WORLD FEDERATION OF EXCHANGES

The WFE's 10th Sustainability Survey

Exchanges' collective effort for a global transition to a sustainable economy

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Contents

1. Executive summary

The **WFE Sustainability Survey 2023** is the tenth annual edition of this comprehensive review of WFE members and affiliates, including stock and derivatives exchanges, from developed to frontier markets. The survey aims to capture the progress and achievements of the exchange industry in its engagement with Environmental, Social, and Governance (ESG) issues as well as the challenges it faces in achieving its ESG goals.

10 years of progress on sustainability

To mark the 10th anniversary of the WFE Sustainability Survey, we review the progress made since 2015 on the offering of ESG products, on ESG disclosure and reporting, and the evolution of exchanges' motivations and concerns:

- The percentage of respondents offering ESG products has more than doubled in the last ten years (from 29% to 82%).
- The number of exchanges offering green bonds has increased from 8 in 2016 to 34 in 2023.
- The percentage of exchanges reporting investor demand for ESG products has increased from 64% to 98%.
- The percentage of exchanges publishing their own sustainability information has increased from 30% to 86%.
- Diversity has been receiving increased attention in the exchanges' sustainability reports.
- Looking at the concerns exchanges have reported, *lack of resources* and *business and economic* concerns have consistently been at the top of the list. Concerns about *lack of demand* have significantly decreased.

Key highlights of the 2023 survey include:

- This year, all exchanges continue their engagement with at least one **WFE Sustainability Principle**. This reflects a persistent commitment to sustainable practices among exchanges.
- The tenth survey marked the highest level of engagement in **ESG transparency, with 43 out of 50 respondents publishing their own sustainability report or including sustainability information in their annual report**. The average number of initiatives implemented per exchange has also increased from 9.2 to 9.7.
- In 2023, for the first time, all exchanges reported their involvement in Principle 5 of the WFE Sustainability Principles, which focuses on integrating sustainability into the exchange's governance, strategy, and organizational structures.
- Sustainability concerns and reputation and public relations were the most frequently cited motivations for sustainability involvement of exchanges. Meanwhile, exchanges remain primarily concerned about the lack of reliable ESG data and insufficient resources for implementing initiatives.
- The coverage of exchanges' ESG reports has increased for all three scopes of **carbon footprint emissions**, with 18 respondents now covering all Scopes 1, 2, and 3; indicating a growing recognition among exchanges of the significance of disclosing carbon emissions and adhering to recognized reporting standards.
- **Gender Equality** continues to attract the highest involvement among the UN Sustainable Development Goals. The percentage of females on boards has increased since last year, reaching 22.3%. There were 23 respondents that reported having targets in place to increase female representation, marking a significant increase from 16 in 2022.
- The majority of exchanges (96%) acknowledge investor demand for **ESG disclosure**, with 45% observing strong demand. Exchanges remain the primary promoters of ESG disclosure, followed by securities regulators.
- Investor interest in **ESG products** is increasing, prompting exchanges to facilitate the listing, trading, and oversight of these offerings. Around 98% of exchanges reported investor interest in ESG products, and 82% of exchanges offered ESG-related products in 2023.
- **Green bonds/sukuks** remain the most popular ESG product, and around 73% of exchanges have established a dedicated listing segment for them.
- In 2023, 53% of exchanges included the recommendations of the **Task Force on Climate-related Financial Disclosures** (**TCFD**) in the reporting guidance or reporting requirements for listed companies and 33% are planning to do so.

2. Introduction

Welcome to the 10th edition of the World Federation of Exchanges' Sustainability Survey.

The year 2023 saw an increased amount of media criticism of ESG Investments, primarily in the US, and global sustainable funds saw their first quarter of net outflows in Q4, as investors withdrew $2.5 billion, albeit this was largely influenced by high interest rates, predictions of a recession and geopolitical uncertainties. Yet in the same year, it was reported that $1.9 trillion to $2.7 trillion a year would be required to decarbonise the global energy sector and, later in the year, it was estimated that the pledges announced during COP28 of $700 million for the Loss and Damage fund, were equivalent to only 0.2% of the losses that developing countries face as a result of climate change every year.

Despite the ESG backlash and challenging economic environment, ESG funds outperformed their traditional peers in 2023 with a median return of 12.6%, the global outlook for ESG financial products is predicted to stay strong with ESG assets predicted to surpass $40 trillion by 2030 (and had already surpassed $30 million in 2022) and more than 50% of individual investors reporting plans to increase allocations to sustainable investments over 2024. Additionally, despite the increased media coverage over anti-ESG beliefs and actions, the anti-ESG movement has not led to considerable and lasting change on the behalf of institutional investors. In light of this, it is no surprise that this year's Sustainability Survey reports the highest level of WFE member engagement in ESG transparency.

This year, standard setters took significant steps to enhance transparency in ESG performance through sustainability reporting, with the ISSB's publication of its core IFRS S1 and S2 standards, as well as the TNFD unveiling its nature reporting standards. 2023 also saw some moves towards global harmonisation of ESG reporting standards as Brazil adopted ISSB as a baseline for related regulatory framework, IOSCO expressed support for the ISSB standards, and regulators and governments in various regions such as Hong Kong and Australia released consultations to begin the process of incorporating ISSB standards within regulatory requirements.

Although 2023 saw a price slump and large price discrepancies in carbon credits, standard setters and regulators made efforts to promote integrity and transparency in voluntary carbon markets. IOSCO published guidance on promoting integrity in Voluntary Carbon Markets and CFTC issued proposed guidance regarding listing of Voluntary Carbon Credit Derivative Contracts.

At the same time, the focus on transition planning increased globally. For example, Singapore piloted 'transition credits' and the Monetary Authority of Singapore issued Net Zero transition planning guidelines. In October 2023, the UK Transition Plan Taskforce published its final disclosure framework.

Regulatory initiatives to tackle greenwashing picked up momentum in Europe as CSRD came into effect in 2023. The FCA also published its policy statement on Sustainability Disclosure Requirements and investment labels.

The important role that exchanges have to play, and are already playing, in the global transition to a more sustainable economy through initiatives such as encouraging transparency amongst listed issuers and providing the market with 'green' products is a theme that has been repeated in previous WFE Survey reports. Towards the end of 2023, we saw the first global stock-take, during COP28. This highlighted, amongst many important points, that the international financial system needs to be reformed to support investments in climate action and sustainable development at a global scale.

The stock-take also emphasized the urgent need for strengthened adaptation at a large scale; the adaptation finance gap was estimated to be in the range of $194 billion to $366 billion per year. Whilst the WFE acknowledges that there is still a long way to go to transition to a sustainable economy, through for example, closing the climate funding gap alone, this year's survey results suggest that members' efforts in helping close such gaps and contributing to the making of a more sustainable economy are continuing to increase in both quantity and quality.

3. A decade of progress

As we look back at 10 years of sustainability indicators, we realize how remarkable is the progress made by our members since the WFE first began publishing the Sustainability Survey reports.

As this year's Sustainability Survey marks the 10th edition, it is an opportune moment to reflect on the progress on sustainability made since the publication of the first survey in 2015.

Product offering

The percentage of exchanges offering ESG products has more than doubled in the last ten years, as **Figure 1** illustrates**.** In 2014, ESG-related products were only available in 16 exchanges, representing around 29% of the survey respondents. In 2023, 41 exchanges, approximately 82% of respondents, offered ESG-related products such as green bonds, ESG indices, ESG ratings, ESG derivatives, ESG exchange-traded funds, carbon credits platforms, contracts on renewable energy certificates, etc. Such growth reflects an increased emphasis on sustainability from exchanges and it significantly expands the choice of products for investors who have sustainable investment preferences.

Figure 1. Percentage of exchanges offering ESG-related products

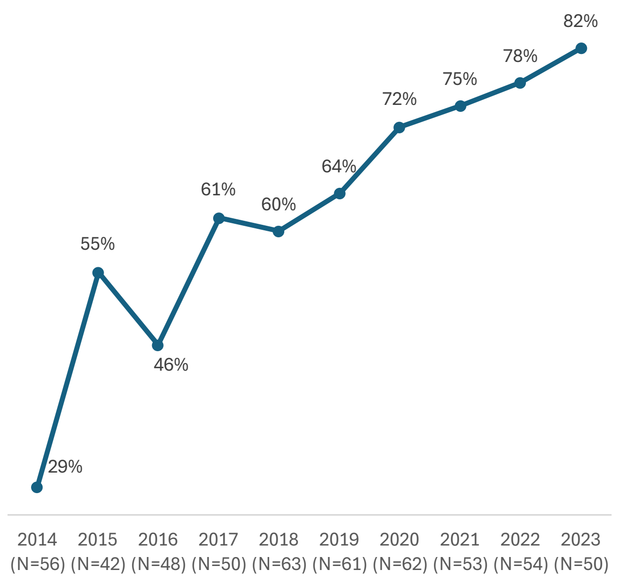
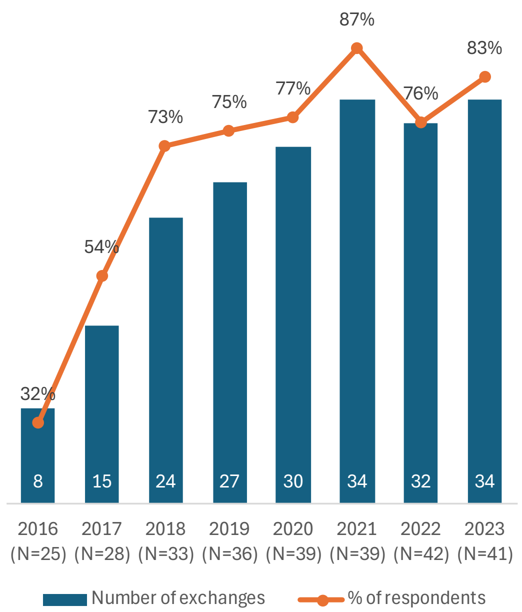


Figure 2. Green bond offering



Accompanying the overall expansion of exchanges' offering of ESG products, the provision of green bonds also exhibits a remarkable growth (**Figure 2**). Among the ESG-related products offered by exchanges, green bonds have consistently been the prevalent products. We only started to collect information on the variety of ESG products offered by exchanges from 2017 (reflecting outcomes of year 2016); at that time, eight exchanges provided green bonds, representing around 32% of survey respondents. Particularly in 2017, the number of exchanges that offered green bonds almost doubled compared to the previous year. This growing trend persists, and by 2023, there are 34 exchanges offering green bonds, which is approximately 83% of the survey respondents.

From the demand side, the percentage of exchanges reporting investor demand for ESG products has increased from 64% in 2015 to 98% in 2023.

ESG disclosure and reporting

ESG reporting is a vital component for advancing sustainability, offering stakeholders visibility into a company's sustainability practices, social impact, and governance framework, thereby facilitating informed decision-making. Survey data, illustrated in **Figure 3**, highlights a consistent rise in investor interest for ESG disclosure. In 2016, 64% of respondents noted such demand in their respective jurisdictions, a figure that has since surged and stabilized around 95% since 2020.

As the demand for ESG disclosure continues to grow, exchanges are increasingly encouraging or mandating listed companies to divulge their sustainability data. The progression over the past decade is depicted in **Figure 4**. In the inaugural edition of the sustainability survey, 21 exchanges (comprising 38% of respondents) reported initiatives to encourage or mandate ESG disclosure. This number has since surged to 43 exchanges (representing 98% of respondents) in the latest survey.

Figure 3. Investor demand for ESG disclosure

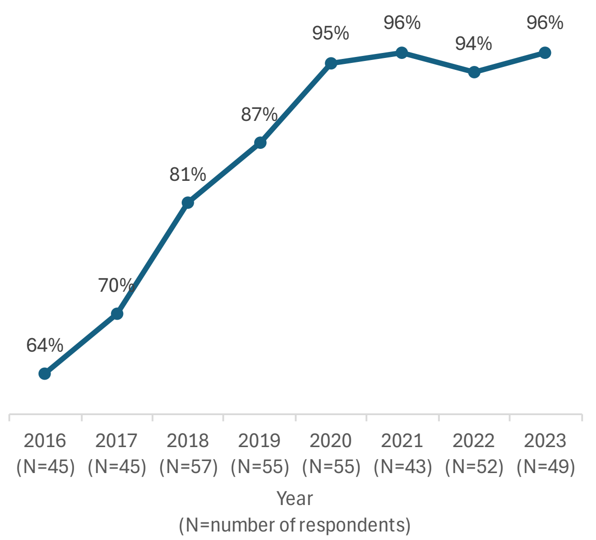
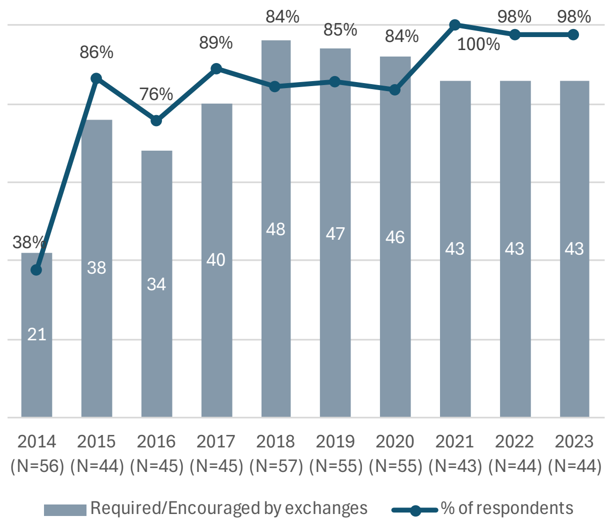


Figure 4. Encouraging/mandating ESG disclosures



Exchanges have emerged as pivotal drivers in advocating for ESG disclosure. **Figure 5** illustrates a 10-year trajectory of exchanges' initiatives in ESG reporting, both as report issuers (depicted by the orange line) and providers of listing services (shown by the blue line). In the survey's inaugural year, 30% of responding exchanges reported on their sustainability endeavors—a figure that has since surged to 86% in the latest survey. Similarly, when initially queried about providing formal ESG reporting guidance for listed companies, 38% of responding exchanges engaged in such initiatives. This percentage has consistently risen over the years, reaching 70% in the current survey.

