

Climate Change Initiatives for Reduction of Greenhouse Gases

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1. INTRODUCTION

The Paris Agreement, which is an international framework for the prevention of global warming, states that many of the effects of climate change can be avoided by limiting global warming to 1.5°C in comparison with the pre-industrial level. To achieve this, it will be necessary to reduce greenhouse gas (GHG) emissions by 45% by 2030 and achieve net zero emissions by around 2050, and over the 21st century, it will also be necessary to remove 100 to 1,000 gigatons of carbon dioxide (Gt-CO₂) from the air (carbon dioxide removal: removal of CO₂ in the atmosphere by biomass, CCS, etc. and permanent storage underground or in oceans, i.e., in deep ocean waters or the seabed). However, large-scale carbon dioxide removal technologies have not yet been applied practically. In order to avoid this, it is necessary to reduce CO₂ emissions at the earliest possible time so as to limit increases in CO₂ accumulating in the atmosphere.

Considering this situation, an increasing number of countries, centering on the advanced nations, have set targets for achieving net zero GHG emissions between 2050 and 2060, and the respective governments have announced GHG reduction targets for 2030 as milestones for achieving their long-term targets. As its target for 2030, Japan has set an emission reduction of 46% in comparison with 2013. (Table 1)

Table 1 GHG emission targets of main nations

	2030 interim target	Long-term target
UK	Minimum ▲68% (vs. 1990) (equivalent to ▲55.2% vs. 2013)	2050: Minimum ▲ 100% (vs. 1990)
Germany	▲65% (vs. 1990)	2045: Net zero emissions
EU	Minimum ▲55% (vs. 1990) (equivalent to▲ 44% vs. 2013)	2050: Net zero emissions
US	▲50-52% (vs. 2005) (equivalent to ▲45-47% vs. 2013)	2050: Net zero emissions
Japan	▲46% (vs. 2013)	2050: Net zero emissions
China	The amount of yearly emissions will be changed to decrease by 2030. (Reduction of per-GDP emissions exceeding 65% vs. 2005)	2060: Net zero emissions

Although none of these targets can be achieved easily, among the targets, the United Kingdom has set a particularly prominent target, as the UK will serve as the presiding country of COP26 in November 2021 and is strongly promoting the introduction of renewable energy, including successive development of large-scale wind power projects. In May of 2021, Germany announced that it will also raise its emission reduction target to a similar level. While both the EU and the United States are targeting reductions of more than 50%, it may be noted that the EU target is set against 1990, the baseline year of the Kyoto Protocol, while the United States sets its target against 2005, which was a year with large emissions. Japan's target of a 46% reduction against 2013 is similar to the levels of the EU and US if the targets of each country are compared against 2013. Moreover, since China is the world's largest GHG emitter (approximately 28% according to data for 2017¹⁾), an announcement of a target on this level, even if somewhat more modest, would have an incalculable impact.

Although these are targets at the national government level, on a private-sector base, various international activities called "climate change initiatives" are underway with the aim of encouraging advanced efforts for GHG reduction. Many of these are

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initiatives in which an environmental NGO has begun education and promotion of voluntary efforts by the private sector. However, since an increasing number of institutional investors and banks also support these activities, and a recognition that addressing climate change will have a large impact on financing and business operations as such is now well-established on the company side, a growing number of companies are responding proactively to these climate change initiatives.

Participation in climate change initiatives can be considered to be a commitment to business partners and the market; it means shouldering the responsibility of making efforts to reduce emissions over the long term, and measuring, reporting and announcing the results. Because emission reductions of the levels now under discussion will incur a significant cost increase for companies, if an equal footing of competitive conditions at the national level assumes the creation of a carbon border adjustment mechanism (CBAM: a mechanism by which a “carbon price” is imposed on imports from countries with inadequate climate change measures, corresponding to the amount of carbon emitted in the production process, so that those imports bear responsibility for emissions on the same level as in the importing country), there is a view that these climate change initiatives are actions at the private-sector level preceding international agreements. On the other hand, they also have the effect of showing the public and other concerned parties a company has adopted a stance of grappling earnestly with the issue of climate change.

This paper presents an overview of the main climate change initiatives, which have an increasing presence, and introduces consulting work on responding to climate change initiatives by our department during the past year.

2. MAIN INTERNATIONAL CLIMATE CHANGE INITIATIVES

2.1 CDP

2.1.1 Overview of CDP

CDP²⁾ was formerly known as the Carbon Disclosure Project. The organization originally conducted questionnaire surveys of companies on measures related to climate change and disclosed the results to investors and others, but began conducting surveys on water security in 2010 and on forests in 2012. Due to this enlarged scope, it changed its name to CDP (the initial letters of the original name) and is no longer called the Carbon Disclosure Project. It is an international NGO with headquartered in the UK.

