SECOND PARTY OPINION

JERA CO., INC.

JERA TRANSITION BOND FRAMEWORK

Prepared by: DNV Business Assurance Japan K.K.

Location: Kobe, Japan

Date: 12 May 2022

Ref. Nr.: PRJN-333948-2022-AST-JPN-01_Rev1.0

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. As Revision 1, this includes formal modifications due to changes in JERA's operational system and an additional evaluation in May 2022 of JERA's new target setting eligibility as a transition bond. (Additional part in accordance with Revision 1 are underlined.)

Executive Summary

*This report (Revision 1) is an additional evaluation of the eligibility as a transition bond with respect to the new target set due to the establishment of "JERA Environmental Target 2035" in May 2022 and the update of "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan".

JERA Co., Inc. (hereinafter, JERA, including JERA Group or the issuer) was established on April 30, 2015 to form a comprehensive alliance between Tokyo Electric Power Company (as it was known then) and Chubu Electric Power Co., Inc. for their entire supply chains from fuel upstream and procurement business to power generation. JERA established a unified, continuous value chain from fuel upstream and procurement business to power generation and electricity and gas wholesaling, earning its status as an energy company with power generation capacity equivalent to half of Japan's thermal power generation output and a fuel transaction volume among the world's highest. JERA engages in borderless management of all businesses from fuel procurement to power generation and sales in three profit centers, which are "Business development," "Optimization," and "O&M·Engineering," to establish a system capable of pursuing expertise and excellence and maximizing synergy in each business.

JERA has established "JERA Zero CO_2 Emissions 2050" in October 2020, the goal of achieving zero CO_2 emissions by 2050. Under "JERA Zero CO_2 Emissions 2050", JERA will take on the challenge of achieving, by 2050, virtually zero CO_2 emissions from JERA's operations in Japan and overseas by taking the three following approaches: 1. Complementarity between Renewable Energy and Zero CO_2 Emission Thermal Power Generation, 2. Establishment of Roadmaps Suitable for Each Country and Region and 3. Adoption of "Smart Transition". In addition, JERA established "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan" that shows a pathway toward CO_2 zero mission by 2050 of its business in Japan. To promote CO_2 zero emissions in domestic operations in accordance with this roadmap, JERA has formulated "JERA Environmental Target 2030" as new environmental goals of FY2030 for its domestic operations. According to "JERA Environmental Target 2030", JERA has committed to reducing CO_2 emission intensity by 20% compared to that of thermal power plants in Japan as a whole, based on the long-term energy supply and demand outlook for FY2030 set by the government. JERA also committed to shutting down/decommissioning all inefficient (supercritical or less) coal-fired thermal power plants.

As stated in "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan", in order to achieve the realization of CO_2 zero emissions, JERA will promote various R&D, verification, introduction of technologies and facilities. Meanwhile, until the technologies and facilities are practically available, JERA will pursue the CO_2 emission reduction in the medium-term by utilizing the decarbonization technologies. These efforts comply with the philosophy of Climate Transition. "JERA Zero Emissions 2050 Roadmap for its Business in Japan" is consistent with the transition roadmap for the electricity sector, which was developed by the Ministry of Economy, Trade and Industry (hereinafter, METI) in February 2022 with the aim of promoting transition finance. JERA's roadmap also includes representative transition projects outlined in the globally recognized handbooks, principles or guidelines related to transition finance.

In May 2022, JERA added a target to accelerate further its efforts to achieve the realization of CO_2 zero emissions, aiming to reduce CO_2 emissions from domestic operations by at least 60% (relative to FY 2013) by FY 2035 with the establishment of the "JERA Environmental Target 2035" and the update of the "JERA Zero CO_2 Emissions 2050 Roadmap for its

Business in Japan". Furthermore, JERA has developed a more ambitious transition strategy, including clarifying the timing of full-scale operation at 20% and 50% ammonia co-firing rates in thermal power generation, consistent with the transition roadmap for the electricity sector of METI.

JERA has developed JERA Transition Bond Framework (hereinafter, "Framework") in order to finance and refinance investments that contribute to the realization of "JERA Zero CO_2 Emissions 2050" in line with the established global handbooks, principles or guidelines.

