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Final Report of the Working Group for Consideration of Voluntary Carbon Credit Disclosure

GX League

The Working Group for

Consideration of Voluntary Carbon Credit Disclosure

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Chapter I: Aim and positioning of the report

1.1 The positioning of carbon credits in climate change countermeasures

The reduction of greenhouse gas emissions to solve the problems of climate change has been worked on as a global challenge not only at the national level, but also at the corporate level. The reduction of greenhouse gas emissions can be realized through the introduction of renewable energy and energy-saving equipment, avoiding deforestation, and planting trees. In response, initiatives based on laws and regulations (e.g., carbon taxes, emissions trading schemes (ETS), calculation, reporting and publication schemes (SHK schemes) and information disclosure like the Energy Efficiency and Global Warming Countermeasures online reporting System (EEGS) based on the Energy Conservation Act, the Act on Promotion of Global Warming Countermeasures and the Act on Rational Use and Appropriate Management of Fluorocarbons) have been promoted both in Japan and overseas to promote initiatives aimed at the reduction of greenhouse gases like the above by companies and individuals, but on the other hand, carbon credit systems have been used widely as voluntary initiatives not based on laws and regulations.

In Japan, the "Guidelines on Carbon Offsetting in Japan"[1] were compiled in 2008, and the use of carbon credits has been recognized as an initiative that can be worked on by society as a whole, not just companies, local authorities and the government, as it is possible for the general public and consumers to participate positively at their own initiative through product purchasing, participating in events and the like.

1.2 The current state of voluntary carbon credits

Voluntary carbon credits are carbon credits issued by private organizations and used by private companies to achieve their voluntary goals. In recent years, moves aimed at achieving carbon neutrality by 2050 have accelerated globally, and have progressed not only at the national level but also at the corporate level. The use of voluntary carbon credits has received renewed recognition and attention as an initiative as part of such moves, and both the amounts of carbon credits created and used have been expanding. In 2022, Verra, the largest carbon credit standard, issued 160 million tons of carbon credits for the year, while Gold Standard, the next largest, issued 40 million tons of carbon credits.[2]

While the market is expanding, there are also new debate about the use of voluntary carbon credits and growing criticism of the reduction and absorption effects of carbon credits. Carbon credits were used widely by companies, consumers,

organizations, etc., as a means of offsetting emission activities initially in association with the increased need for climate change countermeasures. However, as outlined in the "Guidelines on Carbon Offsetting in Japan"[1] and even by the IEMA, companies and others are making efforts to grasp and reduce their own emissions, and some people have advocated the idea of using carbon credits to offset emissions only in areas where reductions are difficult, and there are also cases where systems and guidelines that restrict the use of carbon credits have been introduced.[3] Moreover, in recent years, consideration has been given to restricting some reduction methods using carbon credits that were previously carried out, such as the launch of initiatives that more strongly recommend giving priority to direct efforts to actually reduce emissions, as opposed to indirect efforts that consider the external reduction effects of carbon credits as a reduction of the company's own emissions.[4,5]

In addition, because of concerns over low-quality carbon credits and initiatives that rely on carbon credits excessively, there have also been cases seen here and there where the environmental claims made by companies are criticized as greenwashing so it is becoming more difficult that voluntary credits effectively demonstrate the role which they essentially play in the reduction and absorption of greenhouse gas emissions on a global basis.[6]

1.3 The positioning of this report

This report summarizes the discussions of the "Working Group for Consideration of Voluntary Carbon Credit Disclosure" (hereinafter referred to as "WG") established within the GX League. The WG was launched based on the background described above. Voluntary carbon credits are an important mechanism as an initiative to promote prompt climate change countermeasure activities, but due to unclear guidelines and various media reports, companies, who are users of the mechanism, cannot use it with a sense of security.

In this report, we have summarized the current situation and future direction of voluntary carbon credits in Japan with the following structure:

- Trends in Japan and overseas (Chapter II)
- Opinions and initiatives of participating companies (Chapter III)
- Recommendations deemed necessary based on the preceding chapters (Chapter IV)

In this report, in the light of changes in the external environment, we thought that the presentation of (draft) guidelines for the disclosure of information on voluntary carbon credits and their use, which was one of the initial aims of the WG,

was premature, so we focused firstly on summarizing the current situation and future direction. We would like to make (draft) guidelines on information disclosure and use an issue for future consideration.

In this report, we cover voluntary carbon credits used for voluntary purposes. In other words, separate to mandatory regulations accompanied by fines such as carbon taxes and ETS, we advance discussions of the carbon credits used to achieve voluntary aims such as net zero or carbon neutrality. We do focus on the means of generating voluntary carbon credits (technology-derived or nature-derived) or the region (domestic or overseas).

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1. Ministry of the Environment: February 2008, Guidelines on Carbon Offsetting in Japan
2. Verra, Gold Standard Registry
3. IEMA: December 2020, GHG Management Hierarchy updated for net-zero
4. SBTi: April 2021, SBTi Corporate Net-Zero Standard
5. VCMI: June 2023, Claims Code of Practice
6. Bloomberg: June 2023, A Greenwashing Lawsuit Against Delta Aims to Set a Precedent

Chapter II: Introduction to global trends and discussions

Against the backdrop of the rapid increase in interest in carbon credits since 2021, various discussions have taken place on the use and quality of carbon credits, and initiatives have been promoted based upon them towards the improvement of the carbon credit market.

2.1 Various discussions on voluntary carbon credits

2.1.1 Discussion of the use of carbon credits and environmental claims

Private companies have made various environmental claims while reducing their emissions to respond to the growing environmental awareness of consumers, such as that they are aiming for "net-zero" or being "carbon neutral." Voluntary carbon credits have been used by private companies making such environmental claims and as the grounds to support claims of "carbon neutral" products.

There have also been criticisms of the idea of carbon neutrality using carbon credits. From the standpoint of opposing "carbon neutral" claims, the reasons for opposing the claims include that they do not motivate the efforts to reduce emissions that companies should essentially be carrying out, and that fossil fuel emissions are offset by carbon sinks such as forests that are not permanent and are difficult to quantify.[1] In addition, it is also pointed out that despite the abovementioned situation, "carbon neutrality" claims are presented to consumers without any means of verification and influence consumer purchasing behavior.

2.1.2 Discussion of quality

The quality of carbon credits, centered on nature-derived credits, has become a subject of criticism. In January 2023, the Guardian published a sensational article stating that more than 90% of nature-derived and emission avoidance-type carbon credits (REDD+) were not contributing to climate change countermeasures.[2] Referring to a number of academic papers, the article asserted that comparing the case where there are projects that generate nature-derived credits with the case without them shows that they do not contribute to the reduction of emissions. The subjects of assertions about quality are not limited to REDD+, and the risk of the excessive issue of carbon credits has also been pointed out with regard to IFM (forest management)[3] and Cookstove (highly efficient cooking utensils)[4]. In addition, according to the GHG Management Institute and the Stockholm Environment Institute, discussion of quality also includes matters such as additionality and permanence, not just the risk of excessive issue.[5]

The offset standards organization Verra, which has registered projects subject to these criticisms, and others have refuted the article's claims.[6] In addition, Verra has

been working on significant updates to its various nature-derived methodologies, including REDD+, to enable use of the latest science, data and technology, and the system itself is being improved each time.[7]

2.1.3 Discussion of the types of carbon credits

Recently, there has also been discussion about which should be used either emission reduction and avoidance credits or removal and absorption credits. The reduction of cumulative emissions will be important for the achievement of the goals of the Paris Agreement and this will require both rapid emission reduction and avoidance, and highly permanent removal technologies. Voluntary credits will contribute as a mechanism that generates a cycle of funds to advance such initiatives promptly.

