



## SECOND PARTY OPINION

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# IDEMITSU KOSAN CO.,LTD. GREEN/TRANSITION BOND FRAMEWORK

Prepared by: DNV Business Assurance Japan K.K.

Location: Kobe, Japan

Date: 18 March 2022

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This report was prepared in the “Climate Transition Finance Model Project in FY2021 (Investigation of ideal way of Transition Finance)” which is a commissioned project by the Ministry of Economy, Trade and Industry.

## Contents

Executive Summary	3
I. Introduction	6
II. Scope and Objectives	18
III. Responsibilities of Idemitsu Kosan and DNV	19
IV. Basis of DNV's opinion	19
V. Work Undertaken	20
VI. Observations	21
VII. Assessment Conclusion	49
Schedule-1 Candidate Transition Loan Projects	51
Schedule-2 Climate Transition Finance Eligibility Assessment Protocol	52
Schedule-3 Green Bond (Transition Finance with specific use of proceeds) Eligibility Assessment Protocol	56
Schedule-4: Basic Guidelines on Climate Transition Finance Eligibility Assessment Checklist	61
Schedule-5 Eligibility Assessment for Green Bond Guidelines (Bonds with Specified Purpose for Transition Finance)	80
List of reference materials	91

### Revision history

Revision Number	Issue Date	Remarks
0	18 March 2022	Initial

### Disclaimer

Our assessment relies on the premise that the data and information provided by Issuer to us as part of our review procedures have been provided in good faith. Because of the selected nature (sampling) and other inherent limitation of both procedures and systems of internal control, there remains the unavoidable risk that errors or irregularities, possibly significant, may not have been detected. Limited depth of evidence gathering including inquiry and analytical procedures and limited sampling at lower levels in the organization were applied as per scope of work. DNV expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Statement.

### Statement of Competence and Independence

DNV applies its own management standards and compliance policies for quality control, in accordance with ISO/IEC 17021:2011 - Conformity Assessment Requirements for bodies providing audit and certification of management systems, and accordingly maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements. We have complied with the DNV Code of Conduct<sup>1</sup> during the assessment and maintain independence where required by relevant ethical requirements. This engagement work was carried out by an independent team of sustainability assurance professionals. DNV was not involved in the preparation of statements or data included in the Framework except for this Statement. DNV maintains complete impartiality toward stakeholders interviewed during the assessment process.

<sup>1</sup> DNV Code of Conduct is available from DNV website ([www.DNV.com](http://www.DNV.com))

## Executive Summary

DNV Business Assurance Japan K.K. (hereinafter, "DNV") has been commissioned by Idemitsu Kosan Co., Ltd. (hereinafter, "Idemitsu Kosan, "the Company") to evaluate the consistency of the "Idemitsu Kosan Green/Transition Bond Framework" (hereinafter, "Framework") with Climate Transition Finance Handbook (CTFH), Basic Guidelines on Climate Transition Finance (CTFBG), Green Bond Principles (GBP), and Green Bond Guidelines (GBGLs). The following is a summary of the assessment results of each four elements indicated in CTFH and GBP.

### < Climate Transition Finance Assessment results >

#### Element 1: Issuer's climate transition strategy and governance

The purpose of Idemitsu Kosan's transition financing is to implement the transition plan and change the business portfolio, striving toward carbon neutrality by 2050, and to promote its basic strategy towards 2030 and business strategies of each segment on the pathway to 2050 carbon neutrality. The Company is not only aiming to become carbon neutrality (=net zero CO<sub>2</sub> emissions) in terms of emissions from its own operations (Scope 1+2) by 2050, but also contribute to CO<sub>2</sub> emission reduction throughout entire value chain by strengthening activities related to its diverse businesses of Idemitsu Group. Specifically, using the CNX (Carbon Neutral Transformation) concept, the Company promotes actions both to strengthen existing business areas and to quickly establish new business areas. The actions are aligned with the Japanese government commitment to achieve carbon neutrality by 2050, and the transition pathways of Technology Roadmap (mainly, Oil Sector, Chemical Sector, and Electric Power Sector) published by the METI. From the point of view of governance, the specialized organizations have been set up to support key management decisions in addressing climate change, and the Board of Directors can oversee the execution of these decisions in monitoring, assessing and managing them. In advancing specific initiatives, Idemitsu Kosan also proceeds with consideration for a just transition, while placing importance on the concept of "truly inspired" in its corporate philosophy, that is, "how often do we consider the countries and communities we touch, and how much empathy do we have for the people living there?"

#### Element 2: Business model environmental materiality

Idemitsu Kosan's transition strategy (transition plan) is itself a business strategy to realize the transformation of its business portfolio, as stated in the Basic Strategy toward 2030. DNV has confirmed that its transition pathway is relevant to the key issues in business model of the Company, particularly in addressing climate change. In developing the transition plan and investment plan, Idemitsu Kosan also refers to several future scenarios affecting climate change actions that are widely recognized internationally, such as the IEA/SDS.

### **Element 3: Climate transition strategy to be science-based including targets and pathways**

Idemitsu Kosan's transition plan is aligned with the sector-specific roadmaps for transition finance in the oil, chemical and electric power sectors. These roadmaps are based on the Japanese government's goal of achieving carbon neutrality by 2050, as well as science-based targets and pathways for transition with reference to various Japanese policies, including the Strategic Energy Plan, and international scenarios, and are aligned with the Paris Agreement. Idemitsu Kosan has set long-term targets (and indicator level) for CO<sub>2</sub> emission reductions (reduction contributions) in line with each roadmap, as well as medium-term targets on the pathway, with the intention of proceeding with the transition plan in an integrated manner with Japan's energy policy. Considering the trend toward decarbonization and other factors, the Company continues to consider business environment scenarios as appropriate.

### **Element 4: Implementation transparency**

In pursuing its transition plan, it is expected that Idemitsu Kosan properly explains its investment plans to transition finance investors to ensure transparency to the extent possible. The results and impacts of each eligible project category are monitored and reported using quantitative indicators, such as CO<sub>2</sub> emissions/reduction contribution to the extent practicable, consistent with the overall goal. For negative impacts, the Company's environmental impact assessment, risk management mechanisms, and compliance with environmental laws are considered. For impact on social aspects, the project is designed to ensure a just transition, such as consideration of employment conditions.

## **< Green Bond Principles Assessment results >**

### **Principle 1: Use of Proceeds**

Idemitsu Kosan has established eligibility criteria for use of proceeds in its framework for the purpose of selecting appropriate allocation of funds through transition finance. Its eligibility criteria define both green and transition projects that are consistent with use of proceeds for climate transition finance funds. In addition to negative impact criteria, which exclude transactions that cause unfair trade, human rights and other social issues, and the environment and other social issues, environmental and social issues of the individual projects are considered appropriately.

### **Principle 2: Process for Project Evaluation and Selection**

In the evaluation and selection of investment projects, Idemitsu Kosan has a process to evaluate risks in accordance with its own internal rules for investment management and to obtain investment decisions and approvals after deliberations at the Investment and Finance Committee. In this process, the Company comprehensively assumes risk factors, such as business plans, economic indicators including internal carbon pricing, natural environmental risk, social risk, and transition risk, and examines countermeasures against

risk at that point. In the evaluation and selection of green/transition projects, it is expected to be followed by the Finance and Accounting Department, which selects eligible projects, and the General Manager of the Department makes the final decision on nominated projects.

### **Principle 3: Management of Proceeds**

Idemitsu Kosan plans to use the proceeds from the financing for new investments in nominated projects or for refinancing. The status of the funds appropriation is differentiated between the amount appropriated to transition assets and the amount unappropriated through the Company's internal management system or a dedicated form. Until the full amount of proceeds is allocated, the funds is managed in cash or cash equivalents.

### **Principle 4: Reporting**

Idemitsu Kosan plans to disclose the appropriation of funds on an annual basis until all funds raised have been appropriated to eligible projects. The Company also discloses environmental improvement effects, such as CO<sub>2</sub> emission reductions/reduction contribution, to the extent practicable. In the event of a major change in the appropriation plan of procured funds or other significant events, Idemitsu Kosan discloses such information in a timely manner.

Based on an assessment of Framework and other relevant documents and information provided by the fundraiser, DNV has confirmed that Framework meets the criteria required by the appropriate schemes and is eligible for transition finance. DNV also confirmed that the planned transition bond is expected to be appropriately designed and implemented in conformance with Framework.

## I. Introduction

### i. About the fundraiser

#### Overview

Idemitsu Kosan Co., Ltd. (hereinafter, "Idemitsu Kosan", the "Company", the "Fundraiser") is a major Japanese petroleum distributor that was founded in 1911 as an oil sales company. Idemitsu Kosan group consists of the company, 155 subsidiaries and 61 associated companies, which operates globally in five business segments: Petroleum, Basic Chemicals, Functiona IMaterials, Power & Renewable Energy, and Resources. The Idemitsu Group was established in 2019 through the integration of Idemitsu Kosan and Showa Shell Sekiyu.

#### Company philosophy

Idemitsu Kosan has set "Ningen-Soncho" that means having respect for human beings, and the words of the founder as the Origin of Management. The Management Philosophy, "Truly inspired", is a simple phrase of the beliefs and ideals that convey "people-centred management" since its founding. Idemitsu Kosan's purpose is to develop respected personnel as its ultimate goal and continue fully leveraging the power of people to contribute to society. By aiming a resilient corporate structure that can flexibly and nimbly respond to any environmental change, Idemitsu Kosan will continue contributing the realization of a sustainable society.

Idemitsu Kosan's Origin of Management and Management Philosophy

## The Origin of Management and Management Philosophy

### The Origin of Management



Ningen-Soncho  
Written by Sazo Idemitsu

Ningen-Soncho means having respect for human beings. The Origin of Management are the words of the founder just as he wrote them. We intend to communicate to the world the importance of respecting human beings, a key tenet of our history for over a century, and unassailable ideals we continue to pass down. We have reaffirmed these as our steadfast principles.

### Management Philosophy

## Truly inspired

How often do we consider the countries and communities we touch,  
and how much empathy do we have for the people living there?  
Are we contemplating what's best for them and then doing our utmost to act in their interests?  
Each day, we must reflect on our actions;  
we must strive to do better not only for ourselves, but also for others.  
When we come together and our efforts are united, we make the impossible possible.  
With integrity, solidarity, and determination, we will overcome any challenge we face.

Idemitsu's Management Philosophy is the reaffirmation of "people-centered management" beliefs and ideals, which we have carefully maintained since our founding. It is the guidance to "keep focused on what matters" and "stay committed to providing value to society" for all Group members, simple phrases that convey the essence of Idemitsu.

From Idemitsu Kosan Annual Report 2021

**ii. Sustainability Policy**

Idemitsu Kosan has formulated the Sustainability Policy to promote its sustainability initiatives. This policy has been approved by the Board of Directors of Idemitsu Kosan (established on October 19, 2021).

**Idemitsu Group Sustainability Policy**

**Idemitsu Group Sustainability Policy**

As a reliable partner, the Idemitsu Group fulfills the following three responsibilities through its business activities: "Protect the Environment and Lifestyles," "Support Regional Communities," and "Provide for Society with Technological Capabilities." The Idemitsu Group discloses information appropriately, engages in earnest dialogue and collaboration with stakeholders, and aims to enhance its corporate value while remaining a sustainable company that observes the following priority policies.

**Environment**

- While fulfilling the Idemitsu Group's crucial social mission of maintaining the stable supply of energy and materials, we continue striving to realize carbon neutrality, not only within the Idemitsu Group but also throughout society.
- We promote the development of innovative technologies, pursue the advance mitigation of environmental risks in our business activities, and contribute to the conservation of the natural environment as well as the realization of a circular economy.

**Society**

- The Idemitsu Group places the highest priority on respect for human rights in all its decisions and actions, and strives in its business activities to prevent and ameliorate adverse impacts on human rights.
- By implementing diversity and inclusion measures, we leverage our diverse capabilities to grow as a company and contribute to the realization of inclusive societies.
- Working together with our partners, we contribute to the realization of a sustainable society throughout the supply chain.
- We make maximum use of our resources to co-create solutions that meet the needs of regional communities.

**Governance**

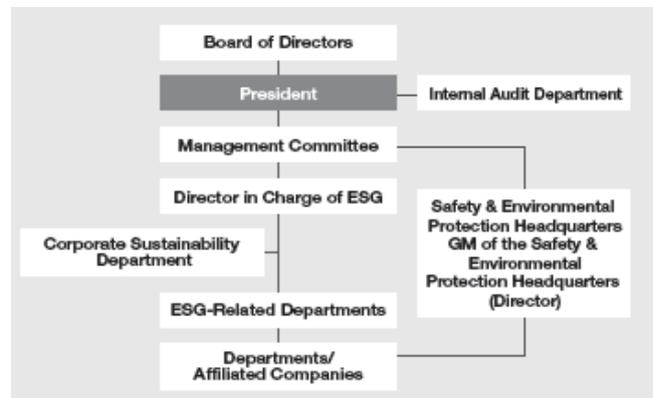
- The Idemitsu Group seeks to enhance deliberations by the Board of Directors and continues to improve its effectiveness.
- We comply with international norms concerning the environment, human rights, labor, safety, and anticorruption.
- We conduct fair and honest management, identify material risks, and implement appropriate risk management measures.

From Idemitsu Integrated Report 2021

**Sustainability Promotion Structure**

To conduct management from the perspective of sustainability, Idemitsu Kosan established the Corporate Sustainability Department to coordinate and manage ESG issues across departments, including climate change and human rights.

Each ESG issue is overseen by a designated department, with its progress reported to the Management Committee by the director in charge of ESG. The Management Committee discusses important policies and measures related to sustainability, reporting the deals to the President and, when needed, the Board of Directors.



From Idemitsu Integrated Report 2021

Under this management structure, Idemitsu Kosan is committed to solving environmental and social issues and strive to achieve sustainable growth of the company.

### Materiality as a priority topic for management

Idemitsu Group believes that its mission is to continue supplying the energy underpinning people’s lifelines while contributing to the development of society. To this end, it has identified six materiality issues that it should prioritize during the period of the Medium-term Management Plan. Recently, the environmental burden of energy use has become a major social issue, and the Company recognizes "harmony with the global environment and society" as an important and urgent theme.

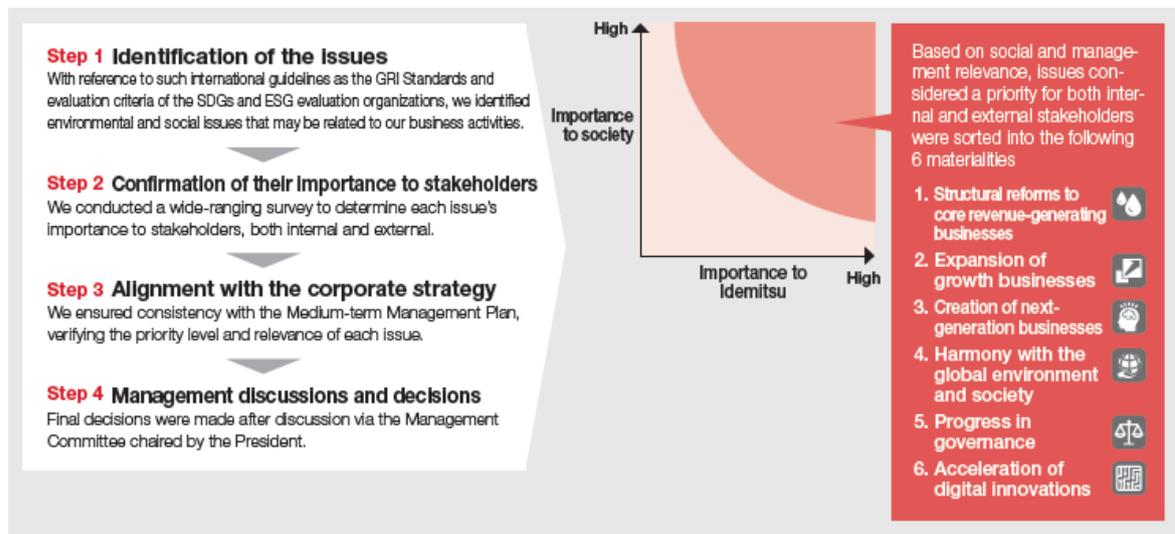
#### Idemitsu Group’s priority topics (materiality)

Materiality	Major initiatives	Main relevant SDGs
<p><b>Structural reforms to core revenue-generating businesses</b></p> <p>Build a strong supply chain and further strengthen stability and competitiveness through collaboration with partners in the core revenue-generating businesses centered on petroleum products and chemicals.</p>	<ul style="list-style-type: none"> <li>■ Pursuing profits in the petroleum business (maximizing integration synergies, making refineries more reliable) ➡ P. 39-42</li> <li>■ Enabling Nghi Son Refinery to contribute to profits ➡ P. 42</li> <li>■ Utilizing the Pacific Rim supply chain to capture growing demand in Asia ➡ P. 40</li> <li>■ Gas development in Southeast Asia ➡ pp.51-52</li> </ul>	
<p><b>Expansion of growth businesses</b></p> <p>Expand business scale and scope by strengthening R&amp;D in growth fields such as functional materials and renewable energy, which are becoming increasingly necessary in the world.</p>	<ul style="list-style-type: none"> <li>■ Expansion of business scale and domains (M&amp;As on a scale of ¥100 billion during the Medium-term Management Plan period) ➡ pp. 35-36</li> <li>■ Increasing the share of functional materials business to 30% by 2030 ➡ pp.45-48</li> <li>■ Increasing total power generated from renewable energy overseas to 5GW by 2030 (of which, 4GW is renewable energy) ➡ p.50</li> <li>■ Transformation of solar-power business ➡ pp.49-50</li> <li>■ Black pellet development (biomass fuel) ➡ p.52</li> <li>■ Strengthening the development of functional materials utilizing open innovation ➡ pp.53-54</li> </ul>	
<p><b>Creation of next-generation businesses</b></p> <p>Accelerate technological innovation and innovation beyond organizational frameworks to create new businesses with an eye to the future.</p>	<ul style="list-style-type: none"> <li>■ Creating new businesses with an eye on social changes, diversifying customer needs, and lessening environmental impact ➡ pp.25-34</li> <li>■ Development of next-generation service station business ➡ pp.41-42</li> <li>■ Distributed energy business ➡ pp.49-50</li> <li>■ Circular business ➡ pp.44, 50, 71</li> </ul>	
<p><b>Harmony with the global environment and society</b></p> <p>Promote measures to realize a low-carbon and circular economy in light of climate change risks, and promote diversity and inclusion in partnership with business partners, communities, and employees.</p>	<ul style="list-style-type: none"> <li>■ Efforts to reduce GHGs (2030: -4 million t-CO2 compared to 2017) ➡ pp.20, 67-70</li> <li>■ Contributing to the areas where we operate business ➡ pp.25-32</li> <li>■ Implementing diversity and inclusion initiatives ➡ pp.75-78</li> <li>■ Making work more rewarding for employees ➡ p.78</li> <li>■ SDG educational activities ➡ p.23</li> </ul>	
<p><b>Progress in governance</b></p> <p>Strengthen governance functions to maintain the trust of shareholders and all other stakeholders.</p>	<ul style="list-style-type: none"> <li>■ Enhancing the roles and functions of the Board of Directors ➡ pp.59-64</li> </ul>	
<p><b>Acceleration of digital innovations</b></p> <p>Capitalize on evolving digital technologies to transform existing business processes and management in response to the business environment and customer needs.</p>	<ul style="list-style-type: none"> <li>■ Utilizing digital technologies to create new value ➡ pp.18, 33-34</li> </ul>	

## Materiality Identification Process

Idemitsu Kosan has defined a process for identifying materiality issues. The first step in identifying materiality was to identify environmental and social issues that may be related to Idemitsu Kosan's business activities, with reference to such international guidelines as the GRI Standards and evaluation criteria of the SDGs and ESG evaluation organizations for non-financial information disclosure (Step 1). Secondly, Idemitsu Kosan conducted a wide-ranging survey to determine each issue's importance to stakeholders, both internal and external (Step 2). And then, Idemitsu Kosan ensured that the results of these evaluations were aligned with the Medium-term Management Plan, by verifying the priority level and relevance of each issue (Step 3). Finally, the final decisions were made after discussions via the Management Committee chaired by the president (Step 4).

### Idemitsu Group's Materiality Identification Process



From Idemitsu Integrated Report 2021

## Contributing to the achievement of the Sustainable Development Goals (SDGs)

In the process of identifying materiality issues to strive as a priority topic for management, Idemitsu Kosan considered that the impact on the SDGs through the promotion of these initiatives is important, and the impact of any business activity targeting materiality will, to varying degrees, extend to all the SDGs. Idemitsu Kosan considered the fact that each SDG is interconnected. Idemitsu Kosan believes it can especially contribute to the achievement of the following three SDGs through its business activities: Goal 7 (ensure access to affordable, reliable, sustainable and modern energy for all), Goal 9 (develop resilient infrastructure, promote inclusive and sustainable industrialization, and increase innovation), Goal 11 (make cities and human settlements inclusive, safe, resilient and sustainable).

### SDGs where we make a larger difference



In addition, its efforts to achieve these goals may lead to increase environmental burden in the form of higher resource consumption

**SDGs requiring attention due to risks arising from business activities**

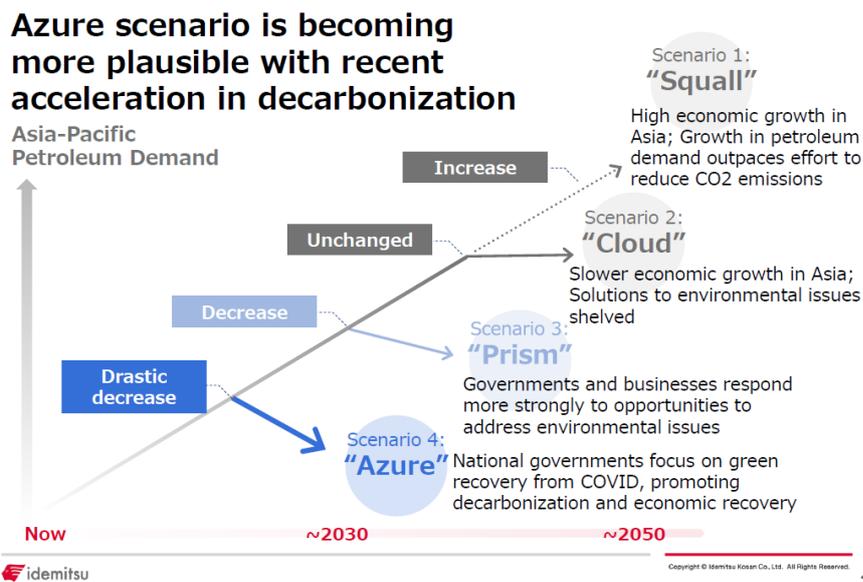


and GHG emissions. Recognizing that its business activities might impose a burden in the five areas on the right and keep Idemitsu Kosan from achieving the goals, it recognizes the necessity of making serious efforts to address this. Idemitsu Kosan is considering measures to minimize or eliminate the negative impact of its operations on these social issues. Specifically, it has set reduction targets for GHG emissions related to the use of petroleum resources and the risk of climate change and is implementing measures to achieve them. The entire group of Idemitsu Kosan will also work together promote the recycling solar panels and petrochemical, including plastics.

