WORLD FEDERATION OF EXCHANGES

The WFE's 8th Sustainability Survey

Exchanges keep up efforts to support a sustainable recovery

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1. Executive summary

The *Sustainability Survey 2021* is the eighth edition of an annual survey that the World Federation of Exchanges (WFE) conducts to capture the nature and extent of WFE members' and affiliates' engagement in Environment, Social, and Governance (ESG) issues, covering both stock and derivative exchanges.

The WFE Sustainability Surveys, launched in 2014, have shown a consistent growing engagement with ESG issues among the WFE membership. After the *WFE Sustainability Principles* were published in 2018, the surveys have also tracked the progress exchanges have made in meeting the Principles. Taken together, the results of the surveys track the development and advancement of ESG in the financial market infrastructure industry.

As in previous years, this year's report confirms the strength of what has consistently been a positive trend in the exchanges' response to social and environmental issues. Overall, we saw in 2021 a significant advance in the depth and scope of ESG engagement across almost all measures, with an increased focus on the environmental aspects, especially on the transition to carbon neutrality.

Key highlights:

- Eight respondents (out of 54) reported participating in 12 ESG initiatives, compared to five respondents last year (out of 61). This year we added to the list of initiatives one related to preventing human rights abuses in the supply chains, and eight respondents reported engaging in these initiatives. Overall, three respondents reported participating in all the 13 listed ESG initiatives.
- Initiatives offering ESG education rapidly have gained relevance over the years. In terms of the number of exchanges pursuing them, they ranked eighth in 2019, third in 2020, and second in this survey.
- To support the transition to a climate-neutral or carbon-neutral economy, exchanges increased their efforts by reducing their own carbon footprint, promoting the transition of their listed companies, and committing to Net-Zero pledges.
- Not only has the number of exchanges participating in sustainability initiatives increased but also more initiatives were implemented per exchange: the average number of initiatives per exchange increased from 7.7 to 8.4.
- The number of exchanges implementing initiatives that meet all five of the *WFE Sustainability Principles* increased by 17 percentage points, to 69%.
- Sustainability concerns and the opportunities for business expansion were again the most frequently reported motivations for ESG engagement. On the other hand, business and economic concerns remain the main concerns around sustainability efforts, but the lack of resources was seen as the second major concern.
- Efforts on ESG were more evenly distributed across Environmental (31.2%), Social (30.6%) and Governance (38.6%) components, compared to 25.8%, 31.3% and 42.9% respectively a year earlier.
- Regarding gender equality, there was limited progress, with only small increases in the average percentage of female representation at Board and Senior Management positions.
- There is still no convergence on ESG standards and formats adopted by the exchange industry. Yet, the TCFD standards are becoming the bedrock for climate-related reporting.
- While green bonds continue to be the most offered ESG product, offerings across all sustainability product categories have increased.
- While there are a variety of standards used to label ESG products, ICMA and CBI standards prevail.

2. Introduction

Global environmental, social, and governance (ESG) initiatives continue to move at a steady pace. In 2021, the Financial Stability Board's (FSB) Task Force on Climate-Related Financial Disclosures (TCFD) published updates to its 2017 framework. The TCFD framework --- centered on the four pillars of 1) governance, 2) strategy, 3) risk management, and 4) metrics and targets --- is fast becoming the bedrock for climate-related reporting around the world. Various jurisdictions, along with global reporting bodies, are basing their sustainability disclosure schemes on the TCFD methodology.

The year 2021 saw the introduction of mandatory product- and entity-related sustainability disclosure requirements for financial services firms falling under the EU Sustainable Finance Disclosure Regulation (SFDR) and with that, an increased investor demand for "greener" products. In 2021, the UK finalized rules on enhancing climate-related disclosures by standard listed companies along with asset managers, life insurers, and Financial Conduct Authority (FCA)-regulated pension providers. UK rules for the enhancement of climate-related disclosures by listed issuers had been finalized at the end of 2020.

In 2021, the US Securities and Exchange Commission (SEC) was starting to formulate its outlook on ESG disclosures. Additionally, Singapore and China (including Hong Kong), amongst other jurisdictions, were also devising ESG disclosure requirements. The development of global sustainability reporting standards was announced by the International Sustainability Standards Board (ISSB). The European Financial Reporting Advisory Group (EFRAG) was also tasked with developing overarching sustainability reporting standards.

Whilst the main focus had been on climate-related disclosures, the European Commission's Platform on Sustainable Finance (PSF) was starting to formulate its views on social taxonomy in parallel to its work on climate-related taxonomies. Additionally, in 2021, the Task Force for Nature-related Financial Disclosures (TNFD) was formally launched to develop and deliver a risk management and disclosure framework for organizations to report and act on evolving nature-related risks. Diversity, equity, and inclusion (DEI) also were, and continue to be, an area of regulatory focus in jurisdictions such as the UK and the US.

In 2021, COP26 spearheaded the focus on listed issuers and jurisdictional announcements about net-zero/carbon neutral plans. The Glasgow Financial Alliance for Net Zero (GFANZ), a global coalition of leading financial institutions committed to accelerating the decarbonization of the economy, was launched. Greenwashing[1] also became a focal point for both regulators and investors across jurisdictions.[2]

Given the backdrop of increased, formal attention by regulators and other stakeholders on sustainability reporting, it is unsurprising that the results of this year's *WFE Sustainability Survey* point to increases in sustainability participation by exchanges across a number of different metrics. More exchanges are concentrating efforts on meeting all the WFE Sustainability Principles, and exchanges are now balancing out efforts more evenly across environmental, social, and governance areas. A larger number of exchanges are engaging with more ESG initiatives, including initiatives related to preventing human rights abuses within supply chains.

Exchanges have also increased their ESG educational programmes for issuers and investors throughout 2021 pointing to a positive trend for the entire stakeholder system. Sustainability remains a highly technical area at various levels and continued education for all types of market participants remains an important priority.

Whilst the survey shows low convergence on ESG standards and formats adopted by the exchanges in 2021, we would expect increased convergence over the coming years as more of the reporting standards currently being developed become mandatory.

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[1] Greenwashing involves making claims that a product is "green" when it is not.

[2] Overall, the number of global ESG initiatives taking shape throughout 2021 were too numerous to mention in this introduction. The initiatives mentioned here are meant to provide a proxy for the different types of initiatives being undertaken around the globe.

Exchanges continue to play an important role in contributing to ESG product development. As stakeholders around the globe focus on transitioning to carbon neutrality and reducing carbon footprints, the initiatives that exchanges contribute to this effort, such as the facilitation of carbon trading, will continue to be invaluable.

As the regulatory sustainability landscape continues to evolve, we observe that exchanges are keeping pace with the rate of change. We hope you find our observations informative, and we welcome dialogue relating to any aspect of this report.

3. Methodology

As in previous years, a structured questionnaire was sent to all WFE member exchanges and WFE affiliates.[3] Derivatives-only exchanges were given a scaled-back version of the questionnaire with some answer options adjusted, as some of the questions are not applicable to them. Responses were collated through an online survey tool. The survey was conducted in early 2022, with responses referring to the 2021 calendar year.

As in previous years, the questionnaire was revised to better capture the latest sustainability developments:

- We added "Engagement in initiatives to prevent human rights abuses" as an additional item in the list of benchmark ESG/sustainability initiatives.
- We added a question about setting targets to encourage more diversity at the board level.
- We asked not only whether the exchanges have included recommendations of Task Force on Climate-related Financial Disclosures (TCFD) in the reporting guidance for listing companies, but also whether local authorities have made corporate disclosure against the TCFD framework a mandatory requirement.
- We added a question on ESG disclosure to gauge exchanges' support to the forthcoming ISSB standard.
- We added granularity to questions about environmental markets and commodity derivatives.
- We added weather and catastrophe derivatives to the list of products.

Respondents were directed to different questions depending on their answers, and they had the option to skip some questions. Hence, the response rates for different questions vary. The total number of responses is noted throughout.

In total, 54 exchanges[4] participated in this year's survey. Of the respondents, 46 (85%) are WFE members, and the remaining eight are WFE affiliates (see **Figure 1)**. Out of the 46 WFE member respondents, four are derivatives-only exchanges.

[3] WFE Affiliates are exchanges or CCPs/CSDs that are: significant in their market of operation; whose regulator is a member of IOSCO; and that intend to become members in due course. Many newer, smaller, regulated exchanges choose to become affiliate markets. The WFE requires that the regulatory authority of the applicant is a member of IOSCO. Affiliate status does not automatically imply fulfilment of WFE membership criteria and, unlike membership, is not subject to peer review.

[4] The complete list of respondent exchanges can be found in *Annex 1*.

Figure 1. Respondent profile

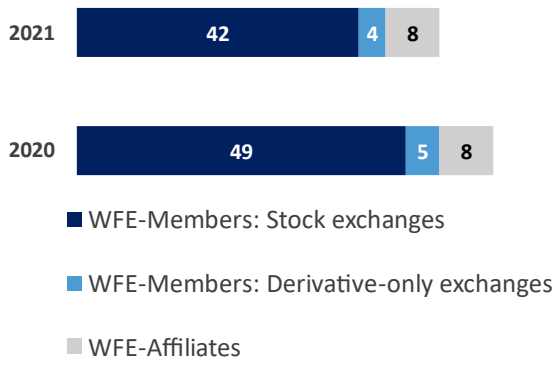
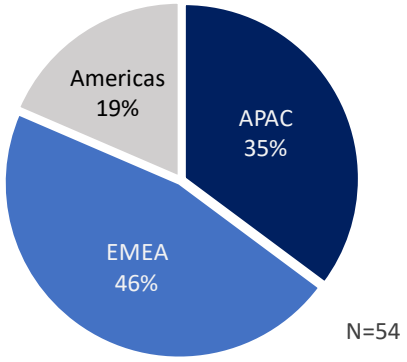


Figure 2. Respondents by region



In this year's survey we had nine exchanges that did not participate in the survey a year earlier. Despite this increase in new respondents, the overall number of participating exchanges decreased by eight, in some cases because of mergers (for example, the **SIX Swiss Exchange** and the **BME Spanish Exchanges** this year report as a single entity). With regards to the geographical distribution of this year's respondents, exchanges located in the Americas, Asia-Pacific (APAC), and in the Europe, Middle East and Africa (EMEA) region accounted for 19%, 35%, and 46% of the responses, respectively **(Figure 2)**.

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 current conversion rates (July 2022).

4. Survey results

4.1 Exchanges and sustainability

In 2021, exchanges significantly increased their sustainability efforts across all the benchmark ESG initiatives

To measure progress in the sustainability efforts, the survey asked the exchanges to report their engagement in a list of initiatives that were used as benchmark. In this survey, we added an initiative on preventing human rights abuses within the supply chains, making it a total of 13 initiatives (see **Figure 3**).

The survey results showed a strong increase in the level of sustainability engagement across all the different initiatives in 2021. With respect to the 12 initiatives that remained year over year, eight respondents engaged in all of 12, an increase from five a year earlier. When we also consider the additional initiative on preventing human rights abuse, three respondents, **Deutsche Börse Group (DBG)**, **Hong Kong Exchanges and Clearing Limited (HKEX)**, and **Luxembourg Stock Exchange (LuxSE)**, reported participating in all 13 listed initiatives.