Under initiatives that emphasize removal credits, for example, the SBTi net zero standard, removal credits are recognized as a means of neutralization.[8] On the other hand, it is also pointed out that reduction and avoidance technologies (renewable energy, energy saving and the avoidance of deforestation), which are complete technically, are not being implemented due to a lack of political drive.[9] In addition, while recognizing the value of removal technologies from the perspective of permanence, an Information Note prepared by the United Nations Framework Convention on Climate Change Secretariat identifies understanding of the associated environmental and social risks and their small scale as issues.[10] There are also opinions that the emphasis on removal does not reflect the importance of addressing emissions in industries where reductions are difficult or protecting ecosystems as a priority prior to recovery.[11]

2.1.4 Other discussion of carbon credits

Attempts are being made to develop various carbon credit projects around the world in anticipation of the demand for voluntary carbon credits that will be required in the future. On the other hand, concerns have been raised that with the current resource infrastructure, it will not be possible to realize sufficient supply in the future.

The African Carbon Markets Initiative (ACMI), which was launched aimed at expanding the supply and demand of carbon credits in Africa, points to the need for financial instruments that realize the medium to long-term financing required for carbon projects and advance market commitments (AMC), whereby multiple companies commit to the purchase of large quantities of carbon credits from Africa to promote project development.[12] Further, it also points out that in order to achieve such financing and commitments, it will be necessary to procure high-quality credits

from Africa with transparent co-benefits for local societies and asset owners, which is difficult at present, and is calling for measures.

In addition to the abovementioned lack of financing mechanisms, ACMI has also raised the lack of clarity of national regulations (concerning rights over land and carbon credit created in particular) as a factor restricting supply. In May 2023, the government of Zimbabwe announced revenue sharing rules for carbon credit projects implemented in the country.[13] Its policy is for 50% of project revenue to go to the government and 30% to local companies. This kind of regulatory uncertainty makes it even more difficult to promote carbon credit projects that last a number of decades.

2.2 Various initiatives to expand the various voluntary credit markets

Following the above discussions, various stakeholders are undertaking diverse initiatives to increase the scale of voluntary carbon credits.

2.2.1 Voluntary initiatives by companies

Some companies have set clear guidelines for decarbonization targets and the use of carbon credits towards their achievement, and are purchasing carbon credits based upon them.

Aiming to be carbon negative by 2030, Microsoft is reducing emissions in the company's value chain and purchased 1.4 million tons of removal-type carbon credits in 2022.[14] In addition, the company also discloses standards for the removal-type carbon credits it purchases.[15] Other companies like Shell and Google are also disclosing the same kind of information. The analysis results shows that the pace of emission reductions by companies that use carbon credits in large quantities is double that of companies that do not use carbon credits so it is one approach for companies positive about decarbonization to contribute to decarbonization.[16]

Further, a research report on how companies think about climate action found that a majority of companies deem voluntary carbon markets a tool that will complement long-term decarbonization. On the other hand, issues for the further use of carbon credits include clarification of where carbon revenues will be used, understanding of the methodologies, support for quality assessment, the transparency of claims and the simplification of markets.[17]

2.2.2 Initiatives for the use of carbon credits and environmental claims

The Voluntary Carbon Market Integrity Initiative (VCMI) has been preparing guidance on the use of voluntary carbon credits (conditions for environmental claims,

etc.). The VCMI published “The Provisional Claims Code of Practice”[18] in June 2022 followed by “The Claims Code of Practice”[19] in June 2023.

In addition, regulations on environmental claims made by companies are being considered in various countries. In Europe, regulations on environmental claims are being discussed. The European Parliament is aiming to prohibit the use of general environmental terms such as “environmentally-friendly,” “natural,” “biodegradable,” “climate neutral” and “eco” if they are unaccompanied by detailed evidence, and also to prohibit environmental claims based solely on carbon credit schemes.[20]

In the United States, the Federal Trade Commission (FTC) Green Guides provide guidance to avoid deceptive marketing to consumers. Public consultation is currently underway for the first revision since 2012.[21]

2.2.3 Initiatives for quality

The International Civil Aviation Organization (ICAO) has been operating the carbon offset scheme called the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) since 2021 as a market mechanism approach, aimed at “not allowing total greenhouse gas emissions to increase above 2020 levels.” This initiative has established the “CORSIA Emission Unit Eligibility Criteria” and the standards that carbon credits should satisfy.[22]

On the other hand, quality has also been examined by the Integrity Council for Voluntary Carbon Markets (ICVCM), which was established based on the studies of the Taskforce on Scaling Voluntary Carbon Markets (TSVCM), which was initiated by Mark Carney, former Governor of the Bank of England. The ICVCM released a draft of its “Core Carbon Principles”[23] in July 2022. Subsequently, after public consultation, the ICVCM released updated versions of its “Core Carbon Principles” in March and July 2023.[24] These Core Carbon Principles present program-level (registry-level) and category-level (project-level) guidance with regard to the selection of high-quality offset standards. The content of these Core Carbon Principles refer to the abovementioned CORSIA criteria, with some items added.

2.2.4 State-led voluntary trading systems

In Scandinavia, the Nordic Dialogue on Voluntary Compensation was held centered on the Nordic Council of Ministers, and in November 2022, the Nordic Code was compiled to provide best practices from the Nordic perspective in the voluntary use of carbon credits.[25] The Nordic Dialogue on Voluntary Compensation was established by Nordic stakeholders so that Scandinavian companies can respond ably to the rapidly evolving guidance on voluntary carbon credits. In addition, it is also another role of this dialogue to complement the guidance on international

voluntary compensation. The Nordic Code presents the following best practices for the voluntary use of carbon credits (Table 1, Table 2).

1	Robust and comprehensive quantification of relevant emissions	This means quantifying so-called scope 1, 2 and 3 emissions in line with recognized standards such as the ISO, GHG Protocol and SBTi, quantifying relevant emissions in line with recognized standards and having calculations verified by a competent third party.
2	Reducing own emissions consistently with a 1.5°C-aligned pathway	This requires the application of recognized guidance, such as the SBTi, standards and tools.
3	Voluntary use of high-integrity carbon credits	Best practice encourages the use of carbon credits related to a contribution to adaptation and an overall reduction in global emissions. The Code's criteria are consistent with, inter alia, the CCQI and ICVCM's draft Core Carbon Principles, as well as Article 6 of the Paris Agreement.
4	Reporting of emissions, mitigation action and use of carbon credits	This means publicly communicating relevant information in enough detail to allow stakeholders to assess it against best practice criteria. This includes at least direct and indirect emissions, mitigation targets, pathways and plans, annual changes in emissions, action and progress towards targets and pathways, voluntary use of carbon credits, etc.
5	Ensuring the integrity of claims	Best practice means making differentiated claims for the use of carbon credits that are a "national mitigation contribution," "offsetting" or "overall mitigation in global emissions."