**Long-term Business Environment Assumption toward 2050 (addressing Climate Change as a materiality issue)**

Idemitsu Group recognizes that addressing climate change is one of the most important issues to be tackled on a global scale and is making the most of the Group's assets to resolve the issue from both "mitigation" and "adaptation" perspectives. Specifically, Idemitsu Kosan is analysing energy demand and climate change impacts in Japan and the Asia Pacific region using multiple scenarios to identify risks and opportunities that may arise in the future, assuming a business environment in 2050, and reflecting the results in our business strategies and plans.

Long-term energy business environment scenarios towards 2050



From Idemitsu Kosan Medium-term Management Plan (FY2020-2022), May 11, 2021

### Corporate vision and basic strategy toward 2030

Idemitsu Kosan is seriously considering to changes in the business environment, including climate change, while envisioning the above scenarios. At the same time, Idemitsu Kosan believes that it is its responsibility to both fulfil its social mission of ensuring a stable supply of the energy and contribute to the resolution of social issues and has set forth this as its "Corporate vision for 2030", using the term "Your Reliable Partner for a Brighter Future". In Corporate vision for 2030, Idemitsu Kosan will fulfil its three responsibilities in the business domains of "Energy/material transition to a carbon neutral/circulatory society", "Next generation mobility & community for an aging society", and "Advanced materials to make it possible to overcome such challenges".

#### Corporate vision for 2030

We believe it is our responsibility to contribute to social challenges in addition to providing stable energy supply.

**Our corporate vision for 2030 is to become**  
**Your Reliable Partner for a Brighter Future**

and we will fulfill three responsibilities through our business activities:

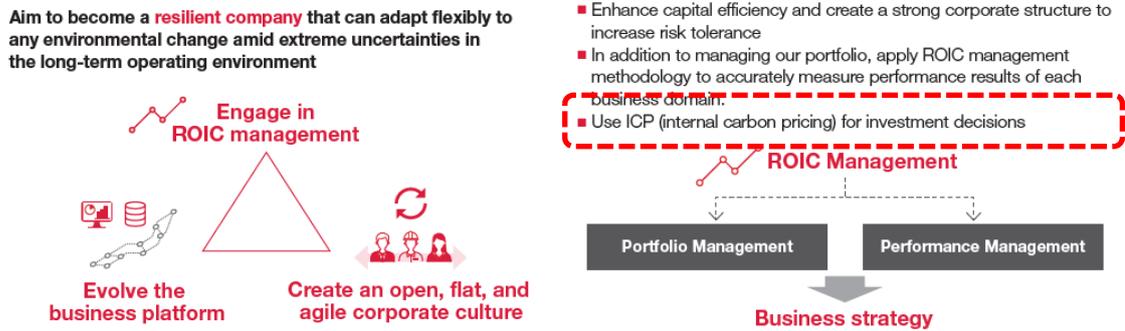
- Responsibility to protect the environment and lifestyles:**  
**Energy/material transition to a carbon neutral/circulatory society**
- Responsibility to support regional communities:**  
**Next generation mobility & community for an aging society**
- Responsibility to provide for society with technological capabilities:**  
**Advanced materials to make it possible to overcome such challenges**

We will fulfill the three responsibilities through our business activities.

From Idemitsu Integrated Report 2021

To realize "Corporate vision for 2030", Idemitsu Kosan has also established "Basic strategies for 2030" and will implement the three basic strategies of engaging in ROIC management, evolving the business platform, and creating an open, flat, and agile corporate culture. Idemitsu Kosan uses internal carbon pricing for investment decisions in ROIC management, and it is expected that the economic impact of GHG emissions will be considered more than ever for the business strategies and investment planning.

### Basic strategy for 2030



### Business strategy for 2030 and portfolio transformation for the future

In line with the basic strategy for 2030, Idemitsu Kosan is working on business strategies for each segment organized in the table below.

#### Business strategy for 2030

##### Petroleum Basic Chemicals

- Turn apollostation into a “Smart Yorozuya (Smart One-Stop Shop)”
- Review refinery/complex structure and turn it into a “CNX\* Center” in the area
- Reduce fixed costs ahead of decrease in demand
- Deepen integration of refining and petrochemical production
- Enabling profit contribution form Nghi Son Refinery

\*CNX: Carbon Neutral Transformation

##### Functional Materials

- Commercialize lithium solid-state electrolytes
- Accelerate development of advanced materials (e.g. electronic materials, performance chemicals, lubricants, grease, functional paving materials, agri-bio products)

##### Power and Renewable Energy

- Expand development of renewable energy sources (solar/wind/biomass)
- Develop distributed energy business centered around renewable energy
- Convert Solar Frontier’s module sales business into a system integrator business

##### Resource

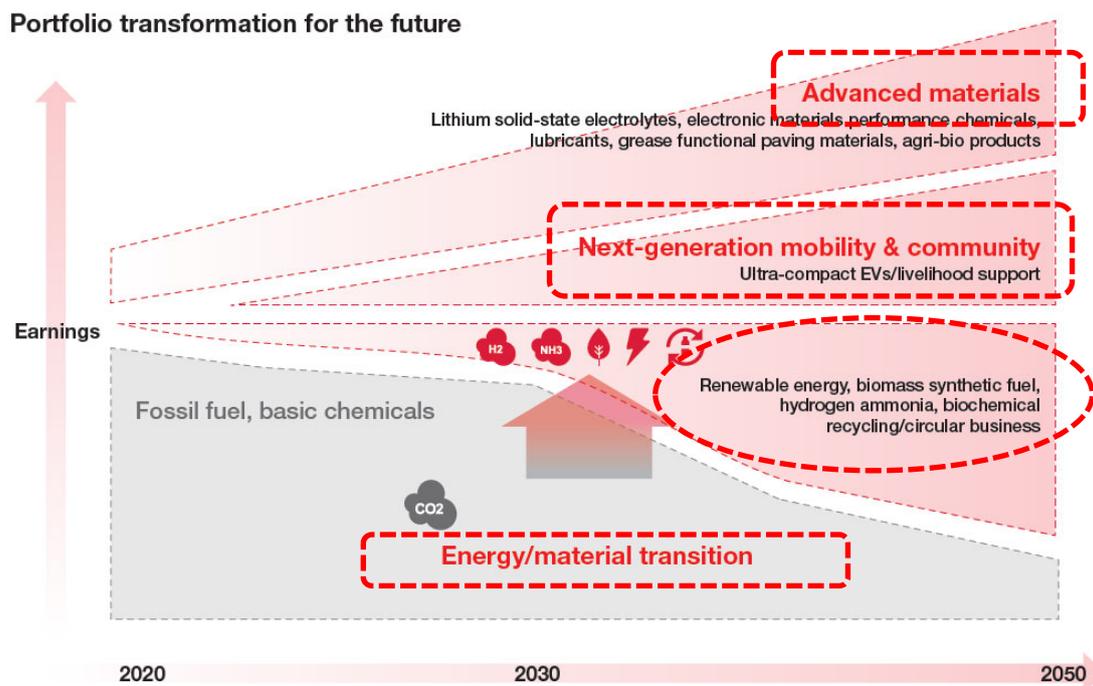
- Oil E&P: Shift to Southeast Asian gas development, CCS initiatives using developed technologies
- Coal: Reduce mine production, shift to low-carbon solution business (black pellets, ammonia)
- Expand domestic and overseas geothermal business

From Idemitsu Kosan Sustainability Data Book 2021

The aim of this business strategy is to realize the 2030 vision and Idemitsu Kosan’s portfolio transformation for 2050. First, through an "Energy/material transition", Idemitsu Kosan is shifting to new forms of energy, such as renewable energy, biomass, and sustainable fuels, with aiming low carbonization of its petroleum and basic chemicals segments.

In its new business areas of "Next-generation mobility & community" and "Advanced materials", Idemitsu Kosan is making apollostation outlets a smart one-stop shops "Smart Yorozuya" that will change the business model of service stations and lead to next-generation mobile services, such as EVs, and developing high performance material products (lithium solid-state electrolytes) that can be directly used in EVs. Idemitsu Kosan has declared that it will promote carbon neutrality towards 2050 by focusing on the new markets that will be created by the arrival of a carbon-neutral society, and by shifting its business portfolio to mitigate climate change through value co-creation inside and outside the company.

### Portfolio transformation for the future

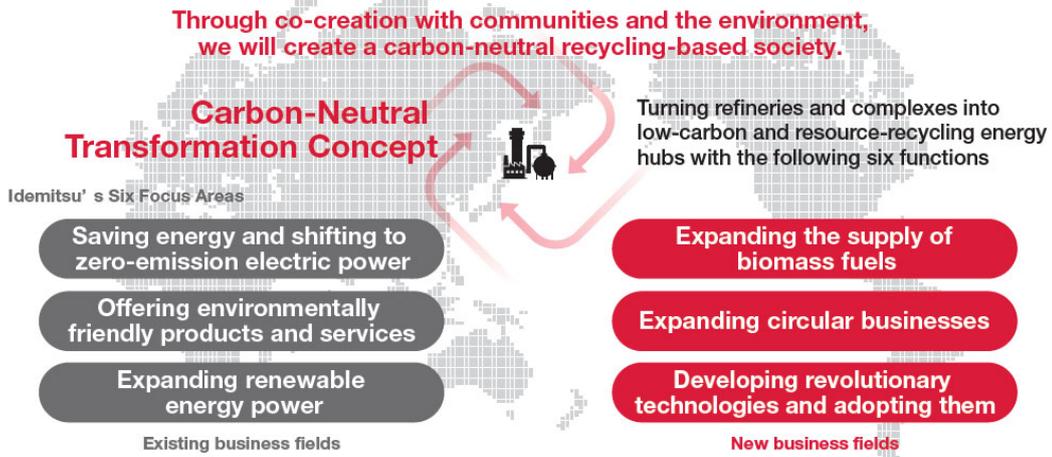


From Idemitsu Integrated Report 2021

### Transition plan for achieving carbon neutrality

To realize this business portfolio shift, Idemitsu Kosan is working to supply the energy and materials needed by customers and society by strengthening and expanding existing business domains (saving energy and shifting to zero-emission electric power, offering environmentally friendly products and services, and expanding renewable energy power) and quickly establishing new business domains (expanding the supply of biomass fuels, expanding circular businesses, and developing revolutionary technologies and adopting them). Idemitsu Kosan is taking actions to realize a carbon-neutral transformation (CNX) concept through the addition of the six functions to its refineries and complexes and by positioning them as new bases operating as low-carbon and resource-recycling energy hubs.

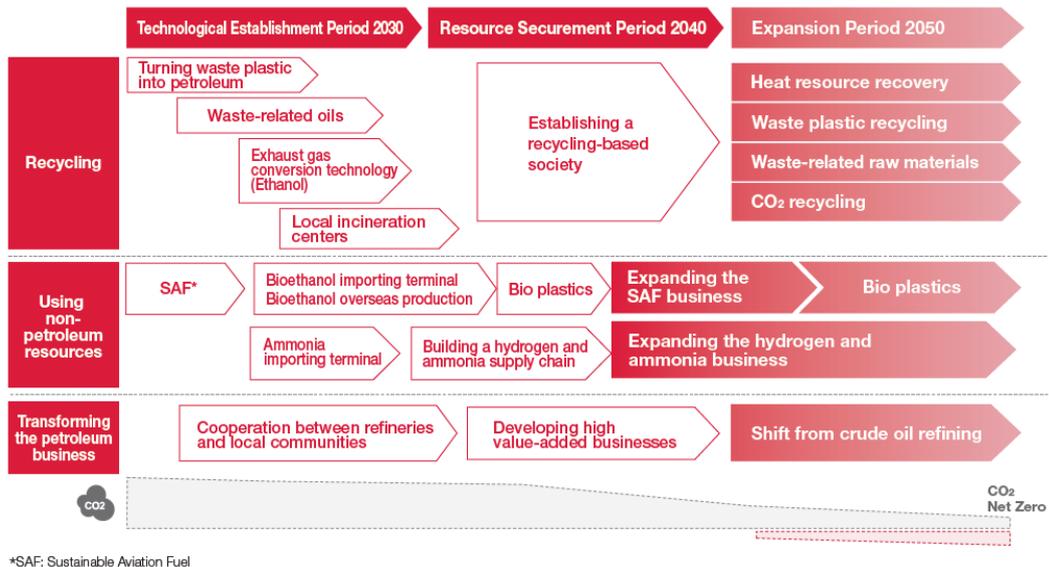
### Idemitsu Kosan's CNX Concept



From Idemitsu Integrated Report 2021

In addition, Idemitsu Kosan has created the following transition plans for recycling, the use of non-petroleum resources, and the transformation of the petroleum business. The projects that require transition financing are included in these initiatives. Regarding these initiatives, Idemitsu Kosan collaborate with communities and other companies to roll out activities while receiving support from experts and national interests at home and overseas.

### Idemitsu Kosan's transition plan for achieving carbon neutrality



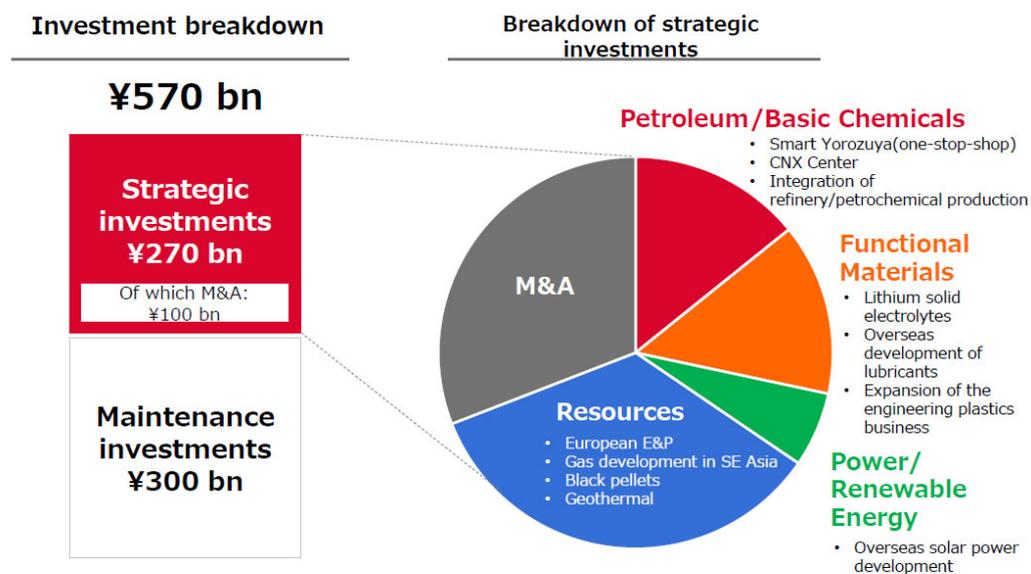
From Idemitsu Integrated Report 2021

### iii. About Transition Finance

#### Investment plan for carbon neutrality

Idemitsu Kosan is aiming to become a resilient company that can adapt flexibly to any environmental change amid extreme uncertainties in the long-term operating environment. Considering the climate change risk, Idemitsu Kosan has established internal carbon pricing of investments related to new projects and decided to carry out trial-basis investment studies that reference the economic impact of carbon dioxide (CO<sub>2</sub>) emissions. Based on this premise, it has created basic policies and corporate strategies for 2030 in five segments (Petroleum, Basic chemicals, Functional materials, Power and renewable energy, and Resource), and are planning strategic investments in its medium-term management plan. Part of this investment plan is reflected in the use of proceeds for Idemitsu Kosan’s Green/Transition Bond that will be issued in line with the Green/Transition Bond Framework.

Strategic investment plan in five segments in Medium-term Management Plan (FY2020-2022)



#### The Significance of Transition Finance and Idemitsu Kosan’s Green/Transition Bond Framework

Idemitsu Kosan's transition efforts are in line with the Japanese government's 2050 carbon neutrality declaration, the Strategic Energy Plan, and the METI's Transition Roadmap for Oil Sector, Chemical Sector, and Electric Power Sector, respectively. Idemitsu Kosan is convinced that the issuance of the Green/Transition Bond is positioned as a fund procurement for the realization of a carbon-neutral society, and it will provide an opportunity to communicate its efforts to stakeholders. Idemitsu Kosan plans to revise



its long-term strategies, such as its energy business environment scenario and medium-term management plan, as needed, in the event of major changes in the external environment and other factors that were assumed.

**Company name:** Idemitsu Kosan Co., Ltd.

**Framework Name:** Idemitsu Kosan Green/Transition Bond Framework

**Name of external review body:** DNV Business Assurance Japan K.K.

**Date of report:** 18 March 2022

## II. Scope and Objectives

Idemitsu Kosan has commissioned DNV to assess the "Idemitsu Kosan Co., Ltd. Green/Transition Bond Framework (hereinafter, the "framework)". Our objective has been to implement an assessment on whether the framework meets the criteria established on CTFH, CTFBG, GBP, and GBGLs to provide a second party opinion on the eligibility of the framework.

DNV, as an independent external reviewer, has identified no real or perceived conflict of interest associated with the delivery of this second-party opinion for Idemitsu Kosan.

In this report, no assurance is provided regarding the financial performance of the framework, the value of any investments, or the long-term environmental benefits of the transaction.

### (1) Scope of review\*

The review assessed the following elements and confirmed their alignment with the gist of GBP/GBP:

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Use of Proceeds        | <input checked="" type="checkbox"/> Process for Project Evaluation and Selection |
| <input checked="" type="checkbox"/> Management of Proceeds | <input checked="" type="checkbox"/> Reporting                                    |

\*The scope of review is to be applied as a part of the evaluation of the transition finance with use of proceeds

\*The four disclosure elements of CTFH and CTFBG are included in the scope of review

### (2) Role(s) of review provider

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Consultancy (incl. 2 <sup>nd</sup> opinion) | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification   | <input type="checkbox"/> Rating        |
| <input type="checkbox"/> Other ( <i>please specify</i> ):                       |  |

### (3) Standards/Guidelines to be applied

No.	Standards/Guidelines	Scheme Owner
1.	The Climate Transition Finance Handbook (CTFH) <sup>*1</sup>	International Capital Markets Association (ICMA), 2020
2.	Basic Guidelines on Climate Transition Finance (CTFBG) <sup>*1</sup>	Financial Services Agency of Japan, Ministry of Economy, Trade and Industry of Japan and Ministry of Environment of Japan, 2021
3.	Green Bond Principles (GBP) <sup>*2</sup>	International Capital Markets Association (ICMA)
4.	Green Bond Guidelines (GBGLs) <sup>*2</sup>	Ministry of the Environment, 2020

\*1 Climate Transition: The concept of climate transition focuses principally on the credibility of an issuer's climate change-related commitments and practices (quoted and edited from CTFH and CTFBG)

\*2 It confirms compliance with the four core elements (use of proceeds, process for project evaluation and selection, management of proceeds, and reporting) that must be met when implementing as a bond/loan that meets the four elements of transition and has a specific use of proceeds (quoted and edited from CTFBG).

### III. Responsibilities of Idemitsu Kosan and DNV

Idemitsu Kosan has provided the information and data used by DNV during the delivery of this review. DNV's second party opinion represents an independent opinion and is intended to inform Idemitsu Kosan and other interested stakeholders in Idemitsu Kosan's green/transition bond as to whether the established criteria have been met, based on the information provided to us. In our work, we have relied on the information and the facts presented to us by Idemitsu Kosan. DNV is not responsible for any aspect of the nominated projects and assets referred to in this opinion and cannot be held liable if estimates, findings, opinions, or conclusions are incorrect. Thus, DNV shall not be held liable if any of the information or data provided by Idemitsu Kosan's management and used as a basis for this assessment were not correct or complete.

### IV. Basis of DNV's opinion

To provide as much flexibility for the fundraiser, Idemitsu Kosan, as possible, we have adapted our green and/or transition bond framework assessment methodologies, which incorporates the requirements of the CTFH, CTFBG, GBP, and GBGLs, to create Climate Transition Finance Eligibility Assessment Protocol for the framework (hereinafter, "Protocol"). Please refer to Schedule-2. The Protocol is applicable to Idemitsu Kosan's framework under the CTFH, CTFBG, GBP, and GBGLs.

Our Protocol includes a set of suitable criteria that can be used to underpin DNV's opinion. The overarching principle behind the criteria is that a Climate Transition Finance should "provide an investment opportunity with transparent sustainability credentials" and "enable financing and investment for new or existing projects that provide environmental benefits."

As per our Protocol, the criteria against Idemitsu Kosan's framework to be reviewed is grouped into the following elements, represented by the CTFH, CTFBG, GBP and GBGLs:

#### (1) Four common components of transition finance

- **Element 1: Issuer (Fundraiser)'s climate transition strategy and governance**  
The financing purpose should be for enabling a fundraiser's climate change strategy.
- **Element 2: Business model environmental materiality**  
The planned climate transition trajectory should be relevant to the environmentally material parts of the fundraiser's business model.
- **Element 3: Transition is science-based including targets and pathway**  
Fundraiser's climate strategy should reference science-based targets and transition pathways

- **Element 4: Implementation transparency**

Market communication in connection with the offer of a financing instrument which has the aim of funding the fundraiser's climate transition strategy should also provide transparency of underlying investment program

## **(2) Four common components of a green/transition bond with use of proceeds**

- **Principle 1: Use of Proceeds**

The Use of Proceeds criteria are guided by the requirement that a fundraiser of transition finance with use of proceeds must use the funds raised to finance eligible activities. The eligible activities should produce clear environmental benefits.

- **Principle 2: Process for Project evaluation and selection**

The Project Evaluation and Selection criteria are guided by the requirements that a fundraiser of a transition finance should outline the process it follows when determining the eligibility of an investment using transition finance proceeds and outline any impact objectives it will consider.

- **Principle 3: Management of Proceeds**

The Management of Proceeds criteria is guided by the requirements that transition finance should be tracked within the issuing organization, that separate portfolios should be created when necessary and that a declaration of how unallocated funds will be handled should be made.

- **Principle 4: Reporting**

The Reporting criteria are guided by the recommendation that at least Sustainability Reporting to the bond investors and loan lenders should be made of the use of finance proceeds, and that quantitative and/or qualitative performance indicators should be used, where feasible.

