

Ranking of Japanese Corporations for Effective Efforts to Address Climate and Energy Issues

- Vol. 2 Transportation Equipment Industry -



Introduction

Corporations provide information on their efforts to address climate and energy issues through various types of reports, including environmental reports and corporate social responsibility (CSR) reports (collectively referred to here as environmental reports). However, considerable variation can be found in terms of the manner in which emission reduction targets are established, the types of greenhouse gases (GHGs) that are considered, and the scope of activities that they cover. Hence, it is difficult for not only general customers but also interested stakeholders to correctly understand and compare each company's efforts. As a result, even a company with advanced efforts may not necessarily enjoy a high reputation, while a laggard company cannot easily be identified. Therefore, there are almost no cases in which such environmental reports are used as a tool to conduct a comparative analysis of climate actions by different companies and release its findings.

Given that these reports are published at great effort and cost, there is concern that these circumstances could decrease companies' motivation, lowering the level of their efforts and information disclosure. In fact, there are companies who have halted the publication of their environmental reports. These reports are supposed to be a tool to communicate all of the activities carried out by a company to receive feedback from readers, thereby eventually raising the level of corporate efforts. This sort of virtuous cycle cannot be expected under the abovementioned circumstances.

Against this background, WWF Japan launched its "corporate climate action ranking" project, which aims to boost corporate efforts to address climate and energy issues in Japan. The first report under this project, issued in August 2014, evaluated efforts by companies in the "Electrical Equipment" industry. The report used information contained in corporate environmental reports and common indicators to provide a comparative assessment. In formulating the indicators, an emphasis was placed on the effectiveness of the efforts that are taken by companies. A distinctive feature of this project is that it not only evaluates the 'disclosure' of a company's environmental

Since Japanese version of this report was published in February 2015, there has been some positive movement on corporate climate and energy efforts. For example, Toyota Motor, which ranked 4th in this study, newly announced in October 2015 the Toyota Environmental Challenge 2050, aiming to achieve zero CO2 emissions at all of its plants by 2050. With this announcement, all three leading automakers in Japan, Nissan Motor, Honda Motor and Toyota Motor, have ambitious long-term climate visions toward 2050. This is a powerful movement to facilitate the implementation of the Paris Agreement, under which the world is heading toward decarbonization to keep global warming well below 2°C.

footprint and strategy, but that it also focuses on the 'implementation' status of their efforts (to the extent that these can be determined based on publicly available environmental reports).

Based on this report, WWF Japan has engaged in dialogue with a wide range of companies, both inside and outside of the industry. Fortunately, various companies, including in the environmental consulting field, have expressed a great deal of interest in this project. What is more, many people working within companies to address issues of the environment and corporate social responsibility have noted that this type of external evaluation can also provide a useful boost to their ongoing internal efforts.

This report, the second under this project, provides the results of our evaluation of 28 companies belonging to the "Transportation Equipment" industry. The evaluation was carried out only concerning activities relevant to climate change and energy in the context of assessing climate action, and did not consider other environmental issues. Using the same indicators, we plan to publish evaluations of companies that belong to other industries in the future.

Main results

The four highest-ranked companies:
 1st: Nissan Motor
 2nd: Honda Motor
 3rd: Toyoda Gosei

4th: Toyota Motor

(The four companies listed above achieved deviation scores above 60 in the industry)

■ The highest ranked company was Nissan Motor with an overall score of 87.5 points (where 100 points is the highest score possible). Nissan received a full score for five of the '7 Key Indicators' considered particularly important by WWF from the standpoint of the effectiveness of corporate climate actions. These include having a long-term vision and renewable energy targets.

Because three of the 28 companies investigated (Daihatsu Motor, Takata, and Nissan Shatai) did not issue environmental reports in 2014, these companies were excluded from the study and were not included in the rankings.

■ In order to solve the climate crises by keeping global warming below 2°C, companies will be called upon to set emissions reduction targets based on a long-term vision consistent with the "2°C pathway." In this study, the following two companies were found to be undertaking activities based on such a long-term corporate vision:

Honda Motor

Nissan Motor

With respect to the use of renewable energy, the following two companies have set quantitative goals:

Nissan Motor
 Toyoda Gosei

On the other hand, the following five companies disclosed all quantitative data relating to their

disclosed all quantitative data relating to their introduction of renewable energy:

- Aisin Seiki
 Suzuki Motor
- Kawasaki Heavy Industries
 Tokai Rika
- Nissan Motor

The following six companies had set both absolute and intensity targets for reductions in emissions:

- KYB
- Toyota Boshoku
 Toyota Industries
- Toyoda Gosei
 To
 - Toyota Motor

■ In addition to Scope 1 and 2, the following seven companies monitor and disclose their emissions with respect to the 15 categories of Scope 3:

Denso

• NOK

- Suzuki Motor
- Honda Motor
- Tokai Rika
- Mazda Motor
- Nissan Motor
- Toyoda Gosei

■ Through obtaining third-party verifications, the following four companies had increased the reliability of their GHG emissions data:

- Honda Motor
 Nissan Motor
- Toyoda Gosei
- Toyota Motor

Investigated companies

The target companies under this project are those that belong to the 'Japan 500,'¹ which the CDP also sent its annual information request in 2014. For the industry segmentation, we used that of "Shikiho," a wellestablished corporate data book for investors, issued by Toyo Keizai Inc. instead of using that of Japan 500 itself. Among 32 industries, this report shows the results of 28 companies which belong to "Transportation Equipment" industry. Evaluation was carried out only for those who issue environmental reports or equivalent ones (including integrated reporting).