Table 1. Nordic Code: Best Practice Requirements and Recommendations

Real	Real mitigation outcomes means that mitigation outcomes shall be verified ex-post.
Additional	It can be demonstrated that mitigation activities exceed what is required by host country law, regulation, or a legally binding mandate, and that the

	activities would not be financially viable without the revenue from the sale of carbon credits.
Conservative Baseline	Mitigation outcomes shall be conservatively quantified against a credible emissions baseline that is set below the business-as-usual level of emissions.
Robust Monitoring & Reporting	Mitigation outcomes shall be quantified using robust monitoring methodologies.
Address Leakage	Credit program measurement tools shall include adjustments for carbon leakage.
Permanent	If activities may be reversed, the non-permanence of mitigation outcomes shall be addressed in a robust manner through the implementation of safeguards (e.g., insurance, buffer pools, liability rules).
Third-party validation of activity	Mitigation activities shall be validated by a competent third party that the proposed activity design meets relevant criteria.
Third-party verification of outcomes	Mitigation outcomes shall be verified ex-post by an authorized third party.
Avoided Double Counting	All double counting of mitigation outcomes shall be avoided.
Local Stakeholder Consultation	Mitigation activities shall include consultations with local stakeholders during the design and implementation/monitoring phase.
Social and Environmental Safeguard	An ex-ante assessment of the mitigation activities' potential negative impacts shall be carried out, robust social and environmental safeguards as well as a grievance mechanism shall be put in place to mitigate, manage and, where possible, avoid any negative impacts, and related monitoring and reporting shall be carried out throughout the activity's lifetime.
Sustainable impact assessment	Ex-ante assessment and ex-post monitoring and reporting of significant sustainable development impacts shall be carried out.

Table 2. Nordic Code: Mitigation Outcome Criteria

The Energy Transition Accelerator is a mechanism to accelerate the transition to clean energy announced by the U.S. Department of State along with the Rockefeller

Foundation and the Bezos Earth Foundation.[26] It is a mechanism for projects that accelerate the introduction of renewable energy and the transition away from fossil fuel assets in developing countries, and the credits generated will be used as contributions to voluntary targets or to help host countries achieve the NDCs (Table 3, Table 4).

Aim	To encourage the transition to clean energy in emerging and developing countries
Eligible projects	Facilitate private investment under a comprehensive energy transition strategy that will accelerate the deployment of renewable energy and the retirement of fossil fuel assets in developing countries
Fund-raising mechanism	The ETA, which is operated at the national and local government level, generates verified greenhouse gas emission reductions, which participating governments can use to issue marketable carbon credits.
Use (draft)	To promote environmental conservation in the use of carbon credits, only companies that promise to achieve net zero by 2050 at the latest and set science-based interim targets are able to use these carbon credits. Companies can use credits to support mitigation above intermediate targets, to contribute to climate finance or other voluntary targets or to contribute to the achievement of the NDCs by the host country. It is conceivable that some credits could be used to meet a limited portion of Scope 3 emissions within a company's short-term targets.
Period	Until 2030 (may be extended to 2035 depending on circumstances)

Table 3. Overview of the Energy Transition Accelerator

1	Near-term	Promoting ambitious efforts by countries and companies to rapidly reduce greenhouse gas emissions (GHGs) now, in this critical decade.
2	Inclusive	Advancing programs that deliver on broader sustainable development goals, including expanded energy access and poverty alleviation, and that are

		underpinned by strong transparency and social, environmental, and other just transition safeguards.
3	Comprehensive	Supporting ambitious power sector-wide energy transition strategies that accelerate the deployment of renewable power and the retirement of fossil fuel assets.
4	High-integrity	Ensuring strong environmental integrity by offering payments only for GHG reductions that are based on and verified to a robust standard and by seeking strong alignment with best practices for the pursuit of global net zero GHGs, including for private sector net zero strategies and the use of carbon credits.
5	Supplemental	Incentivizing new private-sector climate finance for mitigation and adaptation that augments, not substitutes for, other sources of public, private, multilateral, and philanthropic finance and companies' continued investments in deep emissions reductions within their own value chains.
6	Transitional	Helping, on a time-limited basis, to kickstart the energy transition by rewarding accelerated power sector decarbonization and by providing an option for companies to responsibly use the resulting verified GHG emission reductions to reinforce science aligned progress toward global net zero GHGs.
	HIGH-LEVEL CONSULTATIVE GROUP	SBTi, UNEP, WBCSD, NRDC, MDB, CPI, WRI, BASCS, The Africa Climate Foundation, CEEW, Growald Climate Fund, ICCCAD, UN, AIGCC, ClimateWorks Foundation, SMI, IC-VCM, Environmental Justice Health Alliance, LSE, IESR

Table 4. Energy Transition Accelerator Guiding Principles

2.2.5 Disclosure standards for non-financial information concerning carbon credits

Initiatives that promote the disclosure of climate-related non-financial information have been advanced following the publication of the TCFD recommendations, etc. In Japan too, the revision of the Corporate Governance Code in 2021 encouraged companies listed on the Prime Market to disclose information in line with the TCFD framework, further accelerating this trend. The TCFD framework requires the disclosure of information such as the amount of offsetting used to achieve targets.[27]

IFRS S2 Climate-related Disclosures, issued by the International Sustainability Standards Board (ISSB) in June 2023, requires the disclosure of more in-depth information than the TCFD framework.[28] Companies must disclose the following information when presenting plans to use carbon credits: 1) the extent to which the achievement of GHG emission reduction targets depends on credits; 2) the scheme (third-party scheme) by which the carbon credits will be certified; 3) the type of carbon credits (nature-derived or technology-derived, reduction or elimination); and 4) other factors required to understand the reliability and integrity of the carbon credits (e.g., assumptions concerning persistence).

2.2.6 Use under mandatory systems

Some national and state governments have designed systems that recognize voluntary carbon credits as a means of complying with mandatory systems.

Singapore introduced a carbon tax in 2019. The tax rate is S$5 per tonne for the first five years (until 2023) and will increase to S$25 in 2024 and 2025, S$45 in 2026 and 2027, and then to S$50 to S$80 by 2030. From 2024, taxable emissions can be offset using high-quality international carbon credits.[29] The amount of carbon credits that can be used is limited to 5% of taxable emissions to encourage companies to make efforts to reduce their own emissions. In addition, eligible carbon credits that can be used under the Carbon Tax Scheme must be of high environmental integrity and comply with Article VI of the Paris Agreement. Singapore plans to publish a list of eligible carbon credits in the second half of 2023.[30]

Although not an example of the use of voluntary carbon credits, a similar system design can be seen in the ETS introduced in Korea in 2015. If a Korean company has a certain level of ownership or makes a certain level of contribution in decarbonization, it is allowed to use credits issued by the Clean Development Mechanism (CDM) limited to 5% of its subject emissions.[31]

* The WG is dealing with voluntary carbon credits that have no mandatory constraints. The case of Singapore above has been described as an example of a method of use of voluntary carbon credits.

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1. Carbon Market Watch: February 2022, Regulating corporate green claims and greenwashing - policy recommendations
2. Guardian: January 2023, Revealed: more than 90% of rainforest carbon offsets by biggest certifier are worthless, analysis shows
3. B. Haya et al.: March 2023, Front.For.Glob.Change, 21 March 2023 Sec. Forest Management Volume 6 - 2023
4. A. Wiehl et al.: February 2023, (Pre-print) Cooking the books: Pervasive over-crediting from cookstoves offset methodologies
5. GHG Management Institute & Stockholm Environment Institute: November 2019, Securing Climate Benefit - A Guide to Using Carbon Offsets
6. Verra: January 2023, Verra Response to Guardian Article on Carbon Offsets
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8. SBTi: April 2021, SBTi Corporate Net-Zero Standard
9. UNEP: May 2021, State of Finance for Nature 2021
10. UNFCCC: May 2023, Information Note Removal activities under the Article 6.4 mechanism
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14. Microsoft: March 2023, 2022 Environmental Sustainability Report
15. Microsoft:Carbon Dioxide Removal
16. Trove Research: June 2023, Corporate emission performance and the use of carbon credits
17. Conservation International & We Mean Business Coalition: January 2023, Corporate Minds on Climate Action
18. VCMI: June 2022, Provisional Claims Code of Practice
19. VCMI: June 2023, Claims Code of Practice
20. European Parliament: May 2023, Parliament backs new rules for sustainable, durable products and no greenwashing

