

# Nippon Life Transition Finance Framework



June, 2024  
Nippon Life Insurance Company



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# Introduction

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## **Our philosophy of transition finance and what we expect from this Framework**

- The continued rise in global temperatures in recent years have resulted in extreme climate events in the world, such as flooding, heat waves, wildfires, and droughts. The World Bank's 2021 Groundswell Report<sup>1</sup> predicts that by 2050, as many as 216 million people could be internal migrants due to such climate change impacts.

The first Global Stocktake at the 28th meeting of the Conference of the Parties (COP 28) to the United Nations Framework Convention on Climate (UNFCCC) in November 2023 confirmed that the progress towards global net-zero targets is significantly off-track. There is still a gap between the current situation and the target of limiting temperature rise to 1.5 °C (Paris Agreement).

Under this circumstance, it is extremely significant to keep aiming for the achievement of 1.5°C. In particular, there is a clear growing awareness of the importance and urgency of decarbonization efforts, among high-emitting industries. In response, organizations such as the International Capital Market Association (ICMA) are leading efforts to establish guidelines and principles on transition finance. Meanwhile, Japan has been steadily creating a conducive environment for transition finance, with the introduction of the Basic Guidelines on Climate Transition Finance and the Green Transformation (GX) Promotion Strategy, and the issuances of Japan Climate Transition Bond. The time to accelerate the implementation of transition finance is now.

- Nevertheless, even at the beginning phase of full-scale implementation of transition finance, as the existing guidelines tend to be high-level and conceptual, or too much focused-on technology, many companies implementing their transition are concerned about how they should demonstrate their transition eligibility and how their transition plans will be evaluated. It will be important to shift the emphasis from committing to a net-zero goal to developing a concrete transition plan on how to achieve net-zero.

Against this backdrop, Nippon Life Insurance Company (hereafter, "Nippon Life") has developed this Transition Finance Framework to provide companies with concrete direction and support the decarbonization of high-emitting companies by clarifying what an appropriate transition finance is, through showcasing concrete evaluation criteria from the perspectives of an institutional investor.

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<sup>1</sup> <https://openknowledge.worldbank.org/server/api/core/bitstreams/158b2f56-a4db-5a2d-93b9-0070068fa084/content>

- Defining its basic principle as “transition finance is investments and loans for supporting a corporate’s initiatives consistent with the Paris Agreement, which pursues the achievement of the 1.5 °C target”, this Framework is developed with the following core components:
  - ① Nippon Life conducts the evaluation whether a company’s long-term plan is in line with an internationally credible, science-based pathway that is consistent with the Paris Agreement pursuing a 1.5 °C target (hereafter, the “Paris Pathway”).
  - ② Nippon Life will support a company’s overall activities as an institutional investor by evaluating the company’s plan and strategy, rather than just focusing on individual technologies.
  - ③ Through ongoing monitoring and dialogues, Nippon Life will flexibly cope with changes in the company’s long-term plan and strategy in order to evaluate the plan, considering uncertainty in the future.
- By incorporating these core components as well as being consistent with international guidelines such as ICMA, Nippon Life, as a finance provider, will actively promote reliable and transparent transition finance. Furthermore, by disclosing this Framework to the public, we expect to promote a common understanding among a wide range of stakeholders and contribute to the sound development of the transition finance market. We also hope this Framework to help promote the standardization of both “corporate information disclosure” and “evaluation methods by financial institutions” leading to a greater movement of companies’ transition planning and its implementation.
- As decarbonization paths differ across sectors depending on technologies used and timelines required, we first focus on developing criteria for the electricity sector and the steel sector, which particularly emit high GHG and for which financial supports for decarbonization are important. Using these sector criteria as a starting point, we may expand to other sectors as necessary in the future, taking into account discussions with broad stakeholders.  
With a sense of mission to resolve the global issue of climate change and to pass on a sustainably livable environment to future generations, we have committed to working diligently toward decarbonization using this Transition Finance Framework.
- We recognize that this Framework is one of the key initiatives of our transition plan recently developed by the Nippon Life. For more information on our transition plan, please see below.

<Press release on March 28, 2024>

“Publication of TCFD・TNFD Report 2024” (Japanese only)

<https://www.nissay.co.jp/kaisha/annai/gyoseki/pdf/tcfdtnfdreport.pdf>

## **For references: Responsible Investment at Nippon Life Insurance Company**

- Since its founding, Nippon Life has based its life insurance operations on the spirit of "co-existence, co-prosperity, and mutual aid." With this in mind, Nippon Life has made efforts to conduct sound management from a long-term perspective, while giving the highest priority to maximizing benefits for our customers. In the asset management field, Nippon Life has carried out investments and loans that contribute to the public interest.

We believe that responsible investment, which supports the sustainable growth of our investments and loans from a mid- to long-term perspective, is essentially similar to our overall mid- to long-term investments and loans policy of balancing profitability, safety, and public interest.

Given this background, we have recently been proactively working on initiatives, starting with signing the United Nations Principles for Responsible Investment (PRI) in 2017, joining the Net-Zero Asset Owner Alliance (NZAOA) in 2021, and joining the Japan Impact-driven Financing Initiative in 2023. We served as a lead sponsor of the PRI annual conference (PRI in Person 2023) held in Tokyo in 2023 and are working to contribute to deepening the international understanding of responsible investment.

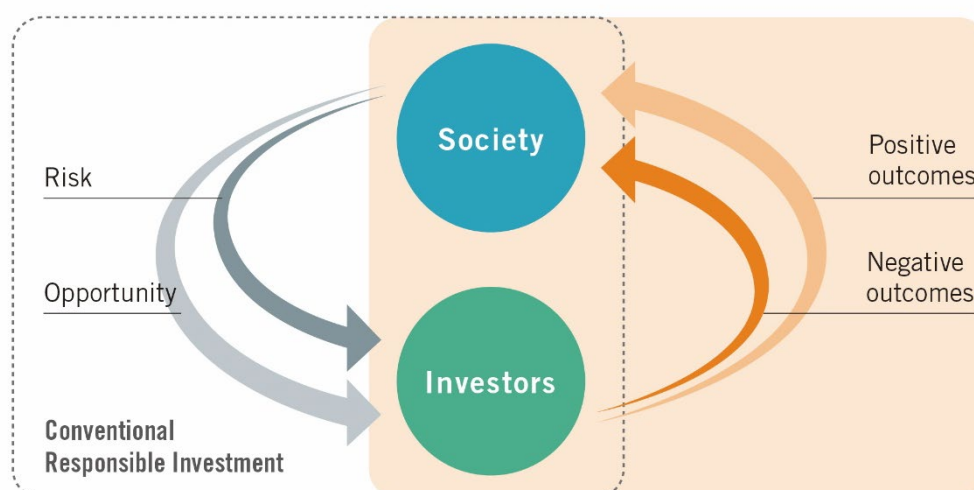
- On the other hand, if we look at the world, environmental and social issues such as climate change are becoming more serious every year, impacting society and the economy, as well as our own portfolios as investors.

With this understanding, we not only engage in passive responsible investment which incorporates Environmental, Social, and Governance (ESG) related risks and opportunities into the decision-making process, but also to engage in active responsible investment that addresses social and environmental issues more directly, which generates sustainable outcomes.

- This guideline is a concrete mean to promote active responsible investments and loans that aim to generate sustainable outcomes. We hope that this Framework will be utilized by not only our own organization, but also by investors and corporations alike, leading to sustainable outcomes in society.

As a long-term institutional investor, we aim to generate sustainability outcomes through various initiatives, including transition finance, to solve social issues and improve company's corporate value in which we invest and loan, and to achieve higher investment returns as a result, thereby increasing our policyholders' profits through reliable payment of insurance claims and benefits and stable payment of policyholder dividends.

### **Our responsible investment**



## 2

## Principles of our Approach to Transition Finance

- “Transition finance is investment and loans for supporting a corporate’s initiatives consistent with the Paris Agreement, which pursues the achievement of the 1.5 °C target”. We believe this to be the most important principle of transition finance. In addition, we also believe the accountability of being in line with the abovementioned principle in a credible and transparent way is another important principle. By externally presenting specific criteria and approach based on these two principles, we hope to promote a common understanding of transition finance, which will lead to steady decarbonization efforts not only by Nippon Life but also by other financial institutions and corporations.
- Furthermore, as decarbonization planning requires a commitment to long-term future efforts at the present time, a certain degree of uncertainty in the future is unavoidable. Having said that, we still believe it is critical to respond flexibly to changing circumstances in order to adhere to the goal of achieving net zero emissions by 2050. Therefore, in transition finance, it is also important for companies and financial institutions to keep engaging in close dialogue and respond quickly and appropriately to changes in the situation even after the investment or loan got effective in order to steadily advance decarbonization efforts.
- Additionally, decarbonization efforts must not only focus on reducing GHG emissions, but also must be carried out in harmony with the natural and social environments without causing any harm. We consider this point to be just as important.
- Based on the above, this Framework is developed based on the following five principles of our approach to transition finance:

### ① Alignment with the Paris Pathway

- ✓ We will conduct the assessment whether a company's GHG emissions reduction plan is in line with an internationally credible, science-based pathway that is consistent with the Paris Agreement (Paris Pathway) primarily at the corporate-level, but also at the asset or project level.

In addition, to ensure the credibility and feasibility of the GHG emissions reduction plan, an evaluation will be conducted on detailed transition strategies, investment plans, and governance systems that form the basis of the plan.

- ✓ In other words, a company's decarbonization efforts will be deemed to be consistent with the Paris Agreement, if its GHG emissions reduction plan is consistent with the Paris Pathway, and if the credibility and feasibility of the plan are confirmed based on the detailed transition strategies, investment plan, and governance system that form the basis of the plan.

## ② Technological neutrality

- ✓ As long as a company's GHG emissions reduction plan is consistent with the Paris Agreement, we will support the company's any activities by transition finance, regardless of technologies used (including technologies that use a certain amount of fossil fuels, such as ammonia or hydrogen co-firing power plants).

This is because we prioritize the evaluation of a company's GHG emissions reduction plan before assessing individual technology or assets chosen for use of proceeds. As long as the corporate-level plan is aligned with the Paris Agreement, the transition eligibility of each technology would not be denied as this Framework does not employ any taxonomical criteria.

- ✓ Although no restrictions are placed on the use of individual technology, this Framework is designed to avoid carbon lock-in of fossil fuel-related technologies because the evaluation will be conducted using a pathway with a time bound toward zero emissions (by 2050) as shown in "5-1. Evaluation of Alignment with the Paris Pathway."