Figure 5. ESG reporting initiatives

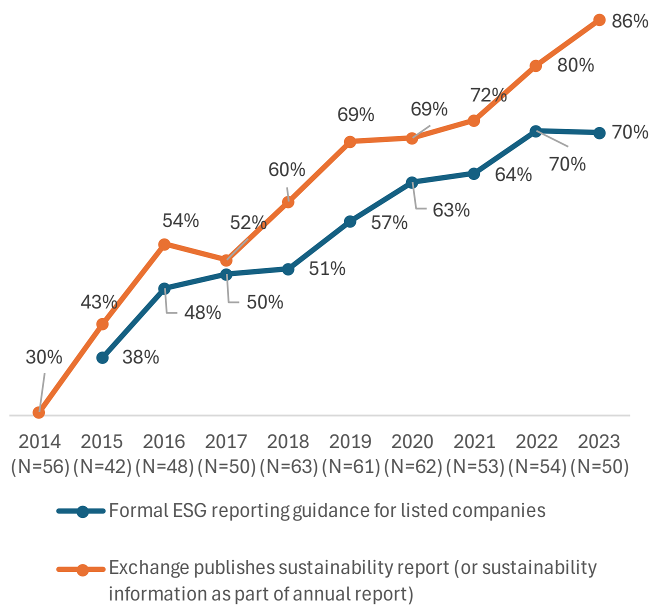
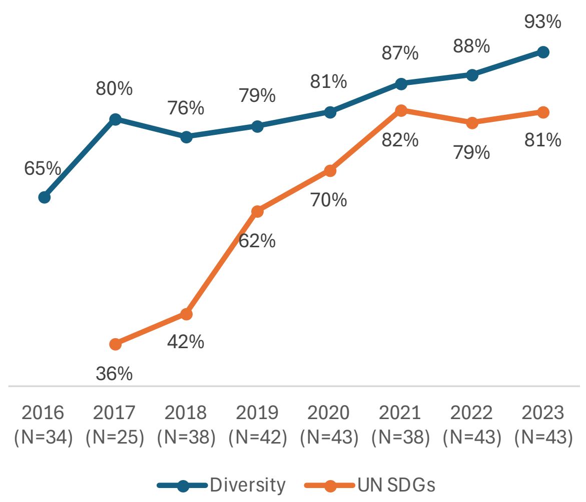


Figure 6. Exchanges reporting on diversity and UN SDG



As exchanges that publish their own sustainable reports increased in number, the scope and depth of the contents covered by these reports also expanded. When asked about the ESG factors addressed in the report, ***Diversity*** and ***UN Sustainable Development Goals (SDGs)*** have tended to receive increased attention over time (**Figure 6**). In the first year of incorporating diversity as a survey answer, 65% of respondents reflected the inclusion of this factors in their ESG reports, making it the least covered factor. However, by 2023, 38 out of 43 exchanges have integrated diversity into their reports, representing approximately 93% of respondents. This growing emphasis on diversity reflects an increased recognition among exchanges of the importance of promoting inclusivity and equality within the financial market.

The 17 SDGs were adopted by the United Nations in 2015,[1] and initially incorporated into the survey in 2018 (reflecting data of 2017). At that time, only nine exchanges indicated the inclusion of UN SDGs in their ESG reports, constituting around 36% of respondents. In 2023, 34 out of 43 exchanges integrated the UN SDGs into their ESG reports, representing 81% of respondents. The increased inclusion of the 17 SDGs into the ESG reports of exchanges reflects a strengthened commitment among exchanges to align their activities with the broad sustainability initiatives introduced by the United Nations.

Motivations and concerns

With regards to the motivations to engage in sustainability efforts, four topics have consistently topped the list: *concerns about sustainability*, *desire to improve stakeholder relationships*, *expanding business opportunities* and *reputation*. While the order has not always been the same, concerns about sustainability have consistently been the first of the list, as **Figure 7** illustrates.

[1] https://www.undp.org/sustainable-development-goals

Looking at the concerns exchanges have reported, *lack of resources* and *business and economic concerns* have consistently been at the top of the list. Overall, insufficient demand has a decreasing trend, while competitive concerns appear to be increasing (**Figure 8**).

Figure 7. Main motivations to engage on ESG efforts

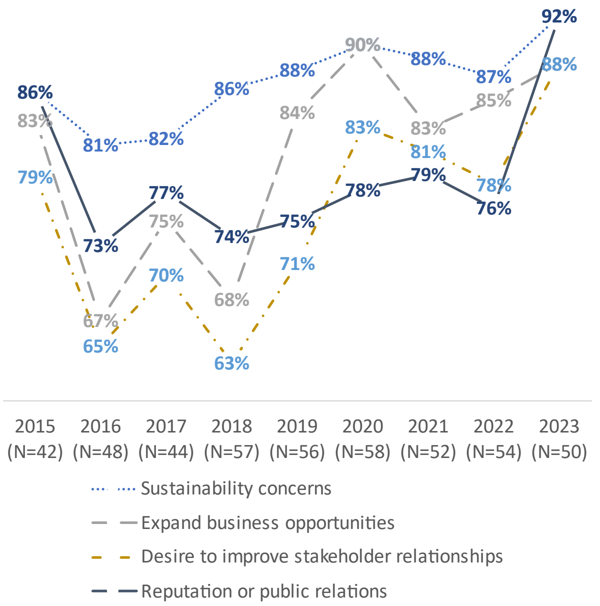
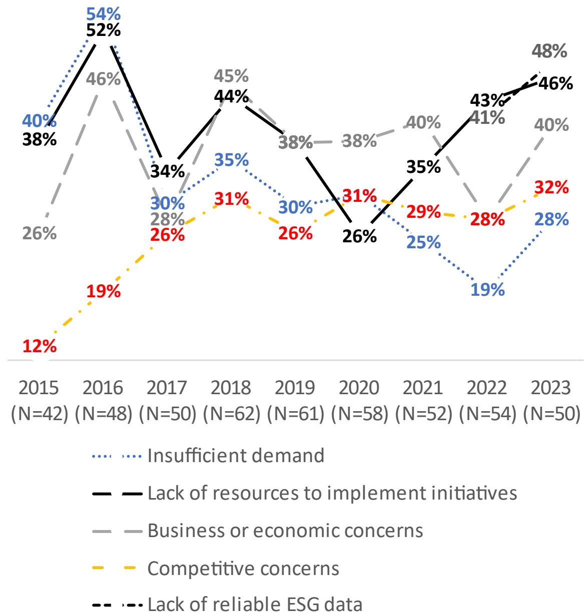


Figure 8. Top concerns reported by exchanges



The above examples not only capture the dramatic change in the wider attitude of market participants towards sustainability, but they also capture the remarkable amount of progress made by our members since the WFE first began publishing the Sustainability Survey reports.

We hope you find this report to be useful and welcome dialogue concerning it.

4. Survey methodology

As in previous years, a questionnaire was sent to all WFE member exchanges and affiliates, along with a scaled-back version for derivatives-only exchanges. Responses were collected through an online survey tool between January and February 2024, and responses referred to the 2023 calendar year.

Respondents were directed to different questions depending on their answers, and they could skip some questions. Hence, the response rates for different questions vary. The total number of responses for each question is noted throughout. A total of 50 exchange groups[2] participated in this year's survey (see **Figure 9**). Exchanges located in the Europe, Middle East, and Africa (EMEA) region accounted for the larger share of respondents (48%), as shown in **Figure 10**.

Figure 9. Respondent profile

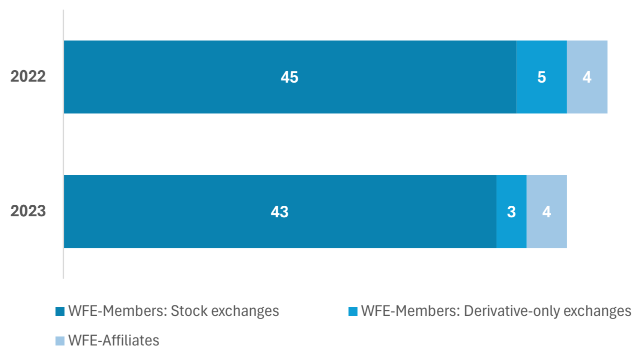
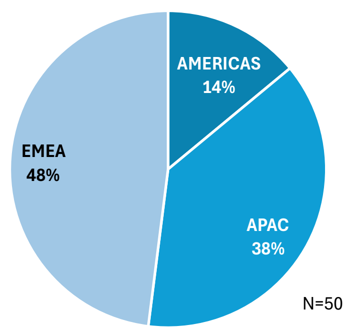


Figure 10. Respondents by region



Throughout the survey, figures are rounded to the nearest integer or, when additional precision is useful, to one decimal place. Because of rounding, percentages may not always add up to 100%. When expressing local currency in US dollars (USD) we use conversion rates as of March 2024.

[2] The complete list of respondent exchanges and exchange groups can be found in **Annex 1.** Some exchange groups include more than one exchange.

5. 2023 Survey results

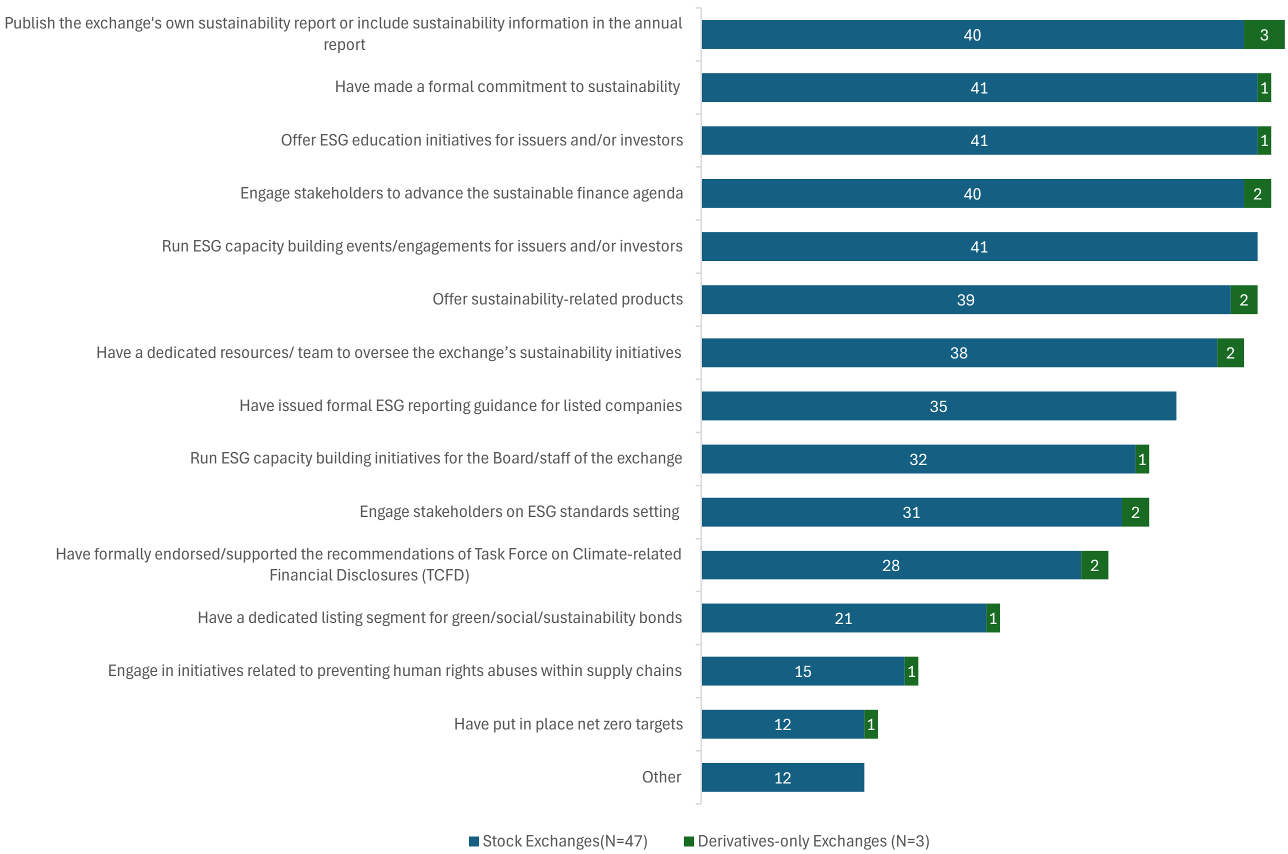
5.1 Exchanges and sustainability

In 2023, all exchanges continue their participation in at least one sustainability initiative. The number of exchanges that publish their own sustainability report or include sustainability information in the annual report witness a growing trend.

To gauge progress towards sustainable development, the survey requests exchanges to disclose their engagement in diverse sustainability initiatives that have been set as benchmarks (see **Figure 11**).

This year's survey results reveal a persistent strong commitment across all benchmark initiatives, with 18 participants engaged in at least 12 initiatives, compared to 15 reported last year. Two respondents, **SIX Group (SIX),** which includes **SIX Swiss Exchange** and **Bolsas y Mercados Españoles (BME);** and **Warsaw Stock Exchange (WSE)**, reported to have participated in all 14 initiatives. In addition, exchanges saw an average increase in the implementation of sustainability initiatives in 2023, as the mean number of initiatives per exchange rose from 9.2 to 9.7.

Figure 11. Exchanges' ESG initiatives*



**Multiple answers allowed.*

The initiative "*Publish the exchange's own sustainability report/include sustainability information in the annual report*" secured the first place, with 86% participation, a significant jump from its fifth place (80% participation) in 2022. "*Have made a formal commitment to sustainability*", "*Offer ESG education initiatives for issuers and/or investors*" and "*Engage stakeholders to advance the sustainable finance agenda*" all hold the second position, with 84% (42/50) participation from the respondents. This year is the second time that "*Have put in place net zero targets*" been included in the list, with 26% of respondents reporting participation, a two-percentage point increase from the previous year.

ESG initiatives reported under the "Other" category include:

- Offering sustainability-related products, such as green/social bonds, gender-focused bonds and sustainability indices.
- Establishing platforms or trading venues for sustainable products and voluntary carbon credits.
- Collaborating with external institutions to promote gender equality, and to enhance the transparency and governance of listed companies.

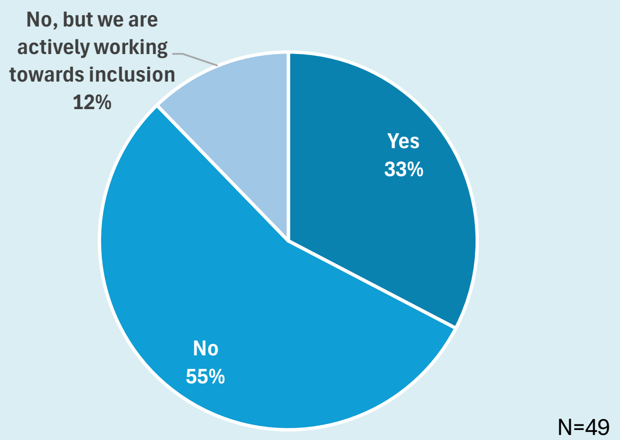
Box 1: Exchanges in ESG indices

For listed exchanges, we track how many of them are included as a constituent of one or more indices tracking the firms' sustainability or ESG performance.

Being included in such indices underscores the exchange's commitment to ESG initiatives.

As shown in **Figure 12**, the survey found that 16 out of 49 respondents (33%) are incorporated in at least one sustainability/ESG index, a jump from last year's 26%. This year, six exchanges (12%) are actively working towards inclusion. It is noteworthy that two exchanges which were working towards inclusion in 2022 have successfully been incorporated into ESG indices in 2023.

Figure 12. Exchanges' inclusion in ESG Indices



Engagement with the WFE Sustainability Principles

2023 marked the first year that all exchanges reported being engaged in Principle 5.

The **WFE Sustainability Principles** (the Principles, hereafter) outline how WFE member exchanges aim to foster sustainability within their markets. Since their introduction in 2018, the WFE has been monitoring exchanges' engagement with these Principles and assessing their progress. To provide a concrete measure of involvement with each Principle, a set of initiatives corresponding to the different Principles has been defined (details on the mapping can be found in Annex 2). Exchanges are also encouraged to report any additional initiatives that align with the five Principles.

While the percentage of respondents involved in each Principle during 2023 is consistent with percentages observed in 2022 (see **Figure 13**), we note that **Principle 5**: "*Embed sustainability into the exchange's governance, strategy and organisation structures*", rose by six percentage points from the previous year, reach 100% of participation with all 50 exchanges. **Principle 1**: "*Educate market participants about sustainability issues*" ranks the second place with 94% of participation, an increase of 3 percentage points from year 2022. **Principle 2**: "*Promote the enhanced availability of ESG information*" observes the largest increase from previous year (seven percentage points). It emphasises the effort exchanges have put in on improving the transparency of sustainable development. The consistently high participation rates in Principles 1 and 5 confirm that exchanges are committed to integrating ESG principles into decision-making process and enhance the awareness of sustainable practices in the financial market.