21. Federal Trade Commission: January 2023, Federal Trade Commission Extends Public Comment Period on Potential Updates to its Green Guides for the Use of Environmental Marketing Claims
22. ICAO: March 2019, CORSIA Emissions Unit Eligibility Criteria
23. ICVCM: July 2022, Core Carbon Principles
24. ICVCM: March 2023, Core Carbon Principles
25. Nordic Council of Ministers: November 2022, Harnessing voluntary carbon markets for climate ambition
26. U.S. DEPARTMENT OF STATE: November 2022, U.S. Government and Foundations Announce New Public-Private Effort to Unlock Finance to Accelerate the Energy Transition
27. Taskforce on Climate-Related Financial Disclosure: October 2021, Guidance on Metrics, Targets, and Transition Plans
28. ISSB: June 2023, IFRS S2 Climate-related Disclosures
29. National Climate Change Secretariat Singapore:Carbon Tax
30. National Environment Agency:Carbon Tax
31. International Carbon Action Partnership:Korean Emission Trading Scheme

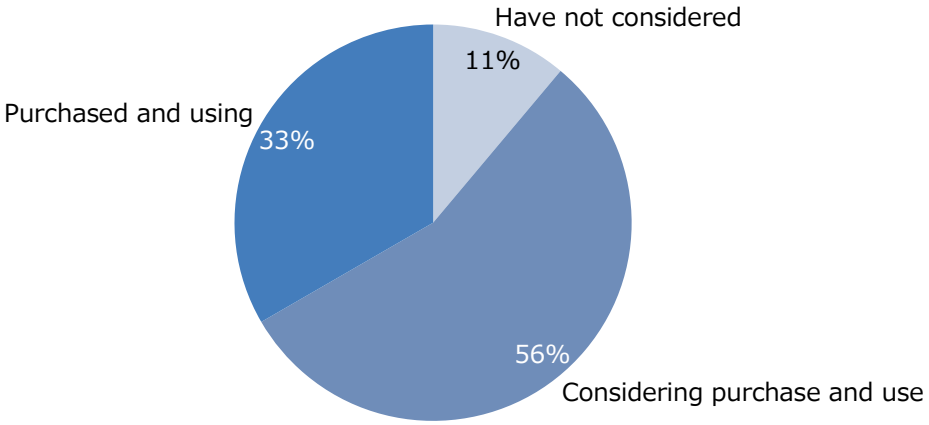
Chapter III: Examples of use of voluntary carbon credits by Japanese companies and needs and issues for market expansion

3.1 Awareness of the needs and issues of Japanese companies

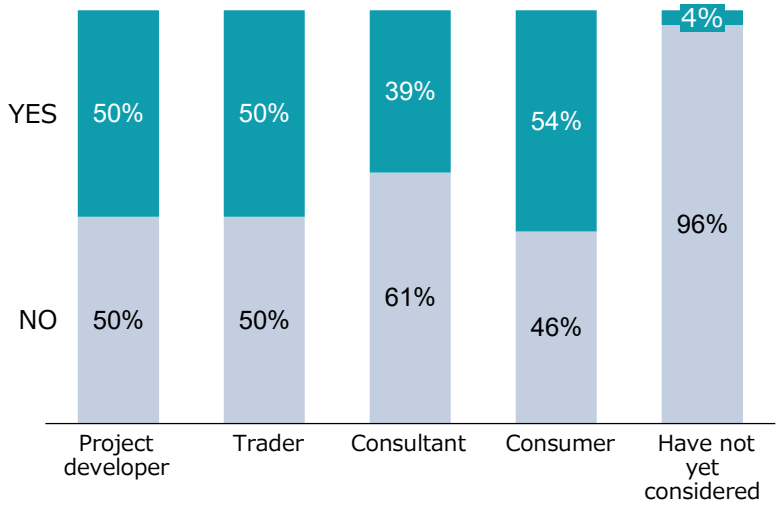
The WG held this discussion with five lead companies plus 46 member companies.[1] This WG is composed of members who are particularly interested in voluntary carbon credits among the companies that support the GX League (679 companies as of January 2023 when the WG was launched). We carried out a qualitative and quantitative questionnaire with these member companies to survey the issues companies face in using voluntary carbon credits.

3.1.1 The state of use of voluntary carbon credits

Voluntary carbon credits are still a new area for Japanese companies. Many of the companies that participated in the WG are interested in the purchase and use of voluntary carbon credits in various roles, but only about one-third of the companies have actually purchased any (reference: Q3, Q4).



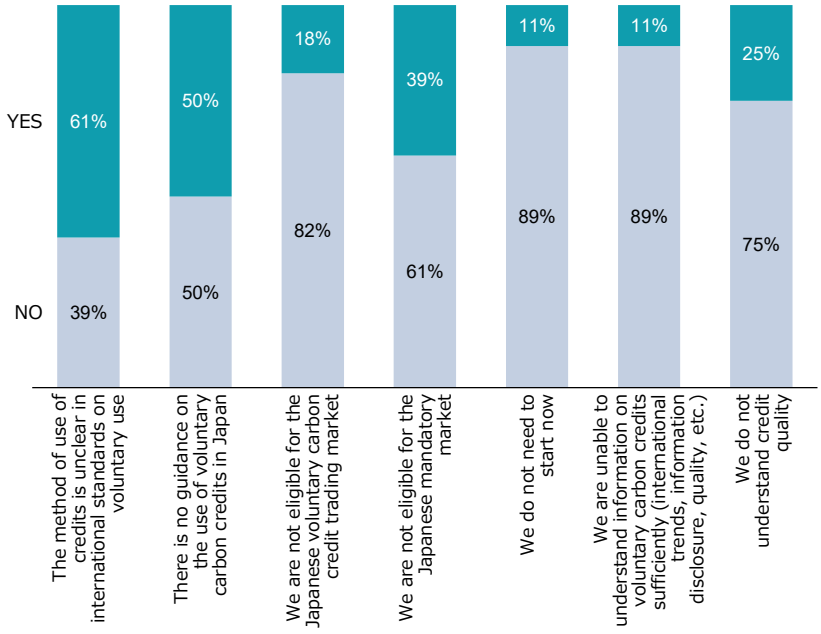
[Q3] Please tell us the state of your company's initiatives with voluntary carbon credits as a consumer.
(Single answer)



[Q4] Please tell us the format of your company's involvement in voluntary carbon credits. (Multiple answers. If you have not yet purchased or considered purchasing voluntary carbon credits and expect to be involved in some format, please enter how you expect to be involved.)

3.1.2 Bottlenecks and solutions for the use of voluntary carbon credits

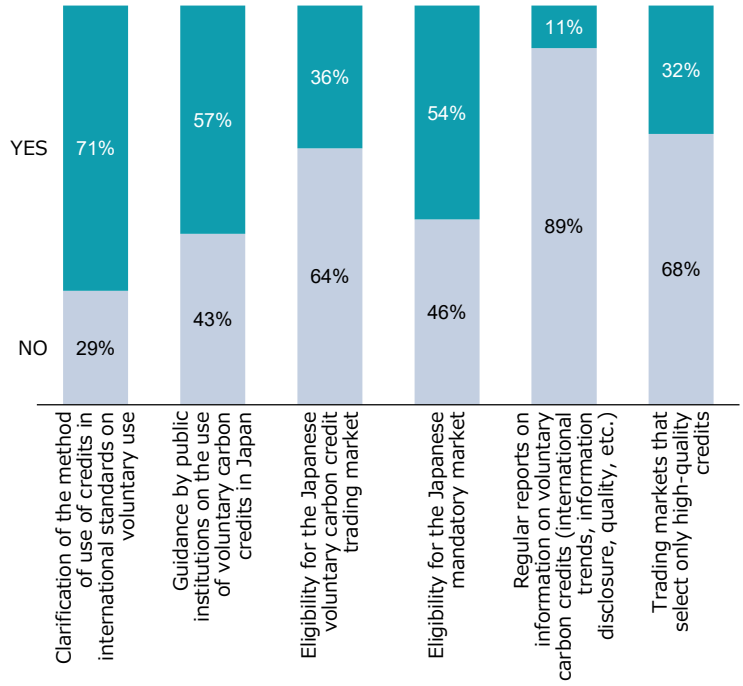
As described above, many companies are considering the purchase and use of voluntary carbon credits, but have been unable to do so, or have been unable to do so more positively. The number one reason raised was lack of clarity regarding the use of voluntary carbon credits. The most common opinion pointed out the lack of clarity of the international standards (ICVCM, VCMI, SBTi, etc.). In addition, a lot of opinions pointed out the need for Japan to issue guidance as a country (an initiative like the Nordic Code or ETA) (Q5).