Scope of investigation

Information about climate actions described in the environmental reports issued in 2014 was evaluated. Note that a company that did issue these reports in the past but did not issue one in 2014 was excluded from the evaluation. In addition to the reports, information posted on a company's websites was also referred to for evaluation.

Scoring method

Evaluation indicators used in this project are divided into two broad categories, 1: Targets and Performance and 2: Information Disclosure, for 21 indicators in total (11 and 10 respectively). Each indicator has a different number of achievement levels² and so we first converted each score into a 12-point scale in order to give equal weight to all indicators.

In addition, among the 21 indicators, the '7 Key Indicators' were given special treatment as they are considered particularly important from the viewpoint of effectiveness of a company's climate and energy actions. Specifically, if a company received a perfect score (12 points) for all of the seven indicators, they could obtain an additional 12 points for that indicator (24 points in total).

7 Key Indicators 1-1-1. Long-term vision 1-3-2. Unit of emissions reduction target (Scope 1,2) 1-3-3. Energy efficiency target (Scope 1,2) 1-3-4. Renewable energy target 1-4. Annual GHG reduction rate of Scope 1&2 absolute target 2-1-5. Measurement & disclosure of life-cycle emissions 2-1-6. Third-party evaluation

Tallying all the scores based on the above method adds up to 336 points, which was eventually converted into 100 points, and thus every company was graded on a 100-point scale³.



1 The Japan 500 companies are selected by United Nations-backed Principles for Responsible Investment (PRI) Japan Network, including those in the FTSE Japan Index.

2 Five-level indicator: scores from zero to four; four-level indicator: scores from zero to three; three-level indicator: scores from zero to two; two-level indicator: scores from zero to one, respectively.

3 On a 50-point scale for each of 1) Targets and Performance and 2) Information Disclosure, respectively.

Table 1 Evaluation indicators

Evaluation indicators				Achievement levels		
1. Targets & Perormance	1-1. Time	1-1-1. Long-term vision		Have a long-term vision with consideration of the earth's capacity. Also set consistent targets based on some quantitative logic Have a long-term vision with consideration of the earth's capacity but no consistent targets	2	
	targets	1-1-2. Target years		Have both long-term and short/mid-term targets Have only short/mid-term (or long-term) targets No targets	2 1 0	
		1-2-1. Geographical boundary (Scope 1,2)		Boundary includes all major business sites including overseas ones Boundary includes only subset of business sites including overseas ones Boundary includes only subset of domestic business sites Boundary not clear or no targets	3 2 1 0	
	1-2. Range of targets	1-2-2. Perspective of life-cycle management		Have targets for all of Scope 1, 2 and 3 as well as for "avoided emissions" Have targets for both Scope 1 and 2. Also, make efforts in Scope 3 and/or "avoided emissions" Have targets for Scope 1 and/or 2 Have only a single target throughout life-cycle stages (No individual targets for Scope 1,2)	4 3 2 1	
		1-3-1. Target GHGs (Scope 1,2)		Target covers all GHGs Target covers only CO2 in spite of other GHGs emitted No emission reduction targets	2 1 0	
	1-3. Climate targets	1-3-2. Unit of emissions reduction target (Scope 1,2)		Targets for both absolute and intensity * Both must be for the same boundary Only absolute targets Only intensity targets Only peculiar indices other than absolute / intensity targets, despite climate-related description No climate-related description or no targets	4 3 2 1 0	
		1-3-3. Energy efficiency target (Scope 1,2)		Only absolute targets Only intensity targets No targets	3 2 1 0	
		1-3-4. Renewable energy target		Numerical targets (kW etc.) for Scope 1,2 renewable use including green power certificates, etc. Peculiar indices such as contribution to Scope 3 emission reduction via renewable deployment No targets	2 1 0	
	1-4. Annual GHG reduction rate of Scope 1&2 absolute target			Annual reduction rate $\geq 1.5\%$ 1.5% > Annual reduction rate $\geq 0.75\%$ 0.75% > Annual reduction rate All targets achieved	1 0 2	
	1-5. Status of achievement			Not all targets achieved No targets achieved / impossible to judge / No targets set Review and explain the impacts of implemented climate actions for each of the company's targets	1 0 2	
	1-6. Comparison between performance and actions taken			Only refer to implemented actions without their linkage with targets / Only a part of actions reviewed Explain no concrete actions / No targets Both absolute and intensity data disclosed	1 0 3	
	2-1. Credibility of disclosed formation and data	2-1-1. Scope 1&2 GHG (CO2) emission data	Absolute and intensity	Only absolute data disclosed Only intensity data disclosed Neither absolute nor intensity data disclosed	2 1 0	
			2-1-1-2. Time-series data	Data disclosed for the past five years or more in the form of a chart, a table, etc. Data disclosed for the past years (more than two and less than five) in the form of a chart, a table, etc. Data disclosed for the past two years, enabling comparison only with last year Only a single year data disclosed, enabling no comparison with past data	3 2 1 0	
2. Information disclosure		2-1-2. Scope 1&2 energy consumption data	2-1-2-1. Absolute and intensity	Both absolute and intensity data disclosed Only absolute data disclosed Only intensity data disclosed Neither absolute nor intensity data disclosed	3 2 1 0	
			2-1-2-2. Time-series data	Data disclosed for the past five years or more in the form of a chart, a table, etc. Data disclosed for the past years (more than two and less than five) in the form of a chart, a table, etc. Data disclosed for the past two years, enabling comparison only with last year	3 2 1	
		2-1-3. Amount of renewable energy use		All the quantitative data (kW, kWh, etc.) for renewable use disclosed Some of the quantitative data (kW, kWh, etc.) for renewable use disclosed Data for peculiar indices disclosed. ex) such as contribution to Scope 3 emission reduction via renewable deployment No quantitative data disclosed	3 2 1	
		2-1-4. Data boundary (Scope 1,2)		Data boundary clearly described No clear description of data boundary Disclose amissions data for all of Scope 1, 2 and 3 with each 15 category in mind for Scope 3	1	
		2-1-5. Measurement & disclosure of life-cycle emissions		Disclose emissions data for Scope 1, 2 and a part of Scope 3 as well as for "avoided emissions" Disclose emissions data for Scope 1, 2 and a part of Scope 3 as well as for "avoided emissions" Disclose emissions data for Scope 1, 2 and a part of Scope 3 Disclose emissions data for Scope 1 and 2 only Disclose no emissions data at all	3 2 1 0	
		2-1-6. Third-party evaluation		Verified by reliable third party Place comments from experts instead of third-party verification No third-party evaluation	2 1 0	
	2-2.	2-2-1. Comparison of targets and results		Results for each fiscal year reported in comparison with targets in the form of a chart, etc. Only results reported, enabling no comparison with targets	1 0	
	target setting	2-2-2. Gounds of target setting (Scope 1,2)		Grounds clearly shown / short-term targets linked to mid- or long-term targets	1 0	