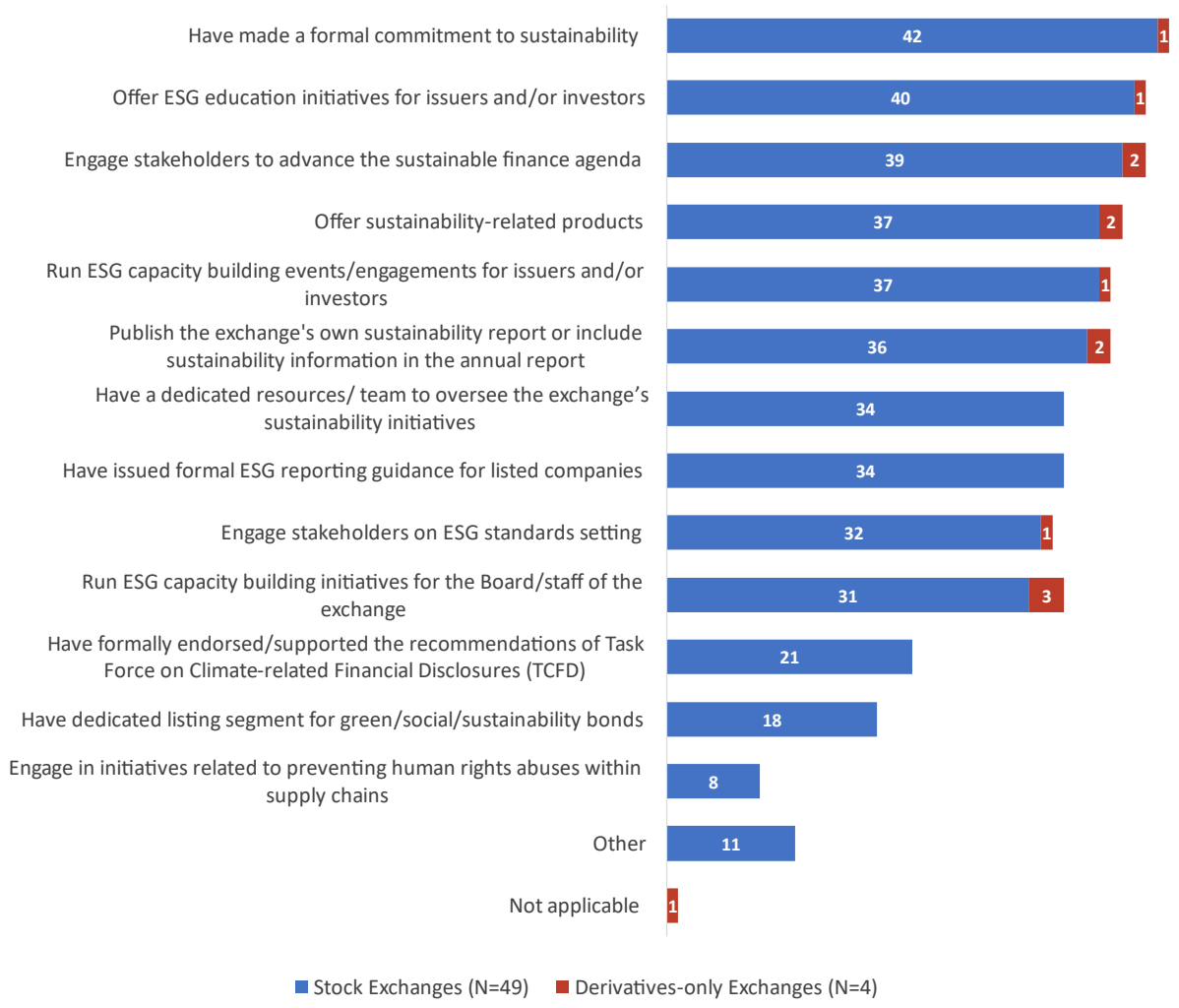
At the same time, we see a reduction in the number of respondents without any sustainability engagements. Of the three respondents who were not involved in sustainability initiatives in 2020, two did not participate in the survey this year, and the remaining one began implementing sustainability initiatives in 2021. Moreover, on average, the exchanges implemented more sustainability initiatives in 2021, with the average number of initiatives per exchange increasing from 7.7 to 8.4.

Figure 3 presents the exchanges' engagement in different ESG initiatives. This year, the initiative *"Have made a formal commitment to sustainability"* topped the list again (81% of the respondents). The initiative *"offer ESG education initiatives for issuers and/or investors"* followed in the second place with 77% of the respondents. This initiative has rapidly gained importance over the years, ranking eighth in 2019 and third in 2020. This year we added *"engagement in initiatives related to preventing human rights abuses within the supply chains,"* and eight exchanges (15%) reported participating in them.[5]

Other ESG initiatives reported, listed as "Other" in **Figure 3**, include creating a guidance manual based on the Global Reporting Initiative (GRI) standards, issuing ESG reporting guidance, creating an information hub to enhance the visibility of ESG products, and engaging in initiatives to reduce the exchange's carbon footprint.

[5] Reflecting these concerns about preventing human rights abuses in supply chains, the WFE published in April 2022 a briefing focusing on human rights protections.

Figure 3. Exchanges' ESG initiatives*



**Multiple answers allowed. "Not applicable" means the exchange was not involved in any sustainability initiative*

Box 1: The transition to achieve carbon neutrality

To support the transition to a climate-neutral or carbon-neutral economy, many exchanges increased their efforts in reducing their own carbon footprint and promoting the transition of their listed companies.

Bolsa de Valores de Colombia (BVC), together with its subsidiaries: Central Securities Depository (Deceval), Central Counterparty Risk Clearinghouse (CRCC), and the price vendor company (Precia), has received from ICONTEC the Carbon Neutrality certification and the verification of greenhouse gas inventory (GHG), in scopes 1, 2, and 3 for the years 2019 and 2020, a certification based on the norm NTC ISO 14064-3: 2006. Thus, the BVC Group, as part of its commitment to promote sustainable investment and financing that supports the country's transition towards a low-carbon and more digital economy, now offers a carbon-neutral operation to its stakeholders in all products and services offered in the Colombian capital

market. This contributes to the country's objective of reducing 51% the GHG inventory by 2030 and achieving carbon neutrality by 2050.

Deutsche Börse Group (DBG) has been engaging in its new climate strategy, which aims to achieve net carbon neutrality by 2025. The trajectory towards carbon neutrality will be validated by the Science Based Targets initiative (SBTi). In addition, the European Energy Exchange (EEX), a DBG's subsidiary, provides liquid, safe and transparent markets for energy and commodity markets across the globe. EEX Group continuously develops its products and services by looking into new market solutions which support the long-term transition of the energy system worldwide to a higher proportion of carbon-free renewable energies.

The **Egyptian Exchange (EGX)** is preparing to launch a carbon trading platform, in addition to the "Carbon Clock," an initiative that aims at estimating the total amount of emissions produced by listed companies.

In 2021, to facilitate the low-carbon transition, **Hong Kong Exchanges and Clearing (HKEX)** launched two new guides, one on climate disclosures and one on net-zero practices for businesses, to help listed companies and the wider business sector prepare for the increasingly climate-focused business environment. They also hosted a webinar titled "Path to Decarbonization with Climate Transparency," where the Hong Kong Government and industry experts shared insights on leveraging enhanced disclosures and business strategies to achieve a company's low-carbon goals. Moreover, the Green and Sustainable Finance Cross-Agency Steering Group, with HKEX as one of the founding members, set up a Carbon Market Work Stream to capitalize on and promote the growth of carbon market opportunities.

In June 2021, the **Japan Exchange Group (JPX)** announced a target to achieve carbon neutrality by 2024 by switching all electricity consumed by the Group to renewable energy. This will be achieved by generating their own renewable energy through the use, for example, of biomass fuels and solar panels. In October 2021, JPX carried out the first stage of this plan by putting in place measures to cut CO2 emissions at their main office buildings, including switching the electricity contract to a more sustainable one for the Tokyo Stock Exchange Building. It is expected to cut GHG emissions by approximately 27% on an annual basis.

At COP26 in Glasgow, the **Luxembourg Stock Exchange (LuxSE)** announced it would join the Net Zero Financial Service Providers Alliance (NZFSPA), which is part of the Glasgow Financial Alliance for Net-Zero. Supported by the UN Sustainable Stock Exchanges initiative, NZFSPA gathers financial-service providers committed to supporting the goal of global net-zero greenhouse gas emissions by 2050 or sooner, in line with the ambition to limit the global temperature increase to 1.5°C above pre-industrial levels.

For a third consecutive year, the **Santiago Exchange (SantiagoX)** proudly earned the "Greenhouse Gas Quantification Seal" from the Environment Ministry's Huella Chile Program for its management of environmental issues within the organization and quantification of its carbon footprint in 2020. In addition, thanks to various programs involving recycling, remote work, and other areas, the exchange managed to reduce its GHG emissions by 49% with respect to last year.

The **Shanghai Stock Exchange (SSE)** has made active efforts to promote its own energy conservation and emission reduction. More than 10 million kWh of electricity and 40 thousand tons of water were saved throughout the year. Besides, the SSE has published its own CSR reports for five consecutive years and made its carbon footprint report for the first time. In February 2021, SSE launched the first batch of carbon-neutral bonds. In August, the first blue bond which supports projects related to marine protection and sustainable utilization of marine resources was launched.

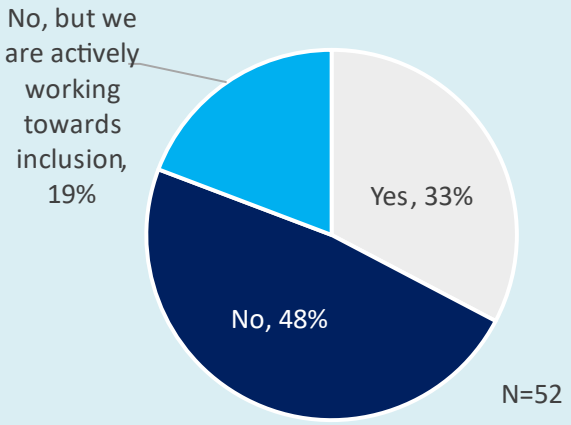
In 2021, more than 2,200 companies listed on **Shenzhen Stock Exchange (SZSE**) disclosed their social responsibility performance in their annual reports; nearly 800 companies disclosed information on pollution prevention, resource conservation and ecological protection; and more than 450 companies issued independent social responsibility reports or ESG reports. According to the statistics of the UN SSE in 2021, of all the stock exchanges across the G20 countries, the top 100 listed companies in terms of market capitalization on SZSE reported the lowest average carbon emission level and the highest proportion of women as CEOs, reflecting SZSE's outstanding achievements in carbon emission reduction and gender equality.

To promote the transition to a low-carbon economy, the **Stock Exchange of Thailand (SET)** has promoted the Bio-Circular-Green (BCG) Economy Model to create public awareness and enhance long-term business competitiveness, in line with the country's strategic directions and the pledge at the COP26.

Box 2: Exchanges in ESG indexes

For those exchanges that are listed companies, we trace how many of them are included as a constituent of one or more indexes tracking the companies' sustainability or ESG performance. Such an inclusion highlights the commitment of the exchange to ESG causes. Our survey revealed that 17 out of 52 (33%) respondents are included in at least one sustainability/ESG index, while 10 exchanges (19%) are working towards inclusion. These percentages compare positively with a year earlier, when only 29% were included, and 18% were working towards inclusion.

Figure 4. Exchanges' inclusion in ESG Indexes



Engagement with the WFE Sustainability Principles

The *WFE Sustainability Principles* (the Principles, hereafter) set out the ways in which WFE member exchanges will seek to promote sustainability in their markets. After their launch in 2018, the WFE started to track the exchanges' level of engagement with the Principles and examine progress against them. To give a tangible measure of the engagement with each one of the Principles, we defined a set of initiatives that map to the different Principles (the details of the mapping can be found in Annex 2). We also asked the exchanges to report other initiatives that correspond to the five Principles.

Compared with 2020, in 2021 we see that the proportion of exchanges engaging with the Principles increased in four of the five Principles (see **Figure 5**). The increase is especially significant for **Principle 2**: "*Promote the enhanced availability of ESG information*" and **Principle 4**: *"Provide markets and products that support the development of sustainable finance."* Both saw increases of 10 percentage points. Such positive trends show the exchanges' push for enhanced ESG information disclosure and their efforts in providing a wider range of ESG products. In addition, **Principle 5:** "*Embed sustainability into the exchange's governance, strategy and organization structures*" remained the Principle with the highest level of engagement (51 exchanges, 98% of the respondents).