We also analysed the engagement of each exchange with the Sustainability Principles (refer to **Figure 14**). We observe that:

- 70% (35/50) of the responding exchanges implemented initiatives that corresponded to all five Sustainability Principles.
- The percentage of respondents that engaged in four out of the five Principles ranked second, with a 22% participation rate, which is three percentage points higher than last year.
- Remarkably, the number of exchanges that did not engage in any Principle has decreased to zero, confirming a milestone year of full commitment to sustainability.

Overall, the survey results indicate a growing commitment among exchanges to prioritise sustainability and engage with stakeholders in promoting sustainable finance.

Figure 13. Number and percentage of exchanges engaged in each of the WFE Sustainability Principles

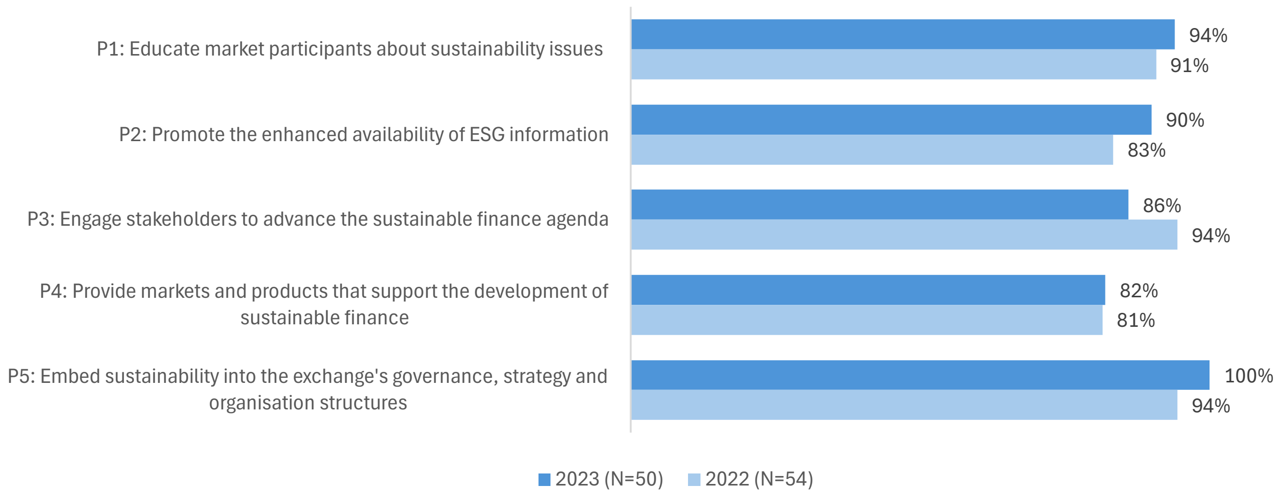
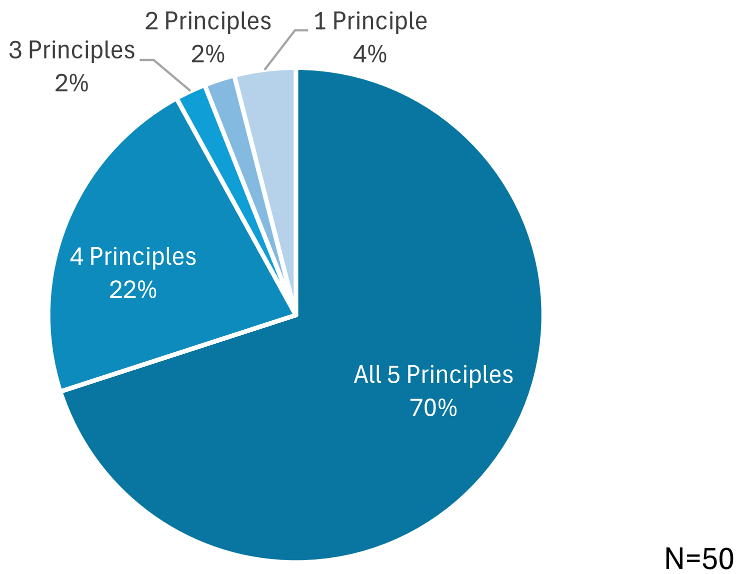


Figure 14. Number of principle engagement per exchange



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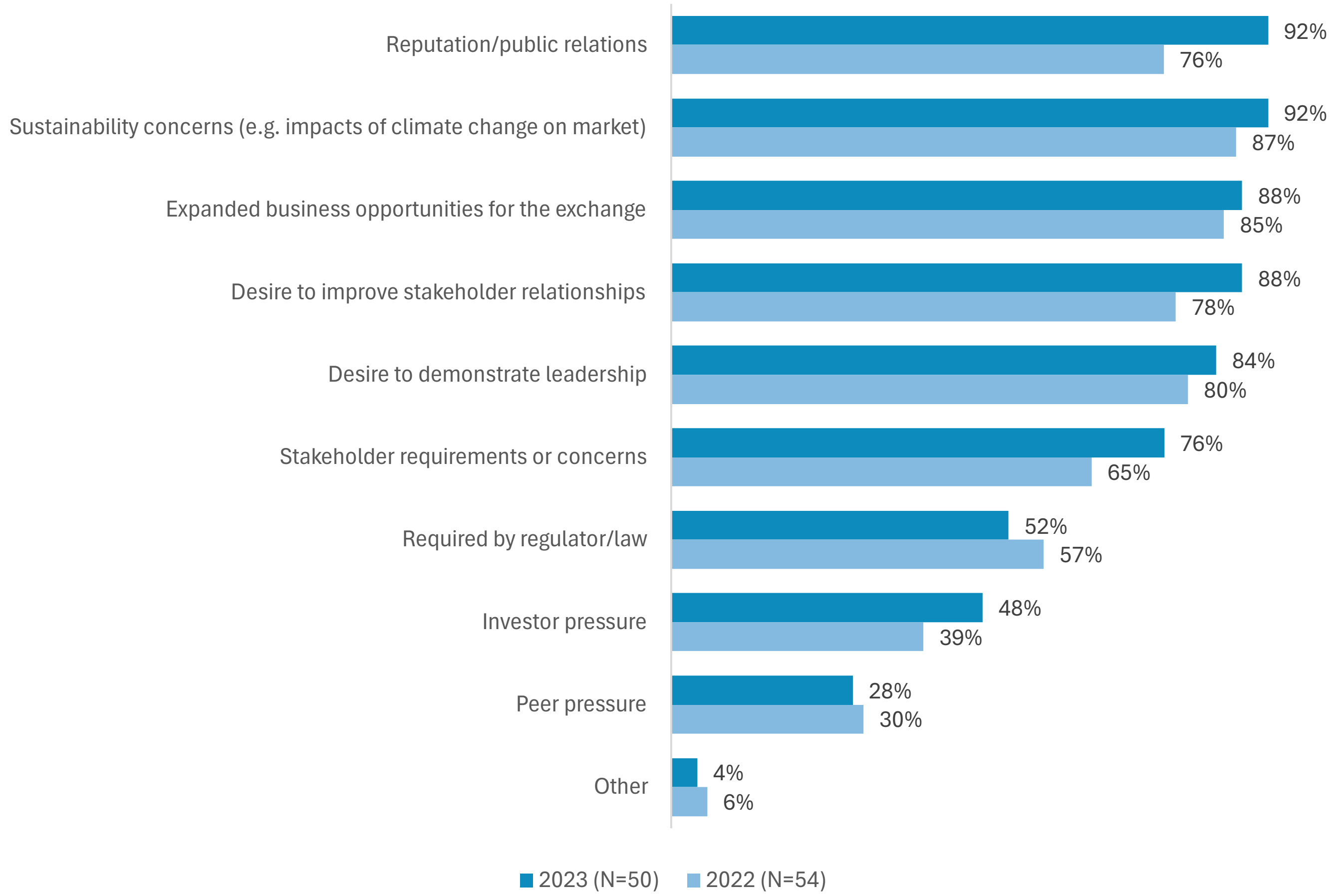
Sustainability initiatives: motivations and concerns

Lack of reliable ESG data and lack of resources to implement initiatives continue to be the primary concerns of exchanges.

Incorporating sustainability initiatives offers exchanges various advantages, including tackling sustainability issues, fostering business expansion, enhancing stakeholder connections, and showcasing leadership. However, exchanges may encounter challenges in implementation, such as resource constraints, ESG data reliability issues, inconsistencies in ESG ratings, and the absence of standardized reporting protocols. The survey gathered data on exchanges' primary motivations for pursuing sustainability endeavours and the obstacles they face in advancing their sustainability objectives.

Figure 15 ranks the primary motivations for exchanges to engage in ESG initiatives according to the percentage of respondents acknowledging having such motivation. The proportion of respondents for each motivation generally increased from year 2022. Notably, "*Sustainability concerns*" remained the top motivation for sustainability involvement, tied with "*Reputation/public relations*" (46 respondents, 92%). In particular, "*Reputation/public relations*" experienced a jump of 16 percentage points since the previous year. "*Expanded business opportunities for the exchange*" and "*Desire to improve stakeholder relationships*" were both selected by 88% of respondents, with the latter showing a ten-percentage point increase from the previous year.

Figure 15. Motivations for sustainability involvement



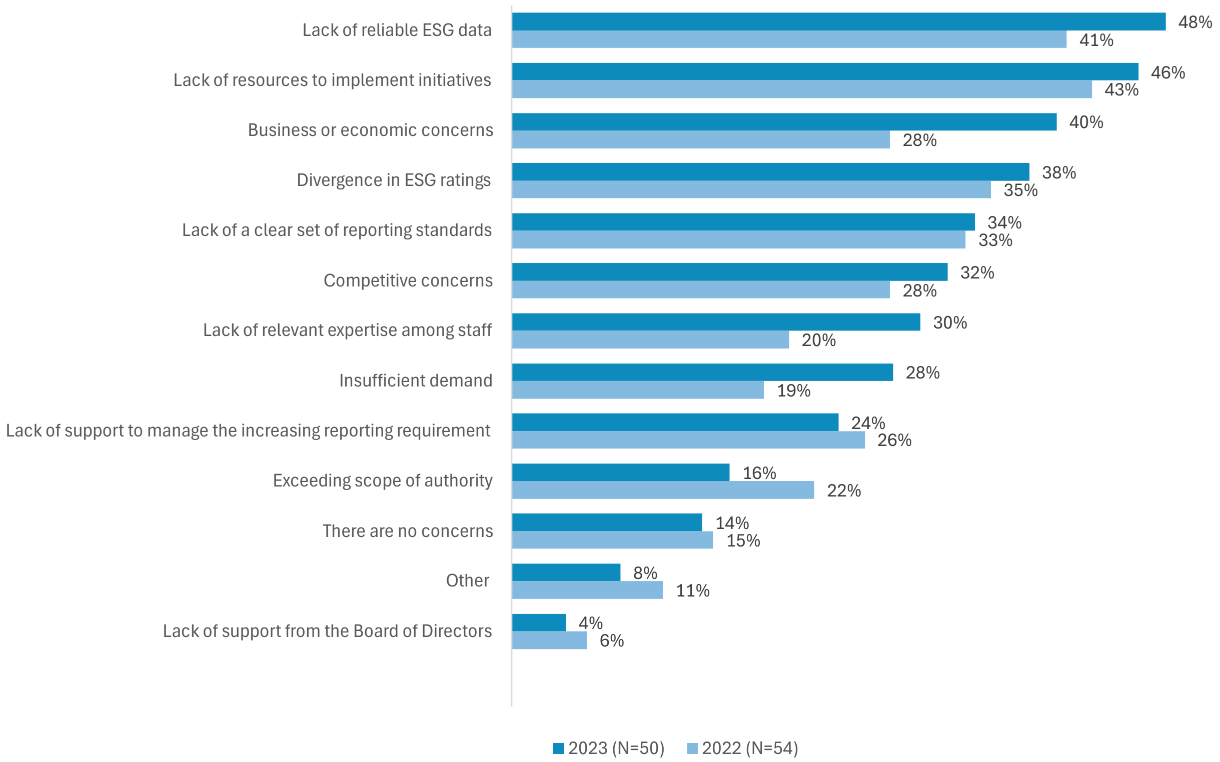
**Multiple answers allowed*

The significant increase (more than ten percentage points) in the proportion of respondents who reported "*Reputation/public relations*" and "*Desire to improve stakeholder relationships*" as a motivation reflects that exchanges are increasingly recognizing the importance of managing their reputation and enhancing relationships with stakeholders in the context of sustainability.

Upon examining the challenges exchanges encounter in their sustainability endeavours, we notice some shifts compared to the 2022 results. As depicted in **Figure 16**, "*Lack of reliable ESG data*" (24/50, 48%) supplants "*Lack of resources to implement initiatives*" as the most frequently reported issue. The continuity of these two options as the top concerns from the previous year reflects the need to improve ESG data quality and allocate resources to support the implementation of sustainability initiatives. "*Business or economic concerns*" were selected by 40% of respondents, making a 12-percentage point rise from the previous year, and securing the third position among all the selections. It suggests that exchanges are shifting their priorities towards financial profitability and competitiveness along with sustainability development.

Exchanges that reported other concerns mentioned the absence of standardization or uniform regulation, as well as a shortage of talent in the market.

Figure 16. Concerns around sustainability efforts*



**Multiple answers allowed*

Box 2: ESG data initiatives

The availability of timely, accurate and comprehensive data is fundamental for investors to make informed decisions. Here are some examples of exchanges' initiatives to enhance the availability of ESG data.

The LGX DataHub, the sustainable bond database of the **Luxembourg Stock Exchange (LuxSE)** and its leading platform for sustainable finance, the Luxembourg Green Exchange (LGX), remained on its upward trajectory in 2023. Gathering structured sustainable bond data on 13,200+ green, social, sustainability and sustainability-linked bonds at year end, the LGX DataHub was recognised on numerous occasions for the depth and quality of the data it houses. In 2023, the International Capital Markets Association (ICMA) selected the LGX DataHub to build and power its new database dedicated to sustainable bond data and the Organisation for Economic Co-operation and Development (OECD) published two reports on sustainable bond issuance in developing countries based on data gathered from the LGX DataHub. In addition, LuxSE made the LGX DataHub's dashboard free to the public as part of its efforts to strengthen sustainable finance knowledge in the industry and the broader ecosystem and to help clients aggregate and compare impact data more easily.

To facilitate the ESG disclosure and data application, the **Taiwan Stock Exchange (TWSE)** launched the ESG InfoHub website in July 2023. The ESG InfoHub integrates ESG information of listed companies to assist investors and enterprises in easily understanding and using to serve as a reference for ESG investment and sustainable development. The ESG InfoHub features the "ESG Dashboard for Listed Companies" function, allowing users to easily query and compare ESG information of listed companies, including environmental information such as greenhouse gas emissions, water consumption and waste materials. Users may also quickly make cross-company and cross-industry comparisons of various ESG indicators through the dashboard function and understand the annual changes.

In 2023, the **Athens Exchange Group (ATHEX)** unveiled the ATHEX ESG Data Portal as part of its ongoing commitment to bolster transparency and foster sustainable investments in the Greek capital market. Developed in collaboration with ResNovae - Sustainability & Investment Consultants and powered by the ESGenius! (a cloud-based ESG management platform), this platform digitizes the collection and submission of ESG information from companies to ATHEX. Serving as a central repository for both listed and non-listed Greek companies, the portal enables standardized and easily comparable access to ESG-related data and initiatives. Companies contribute their data directly into the portal, adhering to the ATHEX ESG Reporting Guide, and can showcase their efforts while comparing against peer groups. Investors and stakeholders gain access to consolidated ESG disclosures for informed decision-making, integrating data into research, analysis, and screening processes. This initiative aligns with the Athens Exchange Group's broader efforts to galvanize action on ESG matters within the Greek capital market, including the publication of the "ATHEX ESG Reporting Guide," the establishment of the "ATHEX ESG Index" and "ATHEX BONDS GREENet," and the organization of educational seminars on ESG topics.