DNV Business Assurance Japan K.K. (hereinafter, "DNV"), as an external reviewer, evaluated the eligibility of the Framework and the JERA Transition Bond (to be issued in May 2022).

Specifically, DNV provided the eligibility evaluation for the Framework against the following handbooks, principles and guidelines which are widely recognized:

- Climate Transition Finance Handbook (International Capital Market Association (ICMA), 2020, hereinafter CTFH)
- Basic Guidelines on Climate Transition Finance (Financial Services Agency, Ministry of Economy, Trade and Industry, Ministry of the Environment, 2021 hereinafter, CTFBG)
- Green Bond Principles (International Capital Market Association (ICMA), 2021 hereinafter GBP)
- Green Bond Guidelines (Ministry of the Environment, 2020, hereinafter GBGLs)

The following is a summary of the assessment results for each common element indicated in the above handbooks, principles and guidelines. CTF-1 ~ CTF-4 are findings and opinions of DNV against the four common elements of the CTFH and CTFBG (disclosure elements); GBP-1 ~ GBP-4 are findings and opinions of DNV against the elements of GBP/GBGLs considering transition finance with Use of Proceeds instruments.

<CTF Eligibility Assessment Results>

CTF-1. Issuer's Climate Transition Strategy and Governance:

The issuer, JERA, has set a long-term goal of CO_2 zero emission by 2050, which is consistent with the goal of the Paris Agreement, in "JERA Zero CO_2 Emissions 2050", part of its transition strategy. The long-term goal is in line with the pathway stated in the transition roadmap for the electricity sector of METI. Moreover, given the fact that indirect emissions from power generation accounts for 38% of the CO_2 emissions per final energy consumption in Japan where JERA operates in, the transition strategy of JERA, whose major emissions come from its thermal power generation, will not only contribute to the emissions reduction from its own business activities (Scope 1 and 2), but also the achievement of the decarbonization goals of diverse entities. In terms of governance and disclosure related to the implementation of transition finance, an internal structure and information disclosure process based on TCFD[*1] have been established. These are disclosed within the Framework and other documents, and meet the disclosure element CTF-1. *1: Task Force on Climate-related Financial Disclosures

CTF-2. Business Model Environmental Materiality:

JERA identified materialities in order to solve social issues and increase its medium-to-long-term corporate value. JERA also utilizes the analysis and evaluation methods based on GRI Standards[*1], ISO 26000, TCFD, etc. As part of its efforts to address environmental materiality, the activities contributing to transition, such as

"Decarbonizing/expansion of renewable energy" and "Improved efficiency of thermal power generation", are included. Furthermore, the contribution to the SDGs (see below) is also taken into account. These are disclosed within the Framework and other documents, and meet the disclosure elements CTF-2.

*1: An international standard providing ESG-related reporting, management, and analysis methods, established by Global Reporting Initiatives

CTF-3. Climate Transition Strategy to be 'Science-based' Including Targets and Pathway:

JERA's transition strategy is formulated in consistency with the transition roadmap for the electricity sector of METI as described in CTF-1. The transition roadmap for the electricity sector refers to the Sixth Strategic Energy Plan, which is in line with the Plans for Global Warming Countermeasures. These are established based on Japanese government's aim to achieve carbon neutrality in 2050 and to reduce greenhouse gas emissions by 46% in 2030 compared to the FY2013 level in refer to IPCC 1.5°C Special Report. These are consistent with the Paris Agreement.

In JERA's transition strategy, the medium- and long-term goals to reduce CO_2 emissions from company's activities are indexed and quantified while the process of achieving those goals is clarified. In addition, "JERA Environmental Target 2035" and "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (updated in May 2022)", released in May 2022, provide additional disclosure of mid-term targets. These are disclosed in JERA Group Corporate Communication Book 2021, the Framework, etc. or this second party opinion, and meet the disclosure elements CTF-3.

CTF-4. Implementation Transparency:

DNV confirmed that the investments and project plans related to JERA's transition strategy included investments and expenditures that have been implemented and are scheduled in the future. DNV also confirmed that the overall investment plan (investment amount) will be executed in accordance with the timeline. DNV confirmed that in order to ensure transparency, JERA will discuss on the disclosure, wherever possible, of its basic investment plan (investment amount).DNV also reviewed the Framework and the ESG management of JERA and confirmed high transparency in the implementation. JERA explained the appropriateness of its execution to DNV and DNV agreed on the appropriateness. These meet the disclosure elements CTF-4.