Scoring results

Of the 28 companies investigated in the "Transportation Equipment" industry, three companies (Daihatsu Motor, Takata, and Nissan Shatai) did not issue environmental reports in 2014, and were thus excluded from the study and are not evaluated here. As a result of the evaluation for the remaining 25 companies, the maximum score was 87.5 and the minimum was 2.1 out of 100 points -varying widely. The average score was 46.7 and the standard deviation was 15.8. The top four companies are Nissan Motor, Honda Motor, Toyoda Gosei, and Toyota Motor. In the Table 2, companies from the top four to KYB got above-average (46.7) scores within this industry.



Although direct comparisons with the companies in the "Electrical Equipment" industry are difficult to make, given that the environmental reports used for the evaluations were issued in different years, we can note that the average score received is close to that for the companies in the "Electrical Equipment" industry (48.7 points).

When viewed by category (with 50 points being the highest possible score for each), the average scores were 18.8 (the maximum being 37.5 and the minimum 0) and 28.0 (the maximum being 50.0 and the minimum 2.1) for Category 1: Targets and Performance and Category 2: Information Disclosure, respectively. The level of corporate efforts for information disclosure turned out slightly higher. The same trend was seen in the earlier report on

Table 2 Ranking of investigated companies

Evaluated companies: 25 in total

•Average score: 46.7 •highest score: 87.5 •lowest score: 2.1

		* Top 4 companies obtained T-score above 60.			
Ranking	Overall scores (out of 100 points)	Companies	Targets & Performance (out of 50 points)	Information disclosure (out of 50 points)	
1	87.5	Nissan Motor	37.5	50.0	
2	70.4	Honda Motor	27.3	43.1	
3	65.0	Toyoda Gosei	28.9	36.1	
4	63.9	Toyota Motor	26.0	37.8	
More than 50 points and less than 60 points (Second grouping)		Mazda Motor Suzuki Motor Tokai Rika Denso			
More than 40 points and less than 50 points (Third grouping)		NOK Toyota Boshoku Toyota Industries KYB Kawasaki Heavy Industries Mitsubishi Motors Hino Motors IHI Aisin Seiki Isuzu Motors		Above avera within this industry Below avera within this industry	
Les (Fourt	ss than 40 th grouping)	Calsonic Kansei Yamaha Motor EXEDY TS TECH Fuji Heavy Industries (Subaru) Mitsui Engineering & Shipbuilding Shimano			
Out of ranking (no environmental reports issued in 2014)		Daihatsu Motor Takata Nissan Shatai			

* Companies are listed in order of overall scores.

the "Electrical Equipment" industry, with an average score of 19.4 for Category 1: Targets and Performance and 29.3 for Category 2: Information Disclosure. A contributing factor may be that the CDP started sending its annual information requests (climate change questionnaire) to Japanese companies in 2006, thereby promoting the practice among companies of compiling and disclosing necessary information.

General overview of scoring results

Many companies which received high rankings among the 25 companies tended to have achieved favorable scores for those indicators that WWF considers importantincluding measurement of life-cycle emissions, improvement of their reliability through third-party evaluations, and unit of emissions reduction target (i.e., having both absolute and intensity targets). As shown in Figure 1, the top four companies received good scores for indicators such as adopting a long-term vision, setting renewable energy targets, and improving their reliability through third-party evaluation. This set them apart from the second grouping (four companies). The highest ranking company, Nissan Motor, achieved perfect scores for five of the seven key indicators, including a long-term

vision and renewable energy targets, as well as receiving a perfect score (50 points) for Category 2: Information Disclosure. It should be noted that, similar to the results of this report, those companies in the "Electrical Equipment" industry which ranked high had also acquired high scores on these seven indicators.