We also examined the number of sustainability Principles each exchange engaged with (see **Figure 6**). Encouragingly, 69% (37/54) of the responding exchanges had initiatives corresponding to all five sustainability Principles. Such proportion increased more than 10 percentage points from a year earlier (52%). The second-largest group (7/52, 13% of the respondents) is constituted by the exchanges that engaged in three out of the five Principles. Note that the number of exchanges that do not engage in any Principle has decreased to two last year from three a year earlier. Of the four derivatives-only exchanges that participated in the survey, one showed no engagement with the Principles, while the remaining three all showed higher level of engagement compared to a year earlier.

Figure 5. Number and percentage of exchanges engaged in each of the WFE Sustainability Principles

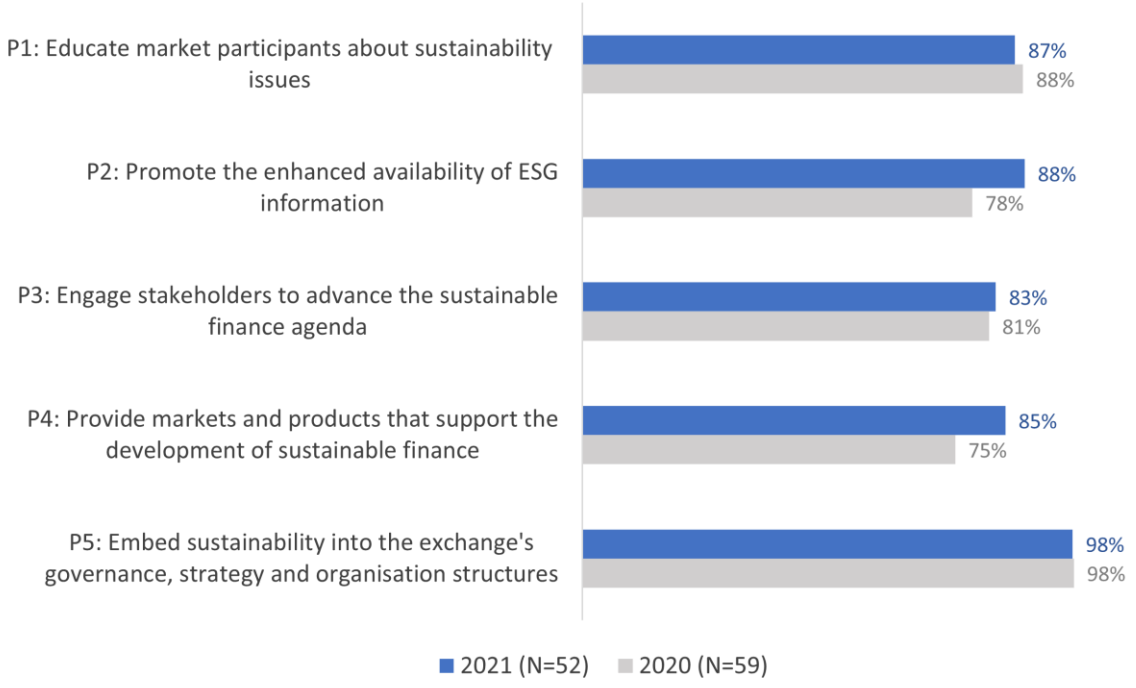
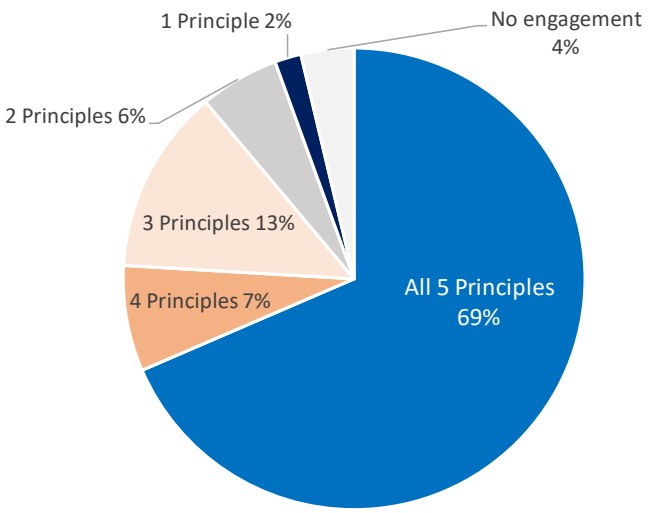


Figure 6. Number of principle engagement per exchange



N=54

In summary, the survey results show an encouraging and positive trend in exchanges' engagement in the *WFE Sustainability Principles*, especially regarding those related to ESG information disclosure and the availability of ESG products. These efforts are further demonstrated and discussed in later sessions of this report.

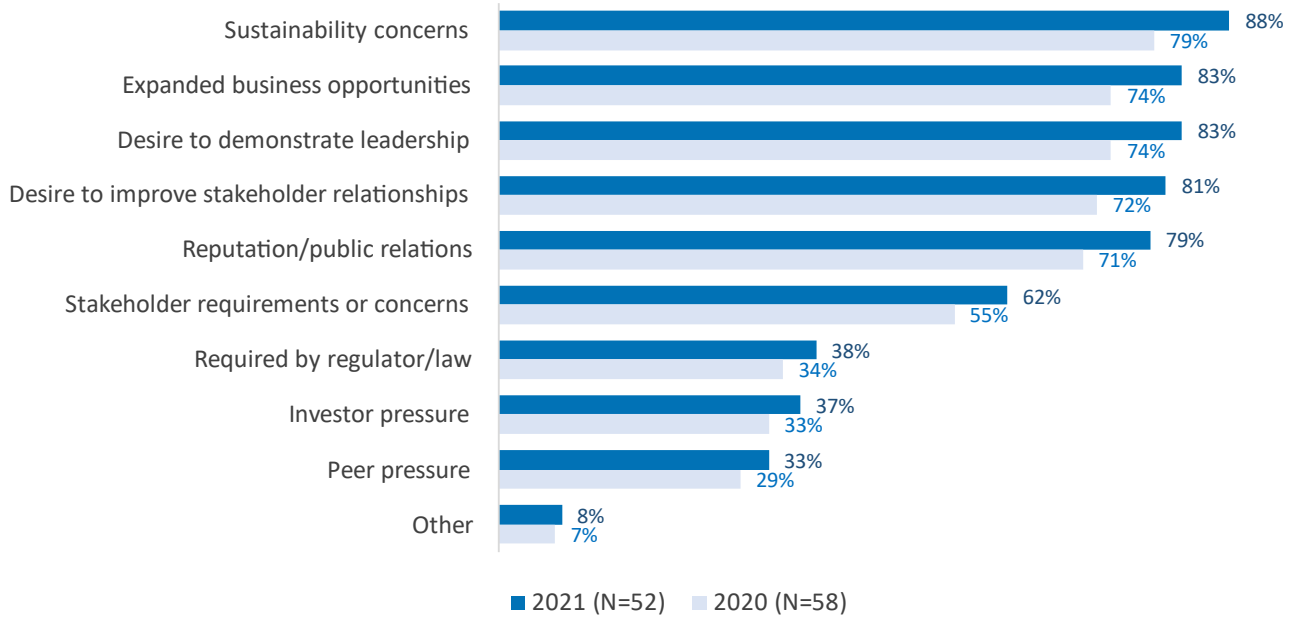
Sustainability initiatives: motivations and concerns

Sustainability concerns, demonstrating leadership, and business opportunities are the main motivations driving ESG efforts

Implementing sustainability initiatives can provide exchanges with multiple benefits, such as opportunities to expand the business, improve stakeholder relationships, or demonstrate leadership. At the same time, exchanges can face hurdles when implementing these initiatives, such as the lack of resources or concerns about the economic outlook. To capture these two aspects, in the survey we collected information on the primary motivations for engaging in sustainability efforts and on the issues that exchanges perceive as potential obstacles in progressing on their sustainability goals.

Figure 7 lists the key motivations for exchanges to engage in ESG initiatives. At the top of the list, "Sustainability concerns" displaced "Expanding business opportunities" as the most frequently reported motivation for ESG engagement (46/52, 88% of the exchanges with initiatives). In second place, 83% of exchanges (43/52) selected "Expanding business opportunities" and "Desire to demonstrate leadership" as motivations for participating in ESG initiatives. Notably, the "Desire to demonstrate leadership" climbed from fifth place in 2020 to second place last year. The trend suggests that ESG efforts are not only a response to new business opportunities, but also a result of concerns about sustainability and awareness about the role of exchanges in leading these efforts.

Figure 7. Motivations for sustainability involvement*



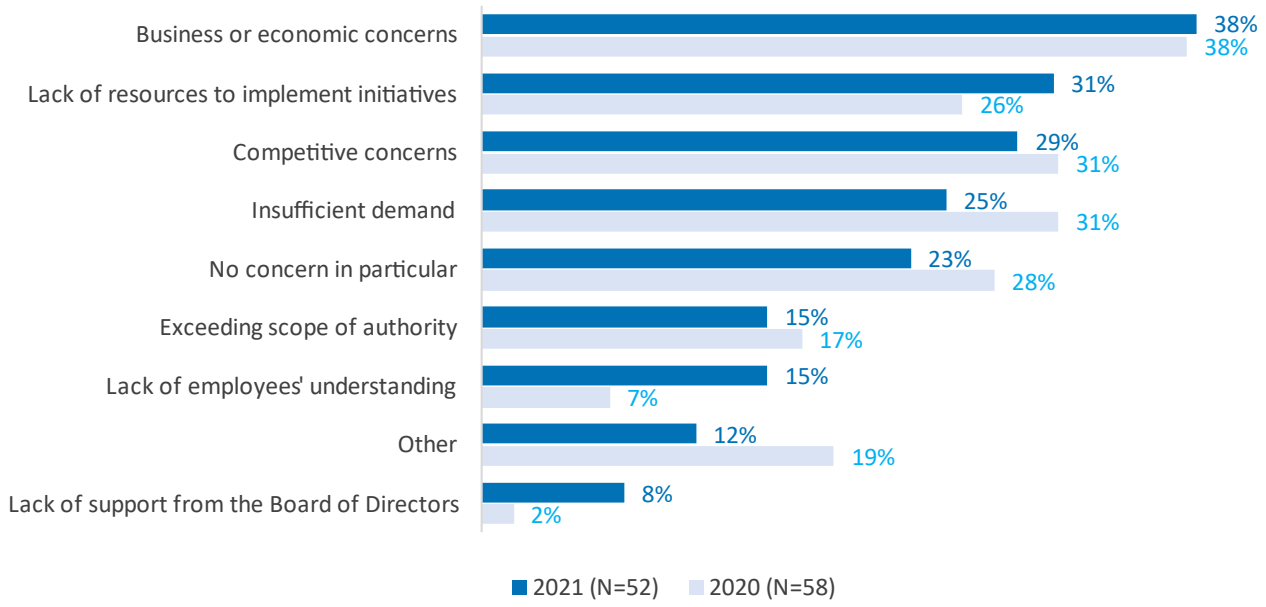
**Multiple answers allowed*

When we look at the hurdles that exchanges face in their sustainability efforts, we observe some changes with respect to 2020's results. As presented in **Figure 8**, "*Business or economic concerns*" were still the most reported concerns (38%, 20/52), followed by "Lack of resources to implement initiatives." In our previous survey, "Insufficient demand" was the second-most reported, but it dropped to the fourth place in 2021 -- the percentage of exchanges citing such a hurdle decreased from 31%

to 25%. The lack of resources moved from the fourth to the second place of importance. These results underscore the growing market interest for sustainability but may also reflect the concerns arising from an uncertain economic outlook.

Among the six exchanges that specified other concerns, two exchanges cited the lack of homogenous standards and definition of ESG as difficulties in carrying out their sustainability efforts. These issues have yet to be addressed, considering that more or less the same percentage of exchanges had these concerns a year earlier. In addition, a lack of regulatory support and inefficient design of ESG programs were reported.