## ③ Monitoring and dialogue

- ✓ Since a company's GHG emissions reduction plan is a very long-term plan, we believe it is important to accompany the company through monitoring and dialogue even after the investment or loan is made.
- ✓ Based on the basic principle that "transition finance is investments and loans for supporting a company's initiatives consistent with the Paris Agreement, which pursues the achievement of the 1.5 °C target, "we will continue to monitor progress and engage in dialogue from the time of investment or loan execution to redemption. In cases where progress of the company's plan is delayed, we will support the company in getting its decarbonization efforts back to a trajectory consistent with the Paris Agreement, engaging in dialogue about plan revisions, etc.

## ④ Do No Significant Harm (DNSH)

- ✓ The significance of the initiative would diminish if other aspects of the global environment are damaged while decarbonization efforts advance. We will promote transition finance in a way that makes sure not to cause significant adverse effects on other aspects of the environment (such as destruction of ecosystems, pollution of the air, soil, and water, etc.) while promoting the positive environmental impact of GHG emissions reduction toward net zero.

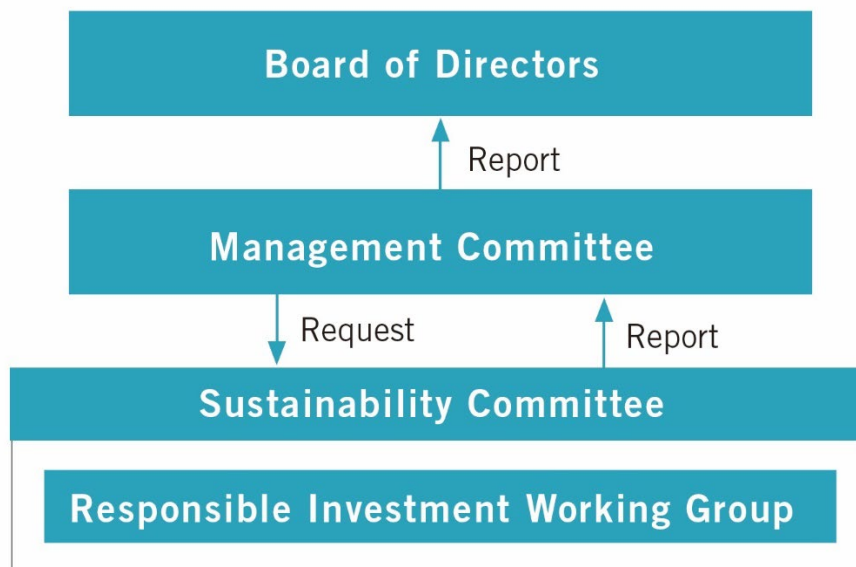
## ⑤ Just Transition

- ✓ As with ④ above, the significance of the initiative would diminish if people's lives and relevant social environment are harmed even while decarbonization efforts advance. We will promote transition finance in a way that fair considerations and supports are given to people who suffer significant disadvantages, particularly in terms of employment, in the process of rapid transformation of a company's business structure toward decarbonization. We also believe that it is important to be aware of the impact on not only the employees of the issuing company, but also the supply chain and local community, and take measures to ensure "no one will be left behind."

### 3

## Our Governance Structure for this Framework

- To ensure the credibility and transparency of decisions, this Framework will be implemented under the supervision of the Board of Directors, the Management Committee and the Sustainability Committee.
- Under the supervision of the Responsible Investment Working Group (affiliated with the Sustainability Committee), hosted by the Responsible Investment Strategy Office, the departments relevant to transition finance will conduct evaluations in a unified manner across the Nippon Life such as evaluations on alignment with pathways at corporate-level and individual asset-level.



- In the process towards global net zero, the targets and required pathways are expected to change from time to time depending on the progress of each country in the world. We plan to review and revise this Framework as necessary in accordance with the updates of the Nationally Determined Contributions (NDC) by the Japanese government as well as the 1.5°C scenarios of the Intergovernmental Panel on Climate Change (IPCC), International Energy Agency (IEA) and else, or based on trends in international discussions on transition finance.



## 4

## Scope of this Framework

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- This Framework describes specific assessment methods for each sector, and initially covers the electricity sector and steel sector, which have particularly high GHG emissions and for which financial support for decarbonization is important.
- Basically, this Framework assumes four types of financial instruments as its target:
  - Corporate loans and bond investments (general corporate purpose);
  - Sustainability-linked loans and bond investments (general corporate purpose);
  - Use-of-Proceeds type corporate loans and bond investments; and
  - Project finance.

On the other hand, this does not preclude equity instruments (stocks, preferred equity etc.) from the scope of this Framework, in cases where the five principles described in “2. *Principles of Our Approach to Transition Finance*” are satisfied.



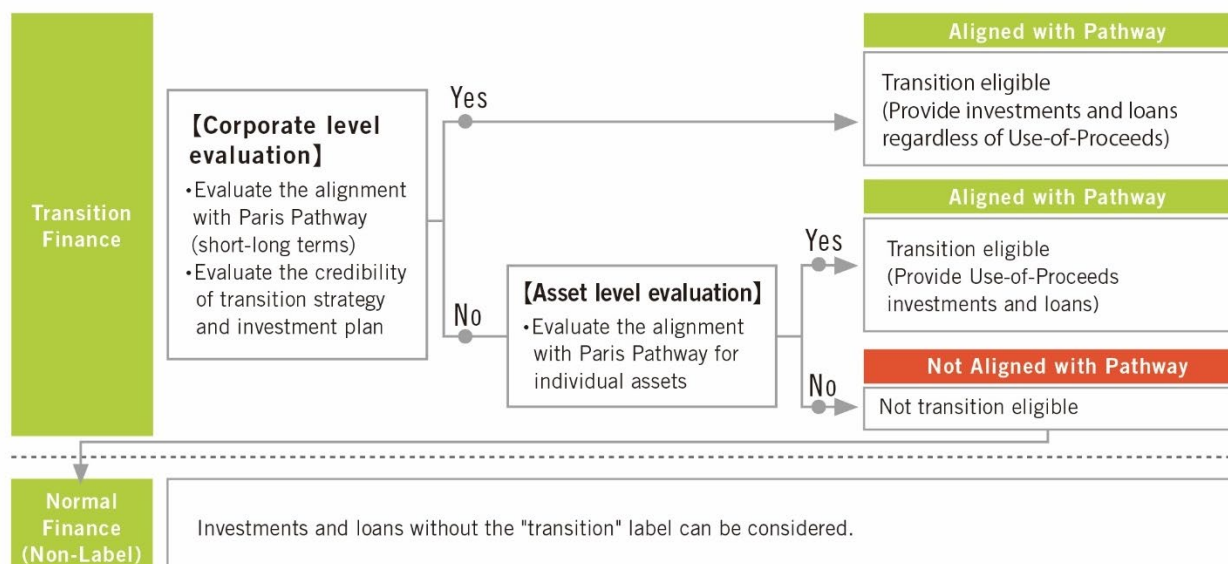
- In this chapter, we describe our methodology for transition finance aligned with the Paris Agreement, which pursues 1.5 °C target, in more details. By clarifying our expectations for information disclosure from a company and how such information will be evaluated, we ensure credibility and transparency in transition finance that we promote and intend to expand the transition finance market with further shared understanding between companies and financial institutions.
- Our approach to determine whether transition financing will be provided to an issuer/borrower follows a four-step method, where the following are evaluated:
  - (1) Evaluation of alignment with the Paris Pathway
  - (2) Evaluation of detailed transition strategy
  - (3) Evaluation of investment plan
  - (4) Evaluation of governance structure

(1) checks whether corporate- and asset-level GHG emission reduction plans by an issuer/borrower are consistent with the Paris Agreement. Then, (2) checks whether there are specific measures to achieve the GHG emission reduction plans. Furthermore, (3) checks whether the specific measures are financially feasible. (4) also checks whether such GHG emission reduction plans and specific measures have been formulated and implemented with the commitment of the company's management. In this way, the evaluation through (1) to (4) is a mechanism to check the reliability and feasibility of the company's GHG emission reduction plans.
- We have developed the structure and content of the above-mentioned (1) to (4) referring to and conforming to ICMA and other international benchmarks.

### **5-1. Evaluation of Alignment with the Paris Pathway**

- First, we will check if a company's GHG emissions reduction plans are consistent with the Paris Pathway. Based on the information of corporate-level short-, mid-, and long-term GHG emissions reduction goals (2030, 2040, and 2050, respectively) provided by the company, we will evaluate and confirm if the plans are aligned with the Paris Pathway. For companies with GHG emissions reduction plans that are not aligned with the Paris Pathway at corporate-level, we will proceed to the evaluation on whether each individual "Use-of-Proceed" asset is aligned with the Paris Pathway.
- Through this two-phased approach, in cases where we confirm the alignment with the Paris Pathway at least either corporate-level or asset-level, we will continue with steps "5-2 Evaluation of Detailed

*Transition Strategy*", *"5-3 Evaluation of Investment Plan"*, and *"5-4 Evaluation of Governance Structure"* to check credibility and feasibility of the plans. Furthermore, even in cases of neither eligible for transition finance on corporate-level nor asset-level, we could still support the company's decarbonization efforts through our non-label corporate investments and loans.



- The evaluation method of alignment with the Paris Pathway at both corporate-level and asset-level for the electricity sector and the steel sector, respectively, are described below.

## (1) Evaluation approach for the Electricity Sector

### < Corporate-level evaluation (Electricity Sector) >

- We will evaluate the following components of issuers'/borrowers' short-, mid-, and long-term GHG reduction plans.
  - Indicator: GHG Emission Intensity (gCO<sub>2</sub>/kWh)
  - Applicable scope: Scope 1
  - Criteria: The following two criteria are set as shown below.

We call ① as the "Reference Curve" and ② as the "Complementary Curve".

- ① GHG emissions reduction curve (intensity basis) based on the IEA NZE Scenario
  - ② GHG emissions reduction curve of Japan's electricity sector, which is considered to be equivalent to the IEA Announced Pledges Scenario (APS)
- As for the Reference Curve ①, we use a GHG emissions reduction curve based on the IEA NZE Scenario, which is internationally recognized to be a science-based 1.5°C pathway.

