

Questionnaire survey on corporate biodiversity actions in Japan

Summary of the FY2023 survey results

October 15, 2024

Keidanren (Japan Business Federation)
Keidanren Nature Conservation Council (KNCC)

Overview of the survey

Objectives:

To monitor the status of biodiversity actions by Japanese companies referring to the Kunming Montreal Global Biodiversity Framework (GBF) of the Convention on Biological Diversity (CBD) and the Taskforce on Nature-related Financial Disclosures (TNFD) and identify key challenges and opportunities to move forward.

Target:

Keidanren member companies (1,542 companies (April 2024), including KNCC members)

Survey Period: March – June 2024

Number of valid responses: 281 companies, including 110 KNCC members

* Note for interpreting data presented in the following slides:

- ✓ The sum of proportions presented in some graphs exceed 100% due to rounding decimals
- ✓ “N” in this disclosure refers to the number of valid responses to each question

Executive summary (1)

(1) Companies are increasingly mainstreaming biodiversity into corporate management.

- ① **Awareness of “biodiversity” is high**, with 69% of companies reporting that more than 80% of the management knew the meaning of “biodiversity”, and 90% of companies reporting that at least a few employees knew the meaning. **Awareness of “nature positive” is lower** than that of “biodiversity”, but has **increased remarkably** since FY2022. [P7]
- ② **Organization structure** to oversee biodiversity actions: By an **internal expert committee in the highest number (69%)** of companies; by the **board of directors and/or the management in a moderate number (38% and 40% respectively)** of companies, which had **increased** since FY2022 (28% and 30% respectively). [P8]
- ③ **Corporate documents** on biodiversity: **Sustainability and/or environmental policy** documents by the **largest number (77%)** of companies, while **corporate management policies, strategies and/or plans** by a **moderate number (39%)** of companies. Number of companies that have biodiversity contents in these or other types of corporate documents has slightly increased compared to FY2022. [P9]
- ④ **Quantitative targets and indicators** in these documents set by **35%** of companies. The number **increased** from FY2022. [P10]
- ⑤ **Biodiversity information disclosure** by a **company website by the largest number (77%)** of companies; and by **legally mandated reports e.g. annual securities report, by only a few companies (12%)**. Overall the proportion of **companies that have disclosed biodiversity information** by these or other media **increased** as compared to FY2022. [P11]
CDP and TNFD, in this order, were the most frequently used by these companies for biodiversity information disclosure (72% and 57%, respectively), with a **remarkable increase in the use of TNFD recommendations** as compared to FY2022 [P12]

(2) Many companies are taking biodiversity actions that contribute to GBF, with increased quality.

- ① **Biodiversity actions that contribute to at least one GBF target** were taken by a **higher number (85%)** of companies than in FY2022 (79%) . The most frequently referred target was **T8.Climate change and biodiversity**, followed by **T15.Corporate biodiversity information disclosure**, **T3.Protected areas and OECM**, **T11.Restore, maintain and enhance nature’s contributions to people** and **T7.Reduce pollution**. [P15]
Detailed examples of biodiversity actions provided by these companies demonstrate **increasing quality of actions** [P21,22]
- ② By industrial sector, **the highest proportion of companies in pulp and printing sector have GBF-related actions**, followed by **construction, electricity/gas/heat/water supply, transportation equipment** and **wholesale/retailing**. The most frequently referred targets differed by industrial sector. [P17]
- ③ **Potential contributions of biodiversity actions to a variety of SDGs** were demonstrated. These include **SDG15. Life on land; SDG14. Life below water; SDG13.Climate action; SDG12.Responsible consumption and production; and SDG11.Sustainable cities and communities**. [P23]

Executive summary (2)

(3) Companies are increasingly taking up TNFD recommendations and identifying nature-related risks and opportunities. [P26]

- ① **Overall 72% of companies are either implementing or considering the evaluation of their dependencies and impacts on nature** in their direct operations and value chains and of **related risks and opportunities**, indicating a **remarkable increase** from FY2022 (58%). The majority of companies have overseas direct operations and/or value chains, most of which are evaluating their overseas nature impacts and dependencies. [P25]
- ② **The highest proportion (42%) of companies have a plan but have yet to implement the LEAP***. Among the rest, the highest proportion of companies have implemented the first “Locate” step, with the number gradually decreasing towards the final “Prepare” step. There was a **remarkable increase** since FY2022 in the proportion of companies that have implemented each of the four steps. [P27]
- ③ From among the TNFD’s eight **core global metrics, Indicator 2.Pollution/pollution removal and Indicator 3.Resource use/replenishment** were the most frequently used by companies (approx. 30%) for measurement and disclosure [P28]
- ④ The most frequently mentioned nature-related risks were **physical risks** (esp. **acute risks (68 mentions)**), **biodiversity impacts (52)** and **transition risks** (esp. **reputational risks (42)**), while opportunities were business performance (**products and services (72)** and **markets (60)**). Detailed descriptions of nature-related risks and opportunities provided by each company demonstrate **their deepened understanding of their nature materiality**. [P29, 30]

(4) Many companies have corporate management reasons to take biodiversity actions, but are facing various technical barriers. Integrated climate and biodiversity action is still minor but picking up [P32].

- ① **Societal trends and corporate management** were the most frequently mentioned reasons for companies to take biodiversity actions, particularly **international/national norms and social responsibility (77%)**, **management philosophy/focus (57%)** and **risk reduction (56%)**. [P33]
- ② **Technical barriers** in taking biodiversity actions were frequently mentioned, particularly **developing and measuring indicators and targets (60%)**, **scenario development and analysis (53%)**, **limited knowledge and human and financial resources (46%)** and **complex supply chains (44%)**. Corporate-management related and technical barriers were mentioned less compared to FY2019 and FY2022. [P33]
- ③ **Integrated climate and biodiversity action is minor**, with **biodiversity actions lagging behind climate actions (48%)** or **being separated from climate actions (23%)** in many companies. Meanwhile, integrated climate and biodiversity actions have been taken by approx. 20% of companies, particularly **integrated TCFD** and TNFD reporting which increased remarkably** from FY2022 (13%). [P34]

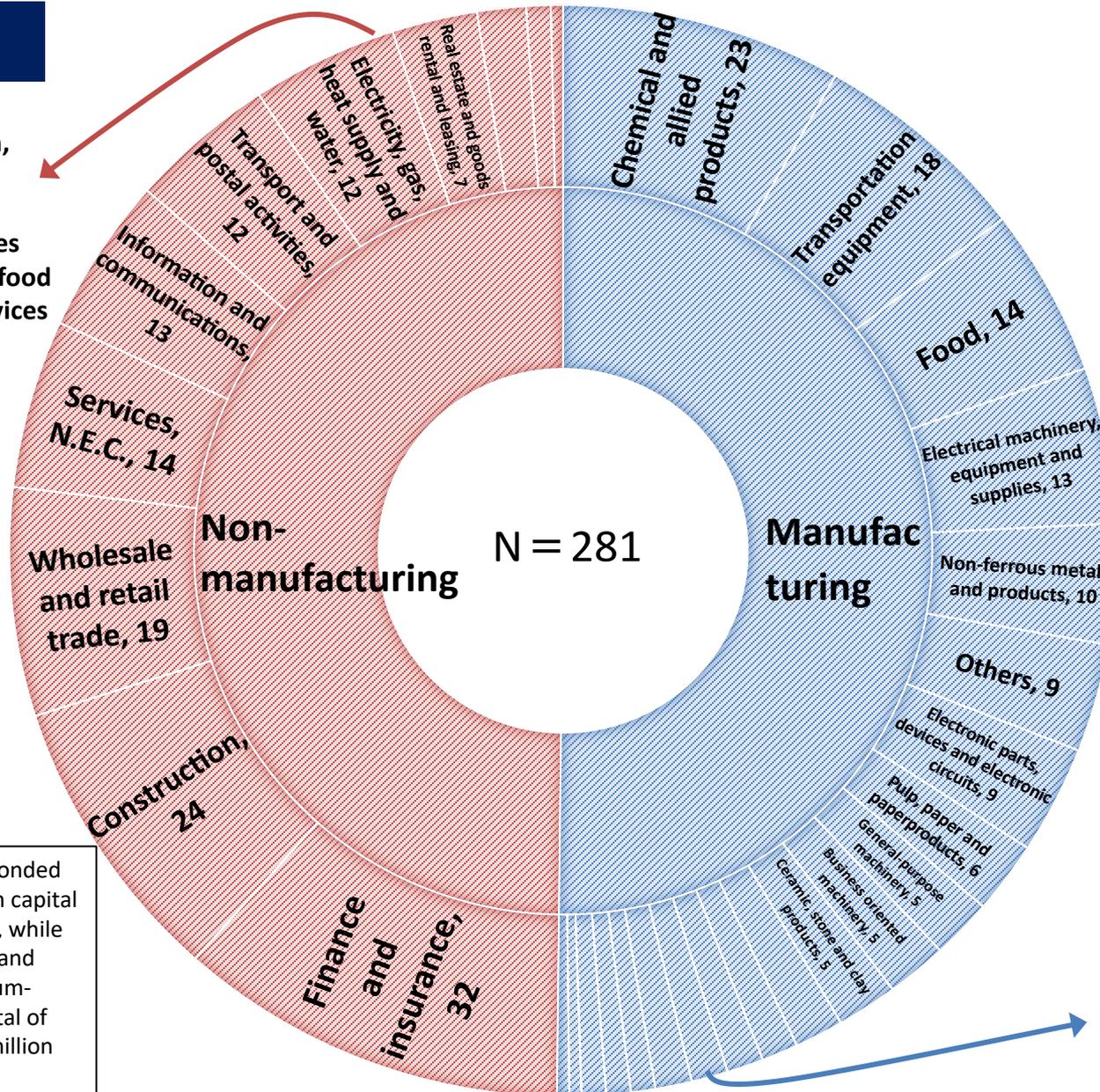
* LEAP: Four steps to carry out nature-related financial disclosure recommended by TNFD, i.e., Locate, Evaluate, Assess and Prepare

** TCFD: Taskforce on Climate-related Financial Disclosures

Respondent company profile

Sector

- Scientific research, professional and technical services
- Compound services
- Accommodation, food and beverage services

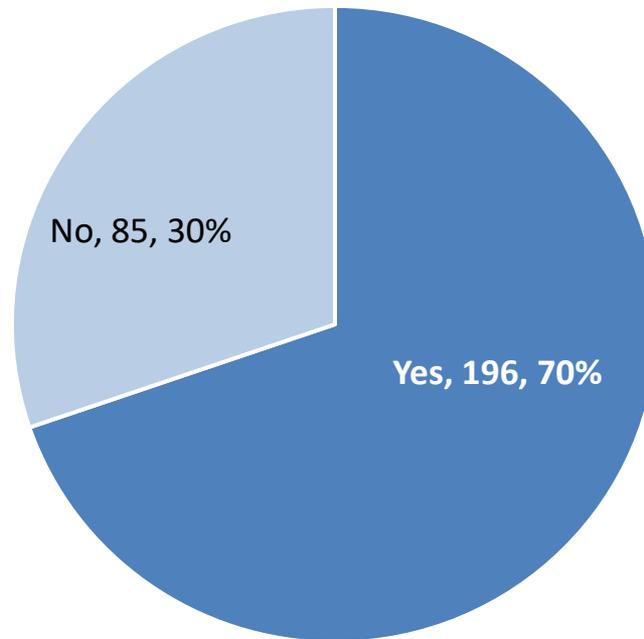


- Printing and allied industries
- Plastic products
- Information and communication electronics equipment
- Beverages, tobacco and feed
- Rubber products
- Textile products
- Petroleum and coal products
- Production machinery
- Fabricated metal products

Most companies that responded were large companies with capital of JPY 300 million or more, while in the non-manufacturing and other sectors, many medium-sized companies with capital of between JPY 50 and 100 million responded to the survey

Respondent company profile

Proportion of companies which responded to the previous survey in FY2022

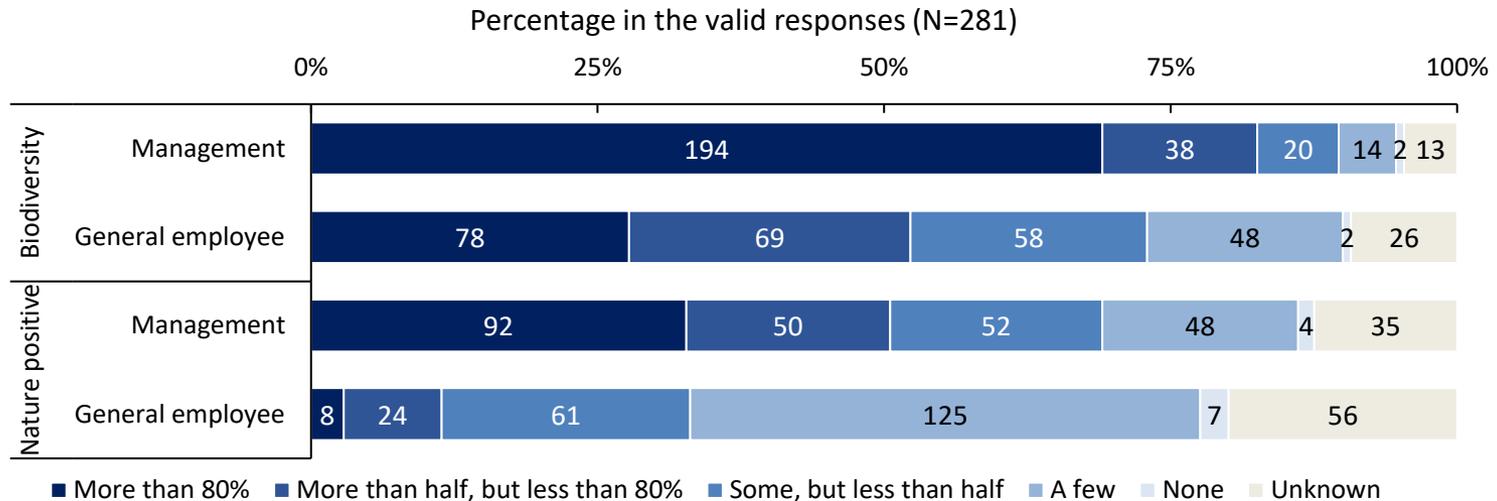


- 70% of the respondent companies were the same as the respondents to the previous survey in FY2022, and 30% were new respondents