- **Other: Review (External Review)**

In cases where the fundraiser judges that an objective evaluation of its responses to Principles 1 through 4 in (1) and (2) above is necessary, it is considered useful to utilize a review by an external organization. Reviews include "second party opinion," "verification," "certification," and "rating."

## **V. Work Undertaken**

Our work constituted a comprehensive review of the available information, based on the understanding that this information was provided to us by the issuer in good faith. We have not performed an audit or other tests to check the veracity of the information provided to us. The work undertaken to form our opinion included:

### i. Pre-funding assessment

- Creation of the fundraiser-specific Protocol, adapted to the purpose of transition finance, as described above, and related to Schedule-2 of this report;
- Assessment of documentary evidence provided by the fundraiser on the transition finance and supplemented assessment by comprehensive desktop research. These checks refer to current assessment best practices and standards methodology;
- Discussions with the fundraiser, and review of relevant documentation;
- Documentation of findings against each element of the criteria.

### ii. Post-funding assessment (*\*not included in this report*)

- Interviews with the fundraiser's managers and review of relevant document control
- Field research and (if necessary)
- Document creation of post-issuance assessment results

## VI. Observations

DNV's findings and opinion are as described in (1) and (2) below:

### (1) Four common components of CTFH and CTFBG (disclosure elements)

#### • **Element 1: Issuer (Fundraiser)'s climate transition strategy and governance**

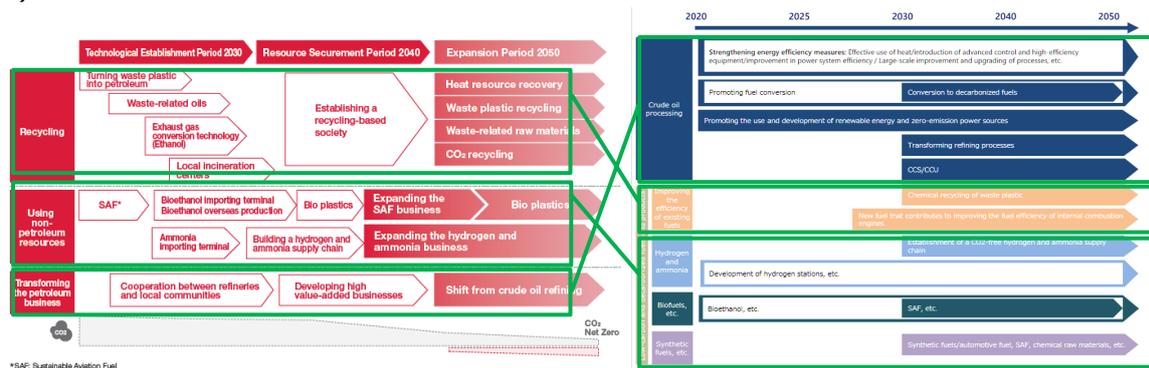
DNV has confirmed that the purpose of Idemitsu Kosan's green/transition bond financing is consistent with its basic strategy towards 2030 and the business strategies itemized in each business segment and is also in line with the vector of its efforts to realize a carbon-neutral society in 2050. DNV also confirmed that an organization has been set up to lead the carbon neutral initiative, and that an organizational structure (governance) has been established to promote the initiative, monitor its progress, and ensure decision-making by management. Details are as follows.

**Climate Transition Strategies:** With the emergence of a carbon-neutral society, Idemitsu Kosan has set out in its corporate vision for 2030 and basic strategy towards 2030 to transform its business portfolio to respond to the trend toward decarbonization and mitigation of climate change, as well as to anticipate new markets that will be created. Idemitsu Kosan has created the following transition plan to realize the transformation of its business portfolio. Idemitsu Kosan is planning to finance by green/transition bonds to

implement specific initiatives. In developing its climate transition strategies and transition plan, Idemitsu Kosan is keenly aware of the Japanese government's goal of achieving carbon neutrality towards 2050, as well as its energy policy, including Japan's Strategic Energy Plan. As a result, DNV confirmed that Idemitsu Kosan's Transition Plan is aligned with the countermeasures in the roadmap for transition financing in the oil sector published by the Ministry of Economy, Trade and Industry. DNV also confirmed that Idemitsu Kosan's transition plan is consistent with the specific initiatives described in the roadmaps for each the chemical sector and electric power sector that were also released by METI. In addition, DNV has confirmed that the individual projects, related to production and supply of sustainable aviation fuel (SAF), are consistent with the basic approach to promoting the introduction of SAF, which is described in the "Schedule for the Promotion of Decarbonization of Aviation" (the technical roadmap for transition finance in Aviation Sector) released by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT).

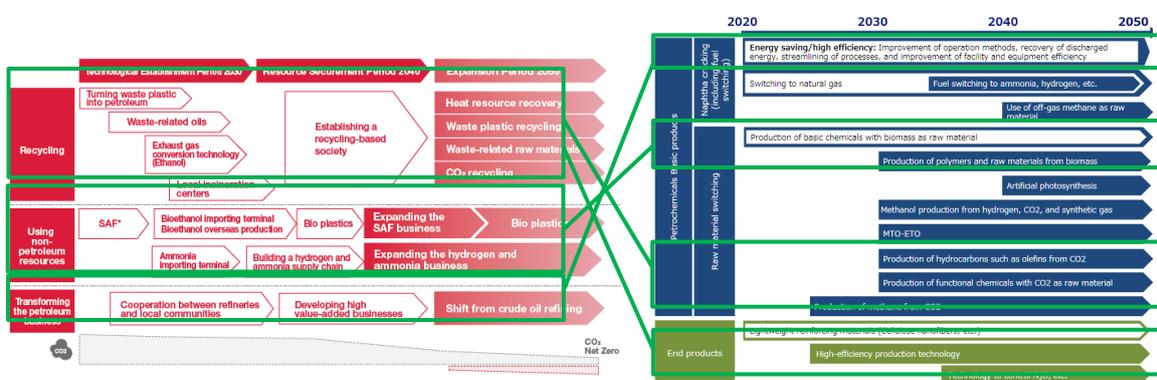
Idemitsu Kosan's Climate Transition Strategy and METI's Technology Roadmap by Sector

1) Oil Sector



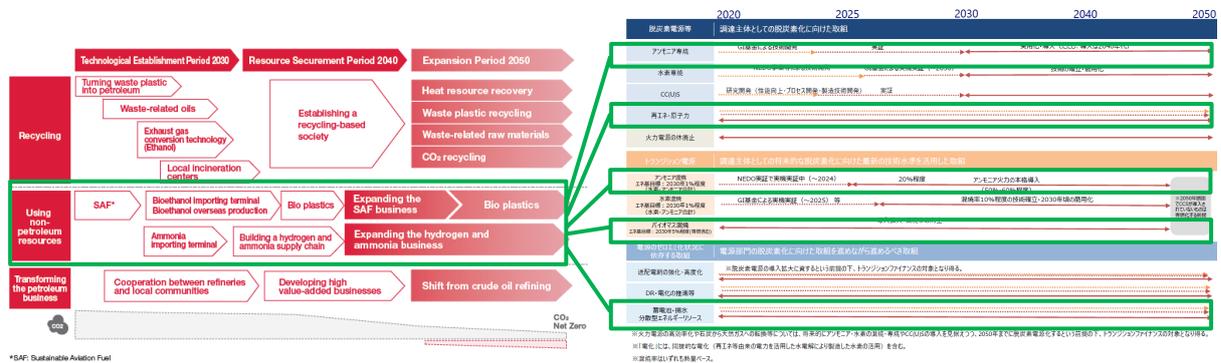
From Idemitsu Integrated Report 2021 and METI Roadmap for Oil Sector

2) Chemical Sector



From Idemitsu Integrated Report 2021 and METI Roadmap for Chemical Sector

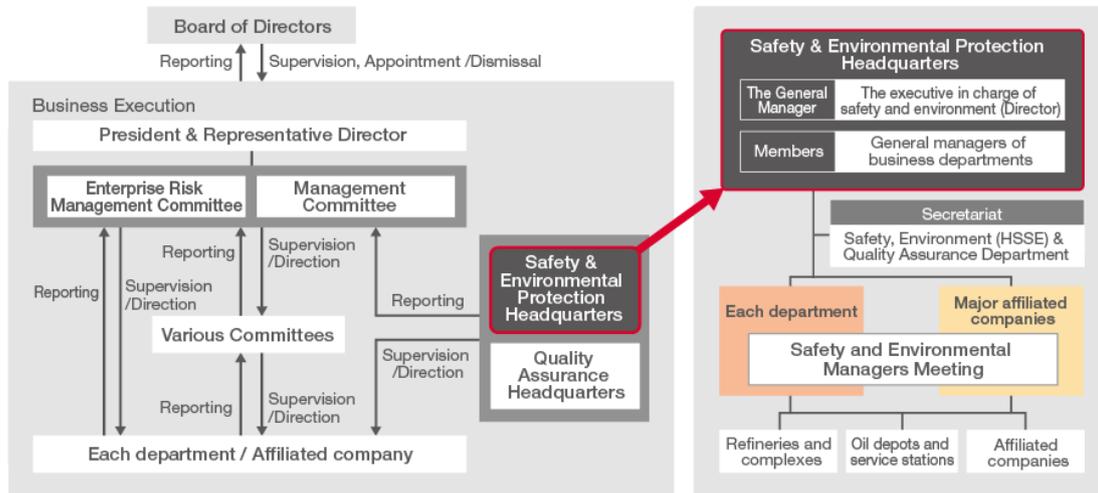
### 3) Electric Power Sector



From Idemitsu Integrated Report 2021 and METI Roadmap for Electric Power Sector

**Governance structure to achieve carbon neutrality:** Idemitsu Kosan has positioned “Safety, Health, and the Environment” as a management foundation and has established the Safety and Environment Protection Headquarters to promote initiatives to secure and preserve this foundation. The role of the headquarters is to determine the medium-term management plan, the annual basic policies, and priority issues associated with health, safety, and the environment (HSE); to assess and evaluate performance through audits; and to maintain, review, and improve the Safety Management System and the Environmental Management System; and to instruct all department and major affiliated companies on how to secure the management resources necessary to establish, implement, maintain, and continually improve these Management System in order to manage risks. The executive in charge of safety and environment (a Director) is appointed by the President and Representative Director to serve as the General Manager of the Safety and Environment Protection Headquarters, overseeing the headquarters as the individual bearing the highest responsibility regarding safety, health, and the environment. As a rule, the Safety and Environmental Protection Headquarters Meeting is held once a year in December, where the Idemitsu Kosan's medium-term plan for the next fiscal year, annual basic policies, priority issues, and other matters are decided based on a review of the previous year and consideration of social conditions surrounding safety, health, and the environment. In addition, the Board of Directors receives reports from the business executives and provides on environmental issues, including climate change.

Positioning of the Safety & Environment Division within the corporate governance structure and safety and environmental management system



From Idemitsu Kosan website

**Climate change-related scenarios:** Idemitsu Kosan evaluated the risks and opportunities associated with climate change using a scenario analysis approach to examine the energy transition and its impact on the Company due to decarbonization, advances in environmental technology, and social change. The scenario analysis covered energy demand and climate change impacts in the Asia-Pacific region and assumed the business environment in 2050.

For example, its scenario analysis for the Asia-Pacific region assumes: Scenario 1, "Squall," in which high growth of Asian economies causes energy demand growth to outpace low-carbon trends; Scenario 2, "Cloud," in which Asian economies slow and global environmental issues are shelved; Scenario 3, "Prism," in which governments and businesses respond to stronger momentum to address environmental issues; and Scenario 4, "Azure," in which national governments promote decarbonization and economic recovery focusing on green recovery from the COVID-19 disaster.

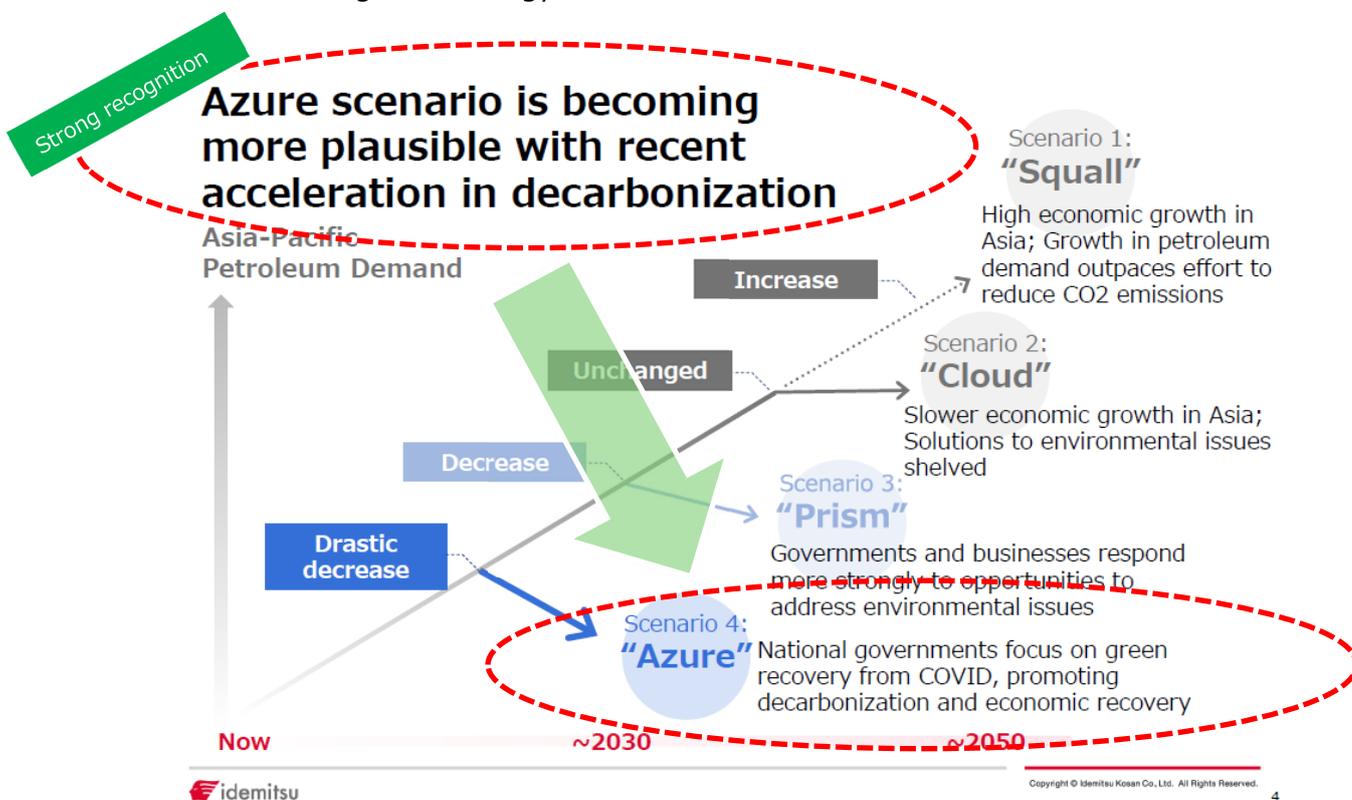
Internationally widely recognized scenarios to which each scenario referred

Scenario 1 "Squall": IEA, Current Policy Scenario
Scenario 2 "Cloud": IEA, Stated Policy Scenario
Scenario 3 "Prism": IEA, lies between the Stated Policy Scenario and Sustainable Development Scenario
Scenario 4 "Azure": IEA Sustainable Development Scenario

Idemitsu Kosan has been studying specific priority issues in its medium-term management plan (FY2020~2022) announced in November 2019, with a strong focus on Scenario 3 "Prism," which requires a stronger environmental response for the Company. However, in

May 2021, the Company announced a revision of its medium-term management plan, considering the accelerating pace of decarbonization due to the Japanese government's declaration of carbon neutrality towards 2050, in addition to the significant changes in the business environment due to the subsequent spread of the COVID-19. In addition to the fact that Scenario 3 "Prism" is not a scenario that will achieve the Paris Agreement target and considering the current global trend of decarbonization that is about to accelerate significantly, the revised medium-term management plan indicates that the business will proceed with a strong recognition of the possibility of Scenario 4 "Azure" that meets the 2°C target of the Paris Agreement.

Long-term energy business environment scenarios toward 2050



From Idemitsu Kosan's Medium-term Management Plan Revision (FY2020~2022) (May 11, 2021)

Under the Scenario 4 "Azure", various countries cooperate to act and begin shifting the structure of their energy systems to contain the global temperature rise to below 2°C by the end of the century. In this scenario, for example, if fossil fuel use within the Asian Pacific region peaks in 2025, Japan's domestic fossil fuel demand compared to 2019 can be expected to decrease 30% by 2030, 60% by 2040, and 80% by 2050. Fiscal year 2022 is the final year of the current medium-term management plan, and business environment scenarios will be examined again in the formulation of the next medium-term management plan, considering the trend toward decarbonization and other factors.

**Climate Change-related risks and opportunities:** Idemitsu Kosan examines the risks and opportunities related to climate change that it may face based on scenario analysis. Regarding transition risks, Idemitsu Kosan recognizes that the spread of electric vehicles and changes in consumer awareness will lead to a decline in demand for fuel oil, as well as a loss of reputation in the fossil fuel business. On the other hand, regarding opportunities, Idemitsu Kosan recognizes the contribution to the realization of a low-carbon society and the expansion of business opportunities, such as the growing demand for renewable energy and environmentally friendly products. Idemitsu Kosan and its group companies aim to transform its business portfolio to become a resilient corporate entity by addressing these risks and strengthening business initiatives to capture opportunities.

### Climate Change-related risks and opportunities

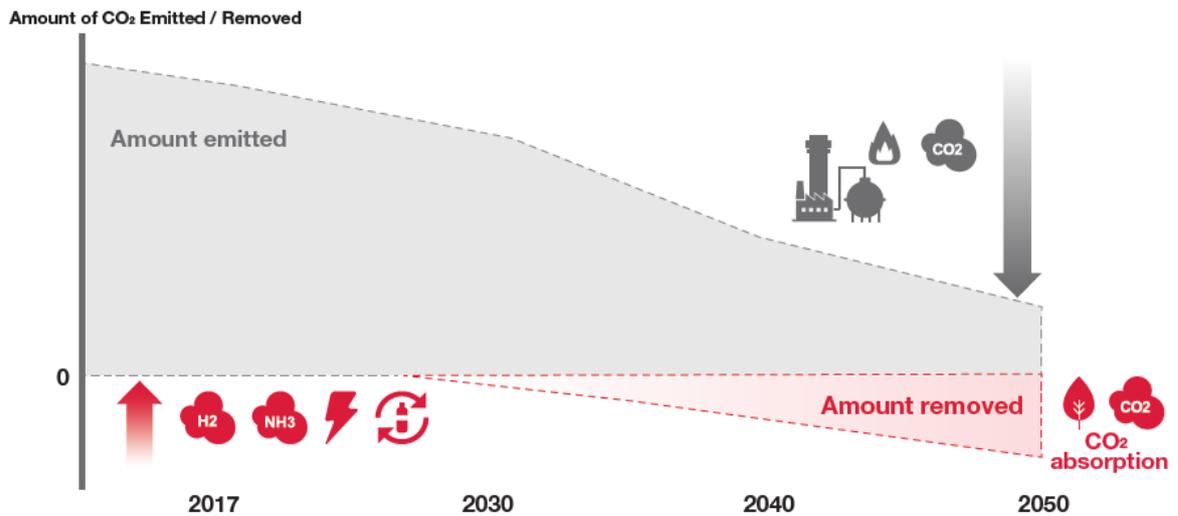
Classification	Matters to be evaluated	Responses and initiatives
Transition risks	Decline in demand for petroleum products due to the spread of EVs and changes in consumer awareness	<ul style="list-style-type: none"> <li>Market monitoring and the establishment of optimal production, supply, and sales systems</li> <li>Departure from the business portfolio depending on fossil fuel</li> </ul>
	Decline in energy prices due to technological advances	<ul style="list-style-type: none"> <li>Strengthening of the competitiveness of the entire supply chain</li> </ul>
	Possibility of divestment of the coal business	<ul style="list-style-type: none"> <li>Development of black pellets and biomass co-firing technology</li> </ul>
	Decline in the reputation of the oil and coal businesses	<ul style="list-style-type: none"> <li>Strengthening of external engagement</li> </ul>
	Introduction of carbon pricing	<ul style="list-style-type: none"> <li>Internal discussions of carbon pricing</li> </ul>
Physical risks	Suspension of equipment operation and production sites damage due to abnormal rainfall and others	<ul style="list-style-type: none"> <li>Reinforcement of equipment maintenance and strengthening of the supply chain</li> </ul>
	Impact of sea-level rise on manufacturing and distribution bases	<ul style="list-style-type: none"> <li>Measures such as reinforced seawall and relocation of control rooms</li> </ul>
Opportunities	Expanding demand for renewable energy	<ul style="list-style-type: none"> <li>Development of renewable energy sources in Japan and overseas</li> </ul>
	Strengthening of IMO (International Maritime Organization) regulations	<ul style="list-style-type: none"> <li>Efficiency improvement and reinforcement of refinery facilities</li> </ul>
	Increasing demand for environmentally friendly products with low environmental impact	<ul style="list-style-type: none"> <li>R&amp;D and overseas expansion of lubricants for electric vehicle units, advanced greases, and biological pesticides</li> </ul>
	Increasing demand for energy-saving materials	<ul style="list-style-type: none"> <li>Development of applications for next generation materials and commercialization of all solid-state lithium-ion battery materials</li> </ul>

Development of distributed energy resource systems	<ul style="list-style-type: none"> <li>Development of and entry into VPP (Virtual Power Plant) control services</li> </ul>
Development of the circular economy	<ul style="list-style-type: none"> <li>Development of recycling technologies for waste plastics, solar panels, carbon, etc.</li> </ul>
Advent of the MaaS (Mobility as a Service) society	<ul style="list-style-type: none"> <li>Development leveraging the existing refuelling network and entry into ultra-compact EVs</li> </ul>
Development of natural gas resources	<ul style="list-style-type: none"> <li>Shifting focus from oil to gas</li> </ul>

From Idemitsu Kosan website

**Transition pathway:** Idemitsu Kosan aims to achieve carbon neutrality (net zero CO<sub>2</sub> emissions) for emissions from its own operations (Scope 1 + 2) by 2050, as a long-term goal.

Transition pathway toward carbon neutrality by 2050



From Idemitsu Integrated Report 2021

As an interim target, Idemitsu Kosan has set a management target of ▲4 million tons for the reduction of CO<sub>2</sub> emissions in FY2030, taking into account the actual reduction of ▲1.36 million tons in FY2020 (Scope 1+2), with FY2017 as the base year. Idemitsu Kosan has confirmed that this interim target is set to be on track toward the long-term goal.