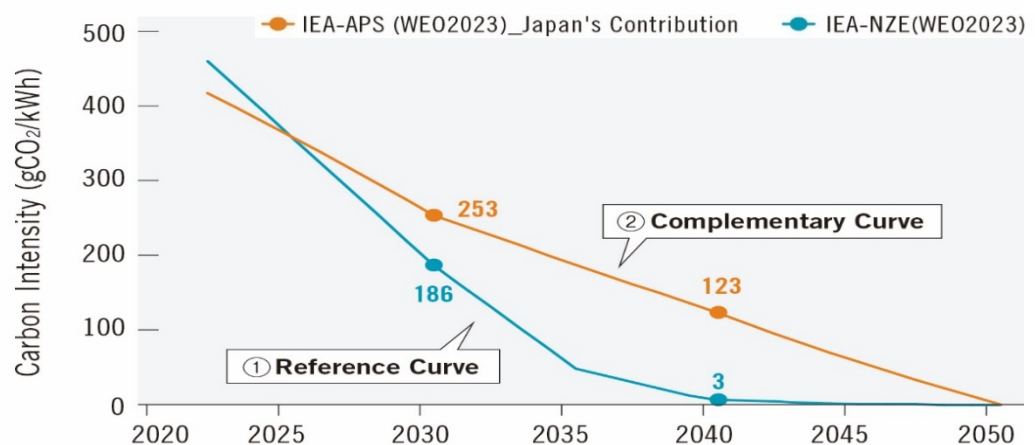
- As for the Complementary Curve ②, we have derived an intensity-based GHG emissions reduction pathway for Japan's electricity sector based on the Japan's Nationally Determined Contribution (NDC), which corresponds to a well below 2°C pathway of the IEA Announced Pledges Scenario (APS) and the scenario of long-term energy demand forecast, which incorporates demographics changes and energy efficiency plans, by the Research Institute of Innovative Technology for the Earth (RITE). The pathway milestones are an intensity of 253 gCO<sub>2</sub>/kWh in 2030, 123 gCO<sub>2</sub>/kWh in 2040, and 0 gCO<sub>2</sub>/kWh by 2050. We will use the line connecting these data points as the complementary reference values Japan's electricity sector.

○ Evaluation methods:

In principle, if a company's GHG emissions reduction plan is equal to or below the Reference Curve, it is evaluated to be in alignment with the Paris Pathway. In addition, on the condition that the company will pursue the Reference Curve after making investments and loans, if its GHG emissions reduction plan is equal to or below the Complementary Curve, it is also evaluated to be in line with the Paris Pathway.

- To determine whether or not it is below the reference values, we will assess the issuer's/borrower's GHG Emission intensity targets for 2030, 2040, and 2050 against the curve. If, during all periods, these projected intensities are lower than the reference values, we will judge it as alignment with the pathway.
- Even in the case where the planned intensity in 2030 is higher than the reference value, if beyond this point the planned intensity is below the curve and the cumulative emissions (integrated value) between the time of investment and 2050 are lower than that of the reference values, we will determine this company's GHG emissions reduction plan to be aligned with the Paris Pathway. The justification is that if cumulative emissions between the of investment and 2050 are the same as or lower than those of the reference values, then the impact to the global climate from this plan is the same or lower.

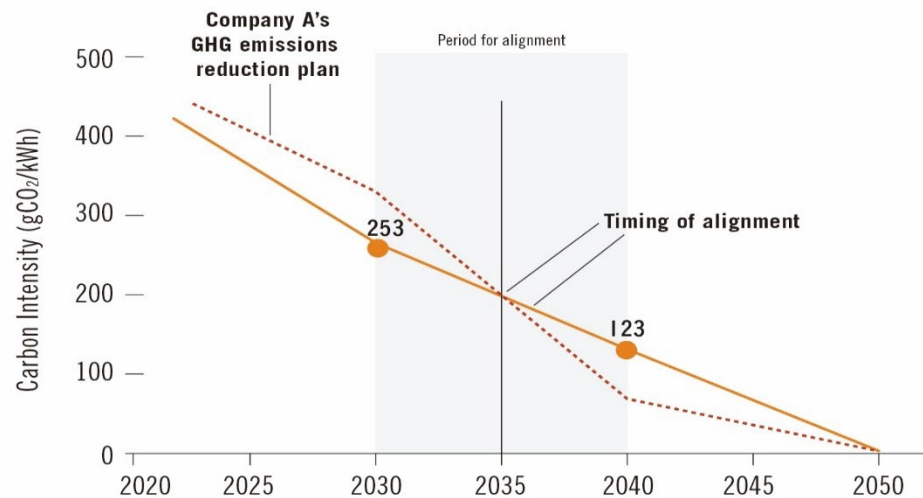
### Pathways for electricity sector





- Below is an example of an evaluation of the alignment with a pathway.

### **An example of evaluation on alignment with a pathway**



- For example, a GHG emissions reduction plan of Company A (red dashed line) is above the reference value in 2030. However, after 2035, it will be below the reference values, thereby reducing the cumulative GHG emissions of the plan from around 2025 to 2050 below the cumulative reference values as a whole. Therefore, Company A can be evaluated as Paris Pathway-aligned at the corporate-level.
- In this way, in the alignment evaluation, the approach is designed to prevent extreme back-loading of decarbonization by introducing the time-bound pathways and the concept of carbon budgets (the integral value of the pathway). With this approach, we believe carbon lock-in and extreme back-loading will be avoided while maintaining a certain degree of flexibility for a company's transition planning.

### **< Asset-level evaluation (Electricity sector) >**

- Even if corporate-level emissions reduction goals are not in line with the Paris Pathway, we may conduct an asset-level evaluation for use-of-proceeds type instruments.
- The specific methods of an asset-level evaluation are described below:
  - Target: Power generation assets, and assets associated with power generation assets
  - Indicator: GHG Emission Intensity (gCO<sub>2</sub>/kWh)
  - Applicable scope: Scope 1
  - Criteria: (a) The following two criteria are set as shown below.  
We call ① as the "Reference Emission Intensity" and ② as the "Complementary Emission Intensity".

- ① Average GHG emission intensity from the time of investments and loans to 2050 based on the 1.5 °C pathway from IEA-NZE scenario (= Reference Emission Intensity)
- ② Average GHG emission intensity from the time of investments and loans to 2050 based on the pathway for Japan's electricity sector, which is compatible with Well below 2 °C pathway from IEA-APS scenario (= Complementary Emission Intensity)

(b) Timing of becoming zero-emission technology

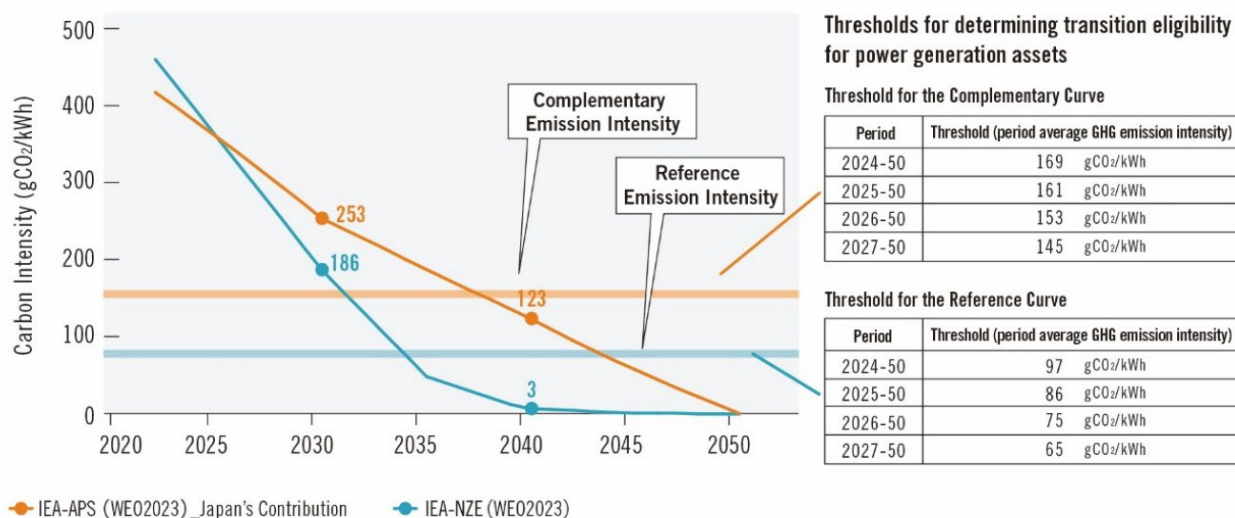
○ Evaluation methods:

When both of the following two requirements are met, we will evaluate the assets as aligned with the Paris Pathway.

- 1<sup>st</sup> requirement: The average of GHG emission intensity is be less than or equal to the reference values (either Reference Emission Intensity or Complementary Emission Intensity).
- 2<sup>nd</sup> requirement: It is expected that the target asset become a zero-emission technology before 2050.

- For example, if the time of investment is 2025, the 25-year average emission intensity between 2025 and 2050 for the Reference Emission Intensity derived from IEA NZE 1.5°C pathway is 86 gCO<sub>2</sub>/kWh and that for the Complementary Emission Intensity of the Japan's electricity sector derived from IEA-APS is 161 gCO<sub>2</sub>/kWh respectively. Emission intensity associated with the evaluated technology or assets will be compared against these reference values.
- Note that the assessment will evaluate the average emission intensity associated with the evaluated asset over a 25-year period, and therefore, even in the case of the higher intensity than the reference values at the beginning of this period, the asset could still be aligned with the Paris Pathway if the period average value of the asset's emission intensity goes below the period average intensity threshold by promoting decarbonization with technologies, such as carbon dioxide capture and storage (CCS), hydrogen/ammonia co-firing, and increased proportion of hydrogen/ammonia.

## Pathways and period average GHG emission intensity for the electricity sector



Assumption: The amount of electricity generated during the period of the relevant power generation asset is constant.

- Regarding assets associated with power generation assets such as storage battery and CCS, we conduct the pathway assessment on those assets and the power generation assets related with them as a whole, and judge the transition eligibility as below.

### ① Storage battery, CCS/CCUS, and hydrogen/ammonia production

- We conduct pathway assessment assuming that the associated asset (Storage battery, CCS/CCUS, hydrogen and ammonia production, etc.) and the power generation asset related to them are one asset. When it is evaluated as pathway alignment, we determine the associated asset is judged to be transition eligible.

### ② Power grid

- With regard to power grid, since there are a large number of power generation assets connected to the grid, if there is a plan that falls below the period-average GHG emission intensity of electricity connected to the grid, we determine it to be transition eligible.