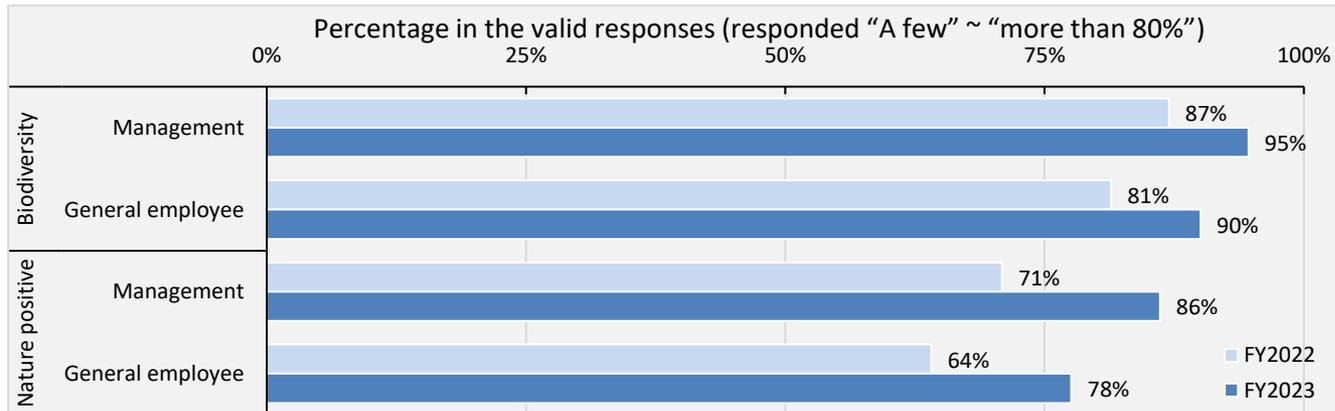
(1) Mainstreaming biodiversity
into corporate management

Awareness of biodiversity

Q. What proportion of your company's management (board and executive officers) and general employees know the meaning of "biodiversity" and "nature positive"? If your company has not conducted a survey, please answer using a rough estimate. (N = 281)



Comparison with the FY2022 survey results

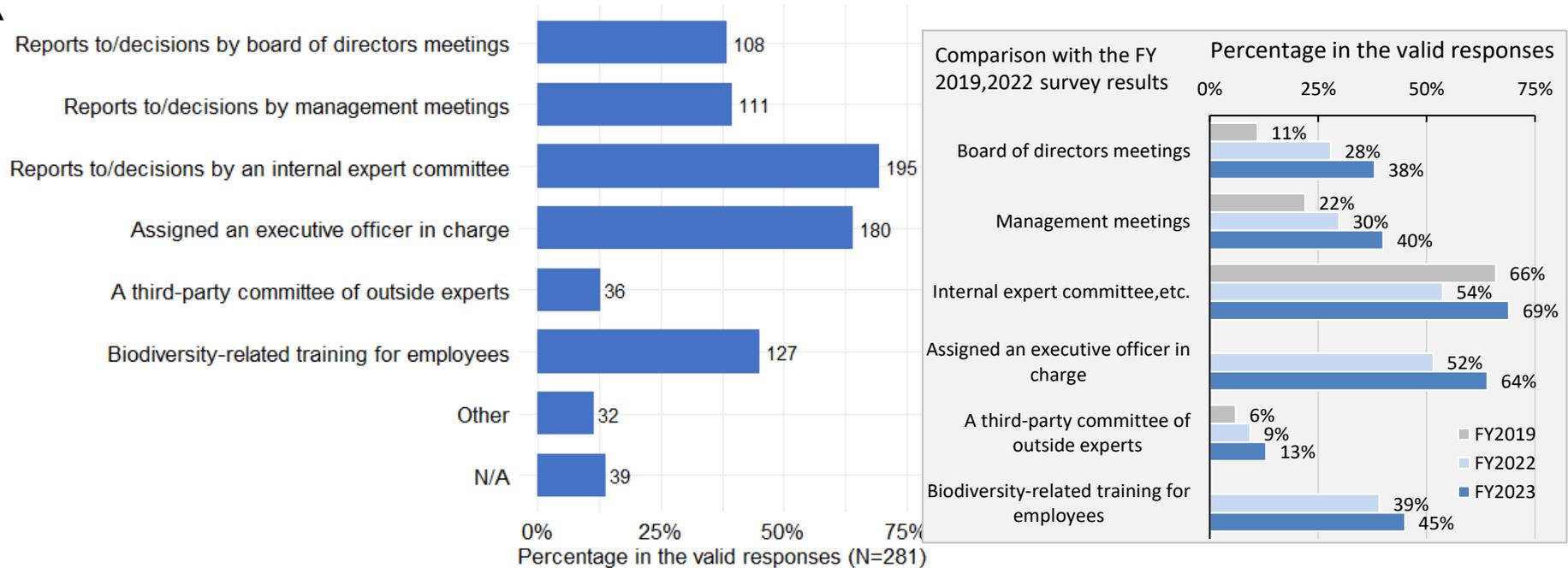


- Awareness of "biodiversity" is generally high (especially among management)
- Awareness of "nature-positive" is not high, but improved from FY2022

Organizational structure to promote biodiversity actions (1)

Q. Which organizational structure applies to your company to promote biodiversity actions? (N=281)

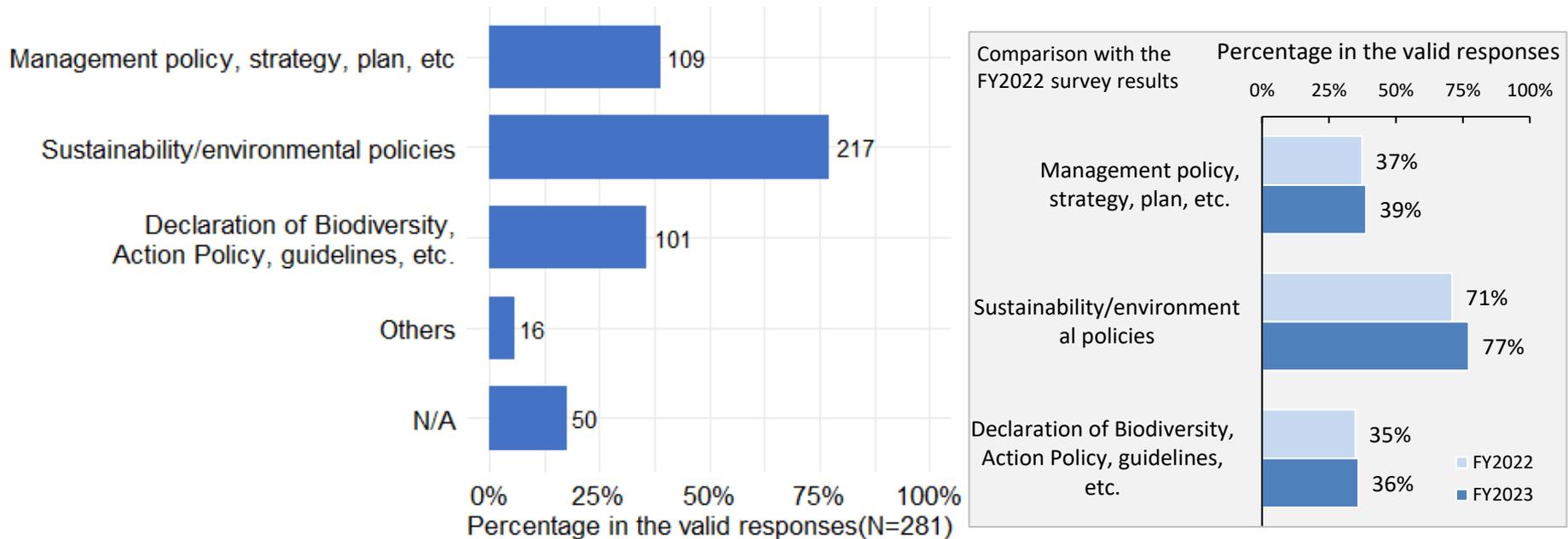
Higher-level decision making, reporting and involvement



- Less than half of the companies **have the board and management meetings oversee biodiversity actions**, and the proportion has increased since FY2019.
- The majority of companies have **internal expert committees** or **an executive officer** to oversee biodiversity actions.

Organizational structure to promote biodiversity actions (2)

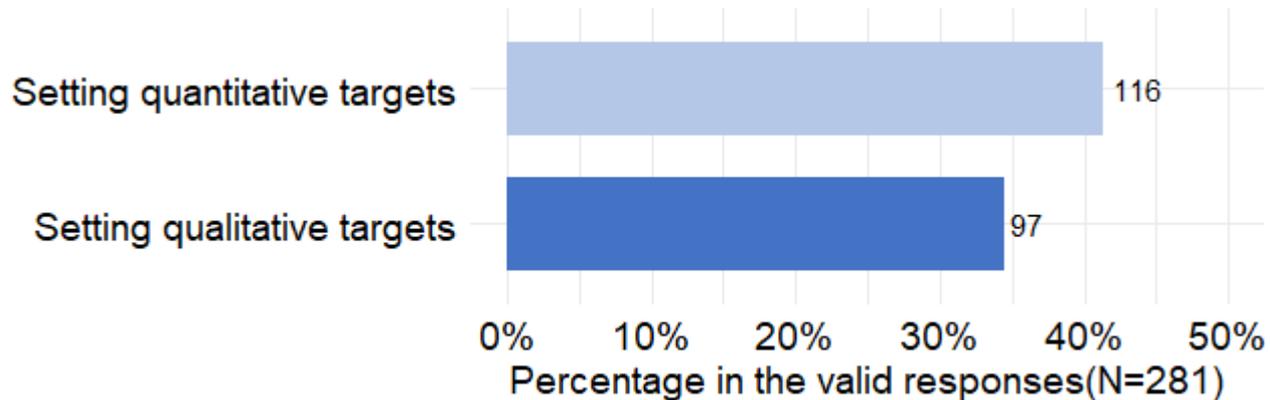
Q. Does your company have a management policy, strategy, plan or other corporate documents that have biodiversity-related statements and/or contents? (N=281)



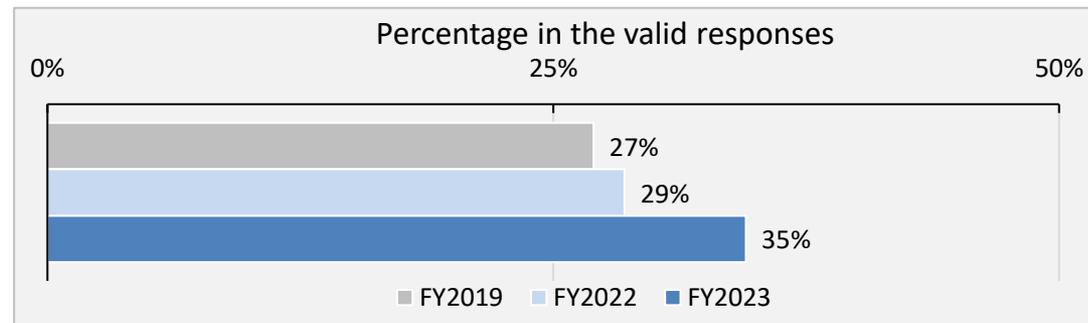
- **The majority (approx. 80%) have sustainability/environmental policies or other sustainability documents** that have statements/contents on biodiversity
- Overall, **increasing number of companies have management policy, strategy, plan or other corporate documents with biodiversity contents.**

Targets for biodiversity actions

Q. Has your company set targets for biodiversity actions? (N=281)



Proportion of companies that have quantitative targets/indicators as compared with FY2019 and FY2022

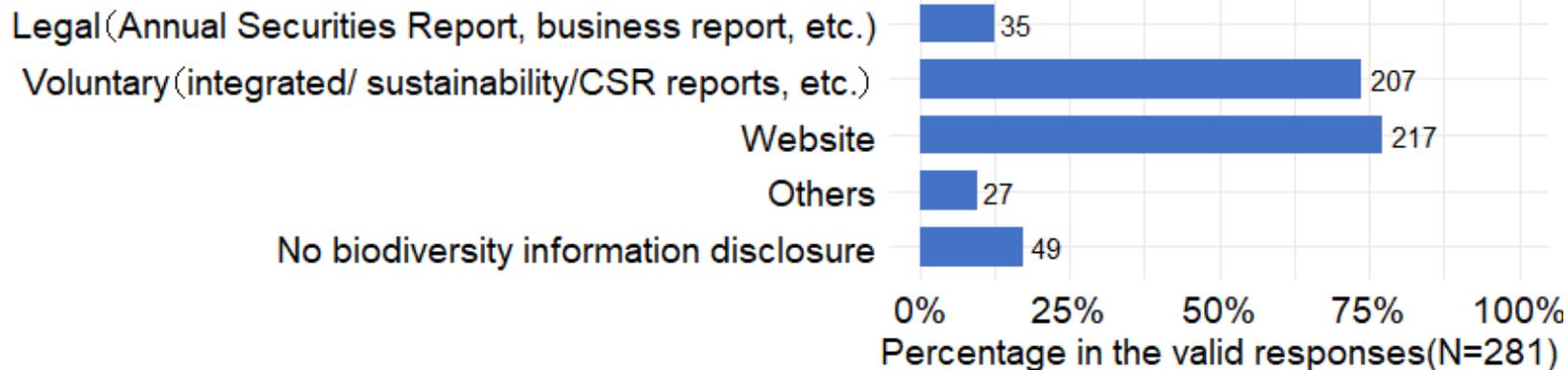


- **Quantitative biodiversity targets were set by approx. 35%, and qualitative targets by approx. 40% of companies**
- **Increasing number of companies have set quantitative targets/indicators as compared to FY2019 and FY2022**

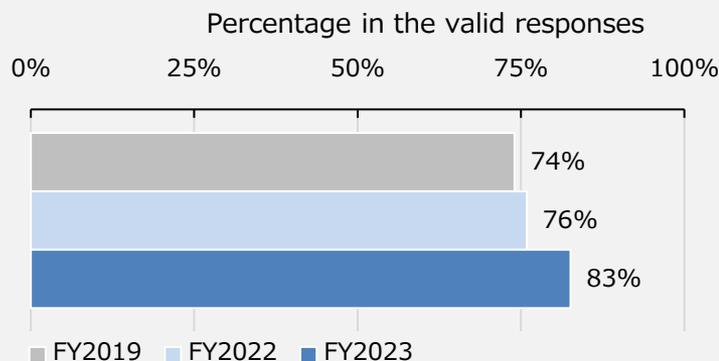
Biodiversity information disclosure (1)