Figure 8. Concerns around sustainability efforts*



**Multiple answers allowed*

ESG factors in exchanges' reporting

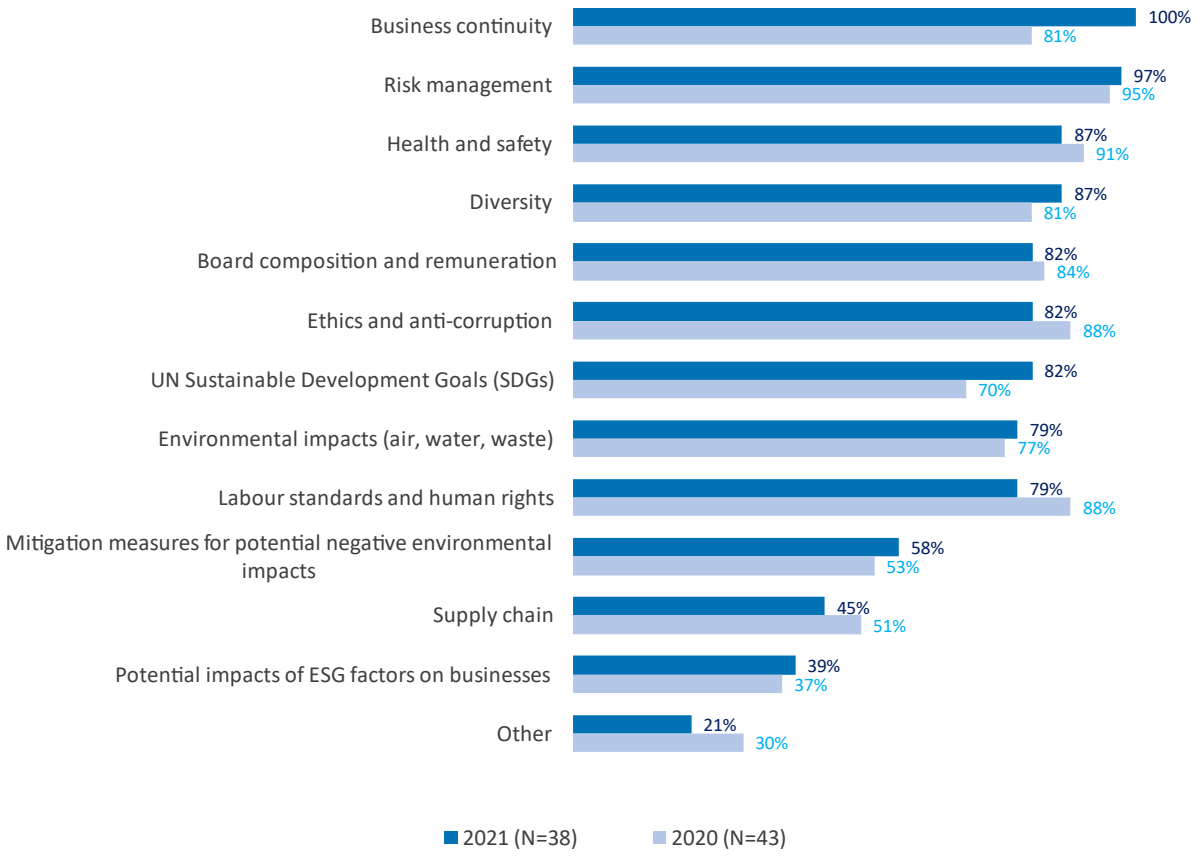
Disclosing data to explain the business impact on sustainability and its added value across different ESG factors is fundamental to gauging a firm's ESG footprint. ESG reporting can adopt different formats: it could be part of the annual financial report, or be a standalone document, for example. And it could encompass all or only a subset of the different ESG factors. The survey looked at the formats adopted by the exchanges and to the main ESG-factors covered in the reports.

The proportion of responding exchanges that publish their own sustainability report remained at the same level at 70% (38/54). **Figure 9** presents the coverage of reporting across 12 different ESG factors. Eight exchanges indicated that their sustainability report covered all the 12 factors. Remarkably, the number doubled from 2020 and the coverage has expanded to include Europe in addition to Asia Pacific and the Americas.

Looking at which factors are the most reported, we see that all of the respondents who publish their own report (38/38) include "Business continuity" for ESG reporting, a substantial increase from 81% in 2020. The most-reported factor in 2021 was information on "Risk management," which was included in 97% of the reports. In addition, the UN Sustainable Development Goals (SDGs) attracted significant attention in 2021, with 82% of exchanges including them in their reports, compared to 70% a year earlier.

Note that while the number of exchanges covering each topic decreased compared to 2020, due to the smaller sample size, the percentage coverage increased.

Figure 9. ESG factors reported by exchanges*



**Multiple answers allowed*

The balance between E, S and G

In 2020 we added a question asking the exchanges to score the percentage of their total ESG efforts that focused on Environmental (E), Social (S), and Governance (G), respectively. The scores sum to 100% for each exchange. In total, 46 respondents provided us with a breakdown of their ESG efforts.

Table 1 reports the mean percentage of the exchanges' efforts towards each of the three components of ESG. We computed these scores for all the respondents and across different regions. We can see that, on average, governance received 38.6% of the exchanges' sustainability effort in 2021 and became the most focused area in ESG. The environmental factor received 31.2%, and the difference between the governance and environmental scores was statistically significant (p-value<0.05). Lastly, the social component received a slightly lower effort score of 30.6%, which was not significantly different from the environmental score. Note that ESG efforts are more evenly distributed across the three factors compared to 42.9% (G), 31.3% (S) and 25.8% (E) a year earlier. This shows that a balanced development of ESG is the future trend.

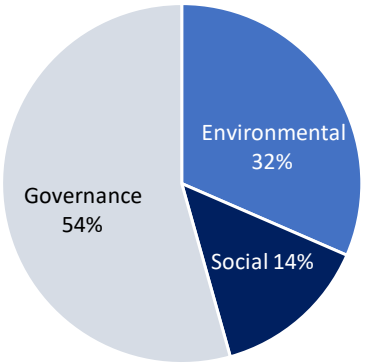
We further find that the effort rankings are similar across the Americas, Asia-Pacific, and EMEA regions. Governance enjoyed the highest effort score, followed by Environmental. The score dispersion, however, is higher in the EMEA region and lower in the Americas region. This is similar to 2020's results, suggesting that exchanges in the Americas tend to have a more balanced approach when treating the environment, social, and governance issues.

Table 1. ESG efforts breakdown (average percentages)

Region	N	Environmental (%)	Social (%)	Governance (%)
All	46	31.2	30.6	38.6
Americas	9	30.9	34.3	34.8
APAC	16	32.4	29.6	38.0
EMEA	21	30.5	29.8	40.7

In addition to estimating on average how efforts are distributed across E, S or G, we also estimated the percentage of exchanges prioritizing each individual component. For each exchange, the ESG component that received the highest effort was assigned a weight of 1. In the case of two (or three) areas sharing the same highest score, we assigned a weight of 0.5 (resp. 0.33) to each. **Figure 10** plots the distribution of the exchanges' top priority and shows that 54% of the exchanges put governance as their priority. 32% of the exchanges prioritized the environmental component, and 14% prioritized the social component. This balance is different from the previous year, when Social (22%) attracted more weight that Environment (10%), which suggests a shift to giving more priority to environmental issues.

Figure 10. Percentage of exchanges prioritizing E, S, or G



Overall, the survey results highlight the sustainability advancement accomplished by the exchanges in 2021. Exchanges implement more sustainability-related initiatives on average, and more of them are fully engaged. In examining the motivations behind these efforts, we find that exchanges see sustainability as a potential business opportunity that is increasingly in demand in the marketplace. We also find that the main challenges came from both internal and external sources, as evidenced by business concerns and lack of resources for implementation. In addition, the exchanges are distributing their efforts more evenly across the three components of ESG.

4.2 UN Sustainable development goals

Gender equality; decent work and economic growth; and climate action top the list of the exchanges' engagement with specific SDGs

The UN Sustainable Stock Exchange (SSE) initiative is a United Nations Partnership Programme, whose mission is to provide an international platform for exploring how exchanges can enhance performance on ESG issues and encourage sustainable investment.[6] The WFE and WFE members have been highly involved in the SSE initiative -- 54 of the 67 WFE members are part of the initiative. Besides the SSE, the UN also sets 17 Sustainable Development Goals (SDGs), which are an urgent call for action, [7] and the WFE members also strongly engage in promoting and achieving the SDGs.

In the WFE Sustainability survey, we collected information on the exchanges' UN SDGs-related initiatives (excluding derivative-only exchanges). The summary result is presented in **Figure 11.**

In line with previous years, the WFE members and affiliates demonstrated strong engagement with the UN SDGs. In this year's survey, **80% (39/49)** of the respondents indicated implementing sustainability initiatives related to the SDGs (up from 72% last year). "*Include SDGs in the exchange's own sustainability reporting*" was again the most frequently reported initiative, increasing from 48% (29/60) last year to 63% (31/49) this year.

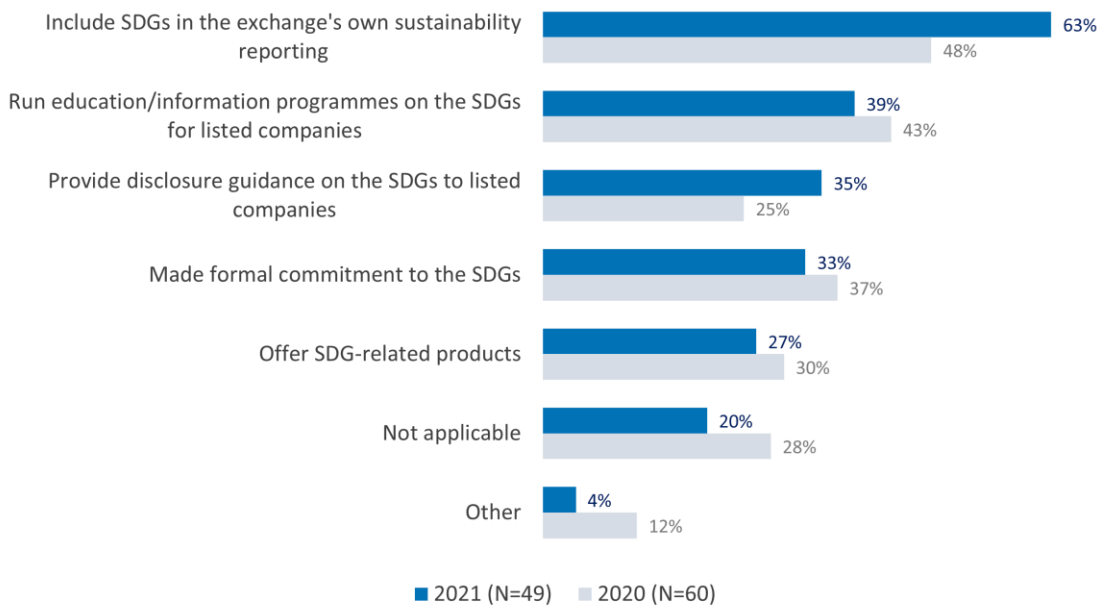
Running educational programmes and providing disclosure guidance on the SDGs to listed companies were the second and third most-frequent initiatives, taking the place that "Making formal commitment to the SDG "and "Offering SDG-related products" had the previous year.

The most-offered product was ESG bonds (11 exchanges) followed by ESG indexes (four exchanges). Exchanges also provided ESG ETFs (three exchanges) and ESG dedicated market segments to advance the SDGs.

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

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

Figure 11. UN SDG-specific initiatives*



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

As in previous years, we also asked exchanges to indicate which of the 17 SDGs they focused on. In this survey 57% of the responding exchanges indicated that they followed the SSE's recommendation and engaged in Goals 5, 8, 12, 13, and 17. These five SDGs were also the top five SDGs in this year's and the previous two years' surveys, although the order changed slightly.

"Goal 5: Gender equality" remained the SDG with the highest exchange engagement, with all top five goals having almost the identical number of engagements as last year as shown in **Table 2**.