## For reference: Supplement of evaluation for the electricity sector

### • Derivation of a GHG emission reduction curve for the domestic electricity sector that is comparable to the IEA-APS scenario

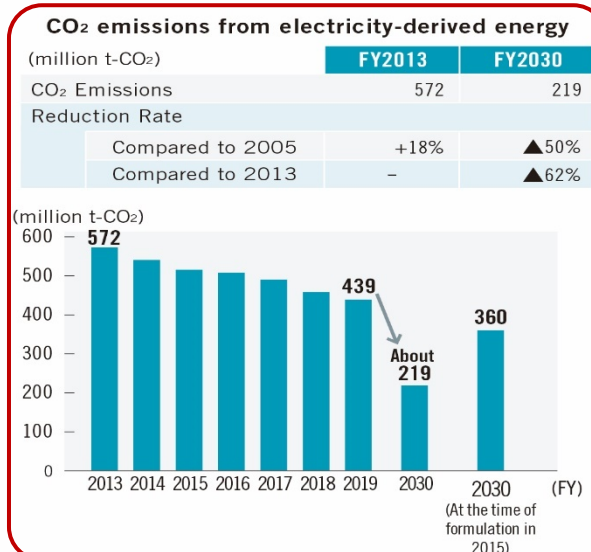
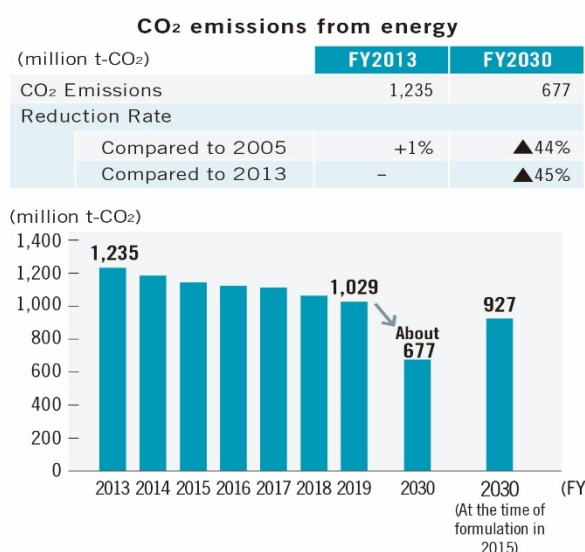
We derived a GHG emissions reduction curve aligned with the Paris Pathway (Complementary Curve) according to the following logic.

Numerator: Planned CO<sub>2</sub> reduction in the power sector according to Japan's NDC.

Denominator: Projected electricity demand in Japan based on data from the Ministry of Economy, Trade and Industry (METI) and the Research Institute of Innovative Technology for the Earth (RITE).

#### ① Electricity Sector CO<sub>2</sub> Reduction Plan in Japan's NDC

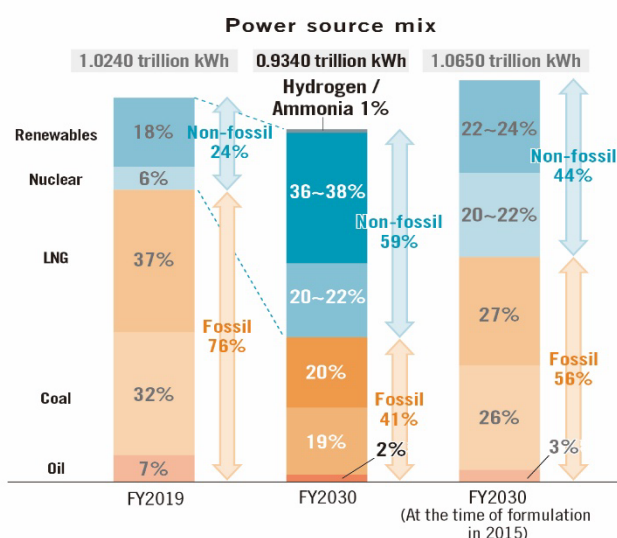
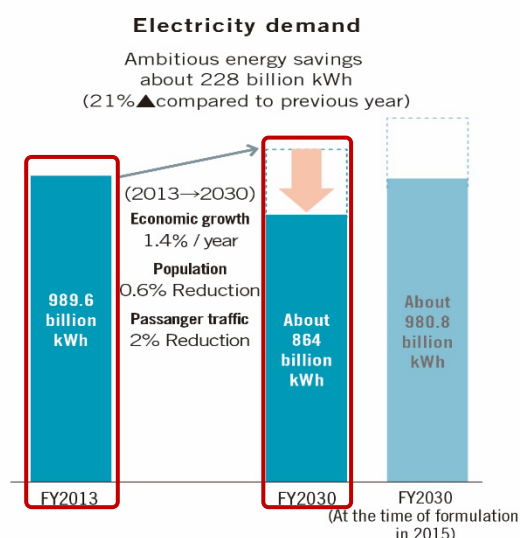
##### CO<sub>2</sub> emissions from energy



Source: Outlook for Energy Supply and Demand in FY2030 (Related Material), Ministry of Economy, Trade and Industry  
(Prepared by the company based on the source)

#### ② Electricity demand assumptions by METI and RITE

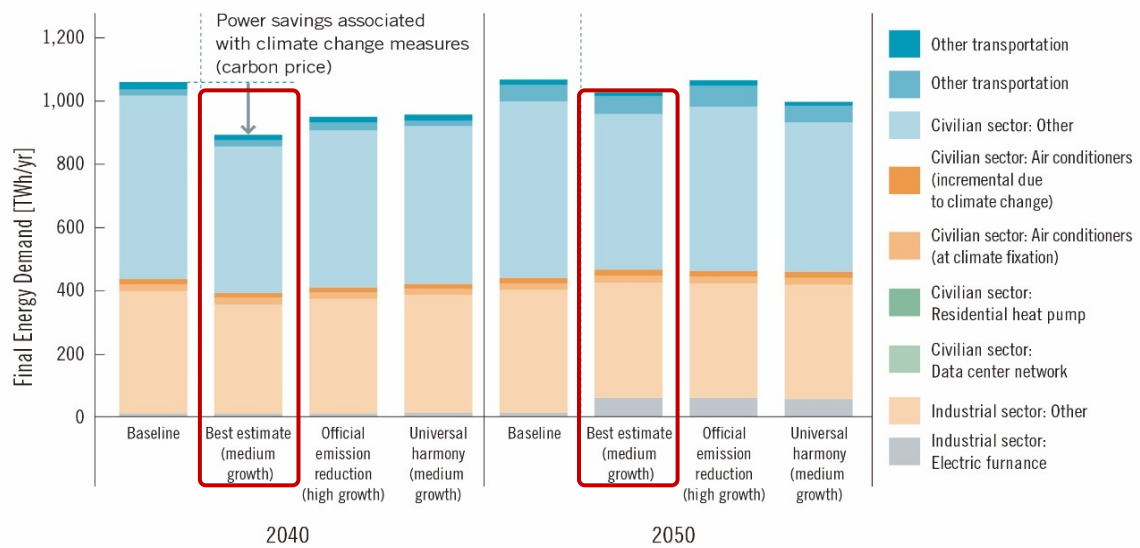
##### Electricity demand and power source mix



Source: Outlook for Energy Supply and Demand in FY2030 (Related Material), Ministry of Economy, Trade and Industry  
(Prepared by the company based on the source)

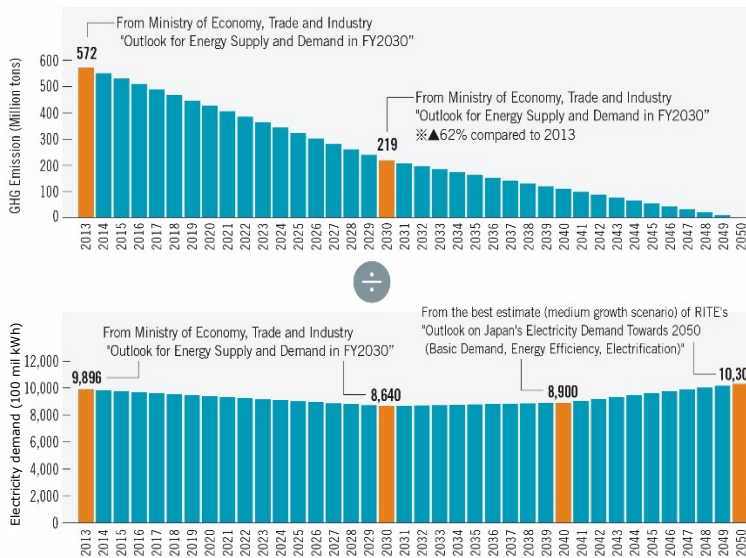


## Final energy consumption: electricity demand by sector

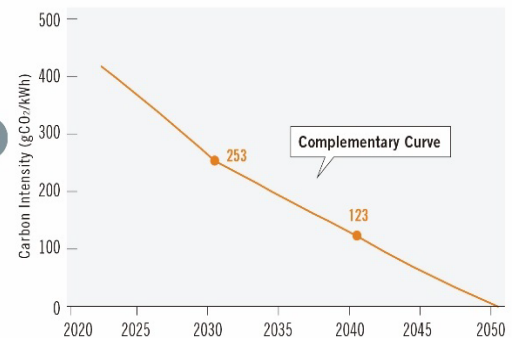


Source: Outlook on Japan's Electricity Demand Towards 2050 (Basic Demand, Energy Efficiency, Electrification), Research Institute of Innovative Technology for the Earth (RITE)  
(Prepared by the company based on the source)

### ③ IEA-APS scenario consistent, intensity curve for the Japanese power sector



#### Well Below 2°C pathway for the Japanese power sector in compliance with the IEA APS



Source1: Outlook for Energy Supply and Demand in FY2030 (Related Material), Ministry of Economy, Trade and Industry  
(Prepared by the company based on the source)

Source2: Outlook on Japan's Electricity Demand Towards 2050 (Basic Demand, Energy Efficiency, Electrification), Research Institute of Innovative Technology for the Earth (RITE)  
(Prepared by the company based on the source)

## ● **Overview of GHG emission intensities in asset-level evaluation (Electricity sector)**

- The reference values for average GHG emission intensity in the asset-level evaluation are, for example, 86 gCO<sub>2</sub>/kWh under the IEA-NZE scenario (1.5°C pathway) and 161 gCO<sub>2</sub>/kWh under the IEA-APS scenario (Well Below 2°C pathway) when the financing is made in 2025. In contrast, the GHG emission intensity for each technology utilized in the electricity sector is shown in the table below.
- Of the technologies listed in the table below, only offshore wind power and nuclear power are consistent with the Paris pathway, and a co-firing power plant with 80%:20% natural gas and ammonia exceeds the thresholds. However, if a plan to increase the ammonia ratio of the 80%:20% natural gas and ammonia co-firing power plant and, ultimately, convert it into a fully ammonia-fired power plant in the future, it may be evaluated as the Paris Pathway-aligned as the average GHG emission intensity for the entire project will be lower. In addition, it is also possible to reduce the average GHG emission intensity by combining negative emission technologies such as CCS.

Candidate asset for power company A (example)	
Offshore wind power	0gCO <sub>2</sub> /kWh
Nuclear power	0gCO <sub>2</sub> /kWh
Gas/ammonia co-firing (80:20 co-firing)	272gCO <sub>2</sub> /kWh
Gas Turbine Combined Cycle (GTCC)	340gCO <sub>2</sub> /kWh
Integrated Coal Gasification Combined Cycle (IGCC)	650gCO <sub>2</sub> /kWh
Coal/ammonia co-firing (80:20 co-firing)	680gCO <sub>2</sub> /kWh



## (2) Evaluation approach for the Steel Sector

### < Corporate-level evaluation (Steel sector) >

- We will evaluate the following components of issuers'/borrowers' short-, mid-, and long-term GHG reduction plans.
  - Indicator: GHG Emission Intensity (t-CO<sub>2</sub>/t-steel)
  - Applicable scope: Scope 1 + Scope 2
  - Criteria: The following two criteria are set as shown below.