The system of the CDP is as follows. Based on a request from an investor or a customer in a company’s supply chain, the CDP Secretariat asks the company to respond to a questionnaire. The company receiving the request responds voluntarily, selecting either “Public response” or “Non-public response.” Public response means the content of the response is posted on the CDP website, and when non-public response is selected, the response is only shared between the customer and the investor that requested the disclosure.

The contents of responses are scored by companies that act as CDP “scoring partners” based on a uniform scoring standard, and the results are released in 8 levels.

As mentioned above, responses are voluntary, but companies which choose not to respond are listed as “No response” or “Declined to participate” and given an evaluation of “F.” This evaluation means that the company did not provide sufficient information to be evaluated, and is not a reflection of the company’s environmental stewardship. (Fig. 1)

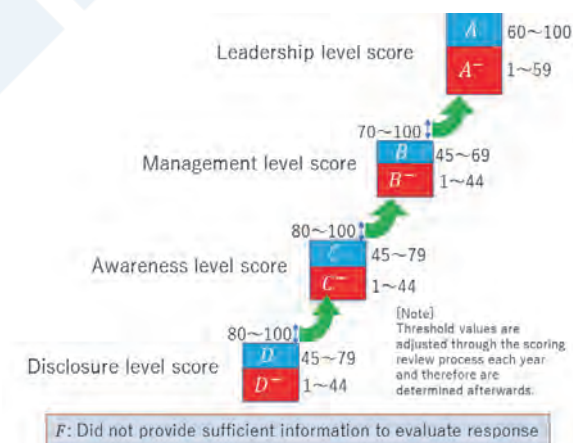


Figure 1 CDP scoring and evaluation system

As of 2020, the CDP had received responses from more than 9,600 companies at the request of more than 515 investors with assets in excess of US\$106 trillion and 150 supply chain program members with purchasing power exceeding US\$4 trillion. The responding companies accounted for more than 50% of world aggregate market value. Among Japanese companies, 801 companies responded to the questionnaire on climate change alone in 2020. Here, it may be noted that payment of a fee in the range of ¥100,000 to ¥700,000 is required when responding to the questionnaire.

Although the CDP requests disclosure of the climate change measures of companies for investors and customers, focusing mainly on determining the company's business continuity and growth potential, the content required in the response has a strong coloration of inducing action against climate change, as it heightens a company's awareness of climate change measures and encourages management improvements and efforts made at the company's own initiative. While it goes without saying that scoring is fact-based, the quality of the response will also affect the score. For this reason, it is essential to prepare responses based on an understanding of the intention of the questions and the complex evaluation system.

2.1.2 Main Elements in Response to CDP (Climate Change)

(1) Governance

In responding to the CDP questionnaire, it is necessary to explain whether board-level oversight has been established for climate change measures, the details of oversight by the board, the highest-level management position(s) with responsibility for climate-related issues, etc. Respondents are also asked whether there are incentives for the management of climate-related issues.

(2) Risks and opportunities

This is one of the central parts of the response. It is necessary to explain the processes for identifying, assessing and responding to climate-related risks and opportunities. In particular, respondents are asked to explain the identification of potential risks and opportunities specific to the company with the potential to have a substantial financial or strategic impact on the company's business, including the results of quantitative evaluations.

(3) Business strategy

The content of this section encourages adoption of the TCFD technique (Task Force on Climate-related Financial Disclosures; see section 2.3). For example, the respondent is asked whether the company uses a climate-related scenario analysis to establish its business strategy, and even if it is not currently using this type of analysis, a higher score can be obtained by indicating that it plans to implement this process in the future.

(4) Emission targets and performance, and calculations

The responding company is required to explain whether GHG emission reduction targets are set for the said reporting year, classified in the following 3 emission scopes (categories), and the specific initiatives for emission reduction and their quantitative effects. (Fig. 2)

Scope 1 emissions:

Amount of greenhouse gas emissions discharged directly by the company itself as a result of combustion of fuels, discharges in industrial processes, business activities, etc.

Scope 2 emissions:

Amount of indirect emissions of greenhouse gases accompanying the use of purchased energy, that is, electricity, heat and steam supplied from outside the company (equivalent to the GHG discharged at the sites where these forms of energy were generated).

Scope 3 emissions:

Amount of other indirect emissions, that is, emissions by other companies in the supply chain (value chain) related to the company's business activities (classified into 15 types).