Table 2. The five SDGs attracting higher engagement from exchanges

SDGs	2021 (N=37)	2020 (N=42)
Goal 5: Gender equality	32	32
Goal 8: Decent work and economic growth	31	31
Goal 13: Climate action	29	29
Goal 12: Responsible consumption and production	26	27
Goal 17: Partnerships to achieve the goal	26	28

Gender Equality

Motivated by the UN SDGs and the exchanges' intention to promote gender equality, WFE started to collect gender-related statistics in the 2020 survey. Last year we expanded the questionnaire by including questions on the Board composition of listed firms. This year, we have added a question about diversity targets within the boardroom.

Table 3 reports the average percentage of female members in the exchanges' board, senior management, and workforce. The summary shows that, on average, 20.9% of the exchanges' board was composed of females in 2021 (compared with 18.5% a year earlier), with the percentage being higher in the Americas. We can also see that, on average, 31.9% of the exchanges' senior management (i.e., individuals that lead a department or division) were women, an increase from 30.5% a year earlier,

and 41.5% of the exchanges' workforce were female (a decrease from 43.1%). Similar to 2020, the EMEA region had the highest female non-board representation, while the Americas region had the highest female board representation.

Table 3. Average percentage of female representation

Region	N	Board (%)	Senior Management (%)	Workforce (%)
All	52	20.9	31.9	41.5
Americas	10	27.3	34.2	37.9
APAC	18	18.8	26.8	40.8
EMEA	24	19.8	34.7	43.6

Asked whether the exchange had targets in place to increase female representation, 19 (36.5%) respondents indicated that they had such targets. Among these 19 exchanges, nine are in the EMEA region, five in the Asia-Pacific region, and five in the Americas region. Such exchanges with targets to improve gender equality have, on average, 15%, 29%, and 43% female representation on their board, senior management, and workforce, respectively. The initiatives undertaken by exchanges to improve gender equality include: Ring the Bell for Gender Equality, target hiring and effective succession planning, narrowing the gender pay gap, implementing gender-friendly and anti-sexual harassment policies and facilitating maternity and paternity leave. Of these, "Ringing the Bell for Gender Equality" is certainly the most prevalent initiative, with 15 exchanges indicating their participation.

Furthermore, the survey also provides insights into gender equality in the companies listed on the stock exchanges. Of the 46 responding stock exchanges, 21 (46%) measure the female representation in the board of their listed companies, an increase of ten percentage points from last year (36%, 19/54). On average, 49% of the exchange-listed companies where female representation in the board is measured, have at least one female on their board. This year, we asked public companies if they had set or planned to set targets to promote diversity within their boards. Responses showed that 18 of the 47 exchanges (38%) have clear targets and are actively working toward them.

Overall, gender equality has been one of the exchanges' sustainability focuses. Exchanges are implementing initiatives to increase female representation within their own organizations and with issuers.

Ring the Bell for Gender Equality initiative[8]

The Ring the Bell for Gender Equality initiative is a collaboration among the WFE, World Bank Group International Finance Corporation (IFC), Sustainable Stock Exchanges (SSE) Initiative, UN Global Compact, UN Women, and Women in ETFs to raise awareness about the business case for women's economic empowerment, and the opportunities for the private sector to advance gender equality and sustainable development.

Ring the Bell for Gender Equality | United Nations Global Compact | WE WOMEN IN ETFs | WORLD FEDERATION OF EXCHANGES | UN WOMEN | Sustainable Stock Exchanges Initiative | IFC International Finance Corporation WORLD BANK GROUP Creating Markets, Creating Opportunities

To celebrate International Women's Day (March 8, 2021), 104 exchanges around the world rang the opening or closing bell (some of which had to be done virtually), which was 27 more exchanges than in 2020.

[8] For more information about Ring the Bell initiative, see https://www.world-exchanges.org/news/articles/over-100-exchanges-worldwide-will-ring-bell-gender-equality-2021.

4.3 Transparency and reporting

Exchanges continue to be the major promoters of ESG disclosure

ESG disclosure has been a key focus by the regulators, as uniform and reliable information depends on the reporting standards. The WFE Sustainability Survey intends to capture and update the disclosure- and reporting-related topics. We surveyed the exchanges for information about the investor demand for ESG disclosure, disclosure format, and disclosure standards.

To examine the driving forces for ESG reporting, we asked the respondents about the source of their disclosure requirements. First, we asked the exchanges whether they observed investor demand for listed company ESG disclosure in their market.

If we examine the evolution in the percentage of exchanges that observed investor demand for ESG disclosure in their jurisdiction (**Figure 12**), we observe an increasing trend. In 2018, 70% of the survey participants indicated that investors in their jurisdiction demanded ESG disclosure. The percentage increased to 96% in this year's survey, indicating the growing demand for ESG disclosure.

Further looking into this year's responses (**Error! Reference source not found.**), we see that 40% of the respondents reported extensive demand for ESG disclosure, and 56% reported limited demand in their jurisdiction. Two exchanges, both in the EMEA region, reported insufficient demand for ESG disclosure. That number decreased from last year, when three reported insufficient demand. This trend demonstrates stronger demand for ESG disclosure in listed companies from investors.

Figure 12. Investor demand for ESG disclosure in the last five years

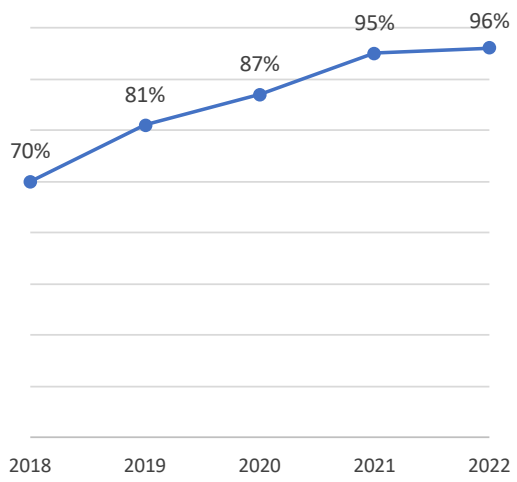
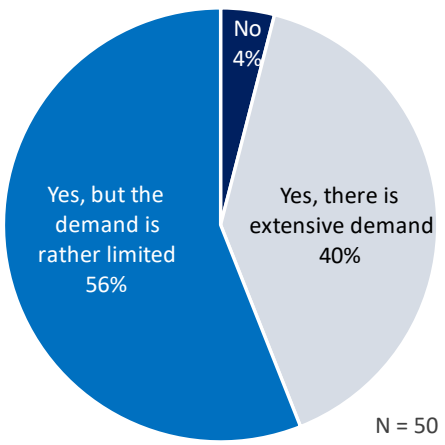


Figure 13. Investor demand for ESG disclosure

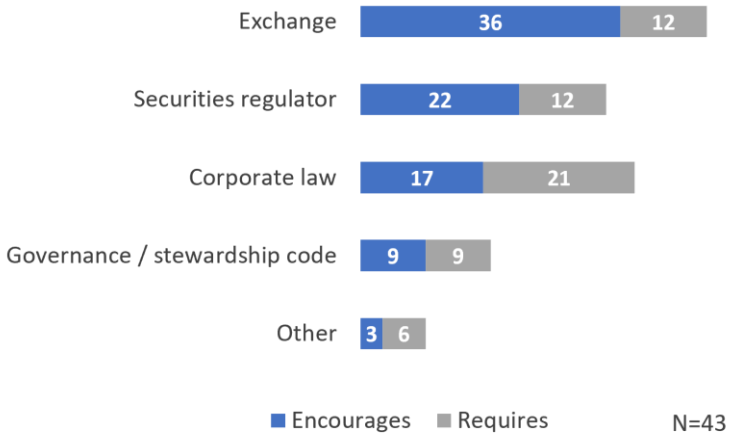


The graph on the left shows the percentage of exchanges that observed investor demand for listed companies ESG disclosure, as reported in the last five WFE surveys. On the right, the figure shows the strength of the demand for ESG disclosure.

To identify the drivers of ESG disclosures, the survey included questions about the key driving forces behind the ESG disclosures. **Figure 14** shows the breakdown of the answers provided. From the result, we see that exchanges continue to be the primary promoters of ESG disclosure, as in previous years. The security regulators and the corporate law follow behind. In terms of

mandatory disclosure, corporate law bypassed security regulators and became the leading force. It is also worth noting that exchanges are also a main driving force behind mandatory disclosure. In fact, in six markets, exchanges are the only body that encourages or requires ESG disclosure. These results highlight the exchanges' leadership role in driving ESG disclosure in listed companies.

Figure 14. Drivers of ESG disclosure*



Multiple answers allowed

Box 3: ESG disclosure - a continuing journey

The following are some of the exchanges achievements in enhancing ESG disclosure:

The **Chittagong Stock Exchange (CSE)** prepared a Draft Guidance on Reporting ESG Information to Investors by Listed Companies. The guidance will be finalized after getting feedback from the Regulatory Affairs Division and the Bangladesh Regulator. The **Korean Exchange (KRX)**'s ESG disclosure guidance was published in January 2021 for listed companies unfamiliar with ESG disclosure, to raise ESG awareness and help shape the direction of ESG management and disclosure. Also, the **Warsaw Stock Exchange (WSE)** published ESG Guidelines for Issuers.

In line with the highest regulatory standards, the **Deutsche Börse Group's (DBG)** post-trade services provider, Clearstream, provides markets with a safe, robust, and highly automated post-trading infrastructure for all fund types. The distribution support platform Fund Centre provides access to key information in line with the EU Sustainable Finance Disclosure Regulation (SFDR).

In November 2021, the **Japan Exchange Group (JPX)** published the "Survey of TCFD Disclosure in Japan," a survey of disclosure based on the TCFD Recommendations among the 259 Japanese listed companies that had declared support for TCFD as of the end of March 2021. The purpose of this survey is to understand the current situation around Japanese companies' disclosure of climate-related information based on TCFD, with the hope that it can be referred to by Japanese companies working on their own climate disclosure, as well as support efforts to enhance the quality and quantity of disclosure in general. In June 2021, the Tokyo Stock Exchange revised Japan's Corporate Governance Code to include further principles on sustainability. This includes requirements (comply or explain) for all listed companies to present policies and goals for ensuring diversity in core human resources, and for Prime Market-listed companies to enhance the quality and quantity of disclosure based on the TCFD recommendations or an equivalent framework.

The **Kazakhstan Stock Exchange (KASE)** held 18 events on the ESG topic in 2021. KASE has been consistently promoting issues of sustainable development, transparency, as well as raising the principles of responsible investment (PRI). KASE held regular events for issuers with the involvement of local and international experts from IFC, PwC, Ernst & Young and others to explain and popularize ESG disclosure among local companies. KASE also held events on PRI and global trends in ESG investment. KASE's initiatives have a great educational value to companies and provide an opportunity to build the capacity needed to produce quality sustainability reports. Moreover, KASE was recognized as the best exchange platform for green finance instruments by the Green Finance Awards 2021.

As a response to the Sustainable Finance Disclosure Regulation (SFDR), **Luxembourg Stock Exchange (LuxSE)** revamped its fund windows in October 2021. The Luxembourg Green Exchange now offers two fund windows: one for ESG Funds (Art. 8 SFDR) and the other for Impact Funds (Art. 9 SFDR).

Santiago Exchange (SantiagoX) path lies in propelling Chile towards responsible investment, considering environmental, social, and governance variables essential to the sustainable development of both the securities market and the country. To this end, SantiagoX partnered with GRI to prepare "Sustainability Reporting and Disclosure Guidelines for Issuers in Chile." This publication is designed to guide issuers on how to disclose sustainability information that satisfies investors' data and transparency needs.

In terms of its main board, the **Shanghai Stock Exchange (SSE)** revised the Rules Governing the Listing of Stocks on Shanghai Stock Exchange and relevant self-regulatory guidance of listed companies, both of which made detailed provisions on ESG disclosure. As for the SSE STAR Market, the SSE encouraged companies included in STAR 50 Index to release CSR or ESG reports.