The **Stock Exchange of Mauritius (SEM)** has forged a strategic partnership with Risk Insights, a data science firm founded in South Africa in 2009 that specializes in ESG analysis. Renowned for its groundbreaking AI-powered ESG rating tools, the company ensures the application of global ESG standards to local contexts. As sustainability and ESG reporting assume increasing significance in the business landscape, SEM and Risk Insights have united to offer Mauritian companies, both listed and unlisted, a comprehensive suite of ESG rating tools, disclosure insights, analytics, and impact reports. This collaboration aims to empower companies to elevate the quality of their ESG reporting to meet international standards. By enhancing transparency and sustainability objectives for listed companies and Public-Interest Entities in Mauritius, the partnership with Risk Insights paves the way for showcasing Mauritian businesses' ESG credentials on a broader scale, attracting investor interest, and promoting responsible investment. Moreover, SEM and Risk Insights aspire to enable Mauritian companies to spotlight their ESG credentials on a global platform, thereby facilitating access to sustainable capital. SEM underscores the importance of Mauritius and the Exchange taking a leadership role in pioneering the issuance of Sustainable Financial Products domestically, with a view to gaining international visibility. This strategic move is envisioned to position Mauritius as a premier issuance and listing platform for green and sustainable products linked to Africa, leveraging the global business sector.

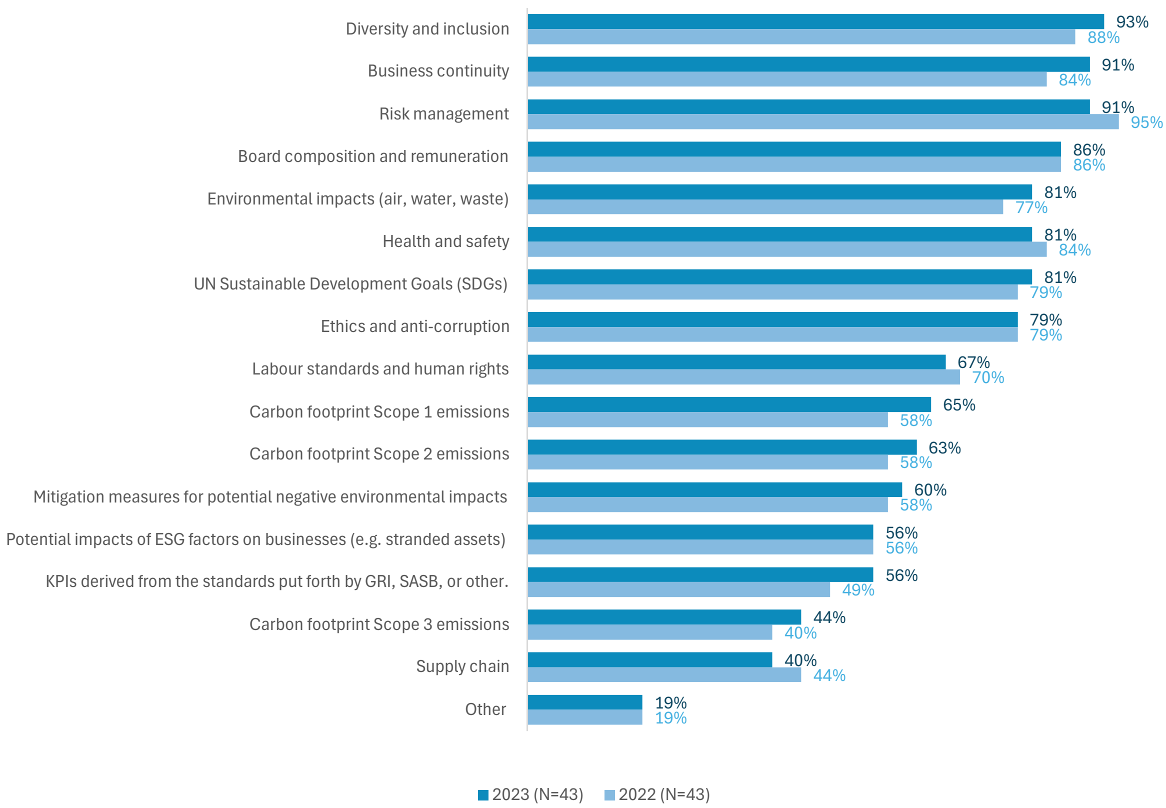
ESG factors in exchanges' reporting

Disclosing information that demonstrates a company's impact on sustainability and the added value it provides across different ESG factors is crucial for assessing its ESG footprint. ESG reporting can take multiple forms, such as being integrated into the annual financial report or existing as a standalone document. And it could cover all or just a portion of the distinct ESG factors. The survey examined the formats employed by the exchanges and the primary ESG factors addressed in the reports.

The proportion of responding exchanges publishing their own sustainability report has significantly increased from 80% (43/54) in 2022 to 86% (43/50). **Figure 17** presents the coverage of reporting across 16 different ESG factors. Five exchanges reported that their sustainability report encompassed all of them. The ESG factors reported by exchanges in year 2023 generally rises from 2022. Each exchange on average report 11.3 factors. "*Diversity and inclusion*" emerged as the most frequently reported factor (40/43, 93%) in the survey. "*Business continuity*"(39/43, 90%), saw a 6-percentage point increase from the previous year and now tied with "*Risk management*" for the second position in ranking.

Although the questions about carbon footprint emissions (scopes 1, 2 and 3) and the question about "*KPI derived from the standards put forth by GRI and/or SASB*" were only introduced in 2022, these four factors have all seen an increase in coverage by our respondents, ranging from four to seven percentage points. It suggests that exchanges are increasingly recognizing the importance of carbon emissions disclosure and adhering to recognized reporting standards.

Figure 17. ESG factors reported by exchanges*



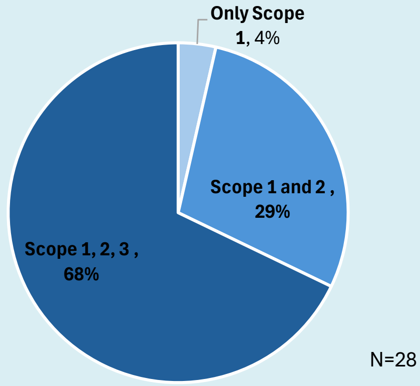
**Multiple answers allowed*

Box 3: Scope of GHG emissions and exchanges' GHG reporting

Scope 1, Scope 2, and Scope 3 are terms utilised in the domain of Greenhouse Gas (GHG) inventories and are integral to corporate sustainability reporting. These terms have been outlined by the Greenhouse Gas Protocol, a globally recognised international standard.

Scope 1 encompasses all direct GHG emissions from sources that are owned or controlled by the organisation. For instance, emissions from company-owned vehicles, factories, or any other operational facilities. This scope allows for a clear assessment of the direct environmental impact an organisation has through its immediate activities.

Figure 18. Carbon footprint emissions



Scope 2 includes GHG emissions resulting from the generation of purchased electricity, steam, heating, and cooling that the organisation consumes. Although these emissions are not directly controlled by the organisation, they are a consequence of the organisation's energy use and therefore are considered in the inventory. This highlights the organisation's indirect impact on the environment through its consumption of energy.

Scope 3, on the other hand, covers all other indirect emissions not included in Scope 2. These emissions occur in the value chain of the reporting company and incorporate both upstream and downstream emissions. These could be emissions from the extraction and production of purchased materials, outsourced activities, waste disposal, and the use of sold products and services, among others. This scope provides a broader perspective on the organisation's indirect environmental footprint across its value chain.

The coverage of the exchanges' ESG reports has increased for all three scopes of carbon footprint emissions**.** 28 (out of 43, 65%) exchanges reported their carbon footprint emissions, an increase of seven percentage points than the previous year (25/43, 58%). A total of 68% (19/28) of survey respondents cover all three scopes, which is the same as the previous year (17/25). In addition, 29% of respondents report at least scope 1 and 2 emissions, and 4% of respondents report one scope emission (see **Figure 18**).

The balance between E, S and G

In 2020, we introduced a question asking exchanges to indicate what percentage of their total ESG efforts was focused on Environmental (E), Social (S), or Governance (G). This year, a total of 44 respondents shared a breakdown of their ESG efforts.

Table 1 displays the average percentage of exchanges' efforts dedicated to each of the three ESG components. These scores were calculated for all participants and across regions. The average scores for each component remain similar to those of 2022. In 2023, governance accounted for an average of 37.9% of exchanges' sustainability efforts, retaining its status as the primary focus area in ESG. The difference in effort between the social (31.9%) and environmental (30.3%) components was small and not statistically significant.

The statistically higher focus on governance (p-value < 0.01) compared to the other two components, suggests exchanges placing a greater emphasis on maintaining robust ethical standards, accountability, and transparency in their operations. This commitment can result in improved decision-making and risk management while still addressing environmental and social aspects.

When grouping by regions, the results are similar. Governance consistently received the highest effort score, although slightly lower than Social for the Americas. The score dispersion was lower in the Americas region, consistent with the results from 2021 and 2022. This suggests that exchanges in the Americas tend to have a more balanced approach to addressing environmental, social, and governance issues.

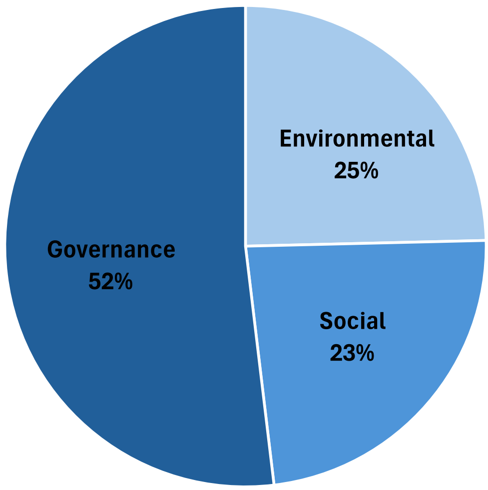
Table 1. ESG efforts breakdown (average percentages)

Region	N	Environmental (%)	Social (%)	Governance (%)
All	44	30.3	31.9	37.9
EMEA	22	28.8	33.0	38.2
APAC	15	32.0	28.5	39.5
AMERICAS	7	31.0	35.6	33.4

In addition to measuring the average effort distribution for E, S and G, we also analysed the percentage of exchanges that prioritised each individual component. To do this, we assigned a weight of 1 to the ESG component, where each exchange received the highest effort. In the case of two (or three) areas receiving the same highest score, we assigned a weight of 0.5 (or 0.33) to each area.

Figure 19 displays the distribution of the exchanges' top priorities, showing that 52% of the exchanges prioritise governance that is the same as year 2022. In addition, exchanges also prioritize more on Social (23%), making the gap with Environment (25%) narrower than the previous year (Environment 27% vs. Social 20%).

Figure 19. Percentage of exchanges prioritising E, S, or G



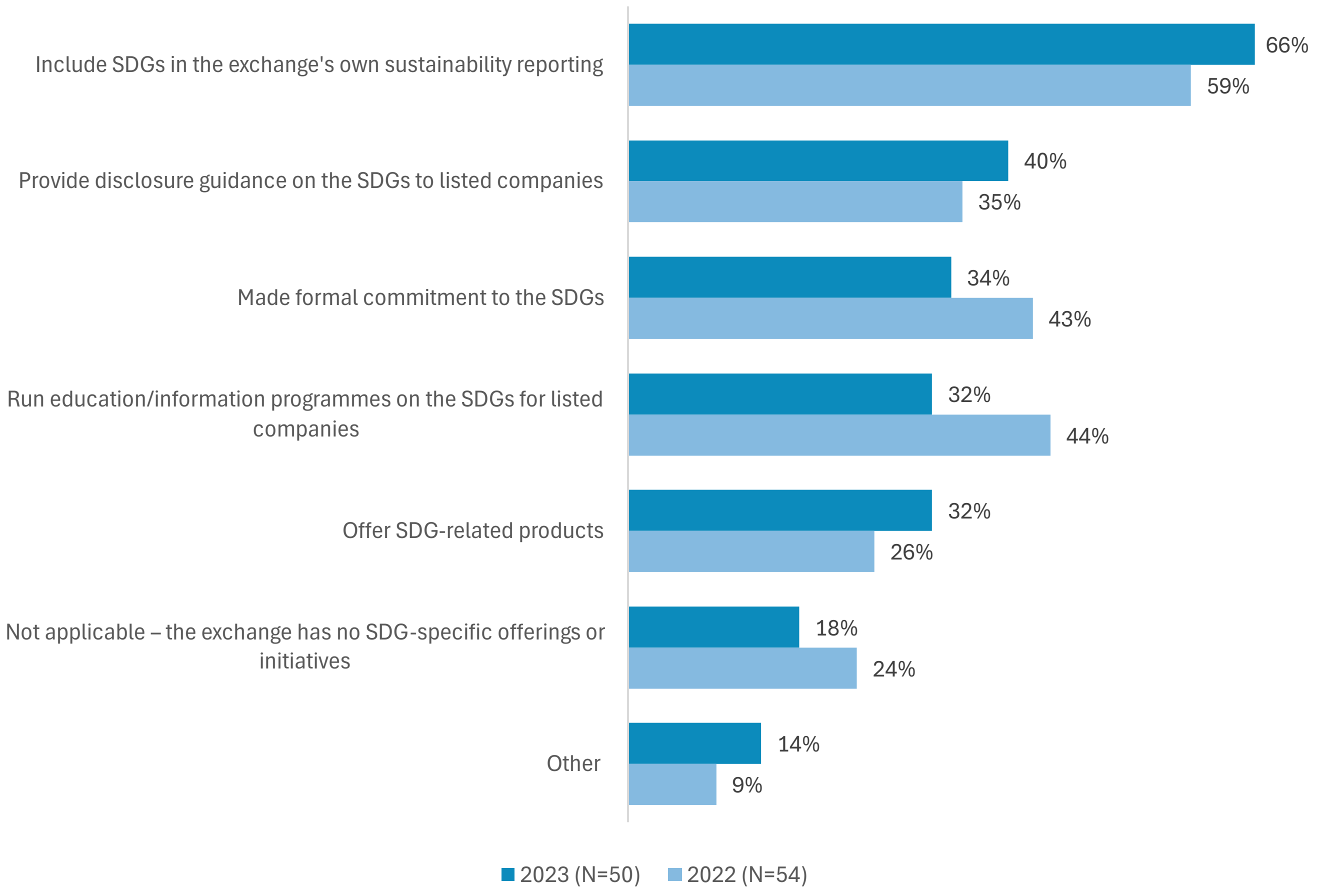
5.2 UN Sustainable Development Goals (SDGs)

WFE members actively engage in promoting and achieving the UN Sustainable Development Goals (SDGs), with 78% implementing sustainability initiatives linked to the SDGs

The UN Sustainable Stock Exchange (SSE) initiative is a program established in partnership with the United Nations, aiming to create an international forum for examining ways in which stock exchanges can improve their ESG performance and promote sustainable investment practices.[3] The WFE and WFE members have been highly involved in the SSE initiative -- 66 of the WFE members are part of the initiative. In addition to the SSE, the UN has established 17 Sustainable Development Goals (SDGs), representing a pressing call to action,[4] and the WFE members also strongly engaged in promoting and achieving the SDGs.