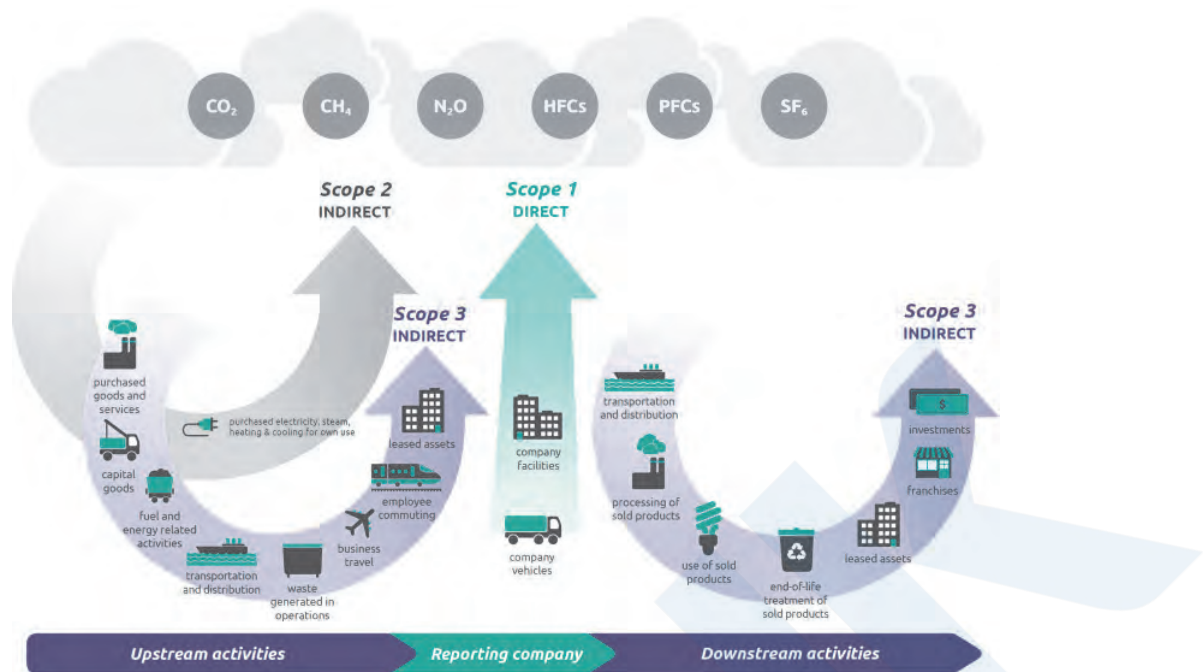


Figure 2 Classification of emissions by Scope
(Source: Corporate Value Chain Accounting Reporting Standard³⁾)

Supplement on Scopes 1, 2 and 3: Example of Automobiles

The national government and local governments have announced policies under which internal combustion engine (ICE) automobiles (including both gasoline and diesel vehicles) manufactured and sold in this country will be replaced successively with electric vehicles (EV) in the future, and economic circles are now also involved in this discussion. From the viewpoint of CO₂ emissions, the change from ICE to EV is equivalent to a change from Scope 1 emissions (direct emissions) to Scope 2 (emissions generated from purchased energy).

As reference, according to a trial calculation of CO₂ emissions during travel of an ICE automobile and an EV, assuming the fuel consumption of the ICE vehicle is 15 km/l-gasoline, the CO₂ emission (Scope 1) is 155 g/km. On the other hand, assuming the electric power consumption of the EV is 0.1 kWh/km, when electricity charged from electric power generated by the electric utility company in Japan is used, the CO₂ emission (Scope 2) is 47 g/km. Thus, limited to CO₂ emissions accompanying travel, CO₂ is greatly reduced, even though the current composition of power sources is mainly thermal power. However, in the case of EVs, CO₂ emissions in the battery manufacturing process (equivalent to Scope 3 emissions) exceed those of ICE automobiles. Therefore, assuming the current power source composition, the CO₂ emission reduction effect of EVs may be limited if EVs are not driven long distances.

Accordingly, in addition to securing a supply of electric power for vehicle charging, the key to electrification of automobiles may be how much it is possible to increase renewable electricity and other power sources that do not directly produce CO₂ emissions.

Regarding Scope 2 emissions, although CDP recognizes renewable energy certificates (RECs), care is necessary when using offset credits, which are recognized under Japan's Act on Promotion of Global Warming Countermeasures and Energy Conservation Law but are not recognized by CDP. ("Offset credits" are transferrable instruments equivalent to the difference between the amount of emissions before project implementation (baseline) and after implementation.)

Target setting methods include the method of setting an absolute emissions target (total amount target) and the method of setting an emissions intensity target (unit target, i.e., emissions per unit of activity) as a standard for measuring progress.

In particular, setting an aggressive reduction is recommended when setting an emission reduction targets as an SBT (Science Based Target; see section 2.2), as additional points are given in this case.

When listing the calculated amounts of Scope 2 emissions, CDP has adopted a method in which emissions are listed as both location-based Scope 2 emissions (calculated using a general emission factor applied to the location of places of business, etc.)

and market-based Scope 2 emissions (calculated using emission factors based on individual contracts for purchases of renewable energy, low carbon electric power, etc.), and the GHG reduction efforts of companies are expressed by a numerical value based on the difference between the amounts of emissions by the two methods. (Fig. 3)