<GBP Eligibility Assessment Results>

GBP-1. Use of Proceeds:

JERA defined the project categories of the use of proceeds as the projects (transition projects) to realize zero CO_2 emissions from thermal power generation. Specifically, the two eligibility criteria below refer to the transition projects ① to ⑥. The proceeds will be allocated to financing or refinancing R&D, business development, construction, operation, refurbishment, demolition or/and other related expenditures. DNV has confirmed that these transition projects are consistent with the elements CTF-1 to 4. The transition projects have been evaluated by JERA as having clear and positive environmental impacts in line with the transition strategy and are expected to contribute directly and indirectly to the SDGs. These projects are aligned with GBP-1. The following is an overview of the six projects to which the proceeds of the scheduled transition bond are to be allocated.

Table I JERA Transition Finance Eligibility Criteria and Project Overview

(Please see text for details)

Project categories	Eligibility Criteria	Project Overview (Main Expenditure)
Transition Project **Projects for the realization of zero CO_2 emission thermal power**	The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing	① Demonstration study of 20% ammonia co-firing in 1 million kW class coal-fired power plant - Project period: June 2021 - March 2025 - Project description: Development and demonstration test of technology to convert 20% of fuel (calorific value ratio) to ammonia at Hekinan Thermal Power Station Unit 4 (to FY2024) ※ Adoption of New Energy and Industrial Technology Development Organization (NEDO) subsidized project "Development of Technologies for Carbon Recycling and Next-Generation Thermal Power Generation / Research, Development and Demonstration of Technologies for Ammonia Co-Firing Thermal Power Generation"
		② Demonstration study on actual equipment to establish technology for high ammonia co-firing rate at commercial thermal power plants - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia high-efficiency burner and study of the specifications of the equipment (to FY 2024), and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at the Hekinan thermal power station (to FY2028). ※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"
		③ Demonstration of high co-firing rate at thermal power station using ammonia single-fuel burners - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia single-fuel burner and study of the specifications of the equipment (to 2024), and conducting technology development and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at two different boiler units (to FY2028). ※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"
		④ Technical verification of hydrogen co-firing power generation for the construction of a large-scale hydrogen supply chain - Project period: October 2021 to March 2026

		- Project description: Conducting demonstration tests at large-scale LNG-fired power plants in Japan to convert approximately 30% (by volume) of LNG into hydrogen for power generation (to FY2025). ※ Adoption of NEDO Green Innovation Fund project for "Construction of a large-scale hydrogen supply chain"
	The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for high-efficiency thermal power plants	⑤ Demolition of existing power generation facilities at Goi Thermal Power Station (LNG)
		⑥ Demolition of existing power generation facilities at Chita Thermal Power Station (LNG) (Demolition plan is in preparation)

GBP-2. Process for Project Evaluation and Selection:

In addition to confirming that the transition projects meet the GBP-1 eligibility project categories, JERA will also confirm that potential negative environmental/social impacts are taken into account, and that the procedures of equipment certification, licensing and environmental assessment in the regions where the projects are to be implemented are appropriate. Specifically, eligible projects are selected by the Finance Group and finalized by Executive Officer, Head of the Finance Group after comprehensive analyses and reviews of the financial risks, technical and operational risks, market environment and ESG risks carried out by related business department. The process is consistent with GBP-2.

GBP-3. Management of Proceeds:

JERA's Finance Group will manage the allocation of the net proceeds of Transition Bonds on at least an annual basis, using the internal accounting management system until the proceeds have been fully allocated. The proceeds are managed in cash or cash equivalents in an amount equal to the unallocated proceeds until the proceeds have been fully allocated.

GBP-4. Reporting:

JERA will report the allocation of the proceeds (allocated/unallocated amounts, new/refinancing) of the Transition Bonds on JERA’s website annually until the proceeds have been fully allocated to Eligible Projects. In addition, the outline of the projects been allocated and their positive environmental impacts will be disclosed on the JERA's website to the extent practicable (in terms of the positive environmental impacts, outline and the progress of the eligible projects will be included). Moreover, JERA will disclose timely or in its reports in the event of significant changes in transition strategy or pathway, or significant changes in allocation plans or results.