In contrast, companies ranking lowest and receiving fewer than 40 points have a common tendency that they scored very low for indicators for Category 1: Targets and Performance. We observed that some of these low-ranked companies have no emissions reduction targets, no energy



efficiency targets, and no renewable energy targets, which in turn brings no opportunity for comparison between the targets and the actual performance. Thus, the 'absence of targets' produced a multiple effect to lower the total scores. However, given that even these companies did disclose basic information, such as time-series emission data, it must be possible for them to set a reduction target. It is expected that they work to improve the level of their efforts in the future, through first setting annual targets, and eventually, setting medium- and long-term targets.

Figure 1 Comparison of average scores for 7 Key Indicators between the top 4 companies and the second goruping (4 companies)



Consideration of scoring results for each major scoring criterion

1. Targets & performance

Importance of long-term vision considering the environmental capacity of the Earth

 \Rightarrow Relevant indicators: 1-1. Time spans of targets

Since the Industrial Revolution, the amount of anthropogenic GHG emissions, especially carbon dioxide (CO2), has been increasing. The amount of CO2 emitted is far beyond that absorbed by the Earth through forests and oceans. In order to solve climate change issue, it is essential to have a long-term view based on the need to reduce emissions amount to at least below the level of the Earth's capacity for absorption. According to the Fifth Assessment Report, the latest report issued by the United Nations Intergovernmental Panel on Climate Change (IPCC), emissions reductions of about 40% to 70% are needed by 2050 compared with the 2010 level in order to limit average global temperature rise to below 2 °C above the pre-industrial level. Additionally, emissions must be reduced to close to zero approaching the year 2100. Companies need to pursue their ongoing operations in a sustainable manner within a sustainable global environment. When setting their emissions reduction targets, it is therefore important that they should not only take a typical bottom-up approach considering their capital investment plans and other operations, but also adopt a top-down perspective in light of such scientific findings and the environmental capacity of the Earth, pursuing their initiatives based on a long-term vision toward 2050.

Of the 25 companies evaluated for this report, two companies below have set this kind of long-term vision and targets. Both of them are automobile manufacturers; as such, there is a high level of emissions that occur when their products are used. Both of these companies lay out a clear road map toward their long-term visions, which includes further improving the energy efficiency of their products over the short term, promoting next-generation vehicles such as electric cars and fuel cell vehicles over the medium- and long-term, and increasing the use of renewable energy as sources for these products.

Honda Motor

Nissan Motor

Clarification of the geographical boundary of emissions reduction targets

 \Rightarrow Relevant indicators: 1-2-1. Geographical boundary (Scope 1, 2)

Many companies have prepared a list and other visuals summarizing their goals to address climate change. Such approaches are to be welcomed in terms of helping to improve clarity as well as data comparability. However, such a list should explicitly define the relevant geographical scope of each target. Efforts are needed to ensure that summaries specify whether given targets apply only to domestic operations or to overseas operations as well; whether it encompasses all operations or only certain sites such as factories; and it should also be explicit whether the target is relevant only for the company in question or also for other affiliated companies as well.

However, in practice, there are cases in which such details are not provided and the boundaries of the indicated targets remain ambiguous. Hence, readers of such environmental reports must on their own examine bar charts and other data sheets indicating emissions performance, and make comparisons with the figures provided to infer the scope of activities encompassed by the targets. The lack of clarity can make it increasingly difficult for readers to correctly understand corporate efforts, and thus further attention will be needed.

The organizational scope and time period covered by the reports are typically indicated in the editorial policy



section found in the beginning of environmental reports. However, the scope thus indicated tends to be essentially an overall, "one-size-fits-all" pledge by the company, while there are many cases in which the indicated scope does not actually match the scope for the individual climate change targets. In such instances, the scope of activities should also be clarified on the pages where activities in each of the various specific fields are explained.

Importance of life-cycle emissions management

⇒ Relevant indicators: 1-2-2. Perspective of life-cycle management

Of the 25 companies evaluated, at least 23 turned out to have Scope 1 and 2 emissions reduction targets. This means that greater than 90% of the companies manage their own GHG emissions with some targets and make efforts to reduce them.

As seen in the report on "Electrical Equipment" industry, it was also found in this report that in addition to the Scope 1 and 2, many companies address emissions reduction from the Scope 3-that is, the upstream and downstream of their own business operations. Reducing CO2 emissions from transport is a typical example of such efforts.

Reflecting the fact that roughly half of the 25 companies are automobile or motorcycle manufacturers and the remaining half are their suppliers, efforts to reduce emissions that arise from driving vehicles are also being advanced. The main activity that can be pointed to is reductions in emissions during driving through improved fuel efficiency. This is what is called "avoided emissions of goods and services." Among various manufacturing industries, the automotive sector is one that has relatively high levels of emissions for Scope 1 and 2, but a key characteristic is that the emissions from the use of their final product is even higher. Regarding the former (Scope 1 and 2 emissions), it is possible for a company to achieve highly accurate calculations, such as through carefully aggregating data collected at each of its facilities. The calculated amounts will be reliable figures in terms of contribution to reducing global emissions. On the other hand, the latter (i.e., emissions during the use of products) will have a lower precision as compared to Scope 1 and 2, but the potential scale of reductions is extremely large. Therefore, it is extremely important for the companies in

this industry to thoroughly reduce emissions for Scope 1 and 2, while also working actively to achieve "avoided emissions of goods and services" through improved fuel economy.