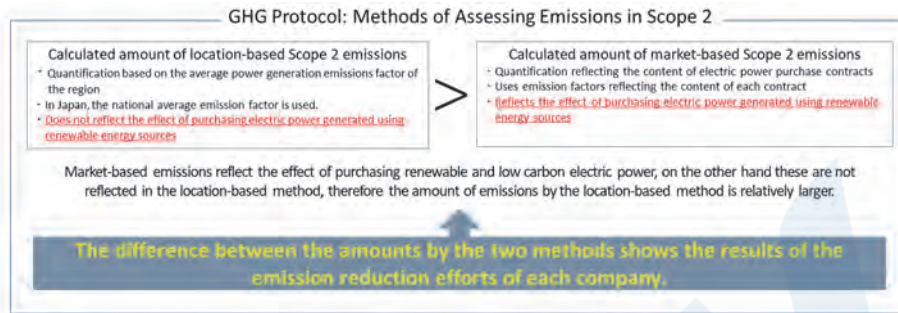


Figure 3 Comparison of location-based and market-based Scope 2 emissions

Furthermore, evaluations by CDP will differ, depending on whether the numerical amount of emissions is certified and guaranteed by a 3rd party organization or not.

It should be noted that an evaluation by CDP does not evaluate the absolute amount of GHGs, but rather, is an evaluation of how accurately the company has determined the amount of GHG emissions, whether it is currently making reduction efforts, and whether it has established a reduction plan for the future.

(5) Carbon pricing

Recently, the words “carbon pricing” have appeared frequently in newspapers. This expression generally means either a carbon tax or a “cap-and-trade” scheme consisting of some combination of upper limit regulations (“caps”) on total emissions and a system for trading emission permits (also called “emission credits” or “carbon credits”). A cap-and-trade system is called “carbon pricing” because a price is set for carbon credits, which are then bought and sold. In order to achieve the strict reduction targets mentioned in the Introduction, it appears that active discussion toward the full-scale introduction of this kind of economic system will also begin in Japan after the novel coronavirus problem has been solved.

In fact, Japan has already introduced a “global warming countermeasures tax” as a carbon tax in 2012, but its effect was extremely limited because the amount, ¥289/t-CO₂ was very low in comparison with other countries. (Fig. 4)

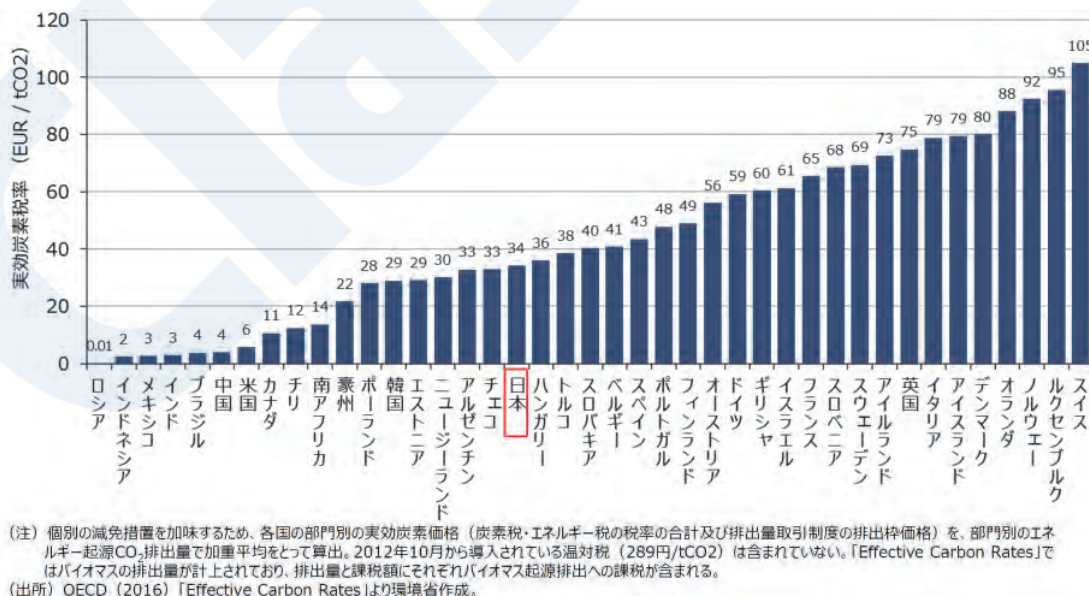


Figure 4 International comparison of effective carbon prices (all sectors; April 2012)

Total of tradable emission permit prices, carbon taxes and specific taxes on energy use

(Source: Materials of the 4th Meeting of the Subcommittee on Utilization of Carbon Pricing, Central Environment Council, Ministry of the Environment (Material No. 2)

On the other hand, independent cap-and-trade schemes have already been introduced in Tokyo and Saitama Prefecture, Japan and are contributing to reduction of CO₂ emissions in commercial buildings and manufacturing plants. Incidentally, because the European countries have successively announced strict interim targets to be achieved by around 2030, targeting net zero emissions in 2050, demand by companies that wish to acquire emission permits has led to active emission permit trading by hedge funds, causing a rise in trading prices. As a result, the trading market price rose from €20-30/ t-CO₂ in 2020 to €40/ t-CO₂ as of April 2021 (about ¥5,000 in Japanese yen). Trading prices are also expected to rise in the future in response to stricter regulations, and it appears that this will lead to more active discussion of a carbon border adjustment mechanism (CBAM).

