to the TCFD recommendations and relevant amendments to the existing "Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed and TPEx Listed Companies." Furthermore, financial institutions will be required to disclose climate-related information by the TCFD recommendations.

The above developments indicate that climate-related financial disclosures have officially started to become incorporated into laws and regulations of major economies worldwide. To understand better whether Taiwan and Asia-Pacific companies are advancing with the times, under this emerging wave of TCFD-related regulations, and to know whether the disclosure quality meets the highest standards of practice, the research team conducted for the first time this year a detailed analysis on the current state of TCFD reporting in Taiwan and Asia-Pacific. The scope of this research covered 601 Taiwanese reporting companies and organizations that published sustainability reports in 2020, as well as the top ten companies in the ten selected Asia-Pacific economies based on the 2020 Forbes Global 2000 list. Since one of the APAC companies did not meet the research scope criteria, a total of 99 companies were analyzed (see appendix for a detailed list of companies). The information reviewed comes mainly from corporate sustainability reports and is supplemented with other information disclosed in annual reports and corporate websites.

The research team conducted a two-stage analysis of the sustainability reports:

Stage I: The research team screened the reports containing mentions of the TCFD recommendations.

Stage II: For those reports containing mentions of the TCFD recommendations, the research team further analyzed the state of disclosures concerning the four core elements of the TCFD recommendations.



The state of TCFD reporting among Taiwanese companies.

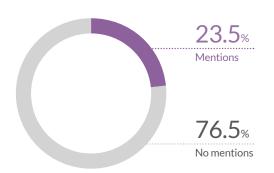
23.5% of the companies mention the TCFD recommendations in their sustainability reports.

Among the 601 Taiwanese reporting companies/organizations in 2020, only 23.5% (141 companies) of them mention the TCFD recommendations explicitly in their reports. Furthermore, among the 141 companies/organizations that mention the TCFD recommendations, 78.7% of them (111 companies) are TWSE-listed companies, and 10.6% (15 companies) are TPEx-listed companies. In terms of industry classification, the financial and insurance industry accounted for the most significant proportion of companies (25 companies), followed by semiconductors (12 companies) and computer and peripheral equipment (10 companies).

According to this year's survey, more than 100 companies/organizations in Taiwan that are not in the financial and insurance industry mention the TCFD in their sustainability reports. This indicates that many industries in Taiwan have begun to pay attention to climate-related financial disclosures and their potential impacts. The following section would focus on the detailed analysis of the 141 companies/organizations' disclosures that explicitly mentioned TCFD and show the analysis result of their disclosure against the four core elements of the TCFD recommendations.

Percentage of Taiwanese companies with TCFD-related mentions in 2020 (601 companies analyzed)

Focus



Taiwanese companies which mention the TCFD recommendations in the reporting classified by industry in 2020 (141 companies analyzed)



57.5% of reporting companies disclose information on the four core elements.

The four core elements of climate-related financial disclosures presented in the TCFD recommendations are the following: "Governance," "Strategy," "Risk Management," and "Metrics and Targets."

By disclosing these four core elements, companies can effectively explain to investors and stakeholders about how they view, evaluate, and respond to climate-related risks and opportunities.

Governance

Disclose the organization's governance around climate-related risks and opportunities.

Recommended Disclosures

- a) Describe the board's oversight of climate-related risks and opportunities.
- b) Describe management's role in assessing and managing climate-related risks and opportunities.

Strategy

Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.

Recommended Disclosures

- a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.
- b) Describe the impact of climaterelated risks and opportunities on the organization's businesses, strategy, and financial plann-ing.
- c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

Risk Management

Disclose how the organization identifies, assesses, and manages climate-related risks.

Recommended Disclosures

- Describe the organization's processes for identifying and assessing climate-related risks.
- b) Describe the organization's processes for managing climate-related risks.
- c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.