Q. In which media does your company disclose biodiversity information? (N=281)

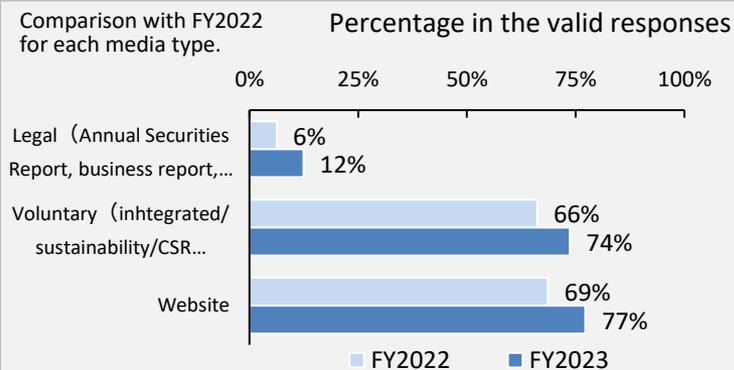
Type of media for information disclosure



Proportion of companies with biodiversity information disclosure as compared to FY2019 and FY2022



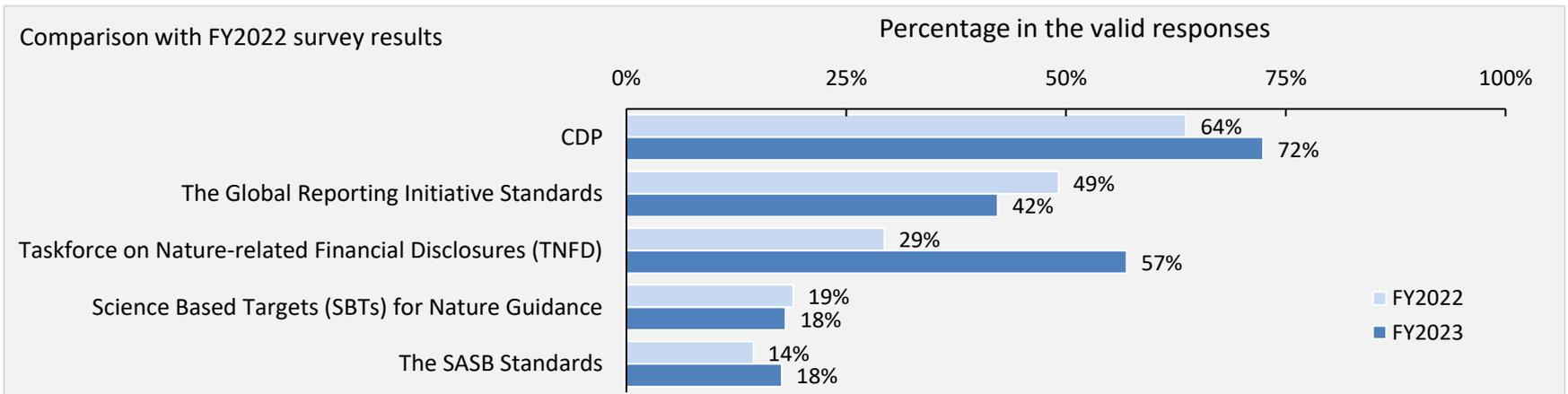
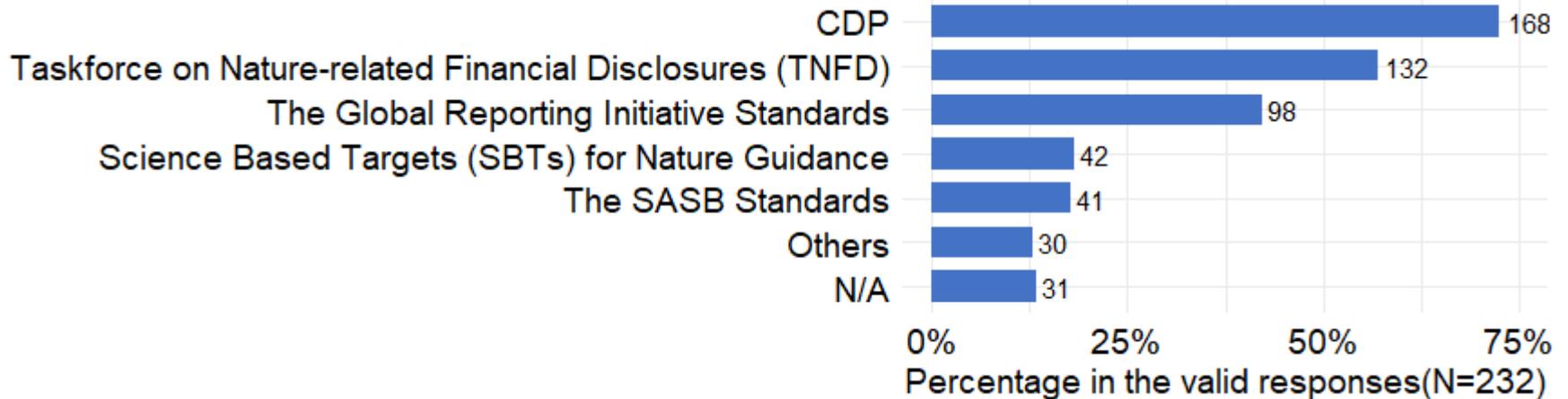
Comparison with FY2022 for each media type.



- **Company websites** and **voluntary reports, e.g., integrated reports and sustainability reports, were most frequently used** for biodiversity information disclosure.
- **Securities reports and other statutory reports were far less frequently used** for biodiversity information disclosure, but have **increasingly been used**.
- **More companies were disclosing biodiversity information** than in FY2019 and FY2022.

Biodiversity information disclosure (2)

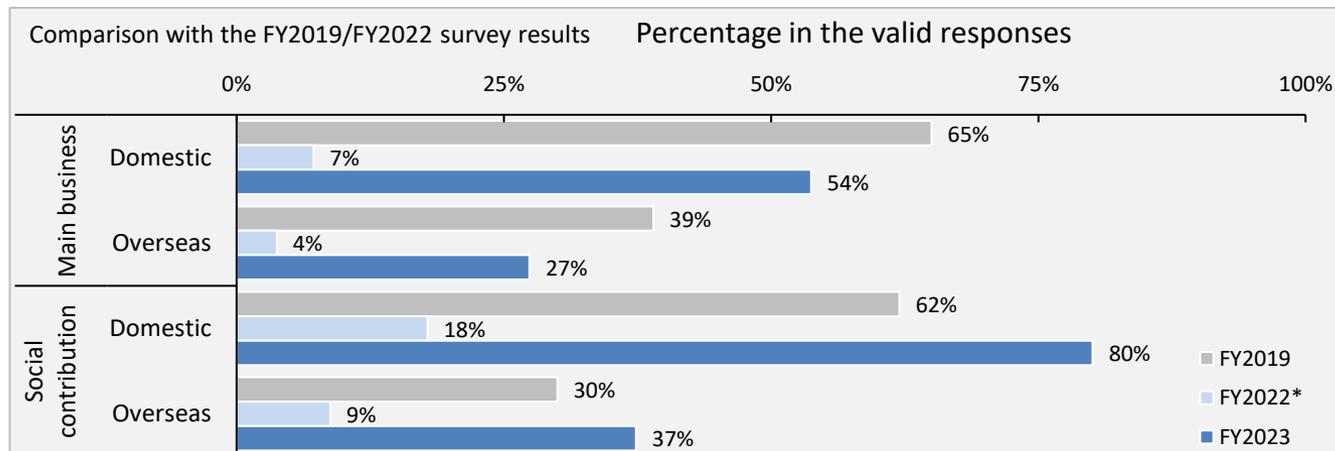
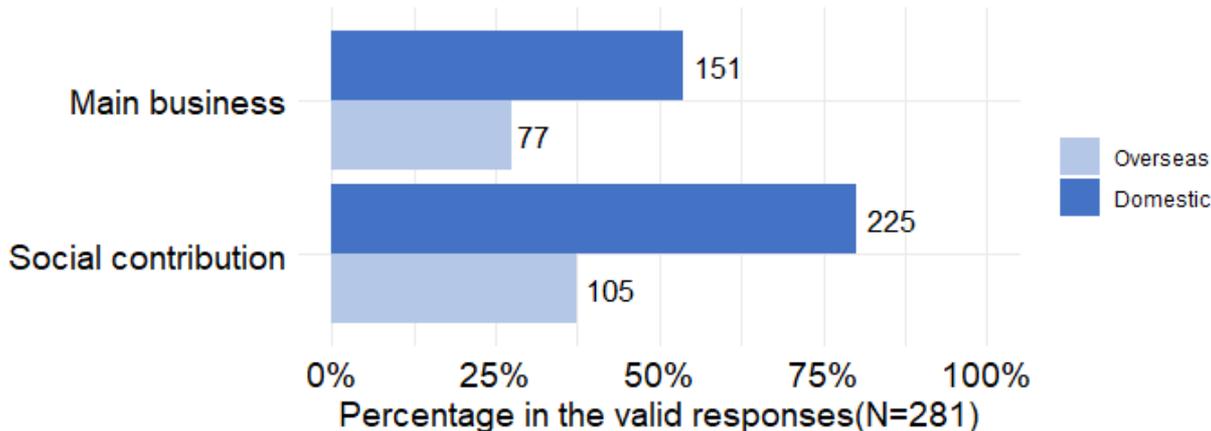
Q. Which disclosure frameworks or guidance does your company follow or refer to when disclosing biodiversity information? (N=232)



- Among various guidelines or frameworks for biodiversity information disclosure, **CDP was most frequently used**, followed by **TNFD** and **GRI**
- Proportion of companies **using the TNFD has doubled** compared to FY2022.

Budgets and funding for biodiversity-related actions

Q. Does your company secure a budget or provide funding for biodiversity-related actions?(N=281)



*The question in the FY2022 survey was only open to companies responding that they were implementing activities related to the GBF Target 19 (Fund). This may have affected the difference in the results.

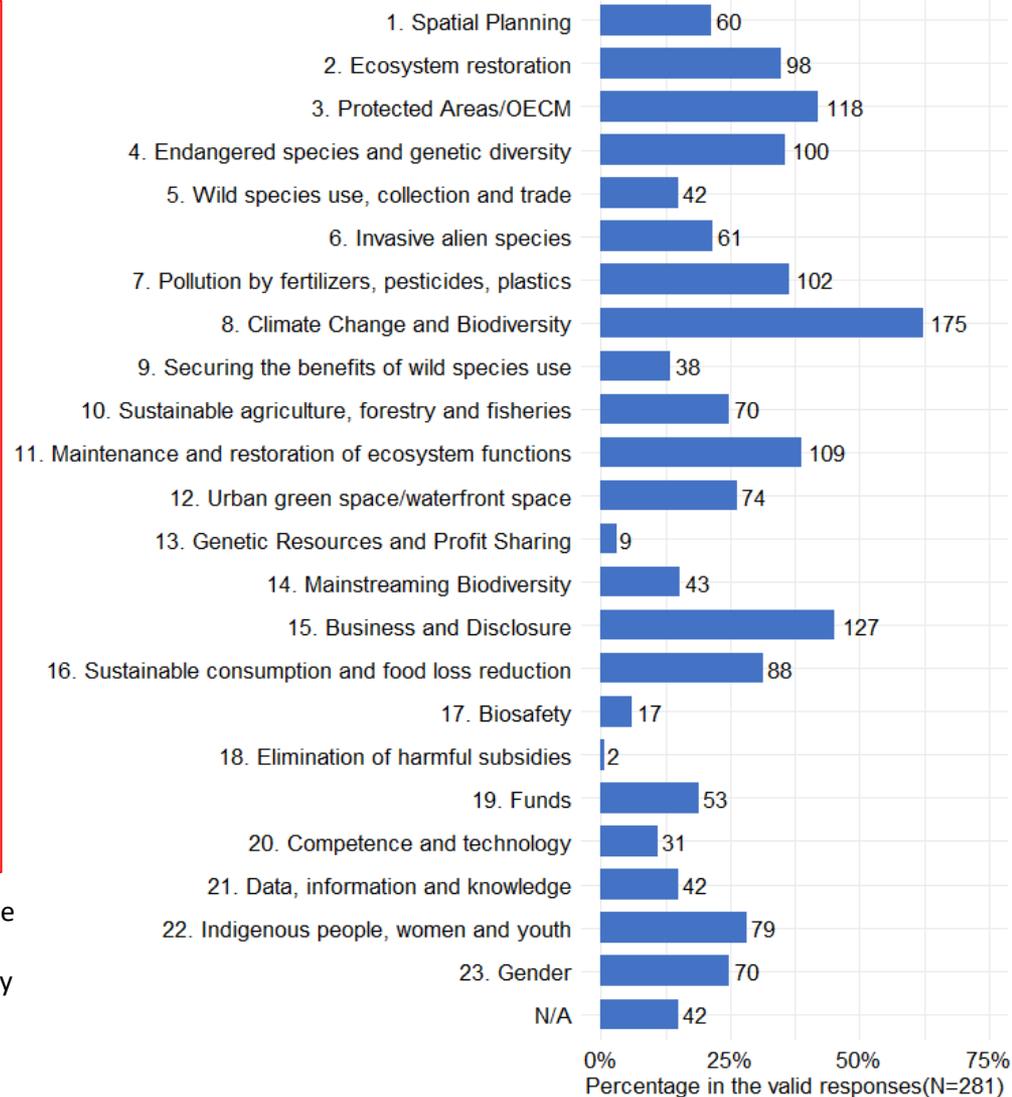
- A higher proportion of companies **secure budget or provide funding for social responsibility/contribution than for actions in their core business; and for domestic actions than for overseas actions.**

(2) Contribution to GBF

Contribution to the Kunming-Montreal Global Biodiversity Framework

Q. The 23 targets of the Kunming-Montreal Global Biodiversity Framework (GBF) are listed below. Does your company have any activities (including those under planning) that correspond to each of the GBF targets? (N=281)