The **Stock Exchange of Thailand (SET)** and the Thailand SEC, together with the Federation of Thai Capital Market Organization, have proposed and implemented the third Thai Capital Market Development Plan (2017-2021) with a clear focus on building a sustainable capital market ecosystem to enhance market transparency, competitiveness and inclusiveness. Through country-level policy engagement, rules and regulations on disclosures of ESG-themed investment products, including sustainable and responsible investing (SRI) funds and sustainability-linked bonds (SLB), have been effective to promote the issuance of ESG investment products while mitigating greenwashing concerns. So far, Thailand has welcomed 67 Corporate Governance (CG) and ESG funds with AUM of THB 55 billion (USD 1.5 billion) and three issuances of SLBs with a combined size of THB 32 billion (USD 0.87 billion). SET and its partners are currently proposing new ESG initiatives as part of the fourth Thai Capital Market Development Plan (2022-2026) to continue to promote the capital market as a key driver for the country's sustainable development.

The **Tunis Stock Exchange (BVMT)** published the ESG Reporting Guide, intended in particular for listed companies. This Guide presents the principles Sustainable Stock Exchanges (SSE) Initiative of the United Nations and explains the basic concepts and the usefulness of the CSR (Corporate Social Responsibility) approach and ESG Reporting, as well as the practical recommendations for their implementation, while leaving companies sufficient room for analysis to take into account their own challenges and specificities.

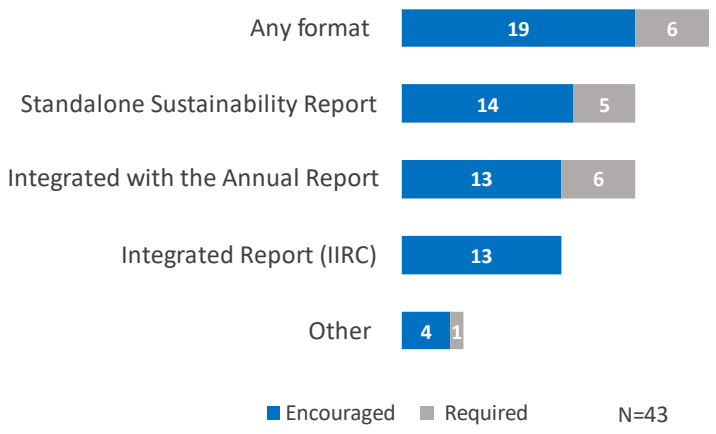
ESG disclosure: formats and standards

Ensuring high quality, consistent and comparable ESG information, which can serve the best interest of all stakeholders, is one of the main challenges reported by exchanges. In the survey, we collected information on the reporting standards and formats supported by exchanges to track the development of recommended reporting approaches.

Figure 15 shows the exchanges' responses regarding in which disclosure format they encourage or require reporting. The results show that exchanges generally do not have specific requirements and leave it to the companies' discretion, with "any format" receiving the highest overall rank. Among the 43 respondents to this question, 19 exchanges encourage ESG reporting without specifying any format. Also, six of the exchanges that required ESG reporting did not specify the disclosure format.

Among the pre-specified reporting formats, a standalone sustainable report continues to be the most encouraged option, with 14 exchanges recommending this format. In this year's survey five exchanges said they mandated a standalone sustainability report for their listed companies, an increase from a couple of exchanges a year earlier. Integrating ESG disclosure in the corporate annual report attracts similar preferences: it is recommended by 13 exchanges and required by six exchanges. Other cited reporting formats include specific formats developed by the exchange or security regulators.

Figure 15. Reporting format encouraged/required by exchanges*



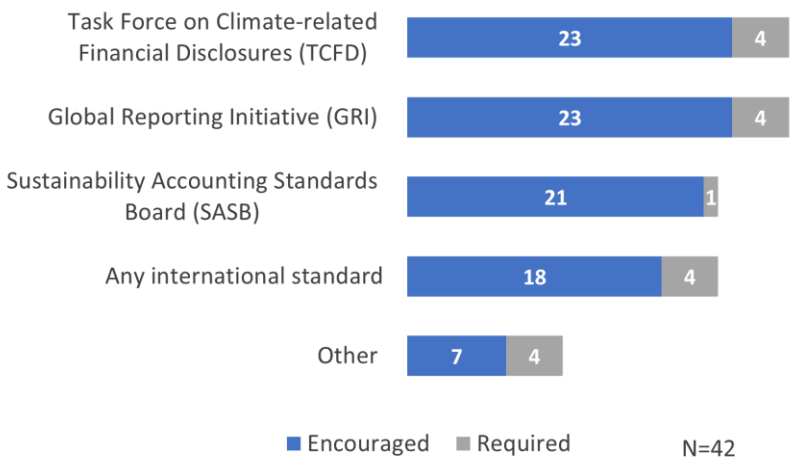
**Multiple answers allowed*

Different from reporting format, which refers to the way ESG information is presented, reporting standards are the rules for ESG measurement and disclosure. Accounting standards-setting bodies, in general, determine the ESG standards. Some of the popular ESG standards include the Global Reporting Initiative (GRI), the Task Force on Climate related Financial Disclosures (TCFD) established by the Financial Stability Board (FSB), and the standard issued by the Sustainability Accounting Standards Board (SASB).[9]

Figure 16 shows which reporting standards are either encouraged or implemented**.** In general, there is no consensus on the required or recommended reporting standards among the exchanges. However, we see the increasing preference for the TCFD standard, which ranked third in last year's survey, lagging after the GRI and any international standard, and is now at the top of the list, together with GRI standards. Both TFCD and GRI coincide in being encouraged by 23 exchanges and mandated by four exchanges.

[9] 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.

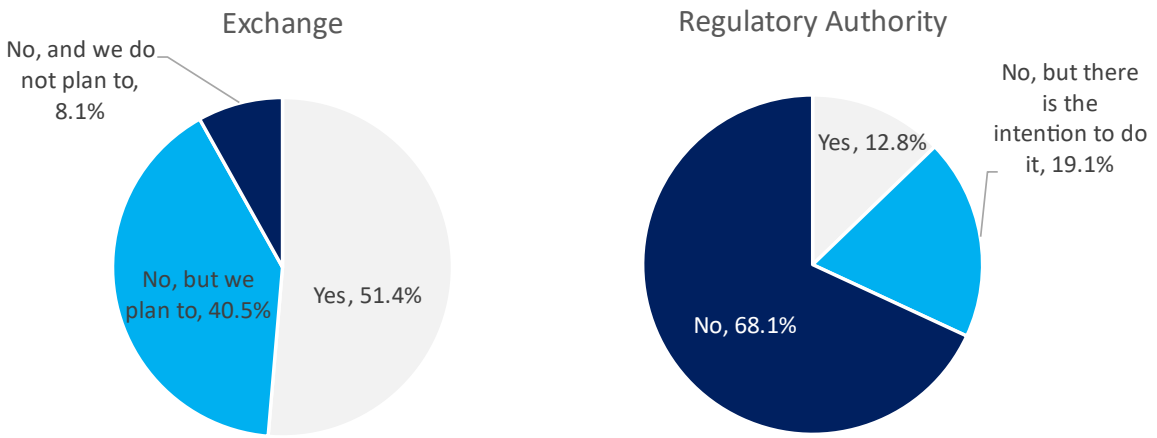
Figure 16. Reporting standards*



**Multiple answers allowed*

With the increasing interest in the TCFD standards, we also collected information on the main body promoting such standards. **Figure 17** breaks down whether the TCFD standards were recommended by the exchanges and local regulatory authorities. We see that about 51% of the exchanges reported recommending the TCFD standards, serving as key promoters behind this standard. In addition, 41% plan to recommend the TCFD standards. The survey also showed the lack of any regulatory recommendations toward the TCFD in 68% of the jurisdictions.

Figure 17. TCFD Recommendation

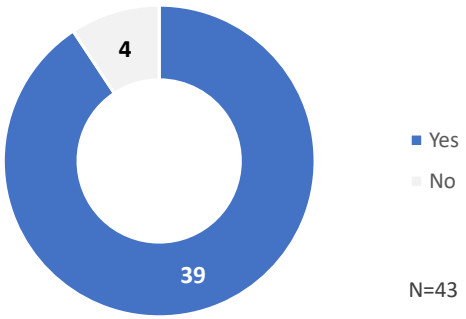


To support ESG disclosure by listed companies, stock exchanges also provide issuers with ESG reporting guidance. The survey results revealed that 68% (34/50) of the exchanges participating in this survey have guided companies on issues that are material for disclosure purposes. This percentage increased by five percentage points from the previous year. Twenty-one exchanges published their own reporting guidance, while 13 exchanges recommended or referenced existing guidance, a result very similar to last year's survey. In the emerging markets, exchanges tend to reference reporting guidance issued by the regulators.

On November 13, 2021, the IFRS created a new ESG standard-setting board called the International Sustainability Standard Board (ISSB) to enhance the reporting by companies on ESG-related matters. To track its development, we asked the exchanges about their views on the ISSB. More than 90% (39/43) of the respondents support the creation of the ISSB (**Figure 18**). Exchanges will be crucial players in the endorsement of the ISSB Standards.

Regarding the assurance or verification of listed companies' ESG data, more than half (60%) of the exchanges that responded had no such requirement or did not foresee requiring it in the future. Three exchanges (two located in Asia-Pacific and one in the Americas) required the assurance of issuers' ESG data. Moreover, 11 exchanges indicated that they were planning to require that in the future. These results are very similar to last year's.

Figure 18. Support for the creation of the ISSB



4.4 Sustainability products

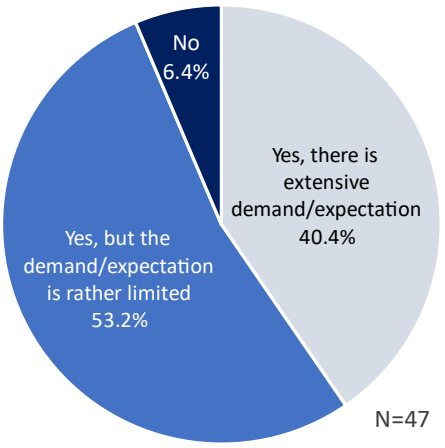
Increased offering of ESG products and of dedicated platforms in response to an increase in demand

ESG products continue gaining popularity among investors, and exchanges continue facilitating the listing, trading, and overseeing of these products. Exchange-listed/traded ESG products serve as an efficient way to channel capital to sustainability firms and projects. With this in mind, the WFE has incorporated ESG-related bond data in its Statistic Portal to provide information about these products and their markets.

As in the previous years, the survey asked the respondents about demand, oversight, and the definition of ESG products. This year, to accommodate for the recent developments in the ESG commodity space, we also asked the respondents to provide more information in this area.

First, we asked the survey respondents whether they observed demand for ESG products in their market. **Figure 19** summarizes the results and shows that about 94% (44/47) of the exchanges observed some level of investor demand. This percentage increased from 86% last year. Among these exchanges, 19 (41%) perceived extensive demand for ESG products. These figures increased from 16 (30%) last year. The exchanges that expressed the lack of investor demand for sustainability-related products were in emerging markets in the EMEA region.

Figure 19. Investor demand for ESG products



We also collected information on the ESG products offered by the exchanges to see how exchanges respond to the increasing trend in demand from investors. In 2021, there was a noticeable increase in the number of exchanges offering ESG-related products compared with the number in 2020. In this year's survey, 83% (39/47) of the exchanges offered ESG-related products, while it was 70% last year. For the derivative-only exchanges, two of the four exchanges have ESG products, and their offerings ranged from futures contracts to environmental markets (e.g., carbon emissions) and catastrophe and/or weather derivatives.

Box 4: Exchanges scale-up their effort in providing sustainable products and dedicated platforms

In 2021, 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.

The **Dar es Salaam Stock Exchange PLC (DSE)** has put efforts towards pursuing potential issuers in listing of green and sustainable bonds. **Botswana Stock Exchange** is expected to launch Rules for Sustainable Bonds in 2022.