[Q5] Why is your company not currently using voluntary carbon credits or negative about their use? Please give multiple answers from among the following.

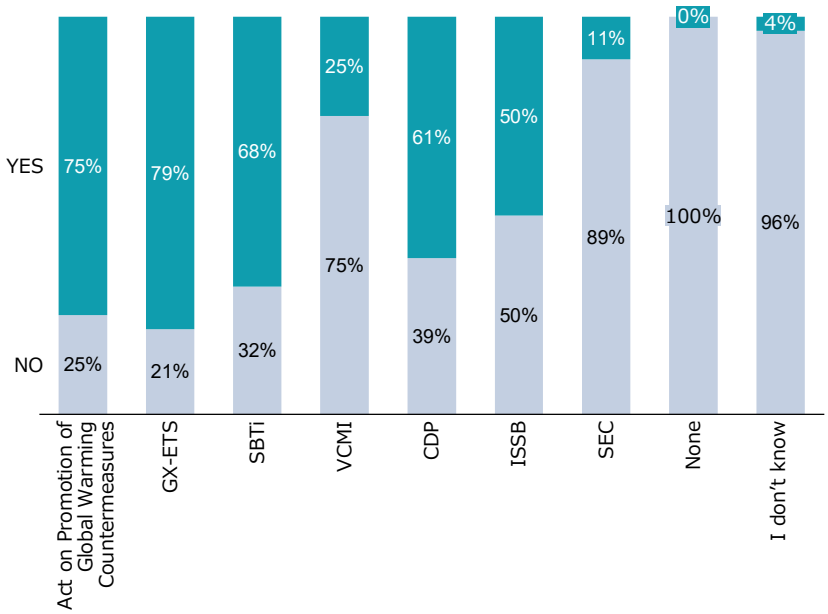
While the WG focused on “the voluntary use of voluntary carbon credits,” 40% of respondents raised “not being eligible for Japan’s mandatory market” as a reason for being negative about the use of voluntary carbon credits. This means that a certain number of companies in Japan think the use of carbon credits is difficult without mandatory restrictions.

As solutions to allow companies to use voluntary carbon credits more positively, it is desirable that: 1) the methods of use of credits are clarified in international standards; and 2) Japanese public organizations provide guidance on the use of voluntary carbon credits (Q6).



[Q6] Under what circumstances (or mechanisms) would you be more positive about the use of voluntary carbon credits? Please select multiple responses from the following to answer on your minimum requirements.
(Multiple answers possible)

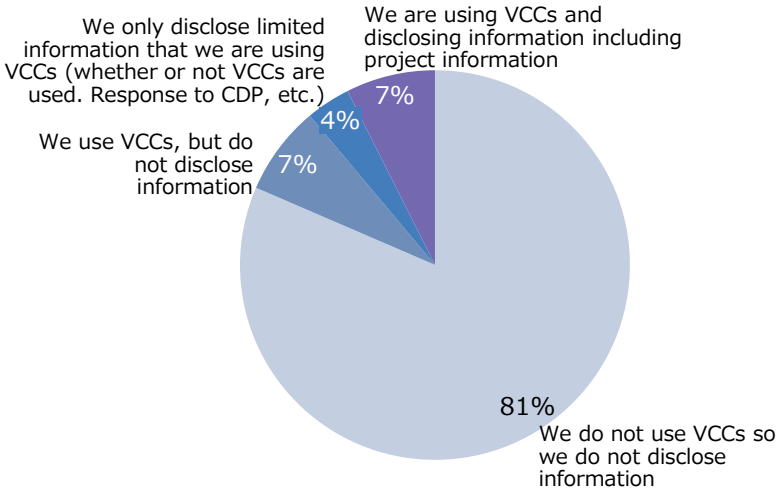
On the other hand, many respondents answered that recognizing the use of voluntary credits within the framework of the Act on Promotion of Global Warming Countermeasures, GX-ETS, etc., would be important to promote the purchase of voluntary carbon credits within their companies. Alongside that, many respondents indicated that recognizing the use of voluntary carbon credits in influential international mechanisms such as SBTi and CDP would be important (Q7). It must be noted that this questionnaire was aimed at companies particularly interested in voluntary credits among GX League members.



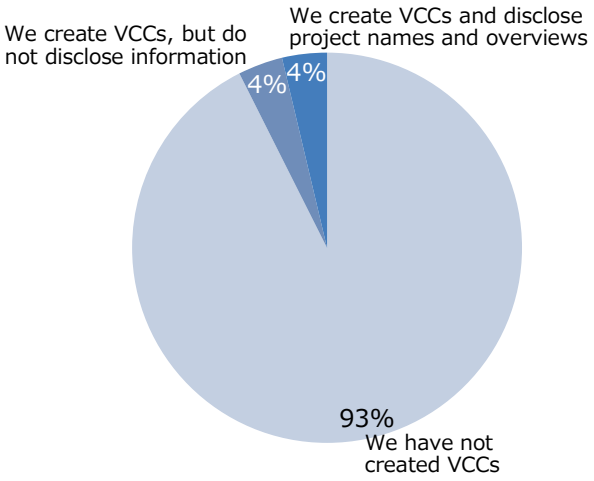
[Q7] Which of the following mechanisms has an impact on the use of voluntary carbon credits at your company? (Multiple answers possible) (What kind of mechanism would make it easier to persuade your company internally to use voluntary carbon credits if it endorsed them?)

3.1.3 Information disclosure

Almost no cases could be seen where companies are using or creating voluntary carbon credits for themselves (Q9, Q10). And only about half of those companies disclose information on the state of their own use and creation of voluntary carbon credits.