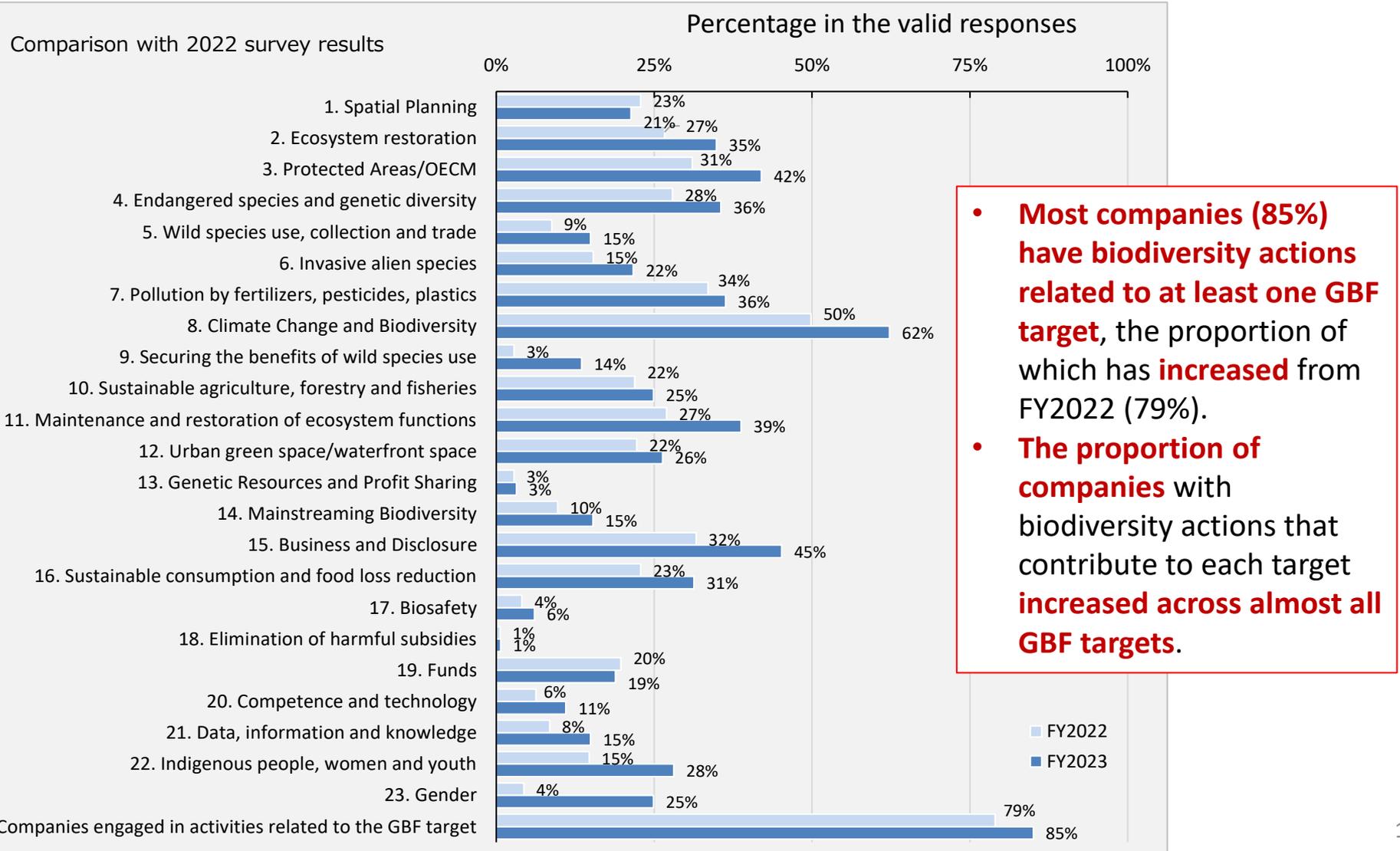
- Many companies have biodiversity actions that contribute to **T8.Climate change and biodiversity***, **T15.Biodiversity information disclosure**, **T3.Protected areas and OECMs**, **T11.Restore, maintain and enhance nature’s contributions to people**, **T7.Reduce pollution**, **T4.Endangered species and genetic diversity** and **T2.Ecosystem restoration**.
- By industrial sector, **the highest proportion of companies in the pulp and printing sector** have GBF-related actions, followed by **construction, electricity/gas/heat/water supply, transportation equipment** and **wholesale/retailing****.
- The most frequently referred targets differed by industrial sector. [P17]



*Regarding Target 8, a follow-up question on the synergy between climate and biodiversity actions (p.34) revealed that only a few companies (62 companies, 22%) were making such synergistic efforts, implying that many companies associated this target with their ongoing efforts on climate change that were not intentionally linked to biodiversity.

Contribution to the Kunming-Montreal Global Biodiversity Framework

Q. The 23 targets of the Kunming-Montreal Global Biodiversity Framework (GBF) are listed below. Does your company have any activities (including under planning) that correspond to each of the GBF targets? (N=281)



[Reference] Percentage of companies with initiatives corresponding to each GBF target (by industry sectors)

| GBF target | Manufacturing | | | | | | | | | Nonmanufacturing | | | | | | | | |
|--|-----------------------------|-------------------|------------------------------|--|---|--|-------------------------------|--------------------------|-----------------------|------------------|---|--------------------------------|---------------------------------|----------------------------|-----------------------|--|--------------------------|--|
| | Beverages, tobacco and feed | Pulp and Printing | Chemical and allied products | Iron and steel, Non-ferrous metals and products, Fabricated metal products | Electronic parts, devices and electronic circuits | Electrical machinery, equipment and supplies | Machinery and equipment, etc. | Transportation equipment | Other (Manufacturing) | Construction | Electricity, gas, heat supply and water | Information and communications | Transport and postal activities | Wholesale and retail trade | Finance and insurance | Real estate and goods rental and leasing | Other (Nonmanufacturing) | |
| 1. Spatial Planning | 0 | 43 | 9 | 13 | 22 | 15 | 13 | 61 | 29 | 38 | 58 | 8 | 0 | 16 | 9 | 71 | 5 | |
| 2. Ecosystem restoration | 20 | 57 | 22 | 56 | 22 | 15 | 25 | 56 | 29 | 54 | 33 | 23 | 50 | 37 | 31 | 29 | 33 | |
| 3. Protected Areas/OECM | 40 | 71 | 35 | 38 | 22 | 62 | 19 | 50 | 46 | 58 | 75 | 31 | 33 | 37 | 31 | 86 | 29 | |
| 4. Endangered species and genetic diversity | 27 | 71 | 13 | 50 | 33 | 62 | 31 | 78 | 17 | 42 | 58 | 23 | 33 | 42 | 25 | 43 | 14 | |
| 5. Wild species use, collection and trade | 20 | 57 | 4 | 0 | 22 | 8 | 13 | 11 | 29 | 29 | 8 | 8 | 25 | 32 | 3 | 0 | 5 | |
| 6. Invasive alien species | 7 | 43 | 22 | 13 | 22 | 31 | 19 | 44 | 8 | 38 | 33 | 8 | 42 | 11 | 19 | 0 | 19 | |
| 7. Pollution by fertilizers, pesticides, plastics | 53 | 43 | 52 | 50 | 33 | 46 | 31 | 22 | 58 | 42 | 50 | 8 | 42 | 42 | 13 | 14 | 19 | |
| 8. Climate Change and Biodiversity | 53 | 57 | 74 | 75 | 33 | 54 | 38 | 78 | 54 | 79 | 100 | 38 | 58 | 74 | 63 | 57 | 48 | |
| 9. Securing the benefits of wild species use | 7 | 29 | 4 | 13 | 11 | 15 | 6 | 11 | 17 | 21 | 17 | 8 | 25 | 21 | 13 | 14 | 10 | |
| 10. Sustainable agriculture, forestry and fisheries | 53 | 29 | 26 | 13 | 11 | 8 | 13 | 11 | 25 | 25 | 33 | 23 | 17 | 58 | 31 | 43 | 5 | |
| 11. Maintenance and restoration of ecosystem functions | 33 | 43 | 39 | 50 | 33 | 38 | 19 | 50 | 38 | 50 | 67 | 8 | 50 | 63 | 34 | 29 | 14 | |
| 12. Urban green space/waterfront space | 7 | 29 | 30 | 19 | 22 | 31 | 19 | 56 | 29 | 58 | 42 | 0 | 25 | 21 | 13 | 57 | 5 | |
| 13. Genetic Resources and Profit Sharing | 0 | 14 | 9 | 0 | 0 | 0 | 6 | 0 | 13 | 4 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | |
| 14. Mainstreaming Biodiversity | 0 | 29 | 17 | 6 | 0 | 15 | 13 | 17 | 21 | 29 | 0 | 0 | 8 | 26 | 25 | 14 | 10 | |
| 15. Business and Disclosure | 40 | 71 | 43 | 38 | 22 | 31 | 38 | 61 | 54 | 46 | 83 | 38 | 42 | 42 | 59 | 29 | 19 | |
| 16. Sustainable consumption and food loss reduction | 60 | 43 | 22 | 31 | 33 | 31 | 25 | 28 | 46 | 38 | 8 | 8 | 42 | 58 | 19 | 14 | 24 | |
| 17. Biosafety | 27 | 0 | 26 | 0 | 0 | 0 | 6 | 0 | 13 | 4 | 0 | 0 | 0 | 5 | 3 | 0 | 0 | |
| 18. Elimination of harmful subsidies | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | |
| 19. Funds | 13 | 29 | 22 | 13 | 0 | 8 | 13 | 22 | 21 | 33 | 8 | 8 | 8 | 16 | 41 | 29 | 5 | |
| 20. Competence and technology | 0 | 14 | 4 | 6 | 11 | 23 | 13 | 11 | 21 | 17 | 8 | 0 | 8 | 11 | 9 | 0 | 19 | |
| 21. Data, information and knowledge | 20 | 0 | 4 | 13 | 11 | 23 | 13 | 17 | 13 | 21 | 33 | 15 | 8 | 21 | 13 | 14 | 14 | |
| 22. Indigenous people, women and youth | 27 | 57 | 17 | 44 | 0 | 23 | 6 | 39 | 46 | 38 | 25 | 15 | 25 | 26 | 41 | 29 | 5 | |
| 23. Gender | 20 | 29 | 13 | 19 | 0 | 23 | 6 | 11 | 38 | 42 | 33 | 15 | 25 | 42 | 34 | 14 | 24 | |
| Average of all targets by industry sector | 23 | 37 | 22 | 24 | 16 | 24 | 17 | 32 | 29 | 35 | 34 | 12 | 25 | 30 | 23 | 25 | 14 | |

The numbers in the table indicate the percentage (%) of the number of firms that selected each target out of the total number of valid responses (number of firms) by industry sector. Dark green/blue in the color scale of the table indicates a large percentage of firms that selected the corresponding target, while light green/blue to no color indicates a small or no percentage.

Quantitative targets and indicators linked to the GBF targets

Q. The GBF targets related to biodiversity actions in your company were listed below. If any of these are implemented and monitored with quantitative targets and indicators, please specify the indicators and their units, target values and current progress to the extent possible (N=281)

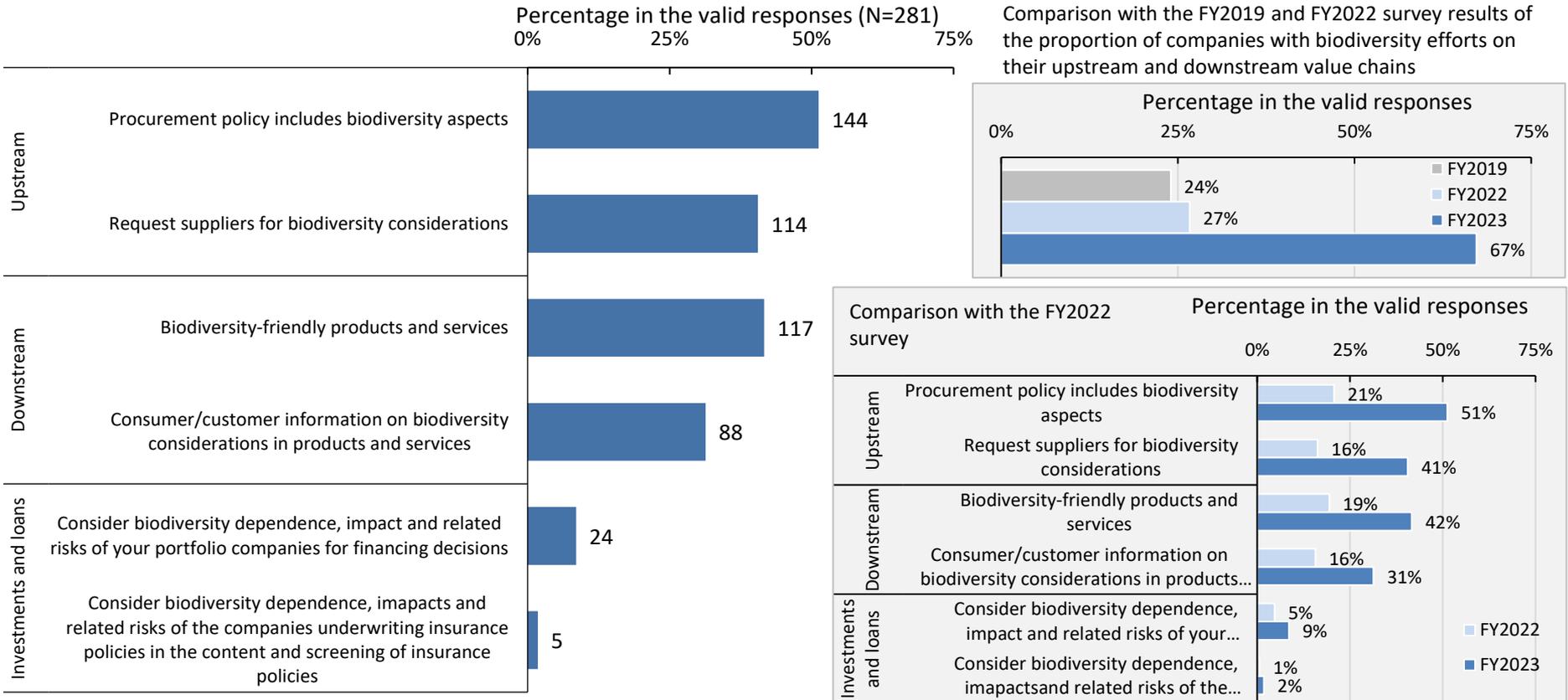
| GBF Target* | Examples of targets and indicators [unit] ** | No. of companies | GBF Target* | Examples of targets and indicators [unit] ** | No. of companies | |
|---|---|------------------|--|---|--|---|
| 1. Spatial Planning | Wildlife corridor [locations]. | 1 | 9. Securing the benefits of wild species use | Sustainable raw material sourcing [%]. | 1 | |
| | Biotope [locations]. | 1 | | Wildlife transport [times] [cases]. | 2 | |
| | Habitat creation [locations]. | 2 | | 10. Sustainable agriculture, forestry and fisheries | Acquisition of FSC certification | 2 |
| | Biodiversity-conscious forest management [ha] [m2] | 3 | | | Acquisition of RSPO certification [%]. | 1 |
| 2. Ecosystem restoration | Coral conservation [group] [times] | 2 | 11. Maintenance and restoration of ecosystem functions | Sustainable raw material sourcing [%]. | 2 | |
| | Restoration of closed mines [%]. | 1 | | Biodiversity-conscious forest management [%] [ha] [yen] [trees] | 7 | |
| | Wetland restoration | 1 | 12. Urban green space/waterfront | Water intake control [%] [L/mL] [m3/kL] [m3] | 9 | |
| | Afforestation/tree planting [ha] [trees] [places] | 5 | | Watershed forest management | 1 | |
| | Reforestation [ha] | 1 | | Green space creation [%] [m2] | 5 | |
| 3. Protected areas/OECM | OECM sites | 1 | 14. Mainstreaming biodiversity | Acquisition of ISO certification | 1 | |
| | Wetland conservation [locations] | 1 | | Biodiversity-conscious business management | 1 | |
| | Biodiversity conservation areas (OECMs, etc.) in corporate properties [locations] [%] [m2] [ha] [case] | 13 | 15. Biodiversity information disclosure | Acquisition of biodiversity certification | 4 | |
| | Forest conservation [ha] | 1 | | Progress of the implementation of an action plan [%] | 1 | |
| | Biodiversity conservation [m2] | 1 | | Biodiversity information disclosure [cases] [%]. | 4 | |
| 4. Endangered species and genetic diversity | Threatened or important species population size [individuals] | 3 | 16. Sustainable consumption and food loss reduction | Biodiversity information disclosure (EFP) [%]. | 1 | |
| | Number of threatened or important species [species] | 1 | | Biodiversity information disclosure (SBTN) | 1 | |
| | Conservation of threatened, important, or other wildlife species [%] [individuals] [cases] | 5 | | Biodiversity information disclosure (TNFD) [times] [year] | 9 | |
| | Threatened/important species habitat conservation [sites] | 2 | | Traceable sourcing [%]. | 2 | |
| | Native/endemic species [%] [trees] | 3 | | Food loss reduction [%] [times] | 8 | |
| 5. Wild species harvest and trade | MSC certified products [%]. | 2 | 17. Biosafety | Resource recycling [%] (%) | 2 | |
| | Prevent invasive alien species introduction [%] [places] [trees] | 4 | | Sustainable raw material procurement [%] [t] [companies] | 9 | |
| 6. Invasive alien species | Invasive alien species control [stocks] [locations] [species] [times] | 4 | 19. Resource mobilization | Sustainable raw material sourcing (FSC) [%]. | 7 | |
| | Plastic product reduction/recycling [%] [t] | 20 | | Sustainable raw material sourcing (MSC) | 1 | |
| 7. Fertilizer, pesticide, plastics and other pollutions | Chemical fertilizer reduction [%]. | 1 | 20. Capacity building, technologies and science | Sustainable raw material sourcing (RSPO) [%]. | 6 | |
| | Penalties [cases] | 1 | | Waste reduction/recycling [%] [t] | 18 | |
| | Pesticides and insecticides | 1 | 21. Data, information and knowledge | Compliance with the Cartagena Protocol [cases] | 3 | |
| | Wastewater management [cases] | 2 | | Legal compliance [cases] | 1 | |
| | Hazardous/solid waste emission reduction [t/year] [%] [cases] | 10 | | Sustainable finance [JPY] | 2 | |
| 8. Climate change and biodiversity | CO2 emission reduction [%] [t-CO2] [t] | 5 | 22. Indigenous people, women and youth | Donations [JPY] | 10 | |
| | NbS | 1 | | Technology development [cases] | 3 | |
| | Renewable energy [kw] [%] (kW) | 3 | 23. Gender | ESG data book | 1 | |
| | Forest carbon storage in corporate properties [t][t-CO2/year][t-CO2][t-CO2e][yen] | 8 | | SNS [persons] | 1 | |
| | | | | Environmental education [%] [persons] | 8 | |
| | | | Participation in biodiversity activities [persons] [times] [cases] | 5 | | |
| | | | Youth participation | 1 | | |
| | | | Participation of local people and organizations [cases] | 2 | | |
| | | | Women's participation in biodiversity conservation activities | 1 | | |