FY2030 Management Targets

FY2030 Management Targets	FY2020		FY2030
Operating + equity income <small>(excl. inventory impact)</small>	¥ 92.8 bn	➔	¥ 250 bn
ROIC	3%	➔	7%
CO <sub>2</sub> reduction <small>(Scope 1+2)</small>	-1.36 million t	➔	-4 million t

\* compared to FY2017; includes group refineries

From Idemitsu Integrated Report 2021

**Roadmap by Sector:** Idemitsu Kosan's transition strategy is based on the Roadmap for "Transition Finance" in Oil Sector" (hereinafter, "Oil Sector Roadmap") and "Electric Power Sector Transition Roadmap" (hereinafter, "Electric Power Sector Roadmap") published by METI in February 2022, as well as We have confirmed that the measures are consistent with the specific measures described in the "Technology Roadmap for "Transition Finance" in Chemical Sector" (hereinafter, "Chemical Sector Roadmap"), also published by the Ministry of Economy, Trade and Industry in December 2021.

The Oil Sector Roadmap is designed to be consistent with the national emission reduction targets (NDCs) established under the Paris Agreement, the Green Growth Strategy, and the R&D and social implementation plans in the Green Innovation Funds. The Oil Sector Roadmap states that transition pathways can vary depending on individual country circumstances, and that transition efforts in Japan should be integrated with the Japanese government's energy policy, including the Strategic Energy Plan. The Oil Sector Roadmap provides a broad picture of transitions in the oil sector and serves as a useful guide for companies when evaluating the appropriateness of their transition strategies. In this regard, DNV has confirmed that Idemitsu Kosan's business (transition) strategy and specific measures (e.g., energy saving, renewables, biofuels, SAF, ammonia supply chain, waste plastic recycling, etc.) are integrated and consistent with the objectives of the Oil Sector Roadmap, namely, the national energy policy. The company.

And the Chemical Sector Roadmap indicates that a product that contributes to the decarbonization of other industries (e.g., lithium-ion batteries for EVs, in automotive industry) could be eligible for transition financing, which is consistent with Idemitsu Kosan's development of functional materials products. The Chemical Sector Roadmap also includes measures for energy savings and higher efficiency in naphtha cracking, which is consistent with Idemitsu Kosan's "Deepen the integration of refining and petrochemical production," in other words, energy savings and higher efficiency in refineries and other production systems.

Furthermore, the Electric Power Sector Roadmap said that "it is important to promote initiatives such as zero-emission thermal power generation (hydrogen, ammonia, biomass co-firing, dedicated firing/CCUS, etc.)." DNV has confirmed that this is in line with Idemitsu Kosan's efforts to provide low-carbon solutions through coal-fired power generation.

In addition, DNV has confirmed that the individual projects, related to production and supply of sustainable aviation fuel, are consistent with the basic approach to promoting the introduction of SAF, which is described in the "Schedule for the Promotion of Decarbonization of Aviation" (the technical roadmap for transition finance in Aviation Sector) released by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT).

**Environmental and social impacts other than climate change:** DNV has confirmed that Idemitsu Kosan recognizes that petroleum is an essential energy source for people's daily lives and economic activities, and that the petroleum refining industry plays a central role in the stable supply of petroleum in Japan. In terms of just transition, DNV has confirmed that the "Smart Yorozyua" concept and the conversion to a CNX center ensure that the project will not result in the loss of jobs. In advancing specific initiatives, Idemitsu Kosan also proceed with consideration for a just transition, while placing importance on the concept of "truly inspired" in its corporate philosophy, that is, "how often do we consider the countries and communities we touch, and how much empathy do we have for the people living there?"

**Responding to significant changes in the external environment:** DNV has confirmed that Idemitsu Kosan plans to revise its own energy business environment scenarios, medium-term management plans, and other long-term strategies as needed in the event of major changes in the external environment or other factors that were assumed. Regarding scenario analysis, as mentioned above, we plan to begin reviewing Scenario 4 "Azure", referring to IEA's SDS, for the next medium-term management plan, with a strong recognition of the possibility of meeting the 2°C target of the Paris Agreement.

- **Element 2: Business model environmental materiality:** DNV has confirmed that Idemitsu Kosan has planned business strategy as a transition strategy and that the transition trajectory relates to an important part of the issuer's business model in terms of environmental aspects, particularly climate change response. It also considered several future scenarios affecting climate change response. Details are as follows.

**Environmental material issues (materiality):** Idemitsu Kosan has selected six materialities to be prioritized through an internal process to identify critical issues (materiality). In terms of the environment, the fourth materiality is "Harmony with the Global Environment and Society," as the environmental burden of energy use has become

a major social issue in recent years, and we recognize that addressing climate change is an important and urgent theme.

Materiality Issues that Idemitsu Group Should Prioritize

Materiality	Major initiatives	Main relevant SDGs
<p><b>Structural reforms to core revenue-generating businesses</b></p> <p>Build a strong supply chain and further strengthen stability and competitiveness through collaboration with partners in the core revenue-generating businesses centered on petroleum products and chemicals.</p>	<ul style="list-style-type: none"> <li>Pursuing profits in the petroleum business (maximizing integration synergies, making refineries more reliable) ➡ P. 39-42</li> <li>Enabling Nghi Son Refinery to contribute to profits ➡ P. 42</li> <li>Utilizing the Pacific Rim supply chain to capture growing demand in Asia ➡ P. 40</li> <li>Gas development in Southeast Asia ➡ pp.51-52</li> </ul>	
<p><b>Expansion of growth businesses</b></p> <p>Expand business scale and scope by strengthening R&amp;D in growth fields such as functional materials and renewable energy, which are becoming increasingly necessary in the world.</p>	<ul style="list-style-type: none"> <li>Expansion of business scale and domains (M&amp;As on a scale of ¥100 billion during the Medium-term Management Plan period) ➡ pp. 35-36</li> <li>Increasing the share of functional materials business to 30% by 2030 ➡ pp.45-48</li> <li>Increasing total power generated from renewable energy overseas to 5GW by 2030 (of which, 4GW is renewable energy) ➡ p.50</li> <li>Transformation of solar-power business ➡ pp.49-50</li> <li>Black pellet development (biomass fuel) ➡ p.52</li> <li>Strengthening the development of functional materials utilizing open innovation ➡ pp.53-54</li> </ul>	
<p><b>Creation of next-generation businesses</b></p> <p>Accelerate technological innovation and innovation beyond organizational framework to create new businesses with an eye on social changes.</p>	<ul style="list-style-type: none"> <li>Creating new businesses with an eye on social changes, diversifying customer needs, and lessening environmental impact ➡ pp.25-34</li> <li>Development of next-generation service station business ➡ pp.41-42</li> <li>Distributed energy business ➡ pp.49-50</li> <li>Circular business ➡ pp.44, 50, 71</li> </ul>	
<p><b>Cooperation with the global environment and society</b></p> <p>Promote measures to realize a low-carbon and circular economy in light of climate change risks, and promote diversity and inclusion in partnership with business partners, communities, and employees.</p>	<ul style="list-style-type: none"> <li>Efforts to reduce GHGs (2030: -4 million t-CO<sub>2</sub> compared to 2017) ➡ pp.20, 67-70</li> <li>Contributing to the areas where we operate business ➡ pp.25-32</li> <li>Implementing diversity and inclusion initiatives ➡ pp.75-78</li> <li>Making work more rewarding for employees ➡ p.78</li> <li>SDG educational activities ➡ p.23</li> </ul>	
<p><b>Progress in governance</b></p> <p>Strengthen governance functions to maintain the trust of shareholders and all other stakeholders.</p>	<ul style="list-style-type: none"> <li>Enhancing the roles and functions of the Board of Directors ➡ pp.59-64</li> </ul>	
<p><b>Acceleration of digital innovations</b></p> <p>Capitalize on evolving digital technologies to transform existing business processes and management in response to the business environment and customer needs.</p>	<ul style="list-style-type: none"> <li>Utilizing digital technologies to create new value ➡ pp.18, 33-34</li> </ul>	

Climate Change related initiatives

From Idemitsu Integrated Report 2021

**Climate change-related scenario and disclosure based on TCFD recommendations:** Idemitsu Kosan examines the risks and opportunities associated with climate change using a scenario analysis approach that considers multiple future scenarios for the energy transition and its impact on the Company due to decarbonization, advances in

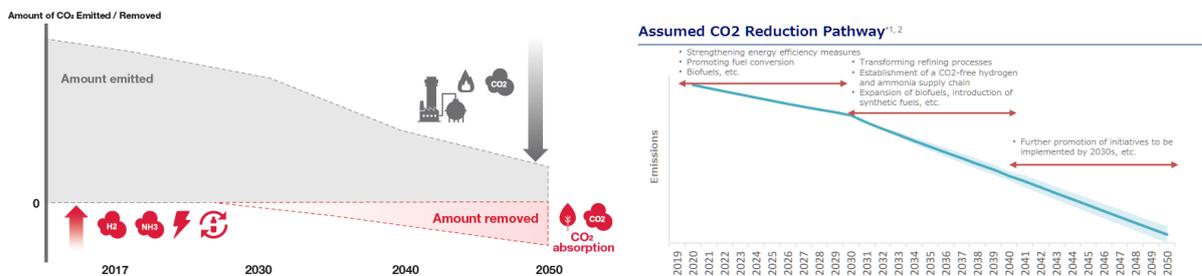
environmental technology, and social change. Idemitsu Kosan also declared the support for recommendations issued by the Task Force on Climate Financial Disclosures (TCFD) and became a TCFD signatory in February 2020, confirming that the climate change response, including scenario analysis in Idemitsu Group, has been implemented in line with the TCFD recommendations and appropriately disclosed to stakeholders using the TCFD framework.

**• Element 3: Science-based climate transition strategies, including goals and pathways**

DNV has confirmed that Idemitsu Kosan's transition strategy is based on science-based goals and pathways for transition. Details are as follows:

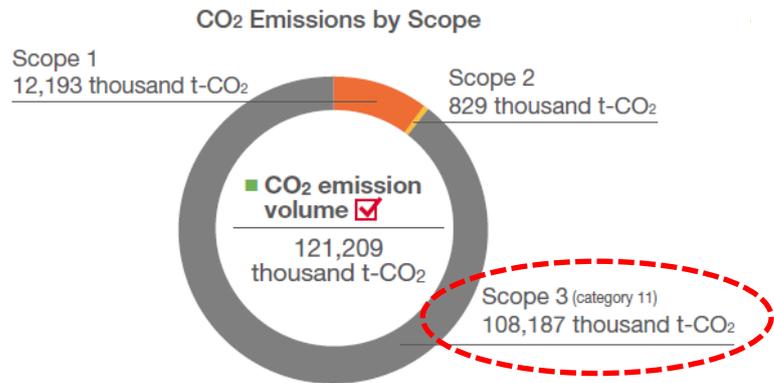
**Scientific Basis/Harmonization with the Paris Agreement:** Idemitsu Kosan is strongly aware of the alignment with the Oil Sector Roadmap published by the Ministry of Economy, Trade and Industry as a precondition for constructing the Transition Strategy. This roadmap is based on the Japanese government's approach of aiming for carbon neutrality in 2050 and a 46% reduction in greenhouse gas emissions in 2030 compared to the fiscal 2013 level, which is consistent with the Paris Agreement. It is also positioned as a technology roadmap that outlines specific measures such as steady low carbonization through energy savings and fuel switching promotion, decarbonization through reform of refining processes and introduction of innovative technologies such as CCS and CCU, and a shift to a supply system of decarbonized fuels such as synthetic fuels. Idemitsu Kosan's transition plan is consistent with these measures in the roadmap. DNV also confirmed that Idemitsu Kosan's transition plan is consistent with the specific measures in both the Chemical Sector Roadmap and the Electric Power Sector Roadmap, which were also published by the METI.

**CO<sub>2</sub> Emission Reductions Image (Idemitsu Kosan and METI Roadmap)**



From Idemitsu Integrated Report 2021 and METI's Transition Finance Oil Sector Roadmap

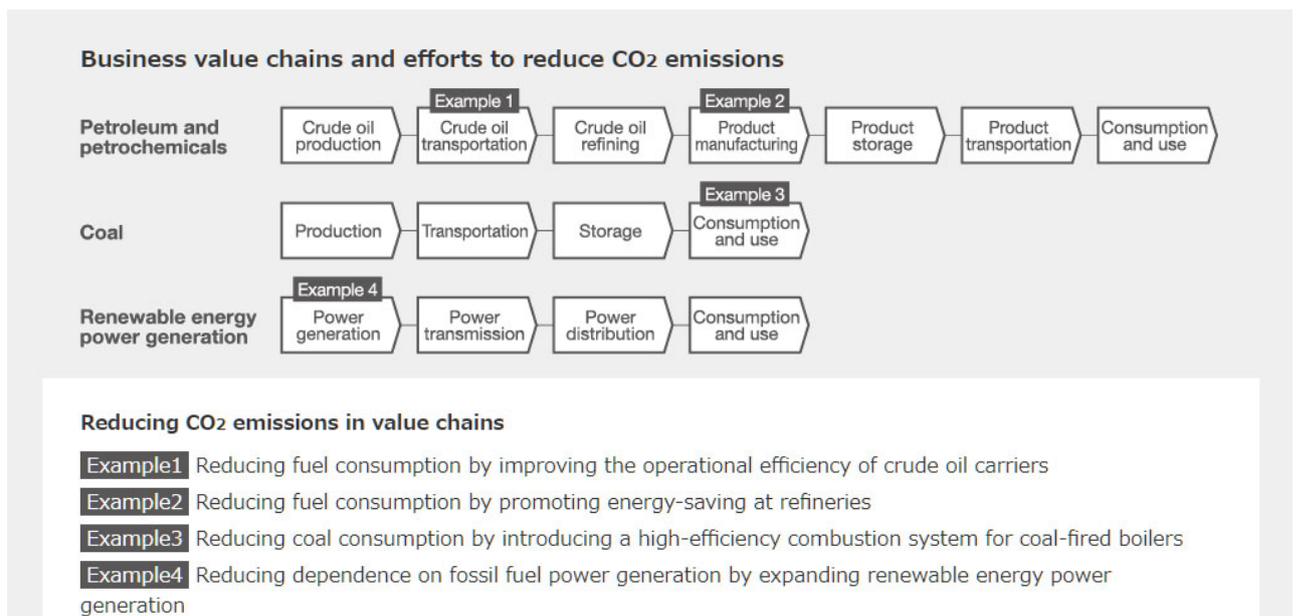
**Climate Change Mitigation:** DNV has confirmed that Idemitsu Kosan is aware of the overwhelmingly large emissions from its supply chain, especially use of sold products, (Scope 3) compared to direct emissions from refineries, offices, and factories (Scope 1) and indirect emissions derived from purchased electricity and other sources (Scope 2). Therefore, Idemitsu Kosan is working to reduce the environmental impact of its business activities, including more efficient energy use, to contribute to the reduction of CO<sub>2</sub> emissions throughout the value chain, including Scope 3, in addition to Idemitsu Kosan Group's Scope 1 and 2 reductions.



Idemitsu Sustainability Report 2021

**Reduce CO<sub>2</sub> emissions throughout the entire value chain:** DNV has confirmed that Idemitsu Kosan has a large amount of value chain CO<sub>2</sub> emissions (Scope 3) compared to its own CO<sub>2</sub> emissions (Scope 1+2) and, from the perspective of global GHG reduction, that Idemitsu Kosan recognizes the importance of contributing to the reduction of Scope 3 emissions in the entire value chain while accurately understanding customer needs, in addition to reducing its own emissions.

Examples of various business value chains and their contribution to CO<sub>2</sub> reduction



From Idemitsu Kosan website

**Medium- and long-term CO<sub>2</sub> reduction targets (Scope 1+2) and monitoring indicators (target Scope 1, 2, and 3):** In promoting CO<sub>2</sub> reduction, Idemitsu Kosan places importance on contributing to the three aspects of the environment, society, and the economy. Based on this concept, we confirmed that Idemitsu Group has established the following three indicators to evaluate and manage its CO<sub>2</sub> emission reduction efforts.

Environmental, Social and Economic Contributions

- ① **Contributing to the Environment:** Reduce environmental impact through business activities such as more efficient energy use.
- ② **Contributing to Society:** Supply lower-carbon energy with a view to transitioning to a low-carbon society in the future.
- ③ **Contributing to the Economy:** To secure earnings and enhance corporate resilience while transforming our business portfolio.



Three indicators

- Indicator 1: Target Value ... Contributing to the Environment**  
Reduction of CO<sub>2</sub> emissions (Scopes 1 and 2) from the Group's operations
- Indicator 2: Monitoring Indicator ... Contributing to Society**  
Reduction of CO<sub>2</sub> emissions (including Scope 3) per unit of energy supplied to society
- Indicator 3: Monitoring Indicator ... Contributing to the Economy**  
Revenue level per unit of CO<sub>2</sub> emissions (including Scope 3)

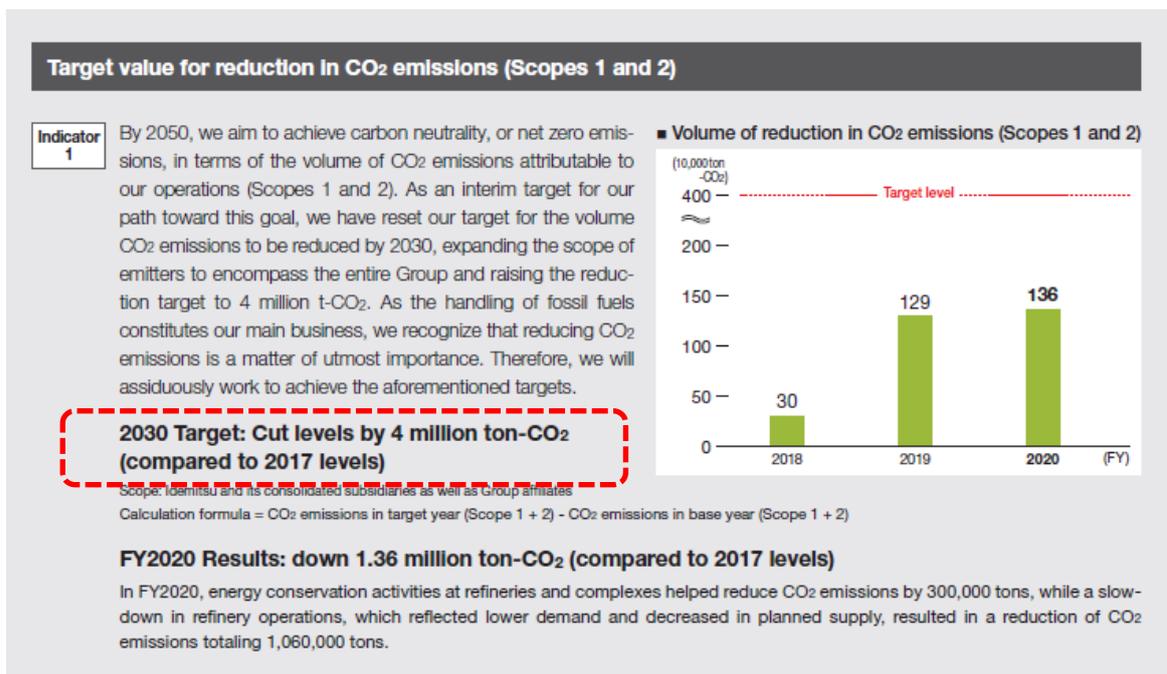
In this assessment, DNV has confirmed Indicators 1 and 2 from the perspective of alignment with the Basic Guidelines on Climate Transition Finance as follows:

**Indicator 1: Target value for reduction in CO<sub>2</sub> emissions (Scope 1 and 2):** Idemitsu Kosan has set a goal of becoming carbon neutral (= net zero CO<sub>2</sub> emissions) in 2050 for CO<sub>2</sub> direct and indirect emissions (Scope 1+2) from its own operations. As a milestone, it has also set a target of reducing CO<sub>2</sub> emissions for the entire group (Idemitsu Kosan + consolidated companies + group affiliates) by 4 million tons by FY2030 (compared to FY2017), which is disclosed as part of the management targets for FY2030.

CO<sub>2</sub> emission reductions target (Scope 1+2)

Scope	Medium-term Target (FY2030)	Long-term Target (FY2050)
Scope1+2	- 4 million tons CO <sub>2</sub> (Compared to FY2017)	Carbon Neutrality (net zero CO <sub>2</sub> emissions)

Details of CO<sub>2</sub> reduction targets (Scope 1+2)



From Idemitsu Integrated Report 2021

**Indicator 2: Monitoring Indicator for low carbon level of supplied energy (Scope 1,2 and 3):** In addition to its own emission reduction targets (contribution to the environment), Idemitsu Kosan has established monitoring indicators for low-carbon level of supplied energy as it believes important to contribute to society by supplying lower-carbon energy in anticipation of the transition to a low-carbon society in the future. In setting this indicator, the importance of not only reducing its own direct and indirect emissions (Scope 1 and 2) and emissions throughout its own value chain (Scope 3), but also increasing its contribution to the reduction of others is taken into consideration. In other words, Idemitsu Kosan recognizes that it is necessary to consider the amount of reduction contribution in Indicator 2, to promote this type of activity for initiatives that are not part of its own value chain but are expected to contribute to Idemitsu Group reduction. DNV has confirmed that Idemitsu Kosan has set parameters that indicate the amount of contribution to CO<sub>2</sub> reduction based on this concept.

In other words, DNV confirmed that Idemitsu Kosan has used this monitoring indicator to set a 30% reduction in the low-carbon level of supplied energy (compared to FY 2017) for Scope 1, 2, and 3 as an indicator level for FY 2050 from a long-term perspective.

DNV also confirmed that medium-term indicator level for 2030 is set for each individual project.

Low carbon level of supplied energy (Scope 1, 2, 3)

Scope	2050 Indicator Level
Scope1, 2, 3	Down 30% (compared to FY 2017)

Details of low carbon level of supplied energy (Scope 1, 2, 3)

**Monitoring Indicator (Scopes 1, 2 and 3)**

**Indicator 2** **Low carbon level of supplied energy**  
 (Indicator of the extent to which an energy company can reduce the "CO<sub>2</sub> emissions per unit of energy" supplied to society)

**2050 Indicator Level: down 30% (compared to 2017 levels)**

Calculation formula = 
$$\frac{\text{CO}_2 \text{ emissions (Scope 1 + 2 + 3)} - \text{CO}_2 \text{ avoided emission}^*}{\text{Amount of energy supplied to society}}$$

**FY2020 Results: up 0.2% (compared to 2017 levels)**

In FY2020, this monitoring indicator was up 0.2% from 2017 levels due to changes in the energy mix.