Metrics and Targets

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

Recommended Disclosures

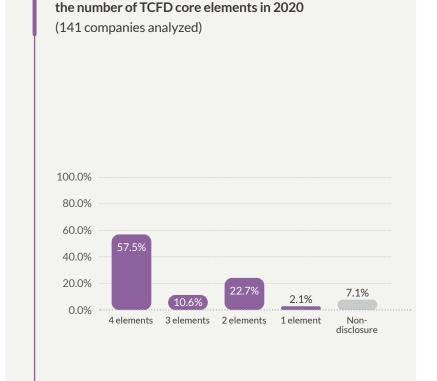
- a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.
- b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
- c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

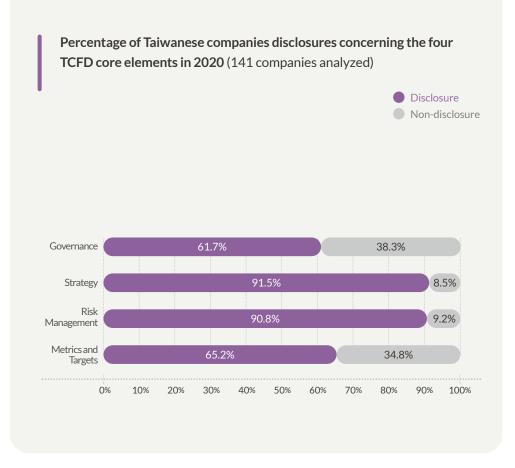
Source: "Recommendations of the Task Force on Climate-related Financial Disclosures"

Based on the 141 sustainability reports that mentioned TCFD-related information in 2020, the research team further analyzed the state of disclosures concerning the four core elements. The results showed that 57.5% of companies/organizations (81 companies) further disclosed information on the four core elements; 35.4% (50 companies) only revealed information on one to three core elements; 7.1% (10 companies) only mentioned the TCFD in their reports without disclosing specific information on the core elements.

Percentage of Taiwanese companies disclosures against

More than 90% of these 141 Taiwanese companies/organizations disclosed information regarding "Strategy" and "Risk Management." Whereas more than 30% of these companies did not disclose information on "Governance" and "Metrics and Targets." This result showed that although many companies/organizations had identified climate-related risks and established management measures, there is still room for improvement in terms of the supervision and participation of high-level management and boards and the formulation of management targets and goals.



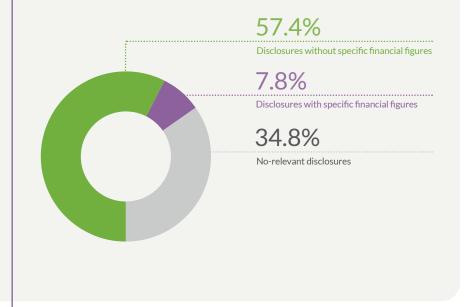


65.2% of reporting companies disclosed information on the financial impacts of climate change.

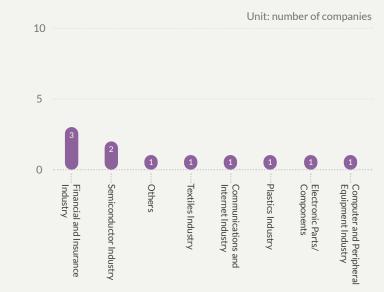
According to the survey for asset managers and investment analysts mentioned in the "TCFD 2020 Status Report," the most useful disclosure for investors regarding financial decision-making are the disclosures of how climate-related issues have affected business and strategy, which under the core element of "Strategy." To better understand Taiwanese companies' disclosures on this disclosure, the research team paid particular attention to observing the current disclosures concerning climate-related financial impacts.

The research showed that among the 141 Taiwanese reporting companies, 65.2% of them (92 companies) already disclosed the financial impacts of climate changes in their sustainability reports. Among them, 7.8% of companies (11 companies) had stated "specific figures" for the financial impacts. Among these 11 companies, the financial and insurance industry accounted for the most significant companies (3 companies).





Number of Taiwanese companies disclosing climate-related financial impacts classified by industry in 2020 (11 companies analyzed)



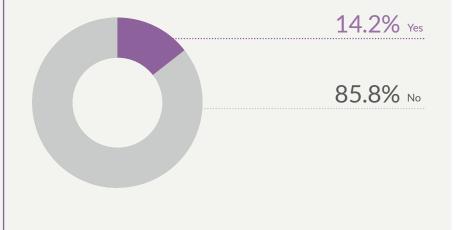
Only 14.2% of reporting companies conducted climate-related scenario analysis.

The "TCFD 2020 Status Report" figures showed that only 1 out of every 15 companies in the world discloses the company's resilience of strategy under different climate scenario analysis. Scenario analysis was also the item with the lowest disclosure rate among all TCFD disclosures. The TCFD recommends that companies shall think about and examine their operating strategies under different climate scenarios through scenario analysis techniques to strengthen the resilience of their corporate strategies.