In this report, as with the previous report, points were given to those companies that went beyond setting targets for Scope 1 and 2 to the extent of expanding their efforts into Scope 3 including transport, as well as the "avoided emissions" field. As a result, the following 10 companies were found to be making comprehensive efforts throughout the product life-cycle by setting quantitative targets for all four areas: Scope 1, 2, 3, and for "avoided emissions". This indicates the high levels of ambition in this industry.



Types of GHGs included in emission reduction targets ⇒ Relevant indicators: 1-3-1. Target GHGs (Scope 1, 2)

If there are GHGs emissions other than CO₂ (such as methane, HFCs, and SF6), it is desirable to set a reduction target for all GHGs. Even if a company has had such emissions but had set reduction targets for CO₂ alone, fewer points were awarded.

However, there were also cases in which it was unclear from a company's environmental reports whether or not they have emissions of other GHGs, and whether or not GHGs other than CO₂ were considered as part of reduction targets. In such cases, the readers have to infer such emissions by referring to other reported information, such as material balances, emissions performance, or data sheets. It is necessary to pay attention to such problematic descriptions in terms of clarity and comprehensiveness of the reported data.

Unit of emission reduction targets-absolute / intensity

⇒ Relevant indicators: 1-3-2. Unit of emissions reduction target (Scope 1, 2)

From the viewpoint of effective climate actions, it is desirable for a company to manage their GHG emissions

on the basis of both absolute amounts and emissions intensity. It should be noted that only managing the efficiency of business activities under intensity targets is not sufficient if "40 to 70% reduction by 2050" is to be realized. When considering the planet as a whole, ultimately speaking, climate change is a matter of reducing the total amount of GHG emissions. On the other hand, for organizations to understand factors for their emissions trends and to consider measures to take in the future, it is essential that they track emissions intensities.

Of course, for a company which is in a business expansion phase or some special circumstances, it might be difficult to set an absolute emissions reduction target since associated increases in the total emission amount is inevitable. Even in such a case, however, it is difficult to envision that emissions would continue to increase in perpetuity over a long period of time through 2050 or 2100. It should still be possible for a company to set a long-term absolute target in line with the environmental capacity of the Earth. For short-term efforts, even if total emissions were to increase, it will also be effective to manage emissions from both the perspective of absolute amounts and intensity.

Another point is that it is important to set these absolute and intensity targets for the same geographic areas of the business operations simultaneously, and avoid cases in which there is an absolute target for domestic operations while pursuing an intensity target overseas. Of the 25 companies, the following six companies have set both absolute and intensity targets for Scope 1 and Scope 2





Proactive adoption of renewable energy—a new pillar for corporate climate strategy

 \Rightarrow Relevant indicators: 1-3-4. Renewable energy target

In order to prevent climate change by achieving "40 to 70% reduction by 2050," it is essential to make a transition to a society which is based on renewable energy as well as energy conservation, as early as possible. The use of renewable energy is becoming more and more important for businesses as a climate solution, as well. Conventionally, corporate climate actions tended to focus on improving energy efficiency rather than adopting renewable energy, due to associated cost savings. Companies eager to increase their use of renewable energy had found it relatively easy to increase their rate of renewable energy use in certain overseas regions where the cost for renewable energy is low, while it had been difficult for them to increase it above a certain level in Japan, where the deployment and associated cost reduction of renewable energy sources were not sufficient. However, since the launch of Japan's feed-in tariff (FIT) program in 2012, a supportive environment has been set for companies to make their capital investments in renewable energy more



attractive. Reforms in Japan's electricity system would also make it easier for them to procure more energy from renewable sources.

Corporations are extremely important stakeholders in terms of their potential to promote the deployment of renewable energy in Japan, and they are expected to play a leadership role in facilitating the transition to renewables. As a result of this study, two companies turned out to have quantitative targets for the use of renewable energy in their Scope 1 and 2. Nissan Motor is working to increase its global renewable energy use ratio to 9% in fiscal 2016. Domestically, the company is planning to increase the share of renewable electricity from the current 0.4% to a level of 2.1% in fiscal 2016. Through these corporate efforts, it is expected that the use of renewable energy will expand domestically in the future.

Nissan Motor
Toyoda Gosei

Annual rate of emission reduction

 \Rightarrow Relevant indicators: 1-4. Annual GHG reduction rate of Scope 1 and 2 absolute target

WWF Japan has published "Energy Scenario Proposal for Decarbonizing Japan" (Vol.1-4), for which we called upon Dr. Haruki Tsuchiya of the Research Institute for Systems Technology to conduct sponsored research, to show how the future energy should be from the viewpoint

2. Information disclosure

Required stance for the disclosure of information and data ⇒ Relevant indicators: 2-1. Credibility of disclosed information and data

In corporate climate efforts, information disclosure is as important an aspect as is the formulation of targets and strategy. When disclosing relevant information, consistency with target setting should be well taken into consideration. It is essential to disclose necessary data in order for readers of reports to see if each target is achieved or not. Even if the target year is 2020, toward which no targets are set for each fiscal year, it is important to disclose data of ongoing levels of emissions, in order of solving climate change issues. The scenarios have shown that it is technically and economically viable to meet all domestic energy demand by renewable energy sources by 2050. As a result of calculations for demand-side potential for energy saving, including industrial, residential, commercial and transport sectors, the final energy demand can be reduced by 50% by 2050 compared with the present level. They also showed that domestic GHG emissions can be cut by approximately 88% below 1990 levels by 2050 under a certain assumption for non-CO2 GHGs. This is equivalent to about 1.5% reduction per annum.