In the WFE Sustainability survey, data was collected concerning the exchanges' initiatives related to the UN Sustainable Development Goals (SDGs). The summary result is presented in **Figure 20**.

Figure 20. UN SDG-specific initiatives*



**Multiple answers allowed. These initiatives do not apply to derivative-only exchanges.*

[3] For more information on the UN Sustainable Stock Exchange initiative, see https://sseinitiative.org.

[4] For more information on the UN Sustainable Development Goals, see https://sdgs.un.org.

In accordance with past trends, WFE members and affiliates demonstrated a strong commitment to the UN Sustainable Development Goals (SDGs), with 78% (39/50) of respondents implementing sustainability initiatives linked to the SDGs, an increase of 2 percentage points compared to 2022. Of these respondents, 66% reported incorporating the SDGs into their sustainability reports, making it the most frequently reported initiative in the past three consecutive years. The second and third most common initiatives were "*Provide disclosure guidance on the SDGs to listed companies*" and "*Made formal committing to the SDGs*", respectively.

In the survey, 32% of the respondents reported offering SDG-related products, compared with 26% in the previous year. Of these, ESG bonds (i.e., green, social, and sustainable) were the most frequently offered, available at 28 exchanges. ESG indices were the next most common, offered by 27 exchanges. Additionally, exchanges facilitated the advancement of the SDGs by offering ESG ETFs and establishing ESG-dedicated market segments.

As in previous years, exchanges were surveyed to ascertain their emphasis on the 17 SDGs. This year, 82% of the surveyed exchanges indicated adherence to the recommendations of the UN Sustainable Stock Exchanges Initiative, concentrating on Goals 5, 8, 12, 13, and 17. This represents a rise from 73% in the previous year. These five SDGs have consistently ranked as the top priorities in this year's and the three preceding years' surveys, although their sequence has slightly varied.

"Goal 5: Gender Equality" continued to be the item attracting higher engagement, as indicated in **Table 2**. The top five goals saw increased engagement compared to the previous year, demonstrating growing interest and involvement in these objectives.

Table 2. The five SDGs attracting higher engagement from exchanges

SDGs	2023 (N=41)	2022 (N=42)
Goal 5: Gender equality	98%	93%
Goal 8: Decent work and economic growth	98%	93%
Goal 13: Climate action	90%	88%
Goal 17: Partnerships to achieve the goal	90%	88%
Goal 12: Responsible consumption and production	78%	79%

Gender Equality

Driven by the UN SDGs and the desire of exchanges to advance gender equality, the WFE initiated the collection of gender-related data in its 2020 survey. **Table 3** presents this year's average proportion of female members in the boards, senior management, and workforce of exchanges.

Among the 50 survey respondents, the average female members in the boards, senior management and workforce are 22.3%, 31.6%, 41.2%, respectively. The percentage of females on boards experiences a slight increase than last year (20.7%). When respondents are categorized by region, Americas report the highest percentage of females on board (27.1%) and senior management (38.6%) compared to APAC and EMEA. The highest percentage of females in workforce is observed in EMEA at

42%. In addition, EMEA also experience increase in the percentage of females on board and senior management from the prior year, the percentage of female on board rises from 22.1% to 22.8%, and the percentage of female senior management rises from 31% to 31.5%. For APAC, the percentage of female on boards rises from 17.6% of year 2022 to 19.9% this year, but the female workforce drops from 44.6% to 40.5%.

Table 3. The average percentage of female representation

Region	N	Board	Senior Management (%)	Workforce (%)
All	50	22.3	31.6	41.2
AMERICAS	7	27.1	38.6	40.4
APAC	19	19.9	29.2	40.5
EMEA	24	22.8	31.5	42.0

When asked whether the exchange had targets in place to increase female representation, 23 (46%) respondents indicated that they had such targets, which is a significant increase from 16 (30%) of the prior year. Among these 23 exchanges, 13 are in the EMEA region, seven are in the Asia-Pacific region, and three are in the Americas region. Exchanges with targets to improve gender equality have, on average, 21%, 28%, and 37% female representation on their board, senior management, and workforce, respectively.

In addition, the survey sheds light on gender equality in businesses listed on the stock exchanges. Out of the 46 stock exchanges that responded, 21 (46%) track the representation of women on the boards of their listed companies. On average, 70% of the listed companies that track female board representation have at least one woman on their board, which is a fourteen-percentage point increase from last year's 56%. 43 out of the 49 responding exchanges (88%) have offered paternity leave, a rise from last year's 85% (44/52). It reflects a positive trend towards gender quality and demonstrate the commitment to support equal opportunities for both genders in the workplace.

Box 4: Initiatives to promote gender equality

Gender equality has emerged as a key area of emphasis in the sustainability efforts of stock exchanges. These exchanges are putting into action various initiatives to enhance female representation both within their own organisations and among the companies they list.

Hong Kong Exchanges and Clearing Limited (HKEX) introduced an amendment to the Corporate Governance Code – in which they banned single-gender boards for all new IPO applicants, with all existing issuers set to follow suit by 2024 – which came into effect on 1 July 2022. This rule is significant because it will help improve boardroom gender diversity and unlock the potential of senior female leaders in Hong Kong. To support this new policy, they introduced a new "Board Diversity & Inclusion in Focus" repository on their website, providing information on the age, gender and tenure profile of listed issuers' board of directors, improving transparency around board diversity.

Industrial processing, distribution, and services company Barloworld listed South Africa's first gender-linked bonds on the **Johannesburg Stock Exchange (JSE).** The two bonds aim to raise R1.1 billion, which would support women empowerment initiatives within the company's leadership structures and supply chain.

Luxembourg Stock Exchange (LuxSE) and UN Women signed a Memorandum of Understanding (MoU) to promote initiatives for financing gender equality and women's empowerment. A gender-focused bond flag was added to all debt securities on LGX that fund gender equality projects. This allows investors to easily identify and invest in projects that align with UN Sustainability Goal 5.

Ring the Bell for Gender Equality

The World Federation of Exchanges (WFE) is celebrating the 10th annual "Ring the Bell for Gender Equality" event, a global initiative involving 121 exchanges worldwide. This initiative aims to promote gender equality in workplaces, marketplaces, and communities by ringing the bell in honour of female achievements. The WFE emphasizes the proactive efforts of member exchanges in promoting gender equality, as showcased in their own projects and participation in the annual event.

To coincide with International Women's Day on March 8th, the WFE released its Women Leaders Special Edition Focus Magazine, highlighting outstanding women within its member organizations. The Ring the Bell events, comprising both in-person and virtual activities, began on March 4th and will continue throughout the month. Partnering with organizations like the International Finance Corporation (IFC), the UN Sustainable Stock Exchanges (SSE) Initiative, UN Global Compact, and UN Women, this year's campaign aligns with UN Women's theme for International Women's Day 2024, "Invest in Women: Accelerate Progress."

In its tenth year, the Ring the Bell initiative celebrates a decade of progress in advancing gender equality and women's empowerment, showcasing the collective commitment of exchanges worldwide to foster a more inclusive and equitable society.

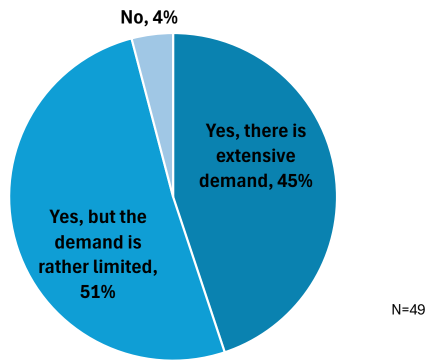
5.3 Transparency and reporting

Results reveal a strong demand for ESG disclosure among investors, with exchanges and regulatory bodies playing pivotal roles in advocating for and mandating such disclosures.

Transparency serves as a fundamental building block for fostering trust and confidence in any market. Timely and precise disclosures, coupled with standardized reporting practices, are essential elements in ensuring market efficiency. The WFE Sustainability Survey is dedicated to gathering and maintaining up-to-date information on a range of disclosure and reporting-related topics. These include assessing investor demand for ESG disclosure, exploring preferred disclosure formats, and identifying standardized reporting frameworks.

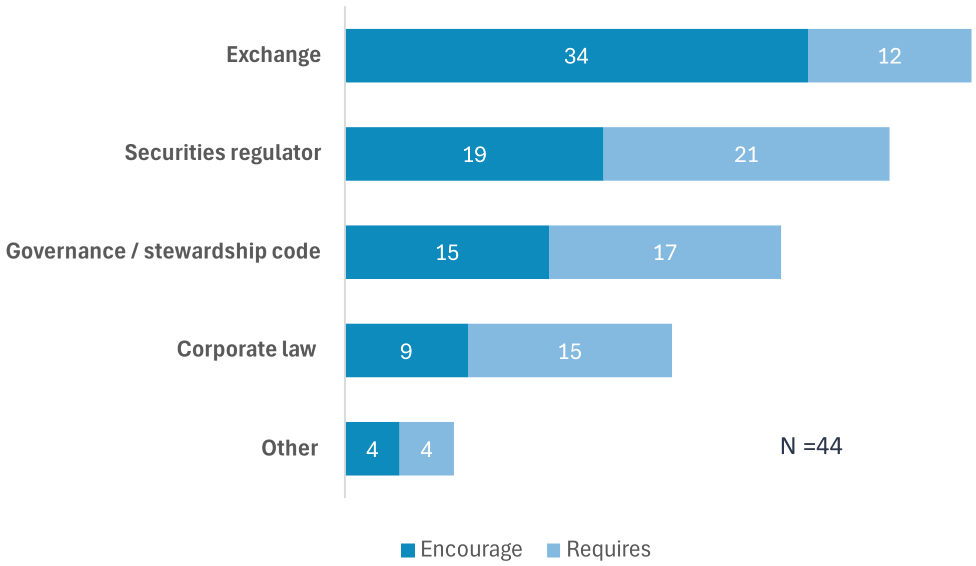
Regarding investor demand for ESG disclosure, the proportion of exchanges acknowledging such demand within their jurisdiction has consistently remained robust at 96%, mirroring trends from the previous two years. The characteristics of this demand closely resemble those of the previous year (see **Figure 21**), with 51% of respondents noting a substantial demand for ESG disclosure, while 45% indicated a more limited interest within their respective jurisdictions. Notably, three exchanges, all situated in the EMEA region, reported a notable absence of demand for ESG disclosure.

Figure 21. Investor demand for ESG disclosure



To elucidate the factors motivating ESG disclosures, the survey investigated the primary drivers influencing these disclosures. **Figure 22** illustrates a detailed breakdown of the responses gathered. The findings reveal that exchanges remain the foremost proponents of ESG disclosure, consistent with previous years. Intriguingly, in four markets, exchanges stand as the exclusive entities advocating or mandating ESG disclosure. Securities regulators, with 19 encouraging and 21 requiring such disclosures, have supplanted Governance/Stewardship codes, emerging as the secondary driver of ESG disclosure. This shift underscores a heightened focus on regulatory mandates and oversight concerning ESG disclosure practices.

Figure 22. Drivers of ESG disclosure*



**Multiple answers allowed*

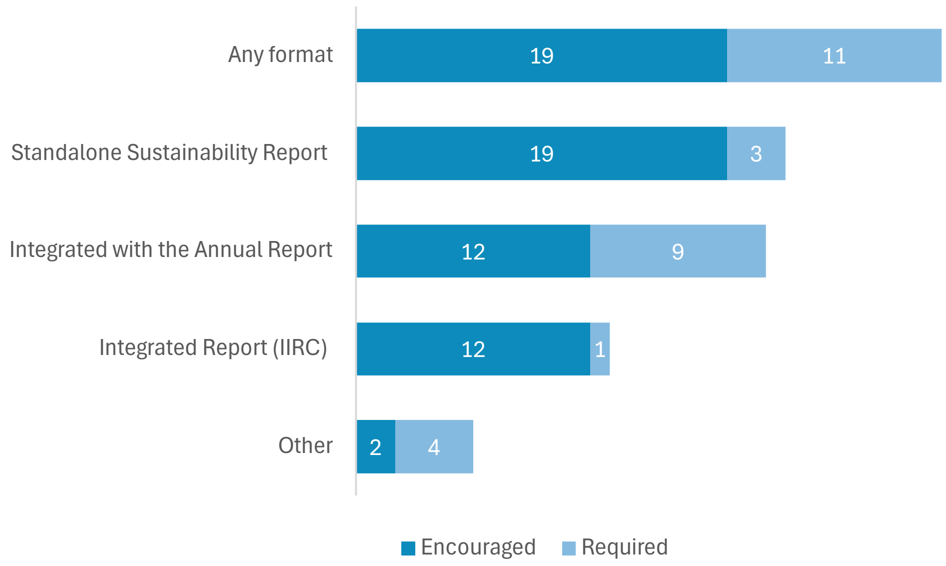
ESG disclosure: formats and standards

Ensuring the availability of high-quality, consistent, and comparable ESG information, which caters to the best interests of all stakeholders, stands out as a primary challenge reported by exchanges. To monitor the evolution of reporting methodologies, we compiled data on the reporting standards and formats endorsed by exchanges.

Figure 23 presents the responses from exchanges regarding the preferred disclosure format they advocate or mandate for reporting. The findings indicate that exchanges typically refrain from imposing specific requirements, affording companies the flexibility to select their preferred format, with "any format" receiving the highest overall preference. Among the 44 respondents to this inquiry, 19 exchanges encourage ESG reporting without stipulating a particular format, while 11 exchanges mandating ESG reporting do not specify a disclosure format. Notably, there has been a discernible shift in the distribution of ESG reporting requirements among exchanges. This year, the proportion of exchanges mandating ESG reporting has risen compared to those merely encouraging it. For instance, in the previous year, 24 exchanges encouraged ESG reporting, while only six mandated it.

Among the predefined reporting formats, a standalone sustainability report remains the most favoured option, with 19 exchanges recommending it and three requiring it for their listed companies. This format has seen remarkable growth in recent years. Initially, less than 20% of respondents either required or encouraged this format of sustainable reporting back in 2018, when we began tracking such information. However, in the past couple of years, the standalone sustainable report has emerged as the preferred predefined format. This format offers the advantage of focusing exclusively on sustainability issues, providing clear insight into listed companies' ESG considerations. Integrating ESG disclosure into the corporate annual report is the second most popular predefined reporting format, maintaining a similar level of popularity compared to the previous year, with 12 exchanges encouraging it and nine requiring its adoption. This approach offers the advantage of incorporating ESG issues into the overall discussion of the company's development and is also subject to review by auditors as part of the disclosure information. Additionally, other mentioned reporting formats include specific formats or platforms developed by the exchange or securities regulators.