With this lengthy preface, when responding to a CDP request, it is necessary to describe how the existing carbon pricing systems will impact your company's business. The CDP questionnaire also includes questions on the future rise in the carbon price called "internal carbon pricing," that is, whether the company is making efforts to use internal carbon pricing in investment decisions by setting virtual internal carbon prices in preparation against stronger regulations and increases in the actual carbon tax rate.

Depending on how it is used, the introduction of internal carbon pricing may become a factor that limits a company's competitiveness. However, many Japanese companies currently use internal carbon pricing for purposes such as encouraging low carbon investment, promoting energy conservation, and reform of internal behavior ⁴⁾.

(6) Engagement

The suitable Japanese equivalent for "engagement" might be translated as "proactive collaboration." Here, "engagement" refers to countermeasures against climate change which are undertaken through proactive collaboration with suppliers and customers. The CDP questionnaire also includes questions on engagement such as "activities that could either directly or indirectly influence public policy" (e.g., related activities of trade associations). It is necessary to describe the details of these activities.

2.1.3 Status of Response and Evaluation of Japanese Companies, Etc.

Section 2.1.1 explained that responding companies are evaluated in 8 levels. In 2020, 5% of all companies received the A rank, which is the highest evaluation, in the field of climate change. This was a total of 273 companies worldwide, and included 53 Japanese companies. As these numbers suggest, Japan produces a large number of A rank companies, even from the global perspective.

In comparison with other countries, Japan has a low renewable energy introduction rate, and has even received a satirical award called the "Fossil of the Day" award for its continuing fossil fuel use. Thus, in light of this global direction in evaluations, it can be surmised that great effort was necessary by Japan's A rank companies to receive this positive evaluation.

2.2 Science Based Targets

Science Based Targets (SBT) is an initiative launched in 2015 to certify whether the GHG reduction targets set by companies are in line with the scientific knowledge of climate science recognized in the goals of the Paris Agreement (IPCC: Intergovernmental Panel on Climate Change). The managing organization, SBT, was established by a partnership of organizations promoting disclosure of climate change-related information, including the United Nations Global Compact (UNGC), the above-mentioned CDP, the World Resources Institute (WRI) and the World Wide Fund for Nature (WWF).

In order to participate in the SBT and receive examination of its GHG reduction targets, a company must set targets that cover a period from a minimum of 5 years to a maximum of 15 years. Setting of long-term targets that exceed 15 years is recommended.

In setting SBT, that is, reduction targets in line with the knowledge of climate science, the following items are necessary ⁵⁾.

2.2.1 Scope 1 and Scope 2 Emissions

Targets should cover at least 95% of Scope 1 and Scope 2 emissions.

In principle, these targets are absolute reduction targets. However, depending on the business sector, a calculation method based on the special features of the sector (SDA: Sectoral Decarbonization Approach) is also acceptable, and in this case, setting of intensity targets (unit emission reductions per designated amount of production or activity) may also be recognized. The SBT's "SDA Transport Tool", which is based on the absolute reduction methodology, provides reduction scenarios, but at present, further development work is in progress.

Regarding the concrete reduction levels, prior to October 15, 2019, setting of targets for around 2025-2030, aiming at a reduction of 49% to 72% in 2050 was required, as this was considered to be the level of GHG emissions necessary to limit the average global temperature increase to less than 2°C. However, based on the IPCC Special Report on Global Warming of 1.5°C,

targets should now be aligned with a pathway that limits the increase in global temperatures to “well below 2°C” as a minimum requirement, and efforts to achieve “targets that limit the temperature increase to 1.5°C or less” are recommended. (Fig. 5)