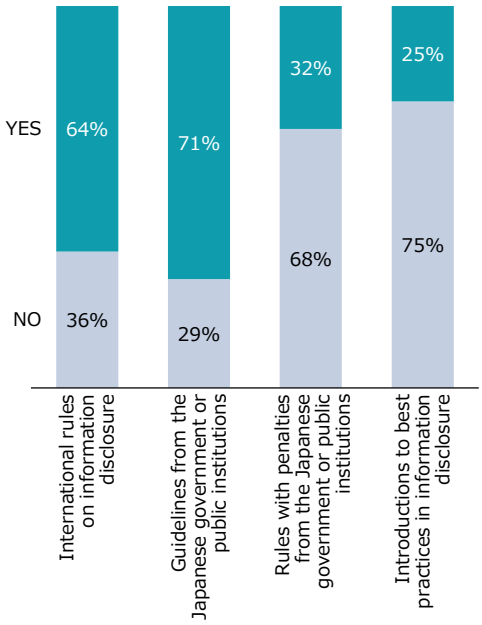


[Q9] Please tell us about your company's disclosure of voluntary carbon credit information as a consumer. (Single answer)



[Q10] Please tell us about your company's disclosure of voluntary carbon credit information as a project developer.
(Single answer)

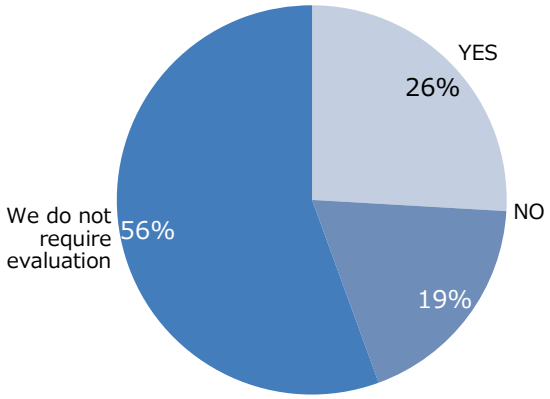
Few companies are motivated to disclose information voluntarily if there are no international rules or Japanese guidelines (Q11). Some opinions were also heard of being negative towards information disclosure because it could increase the risk of criticism.



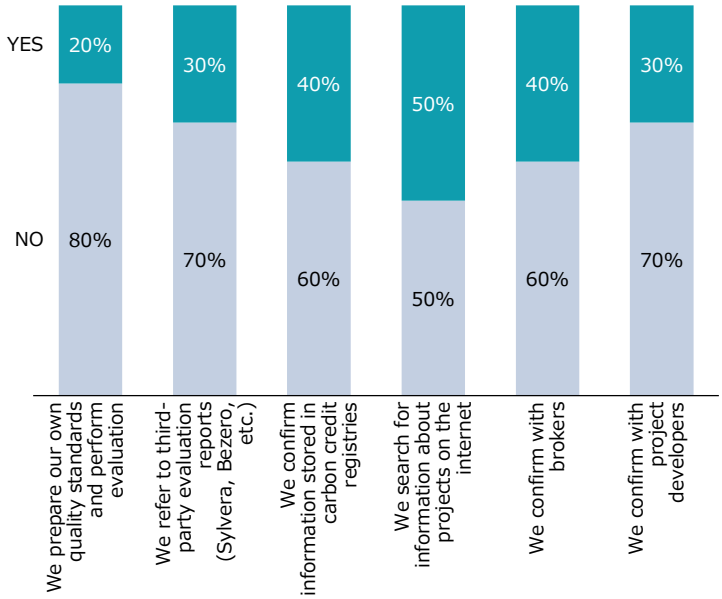
[Q11] Under what circumstances (or mechanisms) would you be positive about information disclosure? Please select multiple responses from the following to answer on your minimum requirements. (Multiple answers possible)

3.1.4 Quality evaluation

Slightly less than half of the companies in the WG recognized the need to evaluate the quality of voluntary carbon credits, and about half of those companies answered that they actually carry out internal quality evaluations (Q12). The methods for quality evaluations differed at each company, but there are a lot of cases where they confirm the content of the registry of the credit standards, search on the web for the projects or make inquiries with brokers. Although few in number, there are also companies that have established their own quality evaluation standards (Q13).



[Q12] Does your company carry out independent evaluations of the quality of voluntary carbon credits? (Single answer) * If you implement additional quality evaluations of certified credits, please answer YES.

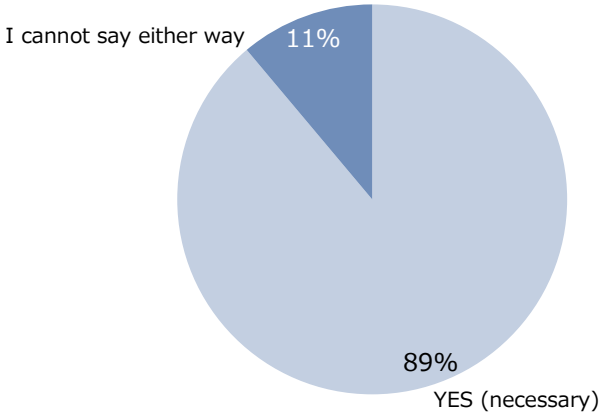


[Q13] (For respondents who answered YES in Q12) What methods do you use to evaluate credits? (Multiple answers)

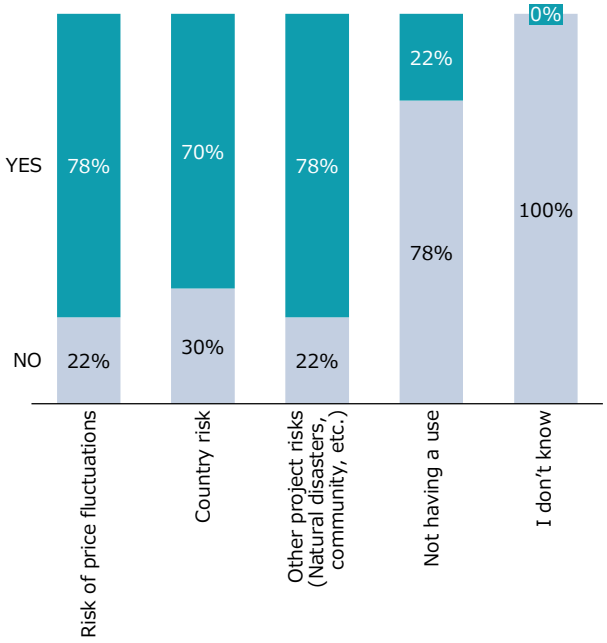
There were opinions regarding evaluation of the quality of voluntary carbon credits that there is not enough information to carry out quality evaluations (companies do not know how to access information). This kind of opinion was also seen in the questionnaire, and requests for the organization and transmission of information on international trends concerning quality by public institutions and think tanks, the disclosure of information at an appropriate level of granularity by standards bodies and project developers, and simple quality evaluation mechanisms were raised.

3.1.5 Early stage investment

As mentioned above, 90% of companies feel that it is necessary to invest in carbon credit projects at an early stage prior to the issue of credits (Q16). On the other hand, there are many barriers to investing in early stage projects, and concerns have been raised about matters such as the price fluctuations of carbon credits created, country risks and other project risks when investing in early stage projects (Q18).



[Q16] Do you think early stage investment in voluntary carbon credit projects is necessary? (Single answer) (Do you think it is necessary to invest in a carbon credit project itself prior to issue, rather than buying carbon credit units that have already been issued?)



[Q18] What are your concerns when investing in early stage projects? (Multiple answers)

3.2 Case studies of proactive initiatives by Japanese companies

As mentioned above, although there are not many companies actually using voluntary carbon credits at present, there are some that do. Below we introduce case studies of Japanese companies working proactively on voluntary carbon credits based on interviews with companies that participate in the WG and published materials.