Japan has a long-term target of 80% emission reduction by 2050 with a view to keeping the rise in global average temperature below 2°C. If this target is to be achieved, it is essential to make a transition to a low carbon society as mentioned above. Therefore, it is desirable that businesses also set emission reduction targets which are consistent with "1.5% reduction annually." While, technically speaking, the required level for an annual emissions reduction rate should depend upon a company's base year, evaluation procedures should not be overly complicated. This study eventually adopted "1.5% reduction annually" as a benchmark to make a unified evaluation. Four companies were found to have absolute reduction targets above "1.5%." As in the previous report, evaluations were limited to those companies that have absolute reduction targets.

Mazda Motor	Suzuki Motor
Nissan Motor	Toyota Industries

to allow readers to understand the progress that is being made. Additionally, although a summarized table listing the achievement for each target is appreciated, there was a case in which the data corresponding to a given "performance" item do not actually appear in the report (Subaru). While not intending to cast doubt on the outcomes, from the standpoint of "transparency," it is nevertheless essential that specific performance data are also listed, in order for readers to confirm the status themselves.

In the case of a factor for which no targets have yet been set, it is still recommended to disclose relevant information and data. For example, if a company has only an intensity target and has not set an absolute reduction target, information disclosure should include total emission amounts as well as intensity amounts.

It is also important to clearly describe for which boundary the disclosed data are relevant. Most of the companies evaluated in this report made clear the boundaries of the data, but there were also cases where notations were ambiguous or the disclosed data did not properly correspond to the boundaries of listed targets. The former needs to be improved in terms of clarity and comparability. Similarly, for the latter, even if there are challenges in data management and aggregation systems, such companies must make efforts to match the boundaries of their targets with the disclosed data.

Disclosure of GHG emission data

⇒ Relevant indicators: 2-1-1. Scope 1&2 GHG (CO2) emission data

Out of the 25 companies evaluated, 23 were found to have disclosed total GHG or CO2 emission data for their Scope 1 and 2. Of these, 21 companies disclosed intensity data in addition to absolute amounts.

As mentioned before, it is important to manage both absolute and intensity amounts in order to improve the effectiveness of corporate climate efforts. Although most of these 21 companies have either absolute or intensity targets and only six have both, all of them disclosed data

for both amounts. Thus, it was found that at least more than 80% of all the evaluated companies manage both absolute and intensity aspects. This very same tendency was seen in the report on the "Electrical Equipment" industry. In the future, it is expected for companies to step up the setting of quantitative targets from the stage of reporting their data.

With respect to the remaining two companies which disclose only absolute emissions data, one of them does not have any emissions reduction targets. This company needs to improve their efforts themselves (Mitsui Engineering & Shipbuilding). As the remaining one company (Mazda Motor) has only an absolute reduction target, it is assumed that the data reported by the company reflects only absolute emissions simply according to the way of target setting. These companies should also reassess their approach, in keeping with the importance of managing both absolute and intensity amounts, and adopt intensity factors in target setting and information disclosure.

From the viewpoint of chronological data disclosure, 24 companies out of evaluated 25 show time-series emission data but many of them show either absolute or intensity amounts. Given the importance of consistency, comparability and completeness, there is still room for further improvement.

Disclosure of performance in renewable energy use

⇒ Relevant indicators: 2-1-3. Amount of renewable energy use

15 companies out of the 25 evaluated have disclosed quantitative data for their renewable energy use including green power certificates in the form of kW, kWh, etc. As mentioned above, while only two companies have set targets for the adoption of renewable energy, it turned out that such efforts have been expanding through the support provided by the FIT system. In the future, businesses are expected to set quantitative targets for renewable energy in addition to those for energy efficiency, thereby advancing comprehensive climate solutions like the two wheels on an axle.

Among the 15 companies, the following five companies disclosed all of the quantitative data related to their



renewable energy use, while the remaining companies limited their reporting merely to partial information, such as introducing a few related case examples. In the case of efforts for energy efficiency, relevant information is usually disclosed from the viewpoint of how much energy or CO2 was saved as a result of each energy efficiency measure implemented by the company. Information disclosure for renewable energy should be also disclosed in the same manner, bearing in mind that renewable energy is another essential pillar for addressing climate change. For example, if a company purchases certificates for Green Power or Heat, it would be an effective option to show their proportions to the total amount of electricity or heat and to aim at increasing their shares gradually.

- Aisin Seiki
- Suzuki Motor
- 🔶 Kawasaki Heavy Industries 🛛 🔶 Tokai Rika
- Nissan Motor

Life-cycle emissions management—essential for effectiveness of climate actions

⇒ Relevant indicators: 2-1-5. Measurement & disclosure of life-cycle emissions

Once the level of a company's efforts to manage its Scope 1 and 2 emissions reaches a certain level, it is important to expand the scope of its efforts to life-cycle actions by measuring its upstream and downstream emissions based on the Scope 3 Standard developed by the GHG Protocol. By calculating emissions for each of the 15 categories in Scope 3 inventories such as purchased goods and services, transportation and distribution, use of sold products, etc., a company could identify where there is high potential for emissions reduction and start addressing these together with stakeholders. If there is high potential at the stage of product use, for example, making efforts in "avoided emissions of goods and services" would be important.