In July 2021, the **Athens Stock Exchange (ATHEX)** created a new ESG index. The ATHEX ESG Index was designed to involve a maximum of 60 companies in the ATHEX Organized Market. The first composition of the index, apart from the other criteria, is determined based on the ESG score obtained from the published data of 2019. A total of 35 companies will participate in the initial composition of the index. The composition of the index will be reviewed every year, based on the data published by the listed companies in the context of non-financial information for each financial year.

In 2021, to address the need for more transparency and incentivize non-financial reporting, **Borsa İstanbul (BIST)** modified the methodology of the BIST Sustainability Index, which includes the top companies with high ESG performance. BIST signed a cooperation agreement with Refinitiv Information Limited ("Refinitiv") to assess listed companies based on the international sustainability criteria. Companies listed on the Exchange can now submit their ESG data through a dedicated Refinitiv contributor tool that encourages disclosure across the market. In November, BIST launched a second sustainability-themed index, namely BIST Sustainability Participation Index. It was formed for investors who wish to invest in Islamic finance and sustainability themes at the same time. The scope of the index consists of the shares of the companies that meet the selection criteria of "BIST Participation All" and "BIST Sustainability Indices".

The Turkish regulator, Capital Markets Board of Türkiye (CMB), prepared Green/Sustainability Bonds and Sukuk Principles and Guidance on the basis of the International Capital Markets Association (ICMA) Green Bond Principles. The text was reviewed in light of the opinions of market stakeholders. The Principles and Guidance were released in early 2022, after a period of public consultation. In order to incentivize the financing of investments that will have a positive impact on the environment/sustainability via capital markets, a 50% discount on the CMB fee, and a 50% discount on the exchange listing fee will be provided for the issuance of capital market instruments within the framework of the Guidelines.

The **Bolsa de Valores de Colombia (BVC)** had great progress in 2021 in growing the thematic bond market, and records were broken once again in the Colombian market. COP 1.9 trillion (USD 500 Million) were issued (+90% YoY) with a Bid-offer of 1.6x.

Qontigo combined the **Deutsche Börse Group's (DBG)** world-class indices (STOXX® and DAX®) and Axioma's best-of-breed portfolio-construction and risk-analytics tools to enable clients to achieve a competitive advantage in a rapidly changing marketplace. The offering includes a large array of ESG, climate and sustainability indices and the number of products grew further in 2021.

The **Korea Exchange (KRX)** launched the ESG data platform ("ESG portal") in December 2021 which provides a one-stop access to ESG-related data such as ESG disclosure data of listed companies, statistics on ESG investment instruments, and domestic and foreign guidelines, enabling easy access and utilization of ESG-related data. KRX launched three new ESG indices — KOSPI 200 Climate Change, KRX 300 Climate Change, KRX Climate Change Solutions — in July 2020, bring the total number of ESG indices produced by KRX to 10. The ESG indices returned an average annual return of 3.92%, compared to 1.26% of KOSPI 200. Growing investor interest in ESG resulted in the launch of 10 new ETP products (ETF, ETN) tracking the ESG indices calculated by KRX in 2021 alone, taking the total number to 14. Inflows into ESG products also spiked with the aggregate net asset value in 2021 rising 285.1% on year from 475 billion won to 641.6 billion won.

In 2021, the **Luxembourg Stock Exchange (LuxSE)** extended its LGX DataHub, a centralised database hosting structured sustainability data points on green, social and sustainability bonds, to include sustainability-linked bonds (SLBs). Additional features include a new data model (e.g., KPIs, SPTs), a dedicated SLB filter (KPI theme) and a specific display where SLBs are

identified through coloured target. In December 2021, structured data points on the LGX DataHub covered 5,000 green, social, sustainability bonds and SLBs, issued by 1,600 different issuers (e.g., multilateral development banks, corporates) across the world (e.g., Norway, Togo, Paraguay).

One of **Santiago Exchange's (SantiagoX)** main ESG milestones in 2021 involved partnering with S&P Dow Jones to launch the S&P IPSA ESG Tilted Index. This new indicator joined the family of 20 S&P/CLX indices at the Santiago Exchange that are managed by S&P Global. The index selection criteria are based on relevant ESG principles, choosing and weighting the constituents from the S&P IPSA, Chile's main stock market index, based on their sustainability performance. This milestone prompted Banco Itaú's fund management subsidiary to launch an ETF associated with the index, making it the first instrument of its kind in the Chilean market with local constituents.

The **Shanghai Stock Exchange (SSE)** has been expanding the market size of green bonds. By the end of 2021, a total number of 270 green corporate bonds and 399 green ABS were listed on the SSE, with a total amount of over RMB 366 billion. In addition, the SSE has been innovating green bond categories. The SSE has been enriching ESG investment products. By the end of 2021, there were 27 ESG related ETFs with an AUM of RMB 43.8 billion. China Securities Index, a subsidiary of the SSE, has been developing ESG indices and improving ESG rating methodology. By the end of 2021, CSI had released 102 ESG related indices. In February, it expanded its ESG rating coverage to the whole A-share market.

In August 2021, the **Shenzhen Stock Exchange (SZSE)** launched the first stock index in China that reflects the development of green finance industry. In September, two "carbon tech" indices were released. SZSE has launched 30 green indexes covering ESG themes, diversifying green investment targets, and guiding capital allocation in green industries.

The expansion of ESG products

In this year's survey, to better characterize the ESG products offered by exchanges, we broke down ESG derivatives into futures and options on ESG indices, ESG commodity derivatives, and catastrophe/weather derivatives. We also added environmental markets (e.g., carbon platforms), and included more detailed questions around ESG commodity derivatives.

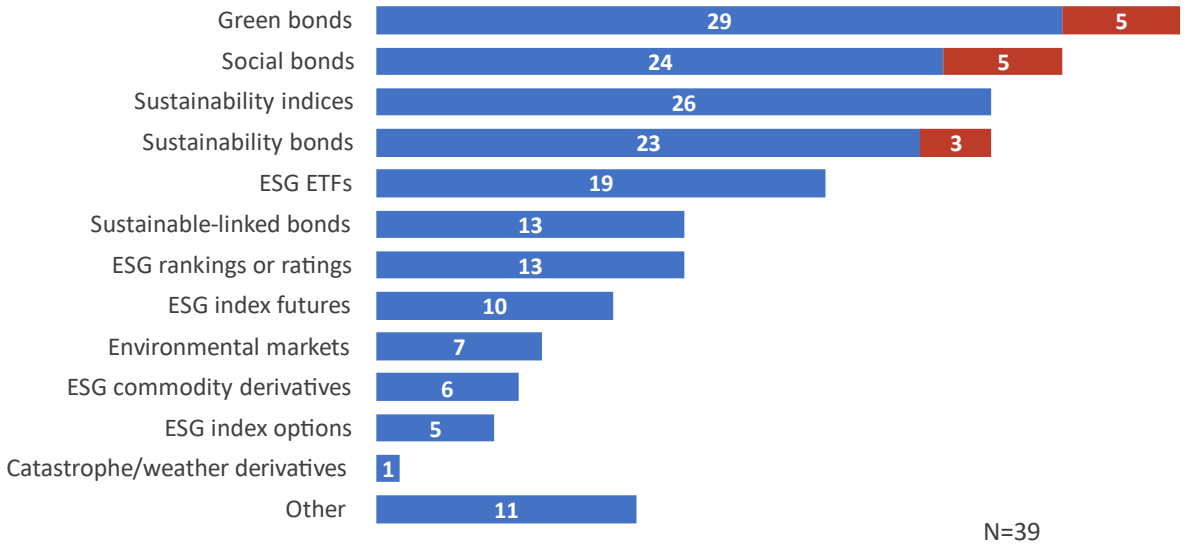
Figure 20 shows the breakdown of the products offered by exchanges. Like last year, green bonds (including green Sukuks) were the most popular ESG products, being offered by 87.2% (34/39) of the respondents. social and sustainability bonds/Sukuks were also popular, with 74.4% (29/39) and 66.7% (26/39) of the respondents offering these products, respectively. Among ESG derivatives, we found that ESG index futures were the most offered, followed by ESG commodity derivatives.

Other ESG products offered by exchanges and reported in the category "Other" in **Figure 20** included renewable energy funds and futures; ESG and impact funds; green bond and responsible investment funds indexes; and sustainability asset backed securities.

The survey also collected information on how the sustainability-related bond markets were set up in different exchanges (see **Figure 21**). With the exception of sustainability-linked bonds, for each type of bond/Sukuk offering, more than half of the exchanges offering these products have a dedicated listing segment.[10] Not all the exchanges with sustainability-related bond listings have the bonds traded on the exchange.

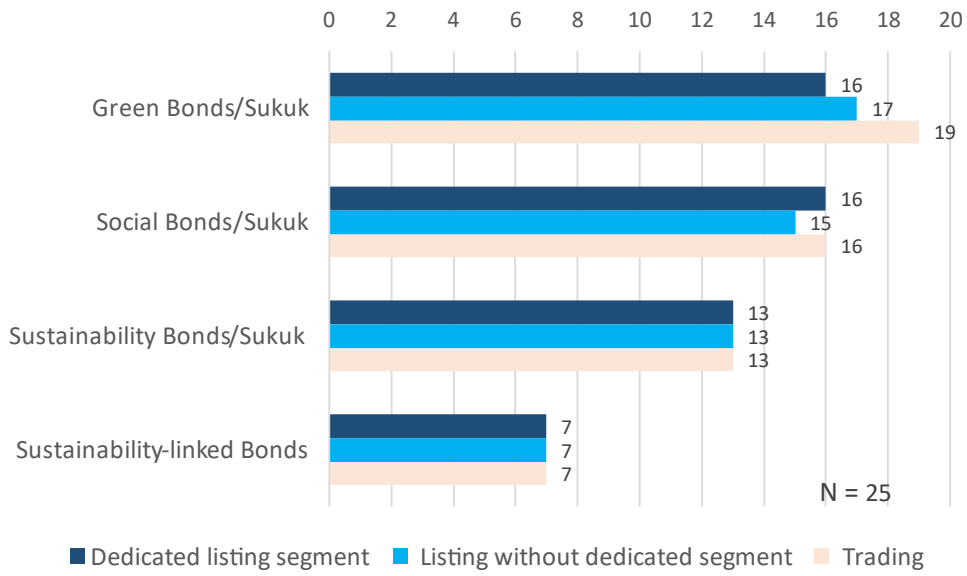
[10] A dedicated listing segment is defined as a segment with specific disclosure requirements tailor-made for the listing of green/social/sustainability bonds.