Industry	Role in VCC (Creation, distribution/ sales, use)	Examples of initiatives
Manufac-turing	Use	• The company introduced and uses LNG offset with VCC to contribute to the achievement of various SDGs such as the conservation of biodiversity, not just climate change countermeasures. • The company recognizes that the choice of carbon-neutral energy is an important solution linked directly to climate change countermeasures, contributions to the realization of the SDGs and ESG corporate management. • As an initiative to ensure the quality of the VCCs, in addition to the basic requirements of the bodies operating the VCCs such as Verra or Gold Standard, the company has established its own requirements, such as not using energy-saving-type credits, based on the trend in domestic and international debate on dependence on easy credit, and has strengthened governance to deal with greenwashing criticism. • The company plans to use VCCs further in future to achieve the offsetting of the greenhouse gases that are almost impossible to reduce, such as semiconductor business process gases, the Net-Zero target under the SBTi standard and the company's own internal targets.
Manufac-turing	Use	• The company is using carbon neutral LNG based on voluntary credits for the natural gas it uses in its boilers. The company introduced this as a proactive initiative with understanding that voluntary credits cannot currently be used under the Act on Promotion of Global Warming Countermeasures or GHG Protocol.
Finance	Use	• About 10% of the company's CO_2 emissions come from city gas used in computer centers, etc. Although city gas is an energy source necessary for private power generation, adjustment of peak power consumption, etc., CO_2 emissions are unavoidable because the gas is burned on-site (on company premises). • Because of that, on a project to contribute to global warming countermeasures, the company adopted carbon neutral city gas with attached credits created from projects that contribute to the solution of environmental and social issues such as the conservation of biodiversity, local employment and education, and the securing of water and energy. • By taking in the idea of co-benefits, contributing to climate change and other issues simultaneously, and adopting carbon-neutral city gas with attached credits issued under highly reliable certification standards, the company selected a measure that contributes indirectly to an equivalent

		reduction in CO_2 emissions to that resulting from the use of gas in company buildings.
Finance	Creation Distribution/Sales	• The company is considering investment in a forest fund. It is planning to lead market growth and development in sustainable investment by stimulating investment in the forest fund, and will contribute to the creation and consolidation of the carbon credit market in Japan and the activation of the global market through carbon credit trade. • In addition, the company has also started a matching service that introduces carbon credits provided by superior overseas companies to Japanese customers. By doing so, it will be able to provide carbon credits in line with customer strategies for carbon neutrality, and enable the long-term procurement of high-quality carbon credits certified by third parties mainly from nature-derived projects involving renewable energy, etc.
Trading company	Creation Distribution/Sales	• The company is working in the VCC market on initiatives that contribute to the expansion of the technology-based carbon removal market by connecting buyers (VCC purchasing companies) specializing in high-quality technology-based carbon removal VCCs with projects (VCC creation companies) and guaranteeing a certain level of VCC demand and supply. • For buyers, it will be possible to procure high-quality technology-based VCCs with third-party certification in compliance with ICROA over the long term. • For projects, being able to acquire long-term commitments to VCC revenue in advance will enable project development based on certain future demand.
Trading company	Creation Distribution/Sales	• The company supports the acquisition of accreditation for, and sale of, credits using the Japan Blue Economy Association system to contribute to CO_2 seabed fixation through seagrass bed creation and conservation activities in coastal areas of Japan. • It is currently considering the possibility of cooperation with companies that have technologies in new fields such as CO_2 mineralization and soil storage of CO_2 through regenerative agriculture, including the creation of carbon credits. • While a unified definition of “high-quality credit” does not yet exist internationally or in Japan, the company has established its own internal standards for checking the risks associated with carbon credits and is promoting project development and credit transactions.
Other	Distribution/Sales	• The company combines remote sensing and causal inference technology to analyze greenhouse gas reduction and absorption effects in forest and peat-land afforestation and conservation projects, and provides information on the quality and risks of individual projects. • The quality of nature-derived VCCs has attracted considerable international attention, and it is an area of major change, including the release of related articles and papers, and the updating of international standards. The company collects information globally in cooperation with overseas developers and experts, and develops and updates solutions continuously.

		• In addition to quality analysis and corporate depreciation analysis, the company aims to bring greater transparency to the voluntary carbon market by providing a forum for project developers and investors to communicate mutually on a web platform released in 2023.

Table 5. Case studies of Japanese companies working proactively on the use of voluntary carbon credits, etc.

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1. Fiscal year 2022. Some companies that participated in the WG in fiscal year 2022 did not participate in the GX League in fiscal year 2023 so the number of member companies in fiscal year 2023 was 39.

Chapter IV: Desirable initiatives for Japanese companies towards expansion of the voluntary carbon credit market and expectations of, and recommendations for, stakeholders

The environment surrounding voluntary credits remains is constantly changing and highly uncertain. On the other hand, even in such circumstances, Western companies such as Microsoft and Volkswagen are contributing to the reduction of global greenhouse gas emissions overall through the use of voluntary credits, and connecting that to the improvement of their corporate value and competitiveness.

Reduction and absorption effects are recognized in Article 6 of the Paris Agreement, and it is assumed that the need for both will increase.[1] It is thought that if Japanese companies use carbon credits strategically, increasing their presence in the global carbon credit market and promoting Japan-led rulemaking will lead to the strengthening of their international competitiveness.

Although certain issues remain with regard to the reliability of voluntary carbon credits, given the potential for future market expansion and the point that they are an important means of emissions reduction in the hard-to-abate sector, there is concern that focusing only on the issues and eliminating their use as an option may induce other sorts of risk from the perspective of diversity of means.

Because of that, rather than waiting for issues to be resolved, we think it is important for each stakeholder to face up to those issues and overcome them on their own.

4.1 Desirable initiatives for Japanese companies

We describe below the desirable initiatives by Japanese companies for the expansion of the voluntary carbon credit market based on the standpoints of the “buyers” who use carbon credits and the “sellers” who create, sell and broker them.

4.1.1 Initiatives to broaden the scope of carbon credit use (common to buyers and sellers)

Issues are emerging at companies that intend to use carbon credits, such as lack of knowledge of carbon credits and difficulty in grasping the latest trends. The Carbon Credit Report was issued by the Ministry of Economy, Trade and Industry in June 2022, but as described in Chapters I and II, the environment surrounding carbon credit has changed continuously since then, and it is necessary to update the status as needed. In addition, discussion of carbon credits is led by Europe and the United States, and access to up-to-date information and language stand in the way as barriers unique to Japanese companies. Because of that, the government

and the private sector need to cooperate to establish the foundations that make it easy for Japanese companies to access basic knowledge and the latest trends related to carbon credits, and enables them to incorporate carbon credits into their climate change strategies and plans appropriately.

Further, as introduced in Chapter II, voluntary carbon credit transactions have not been established, and issues have been raised over price transparency and information symmetry. In addition to initiatives at each company themselves, it is thought that forming a market in which those involved in carbon credit transactions can cooperate to reduce reputation risk so carbon credits can be traded with confidence would be effective to promote the use of carbon credits at Japanese companies further. This would include improving the soundness of the market by raising its overall level through awareness-raising activities by business partners, the government and local authorities, building ratings and evaluation systems and formulating transaction guidelines.

Further, carbon credits are also being used for the offsetting of products and services, not just for corporate climate change strategies and plans. Products and services offset using carbon credits could become a driver of credit use in corporate climate change strategies. Evaluating the use of appropriately managed goods and services in the same way as the direct use of credits by buyers would create demand and contribute to the further expansion of credit use.

As detailed in Chapter III, various initiatives are being carried out in Japan for expansion of the voluntary carbon credit market. Taking into account international discussions such as VCMI, SBTi and ICVCM, it would also be useful to share and accumulate precedents and best practices in various business opportunities including the use and creation of credits, information disclosure, and products and services that use offsetting.

In addition, apart from the co-benefits of carbon credits and their contribution to the SDGs, attention has also been paid recently not only to offsets within a company's own value chain, but also to contributions to reductions outside of the value chain based on the provision of funds through carbon credits.[2,3] The perspective of companies that handle credits discovering value aside from CO_2 offsets and incorporating it into their business strategies, as well as the formation of a market environment in which that is evaluated appropriately, will also be important.

4.1.2 Desirable initiatives for buyers

As detailed in Chapter II, discussions are being held on the quality of carbon credits and environmental claims when they are used, while Chapter III discussed concerns over the risk of greenwashing with regard to the use of carbon credits. Using carbon credits with transparency is important to avoid the risk of being criticized for carbon credits. Specifically, issues such as the disclosure of information including the attributes of the carbon credits to be used, and the disclosure of the company's way of thinking on their use can be raised.