\*CO<sub>2</sub> reduction contribution throughout the entire value chain (We intend to revise this target from time to time in light of social trends.)

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**Indicator 3** **Degree of carbon exit from corporate earnings**  
 (Indicator of how the "Revenue level per unit of CO<sub>2</sub>" emitted by the Company as a whole is being raised)

Calculation formula = 
$$\frac{\text{Revenue}}{\text{CO}_2 \text{ emissions (Scope 1 + 2 + 3)} - \text{CO}_2 \text{ avoided emissions}^*}$$

We have not currently established a target for this indicator and use it for internal purposes only.

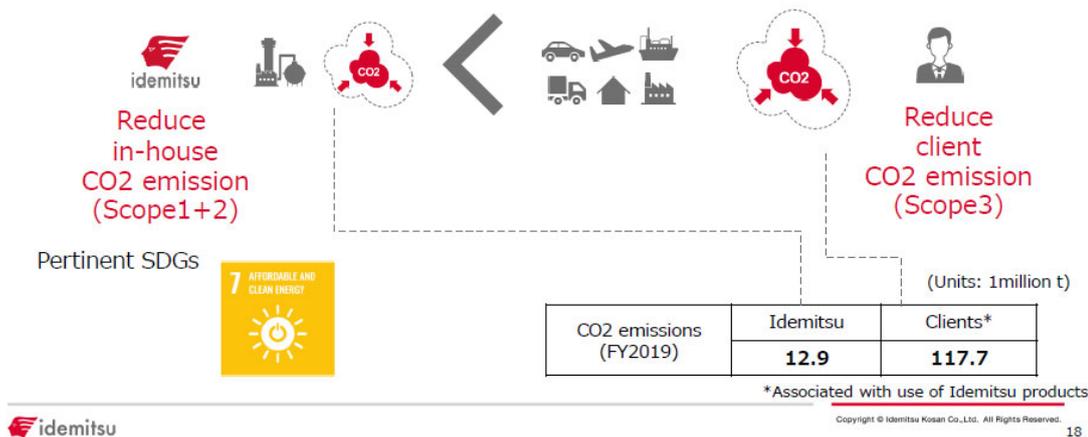
\*CO<sub>2</sub> reduction contribution throughout the entire value chain  
 Note: In the above formulas, Scope 3 emissions refer to those classified as the "Category 11: Use of Sold Products."

From Idemitsu Integrated Report 2021

**CO<sub>2</sub> reduction contribution:** Regarding the amount of CO<sub>2</sub> reduction contribution, when Idemitsu Kosan introduces a new product or service to society that contributes to CO<sub>2</sub> emission reductions (reduces fossil fuel consumption), Idemitsu Kosan considers that the amount of CO<sub>2</sub> reduction contribution is recorded and evaluated by the fossil fuel supplier of the user of such products and services as (a) in the case of the Company, as a reduction in its Scope 3 emissions, and (b) in the case of other companies, as an increase in their contribution to the reduction of emissions (reduction contribution). Idemitsu Kosan believes that the two are equivalent in terms of Idemitsu

Kosan’s contribution to global CO<sub>2</sub> reductions, so Idemitsu Kosan has added the amount of CO<sub>2</sub> reduction contribution to the numerical calculation of Indicator 2, the monitoring indicator, as a parameter in its own calculations.

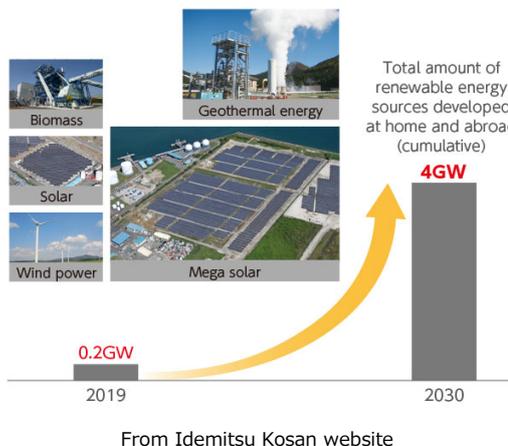
Characteristics of CO<sub>2</sub> emissions throughout the value chain



From Idemitsu Kosan's Medium-term Management Plan Revision (FY2020~2022) (May 11, 2021)

**2030 target for Scope 3 emission reductions No.1 (renewable energy)**

In pursuit of a lower-carbon energy supply, Idemitsu Group operates solar, geothermal, biomass, and wind renewable energy power plants overseas in Vietnam and other countries, and in Niigata, Oita, Kanagawa, Aomori, and other locations in Japan. Idemitsu Kosan has set a target of 4 GW (4 million kW) of total renewable energy development in Japan and abroad in 2030 as part of its Basic Policies for 2030, for the expansion of renewable energy source development of solar power, wind power, and biomass, and is promoting efforts to achieve this goal.

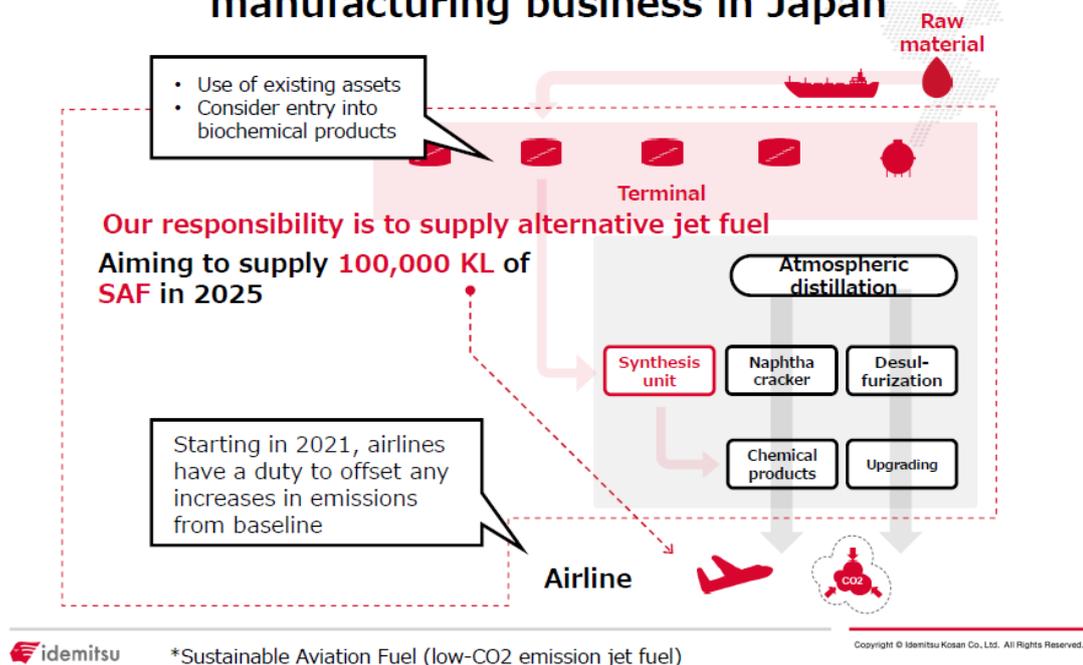


**2030 target for Scope 3 emission reductions No.2 (SAF)**

Idemitsu Kosan has participated in an initiative to revitalize local communities through CO<sub>2</sub> resources, with the production of sustainable aviation fuel (SAF) as a key initiative. As part of this initiative, Idemitsu Kosan has set a target of 100,000 kL per year for the start of supply in 2025. This is consistent with the direction of the Ministry of Land, Infrastructure, Transport, and Tourism's Transition Roadmap for Aviation Sector, released in December 2021, which promotes the introduction of SAF.

Implementing the SAF business

## Develop the first commercial-size SAF\* manufacturing business in Japan



From Idemitsu Kosan's Medium-term Management Plan Revision (FY2020~2022) (May 11, 2021)

### 2030 target for Scope 3 emission reductions No.3 (Black Pellet)

Idemitsu Kosan is developing black pellets, a biomass fuel made from wood that has been crushed, dried, roasted, and semi-carbonized. Since black pellets can be handled in the same way as coal, replacing coal fuel in coal-fired power plants is expected to reduce CO<sub>2</sub> emissions. Idemitsu Kosan has conducted co-firing tests using black pellets and has confirmed that it is possible to replace coal by up to 35%. After commercialization of 120,000 tons per year in 2022, Idemitsu Kosan aims to expand its supply system of producing black pellets to 2 million tons by 2030.

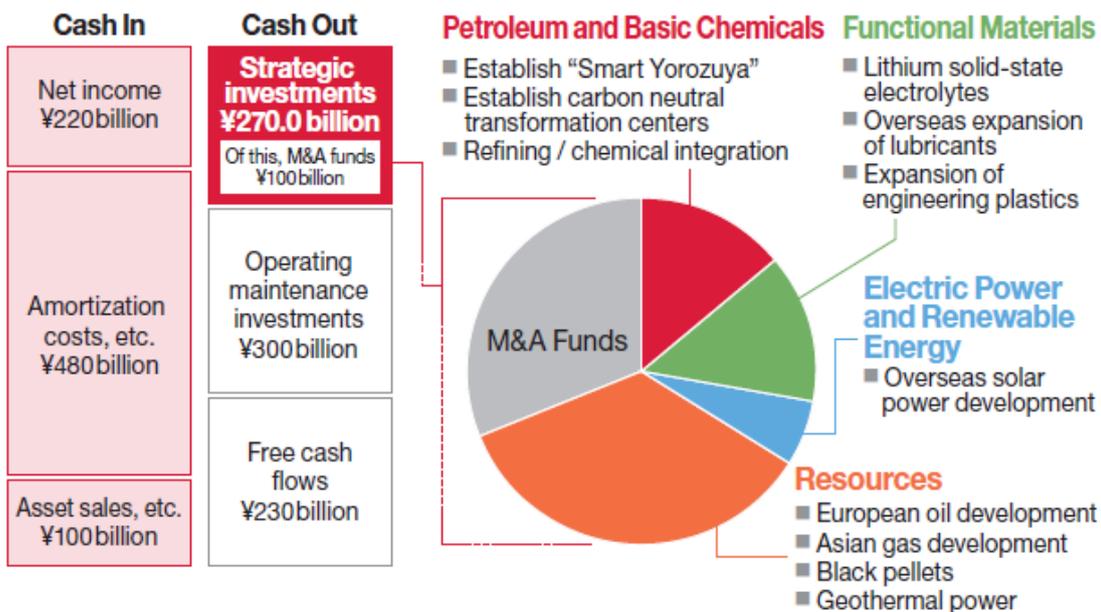
#### • Element 4: Implementation Transparency

DNV has confirmed that as Idemitsu Kosan moves forward with its transition strategy, it expects its investment plans to be properly explained to green/transition bond investors and to be as transparent as possible. Details are as follows:

**Investment Plan:** Idemitsu Kosan plans to make a cumulative total of 570 billion yen in capital investment (strategic investment + operation and maintenance investment) in the current medium-term management plan (FY2020-FY2022). Idemitsu Kosan considers ¥270 billion of this amount to be a financial resource to be allocated to strategic

investments for future business portfolio transformation. DNV confirmed that this strategic breakdown of capital investment is consistent with Idemitsu Kosan's business strategy and transition plan.

Targets during the Medium-term Management Plan Period (FY2020-2022)



From Idemitsu Integrated Report 2021

The strategic investment plan for this portfolio transformation is expected to incorporate not only R&D directly related to carbon neutrality, but also as many other necessary costs and investments as possible, including M&A and dismantling and removal costs of old facilities that indirectly contribute to carbon neutrality. DNV has confirmed that the green/transition bonds to be issued will allow for a distinction to be made between expenditures in the normal course of business and expenditures related to green/transition projects, based on the eligibility criteria for use of the proceeds.

**Outcomes and Impacts:** DNV has confirmed that Idemitsu Kosan ensures the direct deliverables and results (outputs) obtained in the individual projects that comprise the investment plan are consistent with the overall goals. Also, Idemitsu Kosan ensures monitoring and reporting on each project using quantitative indicators such as CO<sub>2</sub> emissions/reduction contribution for each qualifying criterion, to the extent practicable.

Regarding negative impacts, DNV has confirmed that Idemitsu Kosan can adequately address the environmental aspects of the project by complying with national laws such as the Environmental Impact Assessment Law or the laws of the country concerned in the first place. From a standpoint of a just transition, DNV also confirmed that Idemitsu Kosan

is promoting "Smart Yorozuya" concept for service station and establishing a CNX Center under the Origin of Management "Ningen-Soncho", means having respect for people, and the Management Philosophy "Truly inspired," which are the starting points of its management. DNV has also confirmed that Idemitsu Kosan has particularly taken negative impacts on employment into consideration seriously, to avoid loss of jobs or other related impacts due to promotion of the projects.

**(2) Four common elements of a green/transition bond, with use of proceeds instruments**

**• Principle 1: Use of Proceeds**

DNV has confirmed that the funds to be raised by the green/transition bonds to be issued by Idemitsu Kosan will be used for the construction, installation, operation, and maintenance of Idemitsu Kosan Group projects. DNV has also confirmed that the funds raised are planned to be used for newly financing and/or refinancing of these projects. Details are as follows

**Eligible Criteria:** DNV has confirmed that the following projects are eligible for the use of Climate Transition Financing.

Green/Transition Projects

Project Category	Eligibility Criteria	Alignment with SDGs <sup>*1</sup>
Power and Renewable Energy  Green Bond Principles 1) Renewable energy (Environmental objective: climate change mitigation)	Projects related to the development, construction, operation, renovation, and other related expenditures for renewable energy (biomass, geothermal, solar, wind) power generation facilities	Goals 7, 9, 11, 13
Distributed energy  Green Bond Principles 1) Renewable energy 2) Energy conservation (Environmental objective: climate change mitigation)	Projects related to the development, construction, operation, renovation, and other related expenditures of facilities for distributed energy	Goals 7, 9, 11, 13
Development of functional material products  Green Bond Principles 6) Clean transportation	Projects related to lithium solid electrolyte development, production, R&D and other related expenditures (electric vehicles (EV))	Goals 7, 9, 11, 13

(Environmental objective: climate change mitigation)		
Turning into "Carbon Neutral Transformation Centers"	Projects on the construction of a waste plastic recycling chain (manufacturing of chemicals)	Goals8, 11, 12
Green Bond Principles (9) Businesses related to environmentally friendly products and environmentally friendly manufacturing technologies and processes (Environmental objective: climate change mitigation)	Projects related to the development and promotion of circular business	Goals8, 11, 12

### Transition Projects

Project Category	Eligibility Criteria	Alignment with SDGs <sup>*1</sup>
Smart One-Stop Shops	Projects on manufacturing and sales of ultra-compact EVs	Goals7, 9, 11, 13
	Projects related to MaaS services	Goals7, 9, 11
	Projects related to service station logistics bases, unmanned delivery, drone pesticide spraying, day services, etc.	Goals3, 7, 9, 11, 13
Turning into "Carbon Neutral Transformation Centers"	Projects on SAF (Sustainable Aviation Fuel) production and supply	Goals7, 9, 13
	Projects on building CO <sub>2</sub> -free ammonia supply chain for power generation and industrial sectors	Goals7, 9, 13
Low-carbon solution for replacing coal-fired power generation	Projects on production, sales, and R&D of black pellets (with an eye on increasing the ratio of mixed firing and dedicated firing)	Goals7, 9, 13
Energy saving	Projects on Energy Saving Investment in Refineries and Complexes	Goals7, 9, 13

\*1: Goal 7: "Affordable and clean energy"; Goal 8: "Decent work and economic growth"; Goal 9: "Industry, innovation and infrastructure "; Goal 11: "Sustainable cities and communities"; Goal 12: "Responsible consumption and production"; Goal 13: "Climate action".

**Exclusion Criteria:** DNV has confirmed that Idemitsu Kosan has established Exclusion Criteria whereby funds raised through Green/Transition Bonds will not be used for projects related to the following, and that this is appropriate for the purposes of the Principles and Guidelines.

- Unfair transactions that do not comply with the laws and regulations of the country, such as bribery, corruption, blackmail, embezzlement, etc
- Transactions that can cause social problems relate to human rights and the environment

**Impacts on environment, including climate change:** DNV has confirmed that Idemitsu Kosan has been proceeding with the procedures in accordance with the national environmental assessment laws or the relevant laws and regulations for environmental and social impact assessment in the country concerned for the projects that are assumed to be eligible for the use of the proceeds.

**Impacts on society:** DNV has confirmed Idemitsu Kosan has established its own Sustainable Procurement Guidelines (November 2021) as a framework for sustainable procurement that addresses environmental and social issues and confirmed that there are initiatives to promote self-assessment and analysis, feedback, dialogue, and improvement among major suppliers. Based on Idemitsu Kosan's approach of promoting sustainable procurement throughout the entire supply chain, we aim to achieve a triple win for society, suppliers, and Idemitsu Kosan.

### Idemitsu Kosan's Approach to Promoting Sustainable Procurement

#### Improvement Flow



From Idemitsu Kosan website

**Example of project (black pellets):** Black pellets, which are nominated as one of use of the proceeds, are a biomass fuel that can be handled in the same way as coal and replacing coal fuel for thermal power generation with black pellets will help reduce CO<sub>2</sub> emissions. In addition to establishing co-firing technology for black pellets and moving to commercialization as soon as possible to ensure energy transition in coal-fired power plants, Idemitsu Kosan is also looking to further improve the co-firing rate and continue research and development for dedicated firing in the medium to long term. In terms of environmental and social considerations, Idemitsu Kosan plans to use wood that meets sustainability standards for the wood pellets that will be used as raw material for the black pellets.

**Black Pellets**

Switching fuel for thermal power generation from coal to black pellets is a promising way to effectively curb CO<sub>2</sub> emissions. Recently, we ran a successful co-firing experiment in which 20% to 30% of coal fuel was replaced with black pellets. Also, a sample production plant constructed in Vietnam was brought on line in August 2020 and is currently supplying samples for use in trial co-firing. With an eye to 2022, we aim to launch a commercial plant with an annual production capacity of 120,000 tons in Vietnam. Thereafter, we will expand the network of black pellet manufacturing bases outside Vietnam, focusing especially on gaining footholds in Southeast Asia, including Malaysia and Indonesia. Through such efforts, we intend to secure a supply structure capable of annually producing 2 million tons in 2030. (The product name of these black pellets is Idemitsu Green Energy Pellets.)



Black pellets

Note: Black pellets are made by pulverizing, drying and torrefied wood. Compared with conventional white pellets, black pellets boast various superior properties, such as water resistance, and are easier to crush. They can be handled in the same way as coal and be used for co-firing with coal.

From Idemitsu Integrated Report 2021

**Example of project (energy savings at refineries and petrochemical plants):** Idemitsu Kosan has stated that its strength lies in its integrated operations in the petroleum refining and petrochemical industries, and in its medium-term management plan, the Company promotes structural reforms to stabilize its earnings base. As one of the measures, Idemitsu Kosan plans to improve the efficiency of production facilities at our refineries and petrochemical plants nationwide.

**Promoting Structural Reforms and Increasing the Sophistication of Our Refining and Petrochemical System**

TOPICS

As part of structural reforms, the Tokuyama Complex suspended the operation of two naphtha crackers, which were components of its ethylene production line. The complex installed a new, highly-efficient naphtha cracker that came on line in February 2021.

This move is intended to enable more efficient ethylene production. Anticipated effects include a 30% energy savings as well as an approximately 16,000 ton reduction in annual CO<sub>2</sub> emissions.

The Chiba Complex, meanwhile, switched an absorption agent used in paraxylene manufacturing equipment to an alternative with higher performance in conjunction with periodic shutdown maintenance in 2021. This move is expected to help increase the recovery ratio of paraxylene, which boasts higher added value among fractions of aromatics, in addition to reducing energy consumption as a result of enhancing absorption efficiency and thereby cutting annual CO<sub>2</sub> emissions by approximately 7,700 tons.

In addition, Prime Polymer Co., Ltd., an equity method affiliate, is restructuring its production system. Specifically, this affiliate has decided to establish a new polypropylene (PP) manufacturing facility in order to secure a supply structure capable of delivering high-performance PP in response to structural changes in demand even as it strives to curb CO<sub>2</sub> emissions. The operational

Kickoff of the facility is scheduled for November 2024.

Furthermore, in October 2021, we signed contract regarding the purchase of paraxylene production facilities run by the Chita Plant of ENECOS Corporation. The acquisition of these facilities is expected to not only expand our paraxylene-related operations but also help us realize a shift toward chemical products by enabling us to manufacture paraxylene (chemical products) from gasoline components (petroleum products).



Tokuyama Complex / Highly-efficient naphtha cracker

From Idemitsu Integrated Report 2021

For example, at the Tokuyama Complex, one of Idemitsu Kosan's major production bases, it plans to contribute to an annual reduction of approximately 16,000 tons of CO<sub>2</sub> emissions by stopping the operation of an old naphtha cracking furnace and installing a new high-efficiency naphtha cracking furnace, thereby achieving an energy saving effect of approximately 30% compared with the previous system. The renewal of this equipment is being carried out using the Ministry of Economy, Trade, and Industry's "Supporting Funds for Energy Conservation Investment Promotion", which supports energy savings at the petrochemical plant. By promoting energy savings through the renewal of these

facilities, Idemitsu Kosan will strive to reduce the environmental impact of its business activities and contribute to the formation of local communities where the global environment and economy are in harmony.

- **Principle 2: Process for Project Evaluation and Selection**

DNV has confirmed through the review that Idemitsu Kosan's process for evaluating and selecting projects for investment involves risk assessment in accordance with its own internal rules for investment management, and that its investment decisions and approvals are made after deliberation by the Investment and Finance Committee, a specialized committee. In the evaluation and selection of green/transition projects, DNV has also confirmed that, after going through the above process, the Finance and Accounting Department is expected to select the eligible projects and the Director of the Finance and Accounting Department is expected to make the final decision on the eligible projects.

- Specifically, the project drafting department organizes the outline of the investment plan and points to be discussed in accordance with the "Investment and Finance Committee Operating Bylaws" and other relevant regulations, along with the "Investment Drafting Form. In addition to the business plan and economic indicators (including internal carbon pricing), this drafting document has a comprehensive format to examine countermeasures, through assuming risk factors such as natural environmental risks (climate change, use of land, water, and natural resources), social issue risks (unfair labour practices, human rights violations, unfair trade), transition risks, and other risks at that point.
- The Corporate Sustainability Department is responsible for cross-functional involvement and oversight of ESG issues. In the management and implementation of projects, the lead department promotes resolving each ESG issue. The progress of the project is reported to the Management Committee through the Director in charge of ESG.
- Investment deliberations are conducted by the Investment and Finance Committee, consisting of the Director of the Corporate Planning Department (Chairman), the Director of the Finance and Accounting Department, and the Director of the Legal Department. Through this decision-making process, the Finance & Accounting Department selects eligible projects based on a risk assessment. Finally, the Director of the Finance and Accounting Department is expected to make the final decision on the nominated projects.