Figure 23. Reporting format encouraged/required by exchanges*



**Multiple answers allowed*

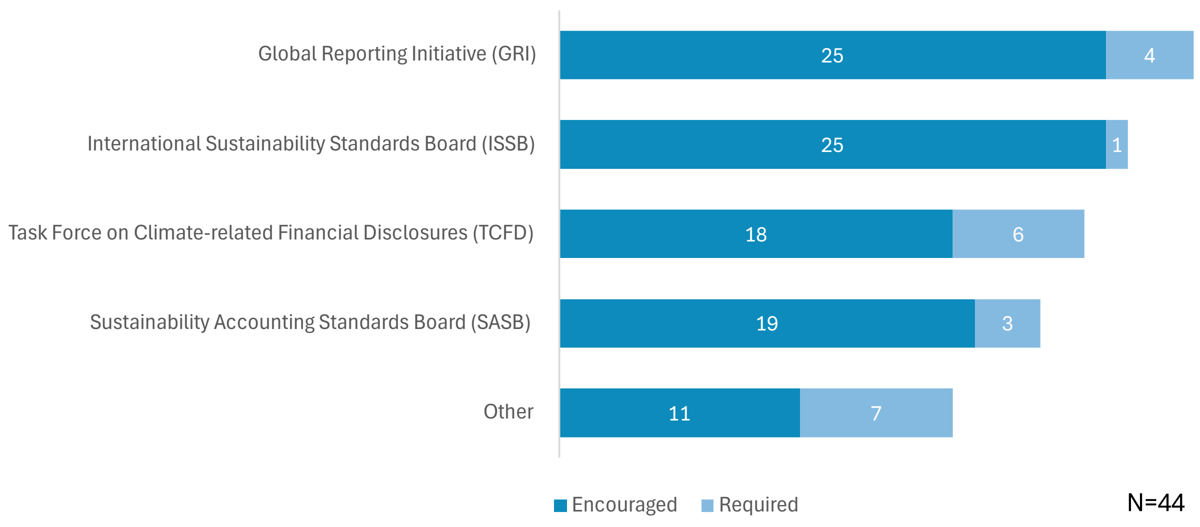
Distinguishing from reporting formats, which dictate how ESG information is presented, reporting standards encompass the rules governing ESG measurement and disclosure. Typically, accounting standards-setting bodies determine these ESG standards. Among the prominent ESG standards are the Global Reporting Initiative (GRI), the International Sustainability Standards Board (ISSB), the Task Force on Climate-Related Financial Disclosures (TCFD) established by the Financial Stability Board (FSB), and the standards issued by the Sustainability Accounting Standards Board (SASB). These standards provide guidelines for companies to consistently measure and report their ESG performance, facilitating comparability and transparency across different organizations.[5]

Figure 24 illustrates the reporting standards either encouraged or required by exchanges. In 2023, a lack of consensus regarding the required or recommended reporting standards among exchanges persisted. The Global Reporting Initiative standard garners the highest level of support (66% of the respondents), followed closely by the International Sustainability Standards Board (59%), which is encouraged by an equal number of exchanges as GRI. The Sustainability Accounting Standards Board is encouraged by 19 exchanges, and the Task Force on Climate-Related Financial Disclosures, 18 exchanges. Notably, TCFD remains the most enforced standard by exchanges this year, with six exchanges now mandating listed companies to utilise TCFD for reporting.

In response to the interest in TCFD standards, the survey collected data on the primary organisations advocating for these standards. **Figure 25** showcases the extent to which TCFD standards are either recommended or mandated by exchanges and/or by local regulatory authorities. Approximately 53% of the surveyed exchanges expressed their support for TCFD standards, marking a significant improvement from the 36% reported in the previous year.

[5] The SASB and International Integrated Reporting Council have now merged to create a new initiative called the 'Value Reporting Foundation.' This will help to further streamline the number of reporting initiatives that exist as well as support the work of the IFRS Foundation Trustees.

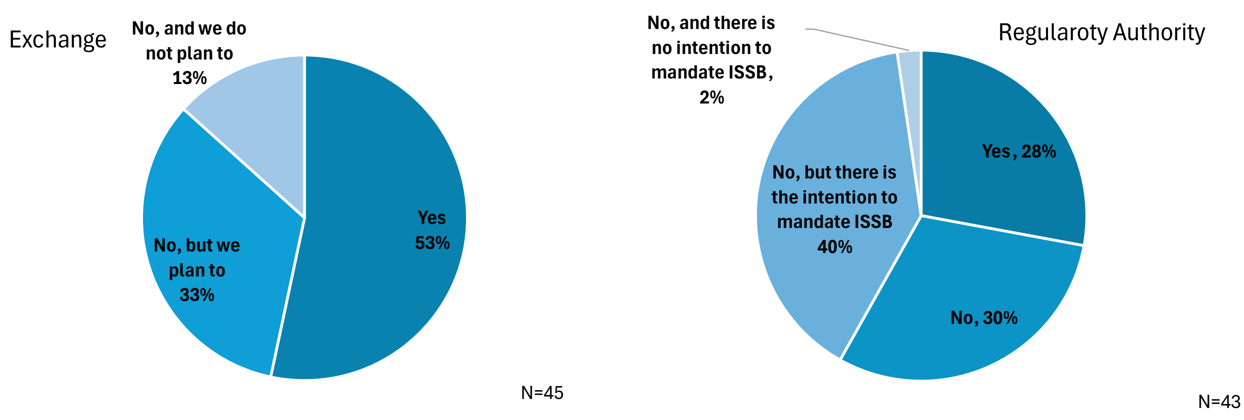
Figure 24. Reporting standards*



**Multiple answers allowed*

Notably, four exchanges that had planned to incorporate TCFD standards in 2022 have successfully implemented them this year. Additionally, another 33% of exchanges have expressed their intention to include the TCFD standard. Furthermore, the proportion of respondents indicating regulatory authorities mandating corporate disclosures aligned with the TCFD framework has risen to 28% (12 out of 43), representing an increase compared to the 21% (9 out of 44) observed in the prior year's survey. This trend underscores the heightened emphasis on climate-related financial disclosures. Moreover, there has been a notable uptick in exchanges aligning with regulatory authorities' intentions to mandate ISSB, with 40% (17 out of 43) indicating such intentions, compared to the 20% observed in 2022.

Figure 25. Including TCFD Recommendation in the reporting guidance or requirements



The left hand side represents the answer to the question: Has your exchange included the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) in the reporting guidance or reporting requirements for listed companies? The panel on the right shows the answer to the question: Have the authorities in your jurisdiction mandated corporate disclosure against the TCFD framework?

Box 5: Enhancing ESG disclosure

Enhancing the quality and standardization of ESG reports are important. To this end, exchanges have diligently undertaken measures at refining the efficiency and depth of ESG reporting mechanism. Here are some examples of exchanges' initiatives to promote ESG disclosure.

In partnership with the EBRD, **Warsaw Stock Exchange (GPW)** has updated its ESG Reporting Guidelines to align with CSRD and ESRS, providing issuers with a comprehensive framework for ESG disclosure. This initiative reflects GPW's commitment to enhancing transparency and supporting the transition towards sustainable development.

In January 2023, **Japan Exchange Group (JPX)** published its second "Survey of TCFD Disclosure in Japan," which covered the constituent companies of the JPX-Nikkei Index 400. This year's survey covered a bigger range of companies than the previous survey in order to better reflect the situation around climate-related disclosure in Japan, after companies listed on the newly-launched Prime Market were asked to enhance the quality and quantity of disclosure based on the TCFD recommendations or an equivalent framework as part of Japan's Corporate Governance Code.

In November 2023, JPX subsidiary JPX Market Innovation & Research officially launched "JPX ESG Link," a website that provides a list of links to ESG-related information published by TSE-listed companies on their websites and enables investors and others to search and browse this information for free. Since the links are collected using AI, this allows listed companies to communicate their ESG-related information to a wider range of investors without increasing the workload on either side.

From the 2023 reporting year, the Swiss Code of Obligations is introducing mandatory non-financial disclosure requirements on environmental and social topics. The new requirements also expand the concept of economic due diligence to include non-financial topics. In parallel, the EU began phasing in the Corporate Sustainability Reporting Directive (CSRD). **SIX Swiss Exchange** supports all its listed companies in Switzerland and Spain with meeting the new reporting requirements. A handbook on sustainability reporting was published in both countries and the exchanges operated by SIX offer a range of different formats, events, and training opportunities for issuers each year.

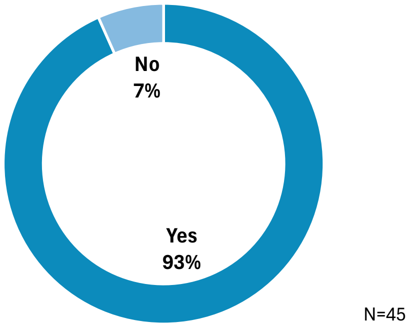
On December 29, 2023, **Shenzhen Stock Exchange (SZSE)** released the *White Paper on Sustainable Development Information Disclosure of SZSE-Listed Companies* with the aim of further consolidating consensus and pooling strengths to aid the advancement of sustainable development, which mark a continuous enhancement in the quality of ESG information disclosure. On February 8, SZSE formulated and issued the *Self-Regulatory Guidelines No.17 for Companies Listed on Shenzhen Stock Exchange - Sustainable Development Report (for Trial Implementation)* to solicit comments from the market. With this measure, SZSE aims to standardize the disclosure requirements for sustainable development information of listed companies, instruct listed companies to practice the concept of sustainable development and promote the improvement of the quality of listed companies.

To meet the goal of all listed companies compiling ESG reports by 2025, the **Taiwan Stock Exchange (TWSE)** is presently developing a digital ESG reporting platform while expanding the metrics in their ESG database. When listed companies input ESG metrics data into the platform, it will automatically generate report content, referencing the GRI Standards to assist listed companies in identifying material ESG issues and evaluating the sustainability risks they face. This initiative aims to empower all listed companies to produce ESG reports, thereby reducing the manpower and time burden on listed companies while enhancing the quality of ESG information disclosure.

In aiding listed companies with ESG disclosure, stock exchanges often offer issuers ESG reporting guidance. The survey findings unveiled that 73% (35 out of 48) of respondents have provided companies with guidance on issues deemed material for disclosure—a notable increase of 9 percentage points from the previous year. Out of these, 20 exchanges have developed and published their own reporting guidance, while 15 exchanges have recommended or referenced existing guidance documents.

The International Sustainability Standards Board was established in 2022 as an independent, private-sector entity tasked with developing and endorsing IFRS Sustainability Disclosure Standards (IFRS SDS). Operating under the oversight of the IFRS Foundation, the ISSB plays a crucial role in standardising sustainability reporting globally. When queried about their stance on supporting the ISSB, a striking 93% of respondents expressed their favourability, marking a substantial increase from the 83% observed in the previous year (see **Figure 26**). This surge in support underscores the growing recognition and endorsement of the ISSB's efforts to establish comprehensive and consistent sustainability disclosure standards across industries and jurisdictions.

Figure 26. Support for the creation of the ISSB



Regarding whether exchanges require assurance or verification of listed companies' ESG data/disclosure, the findings indicate that 28.9% (13 out of 45) of respondents do not currently have a requirement for verification or do not anticipate implementing such a requirement in the future. This marks a decrease from the previous year's figure of 38%. Among the respondents, three exchanges mandate the verification of issuers' ESG data by external audit firms, while one relies on third-party assurance for non-financial reporting. Additionally, 12 exchanges have expressed their intention to implement such a requirement in the future.

Box 6: Greenwashing and the WFE Green Equity Principles

Greenwashing refers to the deceptive practice of conveying a false impression or providing misleading information about the environmental benefits of a product, service, or company's practices. It involves exaggerating or misrepresenting the eco-friendly attributes of a product or organisation to appeal to environmentally conscious consumers, without actually implementing meaningful sustainability measures. Greenwashing can take various forms, such as using misleading labels or certifications, making unsubstantiated environmental claims, or diverting attention from harmful practices through superficial gestures. The aim of greenwashing is often to enhance a company's reputation, boost sales, or deflect criticism, rather than genuinely advancing environmental sustainability.

ESG disclosure serves as a crucial tool for combating greenwashing by promoting transparency and accountability in corporate practices. The following are several ways that ESG disclosure could address greenwashing issues.

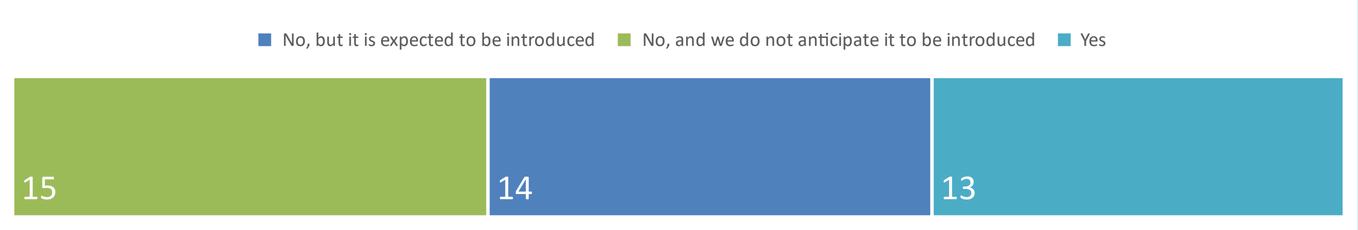
- Enhanced Transparency: ESG disclosure requires companies to provide comprehensive and accurate information about their environmental, social, and governance performance. By disclosing relevant data and metrics, companies can demonstrate their commitment to sustainability and enable stakeholders to assess their actual environmental and social impact.

  Accountability: ESG disclosure holds companies accountable for their claims and actions regarding sustainability. By providing verifiable information, companies can be held responsible for their environmental and social practices, reducing the likelihood of greenwashing or misleading marketing tactics.

- Standardized Reporting: ESG disclosure frameworks, such as those developed by organizations like the Global Reporting Initiative (GRI) or the Sustainability Accounting Standards Board (SASB), provide standardized guidelines for reporting ESG metrics. This helps ensure consistency and comparability across industries, making it easier for stakeholders to evaluate companies' sustainability performance accurately.

To gauge the regulatory efforts to address greenwashing issues, in this year's WFE sustainability survey, we introduced a new question regarding the introduction and existences of greenwash legislation in the respondents' local jurisdiction. The results are plotted in **Figure 27**. Out of the 42 respondents, 13 exchanges reported that greenwashing legislation has already been introduced by their regulator. In addition, 14 exchanges expect that such legislation will be introduced in the near future.

Figure 27. Greenwashing legislation



Regarding green labelling in the equity space, on March 23, 2023, the WFE introduced its groundbreaking **WFE Green Equity Principles**, marking the first-ever global framework for identifying and designating stocks and shares as environmentally sustainable. These principles serve as a universal guideline for recognizing and endorsing shares with green attributes. The implementation of the WFE Green Equity Principles aims to address the issue of greenwashing by establishing clear criteria for issuers to meet across five key pillars: Revenues, Taxonomy, Governance, Assessment, and Disclosure. By adhering to these principles, issuers seeking the WFE Green Classification will enhance their accessibility to capital, provide investors with comprehensive information for informed decision-making, elevate their visibility among sustainability-focused investors, and underscore their commitment to advancing the green economy.

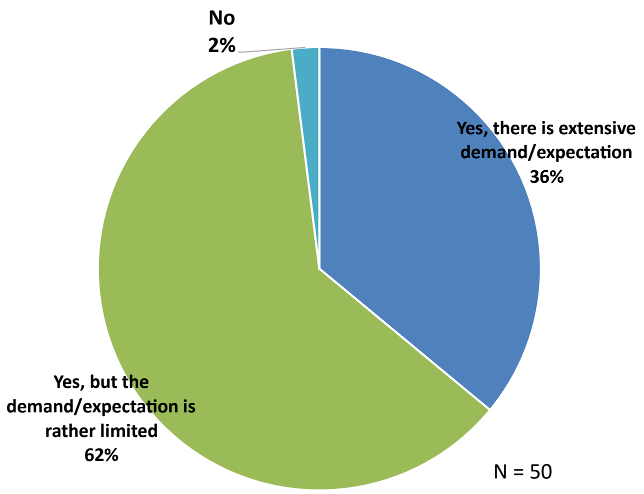
5.4 Sustainability products

Exchanges worldwide are witnessing a surge in investor demand for ESG products, prompting them to actively facilitate the listing, trading, and oversight of such offerings.