With regard to the way of thinking on use, as introduced in Chapter I, the concept of reducing one's own emissions and offsetting using carbon credits is of reference. Moreover, it is thought that it would be effective to use external expert knowledge as necessary to consider and disclose externally the company's own climate change strategies and plans, not limited to carbon credits, and its policy on the use of carbon credits.

Communication with the seller is also effective, such as requesting information disclosure by the seller on the attributes of the carbon credit itself. In addition, it is also thought that the registration and disclosure of a company's use of credits in each voluntary carbon credit system's registry would be effective in improving transparency and reliability with regard to the use of credits. By disclosing information in such a registry, companies can contribute to the improvement of the registry's transparency.

4.1.3 Desirable initiatives for sellers

In light of the fact that companies that are sellers of carbon credits have relatively more knowledge of carbon credits than companies that are buyers, it is desirable that sellers play certain roles in the formation of a healthy carbon credit business market in Japan, such as providing buyers with appropriate information about the credits they provide, conducting awareness-raising activities on the use of carbon credits and communicating with upstream companies as required. If companies provide offset products and services, it is important they carry out highly reliable and transparent product design, and they should consider the use of third-party verification of the carbon footprint, etc., as required.

In addition, it is also conceivable that Japanese companies, including buyers as well as sellers, will go to the credit-creation business side themselves through long-term off-take or project investment, etc. Through such initiatives, it is conceivable that companies will become able to access required information on carbon credits in timely fashion, and Japanese companies becoming able to manage carbon credit

risks proactively could contribute to the improvement of the reliability of carbon credits and be effective in the formation of a healthy carbon credit market in Japan.

4.2 Expectations of, and recommendations for, stakeholders

To this point, this report has been organized around the use of carbon credits at companies as one initiative for carbon neutrality (Chapter I), the various guidance and regulations that have started to be issued overseas (Chapter II), the awareness of issues at companies participating in this WG (Chapter III), and a number of case studies of the proactive use of carbon credits at Japanese companies.

The results of the questionnaire show that whether or not it is possible to use voluntary carbon credits under a public system (GX-ETS or the Act on Promotion of Global Warming Countermeasures) is an important factor in the use of voluntary carbon credits for many companies that participate in the WG. It is conceivable that evaluating companies that are working on the reduction of their own emissions and recognizing companies that are also working on the use of carbon credits under public systems would be effective for the expansion of use of carbon credits. It is expected that this point will be discussed by another working group in future.

On the other hand, although the voluntary use of carbon credits, the scope of this WG, may also have to be worked on as an effort by companies themselves, the surrounding environment is changing every day, and as mentioned in Chapter III, the risk of greenwashing is also a concern from various perspectives. Because of this, further expansion of the voluntary use of carbon credits by the efforts of companies alone will not be easy.

The significance of the promotion of carbon credits was described in Chapter I, but it can also be said to be important for the Japanese economy from the perspective of international competitiveness that Japanese companies lead the world in initiatives to reduce emissions on a global scale through the creation and use of carbon credits, and create a virtuous cycle for the environment and the economy. The following is raised as one of the initiatives that participating companies are called to do by the GX League: “Contribute to reductions through new products and services by working on the creation of progressive innovation yourself and in collaboration with players working on innovation. In addition, expand the green market by introducing carbon offset products based on credits, etc., to the market.” It is thought that consideration of: [1] mechanisms that support and evaluate the voluntary use of carbon credits, and ratings and evaluation systems based on the actual situation in Japan and international debate (mechanisms for

people involved in carbon credit transactions to cooperate to give some sort of evaluation or soundness regarding the voluntary use of carbon credits); [2] financial support and guarantee mechanisms so that further support is given to the creation of carbon credits (for example, a guarantee mechanism for situations involving the risk that the creation of carbon credits will become difficult due to policy and institutional changes in other countries); and [3] a forum where the public and private sectors can collaborate to share information and consider initiatives (for example, a forum to provide regular updates on global trends and discussions as described in this report or a forum for communicating the initiatives of individual companies, etc.) would also be effective from now on.

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1. BloombergNEF: January 2023, Five Need-to-Knows About the Future of Voluntary Carbon Offset Markets
2. Ministry of Economy, Trade and Industry: December 2021, Issues Related to Carbon Credits
3. SBTi: June 2023, “The SBTi launches six-week public consultation on Beyond Value Chain Mitigation”
4. Taskforce on Nature Markets: April 2023, “Biodiversity Credit Markets”

Chapter V: Conclusion

In this report, we have summarized the current state and future direction of voluntary carbon credits in Japan through review meetings and interviews, organized into trends in Japan and overseas (Chapter II), the opinions and initiatives of participating companies (Chapter III), and the recommendations thought necessary based on the foregoing (Chapter IV).

The environment surrounding carbon credits is progressing day-by-day, and it has become clear that issues are emerging at companies that intend to use carbon credits, such as lack of knowledge of carbon credits and difficulty in grasping the latest trends. In response, we have provided recommendations for buyers and sellers of carbon credits and other related stakeholders in Chapter IV of this report.

The external environment has also changed rapidly during the preparation of this report, with tailwind and headwind events for voluntary carbon credits having been reported. In view of such circumstances, in addition to updating the information and discussions covered in this report regularly from now on, it is desirable that there is also consideration of guidelines that will lead to more specific actions for Japanese companies (for example, guidelines on information disclosure on voluntary carbon credits and their use, one of the original objectives of this WG).

We expect that these continued initiatives will promote the appropriate use of voluntary carbon credits for the realization of carbon neutrality in Japan.

This deliverable was considered by the “Working Group for Consideration of Voluntary Carbon Credit Disclosure,” formed as part of initiatives for the formation of market rules by the GX League and composed of the following members, and prepared by the Working Group for Consideration of Voluntary Carbon Credit Disclosure after asking for opinions from the companies that participate in the GX League.

sustainacraft Inc., Sumitomo Corporation, Tokio Marine & Nichido Fire Insurance Co., Ltd., Tokyo Gas Co., Ltd., MUFG Bank, Ltd., Carbon Free Consulting Corporation, XENCE LLC, blue dot green Inc., Mitsubishi Corporation, Overseas Environmental Cooperation Center, Japan (OECC), Mitsubishi Research Institute, Inc., Nippon Life Insurance Company, Fujitsu Ltd., Mitsubishi HC Capital Inc., Toshiba Corporation, Zeroboard Inc., EF-ON Inc., Mizuho Financial Group, Inc., Daiwa Securities Group Inc., Kawasaki Heavy Industries, Ltd., Toho Gas Co., Ltd., Sojitz Corporation, Wood Life Company, Inc., Toyota Tsusho Corporation, DIGITAL GRID Corporation, Nomura Holdings, Inc., NTT Communications Corporation (participating as “Nippon Telegraph and Telephone Corporation” from fiscal year 2023), SDG Impact Japan Inc., Sumitomo Mitsui Trust Bank, Limited, Mitsui Chemicals, Inc., Sompo Japan Insurance Inc., Altalena Co.,Ltd., Deloitte Tohmatsu Group, Sumitomo Forestry Co., Ltd., NEC Corporation, The Norinchukin Bank, MS&AD Insurance Group Holdings, Inc., NTT Data Group Corporation (participating as “Nippon Telegraph and Telephone Corporation” from fiscal year 2023), ITOCHU Corporation, LIXIL Corporation, Chiyoda Corporation, Funai Soken Holdings Inc., Shimizu Corporation, and Asuene Inc.