*Only targets for which a response was received are listed.

**Units not indicated are those for which no unit were indicated in the response.

Biodiversity efforts in upstream and downstream value chains

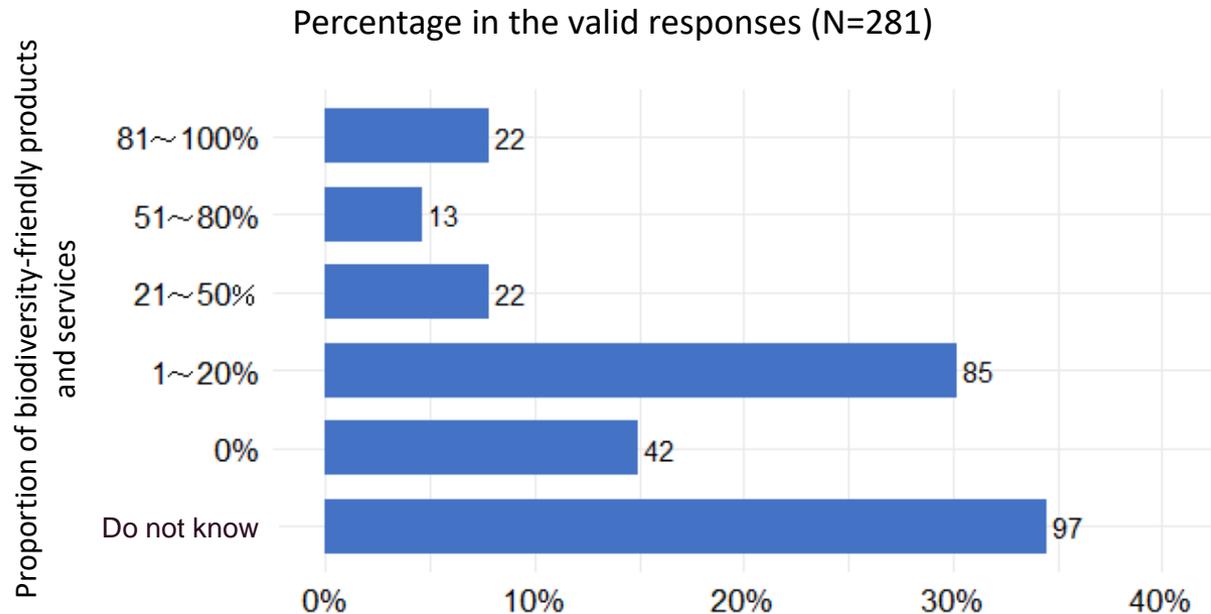
Q. Has your company taken actions on upstream and downstream value chains? Finance and insurance companies are requested to answer the actions on investment, loan or insurance underwriting. (N=281)



- **Nearly half** of all the companies have **taken biodiversity actions** in their **upstream** (e.g., procurement policy) and **downstream** (e.g., biodiversity-friendly products and services) **value chains**.
- **More companies have taken biodiversity actions in their value chains** than in FY2019 and FY2022.

Biodiversity-friendly products and services

Q. What is the proportion of biodiversity-friendly products and services out of the entire goods and services sales? (N=281)



- **Nearly 30%** of companies had **a small proportion of biodiversity-friendly products and services** (1-20%) out of their total sales, while only a few companies had almost all of their products and services (80-100%) with biodiversity considerations.

Examples of biodiversity actions related to each GBF target (1)

Q. Please list up to five major biodiversity-related actions which your company is focused on or proud of, in order from the most important.

| GBF Target* | Activity name and description |
|---|---|
| 1. Spatial Planning | <ul style="list-style-type: none"> Green Corridor Project [Oji Holdings Corporation/Pulp, paper and paper products] Urban Ecosystem Network Assessment [SHIMIZU CORPORATION/Construction] Biodiversity conservation forest management in Japan and overseas [Sumitomo Forestry Co., Ltd./Construction] Environmental impact assessment and reduction in mining sites [TAIHEIYO CEMENT CORPORATION /Ceramic, stone and clay products] Expansion of ecological greening [DAIWA HOUSE INDUSTRY CO., LTD./Construction] |
| 2. Ecosystem restoration | <ul style="list-style-type: none"> Coral seed planting program and education events in and outside Okinawa Prefecture [ANA HOLDINGS INC./Transport and postal activities] Ecosystem restoration of closed mining sites [Sojitz Corporation/Wholesale and retail trade] Kelp forest restoration (44 degraded coastal sites) [NIPPON STEEL CORPORATION/Iron and steel] |
| 3. Protected areas/OECM | <ul style="list-style-type: none"> Takenaka Technical Research Institute "Shirabe-no-mori SHI-RA-BE" Research and demonstration field for biodiversity conservation and green infrastructure [TAKENAKA CORPORATION/Construction] Biodiversity surveys in sourcing areas of overseas consolidated companies (Brazil) [Nippon Paper Industries Co., Ltd./Pulp, paper and paper products] Eternal forest management and OECM site registration in the corporate property forests [Mitsui Fudosan Co., Ltd./Real estate and goods rental and leasing] |
| 4. Endangered species and genetic diversity | <ul style="list-style-type: none"> Blakiston's fish owl habitat conservation (Hokkaido, East Hokkaido area) [Nippon Paper Industries Co., Ltd./Pulp, paper and paper products] Monitoring system to protect Rhino from poaching in South Africa [Nippon Telegraph and Telephone Corporation / Information and communications] Restoration of threatened firefly habitats in township development projects using ICT [Fujita Corporation/Construction] |
| 5. Wild species harvest and trade | <ul style="list-style-type: none"> Fish stock survey in seafood sourcing seas [Nissui Corporation/Food] Prevention of illegal wildlife trade [Japan Airlines/Transport and postal activities] Wood material due diligence: Sustainable wood use - [Yamaha Corporation/Others (Manufacturing)] |
| 6. Invasive alien species | <ul style="list-style-type: none"> Invasive alien species survey using a biological information visualization application "Biome" and Starlink [KDDI CORPORATION/Information and communications] Vessel ballast water management [Mitsui O.S.K. Lines, Ltd. /Transport and postal activities] Eradication of Argentine ants, a designated invasive alien species [TOKAI RIKA CO., LTD./Transportation equipment] |
| 7. Fertilizer, pesticide, plastics and other pollutions | <ul style="list-style-type: none"> Environmental impact assessment of pharmaceuticals [ONO PHARMACEUTICAL CO., LTD./Chemical and allied products] Optimal fertilizer application based on soil analysis [Calbee, Inc./Food] Investigation and collection of marine microplastics and litter [Mitsui O.S.K. Lines, Ltd. /Transport and postal activities] Prevention of resin pellet leakage [Toyo Seikan Group Holdings, Ltd./Fabricated metal products] |
| 8. Climate change and biodiversity | <ul style="list-style-type: none"> Seagrass bed and coastal ecosystem restoration using recycled materials [JFE Holdings, Inc. /Iron and steel] Buying forest carbon-derived "J-Credits" [The Ashikaga Bank, Ltd./Finance and insurance] Mangrove restoration and conservation projects in Indonesia [Mitsui O.S.K. Lines, Ltd. /Transport and postal activities] Green infrastructure demonstration facility in the R&D center [TOKYU CONSTRUCTION CO., LTD./Construction] |
| 9. Securing the benefits of wild species use | <ul style="list-style-type: none"> Human-wildlife conflict management [SOHGO SECURITY SERVICES CO.,LTD./Services, N.E.C.] Sustainable forest "Otono-no-Mori" activities for the production of optimal wood materials for music instruments [Yamaha Corporation/Others (Manufacturing)] |
| 10. Sustainable agriculture, forestry and fisheries | <ul style="list-style-type: none"> Sustainable procurement (palm oil-derived products) [Iwase Cosfa Co., Ltd./Wholesale and retail trade] Sustainable aquaculture supply chains [KANEMATSU CORPORATION/Wholesale and retail trade] Sustainable raw material sourcing [Suntory Holdings Limited/Beverages, tobacco and feed] Sustainable natural rubber procurement initiatives [The Yokohama Rubber Co., Ltd./Rubber products] |
| 11. Maintenance and restoration of ecosystem functions | <ul style="list-style-type: none"> Suntory "Natural Water Forest": Watershed recharge and biodiversity restoration [Suntory Holdings Limited/Beverage, Tobacco and Feed Manufacturing] Watershed forest management [The Chugoku Electric Power Co.,Inc./Electricity, gas, heat supply and water] Indonesia Biodiversity Park forest restoration [NIPPON SHOKUBAI CO., LTD./Chemical and allied products] Maintenance and management of railroad forests [East Japan Railway Company/Transport and postal activities] |

*Only targets for which a response was received are listed.