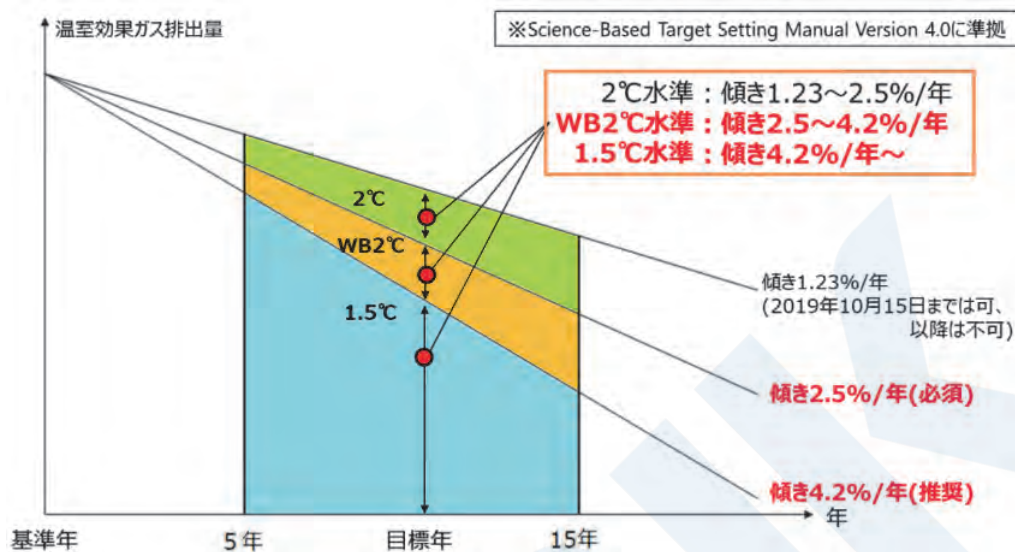


Figure 5 Image of reduction scenarios proposed by SBT

Source: Guidance for Encouraging Japanese Companies to Address International Initiative on Climate Change, Ministry of Economy, Trade and Industry (METI) / Ministry of Environment (March 2019; final revision, March 2021)

SBT also provides a method called Greenhouse Gas Emissions per Value Added (GEVA), which is suitable for fast-growing companies that provide various goods and services. In this case, a 7%/year compounded reduction is required.

As another alternative, limited to Scope 2 emissions, companies can set targets for procurement of electric power generated by renewable energy sources, provided those targets are in line with procurement of 80% of electricity from renewable sources by 2025 and 100% by 2030.

2.2.2 Scope 3 Emissions

A target for Scope 3 emissions should also be set if Scope 3 emissions account for at least 40% of total emissions (Scope 1 + 2 + 3 emissions). Reductions can be set as absolute emissions or as emissions intensity targets. These targets are considered “ambitious” if they lead to reductions in absolute emissions or emissions intensity that limit temperature increase to 1.5°C, well below 2°C or 2°C pathways, or if they are modeled by sector-specific methods approved by SDA.

Otherwise, physical intensity targets are considered ambitious if they reduce emissions intensity by an average of at least 2% per year over the target period. Economic intensity targets are deemed to be ambitious if they reduce unit emission reductions per value added by an average of 7% per year.

The boundary for all Scope 3 targets should include 2/3 of all Scope 3 emissions.

2.2.3 Status of Target Setting by Japanese Companies

As of May 7, 2021, 1,408 companies (including 129 Japanese companies) had officially committed to setting SBTs, and the targets of 701 companies (including 99 Japanese companies) had been recognized as complying with SBT requirements. In addition, 538 companies (including 20 Japanese companies) had pledged to set 1.5°C-aligned emission reduction targets under the SBT’s Business Ambition for 1.5°C program ⁶⁾.

2.3 Task Force on Climate-related Financial Disclosures

The Task Force on Climate-related Financial Disclosures (TCFD) is a scheme which are proposed in September 2015 by Mr. Mark Carney, who was then the Governor of the Bank of England and the Chair of the Financial Stability Board (consisting of the Governors of Central Banks and Finance Ministers of member countries), based on concerns that climate change may impair the stability of the financial system. The TCFD was set up under private-sector leadership by the FSB during the period of COP21, and presented recommendations on voluntary financial climate-related disclosures in its Final Report in June 2017. Among other items, the following three types of risk were mentioned:

- ① Physical risk: Direct impacts such as destruction of assets caused by extreme weather events such as floods, torrential rains, etc., and indirect impacts due to disruptions of global supply chains and depletion of resources.
- ② Legal risks (liability for compensation): Risk that parties who suffer loss due to climate change may seek to recover damages from other parties through litigation.
- ③ Transition risks: Risk due to reassessment of financial assets with large GHG emissions accompanying the transition to a lower-carbon economy.

Based on this, more than 2,000 organizations called “supporters” have approved the aims of the above-mentioned proposal, and from 2018, CDP revised its questionnaire in a form corresponding to the TCFD. An increasing number of Japanese companies have also declared support for this initiative. Japan now ranks first in the number of supporters, with a total of 388 companies as of May 6, 2021, exceeding both the United States and the United Kingdom ⁷⁾. Recently, there have also been remarkable moves toward establishment of regulations based on the TCFD recommendations.

The TCFD is a specialized disclosure framework for climate-related information which is different from disclosure frames like the Global Research Institute (GRI), which is tasked mainly with preparing sustainability reports concerning general ESG information for multiple stakeholders, and Integrated Reporting (IIRC), which similarly prepares comprehensive reports on general ESG information for investors.

The TCFD requires that all companies ① use climate scenarios with 2°C targets, etc. to ② assess climate-related risks and opportunities for their own company, ③ reflect the results in management strategy and risk management and ④ identify their financial impacts, and disclose this information in their general annual reports, etc. (Fig. 6)

Among non-financial sector groups, the TCFD provides supplemental guidance for four groups: ① Energy, ② Transportation, ③ Materials and Buildings and ④ Agriculture, Food and Forest Products.