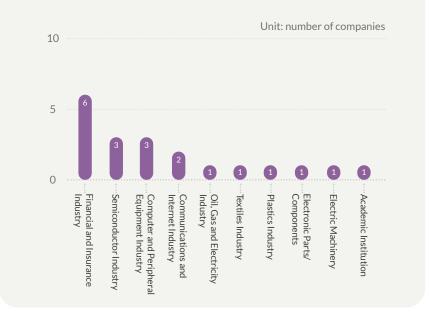
Of the 141 Taiwanese companies/organizations that mentioned the TCFD recommendations in their report, only about 14% of the reporting companies (20 companies) disclosed information regarding scenario analysis. The financial and insurance industry accounted for the most significant proportion of these companies (6 companies). The low figures on the adoption of climate scenario analysis indicate that this item still presents a certain degree of difficulty to most Taiwanese companies.

To assist companies in conducting better climate-related scenario analysis, the TCFD released the "Guidance on Scenario Analysis for Non-Financial Companies" in 2020, which provides practical methods and steps to assist non-financial companies in conducting scenario analysis and disclosing relevant information.





Number of Taiwanese companies disclosing information on climate-related scenario analysis classified by industry in 2020 (20 companies analyzed)



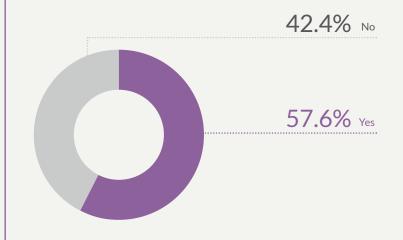
The state of TCFD reporting among APAC companies.

57.6% of APAC companies mention the TCFD recommendations in their reports.

The "TCFD 2020 Status Report" showed that the Asia-Pacific companies' support of Asia-Pacific companies for the TCFD recommendation and their TCFD disclosure status is only second to Europe. To gain a better understanding of the state of TCFD reporting among some of APAC largest companies and the difference in reporting practices among different economies, the research team conducted its inaugural edition on the benchmarking of the state of TCFD reporting among the largest ten companies in ten selected APAC economies (hereinafter as APAC companies; see appendix for a detailed list of companies).

The research showed that 57.6% of APAC companies (57 companies) mentioned the TCFD recommendations and relevant disclosures in their sustainability reports or annual reports or even took one step further and released their standalone TCFD reports. The following section would focus on the 57 APAC companies that mentioned the TCFD recommendations and further analyzes the state of corporate disclosures against the four core elements of the TCFD recommendations.

Percentage of APAC companies which mention the TCFD recommendations in 2020 (99 companies analyzed)



Comparison of TCFD reporting across ten selected APAC economies based on their largest ten companies (99 companies analyzed)



Note: Among the APAC companies, the website Oil & Natural Gas – an Indian company, which the research team could not access their disclosures during the research period. Therefore, it was excluded from the scope of this year's research. Please refer to the appendix for a complete list of APAC companies.

Disclosure Non-disclosure

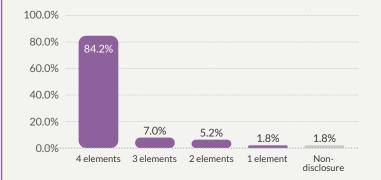
84.2% of APAC companies disclose information on the four core elements.

Based on the 57 APAC companies that mentioned the TCFD recommendations in their 2020 reports, the research team further analyzed their state of disclosures concerning the four core elements of the TCFD recommendations. The results showed that within the 57 APAC companies that mentioned the TCFD recommendations, 84.2% of companies (48 companies) disclosed against the four core elements of TCFD; 14.0% of companies (8 companies) only disclosed against one to three core elements; 1.8% of companies (1 company) only mentioned the TCFD recommendations without revealing information on any of the four core elements. The high percentage of TCFD-related

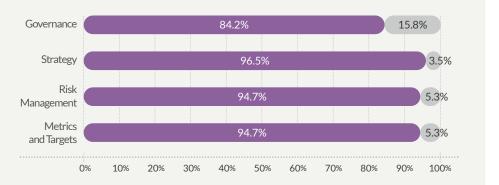
disclosures demonstrates that the large APAC companies value TCFD-related disclosures and the quality of disclosure.