Examples of biodiversity actions related to each GBF target (2)

Q. Please list up to five major biodiversity-related actions which your company is focused on or proud of, in order from the most important.

| GBF Target* | Activity name and description |
|---|--|
| 12. Urban green space/waterfront | <ul style="list-style-type: none"> Acquisition of SEGES (Social and Environmental Green Evaluation System) certification [Asahi Mutual Life Insurance Company / Finance and insurance] "Greening for Biodiversity" project [Sumitomo Forestry Co., Ltd. / Construction] Restoration of scarce urban center forests [Tokyo Tatemono Co., Ltd. / Real estate and goods rental and leasing] |
| 13. Genetic resources and benefit sharing | <ul style="list-style-type: none"> Fair and equitable access to genetic resources and benefit sharing [Kyowa Kirin Co., Ltd. / Others (Manufacturing)] Supporting product development using overseas plant genetic resources [HIRATA Corporation / Production machinery] |
| 14. Mainstreaming biodiversity | <ul style="list-style-type: none"> ACORN: Resource use, environmental education, nature conservation and partnerships for a society in harmony with nature [OKAMURA CORPORATION / Others (Manufacturing)] Contribution to biodiversity conservation through investments and loans as an institutional investor [JAPAN POST INSURANCE Co., Ltd. / Finance and insurance] Biodiversity conservation actions at approximately 60 operation sites around the world [TOSHIBA CORPORATION / Electrical machinery, equipment and supplies] |
| 15. Biodiversity information disclosure | <ul style="list-style-type: none"> Agricultural raw materials risk assessment [Asahi Group Holdings, Ltd. / Food] Biodiversity impact assessment using natural/social capital return rate [SEKISUI CHEMICAL CO., LTD. / Chemical and allied products] Biodiversity risk assessment at all operation sites [Honda Motor Co., Ltd. /Transportation equipment] TNFD Report publication [Mitsubishi UFJ Financial Group, Inc. / Finance and insurance] |
| 16. Sustainable consumption and food loss reduction | <ul style="list-style-type: none"> Actions to realize sustainable seafood supply chains [KANEMATSU CORPORATION / Wholesale and retail trade] Use of RSPO-certified palm oil [Calbee, Inc. / Food] "Depart-de-Loop" Project to realize a circular society [Takashimaya Company, Limited / Wholesale and retail trade] Application of natural unused resources to the cosmetics field [TOYO BEAUTY CO., LTD./ Others(Manufacturing)] Food loss reduction [FamilyMart Co.,Ltd./Wholesale and retail trade] |
| 17. Biosafety | <ul style="list-style-type: none"> Appropriate management of genetically modified organisms [Kyowa Kirin Co., Ltd./Others (Manufacturing)] Biodiversity Relationships Mapping [Daichi Sankyo Co., Ltd. / Chemical and allied products] |
| 19. Resource mobilization | <ul style="list-style-type: none"> Establishment of "Mitsui O.S.K. Lines (MOL) Mauritius Fund for Restoration and Conservation of the Natural Environment and International Cooperation" as a Certified Specified Public Benefit Trust [Mitsui O.S.K. Lines, Ltd. / Transport and postal activities] Utilization of the "Echo Ibaraki" Environmental Conservation Fund, a public trust [Joyo Bank, Ltd. / Finance and insurance] Insurance for forest-derived carbon credits [Sompo Japan Insurance Inc. /Finance and insurance] Asset management for biodiversity [Nippon Life Insurance Company / Finance and insurance] Fujifilm Green Fund [FUJIFILM Corporation / Chemical and allied products] |
| 20. Capacity building, technologies and science | <ul style="list-style-type: none"> Coral reef restoration project along the coast of the Gulf of Thailand [AGC Inc. /Ceramic, stone and clay products] IoT for Labor-saving paddy field management to support biodiversity-friendly rice cultivation [KDDI CORPORATION / Information and communications] Technology development to restore threatened endemic large algae [KAJIMA CORPORATION / Construction] A research grant for "Nature-inspired Manufacturing" to support technology development for biodiversity mainstreaming [SEKISUI CHEMICAL CO., LTD. / Chemical and allied products] Support for the Harapan Rainforest (Forest of Hope) [FUJITSU LIMITED / Information and communications] |
| 21. Data, information and knowledge | <ul style="list-style-type: none"> Nature experience media "WILD MIND GO!GO!" [CASIO COMPUTER CO., LTD. / Electrical machinery, equipment and supplies] Next generation environmental education: "Sui-iku" (Water Education) [Suntory Holdings Limited /Beverages, tobacco and feed] Environmental DNA sampling in the open sea by international route vessels [Nippon Yusen Kabushiki Kaisha /Transport and postal activities] |
| 22. Indigenous people, women and youth | <ul style="list-style-type: none"> Community-based volunteer and tree-planting activities across Japan [Nippon Life Insurance Company / Finance and insurance] Kids Compost Farm Club [Japan Radio Co., Ltd. / Information and communication electronics equipment] Satoyama Conservation Project [Mitsubishi Electric Corporation / Electrical machinery, equipment and supplies] |

*Only targets for which a response was received are listed.

[Reference] Contribution to the SDGs through biodiversity conservation

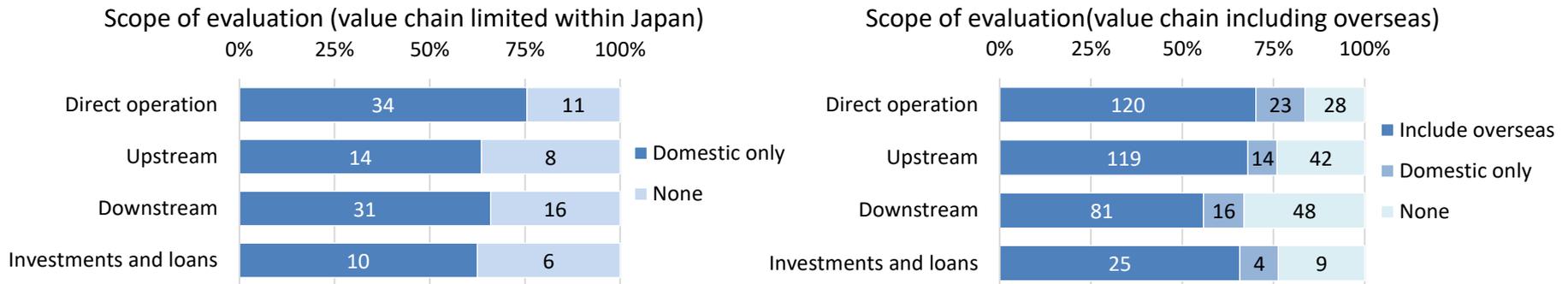
| GBF targets \ SDGs | SDGs | | | | | | | | | | | | | | | | |
|--|---------------|----------------|-------------------------------|----------------------|--------------------|-------------------------------|--------------------------------|------------------------------------|--|--------------------------|--|--|--------------------|----------------------|------------------|--|--------------------------------|
| | 1. No poverty | 2. Zero hunger | 3. Good health and well-being | 4. Quality education | 5. Gender equality | 6. Clean water and sanitation | 7. Affordable and clean energy | 8. Decent work and economic growth | 9. Industry, innovation and infrastructure | 10. Reduced inequalities | 11. Sustainable cities and communities | 12. Responsible consumption and production | 13. Climate action | 14. Life below water | 15. Life on land | 16. Peace, justice and strong institutions | 17. Partnerships for the goals |
| 1. Spatial Planning | 0 | 0 | 0 | 3 | 0 | 3 | 2 | 1 | 2 | 0 | 9 | 9 | 6 | 5 | 19 | 0 | 5 |
| 2. Ecosystem restoration | 0 | 1 | 2 | 1 | 0 | 2 | 0 | 1 | 1 | 0 | 7 | 4 | 29 | 15 | 35 | 0 | 16 |
| 3. Protected Areas/OECM | 0 | 1 | 3 | 10 | 0 | 8 | 2 | 1 | 0 | 0 | 10 | 10 | 24 | 13 | 70 | 0 | 21 |
| 4. Endangered species and genetic diversity | 0 | 0 | 1 | 2 | 0 | 3 | 0 | 0 | 2 | 0 | 6 | 4 | 6 | 10 | 43 | 0 | 13 |
| 5. Wild species use, collection and trade | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 1 | 2 | 1 | 5 | 5 | 0 | 3 |
| 6. Invasive alien species | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 2 | 7 | 0 | 6 |
| 7. Pollution by fertilizers, pesticides, plastics | 0 | 2 | 6 | 2 | 0 | 11 | 5 | 3 | 10 | 0 | 11 | 37 | 16 | 43 | 28 | 0 | 12 |
| 8. Climate Change and Biodiversity | 1 | 1 | 2 | 1 | 0 | 1 | 11 | 2 | 4 | 0 | 7 | 7 | 29 | 6 | 11 | 0 | 7 |
| 9. Securing the benefits of wild species use | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 1 | 0 | 2 | 1 | 1 |
| 10. Sustainable agriculture, forestry and fisheries | 6 | 3 | 2 | 1 | 1 | 1 | 2 | 5 | 5 | 2 | 2 | 12 | 7 | 4 | 15 | 4 | 8 |
| 11. Maintenance and restoration of ecosystem functions | 1 | 0 | 2 | 3 | 0 | 15 | 2 | 2 | 1 | 0 | 13 | 8 | 17 | 11 | 35 | 0 | 8 |
| 12. Urban green space/waterfront space | 0 | 0 | 1 | 1 | 0 | 2 | 1 | 2 | 1 | 0 | 15 | 2 | 13 | 3 | 18 | 0 | 5 |
| 13. Genetic Resources and Profit Sharing | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 1 | 0 |
| 14. Mainstreaming Biodiversity | 1 | 2 | 2 | 4 | 2 | 4 | 4 | 2 | 2 | 1 | 4 | 6 | 5 | 10 | 11 | 1 | 6 |
| 15. Business and Disclosure | 2 | 4 | 1 | 1 | 3 | 7 | 4 | 3 | 2 | 3 | 4 | 10 | 14 | 13 | 23 | 2 | 9 |
| 16. Sustainable consumption and food loss reduction | 3 | 3 | 2 | 1 | 1 | 2 | 5 | 1 | 5 | 1 | 2 | 23 | 9 | 10 | 15 | 2 | 6 |
| 17. Biosafety | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 2 | 1 | 2 | 2 | 0 | 0 |
| 18. Elimination of harmful subsidies | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19. Funds | 2 | 0 | 0 | 6 | 0 | 8 | 3 | 1 | 1 | 1 | 7 | 5 | 18 | 11 | 28 | 0 | 12 |
| 20. Competence and technology | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 2 | 6 | 7 | 3 | 0 | 1 |
| 21. Data, information and knowledge | 1 | 1 | 2 | 9 | 1 | 5 | 0 | 1 | 1 | 1 | 7 | 6 | 9 | 13 | 28 | 1 | 18 |
| 22. Indigenous people, women and youth | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 0 |
| 23. Gender | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total of all targets on SDG targets | 20 | 21 | 27 | 46 | 8 | 75 | 43 | 28 | 41 | 10 | 112 | 152 | 212 | 185 | 402 | 12 | 157 |

The numbers in the table show the number of times that a GBF target and the respective SDGs target co-occurred over the individual biodiversity actions by companies. Deep red and blue in the table show a higher number of co-occurrences between the GBF and SDG targets.

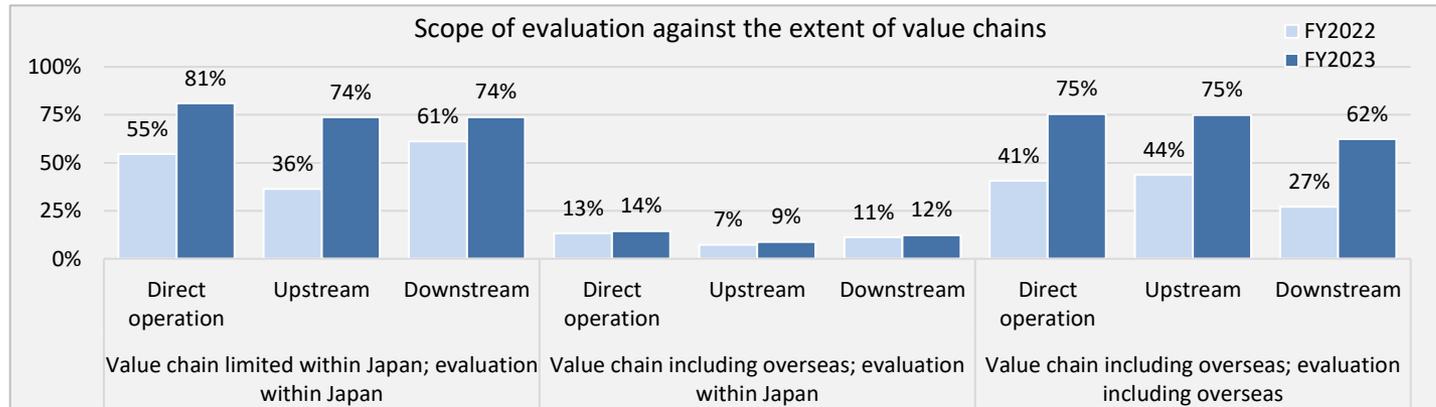
(3) Taking up the TNFD recommendations

Extent of value chains and scope of assessment

Q. Please specify the extent of your company's business value chains and the scope of the assessment of their biodiversity impacts and dependences. Finance and insurance companies are requested to answer the actions on investment, loan or insurance underwriting. (N=280)



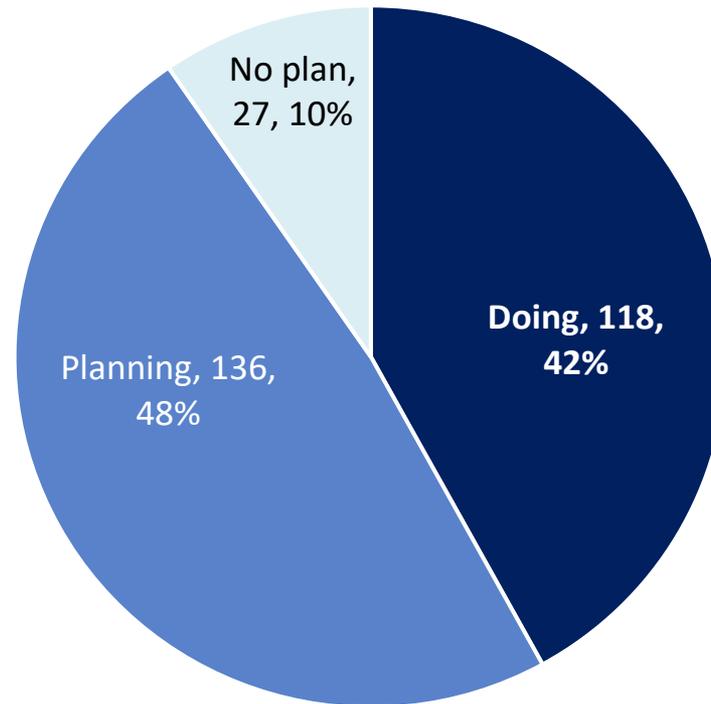
Comparison with the FY2022 survey results



- **Many companies (201 companies, 72%) have evaluated or are planning to evaluate the dependencies and impacts** of their direct operations and value chains on biodiversity.
- **About half to 70%** of these companies have evaluated or are planning to evaluate their **overseas biodiversity impacts and dependences**.
- **Many companies have broadened the scope of evaluation** (particularly overseas) since FY2022.