In this evaluation, high scores were given to companies working not only to make their activities visible for Scope 1 and 2, but also for the 15 categories in Scope 3. Among the 25 companies, the following seven were providing such data.



Improvement of reporting reliability through third-party verification

 \Rightarrow Relevant indicators: 2-1-6. Third-party evaluation

Third-party verification is highly important to improve the reliability of GHG data which a company calculated by itself. It contributes to ensuring the transparency, accuracy, completeness and consistency of the emissions reporting. In addition, it is also expected to improve the level of climate actions within the company including collection and aggregation of the data.

The following four companies out of the 25 were certified for their GHG data by the third parties. Other eight companies posted comments by experts such as researchers but did not receive third-party verification. By recognizing the significance of third-party verification, more and more companies are expected to adopt it.



Discussion

Corporations that have not issued environmental reports

Of the 28 companies evaluated, three companies (Daihatsu Motor, Takata, and Nissan Shatai) had not issued environmental reports for 2014, and were thus excluded from the evaluation. Daihatsu Motor had been issuing environmental reports until 2006, but has not issued them after that time. This is presumably due in part to the fact that the company is a member of the Toyota Group, sharing the "Toyota Earth Charter," and Toyota Motor itself has been issuing sustainability reports. However, Daihatsu Motor also has its five-year "Daihatsu Environmental Action Plan," and has been issuing annual report.

Nissan Shatai had been issuing reports until 2013, but did not issue a report for 2014 (as of the end of December, 2014). Takata has not published any environmental reports so far. In the future, it is expected for these companies not only to use environmental reports as a tool to communicate their efforts to those outside the company but also to help them raise the level of their efforts.

Setting targets based on climate science

Until now, calculations of corporate greenhouse gas emissions have been guided by the GHG Protocol, and the CDP (formerly the "Carbon Disclosure Project") has been guiding corporations with respect to information disclosure. However, there were no documents that can be used by companies as a standard for target setting in line with the "below 2°C" target toward the resolution of climate change. To support companies taking ambitious climate actions and accelerate an early transition toward the 2°C pathway, "Science Based Targets," a collaborative initiative by WWF, CDP, WRI, and the UN Global Compact, has been developing guidelines and tools for companies to set their own reduction targets that are compatible with the 2°C goal (http://sciencebasedtargets.org/). As an example, a guideline called the "Sectoral Decarbonization Approach" has been issued under this initiative, which presents a method for calculating reduction targets of individual companies based on the allowable emissions for each industry through the year 2050. These targets take into account the carbon budget that is consistent with the 2°C target, as based on the scientific findings of the IPCC and other groups. Using this method, short- and mediumterm reduction targets can be set by planning backward from long-term targets and emissions pathways to achieve them.

The 2°C goal is a common understanding by now, supported through the UN climate change conferences. Some countries have considered the 2°C target when setting their national goals, but it has been rarely reflected in corporate targets in a quantitative manner. However, companies will also be expected to set their targets based on such a long-term perspective and vision. Some 30 companies worldwide have already expressed a commitment to the "Science Based Targets" approach introduced above. These include Japanese companies such as Konica Minolta, Nissan Motor, Honda Motor, and Ricoh. (http://climateaction.unfccc.int/cooperativeinitiative/science-based-targets/all-themes). This sciencebased target setting will likely become incorporated as an important indicator in the scoring by the CDP.

Dealing with "avoided emissions of goods and services"

In the Electrical Equipment industry, it was found that companies tended to place emphasis on product-related emissions in Scope 3 or "avoided emissions" when setting their reduction targets and measuring emissions. These emissions were accorded equal weight and combined with Scope 1 and 2 for target setting in many cases. Of course, it is desirable for companies to expand their efforts from their own emissions to also address the emissions indirectly associated with their operations. However, caution should be exercised since these product-related emissions entail several issues such as numerical uncertainty and ambiguity of attribution. The questions are whether the purchase of a product is really replacing an existing item that helps reduce emissions, or just increasing the total number of items in use, and whether a reduction in emissions is really considered as a contribution made by the company that sold the item, or actually made by the consumer who purchased it.

As for the Transportation Equipment industry, there were no clear trends in which indirect emissions were included in corporate contributions. Companies in the transportation equipment industry have just begun to address the visualization of 15 categories under Scope 3. It is important to closely monitor the trends in these efforts over the coming years, but at least at the current time, we could not confirm any cases in which companies manage emissions at the stage of product use in the same manner as emissions from Scope 1 and 2.

As increase in the sales of energy-saving products can be directly converted to amounts of emissions reductions, it might be relatively easy for a company to set reduction targets in this category. However, companies should make a clear distinction between indirect emissions and Scope 1 and 2 emissions for the time being.

Trends in corporate use of renewable energy

Conventionally, Japan's climate and energy policies are built upon nuclear power, thus blocking the deployment and associated cost reduction of renewable energy sources. Because of this, energy efficiency measures, with their high cost-benefit impacts, have been given priority in corporate climate actions, and the use of renewable energy has been limited. Against this backdrop, companies moving to renewable energy have started to increase only recently after the launch of the nation's FIT program, which guarantees a return on long-term corporate capital investments in renewable energy, making good business sense in this field. However, a problem arising as a result of this is that when corporations invest in renewable energy to sell generated electricity under the FIT, it is ultimately the consumers who bear the costs supporting the program, and thus they cannot claim that the energy they consume is from renewables. This can cause difficulties in external communications. Similar problems may spread in the future, once full liberalization of the retail power market is achieved and when renewable electricity can be freely traded. Corporations will need to have some strategic plans in the future for the use of renewable energy sources.