[Supplemental Guidance for the Transportation Sector]

Types of industries: Aviation, maritime transportation, land transportation (rail, truck, vehicle)

Disclosure items: Disclosure related to the evaluation and potential impacts of financial risk to existing plants and equipment by stricter regulation and new technologies, and opportunities for investment in research and development of new technologies and use of new technologies to respond to low emission standards and regulations on fuel efficiency.

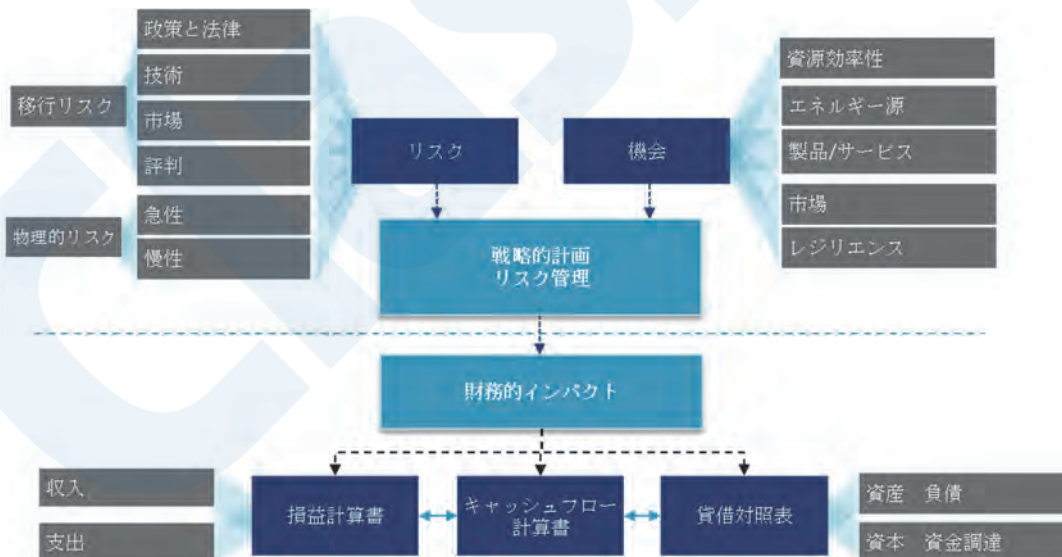


Figure 6 Climate-related risks, opportunities, and financial impacts

Source: Materials of explanatory meeting on “Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures” ⁸⁾ by the Financial Stability Board (July 2017)

The TCFD presents examples of the targets of disclosure for climate-related risks and opportunities and their financial impacts. Among the four basic disclosure items of the TCFD recommendations, namely, Governance which is most important, Strategy, Risk Management, and Metrics and Targets, explanations of “climate-related risks and opportunities” are required for each of

these four items. (Table 2)

Table 2 TCFD requirements

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the organization's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	Disclose how the organization identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.
Recommended Disclosures	Recommended Disclosures	Recommended Disclosures	Recommended Disclosures
a) Describe the board's oversight of climate-related risks and opportunities.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	a) Describe the organization's processes for identifying and assessing climate-related risks.	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.
b) Describe management's role in assessing climate-related risks and opportunities.	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	b) Describe the organization's processes for managing climate-related risks.	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

Source: Materials of explanatory meeting on "Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures"⁸⁾ by the Financial Stability Board (July 2017)

When disclosing the above-mentioned items, the following "Principles for Effective Disclosures" should be observed.

- ① Disclosure should represent relevant information.
- ② Disclosures should be specific and complete.
- ③ Disclosures should be clear, balanced, and understandable.
- ④ Disclosures should be consistent over time.
- ⑤ Disclosures should be comparable between companies within a sector, industry, or portfolio.
- ⑥ Disclosures should be reliable, verifiable, and objective.
- ⑦ Disclosures should be presented on a timely basis.

2.4 RE100

RE100 (Renewable Energy 100%) is an international initiative which aims to switch the electric power used by companies in global business activities to 100% renewable energy by the year 2050. It was launched in 2014 by The Climate Group (an international environmental NGO headquartered in UK) in partnership with the CDP.

The targets for conversion to renewable energy under the RE100 initiative are as follows.

- All Scope 2 emissions related to the activities of the reporting company.
- Any Scope 1 emissions relating to the generation of electricity by the company.

- All companies operating within the brand or company group, including operations in which the brand or company group owns at least 50% of capital.
- Requirements for franchises and jointly owned companies (<50% of capital) will be assessed on a case by case basis.

As of April 2021, a total of 297 companies were participating worldwide, including 52 Japanese companies. In the case of the Japanese companies, the earliest target year for achievement of 100% renewable energy is 2025, and many are targeting 2050.

The target types of electric power are electricity generated from solar, wind, biomass, geothermal and hydropower (including large-scale hydropower) energy sources. (Note: As indicated by the name RE100, nuclear power is excluded from the targets.)