Human rights of Indigenous Peoples and Local Communities

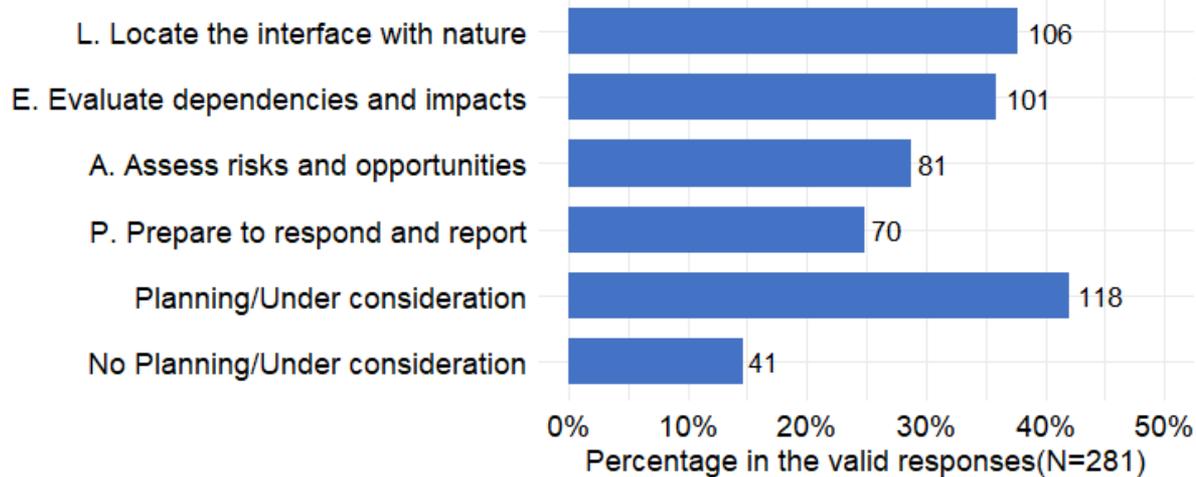
Q. Is your company working on, or planning to consider the human rights of indigenous peoples and local communities that may be affected by your direct operations or value chains? (N=281)



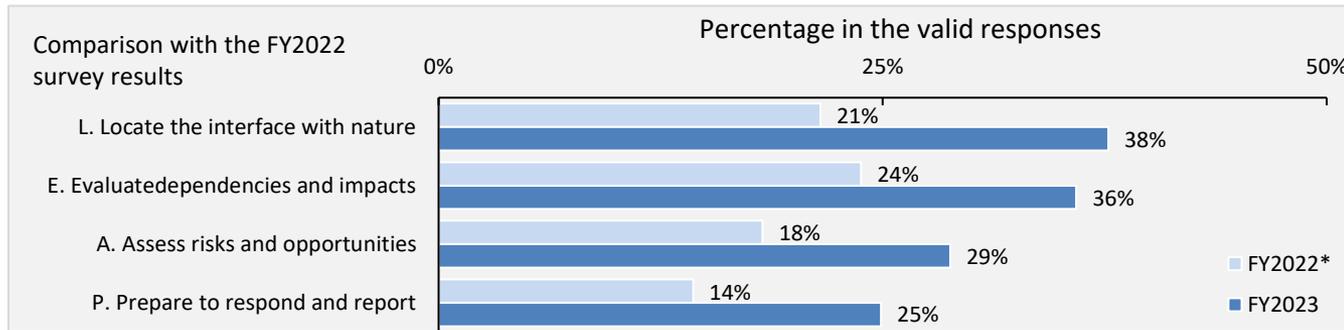
- **Almost all (90%) companies are working on or planning to work on the consideration of Indigenous Peoples and Local Communities and their human rights.**

Initiatives on LEAP approach

Q. The list below shows each step of the LEAP* approach that TNFD proposed for assessing business dependences and impact on biodiversity and related risks and opportunities. Please select the steps that your company has already taken. (N=281)



*LEAP stands for Locate, Evaluate, Assess and Prepare. It is an approach that allows for systematic and step-by-step assessment of nature-related risks and opportunities based on scientific evidence.

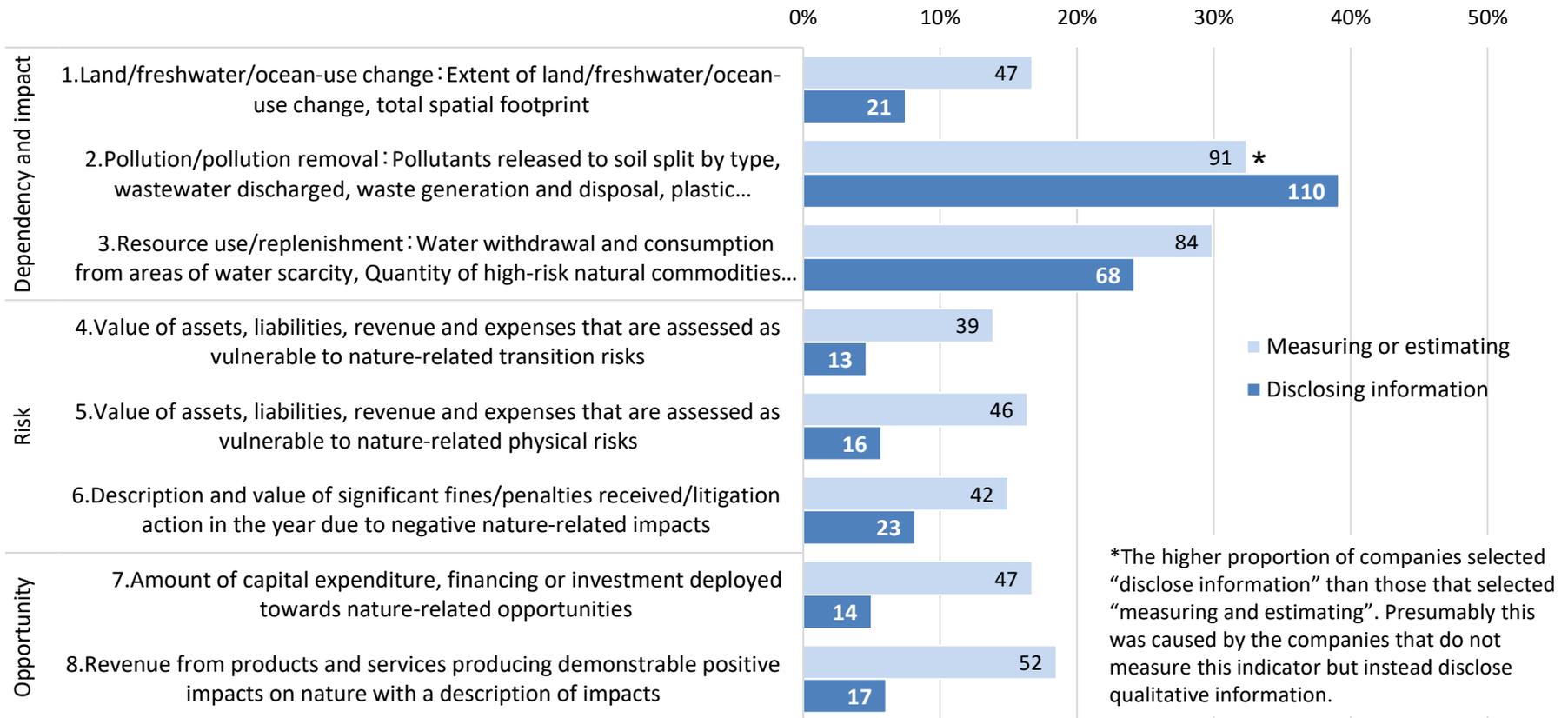


*The results for FY2022 are based on the representative values for the steps that were most actively taken in each LEAP stage.

- **Many companies have not yet implemented, but plan to implement the LEAP approach.** Among those implemented, the **highest proportion of companies have done the first L stage, which decreases towards the last P stage.**
- The proportion of companies that have implemented each of the four steps has increased remarkably since FY2022, indicating **ongoing developments in evaluation.**

Adoption of the Core Global Metrics

Q. TNFD recommends the use of the core global metrics when companies assess their dependencies and impact on nature, and identify nature-related risks and opportunities. Please select the indicators that your company has used to measure or disclose biodiversity information. (N=281)

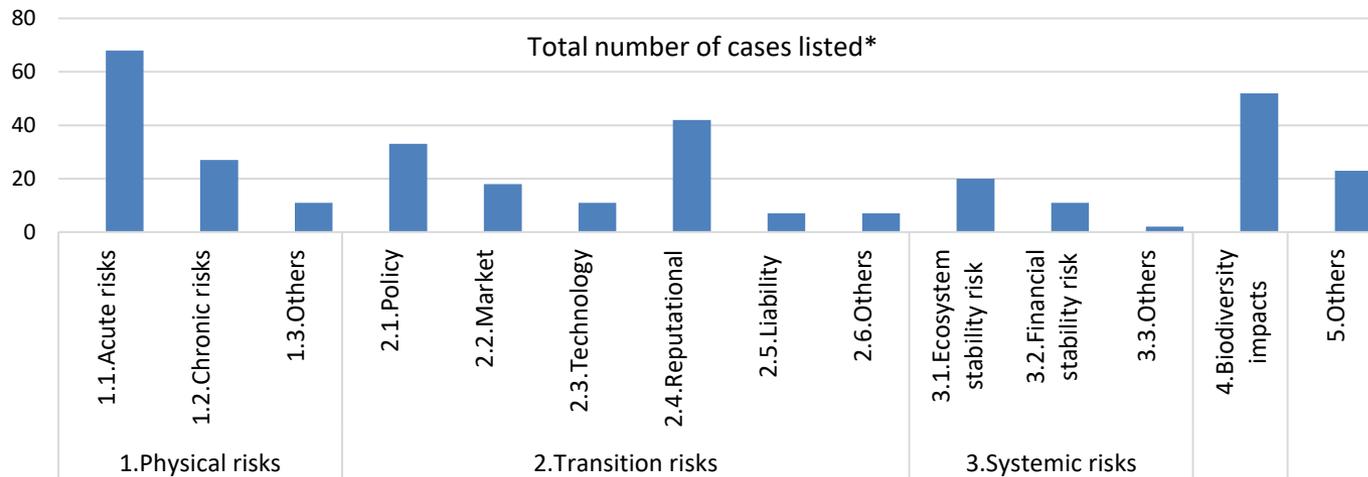


- **Indicator 2.Pollution/pollution removal** and **Indicator 3.Resource use/replenishment were frequently used (approx. 30%)** for biodiversity information measurement and disclosure.
- Other indicators were used by approx. 20% of companies for measurements and by less than 10% of companies for disclosure.

Biodiversity-related business risks

Q. Please describe up to three of your company's business risks related to biodiversity. (N=281)

| Type of risks | Example |
|---------------|---|
| Physical | <Chronic> Sourcing hundreds of natural flavors and fragrances from around the world, the diversity of which supports a diverse portfolio of products and leads to a variety of fragrance expressions. Loss of biodiversity encompasses the risk/threat of loss/reduced availability of natural raw materials. [Chemical and allied products] |
| Transition | <Policy> Our business depends on raw materials from natural resources and hence there are significant impacts in the sourcing areas including land conversion, water use and water pollution. New or tightened regulations on resource extraction and land conversion for nature conservation may lead to higher raw material procurement costs. [Ceramic, stone and clay products] |
| | <Market> Delayed recognition of or response to nature-related business risks would adversely affect the transactions of our products in the value chain. [Electrical machinery, equipment and supplies] |
| | <Reputational> Negative reputations potentially caused by the public perception of degradation of our production forests (including local communities) resulting in higher timber prices, lower product quality and ecosystem degradation. [Others (Manufacturing)] |
| Systemic | <Liability> Damage to ecosystems caused by leaks of chemicals or oil used in manufacturing may incur cost of recovery and compensation for damages, and for improving equipment and reinforcing management to prevent leakage. [Others (Manufacturing)] |
| | <Ecological stability> Ecological imbalance may result in unavailability of raw biomaterials (eggs, pig and cow organs, placenta, etc., which are used as culture media for vaccine development) thereby hindering manufacturing and research. [Chemical and allied products] |
| Systemic | <Financial Stability> Damage to natural capital may decrease ecosystem services that support people and business activities, and hence increase costs to companies and society. On the contrary, recovery of natural capital may increase benefits and reduce costs. In addition, business activities may be affected by external factors such as national and local laws. and regulations and technological innovation. These nature-related risks and opportunities for manufacturing and other business companies may ultimately pose risks to financial institutions that support such businesses. [Financial and insurance] |
| | <Biodiversity impacts> Land infrastructure construction projects (e.g., highways and tunnels) clear natural forests and change land shapes. On the nesting sites for large raptors, impacts were assessed and minimized but risks of ecosystem destruction remain, including risks to small animals, insects, and plants. [Construction] |



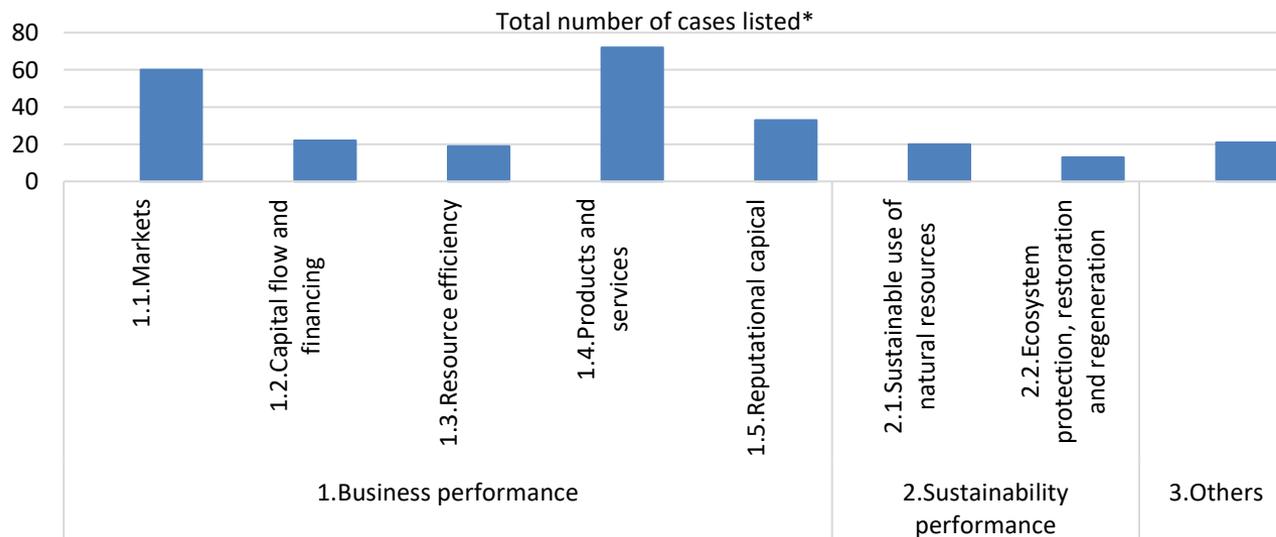
Companies are aware of nature-related risks, particularly **physical risks** (acute risks), followed by **biodiversity impacts** and **transition risks** (reputational risks).

*Up to three descriptive responses provided from each company were classified into 4 categories: physical risk, transition risk, systemic risk, and biodiversity impact, based on the risk classification by TNFD.