A variety of novel corporate initiatives have been pursued in connection with the UN Climate Summit held ahead of the UN General Assembly in September 2014. One of these is "RE100" (http://there100.org/), through which various corporations pursuing 100% renewable electricity have pledged their commitment. For example, Sweden's IKEA has announced a goal for 100% renewable electricity by 2020. More precisely, however, the company





aims to "produce as much renewable energy as it consumes by 2020," leaving open the ways they may use for procuring renewable power. In addition to increasing the direct use of renewable energy, possible approaches are believed to include investing in external renewable energy projects or purchasing electricity generated from other sources. What should be noted here is a clear policy to the effect that, in order to reduce to zero its own impact on the global environment from its energy consumption, an equal amount of renewable energy must be generated somewhere in the world.

In Japan, as well, companies could do well to consider setting out clear policies of just this sort, and achieve the effective use of renewable energy. For instance, if a company were to commit to a policy with the goal of contributing to the deployment of renewable energy in the regions where they operate, they could thereby create a wide variety of options, such as contracting to purchase renewable electricity from local suppliers or purchasing green power certificates, in addition to the direct use of renewable energy within the company. The adoption of such a policy would in turn provide a rationale for a number of activities, including capital investments that take advantage of the FIT system. The result would be an expansion of renewable use across the power distribution region, reducing the area's associated emissions factor.

Additionally, for manufacturers whose productrelated emissions account for a large percentage of total emissions over the life-cycle, it would be advisable to undertake strategies such as the following to reduce their environmental impact: (1) work to minimize energy consumption during product use through environmentally-

> responsible design; and (2) put efforts into building renewable infrastructure in society so as to use renewable power as consumption energy sources.

> In other words, companies can work to promote the use of renewable energy not only for their own use, but also for their products consuming energy. Especially in the future, it will be vital in this industry to promote electric vehicles, as well as fuel cell vehicles using hydrogen. Sources of energy used will make a major difference in GHG emissions from such products. Thus, policies considering these factors will provide the rationale for

amaha Motor

16.4

corporate capital investments which take advantage of the FIT system. Hence, by reducing emissions in Scope 1, 2, and 3, as well as by striving to achieve points (1) and (2) mentioned above, a logically comprehensive package of efforts emerges. In this evaluation, two companies, Nissan Motor and Honda Motor, were found to have such a longterm vision, and each of these companies have spelled out specific strategies with appropriate steps for each time

Targets & Performance (subtotal

192 points)

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Information disclosure (subtotal 144 points)

period under their long-term vision.

Under this project, WWF Japan will continue its evaluation and publication of rankings for corporate climate actions by other industries, too. We expect that such external evaluations will contribute to boosting Japan's entire climate actions which are not active enough at present.

> 2.1 31.9

> > 55.6 52.5 65.0 47.8 47.6 63.9 36.6

38.2 36.1 23.6 21.5 37.8 21.5 22.9

50.0 24.3

27.8 22.9

SI Aisin Seiki **Hino Motors** (YB QX alsonic Kanse lenso XEDY uji Heavy Industries Ionda Motor suzu Motors awasaki Heavy Industr **Nazda Motor Aitsubishi Motors** Attsui Engineering & Shipbuilding lissan Motor himano okai Rika oyoda Gosei oyota Boshoku oyota Industries oyota Motor uzuki Moto TECH Evaluation indicators le 1-1-1. Long-term vision 1-1. Time spans of targets 1-1-2. Target years 1-2-1. Geographical boundary 1-2. Range of (Scope 1,2) targets 1-2-2. Perspective of life-cycle management 1-3-1. Target GHGs (Scope 1,2) 1-3-2. Unit of emissions reduction 1-3. Climate target (Scope 1,2) targets 1-3-3. Energy efficiency target (Scope 1,2) 1-3-4. Renewable energy target 1-4 Annual GHG reduction rate of Scope 182 absolute target 1-5. Status of achievement 1-6. Comparison between performance and actions taken 2-1-1-1. GHG emissions (absolute / intensity) 2-1-1-2. GHG emissions (time-series data) 2-1-2-1. Energy consumption (absolute / intensity) 2-1-2-1. Energy consumption 2-1. Credibility (time-series data) of disclosed information and 2-1-3. Amount of renewable data energy use 2-1-4. Data boundary (Scope 1,2) 2-1-5. Measurement & disclosure of life-cycle emissions 2-1-6. Third-party evaluation 2-2-1. Comparison of targets and 2-2. Credibility results of target setting 2-2-2. Gounds of target setting (Scope 1,2) Targets & Performance 14.3 18.0 18.0 13.5 13.5 17.2 27.3 16.4 18.0 15.6 20.1 23.7 17.2 0.0 37.5 25.0 0.0 23.7 14.3 28.9 24.2 26.0 26.0 15.1 (converted into 50 points) Subtotal 2. Information disclosure

Table 3 Scoring results of all eveluated companies

27.1 21.9 32.6 23.3 21.9 26.4 43.1 26.7 22.9 30.9 27.1 35.4

41.4 39.8 50.6 36.8 35.4 43.6 70.4 43.1 40.9 46.5 47.1 59.1 45.0 22.9 87.5 49.3

(converted into 50 points)

Overall scores 1+2 = 100 point

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Why we are here

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

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