We call ① as the "Reference Curve" and ② as the "Complementary Curve".

- ① GHG emission reduction curve (intensity basis) based on the Transition Pathway Initiative (TPI)'s steel sector's 1.5°C pathway
- ② GHG emission reduction curve (intensity basis) based on the TPI's steel sector's Well below 2°C pathway

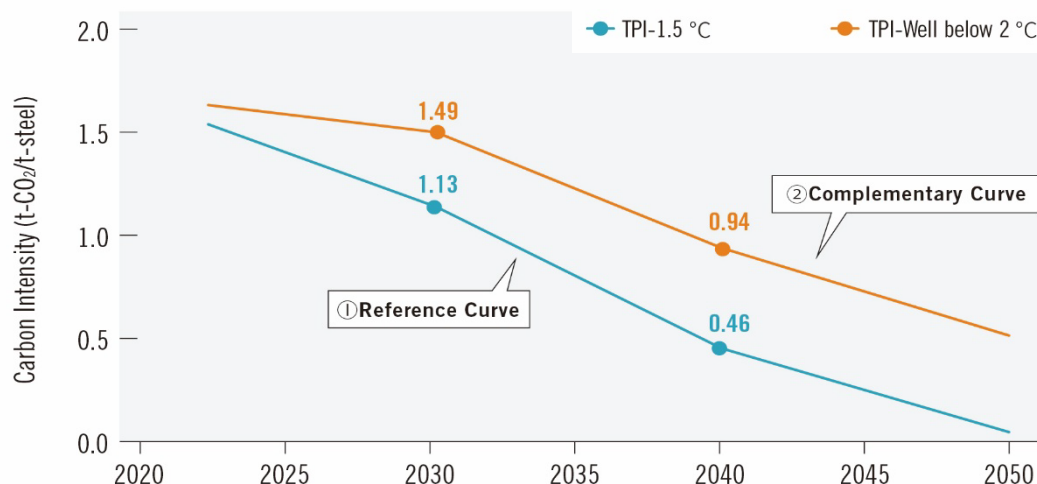
- Evaluation methods:

In principle, if a company's GHG emissions reduction plan is equal to or below the Reference Curve, it is evaluated to be in alignment with the Paris Pathway. In addition, on the condition that the company will pursue the Reference Curve after making investments and loans, if its GHG emissions reduction plan is equal to or below the Complementary Curve, it is also evaluated to be in line with the Paris Pathway.

- To determine whether or not it is below the reference values, we will assess the issuer's/borrower's GHG intensity targets for 2030, 2040, and 2050 against the curve. If, during all periods, these projected intensities are lower than the reference values, we will judge it as alignment with the pathway.
- Even in the case where the planned intensity in 2030 is higher than the reference value, if beyond this point the planned intensity is below the curve and the cumulative emissions (integrated value) between the time of investment and 2050 are lower than that of the reference values, we will determine this company's GHG emissions reduction plan to be aligned with the Paris Pathway. The justification is that if cumulative emissions between the time of investment and 2050 are the same as or lower than those of the reference values, then the impact to the global climate from this plan is the same or lower.
- In the Framework, as we conduct transition eligibility assessment according to the pathways derived from IEA (TPI relies on IEA models and data for the steel sector), we adopt the IEA definition for the boundary of scope1+scope2

and conducts the alignment evaluation based on the information in accordance with the IEA definition. Specifically, the IEA boundary covers “processes up to crude steel production (sintering process, coke making, iron making process, steel making process, casting process, etc.), and does not include the final product manufacturing process”.

### Pathways for the steel sector



### < Asset-level evaluation (Steel sector) >

- Even if the evaluation at corporate-level is not in line with the Paris Pathway, we may conduct an asset-level evaluation for use-of-proceeds type instruments.
- The specific methods of an asset-level evaluation are described below:
  - Target: Iron making assets, and assets associated with Iron making assets
  - Indicator: GHG Emission Intensity (gCO<sub>2</sub>/kWh)
  - Applicable scope: Scope 1 + Scope 2
  - Criteria: (a) The following two criteria are set as shown below.
 

We call ① as the “Reference Emission Intensity” and ② as the “Complementary Emission Intensity”.

① Average GHG emission intensity from the time of investment to 2050 based on the TPI's 1.5 °C pathway (= Reference Emission Intensity)

② Average GHG emission intensity from the time of investment to 2050 based on the TPI's Well below 2 °C pathway (= Complementary Emission Intensity)

(b) Timing of becoming zero-emission technology
  - Evaluation methods:
 

When both of the following two requirements are met, we will evaluate the assets as aligned with the Paris Pathway.

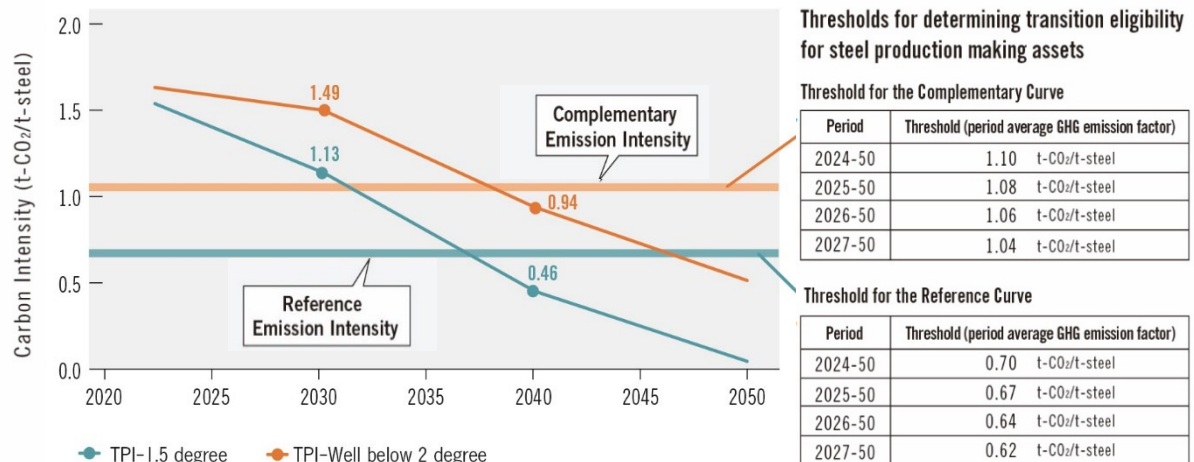


1<sup>st</sup> requirement: The GHG emission intensity is be less than or equal to the reference values (either Reference Emission Intensity or Complementary Emission Intensity).

2<sup>nd</sup> requirement: It is expected that the target asset be a zero-emission technology by 2060.

- For example, if the time of investment is 2025, the 25-year average emission intensity between 2025 and 2050 for the Reference Emission Intensity derived from the TPI's 1.5°C pathway is 0.67 t-CO<sub>2</sub>/t-steel and that for the Complementary Emission Intensity derived from the TPI's Well below 2°C pathway is 1.08 t-CO<sub>2</sub>/t-steel respectively. Emission intensity associated with the evaluated technology or assets will be compared against these reference values.
- Like in the electricity sector, in the steel sector even in the case of the higher intensity than the reference values at the beginning of this period, the asset could still be aligned with the Paris Pathway if the period average value of the asset's emission intensity goes below the period average intensity threshold by promoting decarbonization with technologies, such as renewable energy, hydrogen, carbon dioxide capture and storage (CCS), etc.

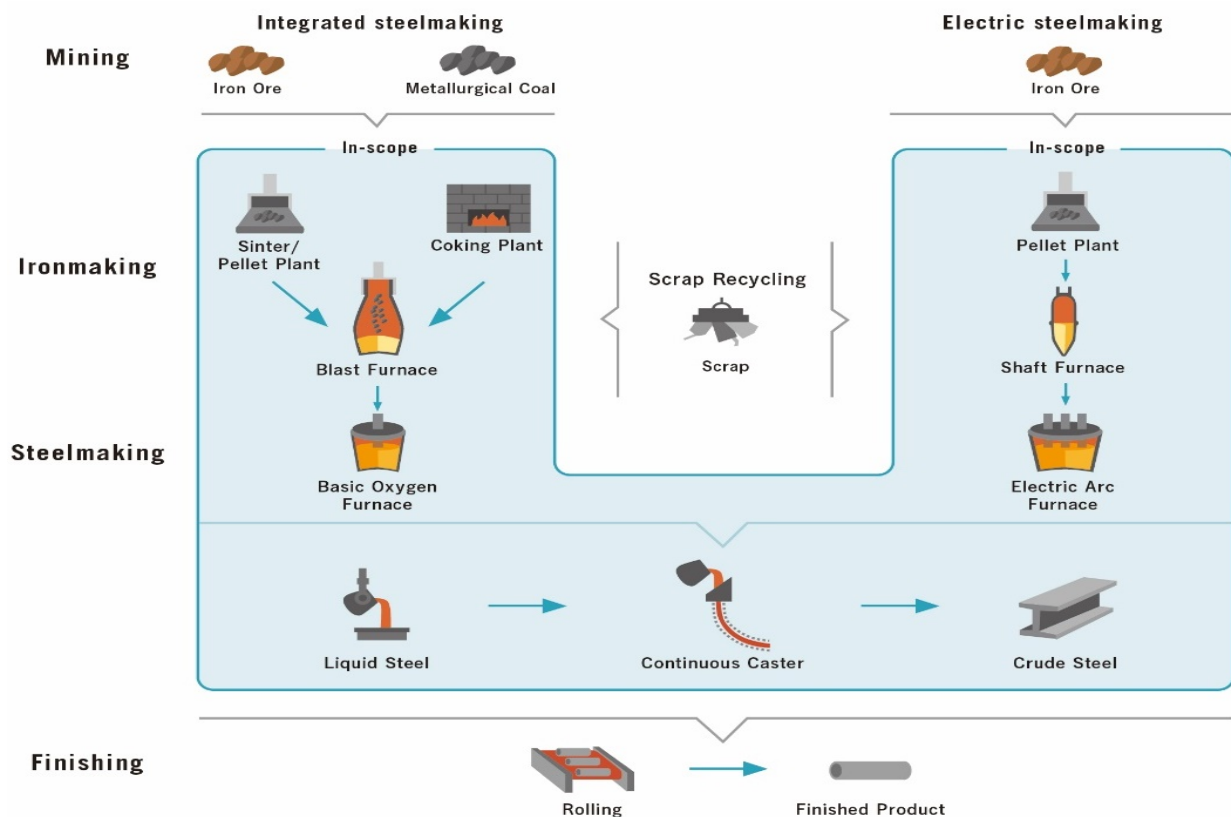
## Pathways and period average GHG emission intensity for the steel sector



- Regarding assets associated with steel production assets, we conduct the pathway assessment on those assets and the power generation assets related with them as a whole, and judge the transition eligibility as below.
  - CCS/CCUS, and hydrogen/ammonia production
    - We conduct pathway assessment assuming that the associated asset and the steel production asset related to them are one asset. When it is evaluated as pathway alignment, we determine the associated asset is judged to be transition eligible.