Biodiversity-related business opportunities

Q. Please describe up to three business opportunities for your company related to biodiversity. (N=281)

| Opportunity Type | Example |
|----------------------------|--|
| Business performance | < Markets > Products made of environmentally friendly alternatives to rare wood species will be better received by customers and investors and more competitive in the marketplace. [Others (Manufacturing)] |
| | < Capital flow and financing > Administrative incentives, e.g., certification and subsidies, for biodiversity-conscious urban development. [Real estate and goods rental and leasing] |
| | < Resource efficiency > Company-own certification of low carbon, low environmental impact and resource efficient products and technologies to promote their development and diffusion. [Chemical and allied products] |
| | < Products and services > Potential contribution to solving various problems in the areas affected by nature-related impacts, such as energy, agriculture and fisheries, by our technologies such as 5G transmission, IoT, drones and digital twin [Information and communications] |
| | < Reputational capital > Increase consumer loyalty through branding as an environment-conscious food company, e.g., by promoting regenerative agriculture and using low-footprint domestic wheat. [Food] |
| Sustainability performance | < Sustainable use of natural resources > It is critically important issue and business opportunity for the company to realize sustainable natural rubber sourcing without expanding natural rubber farms through (1) increasing natural rubber yield per unit area; (2) commercial use of natural rubber alternatives; (3) biomass rubber manufacturing; and (4) resource saving and recycling. [Rubber products] |
| | < Ecosystem protection, restoration, and regeneration > Our technology to restore eelgrass beds with easily accessible materials can contribute to expanding eelgrass beds restoration. [Construction] |



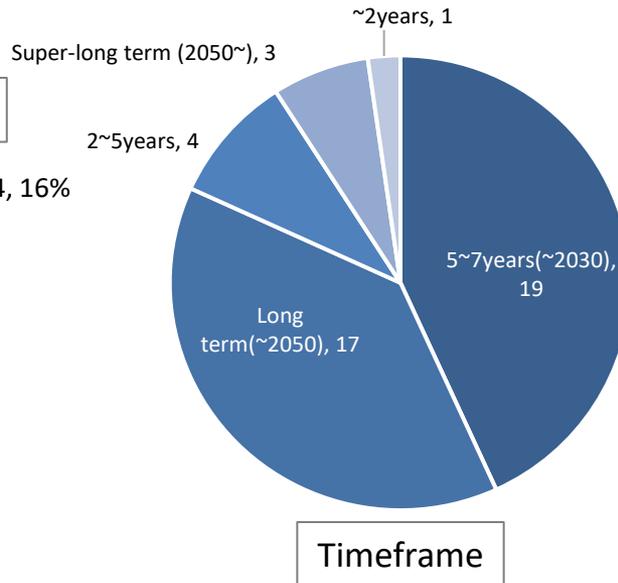
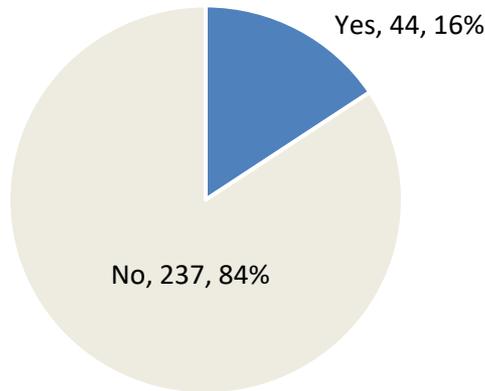
Companies aware of biodiversity-related business opportunities, particularly **products and services**, followed by **markets**.

*Up to three descriptive responses from each company were categorized into business performances and sustainability performance based on the opportunity categories by TNFD.

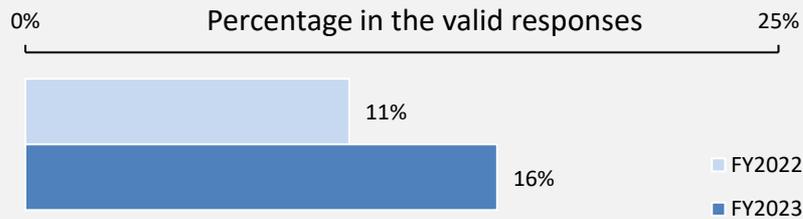
Scenario analysis

Q. If your company has carried out scenario analysis, please select a timeframe for your scenario analysis from the drop-down list and provide a summary in the comments box, including the name of the scenario you applied. (N=281)

Carry out scenario analysis



Proportion of companies that have carried out scenario analysis, as compared with that in FY2022



| Timeframe | Example |
|-------------------------|---|
| Short term (~2years) | Biodiversity Risk Filter (BRF) provided by WWF was used to assess domestic and overseas factories, focusing on the indicators on water scarcity, water status, protected/conserved areas, Key Biodiversity Areas (KBAs), and Other Effective area-based Conservation Measures (OECMs). [Chemical and allied products] |
| 5-7years (~2030) | Different climate scenarios (RCP8.5/RCP2.6) were used to analyze the optimal growing areas of various raw material woods. [Others (Manufacturing)] |
| Long term (~2050) | Four quadrant scenarios produced by global warming scenarios of +1.5°C/ +4°C (physical risks and opportunities caused by ecosystem services degradation) and tightened regulations for environmental conservation /increased market demand (transition risks and opportunities). [Chemical and allied products] |
| Super-long term (2050~) | Aqueduct, a water risk analysis tool provided by the World Resources Institute, is used for regular water risk assessments. [Electricity, gas, heat supply, and water] |

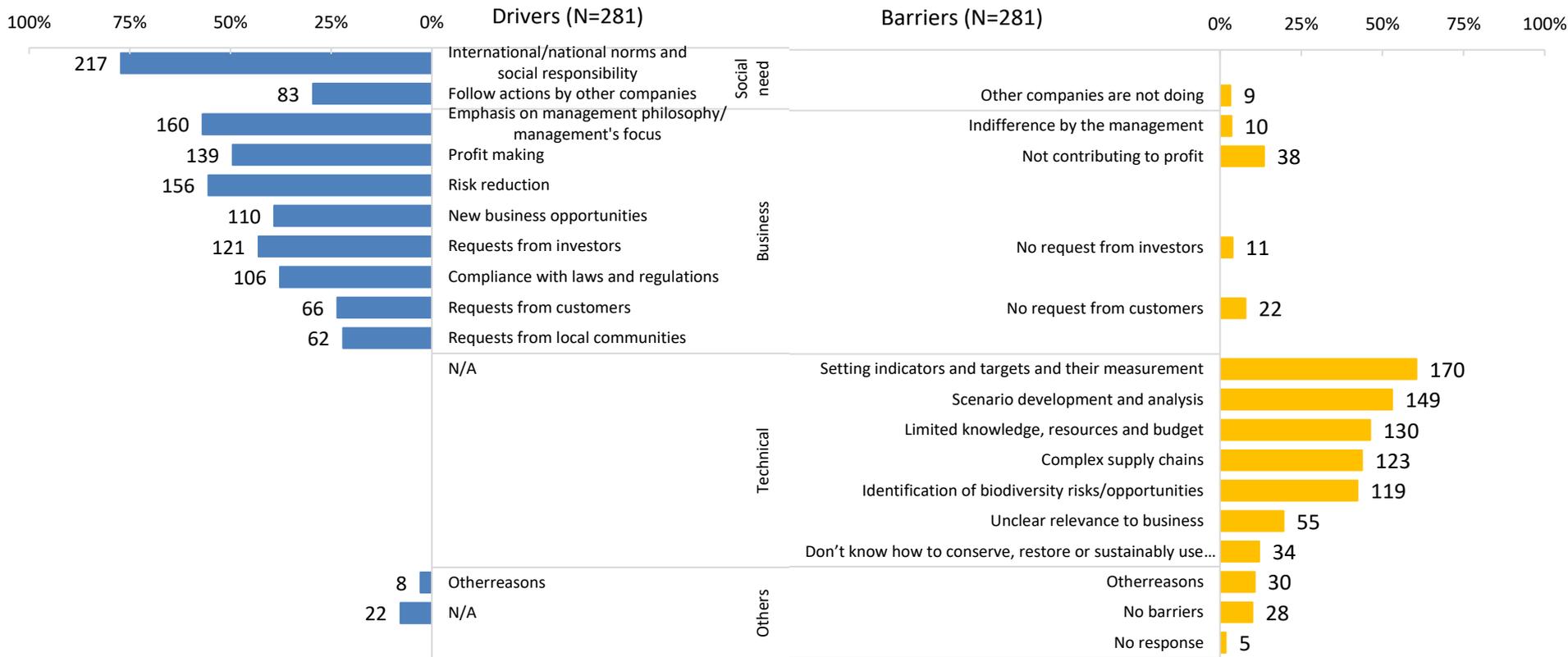
- The number of companies that have carried out **scenario analysis** was **limited but has slightly increased** from FY2022.
- A timeframe of **“up to 2030”** was **most frequently adopted**, followed by **“up to 2050”**.

(4) Drivers and barriers for biodiversity actions

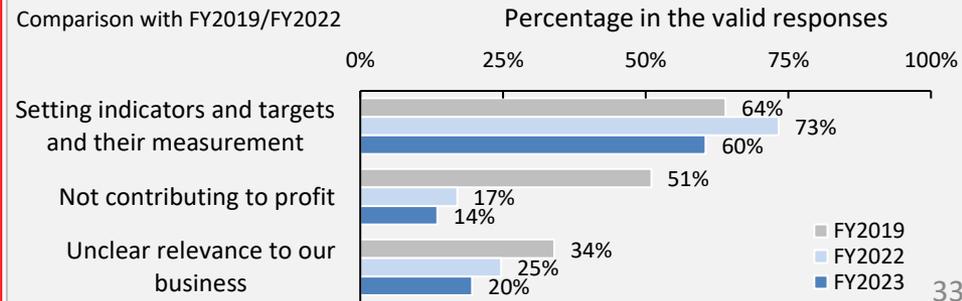
Drivers and barriers for biodiversity actions

Q. What motivated/drove your company to take biodiversity actions? (N=281)

Q. What are the barriers in taking actions on biodiversity (including response to TNFD)? (N=281)

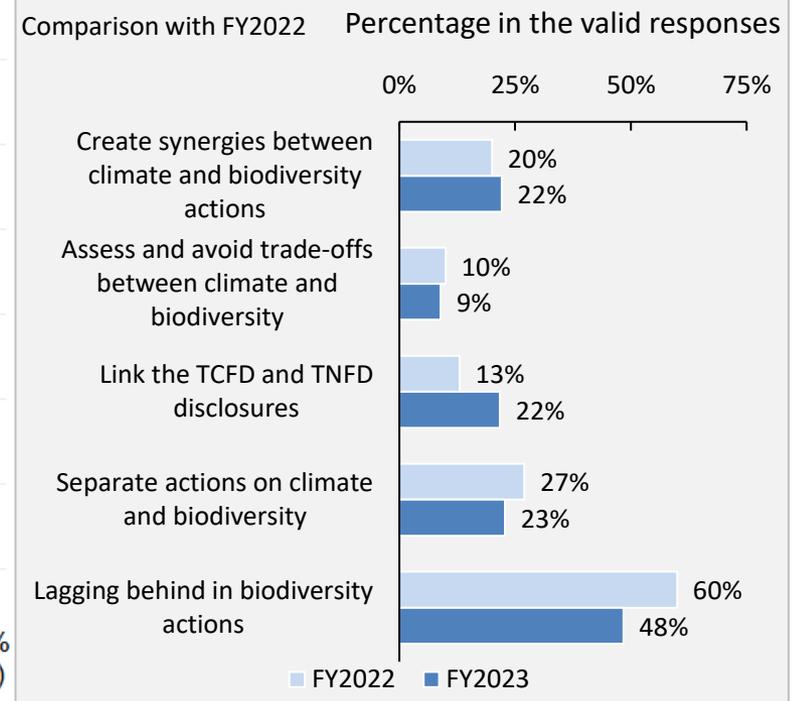
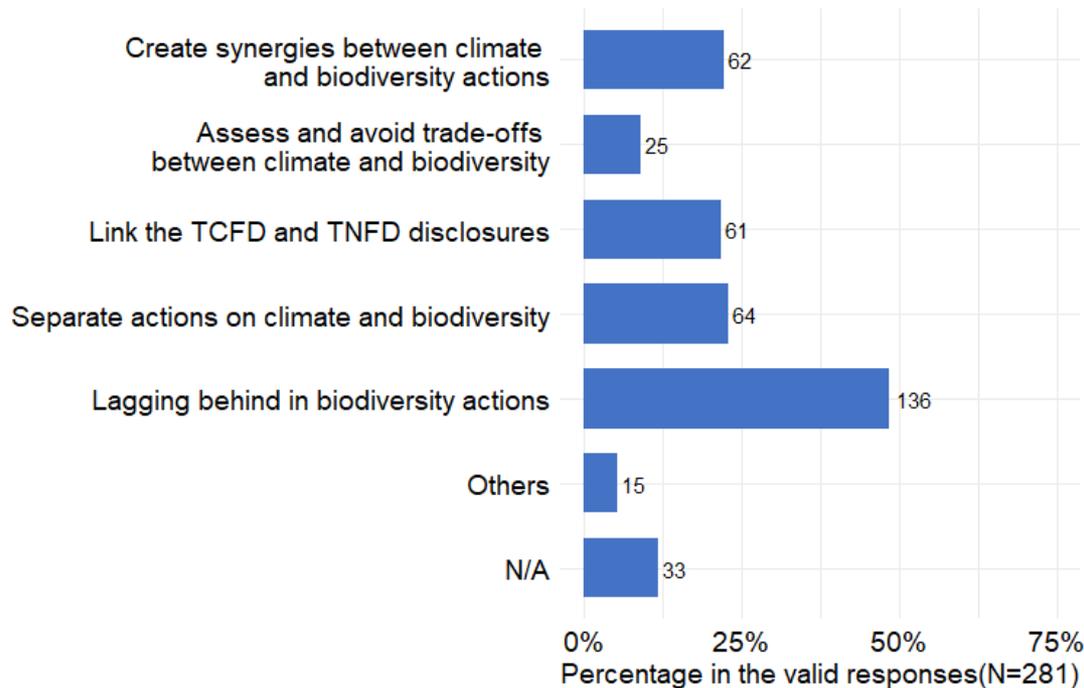


- **International/national norms and social responsibility** was the most frequently mentioned **driver to take biodiversity actions**, followed by **management philosophy/management's focus**.
- **Technical barriers** for taking biodiversity actions were raised by many companies, particularly **setting and measuring indicators and targets**.
- **Reduced proportion** of companies **raised each of the management-related and technical barriers** compared to FY2019 and FY2022.



Integrating biodiversity and climate actions

Q. Does your company link climate and biodiversity actions in its business operations and information disclosure? (N=281)



- **Biodiversity actions are lagging behind** climate actions, or **taken separately from climate actions** in many companies.
- Integrated TCFD and TNFD reporting increased remarkably from FY2022, while reduced proportion of companies lag behind in biodiversity actions or taking biodiversity and climate actions separately.