In terms of the proportions of APAC companies disclosing against the four core elements of the TCFD recommendations, the results are as follows: "Strategy" (96.5% of companies), "Risk Management" (94.7% of companies), "Metrics and Targets" (94.7% of companies), and "Governance" (84.2% of companies). The outcome shows that APAC companies worked are striving towards comprehensive TCFD disclosures.

Percentage of APAC companies disclosures against the number of TCFD core elements in 2020 (57 companies analyzed)



Percentage of APAC companies disclosures concerning the four TCFD core elements in 2020 (57 companies analyzed)



The top three Asia-Pacific economies in terms of TCFD disclosures are Australia, Japan, and Taiwan.

To comprehensibly observe the state of TCFD reporting among the APAC economies, the research team graded the TCFD disclosures for the first time by providing scores to each of the ten selected APAC economies based on the level of disclosures from their largest companies. The grading method is as follows: if a company disclose one of the four core elements of the TCFD recommendations, the company will receive one point for the disclosure. Therefore, each company could receive up to four points; hence each economy could receive up to 40 points. According to the results, the top three Asia-Pacific economies in terms of TCFD disclosure are Australia, Japan, and Taiwan.

Australia, which was ranked in the first place among the state of TCFD disclosures in 2020, received a perfect score of 40 points, showing that Australia's largest ten publicly listed companies had comprehensive and extensive disclosures against the TCFD recommendations. As for Japan, while its top ten companies disclosed reasonably well against the four core elements of the TCFD-recommendations, their state of disclosures is not as complete as that of Australia. Thus, Japan ranked second, followed by Taiwan, which ranked third.

Given that one of the Taiwanese companies did not disclose TCFD-relevant information in their report, the scores of "Governance" and "Metrics and Targets" were relatively low compared to the other two core elements. The gap between Taiwan and Australia is ten points. Besides, it could be observed from the ranking and scores among the APAC economies that there is some significant gap in terms of TCFD disclosures from one economy to another. There was a 36-point gap between Australia's ten largest companies and Malaysia's ten largest companies.

Ranking and scores of the ten selected APAC economies in terms of TCFD disclosures in 2020

Ranking	Economy	Total score	F	our core elements of the	e TCFD recommendations	5
			Governance	Strategy	Risk Management	Metrics and Targets
1	Australia	40	10	10	10	10
2	Japan	34	8	9	8	9
3	Taiwan	30	5	9	9	7
4	South Korea	28	7	7	7	7
5	Singapore	24	5	6	6	7
6	Thailand	19	4	5	5	5
7	China	12	3	3	3	3
7	India	12	3	3	3	3
9	Hong Kong	8	2	2	2	2
10	Malaysia	4	1	1	1	1

TCFD is not about what to do, but about why we do it.

Expert views

In 2009, Simon O. Sinek proposed the model of "The Golden Circle," which is composed of three concentric circles of "WHY," "HOW," and "WHAT." At that time, he was talking about a business management concept. He believed that successful leaders or brands all follow this rule in their thinking, action, and message delivery.

In 2020, Taiwan ranked third among ten Asia-Pacific economies in terms of TCFD-disclosures in the sustainability report by their largest ten companies. Among the 601 Taiwanese companies in the survey, 23.5% mentioned the TCFD in their sustainability reports, which was equivalent to 141 companies, and of which 126 companies (89.3%) were TWSE-listed and TPEx-listed companies. The top three TCFDreporting industries of the 141 reporting companies are the financial and insurance industry (25 companies, 17.7%), the semiconductor industry (12 companies, 8.5%), and the computer and peripheral equipment industry (10 companies, 7.1%). If the "The Golden Circle" rule was applied to the survey data, we might be able to establish some correlation.



The ratios of disclosure on the TCFD's four core elements of Governance, Strategy, Risk Management, and Metrics and Targets were 61.7%, 91.5%, 90.8%, 65.2%, respectively. This showed that many companies had formulated relevant strategies and risk management practices, but they have not raised climate change to board-level supervision or top management. On the other hand, existing strategies and management practices may deviate from the company's business focus, resulting in a lack of performance indicators and targets to measure the impacts of climate risks and opportunities on products or services.