## Evaluation and selection

- |                                     |  |                                     |   |
|-------------------------------------|--|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Conforms to the issuer's achievement of environmental contribution goals               | <input checked="" type="checkbox"/> | Documented process to determine that projects fit within defined categories               |
| <input checked="" type="checkbox"/> | The project is eligible for use of proceeds by green bond and transparency is ensured. | <input checked="" type="checkbox"/> | Documented process to identify and manage potential ESG risks associated with the project |
| <input type="checkbox"/>            | The project is evaluated and selected based on the published standard summary          | <input type="checkbox"/>            | Other ( <i>please specify</i> ):  |

## Information on Responsibilities and Accountability

- |                                     |  |                                     |                     |
|-------------------------------------|--|-------------------------------------|---------------------|
| <input checked="" type="checkbox"/> | Evaluation / Selection criteria subject to external advice or verification | <input checked="" type="checkbox"/> | In-house assessment |
| <input type="checkbox"/>            | Other ( <i>please specify</i> ):   |                                     |                     |

### • Principle 3: Management of Proceeds

DNV has confirmed that Idemitsu Kosan plans to use the proceeds for new financing or refinancing of nominated projects in a timely manner after the financing. For regular investment projects, Idemitsu Kosan manages the decision-making basis and the investment amount on a quarterly basis on a project-by-project basis until the full capital expenditure is completed, in accordance with the Group Accounting Rules and the Group Financial Rules, which are internal regulations.

DNV has also confirmed that Idemitsu Kosan's management of unappropriated proceeds can track them in an appropriate manner that financial data is organized in a spreadsheet and other formats and is managed by delegated personnel. For the current three years, cash and cash equivalents at the end of the period were well more than the amount of green/transition bonds expected to be issued at the time of DNV's assessment, and therefore it is also expected to remain at this level in the future.

## Tracking of Proceeds:

- Some or all of the proceeds by green bonds that are planned to be allocated are systematically distinguished or tracked by the issuer.
- Disclosure of intended types of temporary investment instruments for unallocated proceeds
- Other (*please specify*): Unallocated proceeds are managed in cash or cash equivalents

**Additional disclosure:**

- |  |   |
|--|---|
| <input type="checkbox"/> Allocations to future investments only                  | <input checked="" type="checkbox"/> Allocations to both existing and future investments |
| <input checked="" type="checkbox"/> Allocation to individual disbursements       | <input type="checkbox"/> Allocation to a portfolio of disbursements                     |
| <input type="checkbox"/> Disclosure of portfolio balance of unallocated proceeds | <input type="checkbox"/> Other ( <i>please specify</i> ):                               |

**• Principle 4: Reporting**

DNV has confirmed that the following indicators and project summaries are reported at least annually on its website to the extent practicable until the proceeds have been appropriated.

The main reporting items are as follows.

**<Status of appropriation of funds>**

- Amount of proceeds allocated
- Amount of unappropriated proceeds raised
- Amount of proceeds raised to be used for refinancing

**<Environmental benefits>**

Green/Transition Projects

Project Category	Eligibility Criteria	Impact Metric
Power and Renewable energy  Green Bond Principles 1) Renewable energy (Environmental objective: climate change mitigation)	Projects related to the development, construction, operation, renovation, and other related expenditures for renewable energy (biomass, geothermal, solar, wind) power generation facilities	<ul style="list-style-type: none"> <li>• Installed capacity (MW)</li> <li>• Actual power generation (kWh)</li> <li>• Amount of CO<sub>2</sub> reduction/reduction contribution (t-CO<sub>2</sub>)</li> </ul>
Distributed energy  Green Bond Principles 1) Renewable energy 2) Energy conservation (Environmental objective: climate change mitigation)	Projects related to the development, construction, operation, renovation, and other related expenditures of facilities for distributed energy	<ul style="list-style-type: none"> <li>• Amount of CO<sub>2</sub> reduction/reduction contribution (t-CO<sub>2</sub>)</li> <li>• The progress of the eligible project</li> </ul>

Development of functional material products  Green Bond Principles 6) Clean transportation (Environmental objective: climate change mitigation)	Projects related to lithium solid electrolyte development, production, R&D and other related expenditures (electric vehicles (EV))	<ul style="list-style-type: none"> <li>The progress of the eligible project</li> </ul>
Turning into "Carbon Neutral Transformation Centers" Green Bond Principles (9) Businesses related to environmentally friendly products and environmentally friendly manufacturing technologies and processes (Environmental objective: climate change mitigation)	Projects on the construction of a waste plastic recycling chain (manufacturing of chemicals)	<ul style="list-style-type: none"> <li>The progress of the eligible project</li> </ul>
	Projects related to the development and promotion of circular business	<ul style="list-style-type: none"> <li>The progress of the eligible project</li> </ul>

### Transition Projects

Project Category	Eligibility Criteria	Impact Metric
Smart One-Stop Shops	Projects on manufacturing and sales of ultra-compact EVs	<ul style="list-style-type: none"> <li>The progress of the eligible project</li> </ul>
	Projects related to MaaS services	<ul style="list-style-type: none"> <li>The progress of the eligible project</li> </ul>
	Projects related to service station logistics bases, unmanned delivery, drone pesticide spraying, day services, etc.	<ul style="list-style-type: none"> <li>The progress of the eligible project</li> </ul>
Turning into "Carbon Neutral Transformation Centers"	Projects on SAF (Sustainable Aviation Fuel) production and supply	<ul style="list-style-type: none"> <li>Product production (KL)</li> <li>Amount of CO<sub>2</sub> emission reduction/reduction contribution (t-CO<sub>2</sub>)</li> <li>The progress of the eligible project</li> </ul>
	Projects on building a CO <sub>2</sub> -free ammonia supply chain for power generation and industrial sectors	<ul style="list-style-type: none"> <li>The progress of the eligible project</li> </ul>
Low-carbon solutions for replacing coal-fired power generation	Projects on production, sales, and R&D of black pellets (with an eye on increasing the ratio of mixed firing and dedicated firing)	<ul style="list-style-type: none"> <li>Amount of CO<sub>2</sub> emission reduction/reduction contribution (t-CO<sub>2</sub>)</li> <li>The progress of the eligible project</li> </ul>

Energy saving	Projects on Energy Saving Investment in Refineries and Complexes	• The progress of the eligible project
---------------	--	--

**Use of Proceeds reporting:**

- Project-by-project
- Linkage to individual bond(s)
- On a project portfolio basis
- Other (*please specify*):

**Information reported:**

- Allocated amounts
- Other (*please specify*):
- Percentage of the total investment amount that is used for transition financing

**Frequency:**

- Annual
- Other (*please specify*):
- Semi-annual

**Impact reporting (Environmental Impact):**

- Project-by-project
- Linkage to individual bond(s)
- Project portfolio (Project Category basis)
- Others

**Frequency:**

- Annual
- Other (*please specify*):
- Semi-annual

**Information reported (expected or ex-post):**

- CO<sub>2</sub> Emissions / Savings
- Other ESG indicators (*please specify*):
- Energy savings

**Means of Disclosure**

- Information published in financial report (Integrated Report)
- Information published in ad hoc documents
- Reporting reviewed (if yes, please specify which parts of the reporting are subject to external review)
- Information published in sustainability report
- Other (*please specify*): Disclosed on the website



- **Other: Review (External Review)**

Idemitsu Kosan utilizes external reviews by DNV to determine the consistency of the Green/Transition Bond Framework and to enhance objectivity. DNV assessed the Green/Transition Bond Framework and the nominated projects to be funded by this bond to confirm that they are consistent with all the CTFH, CTFBG, GBP, and GBGLs, and provided a second party opinion on their eligibility to transition bond. DNV, as an independent external review organization, has no interest in the facts or perceptions of Idemitsu Kosan in providing a second party opinion.

## VII. Assessment Conclusion

Based on the information provided by Idemitsu Kosan and the work undertaken, it is DNV's opinion that Idemitsu Kosan's framework and transition finance executed by the framework meets requirements in the eligibility assessment protocol and are consistent with the definition and purpose of Climate Transition Finance, which is to "provide an investment opportunity with transparent sustainability credentials" and "enable financing and investment for new or existing projects that provide environmental benefits."

DNV Business Assurance Japan K.K.

18 March 2022



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### About DNV

Driven by our purpose of safeguarding life, property, and the environment, DNV enables organisations to advance the safety and sustainability of their business. Combining leading technical and operational expertise, risk methodology and in-depth industry knowledge, we empower our customers' decisions and actions with trust and confidence. We continuously invest in research and collaborative innovation to provide customers and society with operational and technological foresight. With our origins stretching back to 1864, our reach today is global. Operating in more than 100 countries, our 16,000 professionals are dedicated to helping customers make the world safer, smarter, and greener.

### Disclaimer

Our statement represents an independent opinion and is intended to inform the Issuer management and the Second-Party Opinion Providers, DNV: The management of Issuer has provided the information and data used by DNV during the delivery of this review. Our statement represents an independent opinion and is intended to inform the Issuer management and other interested stakeholders in the Bond as to whether the established criteria have been met, based on DNV: The management of the Issuer has provided the information and data used by DNV during the delivery of this review. Our statement represents an independent opinion and is intended to inform the Issuer management and other interested stakeholders in the Bond as to whether the established criteria have been met, based on the information provided to us. In our work we have relied on the information and the facts presented to us by the Issuer. DNV is not responsible for any aspect of the nominated assets referred in this opinion and cannot be held liable if estimates, findings, opinions, or conclusions are incorrect. Thus, DNV shall not be held liable if any of the information or data provided by the Issuer's management and used as a basis for this assessment were not correct or complete

## Schedule-1 Candidate Transition Bond Projects

The projects listed in the table are candidate eligible projects that have been assessed for eligibility at the time of the pre-financing assessment. Under the Transition Bond Framework, bonds will be made exclusively to these eligible project candidates and will be reported in the pre-financing or post-financing reporting.

Project Category	Eligibility Criteria	Remarks
Green/Transition Projects		<ul style="list-style-type: none"> <li>• Issue format: Transition bond (planned)</li> <li>• Amount of bonds to be issued: 20 billion yen (planned)</li> </ul>
Power and Renewable energy	Projects related to the development, construction, operation, renovation, and other related expenditures for renewable energy (biomass, geothermal, solar and wind) power generation facilities	
Distributed energy	Projects related to the development, construction, operation, renovation, and other related expenditures of facilities for distributed energy	
Development of functional materials	Projects related to lithium solid electrolyte development, production, R&D and other related expenditures (electric vehicles (EV))	
Turning into "Carbon Neutral Transformation Centers"	Projects on the construction of a waste plastic recycling chain (manufacturing of chemicals)	
	Projects related to the development and promotion of circular business	
Transition Projects		
Smart One-Stop Shops	Projects on manufacturing and sales of ultra-compact EVs	
	Projects related to MaaS services	
	Projects related to service station logistics bases, unmanned delivery, drone pesticide spraying, day services, etc.	
Turning into "Carbon Neutral Transformation Centers"	Projects on SAF (Sustainable Aviation Fuel) production and supply	
	Projects on building a CO <sub>2</sub> -free ammonia supply chain for power generation and industrial sectors	
Low-carbon solutions for replacing coal-fired power generation	Projects on production, sales, and R&D of black pellets (with an eye on increasing the ratio of mixed firing and dedicated firing)	
Energy saving	Projects on Energy Saving Investment in Refineries and Complexes	

## Schedule-2 Climate Transition Finance Eligibility Assessment Protocol

The checklists (1~4) below are DNV evaluation procedures created for eligibility assessment based on the disclosure requirements of CTFH and CTFBG. The "confirmed documents" in the Work Undertaken include public or private documents (materials inside the issuer), etc., and are provided by Idemitsu Kosan as evidence of eligibility judgment for DNV.

\*The terms "Issuer" and "Investor" may be replaced as "Borrower/Fundraiser" and "Lender," respectively, in the context in the following disclosure requirements, as appropriate.

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
1	Issuer's Climate Transition Strategy and Governance	<p>The financing purpose should be for enabling an issuer's climate change strategy. A 'transition' label applied to a debt financing instrument should serve to communicate the implementation of an issuer's corporate strategy to transform the business model in a way which effectively addresses climate-related risks and contributes to alignment with the goals of the Paris Agreement.</p> <p>Suggested information and indicators</p> <ul style="list-style-type: none"> <li>• A long-term target to align with the goals of the Paris Agreement (e.g., the objective of limiting global warming ideally to 1.5°C and, at the very least, to well below 2°C).</li> <li>• Relevant interim targets on the trajectory towards the long-term goal.</li> <li>• Disclosure on the issuer's levers towards decarbonisation, and strategic planning towards a long-term target to</li> </ul>	<p>Confirmed documents /01//02//03//04/</p> <p>Interviews with stakeholders</p>	<p>Through its evaluation work, DNV has confirmed that fundraisers are considering green/transition bond as a way of helping to realise their own transition plan strategies toward achieving carbon neutrality.</p> <p>DNV has also confirmed through its evaluation work that the fundraiser plans to use the issuance of the green/transition bond to help communicate that their business strategy is being implemented to transform their business portfolio in a way that effectively addresses climate-related risks and contributes to aligning with the goals of the Paris Agreement.</p> <p>&lt; Information and indicators already disclosed &gt;.</p> <ul style="list-style-type: none"> <li>• Technology roadmaps for the oil, chemical, and electric power sectors published by METI (assuming these roadmaps are consistent with the goals of the Paris Agreement)</li> <li>• Long-term target (Scope 1+2) and indicator level for achieving carbon neutrality in 2050 (Scope 1+2+3 consider the amount of reduction contribution)</li> </ul>

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
		<p>align with the goals of the Paris Agreement.</p> <ul style="list-style-type: none"> <li>• Clear oversight and governance of transition strategy and,</li> <li>• Evidence of a broader sustainability strategy to mitigate relevant environmental and social externalities and contribute to the UN Sustainable Development Goals.</li> </ul>		<ul style="list-style-type: none"> <li>• Reasonable mid-term guidance on a trajectory toward the long-term goal</li> <li>• Disclosure by fundraiser of measures toward carbon neutrality and strategic plans toward long-term goals consistent with the goals of the technology roadmap for the oil, chemical and electric power sectors published by METI</li> <li>• Clear oversight and governance of the transition plan (business strategy)</li> <li>• A broader sustainability strategy to contribute to the UN Sustainable Development Goals (SDGs) while mitigating associated negative environmental and social externalities</li> </ul>
2	Business model environmental materiality	The planned climate transition trajectory should be relevant to the environmentally-material parts of the issuer's business model, taking into account potential future scenarios which may impact on current determinations concerning materiality.	<p>Confirmed documents /01//02//03//04/</p> <p>Interviews with stakeholders</p>	<p>Through its evaluation work, DNV has confirmed that the fundraiser's planned climate transition trajectory relates to the material environmental aspects of the issuer's business model.</p> <p>DNV also has confirmed through its evaluation work that the fundraiser has considered several future scenarios that could affect its current materiality decisions.</p>
3	Climate transition strategy to be science-based including targets and pathways	<p>Issuer's climate strategy should reference science-based targets and transition pathways. The planned transition trajectory should:</p> <ul style="list-style-type: none"> <li>• be quantitatively measurable (based on a measurement methodology which is consistent over time).</li> </ul>	<p>Confirmed documents /01//02//03//04/</p> <p>Interviews with stakeholders</p>	<p>Through its evaluation work, DNV has confirmed that fundraisers' climate strategies are based on science-based targets and pathways towards transition.</p> <p>DNV also has confirmed through its evaluation work that the planned trajectory of the fundraisers' transitions meets the following requirements:</p> <ul style="list-style-type: none"> <li>• be quantitatively measurable using consistent methods over a long period of time</li> </ul>

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
		<ul style="list-style-type: none"> <li>• be aligned with, benchmarked, or otherwise referenced to recognized, science-based trajectories where such trajectories exist.</li> <li>• be publicly disclosed (ideally in mainstream financing filings), include interim milestones, and;</li> <li>• be supported by independent assurance or verification</li> </ul> <p>Suggested information and indicators</p> <ul style="list-style-type: none"> <li>• Short, medium, and long-term greenhouse gas reduction targets aligned with Paris Agreement;</li> <li>• Baseline</li> <li>• Scenario utilised, and methodology applied (e.g. ACT, SBTi, etc.).</li> <li>• Greenhouse gas objectives covering all scopes (Scope 1, 2 and 3<sup>11</sup>); and,</li> <li>• Targets formulated both in intensity and absolute terms</li> </ul>		<ul style="list-style-type: none"> <li>• be aligned with, benchmarked with technology roadmaps for the oil, chemical, and electric power sectors published by METI</li> <li>• be published in a form that includes a mid-term (2030) target/indicator level</li> </ul>
4	Implementation transparency	Market communication in connection with the offer of a financing instrument which has the aim of funding the issuer’s climate transition strategy should also provide transparency to the extent practicable, of the underlying investment program including capital and operational expenditure. This may include R&D-related expenditure where relevant, and details of	Confirmed documents /01//02//03//04/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser intends to explain its investment plan to the market to the extent practicable and to be as transparent as possible when offering financial instruments aimed at financing the implementation of the fundraiser's transition plan.  DNV has also confirmed through its evaluation work that it is expected to be as transparent as practicable in its

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
		<p>where any such operating expenditure is deemed 'non-Business as Usual', as well as other relevant information indicating how this program supports implementation of the transition strategy, including details of any divestments, governance, and process changes.</p> <p>Suggested information and indicators</p> <ul style="list-style-type: none"> <li>• Disclosure on the percentage of assets/revenues/ expenditures/divestments aligned to the various levers outlined in Element 1 above;</li> <li>• Capex roll-out plans consistent with the overall strategy and climate science</li> </ul>		<p>communication to the market regarding its basic investment plan, including capital expenditures (Capex), operational expenses, and operating expenses (Opex).</p>

## Schedule-3 Green Bond (Transition Finance with specific use of proceeds) Eligibility Assessment Protocol

The checklist below (GBP/GBP-1 to GBP/GBP-4) is a DNV evaluation procedure created for Transition Finance (Bond & Loan) Eligibility Assessment (Bond & Loan with specific use of proceeds) based on the requirements of GBP/GBGLs and GBP/GBGLs. "Confirmed documents" in the "Work Undertaken" includes documents inside the issuer and is provided as evidence of eligibility judgment for DNV.

In Schedule-3, it is referred to as GBP or GBP according to the practice, but this is the standard to be referred to in the case of financing that specifies the use of proceeds such as transition projects in transition finance (bonds and loan) that specifies the use of proceeds based on CTFH and CTFBG, so please read as the meaning of the transition as appropriate.

### GBP/GBP-1 Use of proceeds

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
1a	Types of funds	The types of green bonds are classified into one of the following types defined by GBP. <ul style="list-style-type: none"> <li>• (Standard) Green/transition Bond</li> <li>• Green/transition Revenue Finance</li> <li>• Green/transition Project Finance</li> <li>• Other</li> </ul>	Confirmed documents /01/  Interviews with stakeholders	Through its evaluation work, DNV has identified the following categories of transition finance (bonds/loans)  Green/Transition Bonds (for specific purpose)
1b	Green/transition Project Classification	The key to a green/transition bond is that the proceeds will be used for a green project, which should be properly stated in the legal documents relating to the security.	Confirmed documents /01//013/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser intends to explain to investors in advance when it issues a specific green/transition bond by means of the Framework, statutory documents such as an amended shelf registration statement, and other documents.  *At the time of this evaluation, the specific use of proceeds and the timing of the bond issuance have not yet been

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				determined, and therefore the statutory documents (such as the Amended Shelf Registration Statement) have not yet been finalized.
1c	Environmental benefits	All green projects to which the funds are used should have clear environmental benefits, the effects of which should be assessed by the issuer and, where possible, quantitatively demonstrated.	Confirmed documents /01//05//06/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the green/transition projects envisioned to use the funds have environmental benefits (climate change mitigation), which will be evaluated and, where possible, quantified by the fundraiser.
1d	Refinancing rate	If all or part of the proceeds are used or may be used for refinancing, the issuer will indicate the estimated ratio of the initial investment to the refinancing and, if necessary. Therefore, it is recommended to clarify which investment or project portfolio is subject to refinancing.	Confirmed documents /01//08/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that if all or part of the proceeds are used or may be used for refinancing, the fundraiser will disclose the amount of funds allocated by project category, the amount of unallocated funds from the proceeds, and the amount of the proceeds allocated as an existing expenditure that the company plans to do.  DNV has also confirmed that the fundraiser intends to clarify at the time of reporting the amount allocated for each use of proceeds and which uses of proceeds will in effect be subject to refinancing once the specific uses of proceeds have been determined.

## GBP/GBP-2 Project selection and evaluation process

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
2a	Project selection process	<p>Green bond issuers should provide an overview of the process of qualifying projects for which green bond funding will be used. This includes (but is not limited to):</p> <ul style="list-style-type: none"> <li>• The process by which the issuer determines that the project in question is included in the business category of a qualified green project.</li> <li>• Creation of criteria for eligibility of projects for which green bond funding will be used</li> <li>• Environmental sustainability goals</li> </ul>	<p>Confirmed documents /01//02//03//05//06//07/</p> <p>Interviews with stakeholders</p>	<p>Through its evaluation work, DNV has confirmed that the fundraiser has provided an overview of the process of qualifying projects for which green/transition bond will be used.</p> <ul style="list-style-type: none"> <li>• The process by which the fundraiser determines that an eligible project falls within the business category of an eligible green/transition project.</li> <li>• Mechanism for evaluation of environmental value, risk management, and optimal verification of investment for eligibility of projects to use of proceeds from green/transition bonds</li> <li>• Methods for evaluating environmental aspects of project categories (e.g., calculation methods for GHG reductions)</li> </ul>
2b	Issuer's Environmental and Social Governance Framework	<p>In addition to criteria and certifications, the information published by issuers regarding the green bond process also considers the quality of performance of the issuer's framework and environmental sustainability.</p>	<p>Confirmed documents /01//02//03//05//06//07//010//011/</p> <p>Interviews with stakeholders</p>	<p>Through its evaluation work, DNV has confirmed that the information published by the fundraiser also considers the quality of environmentally relevant sustainability performance in green/transition bonds (e.g., use of certified materials that meet sustainability criteria in black pellets).</p>

### GBP/GBP-3 Management of funds raised

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
3a	Tracking procedure-1	The net proceeds from of green bonds should be managed in sub-accounts, included in sub-portfolio, or otherwise tracked. It should also be certified by the issuer in a formal internal process related to the issuer's investment and financing operations for the Green Project.	Confirmed documents /01//08/  Interviews with stakeholders	Through its assessment work, DNV has confirmed that funds raised by green/transition bonds are tracked in an appropriate manner. DNV has also confirmed that the fundraiser will properly manage green/transition projects within formal internal processes related to the fundraiser's investment operations.
3b	Tracking procedure-2	During the green bond redemption period, the balance of funds raised that is being tracked should be adjusted at regular intervals to match the amount allocated to eligible projects undertaken during that period.	Confirmed documents /01//08/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the balance of the fund raised that is tracked will be adjusted at regular intervals to match the amount allocated to eligible projects undertaken during the period up to the redemption of the green/transition bonds.
3c	Temporary holding	If no investment or payment has been made in a qualified green project, the issuer should also inform the investor of the possible temporary investment method for the balance of unallocated proceeds.	Confirmed documents /01//08/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that if no investment or payment has been made in a qualified green project, the fundraiser will be held in cash or cash equivalents for the balance of unallocated proceeds.