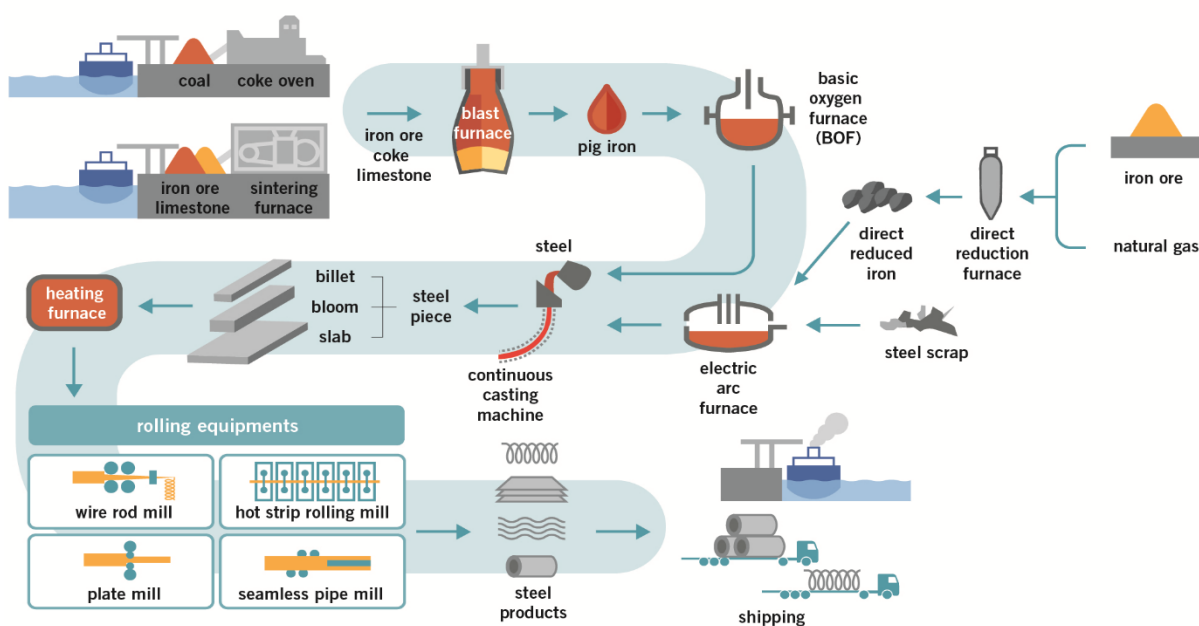
## For reference: Background of decarbonization in the steel sector

### ● Steel sector boundary (Scope 1 + Scope 2) defined by IEA



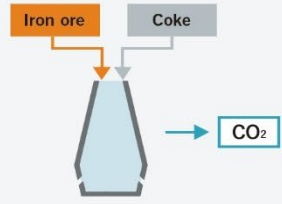
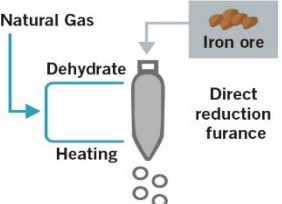
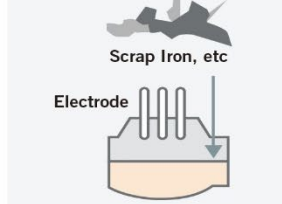
Source: 2023 Carbon Compass Methodology, J.P.Morgan (Prepared by the company based on the source)

### ● Overview of steel production methods



Source: Technology Roadmap for "Transition Finance" in the Iron and Steel Sector, Ministry of Economy, Trade and Industry (Prepared by the company based on the source)

## ● Various methods for steel production

	Blast Furnace	Direct Reduction	Electric Furnace
Summary of each method			
Characteristics	Energy efficiency is high because melting and reduction proceed simultaneously under high heat. High-grade steel materials can be produced.	Low energy efficiency due to separate processes for reduction and dissolution	Impurities in raw steel scrap are high, requiring sorting and blending control
CO <sub>2</sub> emission level	Uses a large amount of coke, which produces a large amount of CO <sub>2</sub>	Lower CO <sub>2</sub> emissions compared to blast furnace method	No need to use coke and lower CO <sub>2</sub> emissions compared to the blast furnace method
Low and decarbonization methods	Coke is converted to hydrogen (hydrogen is blown in place of coke oven gas)	Converting natural gas to hydrogen	Already low-carbon, but we will use renewable energy and other zero-emission sources for the electricity we use.

Source: Innovative ironmaking process with zero CO<sub>2</sub> emissions using hydrogen, Ministry of Economy, Trade and Industry  
(Prepared by the company based on the source)

## ● GHG emissions by production method

Method	GHG emission(Scope 1+2)
Blast Furnace	2.33 t-CO <sub>2</sub> /t-steel
Direct Reduction	1.37 t-CO <sub>2</sub> /t-steel
Electric Furnace	0.68 t-CO <sub>2</sub> /t-steel

Source: Sustainability Indicators 2023 Report, The World Steel Association  
(Prepared by the company based on the source)

## **5-2. Evaluation of Detailed Transition Strategy**

- In steps "5-2. Evaluation of Detailed Transition Strategy", "5-3. Evaluation of Investment Plan", "5-4. Evaluation of Governance Structure", we will assess the credibility and feasibility of the issuer/borrower's GHG emissions reduction plan evaluated in the step of "5-1. Evaluation of Alignment with the Paris Pathway." This credibility assessment will confirm the feasibility of the company's GHG emissions reduction plan and help eliminate the risk of carbon lock-in.
- In the step of "5-2. Evaluation of Detailed Transition Strategy", we will conduct evaluation from the four perspectives below to understand what kinds of specific measures compose the company's GHG emissions reduction plan:

<Evaluation perspectives>

- ① Alignment between the GHG emissions reduction plans and the detailed transition strategy
- ② Rationales for a development and implementation roadmap for innovative technologies
- ③ Validity of external environments that determine the key assumptions of the company's detailed transition strategy
- ④ Considerations to the natural and social environment

- Following the abovementioned perspectives, we will conduct evaluation and confirmation below based on transition plan developed and published by the company and documents provided by the company:

<b>① Alignment between the GHG emissions reduction plans and the detailed transition strategy</b>
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- We will check the "What", "When", and "How" or "How Much" for specific measures for achieving the company's GHG emissions reduction targets by 2030, 2040, and 2050. We will judge that the GHG emissions reduction plan and the detailed transition strategy are aligned with each other if the GHG emissions reduction plan can be explained by the aggregation of each initiative.
  - ✓ Composition of business and assets based on GHG emissions at each target year
  - ✓ GHG reduction measures for each business and asset, such as R&D, M&A (+ buying and selling of assets), and phase-out of high-emitting assets
  - ✓ Timing for each measure and corresponding quantitative impact of GHG reduction
- We will also check how much the company uses carbon removal technology such as CCS and direct air capture (DAC), as well as carbon credits especially at the point of achieving net zero target. If the degree of utilization of carbon removal technologies or carbon credits is extremely high relative to the GHG residuals at the timing of achieving net zero target, we will carefully review the feasibility of such measures.

## **② Rationales for a development and implementation roadmap for innovative technologies**

- We will check the rationales for the R&D and implementation plan of innovative technologies if the company plans to employ such technologies to achieve GHG emissions reduction targets for 2030, 2040, and 2050:
  - ✓ Current state of R&D
  - ✓ Timing of practical application

## **③ Validity of external environments that determine the key assumptions of the detailed transition strategy**

- When a company develops and implements transition initiatives, it is important to distinguish what the company can control with its own effort from external environments that cannot be controllable by the company. We will confirm if the assumptions of external environments and conditions for achieving the GHG emissions reduction targets in 2030, 2040, and 2050 are reasonable or not.
  - ✓ For example, in the electricity sector, we will review the assumptions of external environments for the detailed transition strategy such as "prevalence of transmission network and storage battery for renewable electricity", "development of ammonia and hydrogen supply chain", "operation status of nuclear power plants."

## **④ Considerations to the natural and social environment**

- We will also evaluate if elements of a just transition are incorporated into the detailed transition strategy, referring to the International Labor Organization's (ILO's) "Guidelines for a just transition towards environmentally sustainable economies and societies for all."
  - ✓ Was there dialogue with affected employees when developing the transition plan, and have their opinions been incorporated into the plan?
  - ✓ Does the transition plan consider impacts to supply chain and local communities? Does the plan clearly reflect a concept of "no one left behind?"
  - ✓ Has the transition plan been clearly explained to employees whose employment may be impacted? Where possible, will there be adequate support provided to such employees, including training opportunities?
- Furthermore, we will check if mitigation measures for negative impacts on nature and biodiversity are incorporated in the plan to ensure the alignment with the DNSH principles.
- In addition, the following points shall also be taken into account from the viewpoint of reinforcing the credibility of the company's transition strategy, when confirming the above items (1) through (4).
  - ✓ Although the pathway assessment covers Scope 1 for the electricity sector and Scope 1+2 for the steel sector, the following points shall be cared and considered in light of the importance of Scope 3 emission reductions.



- ✓ Ensure that the scope of assessment (Scope 1 or Scope 1+2) represents a reasonably large proportion of the total Scope 1+2+3 GHG emissions (e.g., covers 70% of the total Scope 1+2+3 GHG emissions).
- ✓ With regard to hydrogen, it is also important to get closer to zero emissions not only during power generation, but also during the creation and transportation of hydrogen. Therefore, the use of low-carbon hydrogen is strongly recommended, and it is required to procure and use low-carbon hydrogen, at least, in the future.
- ✓ With regard to biomass, consideration must also be given to GHG emissions not only during power generation, but also during the life cycle, including the feedstock production and transportation stages (the target is less than 100 gCO<sub>2</sub>/kWh over the life cycle). As an extension of the DNSH Principles, consideration should also be given to the perspectives of "not using feedstock produced in areas where land rich in biodiversity have been converted," "not using feedstock produced in areas where land with high carbon has been converted," and "no biomass power generation using edible materials."
- In terms of negative carbon technologies that are used to mitigate the impact from delayed progress of transition initiatives, we will carefully review the degree of their use.
  - ✓ Unlike CCS/CCUS and similar technologies, we consider offsetting measures using carbon credits to be supplementary ones instead of the main GHG emissions reduction measures by companies. As a reference value, Glasgow Financial Alliance for Net Zero (GFANZ) and Climate Bonds Initiative (CBI), etc. indicate a figure of less than 10% of the total GHG reductions by a company.