81 companies (57.4%) made financial impact estimates, and 11 companies (7.8%) gave specific financial figures. The financial and insurance industry accounted for the most significant proportion. Twenty companies (14.2%) conducted scenario analysis, and again the finance and insurance industry accounted for an essential proportion. It quantifies the impact of climate-related risks and opportunities in the communication bridge that TCFD intends to build between investors and investees. However, without a comprehensive and well-acknowledged methodology in place, the information that can be disclosed is naturally minimal. Scenario analysis requires many data sources and assumptions. With insufficient credibility, it will take some time for the concept to mature in the future. In the five-year plan of the Taskforce, the goal is to understand the carbon intensity of capital markets. Therefore, it is only reasonable that the financial and insurance industry are the industries which account for the highest proportion.

Center for Corporate Sustainability, National Taipei University

Center for Corporate Sustainable Impact, Tunghai University

Dr. Yao-Te Chen

The WHAT and HOW can both be found in the sustainability reports issued by the companies. However, the most detailed information to obtain is WHY, which tends to disappear or is hidden in traditional reporting practices. Perhaps, the adoption of international trends, stakeholder requirements, peer competition, international assessments, regulatory compliance, etc., may all be answers to WHY. But are these the WHYs that the TCFD wants? Since the release of the TCFD framework, more and more Taiwanese companies have followed suit from mapping the core elements to the subsequent risk and opportunity identification and the scenario analysis and financial correlation at present. The situation has also resulted in uneven disclosure quality and differences in the degree of implementation.

Therefore, how can a company avoid the loss of long-term competitiveness due to short-term profits through the introduction of TCFD? Returning to the concept of "The Golden Circle" rule, before introducing the TCFD, the WHY, which shall be borne in mind, is that TCFD helps strengthen the climate resilience of the organization, such as resistance, recovery time, and robustness, in the future development of a lowcarbon economy.

Appendix

The 10 largest public companies from 10 selected economies in the Asia Pacific in 2020

Ranking	Taiwan	Japan	China	Hong Kong	India
1	Taiwan Semiconductor	Toyota Motor	ICBC	China Mobile	Reliance Industries
2	Hon Hai Precision	Nippon Telegraph & Tel	China Construction Bank	AIA Group	HDFC Bank
3	Cathay Financial	Mitsubishi UFJ Financial	Agricultural Bank of China	CITIC	State Bank of India
4	Fubon Financial	Sony	Ping An Insurance Group	CNOOC	ICICI Bank
5	CTBC Financial	Softbank	Bank of China	CK Hutchison	Oil & Natural Gas
6	Formosa Petrochemical	Japan Post Holdings	China Merchants Bank	China Resources Land	HDFC
7	Mega Financial Holding	Sumitomo Mitsui Financial	Postal Savings Bank Of China(PSBC)	Sun Hung Kai Properties	Tata Consultancy Services
8	Formosa Chemicals	Honda Motor	Alibaba Group	China Unicom	Indian Oil
9	Shin Kong Financial	Mitsubishi	PetroChina	CK Asset Holdings	Larsen & Toubro
10	Nan Ya Plastics	KDDI	China Life Insurance	Shimao Property Holdings	NTPC
<u></u>					
Ranking	Singapore	Malaysia	Thailand	Australia	Korea
Ranking 1	Singapore Oversea-Chinese Banking	Malaysia	Thailand	Australia Commonwealth Bank	Korea Samsung Electronics
1	Oversea-Chinese Banking	Maybank	РТТ	Commonwealth Bank	Samsung Electronics
1 2	Oversea-Chinese Banking DBS	Maybank Tenaga Nasional	PTT Siam Cement	Commonwealth Bank BHP Group	Samsung Electronics Hyundai Motor
1 2 3	Oversea-Chinese Banking DBS United Overseas Bank	Maybank Tenaga Nasional Public Bank	PTT Siam Cement Kasikornbank	Commonwealth Bank BHP Group Westpac Banking Group	Samsung Electronics Hyundai Motor Shinhan Financial Group
1 2 3 4	Oversea-Chinese Banking DBS United Overseas Bank Wilmar International	Maybank Tenaga Nasional Public Bank CIMB Group Holdings	PTT Siam Cement Kasikornbank Siam Commercial Bank	Commonwealth Bank BHP Group Westpac Banking Group ANZ	Samsung Electronics Hyundai Motor Shinhan Financial Group KB Financial Group
1 2 3 4 5	Oversea-Chinese Banking DBS United Overseas Bank Wilmar International SingTel	Maybank Tenaga Nasional Public Bank CIMB Group Holdings RHB Bank	PTT Siam Cement Kasikornbank Siam Commercial Bank CP All	Commonwealth Bank BHP Group Westpac Banking Group ANZ NAB - National Australia Bank	Samsung Electronics Hyundai Motor Shinhan Financial Group KB Financial Group SK Hynix
1 2 3 4 5 6	Oversea-Chinese Banking DBS United Overseas Bank Wilmar International SingTel CapitaLand	Maybank Tenaga Nasional Public Bank CIMB Group Holdings RHB Bank Hong Leong Financial	PTT Siam Cement Kasikornbank Siam Commercial Bank CP All Bangkok Bank	Commonwealth Bank BHP Group Westpac Banking Group ANZ NAB - National Australia Bank Macquarie Group	Samsung Electronics Hyundai Motor Shinhan Financial Group KB Financial Group SK Hynix Posco
1 2 3 4 5 6 7	Oversea-Chinese Banking DBS United Overseas Bank Wilmar International SingTel CapitaLand Singapore Airlines	Maybank Tenaga Nasional Public Bank CIMB Group Holdings RHB Bank Hong Leong Financial Petronas Chemicals	PTT Siam Cement Kasikornbank Siam Commercial Bank CP All Bangkok Bank Thai Beverage	Commonwealth Bank BHP Group Westpac Banking Group ANZ NAB - National Australia Bank Macquarie Group Woolworths	Samsung Electronics Hyundai Motor Shinhan Financial Group KB Financial Group SK Hynix Posco Hyundai Mobis