The escalating interest among investors in ESG products has sparked a shift in exchanges' roles, leading them to actively facilitate the listing, trading, and oversight of these offerings. By providing a platform for exchange-listed or traded ESG products, exchanges are instrumental in directing capital toward sustainable businesses and initiatives, aligning investment portfolios with sustainability considerations. Recognizing the significance of this trend, the WFE has taken proactive steps to incorporate comprehensive data on ESG-related products into its Statistics Portal. This initiative aims to furnish stakeholders with valuable insights into the performance and dynamics of ESG products and their respective markets, thus enabling informed decision-making and further advancing sustainable investment practices globally.

First, the survey involved inquiring about the presence of demand for ESG products within their individual markets. The results, as summarized in **Figure 28**, shed light on the widespread interest in ESG investments among investors. Remarkably, 98% (49 out of 50) of the exchanges reported some degree of investor interest in ESG products, showcasing a notable increase from the 92% observed in 2022. Delving deeper, among these exchanges, 18 noted a significant upsurge in demand for such products, representing a notable uptick from the 14 reported in the previous year. This increase underscores a growing appetite among investors for ESG-aligned investments. It's also worth noting that only one exchange, situated in emerging markets within the EMEA region, indicated a lack of investor interest in sustainability-related products.

Figure 28. Investor demand for ESG products

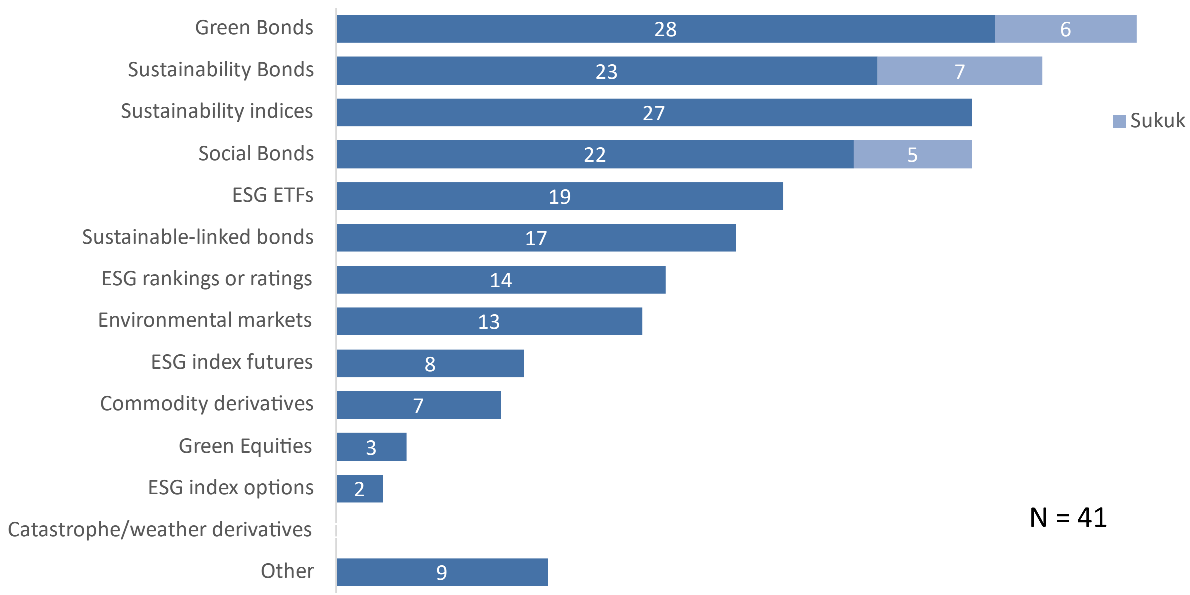


To understand how exchanges are addressing investor demand, we gathered data on the ESG products that are offered by exchanges. In 2023, 41 exchanges offered ESG-related products, representing 82% of all respondents, similar level compared to last year.

Figure 29 outlines the distribution of products offered by exchanges. Similar to the previous year, green bonds (including green sukuks) maintained their position as the most sought-after ESG products, with 82.9% (34 out of 41) of respondents offering them. Following closely behind, sustainability bonds and sukuks emerged as the second most popular ESG product, with 73.2% (30 out of 41) of exchanges providing them. In the realm of ESG derivatives, ESG index futures led the pack as the most offered, followed by ESG commodity derivatives.

ESG products categorised as "Other" include sustainability index, commercial papers, renewable energy infrastructure funds, gender-focused bonds, green DLT bonds, greenhouse gas emission allowances.

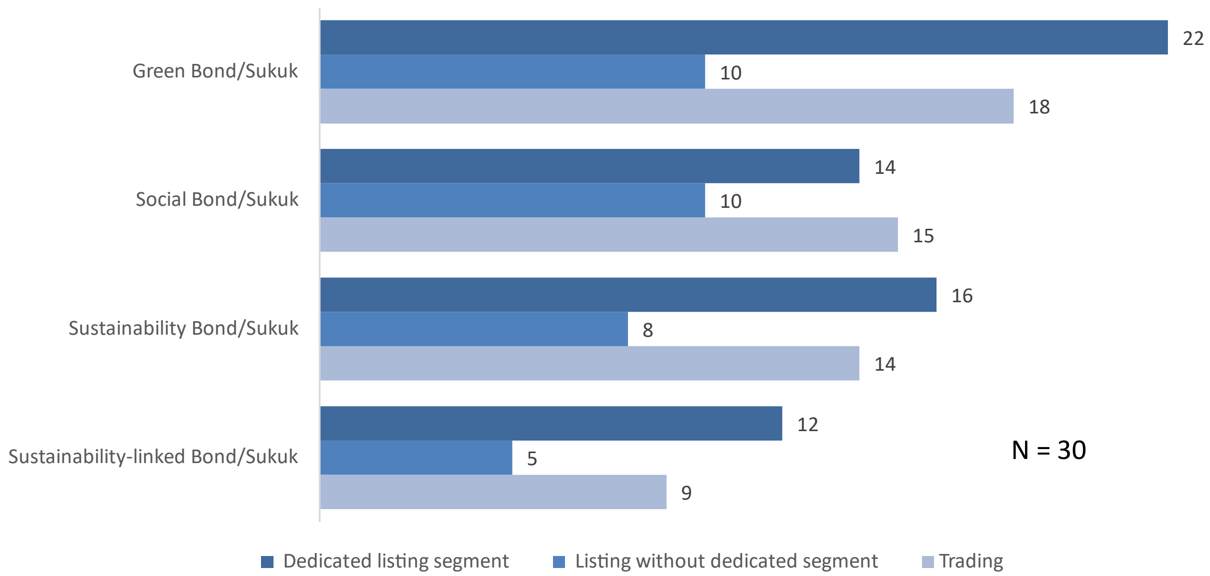
Figure 29. Exchange-offered ESG products*



**Multiple answers allowed. Segments in red indicate Sukuk products*

The survey also gathered data on how sustainability-related bond markets are structured across different exchanges, as depicted in **Figure 30**. Notably, approximately 73.3% of exchanges offering green bonds/sukuks have established a dedicated listing segment for them. Moreover, the dedicated listing segment stands out as one of the most common setups for the market, particularly for sustainability and sustainability-linked bonds and sukuks. Furthermore, exchanges frequently provide trading services for these products, with 60.0% offering trading for green bonds/sukuks, 50.0% for social bonds/sukuks, 46.7% for sustainability bonds/sukuks, and 30.0% for sustainability-linked bonds/sukuks.

Figure 30. Sustainability-related bond markets*



*The three options (trading, listing without a dedicated segment, and dedicated listing segment) are not mutually exclusive.

Box 7: New sustainable products and dedicated platforms

In 2023, we saw exchanges ramping up their efforts in providing more sustainable products to support the development of sustainable finance. The following are a few highlights from the year.

Warsaw Stock Exchange (GPW) launched the Warsaw Sustainable Segment, which marked a significant step in promoting sustainable debt instruments, aligning with Poland's ambition to become a regional hub for green finance. This platform facilitates informed investment in sustainability projects, advancing the sustainable finance ecosystem.

In November 2023, **Japan Exchange Group (JPX)** subsidiary JPX Market Innovation & Research (JPXI) announced that Hitachi would be using JPXI's Digitally Tracked Green Bond and Green Tracking Hub system, which utilizes security tokens and blockchain technology to reduce the risk of greenwashing in green bond reporting, to issue its own green bond. In February 2023, this system won an award from the Ministry of the Environment. JPXI hopes that many other issuers will use this system for their own ESG bonds.

As the global marketplace evolves, **CME Group** continues to engage with its clients and the industry to ensure its product offerings meet changing needs and sustainability goals. The exchange has quickly become the market of choice for managing battery metals price risk, and open interest across its battery metals complex grew 170% year-over-year in 2023, while volume traded also grew more than 190%. The exchange continued to reinforce the position of its E-mini S&P 500 ESG futures as one of the world's most widely used ESG equity futures contracts, reaching a new single-day volume record of 32,400 contracts traded at the end of 2023. CME Group offers the widest range of energy products, which can all be utilised to manage weather related energy risks, but also a suite of weather products based on seasonal temperature patterns around the world. As atypical weather patterns create additional risks and uncertainty, participation in the weather complex grew in 2023 with average daily volume (ADV) up 285% year-over-year. CME also launched options on weather futures covering 18 key cities in the U.S., Europe, and Asia.

ESG indices

The index universe of **SIX Group (SIX)**[6] contains several ESG and sustainability-related indices for Switzerland, Spain, and the Nordics. In developing the indices, SIX uses data from independent ESG data providers. The indices are designed to identify companies with leading corporate responsibility practices.

With the SPI ESG and SBI ESG index SIX has started offering ESG indices in Switzerland 2021 and these are now established as the leading ESG Benchmarks for the Swiss equity and CHF bond market. The SPI ESG family, which attracted many new clients in 2023 comprises two main indices: the SPI ESG, which selects its components according to specific sustainability criteria and is weighted by free float-adjusted market capitalization, and the SPI ESG Weighted, which is composed of the same stocks but with a weighting adjusted to their sustainability rating (ESG Impact Rating). For the CHF-bond market several SBI ESG indices were launched covering the various maturities and trading segments.

With the IBEX ESG index SIX has expanded its existing range of ESG indices in 2023 for the Spanish market. The IBEX ESG family comprises two types of indices: the IBEX ESG, which selects its components according to specific sustainability criteria and is weighted by free float-adjusted market capitalization, and the IBEX ESG Weighted, which is composed of the same stocks but with a weighting adjusted to their sustainability rating (ESG Impact Rating).

The ESG-related index products website guides investors through the ESG-related index products listed on the **Taiwan Stock Exchange (TWSE)** to provide multiple investment options for those who focus on sustainability. As end of March 2024, the number of ESG ETFs calculated by TWSE is 16, and the count of ESG related Exchange-Traded Note (ETP) is 3, the AUM has risen to NTD 374 billion.

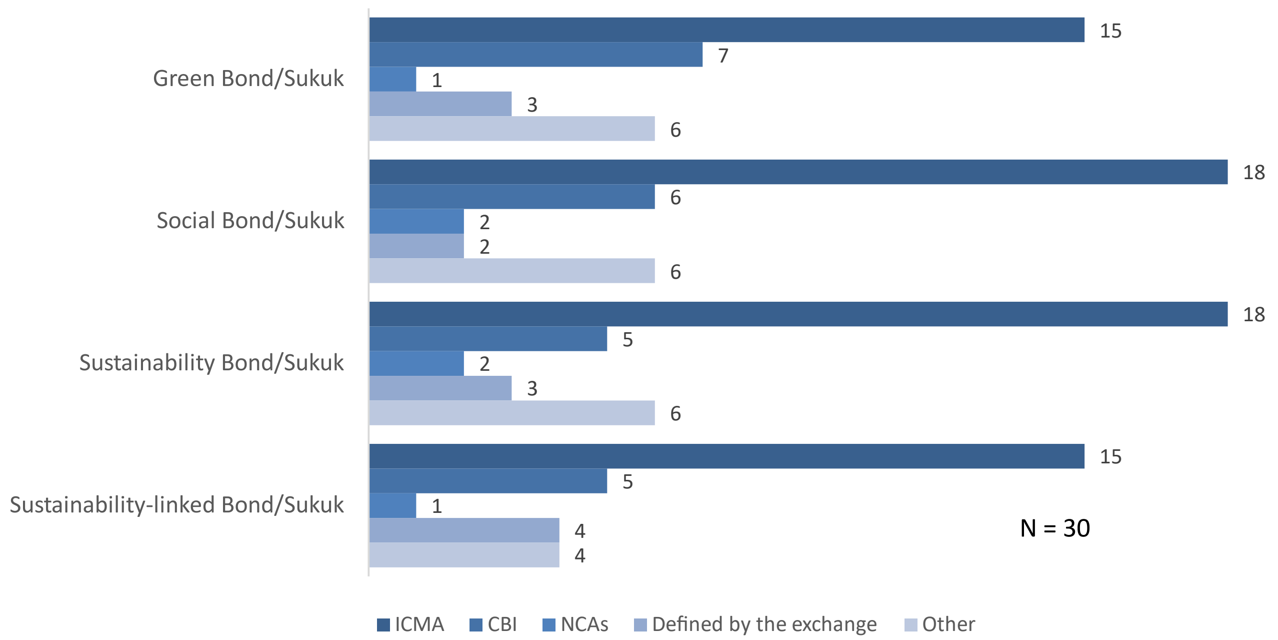
[6] SIX Group comprises three exchanges: SIX Swiss Exchange, SIX Digital Exchange and BME (Bolsas y Mercados Españoles)

ESG labels

In addition to gathering data on the demand for, and availability of, ESG products, the survey also investigated the ESG standards and definitions adopted by exchanges. **Figure 31** presents the standards accepted by exchanges for labelling ESG products, revealing results that closely mirror those of the previous year. In each category, standards established by the International Capital Market Association (ICMA) remain the most widely utilized by exchanges for defining green, social, and sustainability bonds/sukuks, consistent with the findings from the previous year. Following behind are the standards set by the Climate Bond Initiative (CBI). Notably, standards set by the National Competent Authority (NCA) are utilized by only two exchanges in developed countries.

Among the 30 exchanges offering ESG bonds/sukuks, five exchanges have developed their own product standards and definitions. For those exchanges relying solely on one standard, they typically adhere to the ICMA standard or formulate their own standard. Other definitions identified by respondents include the People's Bank of China Green Bond Endorsed Project Catalogue, ASEAN GBS, and the proposed EU Taxonomy. In one instance, an exchange does not adopt any specific standards or definitions for ESG-related bonds; instead, classification is based on self-disclaimer provided by issuers.

Figure 31. ESG product definition*



**Multiple answers allowed*

Carbon-conscious ESG commodities

In the ongoing effort to track the advancement of ESG commodities, comprising spot commodities from sustainable sources, ESG commodity indices, and derivatives contracts based on sustainable spot commodities or indices, significant progress has been noted this year. The introduction of these ESG commodities plays a pivotal role in adapting to evolving risk management needs and facilitating the transition towards a greener and more sustainable economy.