### **5-3. Evaluation of Investment Plan**

- After confirming the credibility and materiality the company's GHG emissions reduction plan in the step "5-2. *Evaluation of Detailed Transition Strategy*", we will assess the feasibility of the plan from the angle of financing plans.
- In the step "5-3. *Evaluation of Investment Plan*", we will examine and evaluate how the detailed transition strategy is backed by financial plans, with two main points of analysis:
 

<Evaluation perspectives>

  - ① Validity of an investment plan that supports the detailed transition strategy
  - ② Feasibility of the investment plan in terms of income, expenditure, and cash flows
- From the abovementioned perspectives, we will conduct review based on transition plan developed and published by the company and the documents provided by the issuer/borrower:

<b>① Validity of an investment plan that supports the detailed transition strategy</b>
--

- Checking the validity of the investment plan (CapEx, OpEx) that supports the implementation of detailed strategy and measures:
  - ✓ Capital investment plan and R&D plan
  - ✓ Phase-out plan for high-emitting business or assets (plan for impairment loss)

- ✓ Expenditure plan for ensuring just transition and DNSH principles

## ② Feasibility of the investment plan in terms of income, expenditure, and cash

- Checking if the profitability of the entire company will be ensured even during the execution of the detailed transition strategy:
  - ✓ Assessing impact to profit-and-loss and balance sheet and financial capacity through a long-term financial plan
- As a long-term financial plan and an investment plan may change over time, we will stipulate the annual disclosure of the investment plan and the long-term financial plan related to the detailed transition strategy as covenants, which are obligations of the issuer/borrower, in the investment or loan agreement. If the company fails to provide the investment plan and the long-term financial plan after the investment or loan execution, or fails to fulfill its accountability, it is considered as a violation of covenants, which will lead to revocation of transition finance eligibility. After that, we will treat and manage the investment or loan as regular, non-label one.

### **5-4. Evaluation of Governance Structure**

- Assessment of the governance is focused on whether an appropriate organizational structure is in place to ensure the detailed transition strategy is steadily progressing as planned and that capital allocation is on target according to the investment plan.
- Assessment criteria include the following:
  - Under the roles clearly defined, do the executives engage in the development and implementation of the transition strategy and plan in an accountable manner?
  - Are roles and responsibilities at other levels are also clearly defined? At the company as a whole, is there an adequate environment to execute the transition strategy?
  - Is the transition plan periodically reviewed, and updated if there is noteworthy progress or change? Are there are adequate mitigation measures in place for any major risk in implementation?

To confirm the abovementioned items, in terms of the documents provided by the issuer/borrower, we will require ones with signature from personnel at the executive level to ensure accountability.

- Through evaluation and confirmation with the steps 5-1 to 5-4 described above, we believe the alignment between the company's GHG emissions reduction plan and the Paris Agreement pursuing the 1.5°C target will be confirmed. In addition, it will ensure the credibility and feasibility of this plan.

### **5-5. Monitoring and Progress Check**

- Even while we check eligibility for transition finance through the steps "5-1. Evaluation of Alignment with the Paris Pathway", "5-2. Evaluation of Detailed Transition Strategy", "5-3. Evaluation of Investment Plan", and "5-4. Evaluation of Governance Structure", it is naturally expected for actual progress to deviate from the original plan to some extent because

transition efforts require long time. Therefore, even after investment or loan got effective, we will conduct yearly checks on deviation between the GHG emissions reduction plan and the actual progress to check if recovery to the existing plan is possible or not. In cases where we judge it to be difficult to recover back to the existing plan, we will request the issuer/borrower to revise the plan and check again if the revised plan is aligned with Paris Agreement pursuing the 1.5°C target through the same steps 5.1 to 5.4.

- If it becomes apparent that the company cannot develop a revised plan even though we engage in in-depth dialogue, we may disqualify this finance for transition label and treat this investment or loan as normal finance, not as transition finance.

## **5-6. Information Disclosure**

- From the perspective of ensuring transparency, investments and loans that are judged to be transition eligible under this Framework will be disclosed on our website.
- In principle, the information to be disclosed will include (1) the name of the company, (2) the date of the investment or loan, (3) a summary of the evaluation (labeling whether the investment is qualified at the corporate-level or the asset-level).

## **5-7. Cases for Project Finance**

- In terms of project finance, basically the abovementioned evaluation approach will be applied in a same manner. However, when assessing pathway alignment at the corporate-level, the steps will change depending on who is the main sponsor of the special purpose company (SPC). The main sponsor is the sponsor who has the greatest shares of the SPC.
- If the main sponsor is an electricity company or a steel company, which is the target scope of this Framework, the evaluation approach will be the same. On the other hand, for all other sponsor types including other sector companies or investment funds, we will rather conduct an asset-level evaluation, skipping the corporate-level one.
- For the cases of asset-level evaluation in project finance, we will assess and judge its transition eligibility strictly based on the alignment with to the 1.5°C pathway, because the link between the SPC and the corporate strategy of its sponsor company, which is a separate legal entity from the SPC, cannot be considered strong due to the possibility of a change in the sponsor company or the cases of ownership by multiple sponsor companies.

### **Patterns for assessing transition eligibility in project finance**

	Corporate Level Assessment	Asset Level Assessment
If an electric power company/a steel company is the main sponsor	To be implemented (evaluated using the approach on p.11 for the electric power company, p. 19 for the steel company)	If the company-level assessment is "Not Aligned", then the evaluation is performed (evaluated using the approach on p.13 for the power generation assets, p.20 for iron making assets)
When the main sponsor is not an electric power company/a steel company	Not implemented	To be implemented (evaluated using the approach on p.13 for the power generation assets, p. 20 for iron making assets)

## 6

## Engagement with Broad and Diverse Stakeholders

- This Framework has been developed not only for Nippon Life's use but for a wider community of companies and financial institutions, with the aim of expanding the transition finance market, which is still in its nascent phase.
- As achieving the transition to net zero will require involvement and cooperation with a variety of stakeholders, we will engage and exchange opinions with institutions and people who resonate with the practical approach to transition finance outlined in this Framework.

For example, on top of engagement within the financial sector alliances such as GFANZ and NZAOA, we will engage with public sectors, academic institutions, NGOs, and corporations. In addition, we hope that the publication of this Framework will help permeate the essence and significance of transition finance into the individual level, who are consumers and citizens, and will promote constructive discussions toward decarbonization.

- The following comments have been received from CBI, that certified the GX economic transition bonds issued by the Japanese government, and from ERM, the consulting firm that assisted in the preparation of this Framework.

### Comments by CBI\*

*"The transition framework from Nippon Life is a critically important contribution to investor understanding and guidance for corporate transition activity. We especially welcome the emphasis the Framework places on the need for transition aligned to a 1.5°C pathway. There is still much work to be done to outline practical measures that will meet 1.5°C pathways; this framework will be a building block for such work, for example, the necessary raising of ambition in Japan's upcoming strategic energy review. We welcome and applaud Nippon Life's work."*

**Sean Kidney**

*C.E.O., Climate Bonds Initiative*

\*CBI (Climate Bonds Initiative), an international non-governmental organization in the UK, promotes investment in projects and assets necessary for a rapid transition to a low carbon economy.

### Comments by ERM\*

*"ERM is honored to be part of such an innovative project, to advance Japan's transition finance journey. To promote GHG reductions in high-emitting industries consistent with the Paris Agreement, a practical approach that combines flexibility with 'science-based universality' is needed. This framework is expected to become a new standard for transition finance in Japan and beyond. By collaborating with various stakeholders, we aim to accelerate the energy transition, and collectively achieve the goals of the Paris Agreement. ERM is proud to leverage our sustainability expertise and, together with Nippon Life, bring this vision to life."*

**Tom Reichert**

*Group C.E.O., ERM*

\*ERM is the world's largest specialist sustainability consultancy with more than 50 years of experience.

## <Appendix> Case Studies

### <Case Study 1> Electricity Sector: Company A

- The Company A has overall GHG emission reduction target of "50% decrease compared to 2013 by 2030 (740 gCO<sub>2</sub>/kWh in 2013), and net zero by 2050." The target value (GHG emission intensity) for 2030 is 370 gCO<sub>2</sub>/kWh.
- Company A needs a loan of 10 billion yen to finance the construction of a new high-efficiency gas-fired power plant, scheduled for completion in 2025.
- The specifications of the new thermal power plant are 340 gCO<sub>2</sub>/kWh high-efficiency gas-fired thermal power plant, which will be replaced by a hydrogen-fired thermal power plant in 2037.

#### ① Corporate-level evaluation

- An evaluation was conducted on Company A's overall GHG emissions reduction target of "50% decrease compared to 2013 by 2030 (2013 actual result: 740 gCO<sub>2</sub>/kWh) and net zero by 2050."
- The target value (GHG emission intensity) for 2030 is 370 gCO<sub>2</sub>/kWh, exceeding the 253 gCO<sub>2</sub>/kWh of the Paris Pathway.
- Although they plan to achieve net zero by 2050, they have not set a target value for 2040, and the pathway from 2030 to 2050 cannot be confirmed. (It cannot be said that the planned cumulative GHG emissions from 2025 to 2050 will fall below the Paris Pathway at the time of loans.)
- Therefore, at the corporate-level, it cannot be assessed as being aligned with the Paris Pathway.