Figure 20. Exchange-offered ESG products*



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

Figure 21. Sustainability-related bond markets

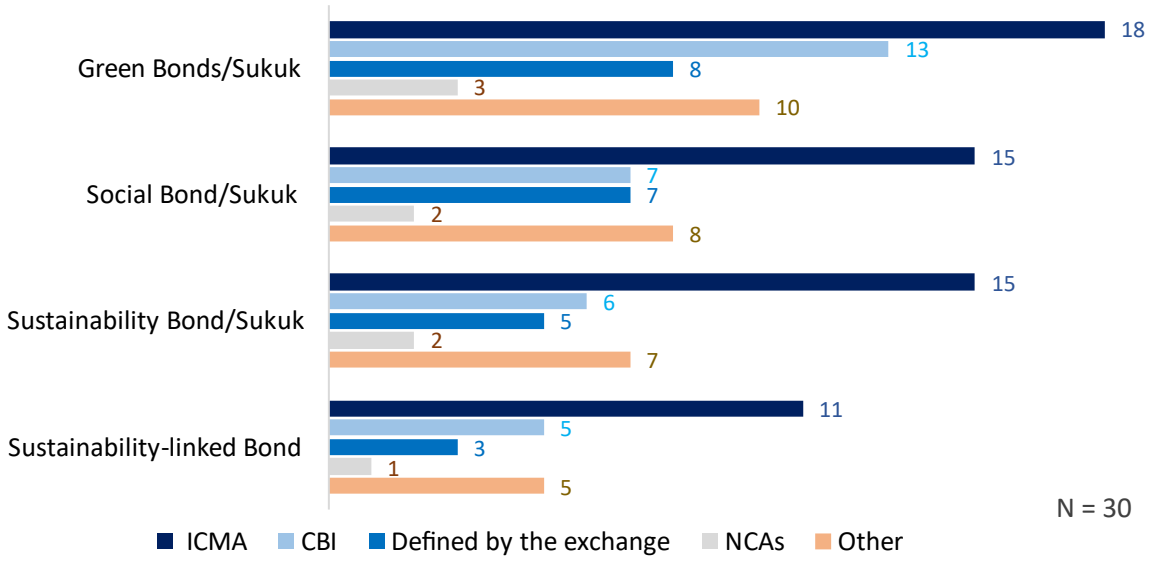


**The three options (trading, listing without dedicated segment, dedicated listing segment) are not mutually exclusive.*

ESG labels

In addition to collecting information on the demand and offering of ESG products, the survey also inquired about the ESG standards and definitions used by the exchanges. **Figure 22** reports which standards exchanges accept to label ESG products. For each category, the standards set by the International Capital Market Association (ICMA) are the most frequently used by the exchanges in defining green, social, and sustainability bonds/sukuks. In second place come the standards set by the Climate Bond Initiative (CBI). Three exchanges also accept, in addition to ICMA and CBI standards, standards set by the National Competent Authority (NCA). Among the 30 exchanges that offer ESG bonds/sukuks, 15 (50%) rely on one definition standard, while the remaining 15 use multiple definitions in identifying the products. For those exchanges that rely solely on one standard, they generally follow the ICMA standard or issue their own standard. Other definitions identified by the respondents include People's Bank of China Green Bond Endorsed Project Catalogue, ASEAN GBS, and the proposed EU Taxonomy. In one case, one exchange does not adopt any standards or definitions on green, social and sustainability bonds, but its classification is based on the issuers' self-disclaimer.

Figure 22. ESG product definition



Box 5: Promoting ESG best practices and guidance

Exchanges, as promoters of ESG, facilitate ESG information, provide guidance, and advocate for the best practices. The following are an example of the various initiatives undertaken by WFE members in 2021:

The **Santiago Exchange (SantiagoX)** is focusing on building a deeper, more dynamic, and sustainable market in the medium to long term. The Exchange has taken several initiatives to engage with stakeholders, such as Financial Literacy Courses and Ring the Bell for gender equality. The talk series "Approaches for Corporate Complaint Channels," organized in collaboration with the United Nations Global Compact, attracted 130 participants. The Exchange also participated in several charity endeavors aimed at helping vulnerable and at-risk youth.

The **Deutsche Börse Group's (DBG)** Executive Board remuneration has been linked to four ESG targets in 2021 (employer satisfaction, good ESG rating, carbon neutrality and ESG revenue). Institutional Shareholder Services (ISS) is a leading provider of corporate governance and responsible investment solutions, market intelligence, fund services, events and

editorial content for global institutional investors and corporations. As part of DBG, ISS ESG helps clients apply responsible investment strategies throughout the investment cycle and has developed in 2021 a range of new products and services.

In 2021, the **Luxembourg Stock Exchange (LuxSE)** engaged with Bolsa de Valores de Cabo Verde and Rwanda Stock Exchange to sign Memoranda of Understanding (MoU) to foster a collaborative work and share best practices of sustainable finance. These MoU are planned to be signed in 2022.

The **Shanghai Stock Exchange (SSE)** has played an active role in international cooperation on ESG as Vice-Chair of the WFE Sustainability Working Group (SWG) and as a member of the UN Sustainable Stock Exchange Initiative (UN-SSE) climate disclosure advisory group. In August, SSE President Mr. Cai Jianchun published a signed article in WFE *Focus* journal entitled Path to a green China: The role of capital markets in decarbonising the future. In November, Lisa Yingying Li, as the Vice Chair of SWG, sent a video message for the COP26 on the WFE official website. SSE has also been building an ESG ecosystem that connects investors and companies by organizing international conferences, and online training.

In August 2021, the Sustainable Finance Working Group, a joint effort between the **Stock Exchange of Thailand (SET)** and the Bank of Thailand, launched the Sustainable Finance Initiative. The initiative sets the direction and framework for driving sustainable financial development across the industry by developing practical taxonomies, improving the data environment, implementing effective incentives, creating demand-driven products/services, and building human capital. In addition, SET has established the ESG Academy as a key engine to drive overall sustainability and accelerate Thailand's sustainable development agenda. The Academy is a one-stop incubation and dissemination platform for corporate sustainability and sustainable investments.

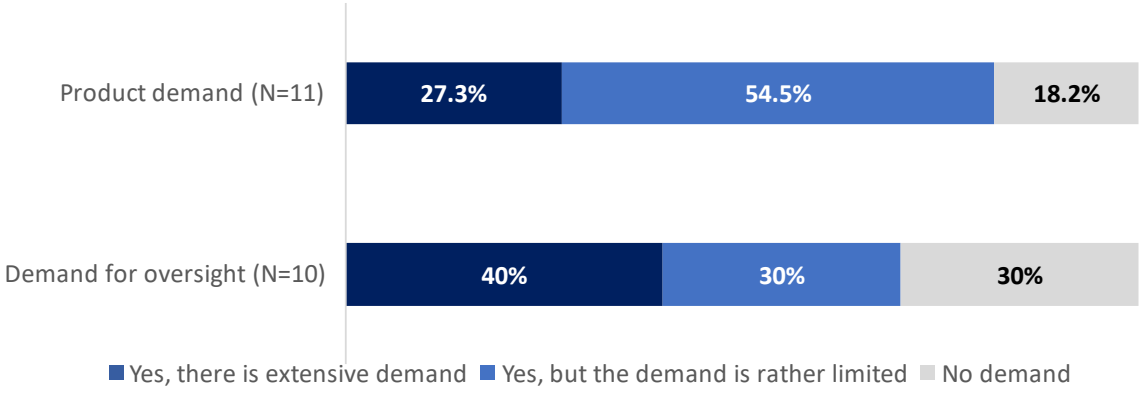
Members have also demonstrated their commitment to sustainable development by publishing reports on sustainability. In 2021, **Borsa İstanbul (BIST)** published its fifth Integrated Report, which provides a holistic perspective on BIST's financial, environmental, and social performance, as well as its progress and strategic initiatives. The **CME Group (CME)** released their 2021 ESG report to celebrate their accomplishments and set priorities for the future. The **Indonesia Stock Exchange** has its own dedicated ESG website to publish ESG scores. The **SIX Group (SIX**) has published a series of reports, including SIX Corporate Responsibility Report, BME Corporate Responsibility Report, Diversity at SIX and the Voluntary Market Guidance, to express their determination and progress in the ESG area. The **TMX Group (TMX)**'s 2021 ESG report, released in May 2022, outlines the exchange's near- and long-term priorities as it continues to integrate its ESG objectives into TMX Group's corporate strategy, business processes, and investment decisions.

ESG Commodities

In this year's survey, we also added new questions about the advancement in ESG commodities. ESG commodities include the spot commodities with sustainable sources, ESG commodity indexes, and derivatives contracts whose underlying assets are sustainable spot commodities or indexes. These ESG commodities have been introduced to meet the evolving risk management needs and to facilitate the transition to a more sustainable economy.

When asked whether the exchange has observed any investor demand for incorporating sustainability elements into the derivatives contracts, out of the 11 respondents to this question nine indicated that there was demand for this type of sustainable products, with more than half of the respondents observing extensive demand (**Figure 23**). And when asked about investor's demand for oversight and understanding on whether the underlying commodity is sustainably produced, the responses indicate there is also a high demand for oversight (70% of the respondents), although it is less extensive.

Figure 23. Demand for ESG commodity products and for oversight of sustainable sources



In response to the growth in demand, various exchanges now offer ESG commodity products. For instance, The **Singapore Exchange (SGX)** offers a selection of ESG iron ore derivatives contracts to provide manufacturers with tools to hedge and manage risks associated with carbon emissions. Its 65% Fe Fines iron ore, which requires less iron core to product the same amount of steel, is considered the more sustainable alternative to the traditional iron ore. Moreover, in May 2021, SGX launched the rebar swaps in relation to reducing emission in steel production. In addition to metal, SGX also offers low sulfur fuel oil derivative contracts, Forward Freight Agreement contracts, methanol derivatives, Renewable Energy Certificates, and other products to help reduce carbon footprint. Lastly, in response to the rise in demand for energy metals used in Electric Vehicle (EV) batteries, SGX is launching a suite of commodity contracts linked to battery raw materials.

5. Concluding remarks

Since the WFE started conducting the annual Sustainability Survey, the results have consistently highlighted the advancement of sustainability across the global exchange industry. The year-to-year trend and the efforts put in by the exchanges have shown steady progress on the ESG agenda.

This year's survey, the eighth edition in the series, sheds light on the exchanges' collective effort in contributing to the COVID-19 pandemic recovery process. Overall, we find that exchanges increased their sustainability efforts. For instance, we observe an increasing trend in the number of sustainability initiatives, especially those related to ESG education, and greater engagement with the WFE Sustainability Principles. Moreover, the respondents have demonstrated their contribution to the transition to carbon neutrality by highlighting their Net-Zero pledge and offering carbon-related trading facilities. Furthermore, in terms of the priority in E, S, and G, we document a more balanced approach, with exchanges focusing on issues related to all three areas. This approach contrasts with last year's results, where exchanges tended to emphasize governance issues.

Despite the positive results from the survey, there is a risk that the difficulties arising from the current economic and geopolitical landscape may slow down progress on the ESG agenda and impede setting more ambitious goals. In this context, policymakers and industry should make an additional effort to continue advancing the ESG agenda and addressing the issues that are still seen as a concern for future progress.

Annex 1: Survey respondents

WFE Members

Americas	Asia-Pacific	EMEA
B3 – Brasil Bolsa Balcão	Australian Securities Exchange	Amman Stock Exchange
Bermuda Stock Exchange	Bursa Malaysia	Astana International Exchange
Bolsa Mexicana de Valores	Colombo Stock Exchange	Athens Stock Exchange
Bolsa de Comercio de Buenos Aires	Dhaka Stock Exchange Ltd.	Bahrain Bourse
Bolsa de Valores de Colombia	Hong Kong Exchanges and Clearing	Borsa İstanbul
CME Group	Indonesia Stock Exchange	Boursa Kuwait
Cboe Global Markets	Japan Exchange Group, Inc.	Dar es Salaam Stock Exchange PLC
Intercontinental Exchange, Inc.	Korea Exchange	Deutsche Börse AG
TMX Group Limited	National Stock Exchange of India Ltd.	The Egyptian Exchange
	Shanghai Futures Exchange	Johannesburg Stock Exchange
	Shanghai Stock Exchange	Kazakhstan Stock Exchange
	Shenzhen Stock Exchange	London Stock Exchange Group
	Singapore Exchange	Luxembourg Stock Exchange
	The Stock Exchange of Thailand	Malta Stock Exchange
	Taipei Exchange	Qatar Stock Exchange
	Taiwan Futures Exchange	SIX Swiss Exchange
	Taiwan Stock Exchange	Saudi Stock Exchange
		Stock Exchange of Mauritius
		Tel-Aviv Stock Exchange
		Warsaw Stock Exchange

WFE Affiliates

Americas	APAC	EMEA
Latin American Stock Exchange	Chittagong Stock Exchange Limited	Baku Stock Exchange
	Nepal Stock Exchange Limited	Botswana Stock Exchange
		Cape Town Stock Exchange
		Dubai Gold & Commodities Exchange
		Ghana 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 note 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 local language • Engage with other stock exchanges to enhance the availability of non-financial information of listed companies • Develop ESG information platform for investors • Provide ESG reporting platform for issuers.
Principle 3: Engage stakeholders to advance the sustainable finance agenda	• Engage stakeholders (regulators, policy makers and capital market participants) to advance the sustainable finance agenda • Engage stakeholders on 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 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 note for green bonds 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 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 risk into the exchange's risk management process • Engage in initiatives related to preventing human rights abuses within supply chains

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