When asked about investor interest in integrating sustainability aspects into derivatives contracts, 13 out of 20 exchanges confirmed the existence of such demand, constituting 65% of the total respondents (as illustrated in **Figure 32**). This proportion

Box 8: Carbon markets and the role of exchanges in transition to net-zero

In May 2023, **Japan Exchange Group (JPX)** subsidiary Osaka Exchange launched three types of ESG equity index futures, linked to the S&P/JPX 500 ESG Score Tilted Index, the FTSE JPX Net Zero Japan 500 Index, and the Nikkei 225 Climate Change 1.5℃ Target Index. JPX hopes these can be used in asset management that considers ESG factors. In October 2023, JPX subsidiary Tokyo Stock Exchange launched a voluntary Carbon Credit Market after a technical demonstration project and public consultation. This will contribute to the Japanese government's roadmap for an emission trading market and the transition to net zero by 2050. As of December there were 243 participants in the market, and a market maker scheme has also been tested. In addition, Japan Exchange Group continued to expand operation of its own renewable energy generation facilities in 2023 in order to achieve its target of carbon neutrality by FY2024. This includes solar power facilities, a biomass power generation facility that came online in April, and a virtual PPA signed with Marubeni Power Retail Corporation in October which partially makes use of reused solar panels. In December 2023, Japan Exchange Group joined the Net Zero Financial Services Providers Alliance. By joining the NZFSPA, JPZ will further intensify its work towards the goal of net zero.

In 2022, the **SIX Group (SIX)** committed to the Science-Based Targets initiative (SBTi). In 2023, the group began its iterative efforts to prepare for continuous emissions reduction. SIX is currently working to identify its major decarbonization levers. In 2024, it aims to establish targets and start evaluating its progress on achieving net zero emissions. A dedicated net zero workstream looks to optimize all activities within the organization in line with environmental criteria, the goal being to reduce the Group’s carbon footprint and progressively decarbonize operations. The near-term emissions reduction targets will be set in line with the Paris Agreement goal of limiting global warming to 1.5°C above preindustrial levels. In addition, Through the Spanish Central Securities Depository Iberclear, SIX operates RENADE, the Spanish national registry for CO2 emissions certificates (so called compliance market). RENADE plays a crucial role in ensuring transparency and continuous updates on the ownership and control of greenhouse gas emissions rights for companies in Spain. In 2023, SIX published a white paper on voluntary carbon markets with a specific focus on the perspective of Voluntary Carbon Credits (VCCs) buyers. The findings included that the demand for greater transparency, quality at the core of carbon credits, and standardization are currently reshaping the market of carbon credits with tokenization remaining an ambiguous topic.

Bursa Malaysia established a carbon monitoring tool where firms can monitor the carbon profiles of their suppliers, serving as an effective engagement tool with suppliers. The standardised reporting facilitated by the Centralised Sustainability Intelligence (CSI) Platform not only accelerates the decarbonisation process within the sector but also positions firms favourably for green financing products and services.

reflects a decrease compared to the previous year's figure of 82%. Among these exchanges, two reported a significant surge in demand for such products. Concerning investors' inclination towards oversight and understanding of the sustainable production of underlying commodities, 50% (10 out of 20) of respondents acknowledged this demand, though the percentage reporting extensive demand has diminished compared to the previous year.

The carbon market holds considerable significance within the realm of ESG commodities, addressing the environmental aspect of ESG, which the survey identifies as the one of the most emphasised dimensions. By incentivising companies to invest in and produce sustainable products and achieve carbon neutrality, the carbon market contributes to fostering a cleaner and greener future.

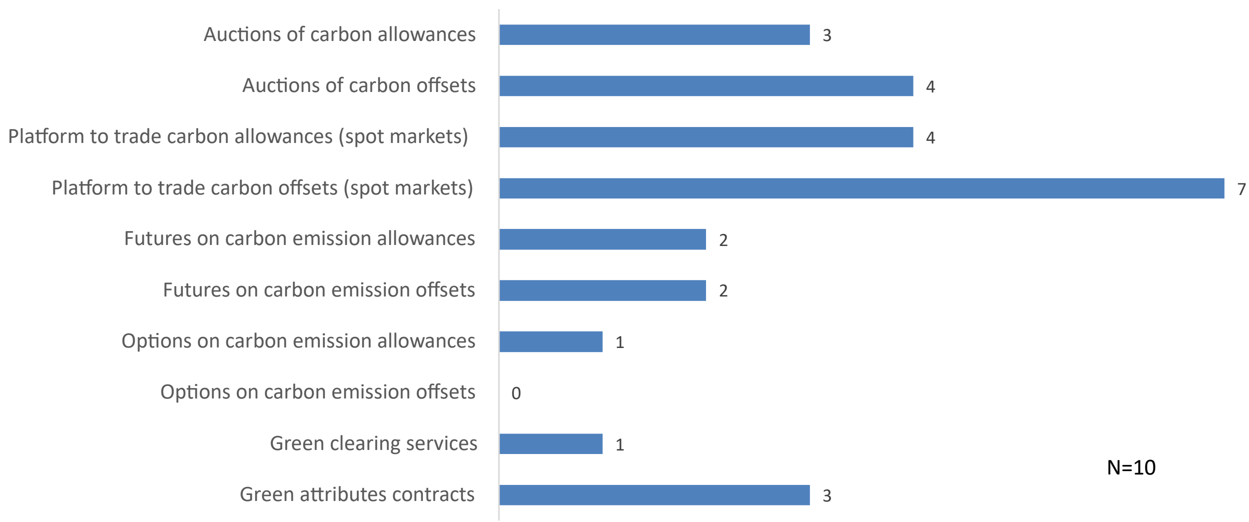
Operated through mechanisms such as cap-and-trade systems or carbon taxes, carbon markets mandate businesses to either curtail their emissions or procure allowances or credits to offset their emissions. This dynamic generates a market demand for ESG commodity products that facilitate carbon emission reduction or promote carbon sequestration, encompassing initiatives like reforestation projects or carbon capture technologies.

Figure 32. Demand for ESG commodity products and for oversight of sustainable sources

When queried about the types of carbon markets within their jurisdictions, ten respondents confirmed the existence of such markets. Among them, four exchanges acknowledged the presence of both compliance and voluntary carbon markets in their respective jurisdictions. A comparison between compliance and voluntary markets revealed that the latter is more prevalent, with a presence in 80% of respondents' jurisdictions, while 50% reported the existence of compliance markets.

We also asked exchanges about their environmental products they offer. As shown in **Figure 33**, seven out of ten respondents indicated that their platforms facilitated trading carbon offsets through spot markets, followed by platforms for trading carbon allowances and the auction of carbon offsets.

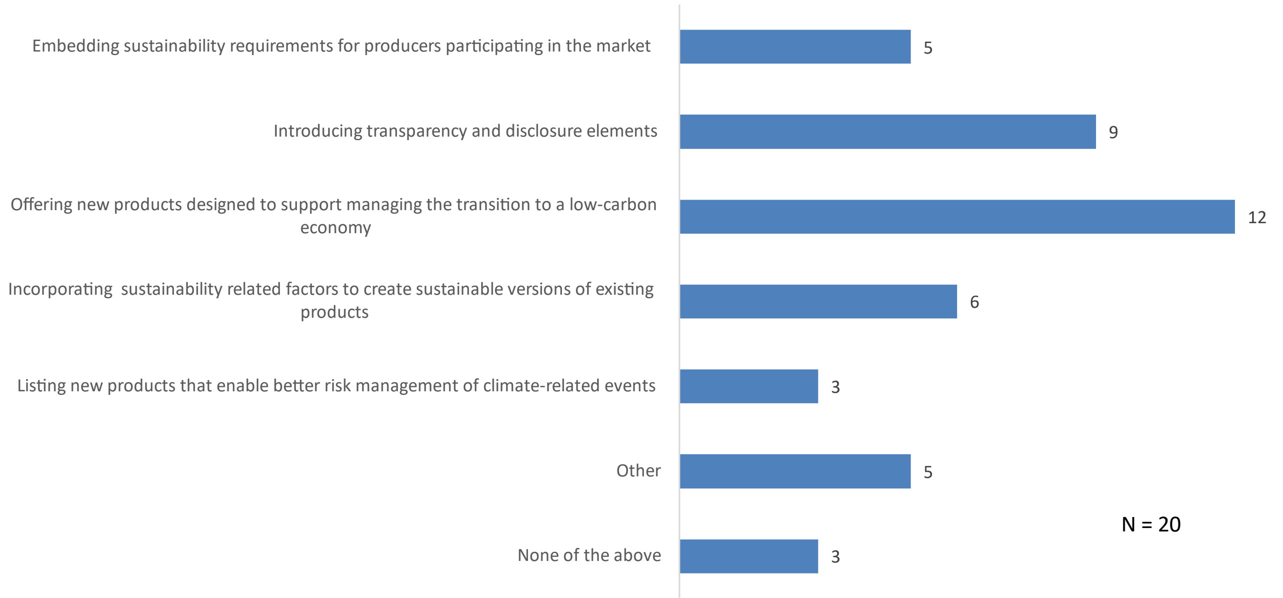
Figure 33. Environmental products offered by exchanges*



**Multiple answers allowed. Carbon emission allowances are typically traded in Compliance Carbon Markets (CCM). Carbon offsets are typically traded in Voluntary Carbon Markets (VCMs)*

Expanding our inquiry beyond the mere provision of ESG products by exchanges, we delved into the specific sustainable elements integrated into their design. The findings, summarized in **Figure 34**, reveal noteworthy insights. Among the 20 respondents, more than half (12 out of 20) indicated that they design new products to facilitate the transition to a low-carbon economy, aligning with the broader objective of achieving carbon neutrality in many jurisdictions. Following the emphasis on low-carbon initiatives, exchanges also prioritize the design of new products aimed at enhancing transparency and disclosure elements (9 out of 20). This strategic focus mirrors the observations highlighted in the previous section, underscoring the significance of transparency and disclosure in the evolving landscape of sustainable finance.

Figure 34. New product design*



**Multiple answers allowed.*

Overall, the survey results on exchanges' engagement with ESG products revealed significant trends and developments. They show an increasing demand for ESG products among investors, with most of exchanges observing some level of interest. Exchange-listed ESG products, such as green bonds and sustainability bonds, remained popular, with green bonds being the most sought-after. Additionally, the survey highlighted the establishment of dedicated listing segments for ESG products and the adoption of various standards for labelling ESG products. Furthermore, it explored exchanges' involvement in carbon markets and their efforts to integrate sustainability elements into product design, emphasizing initiatives to transition to a low-carbon economy and enhance transparency. The survey results underscored exchanges' pivotal role in advancing sustainable finance practices globally.

6. Concluding remarks

As we conclude the 10th edition of the World Federation of Exchanges' Sustainability Survey, it's evident that the global landscape for Environmental, Social, and Governance (ESG) initiatives has evolved significantly since our inaugural survey in 2015. This year's survey has provided a comprehensive snapshot of the progress and achievements made by the exchange industry in engaging with ESG issues, as well as the challenges it faces in achieving its sustainability goals.

One of the most notable findings from this year's survey is the unwavering commitment of exchanges to sustainable practices, with all exchanges continuing their participation in at least one WFE Sustainability Principle. This reflects a persistent dedication to transparency and accountability among exchanges, which has translated into tangible actions such as the publication of sustainability reports or the inclusion of sustainability information in annual reports. Notably, the average number of initiatives implemented per exchange has increased, indicating a deepening engagement with ESG transparency. Moreover, investor demand for ESG disclosures and products has also reached new heights, with exchanges increasingly facilitating the listing, trading, and oversight of ESG-related offerings. The surge in investor interest underscores the growing importance of sustainability considerations in investment decision-making.

However, amidst these positive developments, challenges persist, including concerns about the reliability of ESG data and the allocation of sufficient resources for ESG initiatives. Additionally, regulatory initiatives to combat greenwashing and promote integrity in voluntary carbon markets highlight the need for continued vigilance and collaboration across the industry.

Looking ahead, exchanges are poised to play a pivotal role in advancing the global transition to a more sustainable economy. By fostering transparency, promoting responsible investment practices, and providing innovative ESG-related products, exchanges can contribute to closing the climate funding gap and driving progress towards a more sustainable future. As we reflect on the remarkable progress made since the inception of the Sustainability Survey, we remain committed to supporting our members in their journey towards sustainability and fostering a more resilient and inclusive global financial system.

Annex 1: Survey respondents

WFE Members

AMERICAS	APAC	EMEA
B3 - Brasil Bolsa Balcão	Australian Securities Exchange	Amman Stock Exchange
Bolsa de Comercio de Buenos Aires	Bursa Malaysia	Athens Stock Exchange
Bolsa Latinoamericana de Valores (Latinex)	Colombo Stock Exchange	Bahrain Bourse
Cboe Global Markets	Dhaka Stock Exchange PLC.	Borsa Istanbul
Nasdaq	Hong Kong Exchanges and Clearing Limited	Botswana Stock Exchange
Nuam Exchange (Chile, Colombia & Peru)	Indonesia Stock Exchange	Boursa Kuwait
TMX Group Limited	Japan Exchange Group, Inc.	Dar es salaam Stock Exchange PLC
	Korea Exchange	Deutsche Börse AG
	National Stock Exchange of India Limited	FMDQ Group
	NZX Limited	Ghana Stock Exchange
	Shanghai Futures Exchange	Johannesburg Stock Exchange
	Shanghai Stock Exchange	London Metal Exchange
	Singapore Exchange	Luxembourg Stock Exchange
	Taipei Exchange	Nigerian Exchange Group
	Taiwan Futures Exchange	Qatar Stock Exchange
	Taiwan Stock Exchange	Saudi Tadawul Group (STG)
	The Stock Exchange of Thailand	SIX Group
		Stock Exchange of Mauritius
		Tel-Aviv Stock Exchange
		The Egyptian Exchange
		Tunis Stock Exchange
		Warsaw Stock Exchange

WFE Affiliates

AMERICAS	APAC	EMEA
	Nepal Stock Exchange Limited	Baku Stock Exchange
	Pakistan Stock Exchange Ltd.	Cape Town Stock Exchange

Annex 2: Sustainability Principles and corresponding sustainability initiatives

Sustainability Principle	Corresponding Initiatives*
Principle 1: Educate market participants about sustainability issues	• Run ESG capacity-building events/engagements for issuers and/or investors • Offer ESG education initiatives for issuers and/or investors • Organise workshops on ESG-related products • Produce guidance notes for green bonds issuance and listings • Offer ESG education initiatives to a wider set of stakeholders (e.g., universities) besides investors and issuers.
Principle 2: Promote the enhanced availability of ESG information	• Have issued formal ESG reporting guidance for listed companies • Have formally endorsed/supported the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) • Translate international guidance material into the local language • Engage with other stock exchanges to enhance the availability of non-financial information of listed companies. • Develop an ESG information platform for investors. • Provide ESG reporting platform for issuers.
Principle 3: Engage stakeholders to advance the sustainable finance agenda	• Engage stakeholders (regulators, policymakers and capital market participants) to advance the sustainable finance agenda. • Engage stakeholders in ESG standards setting. • Engage with other stock exchanges to enhance the availability of non-financial information of listed companies.
Principle 4: Provide markets and products that support the development of sustainable finance	• Have a dedicated listing segment for ESG-related bonds • Offer sustainability-related products (e.g., green bonds, specialised listing categories, ESG Index or related indices or ratings, carbon trading platform) • Produce guidance notes for green bond issuance and listings.
Principle 5: Embed sustainability into the exchange's governance, strategy, and organisation structures	• Publish the exchange's own sustainability report or include sustainability information in the annual report. • Have made a formal commitment to sustainability, e.g., SSE, UNPRI, UNGC, UN SDGs • Have a dedicated resources/ team to oversee the exchange's sustainability initiatives. • Run ESG capacity-building initiatives for the Board/staff of the exchange. • Include ESG issues and risks in the exchange's risk management process. • Engage in initiatives related to preventing human rights abuses within supply chains. • Have put in place net zero targets

**Some initiatives map to more than one Principle.*