## GBP/GBP-4 Reporting

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
4a	Periodical Reporting	<p>In addition to reporting on the use of proceeds and the temporary investment of unallocated proceeds, the issuer will consider each project at least once a year for projects to which the green bond proceeds have been allocated, taking into account the following: A list of each project should be provided.</p> <ul style="list-style-type: none"> <li>-Confidentiality and competitive considerations</li> <li>-Outline of each project, expected sustainable environmental and social effects</li> </ul>	<p>Confirmed documents /01//016/</p> <p>Interviews with stakeholders</p>	<p>Through its evaluation work, DNV has confirmed that the fundraiser will disclose information about the projects to which proceeds from green/transition bonds are allocated, at least once a year, in addition to reporting on the use of proceeds and temporary unallocated proceeds, considering the followings:</p> <ul style="list-style-type: none"> <li>• Confidentiality and competitive considerations</li> <li>• An overview of each project (the progress of each project, amount of CO<sub>2</sub> reduction/reduction contribution, and other items specified in the Framework)</li> </ul>

## Schedule-4: Basic Guidelines on Climate Transition Finance Eligibility Assessment Checklist

The following checklist (from CTF-1 to CTF-4) are based on four “disclosure elements” which indicated in the “Basic Guidelines on Climate Transition Finance (CTF)” established by the Financial Services Agency, Ministry of Economy, Trade and Industry, and Ministry of the Environment in May 2021.

According to the CTF, “disclosure elements” are classified into the following three categories. Should:◎ recommend:○ be considered/possible: △

These expressions are used in the following context.

- Items described with the word “should” are basic elements that financial instruments labelled as transition finance are expected to have.
- Items described with the word “recommended” are elements that financial instruments labelled as transition finance are optimally recommended to have under these Guidelines although instruments which do not have these items can also be labelled as “transition”.
- Items described with the word “be considered” or “possible” are elements that these Guidelines provides as examples and interpretations although it is not considered problematic even if financial instruments labelled as transition finance do not have them.

There is a supplementary explanation in the margin of each checklist for the annotations in the disclosure elements.

The number /01/. /02/~ /19/ listed in the “Work Undertaken” are documents confirmed through the eligibility evaluation work. Details (document name) are shown in Appendix. In addition to the confirmed documents, the “Work Undertaken” includes the case where the information obtained through discussions and interviews with the issuer is used as evidence.

### CTF-1 Fundraisers' Climate Transition Strategies and Governance

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
◎	1-a)	Financing through transition finance should aim to implement or incentivize the achievement of transition strategies <sup>9</sup> . Such strategies should incorporate a long-term target to align with the goals of the Paris Agreement, relevant interim targets on the trajectory towards the long-term goal, disclosure on the levers towards decarbonization, and fundraiser’s strategic planning.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that fundraiser is considering green/transition bond financing in a way to help realize their own transition plans to achieve carbon neutrality.

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
◎  (△)	1-b)	<p>A transition strategy should serve to explicitly communicate the implementation of an issuer’s strategy to transform the business model in a way which effectively addresses climate-related risks and contributes to achieving the goals of the Paris Agreement<sup>10</sup>. Transformation of a business model is not limited to initiatives as an extension of existing businesses but can also be transformation based on various other perspectives. It includes fuel conversion that achieves significant carbon and GHG reduction benefits, introduction of innovative technologies, improvement of / changes in manufacturing processes and products, and development and provision of products and services in new fields.</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	<p>Confirmed documents: /01//02//03//04/</p> <p>Interviews with stakeholders</p>	<p>Through its evaluation work, DNV has confirmed that the fundraiser intends to communicate the following to the market in issuing green/transition bonds</p> <ul style="list-style-type: none"> <li>• Addresses climate-related risks through the company's business strategy</li> <li>• Aligned with the Paris Agreement and Japan's carbon neutrality goals</li> <li>• Transforming its business portfolio to address climate change</li> </ul> <p>&lt; Information and indicators already disclosed &gt;.</p> <ul style="list-style-type: none"> <li>• Technology roadmaps for the oil, chemical, and electric power sectors published by METI (assuming these roadmaps are consistent with the goals of the Paris Agreement)</li> <li>• Long-term target (Scope 1+2) and indicator level for achieving carbon neutrality in 2050 (Scope 1+2+3, considering the amount of reduction contribution)</li> <li>• Reasonable mid-term guidance on a trajectory toward the long-term goal</li> <li>• Disclosure by fundraiser of measures toward carbon neutrality and strategic plans toward long-term goals consistent with the goals of the technology roadmap for the oil, chemical and electric power sectors published by METI</li> <li>• Clear oversight and governance of the transition plan (business strategy)</li> </ul>

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
					<ul style="list-style-type: none"> <li>A broader sustainability strategy to contribute to the UN Sustainable Development Goals (SDGs) while mitigating associated negative environmental and social external externalities</li> </ul>
○	1-c)	The implementation of a transition strategy assumes cases where it affects society and environment other than climate change, such as employment or stable provision of products and services, through transformation of a business model. In such cases, it is recommended that the fundraiser also takes into consideration the impact of business innovations to society and environment other than climate change.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser has considered the non-climate environmental and social impacts of business transformation, such as job security, in implementing its transition plan.  DNV has also confirmed through its evaluation work that the fundraiser has also considered environmental and social contributions other than climate change to the business transformation.
◎ (△)	1-d)	Climate change-related scenarios <sup>11</sup> should be referenced in developing transition strategies. The pathway to transition should be planned for respective sector and regions of individual fundraiser, who may generally be placed in a different starting point and pathway to transition.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that fundraiser refers to internationally recognized scenarios related to climate change in developing its own transition plans (business strategies). DNV has also confirmed through its evaluation work that fundraiser has considered the technology roadmaps for the oil, chemical, and electric power sectors, published by METI, considering regional and industry characteristics.
○	1-e)	Transition strategies and plans must be highly credible in terms of their effectiveness. Therefore, it is recommended that a transition	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/	Through its evaluation work, DNV has confirmed that the fundraiser has developed a transition plan that is linked to its medium-term management plan

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
		strategy and plan are linked to management strategy and business plan, including medium-term management plans.		Interviews with stakeholders	and other management strategies and business plans, and that it has high confidence in the effectiveness of the plan.
△	1-f)	However, because such strategies and plans run for a long period of time, it is possible that the content may be modified or adjusted in the event of a major change in the assumed external environment and so on.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser has considered reviewing the contents of the transition plan and modified or adjusted in the event of a major change in the assumed external environment or other factors accordingly.
△	1-g)	In the initial phase of developing a transition strategy by the fundraiser, it is considered as an option for the fundraiser to indicate a plan for future implementation of items described with the words “recommended” and “be considered/ possible” in these Guidelines.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that fundraiser may implement the items listed as "recommended" and "be considered / possible" in Basic Guidelines on Climate Transition Finance in the future as it review its transition plan considering future changes.
◎	1-h)	In order to secure the effectiveness of the transition strategy, the fundraiser should establish an organizational structure <sup>12</sup> for the board of directors and/or other such committee to oversee the activities addressing climate change and for management to play a role in assessing and managing such climate-related activities.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	Through the evaluation work, DNV confirmed that the fundraiser has established an organizational structure to ensure the effectiveness of the transition plan (business strategy), to monitor climate change response by the board of directors and others, and to evaluate and manage efforts. the external environment.

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
△	1-i)	While a transition strategy shall be basically developed by a company in need of finance, it is possible for entities to utilize the strategy of companies that are wholly or partially responsible for the initiatives to establish or explain their own strategy, given that the finance supports GHG emissions reduction initiatives of not just a single company but its supply chain.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the projects covered by green/transition bond are expected to be limited to the fundraiser and its group companies. On the other hand, DNV has also confirmed that the environmental benefits are not limited to the group companies but are also expected to contribute to CO <sub>2</sub> reduction through the value chain in the form of reduction contributions.
◎	1-j)	Transition strategies should be disclosed in advance in a company's integrated report, sustainability report, statutory documents and other materials for investors (including such disclosures on the website). This also applies to the other three elements.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser disclosed its transition plan (business strategies) in advance through its websites, IR briefings, integrated reports, and sustainability reports.
△	1-k)	It is possible to disclose transition strategies and elements concerning the governance guaranteeing that the execution of transition strategies is in alignment with the reporting frameworks such as the Recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD; Final Report) <sup>13</sup> .	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser has disclosed its transition plan (business strategy) and the governance that ensures its implementation in a manner consistent with the framework of the TCFD recommendations.
○	1-l)	If the implementation of a transition strategy assumes impacts on society and environment other than climate change, it is recommended	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/	Through its evaluation work, DNV has confirmed that the fundraiser has disclosed the potential environmental and social impacts of the

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
		that the fundraiser explain the view underlying its approach <sup>14</sup> , etc. to address such impacts and disclose how the strategy on the whole contributes to achieving the Sustainable Development Goals (SDGs) so that the effects can be appropriately evaluated by the financier.		Interviews with stakeholders	implementation of its transition plan (business strategy), other than climate change, in a manner that allows investors to adequately assess its effectiveness, and that the strategy also considers its contribution to the achievement of the Sustainable Development Goals (SDGs).
◎	1-m)	Considering the length of application and other factors, there may be instances when a transition strategy and plan will need to be modified due to major changes in the external environment and relevant conditions that were assumed at a planning phase. In this case, the contents of the modification should be disclosed together with the underlying reason in a timely manner.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser intends to review its transition plan (business strategy) accordingly, regardless of whether all the use of proceeds have been allocated to the subject project, due to major changes in the external environment that were assumed when the plan was developed, and that this is expected to result in timely disclosure as it relates to long-term strategies such as energy business environment scenarios and medium-term business plans.
○	1-n)	In terms of governance, it is recommended that disclosures include an organizational structure for overseeing the implementation of a transition strategy and for assessing and managing related initiatives. It is also recommended that disclosures include the specific roles of the constituent organizations and the management and the process by which the content of deliberations is reflected in management.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser has disclosed the specific roles of the constituent organizations and management and the process by which the deliberations are reflected in management, in addition to the organizational structure for monitoring the implementation of its transition plan (business strategy) and evaluating and managing the efforts of the fundraiser.

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
○	1-o)	In cases where the fundraiser determines the need for an objective assessment regarding the transition strategy, it is recommended that a review, assurance and verification by an external organization for its transition strategy.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	As an external agency, DNV conducted its review for the Framework for green/transition bond.
△	1-p)	It is recognized useful to obtain a review particularly concerning the following in connection with the transition strategy: - Alignment of short-term, mid-term and long-term targets (for targets, refer to Element 3) with the overall scenario - Credibility of the fundraiser’s strategy to reach the targets - Appropriateness of the management process and governance for the transition strategy	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	Throughout its evaluation work, DNV reviewed the fundraiser's transition plan (business strategy), particularly with respect to the following: <ul style="list-style-type: none"> <li>• Consistency of the scenarios with the mid-term and long-term goals (or indicator level)</li> <li>• Confidence that the fundraiser's transition plan (business strategy) will achieve its goals and objectives</li> <li>• Adequacy of the management process and governance of its transition plan (business strategy)</li> </ul>

9 Transition finance is available for not only entities with strategies and plans for reducing emissions associated with their corporate economic activities, but also entities that plan to take initiatives that enable others to implement transition strategies through their own products and services. In such cases of financial institutions, a financier should articulate how the underlying projects or activities themselves fit into the fundraiser’s strategy while, similarly, a subsidiary or an SPC to make use of its group’s or its sponsors’ strategy. However, doing so they should explain how their strategy will contribute to the strategy. In addition, it can be considered that parent company or the group who established the strategy would explain the transition elements as the main fundraiser.

10 The Paris Agreement sets out a goal to Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

11 Climate-related scenarios are listed in the “Task Force on Climate-related Financial Disclosures (TCFD) Technical Supplement” and the document issued by the Ministry of the Environment: “Practical Guide for Scenario Analysis in line with TCFD Recommendations”. In addition, Principles for Responsible Investment (PRI) disclose a set of climate scenario tools.

12 Assumes matters provided for under “governance” in the TCFD Recommendations.

13 As for the approach to disclosure aligned with TCFD Recommendations, refer to “Guidance on Climate-related Financial Disclosures (TCFD Guidance) 2.0”, “Guidance for Utilizing Climate-related Information to Promote Green Investment (Green Investment Guidance)” (both published by the TCFD Consortium), and the document published by the Ministry of the Environment: “Practical Guide for Scenario Analysis in line with TCFD Recommendations”.

14 An example of the approach may be to identify, eliminate, reduce, and manage potential negative effects.

## CTF-2 Business Model Environmental Materiality

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
◎	2-a)	Initiatives for achieving the transition strategy should be such that contribute to transforming core business activities that are environmentally material parts today and in the future. <sup>15</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that a subject project will be an initiative that will contribute to the transformation of a core business portfolio that is environmentally important now and in the future in the realization of the fundraiser's transition plan (business strategy).
○	2-b)	When identifying business activities that are environmentally material parts, it is recommended that the fundraiser consider multiple climate change-related scenarios that may possibly impact its judgment on the identification <sup>16</sup> .	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser has considered several future scenarios that could affect its current materiality decisions.
△	2-c)	In terms of considering materiality, it is possible to apply existing guidance provided by an organization that creates standard criteria concerning sustainability reporting <sup>17</sup> .	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser has addressed materiality considerations by referring to the SDGs goals and GRI standard non-financial disclosures as guidelines for identifying society's needs and challenges.
◎	2-d)	The fundraiser should indicate that climate change is an environmentally material part of business activities <sup>18</sup> .	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser has indicated climate change to be environmentally material in its operations.

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
○	2-e)	It is recommended that disclosures include the contents of climate change-related scenarios used in identifying business activities that are environmentally material parts along with the underlying reasons (e.g., regional and industrial characteristics) for selecting such scenarios.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that fundraiser has referred to internationally recognized scenarios related to climate change in developing its transition plan (business strategies). DNV has also confirmed through its evaluation work that fundraiser has considered the technology roadmaps for the oil, chemical, and electric power sectors, published by METI, considering regional and industry characteristics.

15 They include activities that are environmentally material parts are considered to be business activities of the fundraiser that identifies climate change as part of its materiality.

16 Scenario analysis using multiple climate-related scenarios is similar to that required by the TCFD Recommendations, and it is considered useful to refer to relevant guidelines and such like for implementation methods. An example is the document issued by the Ministry of the Environment: "Practical Guide for Scenario Analysis in line with TCFD Recommendations".

17 "The SASB Materiality Map" issued by the Sustainability Accounting Standards Board serves as a guidance concerning materiality.

18 As for the approach to identifying environmentally material business activities, it is possible to use the materiality map and such like and outline the level of materiality of climate change for one's entity.

### CTF-3 Climate Transition Strategy to be Science-based Including Targets and Pathways

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
◎	3-a)	The fundraiser should reference science-based targets in developing its transition strategies.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//06/  Interviews with stakeholders	Through its assessment work, DNV has confirmed that the fundraisers' transition plan (business strategies) is benchmarking the transition pathways in line with the technology roadmaps in the oil, chemical, and electric power sectors published by METI, which are consistent with the Paris Agreement.
◎	3-b)	This should include mid-term targets (short- to mid-term targets) in addition to long-term targets for 2050 and be quantitatively measurable based on a measurement methodology which is consistent over a long period of time.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//06/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the trajectory of the fundraiser's planned transition plan (business strategy) is quantitatively measurable in a long-term and consistent manner that includes a 2030 indicator level and the 2050 long-term goal.
◎ (△)	3-c)	In addition, it is recommended that GHG reduction targets, which could be formulated either in intensity and absolute terms, should consider environmental materiality and cover Scopes 1 through 3 of GHG Protocol, the international standard on supply-chain emissions. It is recommended that targets covering Scope 3 be set using a practical calculation method	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//06/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser includes a 2030 indicator level in addition to the 2050 long-term goal and is quantifiable over time and with consistent measurement methods.

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
		<p>when it could be subject to significant reduction in the fundraiser’s business model<sup>19</sup>. It is also possible to disclose the avoided emissions as necessary.</p>			
<p>◎ (△)</p>	<p>3-d)</p>	<p>Science-based targets are GHG reduction targets required for achieving the goals of the Paris Agreement and should be set while taking into account differences in regional characteristics and industries. In so doing, it is possible to refer to the following trajectories.</p> <ul style="list-style-type: none"> <li>- Scenarios widely recognized in the international community (Examples include the Sustainable Development Scenario (SDS) outlined by the International Energy Agency (IEA)<sup>20</sup>)</li> <li>- Objectives verified under the Science Based Targets Initiative (SBTi) and such like</li> <li>- Nationally Determined Contributions (NDC) of countries aligned with the goals of the Paris Agreement, roadmaps by industry sector<sup>21</sup>, industries set out plans that</li> </ul>	<p><input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No  <input type="checkbox"/> Not Applicable</p>	<p>Confirmed documents: /01//02//03//04//05//06/  Interviews with stakeholders</p>	<p>Through its assessment work, DNV confirmed that the fundraiser's climate strategies are based on science-based targets and pathways for transitions, considering regional and industry characteristics, as they are aligned with the technology roadmaps for the oil sector, chemical sector, and electric power sector published by METI, consistent with the Paris Agreement.</p>

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
		are science-based achieving the Paris Agreement <sup>22</sup> and so on.			
◎	3-e)	Short- to mid-term targets (with a term of three to fifteen years) should be set by referencing the aforesaid trajectories or on the pathway toward the long-term targets planned as benchmarks <sup>23</sup> .	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//06/  Interviews with stakeholders	Through its assessment work, DNV has confirmed that the fundraiser's climate strategy is set to be on a path toward the long-term goals planned in line with the technology roadmap for the oil, chemical and electric power sectors, published by METI, that are consistent with the Paris Agreement.
△	3-f)	In doing so, since short- to mid-term targets will likely be set in consideration of various factors (including the starting point and track records of the issuer, timing of capital investments, economic rationality, cost-benefit analysis, and availability of technology necessary to achieve the targets), it is possible that the pathway may not necessarily be linear with the same slope at all times but may be nonlinear.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//06/  Interviews with stakeholders	Through its assessment work, DNV has confirmed that the fundraiser is set to be on a path toward the long-term goals planned in line with the technology roadmaps for the oil, chemical, and power sectors, published by METI, consistent with the Paris Agreement, considering how various matters have already been implemented, among others.
◎	3-g)	The fundraiser should disclose the short- to mid-term and long-term targets they have set, including the base years etc.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//06/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser disclosed the mid- to long-term goals and indicator level it has established, including the base year (FY 2017).

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
◎	3-h)	In order to show that long-term targets are science-based, disclosures should explain the methodology or trajectory used to define target, including the underlying reasons (e.g., characteristics specific to a region or industry). In particular, when reference is made to plans and industry roadmaps established by an industry, etc., the explanation should include that they are grounded in scientific basis.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//06/  Interviews with stakeholders	Through its assessment work, DNV has confirmed that the fundraiser has set up transition pathways that consider the technology roadmaps in the oil, chemical, and electric power sectors, published by METI, consistent with the Paris Agreement, including regional and sectoral characteristics.
△	3-i)	It is possible that disclosures explain the pathway toward a long-term target and the alignment between the short- to mid-term targets on the pathway and the transition strategy, based on the investment plan (refer to Element 4) and other plans.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//06/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser's transition plan toward carbon neutrality is aligned with the mid-term target/indicator level, the technology roadmaps in the oil, chemical, and power sectors, and its investment plans.
△	3-j)	Concerning targets and trajectories, obtaining expert reviews on the following is considered to be particularly useful: - Whether the long-term target is aligned with science-based targets	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//06/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser has established transition pathways in line with the technology roadmaps in the oil, chemical, and power sectors, and that the medium- and long-term targets and indicator level are consistent with the science-based targets.

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
		<ul style="list-style-type: none"> <li>➡ Whether the disclosed information explains the alignment with the Paris Agreement</li> <li>- Whether the short- to mid-term targets are determined using a GHG emissions forecast calculated based on a climate change scenario analysis</li> <li>➡ Whether scenarios, etc. widely recognized in the international community are used or referenced</li> <li>- Whether the actual values of the indicators used for the targets are quantitatively measured using consistent measurement methods</li> <li>➡ Whether a specific GHG emissions reduction measure has been developed to achieve short- to mid-term targets aligned with long-term goals</li> </ul>			

Since an appropriate method for calculating Scope 3 emissions for specific industrial sectors is under development, it is possible to estimate Scope 3 emissions on a provisional “best effort” basis. When disclosing, it is recommended that boundaries, calculation methods and other relevant factors be also reported. “Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain” (METI, MoE; 2017 Japanese only. Related information in English) can be used for calculation references.

20 In addition to benchmarks indicated by the IEA, there are those referenced by the IPCC, such as RCP 2.6 (keep global warming to below 2°C), RCP 1.9 (keep global warming to below 1.5°C) and other related Transition Pathway Initiative (TPI) benchmarks. Meanwhile, scenario listings are available in the TCFD Technical Supplement and in the document published by the Ministry of the Environment: “Practical Guide for Scenario Analysis in line with TCFD Recommendations”.

21 An example of a sector-specific roadmap formulated by a public organization is the “Roadmap to Zero Emission from International Shipping” (Ministry of Land, Infrastructure, Transport and Tourism; 2020). The Ministry of International Trade and Industry also plans to formulate a roadmap for high emission industries.

22 In utilizing a plan formulated at a sector level, it is necessary to have a credible proposition that the alignment with the Paris Agreement can be explained with scientific grounds.

23 While it is possible to set short- to mid-term targets by determining the standard based on an assumed use of best available technologies (BAT), consideration should be made as to whether the use of such technologies might make it difficult to achieve long-term targets.