In addition to procurement of “real renewable energy” electricity, for example, by direct purchases of electric power actually generated by renewable energy power plants or installing photovoltaic (PV) panels on the roofs of the company’s buildings, procurement of electric power generated from renewable energy sources also includes a menu of renewable electricity sold by electric power retailers, purchase of green power certificates, etc. Thus, companies whose CO₂ emissions are limited to electric power in service industries can also realize this requirement with relative ease.

As a feature of RE100, when renewable energy purchase methods are classified into the following two types, the merit of this initiative can be seen in the latter ②.

- ① Purchase of power generated by equipment originally existing in the grid or by equipment introduced under feed-in-tariff regulations.
- ② Installation of renewable energy power generating equipment with investment by the utility customer itself, and procurement of power generated by that equipment.

The above-mentioned ② is generally not easy. However, for companies with a comparatively large scale of business, installation of renewable energy generating equipment in the form of solar power or land-based windmills is still be considered easy in comparison with the construction of a thermal power plant or a large-scale hydropower plant.

There are also companies, exemplified by Apple, which have already achieved zero emissions associated with the electric power used by the company’s own offices, direct sales outlets and data centers by purchasing renewable electricity, and are now requiring a zero emissions frame which also extends to their suppliers. For companies in Apple’s supply chain, these moves to require the purchase of renewable electricity are a major challenge for business continuity, and there is also concern that this may become an Achilles heel for companies in Japan, where diffusion of renewable electricity has been delayed.

Incidentally, some companies in Japan have set voluntary evaluation criteria for procurement of electric power generated from renewable sources that exceed the requirements of RE100. For example, according to an announcement by Ricoh on March 2, 2021, the company has raised its renewable electricity target, and has also introduced a new comprehensive evaluation system to ensure the quality of domestic renewable electricity, including the purchase price, timing of installation of renewable electricity generating facilities, generating methods, the distance between the generating facility and the purchasing office or plant, etc.⁹⁾ (Table 3)

Table 3 Total evaluation criteria for introduction of renewable electricity

Evaluation item (evaluation score)	High evaluation	Low evaluation
Purchase price of electric power (Prioritize lower cost renewable electricity)	Low price	High price
Additionality of equipment (Promote development of new renewable equipment)	New equipment	Existing equipment
Generation of CO ₂ during power generation (Prioritize technologies with lower environmental impacts)	Solar / wind / hydropower	Biomass
Distance from power plant to user (Limit load on power grid)	Near	Far
Local company investment ratio (Contribution to local economy)	High	Low

3. EFFORTS BY ClassNK

As discussed in detail up to this point, in responding to climate change initiatives, a company must explain how it is making efforts in response to climate change initiatives in text and data form, based on the actual condition of the company and a thorough knowledge of the complex tools used by the various climate change initiatives.

On the occasion of consulting concerning the response to requests from CDP, which has the largest number of responding companies at present and includes a variety of initiatives, ClassNK plans to prepare a support menu for responding to the various climate change initiatives.



Figure 7 Steps in efforts by ClassNK (image)

First, ClassNK will prepare a step-by-step consulting menu in a form which is consistent with the Client's requests, targeting Clients in the marine transport and shipbuilding industries in which we have a detailed knowledge of global trends, etc. (Fig.7)

Based on this, we will promote a common correct understanding of the question system and scoring system of the CDP questionnaire by using easy-to-understand commentary materials prepared uniquely by ClassNK, and then provide support work for drafting a response which is clear, well-balanced and convincing. (Fig.8)

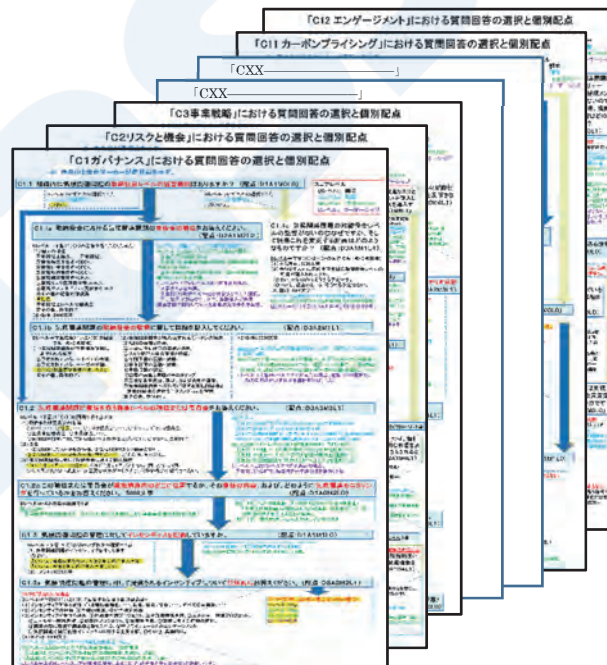


Figure 8 Original commentary materials prepared by ClassNK (Examples)

After the draft response is finished, the achieved level will be assessed by self-scoring, and Client can consult with ClassNK concerning its policy for the response (e.g., selection of information disclosure method, etc.)

Through this collaborative work with ClassNK, we hope to assist Client companies in developing policies on climate change countermeasures in each company.