#### ② Asset-level evaluation

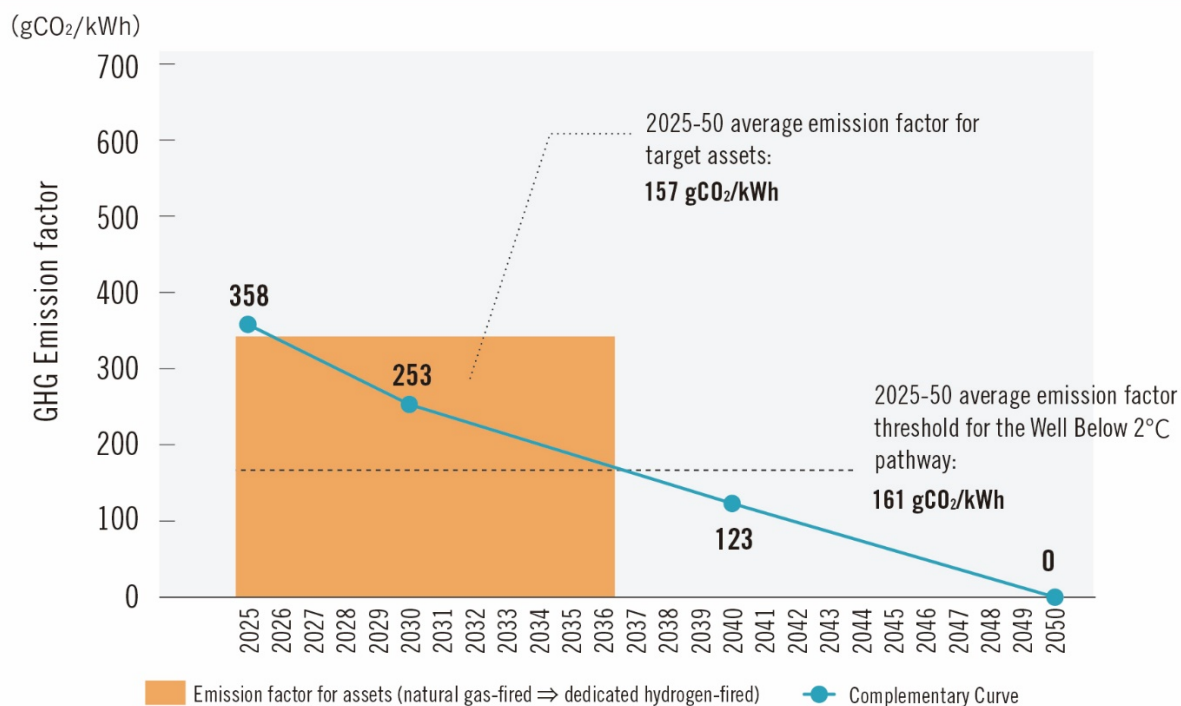
- Evaluation was carried out on the average GHG emissions plans for newly constructed thermal power plants.
- GHG emissions from the planned new high-efficiency gas-fired power plant will be 340 gCO<sub>2</sub>/kWh, which is significantly higher than the 161 gCO<sub>2</sub>/kWh (Threshold of period average GHG emission intensity from 2025 to 2050) of the Well Below 2°C pathway, making it a pathway inconsistent.
- However, Company A has indicated a future equipment renewal plan, and plans to replace its facilities with hydrogen-only combustion with 0 gCO<sub>2</sub>/kWh in 2037. Based on this renewal plan, the average planned GHG emission intensity from 2025 to 2050 will be 157 gCO<sub>2</sub>/kWh, which is lower than the 161 gCO<sub>2</sub>/kWh of the Well Below 2°C pathway.
- On the premise that the reliability of the facility renewal plan for this thermal power plant will be confirmed in the specific transition strategy, investment plan and governance structures separately presented by Company A, and also company A will pursue the Reference Curve after making investments and loans, this project can be evaluated as being Paris Pathway-aligned at the asset-level.



## < Summary >

- Although Company A is not aligned with the Paris Agreement at the corporate-level, it is aligned with the Paris Agreement at the asset-level, and therefore, can be evaluated as eligible for transition finance in terms of investments and loans that specify the use of proceeds for the asset.

### Asset-level transition eligibility assessment



## <Case Study 2> Steel Sector: Company B

- The Company B has overall GHG emission reduction target "20% decrease compared to 2013 by 2030, net zero by 2050." The target value (GHG emission intensity) for 2030 is 1.98 t-CO<sub>2</sub>/t-steel.
- Company B needs a loan of 10 billion yen to finance the update and expansion of the existing electric furnace equipment, scheduled for completion in 2025.
- The specifications of the existing electric furnace are 0.70 t-CO<sub>2</sub>/t-steel. Company B plans to increase the percentage of using renewable energy for the electric furnace from 2031 to 2040 and make it zero emission in 2040.

### ① **Corporate-level evaluation**

- An evaluation was conducted on Company B's overall GHG emissions reduction target of "20% decrease compared to 2013 level by 2030, net zero by 2050."
- The target value (GHG emission coefficient) for 2030 is 1.98 t-CO<sub>2</sub>/t-steel, which exceeds the Paris pathway's 1.13 t-CO<sub>2</sub>/t-steel.
- Although they plan to achieve net zero by 2050, they have not set a target value for 2040, and the pathway from 2030 to 2050 cannot be confirmed. (It cannot be said that the planned cumulative GHG emissions from 2025 to 2050 will fall below the Paris Pathway at the time of investments and loans.)
- Therefore, at the corporate-level, it cannot be assessed as being aligned with the Paris Pathway.

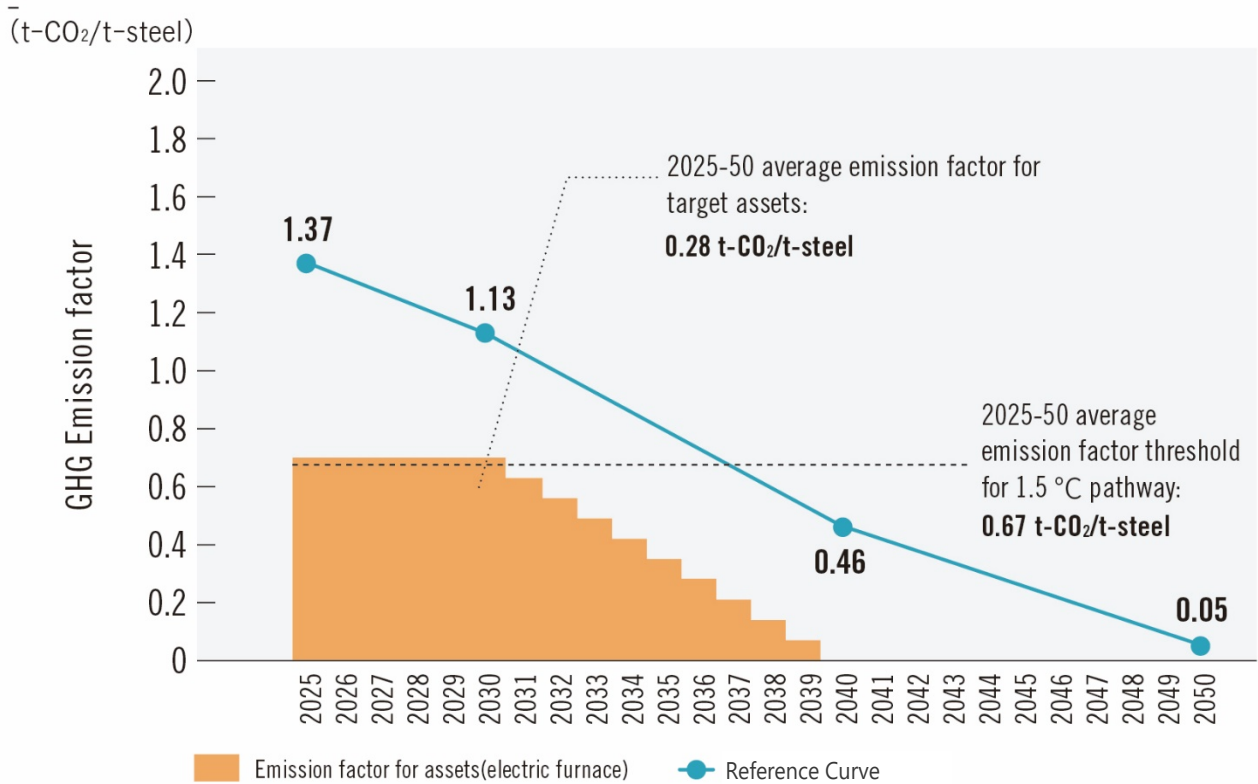
### ② **Asset-level evaluation**

- An evaluation was carried out on the average GHG emission plans of existing electric furnaces.
- The steel process, in which steel scrap and direct reduced iron are melted in electric furnaces to produce steel products, emits 0.70 t-CO<sub>2</sub>/t-steel, higher than the 0.67 t-CO<sub>2</sub>/t-steel required for the 1.5°C pathway, making it a pathway inconsistent under this situation.
- However, Company B has indicated a future equipment renewal plan, and plans to increase the percentage of using renewable energy for the electric furnace from 2031 to 2040 and make it zero emission in 2040. Based on this renewal plan, the average planned GHG emission intensity from 2025 to 2050 will be 0.28 t-CO<sub>2</sub>/t-steel, which is lower than the 0.67 t-CO<sub>2</sub>/t-steel of the 1.5°C pathway.
- Therefore, at the asset-level, it can be assessed as being aligned with the Paris Pathway.

### < **Summary** >

- Although Company B is not aligned with the Paris Agreement at the corporate-level, it is aligned with the Paris Agreement at the asset-level, and therefore, can be evaluated as eligible for transition finance in terms of investments and loans that specify the use of proceeds for this asset.

## Asset-level transition eligibility assessment



## <Appendix> References

Development of transition plan assessment	
ICMA	<i>Climate Transition Finance Handbook - Guidance for Issuers, June 2023</i>
	<i>Green Bond Principles - Voluntary Process Guidelines for Issuing Green Bonds, June 2021</i>
	<i>Sustainability-Linked Bond Principles - Voluntary Process Guidelines, June 2023</i>
GFANZ	<i>Financial Institution Net-zero Transition Plans - Fundamentals, Recommendations, and Guidance, November 2022</i>
	<i>Expectations for Real-economy Transition Plans, September 2022</i>
	<i>Scaling Transition Finance and Real-economy Decarbonization - Supplement to the 2022 Net-zero Transition Plans report, December 2023</i>
CBI	<i>Guidance to Assess Transition Plans, September 2023</i>
CDP	<i>ARE COMPANIES DEVELOPING CREDIBLE CLIMATE TRANSITION PLANS? - Disclosure to key climate transition-focused indicators in CDP's 2022 Climate Change Questionnaire, February 2023</i>
(Japan) Financial Services Agency Ministry of Economy, Trade and Industry Ministry of the Environment	<i>Transition Finance Follow-up Guidance</i> <i>- Guidance for an effective dialogue with fundraisers, June 2023</i>

Data used for pathway derivation	
IEA	<i>Net Zero Roadmap - A Global Pathway to Keep the 1.5 °C Goal in Reach, 2023</i>
TPI	<i>Carbon performance assessment of steelmakers: note on methodology, March 2022</i>
CBI	<i>Steel Criteria - The Steel Eligibility Criteria of the Climate Bonds Standard &amp; Certification Scheme, May 2023</i>
	<i>Electrical Utilities Criteria - The Electrical Utilities Eligibility Criteria of the Climate Bonds Standard &amp; Certification Scheme, March 2024</i>
Ministry of Economy, Trade and Industry Agency for Natural Resources and Energy	<i>Outlook for Energy Supply and Demand in FY2030 (Related Material), October 2021</i>
	<i>Transition Roadmap for Power Sector, February 2022</i>
Ministry of Economy, Trade and Industry	<i>Technology Roadmap for "Transition Finance" in the Steel Sector, October 2021</i>
	<i>Domestic and international trends toward carbon neutrality in the steel industry, September 2023</i>
Research Institute of Innovative Technology for the Earth (RITE)	<i>Outlook on Japan's Electricity Demand Towards 2050 (Basic Demand, Energy Efficiency, Electrification), January 2024</i>
Global Warming Prevention Headquarters	<i>Japan's Nationally Determined Contribution (NDC), October 2021</i>
National Institute for Environmental Studies	<i>The GHG Emissions Data of JAPAN (1990-2022), April 2024</i>



Nippon Life Insurance Company