### CTF-4 Implementation Transparency

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
◎	4-a)	In implementing transition strategies, the fundraiser should provide transparency of the basic investment plan to the extent practicable.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//06//07//010//011//012/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser disclosed, to the extent possible, its basic investment plan in implementing the transition plan (business strategy).
○	4-b)	The investment plan includes not only capital expenditure (Capex) but also capital and operational expenditure (Opex). Therefore, costs related to research and development, M&A, and dismantling and removal of facilities are also subject to the investment plan. In other words, it is recommended that the investment plan incorporate, to the extent possible, expenditure and investment necessary for implementing the transition strategy.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//06//07//010//011//012/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser's investment plans include not only capital expenditures (Capex) but also operational and operating expenses (Opex), as appropriate. DNV has also confirmed that, if necessary, the investment plan could also cover expenses related to research and development, mergers, and acquisitions, and dismantling and demolition of facilities.
△	4-c)	It is recommended that the investment plan outline the assumed	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Confirmed documents:	Through its evaluation work, DNV has confirmed that quantitative indicators are used for the

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
		climate-related outcomes and impacts <sup>24</sup> in a quantitative fashion where possible, along with the calculation methods and prerequisites <sup>25</sup> . If quantification is difficult, the use of external certification systems can be considered as a substitute for qualitative assessment.	<input type="checkbox"/> Not Applicable	/01//02//03//04//05//06//07//010//011//012/  Interviews with stakeholders	expected climate-related and other outcomes (CO <sub>2</sub> reduction/reduction contribution) according to the investment plan of the fundraiser, and that methods and examples regarding calculation methods are set. DNV has also confirmed that, in cases where quantification is difficult, the project progress is planned to be disclosed.
○	4-d)	In particular, when outlining the assumed climate-related outcomes and impacts, it is recommended that the disclosure include not only GHG emission reduction and other initiatives to ease climate change but also report how consideration of a “just transition” <sup>26</sup> is incorporated into the transition strategy.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//06//07//010//011//012/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser has considered not only items related to climate change mitigation, such as greenhouse gas emission reductions from green/transition projects, but also a “just transition”, to ensure that the project does not result in a loss of jobs, etc. due to the activities.
○	4-e)	If implementing the transition strategy has the potential of having a negative impact on employment or the environment and communities other than climate change, it is recommended that any expenditures to mitigate such negative impacts be added to the plan.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//06//07//010//011//012/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser has a process to conduct an optimal validation of the investment and add it to the investment plan in the implementation of its transition plan (business strategy), along with a risk management mechanism that includes an environmental value assessment and negative impact on the eligibility of the project to use the funds raised.

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
◎	4-f)	Moreover, the outcomes arising from investments included in the investment plan should align with the targets.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//06//07//010//011//012/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the results and targets generated by nominated investments are consistent in terms of CO <sub>2</sub> reductions/reduction contributions, to the extent practicable for each.
○ (△)	4-g)	Transition finance is a means to financially support the implementation of a transition strategy, and it is recommended that financing be provided for new initiatives. However, in the case of transition finance in the format of Use of Proceeds instruments, refinancing for a reasonably set lookback period (the period during which refinancing is to be applied for projects that have already started) is considered to be eligible.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//06//07//010//011//012/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that it is planned that some or all of the proceeds will be used to refinance existing expenditures, and that, if applicable, the lookback period will be limited to expenditures undertaken within three years retroactively from the issuance of a green/transition bond.
○	4-h)	It is recommended that investment plans be disclosed by linking the outcomes and impacts with the expenditures to the extent practicable <sup>27</sup> .	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//06//07//010//011//012/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that fundraiser intends to disclose the CO <sub>2</sub> reductions/reduction contributions to be achieved by each of the green/transition projects envisaged for use of the proceeds, by project category, to the extent practicable.
○	4-i)	It is recommended that the fundraiser, after securing financing, reports any deviations between the initial plan and the actual	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Confirmed documents: /01//02//03//04//05//06//07//016/ /	Through its evaluation work, DNV has confirmed that fundraiser intends to disclose any major events in a timely manner, such as major changes

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
		expenditure, outcomes and impacts. For any deviations, it is recommended that the underlying reasons be explained.	<input type="checkbox"/> Not Applicable	Interviews with stakeholders	in the fundraiser's appropriation plan for eligible projects.
◎	4-j)	In cases where the Use of Proceeds bonds include refinancing, the fundraiser should provide an explanation on the lookback period set under the framework or other relevant methods along with the underlying reasons and factors.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//06//07//010//011//012/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that it is planned that some or all of the proceeds will be used to refinance existing expenditures, and that, if applicable, the lookback period will be limited to expenditures undertaken within three years retroactively from the issuance of a green/transition bond.
○ (△)	4-k)	While there are differences in business practices, such as the fact that loans are traditionally made based on the bilateral relationship between a borrower and a lender, it is recommended that disclosure on the above be made to the extent possible in order to ensure transparency and credibility of transition finance. However, if it is difficult to disclose such information to the public from the standpoint of confidentiality and competition, it is possible to report such information only to lenders or external evaluation organizations without disclosing it to the public.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//06//07//010//011//012/  Interviews with stakeholders	The fundraiser does not plan to utilize the loan.

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
△	4-l)	Similarly, in cases where the fundraiser is a small-to-medium-sized enterprise and it is difficult to disclose to the public the same content as that reported to the financier or an external evaluation institution, it is possible for the fundraiser to simplify the content of disclosure, for example, by limiting disclosure to a summary of h) to j) of this section.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable	Interviews with stakeholders	The fundraiser is not a small-to-medium-sized enterprise.

24 The Ministry of the Environment, in its “Concept Paper on Impact Finance”, refers to impact as “a positive or negative change to the environment, society or economy caused by an organization and is not a direct deliverable or output but an outcome as a change brought about in terms of the environment, society or economy.”

25 In disclosing impacts, outlining the amount of contribution to reducing CO<sub>2</sub> emissions in the global value chain on the whole and the entire lifecycle, including the consumption phase, can be considered. For the amount of contribution to the reduction, it is possible to reference the “Guideline for Quantifying GHG Emission Reduction Contribution” (METI, 2018). Furthermore, as for outcomes on research and development, it is possible to reference the IEA Measuring Innovation by Technology Readiness Level (TRL) or Importance for Net-Zero Emission, among others, and outline the progress in the R&D phase or the potential of reducing CO<sub>2</sub> emissions with the relevant technology by highlighting the importance of net-zero emissions.

26 A just transition is an attempt to ensure the wide sharing of virtual profits created through a transition to a green economy, as well as to support any party who will experience an adverse economic impact (be it a country, a region, an industry, a community, a worker, or a consumer). The concept of a just transition corresponds to several SDGs.

27 In particular, disclosure of investment plans is expected to be required for projects applicable to Use of Proceeds.

## Schedule-5 Eligibility Assessment for Green Bond Guidelines (Bonds with Specified Purpose for Transition Finance)

The following check list (GBGLs-1 to GBGLs-6) is prepared based on the Green Bond Guidelines (GBGLs, MOE, 2020). According to the GBGLs, Requirements/Evaluation aspects are divided into following two terms, **Should:◎ Recommend:○**

The numbers /01/, /02/ ~ /19/ listed in the Work Undertaken column are the confirmed documents, and the details (document name) are shown in Reference document-1 (See the Attachment).

In addition to the confirmed documents, the Work Undertaken includes the case where the information obtained through discussions and interviews with the publishers is used as evidence.

This assessment applies as a requirement for Use of Proceeds based on CTFH and CTFBG, so any term "green" and "bond" in Schedule-5 should be read as "transition" and "finance (bond)", respectively.

### GBGLs-1 Use of proceeds

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
◎	1-①	Green Bond proceeds should be allocated to Green Projects that state the clear environmental benefits, which should be assessed by the issuer	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//05//06 /  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser has evaluated that some or all of the funds to be raised by a transition bond will be used for green/transition projects that will result in environmental improvement benefits (CO <sub>2</sub> emission reductions) and that such environmental improvement benefits have been evaluated by the fundraiser.
○	1-①	Environmental benefit of Green Bond proceeds, where feasible, quantification is recommended.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//05//06 /	Through its evaluation work, DNV has confirmed that green/transition projects for which the funds will be used have environmental benefits (climate change mitigation), which will be assessed by the fundraiser and quantified where possible.

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
				Interviews with stakeholders	
◎	1-④	In advance, issuers should provide investors with information regarding the use of Green Bond proceeds through legal documentation (such as a prospectus) or other documents.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//013/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser intends to explain to investors in advance when it issues a specific green/transition bond by means of the Framework, statutory documents such as an amended shelf registration statement, and other documents.  *At the time of this evaluation, the specific use of proceeds and the timing of the bond issuance have not yet been determined, and therefore the statutory documents (such as the Amended Shelf Registration Statement) have not yet been finalized.
◎	1-⑤	The provision of the information regarding the use of proceeds should specify the Green Project categories.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//013/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that an investor presentation of funds to be raised and used to finance green/transition projects will be presented in line with the Basic Guidelines for Climate Transition Finance and, where appropriate, the project categories of the Green Bond Principles.
○	1-⑤	In the cases where individual Green Projects have been specified, it is recommended that issuers clearly present the projects to investors.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser intends to clearly identify to investors the individual green/transition projects for which the proceeds will be used once such projects have been specifically identified.
◎	1-⑥	In cases where Green Projects have incidental negative environmental	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Confirmed documents:	Through its evaluation work, DNV has identified the following measures to minimize the potential for eligible

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
		impacts along with the alleged environmental benefits, the issuers should include information regarding these negative impacts (e.g., how they are assessed, what the issuers do to curb them) to investors so that the investors and market participants can appropriately evaluate these impacts.	<input type="checkbox"/> Not Applicable	/01//02//03//04//05 //010//011//013/  Interviews with stakeholders	green/transition projects to have incidental, negative effects on the environment, apart from their original environmental improvement benefits:  (1) Exclusion criteria are defined within the Framework. (2) The project has a process for environmental impact assessment, risk management including negative impacts, and evaluation of optimal verification of investments. (iii) Through sustainability reports and/or its websites (news release list), the status of compliance with environmental protection laws and regulations is disclosed to stakeholders, including investors.
○	1-⑦	(In case of where a part of Green Bond proceeds is used to refinance existing Green Projects,) it is recommended that the issuers provide information to the investors regarding (1) the amount (or the share) of the bond proceeds being allocated for refinancing, and (2) which Green Projects (or Green Project categories) may be refinanced.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that fundraiser intends to explain the following in their explanations to investors if the use of proceeds includes green/transition projects that have already been initiated.  (1) The amount (or percentage) of proceeds to be allocated for refinancing (2) The related project category described in the Framework
◎	1-⑦	When Green Bonds are issued multiple times to refinance an asset that requires long-term maintenance, the issuer should clearly disclose the asset's age and remaining useful life and the amount to be refinanced as at the time of the bond issuance,	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that when refinancing through multiple green bond issues for assets that need to be maintained over a long period of time, the intention is for the fundraiser to clearly disclose the age of the asset, its remaining durable years, and the amount to be refinanced at the time of issuance.

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
		evaluate the long-term sustainability of environmental benefits and obtain an assessment from an external reviewers for verification.			DNV has also confirmed that the fundraiser intends to disclose the sustainability of the environmental improvement effects over a long period of time, based on the impact reporting approach.

### GBGLs-2 Process for Project Evaluation and Selection

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
◎	2-①	In advance, issuers should provide investors with information regarding the following: The environmental sustainability objectives that the issuers intend to achieve through Green Bonds.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that fundraiser intends to explain to investors in advance their "environmental goals" (i.e., the environmental benefits they intend to achieve through the green/transition bond).
◎	2-①	In advance, issuers should provide investors with information regarding the following: The criteria for determining the appropriateness of Green Projects based on the environmental sustainability objectives described above	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that fundraiser intends to explain to investors in advance that the nominated green/transition project is in line with the Basic Guidelines on Climate Transition Finance and, where applicable, with a project category of the Green Bond Principles.
◎	2-①	In advance, issuers should provide investors with information regarding the following:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Confirmed documents: /01//02//03//07/	Through its evaluation work, DNV has confirmed that fundraiser has explained to investors in advance the

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
		The process for determining how Green Projects fit the criteria for the achievement of the environmental sustainability objectives (The process for the determination refers to the reason why issuers determine that Green Projects can provide environmental benefits appropriately in light of the objectives and criteria for the use of Green Bond proceeds, how and by whom are the criteria applied and used to determine whether Green Projects are appropriate in light of the objectives, and the like)	<input type="checkbox"/> Not Applicable	Interviews with stakeholders	process of evaluation and selection of eligible green/transition projects.
○	2-⑥	It is recommended that the issuers explain to investors in advance any environmental standards or certifications that the issuers will refer to in evaluating and selecting a Green Project to be financed.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable	Confirmed documents: /01/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that, in evaluating and selecting green/transition projects, the fundraiser intends to explain to investors in advance that the projects are in line with the technical roadmaps in the oil, chemical, and electric power sectors, published by METI, and, if applicable, are consistent with the project categories defined in the Green Bond Principles.
◎	2-⑦	If an issuer intends to establish an exclusion standard to identify and control such potentially material environmental and social risks of Green Projects, the issuer should explain it to investors in advance as one of the criteria it applies.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04//05//010//011//012/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser intends to establish the followings, to identify and control potentially significant environmental and social risks that the nominated green/transition projects may have, and to explain them to investors in advance:  (1) Exclusion criteria are defined within the Framework. (2) The project has a process for environmental impact assessment, risk management including negative impacts, and evaluation of optimal verification of investments.

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
					(iii) Through sustainability reports and/or its websites (news release list), the status of compliance with environmental protection laws and regulations is disclosed to stakeholders, including investors.
○	2-⑨	It is recommended that internal groups who have expertise, such as the environment related group, or external institutions check whether the determination process is suitable from an environmental point of view.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//07/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that some departments in the fundraiser, with expertise related to safety and environmental management, are involved in the project selection process, and, where applicable, external agencies are involved to provide checks and balances to ensure appropriateness from an environmental perspective.
○	2-⑩	It is recommended that issuers position their environmental objectives, criteria and information on their processes in the context of their comprehensive environmental sustainability objectives, strategy, policies and so on (e.g., medium-term management plan, sustainability strategy, CSR strategy) when explaining them to investors.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//02//03//04/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that information on the environmental goals, criteria, and processes for green/transition projects are placed within the context of the fundraiser's transition plan (business strategy) and are explained to investors.

### GBGLs-3 Management of proceeds

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
◎	3-①	Issuers should track and manage the net Green Bond proceeds in an appropriate manner. These tracking and managing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//08/	Through its evaluation work, DNV has confirmed that the fundraiser plans to ensure that the full amount of funds

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
		activities should be controlled by the issuer's internal process.		Interviews with stakeholders	raised will be controlled and tracked by the fundraiser's internal processes in an appropriate manner.
◎	3-②	As long as the Green Bonds are outstanding, issuers manage the amount of the allocation to the Green project is equal to or more than proceed, or issuers should periodically adjust to match the amount of the total Green Bond proceeds to the sum of the amount of the proceeds allocated to Green Projects and the amount of the unallocated proceeds.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//08/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser will ensure periodically, at least once a year, that the amount allocated to the eligible project matches the proceeds from the issuance of the green/transition bond until the green/transition bond is redeemed, or that the total amount allocated to the project and the amount of unallocated funds matches the total amount of proceeds.
◎	3-②	If any of the proceeds remains temporarily unallocated, the issuer should explain to investors how it intends to manage the balance of such unallocated funds and endeavour to promptly allocate such funds to Green Projects.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//08/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that, if unappropriated funds are to arise temporarily, the fundraiser will explain to investors how the unappropriated funds are temporarily managed in an expected manner.
◎	3-⑤	In advance, issuers should provide investors with information on how Green Bond proceeds will be tracked and managed.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//08/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser intends to explain to investors in advance that it uses an internal management system to manage the appropriation of funds (i.e., how it tracks and manages procured funds).

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
○	3-⑥	It is recommended that issuers keep evidenced documents appropriately that demonstrate how they tracked and managed Green Bond proceeds.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//08/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser has internal document control regulations for the management of funds raised, to ensure that documents and other evidential items are properly kept.
◎	3-⑧	In advance, issuers should provide investors with information on how unallocated Green Bond proceeds will be managed when the Green Projects that will receive the Green Bond proceeds have not been determined, or when such Green Projects have been determined but the proceeds have not been allocated because the allocation timing has not yet arrived.		Confirmed documents: /01//08/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser intends to explain to investors in advance how the unallocated funds will be managed in cash or cash equivalents.
○	3-⑨	It is recommended that issuers manage unallocated Green Bond proceeds as an asset with high liquidity and safety such as cash, cash equivalents, or short-term financial assets		Confirmed documents: /01//08/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that it is reasonable based on actual performance for the fundraiser to manage the unappropriated funds in cash or cash equivalents.

## GBGLs-4 Reporting

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
◎	4-①	Issuers should publicly disclose the latest information on the use of Green Bond proceeds after issuance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser plans to disclose up-to-date information on the use of proceeds raised through a green/transition bond to investors by publishing it through its website on an annual basis.
◎	4-②	Issuers should disclose the latest information at least once a year until full allocation of the proceeds and as necessary thereafter in the event of new developments.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//08/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser's disclosures will be published on its website on an annual basis until the proceeds from the issuance of green/transition bond have been fully allocated.  DNV has also confirmed that the fundraiser intends to disclose in a timely manner any major events, such as major changes in its plans for the appropriation of proceeds.
◎	4-③	Disclosed information should include the following contents: <Contents> <ul style="list-style-type: none"> <li>• A list of the Green Projects to which Green Bond proceeds have been allocated</li> <li>• A brief description of each Green Project (including up-to-date progress)</li> <li>• The amount allocated to each Green Project</li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//08/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that fundraiser intends to include the following items in their disclosure information: <ul style="list-style-type: none"> <li>• Amount of funds allocated per project category</li> <li>• Amount of unallocated funds raised</li> <li>• Amount of funds allocated to existing expenditures out of the amount of funds raised</li> <li>• Environmental improvement benefits expected to result from the project (e.g., CO<sub>2</sub> reduction/reduction contribution (t-CO<sub>2</sub>))</li> </ul>

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
		<ul style="list-style-type: none"> <li>The expected environmental benefits of each Green Project</li> <li>Information regarding unallocated Green Bond proceeds (the amount of the unallocated proceeds or the share of the unallocated proceeds to the total amount of the proceeds, when the unallocated proceeds are expected to be allocated to Green Projects, and how the unallocated proceeds are managed until allocation)</li> </ul>			
○	4-④	If Green Bond proceeds have been allocated to the refinancing of existing projects, it is recommended that disclosed information include: 1) the approximate amount (or the share) of the allocated proceeds used for refinancing, and 2) a list of the Green Projects (or the project categories) refinanced.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//08/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that fundraiser intends to explain the followings in its explanation to investors if the use of proceeds includes green/transition projects that have already been initiated.  (i) The amount (or percentage) of proceeds to be allocated for refinancing  (ii) Project category of the project defined in Green Bond Principles (if applicable)
○	4-⑤	While it is recommended to disclose 4-③ and 4-④ on a project-by-project basis, if there are confidentiality agreements, competitive considerations, or a large number of underlying projects that limit the disclosure of details, it is considered that information is presented in generic terms or in an aggregated portfolio.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that fundraiser intends to make disclosures on a project-by-project basis to the extent practicable.

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
◎	4-⑦	When disclosing information regarding the expected environmental benefits of projects, issuers should use appropriate indicators while ensuring consistency with the “environmental sustainability objectives,” the “criteria” for Green Projects specified in Section 2, “Process for Project Evaluation and Selection,” and the characteristics of Green Projects.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//06/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that the fundraiser intends to use appropriate indicators (e.g., CO <sub>2</sub> reduction/reduction contribution (t-CO <sub>2</sub> )), in disclosing information on environmental improvement benefits, considering the environmental objective of green/transition bond (i.e., mitigation of climate change).
○	4-⑧	When disclosing the expected environmental benefits of projects, it is recommended that issuers, where feasible, use quantitative indicators and disclose information on methodologies and/or assumptions as well as these indicators.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Confirmed documents: /01//06/  Interviews with stakeholders	Through its evaluation work, DNV has confirmed that fundraiser intends to use quantitative indicators (e.g., CO <sub>2</sub> reduction/reduction contribution (t-CO <sub>2</sub> )), to the extent practicable, in disclosing information on environmental improvement effects.

## List of reference materials

- /01/ Idemitsu Kosan Green/Transition Bond Framework
- /02/ Idemitsu Integrated Report 2021
- /03/ Idemitsu Sustainability Report 2021
- /04/ IR-related materials
  - a. Review of Mid-term Management Plan (FY2020~2022) (May 11, 2021)
  - b. Financial Results for the Second Quarter of FY2021 (November 9, 2021)
- /05/ Eligible Projects
  - a. Summary information on the target project(s) envisaged for the use of the proceeds
  - b. CO<sub>2</sub>-free ammonia
  - c. Idemitsu Green Energy Pellets (IGEP)
- /06/ Documents related to CO<sub>2</sub> emission reduction
  - a. Supplementary explanatory materials related to CO<sub>2</sub> reduction contribution throughout the value chain
  - b. Methodology and case study materials related to calculation of GHG reduction contribution
  - c. Idemitsu Kosan GHG Emissions Sustainability Website
  - d. Supplemental material on low-carbon energy supply
- /07/ Related to project evaluation and selection process
  - a. Investment and Finance Committee Operating Bylaws
  - b. Investment Drafting Sheet for Strategic Investment
  - c. Environmental Impact Assessment (Renewable Energy Project no.1)
  - d. Environmental Impact Assessment (Renewable Energy Project no.2)
- /08/ Cash Management
  - a. Transition Bond Appropriated/Unappropriated Funds Control Chart
  - b. Cash and cash equivalents at end of year (2019 and beyond)
- /09/ Second Quarter of FY2021 Investment Plan Progress
- /010/ Biomass Feedstock Sustainability Criteria
  - a. General woody biomass certification for wood pellets for power generation (January 14, 2021)
  - b. FSC certificate (certificate registration number: NC-COC-032628/NC-CW-032628)
  - c. Business Planning Guidelines (Biomass Power Generation) Revised April 2021
- /011/ Related to sustainable procurement
  - a. Idemitsu Kosan Sustainable Procurement Guidelines (November 2021)
  - b. Sustainable Procurement Self-Assessment Sheet
- /012/ News Release List | Idemitsu Kosan (<https://www.idemitsu.com/jp/news/>)
- /013/ Draft Amended and Restated Shelf Registration Statement