Sources: Forbes Global 2000: The World's Largest Public Companies in 2020

Note: Oil and Natural Gas's sustainability report in 2020 was excluded from research sample since their website were not accessible during research period.

"2020 Taiwan and Asia Pacific Sustainability Reports Analysis" Errata

	"20	20 Taiwan and Asia Pacific Sustainability Reports Analysis	s" Errata
Page	Content	Original	Correction
p.07	Ratio of sustainability reports certified by third- party and certification body in Taiwan in 2019	54.7%	54.0%
p.24	Numbers of Taiwanese companies responding to the SDGs	328 (59%)	326 (58%)
p.27	Numbers of Taiwanese companies implementing SDG solutions	245 (44%)	244 (43%)
p.30	Year-on-Year Comparison on the S-thermometer results among the top ten largest companies by market value from ten selected Asian Pacific countries	Average S-thermometer results in 2019 - 10. India (2.41 degrees) Year-on-year comparison (Average increase of +0.27) 7. India (+ 0.07 degrees)	Average S-thermometer results in 2019 - 10. India (3.02 degrees) Year-on-year comparison (Average increase of +0.38) 7. India (+0.68 degrees)
p.31	Year-on-Year Average S-thermometer results by theme and country	India 2019 Energy saving and carbon emissions reductions: 2.80 Corporate governance: 2.10 Training & education: 2.50 Employee caring: 2.50 Social investment: 2.60 Waste management: 2.60 Human rights: 1.80 SDGs: 2.40	India 2019 Energy saving and carbon emissions reductions: 3.50 Corporate governance: 2.63 Training & education: 3.13 Employee caring: 3.13 Social investment: 3.25 Waste management: 3.25 Human rights: 2.25 SDGs: 3.00
p.32	Focus 4: Human Rights Average S-thermometer results 2.46 (The lowest one)	The top three countries with the highest performance are Australia and South Korea (both scored 3.50 degrees), Taiwan (3.30 degrees), Thailand (3.00 degrees), and the bottom three countries with the lowest performance are India (1.80 degrees), Malaysia (1.78 degrees) and China (0.90 degrees).	The top three countries with the highest performance are Australia and South Korea (both scored 3.50 degrees), Taiwan (3.30 degrees), Thailand (3.00 degrees), and the bottom three countries with the lowest performance are Hong Kong (2.00 degrees), Malaysia (1.78 degrees) and China (0.90).
p.33	Average S-thermometer results (sorted by theme) Energy	India Energy saving and carbon emissions reductions: 2.80 Corporate governance: 2.10 Training & education: 2.50 Employee caring: 2.50 Social investment: 2.60 Waste management: 2.60 Human rights: 1.80 SDGs: 2.40	India Energy saving and carbon emissions reductions: 3.50 Corporate governance: 2.63 Training & education: 3.13 Employee caring: 3.13 Social investment: 3.25 Waste management: 3.25 Human rights: 2.25 SDGs: 3.00

Trends of Sustainability in Taiwan and APAC 2021

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