Based on an assessment of the Framework, other relevant documents and information provided by JERA, DNV has confirmed that the Framework meets the standards required by the relevant handbooks, principles and guidelines, and thus is eligible as transition finance. It was also confirmed that the scheduled transition bond is appropriately structured and will be issued in accordance with the Framework.

Table II Transition Bonds (to be issued in May 2022) Transition Project Overview

Eligibility Criteria		Project Overview (Main Expenditure)
①	The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing	**Project Name:** Demonstration study of 20% ammonia co-firing in 1 million kW class coal-fired power plant **Project Overview:** Development and demonstration test of technology to convert 20% of fuel (calorific value ratio) to ammonia at Hekinan Thermal Power Station Unit 4 (to FY2024). **Project Period:** June 2021 - March 2025 **Environmental Impacts:** The overview and progress status of project will be reported.
②		**Project Name:** Demonstration study on actual equipment to establish technology for high ammonia co-firing rate at commercial thermal power plants **Project Overview:** Development of a new ammonia high-efficiency burner and study of the specifications of the equipment (to FY 2024), and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at the Hekinan thermal power station (to FY2028). **Project Period:** FY2021 to FY2028 **Environmental Impacts:** The overview and progress status of project will be reported.
③		**Project Name:** Demonstration of high co-firing rate at thermal power station using ammonia single-fuel burners **Project Overview**: Development of a new ammonia single-fuel burner and study of the specifications of the equipment (to 2024), and conducting technology development and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at two different boiler units (to FY2028). **Environmental Impacts:** The overview and progress status of project will be reported.
④		**Project Name:** Technical verification of hydrogen co-firing power generation for the construction of a large-scale hydrogen supply chain **Project Overview:** Conducting demonstration tests at large-scale LNG-fired power plants in Japan to convert approximately 30% (by volume) of LNG into hydrogen for power generation (to FY2025). **Project Period:** October 2021 to March 2026 **Environmental Impacts:** The overview and progress status of project will be reported.
⑤	The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for	**Project Name:** Demolition of Goi Thermal Power Station **Project Overview:** Demolition of existing power generation facilities at Goi Thermal Power Station (LNG) **Completion of Demolition work:** September 2023 **Environmental Impacts:** The overview and progress status of project will be reported.

⑥	high-efficiency thermal power plants	**Project Name:** Demolition of Chita Thermal Power Station **Project Overview:** Demolition of existing power generation facilities at Chita Thermal Power Station (LNG) (Demolition plan is in preparation) **Completion of Demolition work:** TBD **Environmental Impacts:** The overview and progress status of project will be reported.

Contents

Revision history

Revision number	Date of issue	Remarks
0	14/2/2022	Initial
1	12/5/2022	Update descriptions related to "Process for Project Evaluation and Selection" and "Management of Proceeds" due to JERA's business execution system changes in April 2022. Addition of eligibility assessment for additional target disclosures related to transition strategies due to the establishment of the "JERA Environmental Target 2035" and the update of the "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan" in May 2022.

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 Conduct1 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.

[1] DNV Code of Conduct is available from DNV website (www.DNV.com)

I. Introduction

i. About the Issuer

JERA Co., Inc. (hereinafter, JERA, including JERA Group) was established in April 2015 as the company to realize the comprehensive alliance, related to the continuous value chain from fuel upstream and procurement business to power generation and electricity and gas sales, between Tokyo Electric Power Company (at the time of foundation of JERA) and Chubu Electric Power Company. JERA established a unified, continuous value chain from fuel upstream and procurement business to power generation and electricity and wholesaling, earning its status as an energy company with power generation capacity equivalent to half of Japan's thermal power generation output and a fuel transaction volume among the world's highest. JERA engages in borderless management of all businesses from fuel procurement to power generation and sales in three profit centers, which are "Business development," "Optimization," and "O&M・Engineering," to establish a system capable of pursuing expertise and excellence and maximizing synergy in each business.

Business Development: Domestic Power Generation Business, Overseas Power Generation and value chain Business, Renewable Energy development Business, Fuel upstream, transportation, and long-term LNG procurement Businesses

O p t i m i z a t i o n: Short-Term Fuel Procurement Business, Fuel Trading Business, Electricity and Gas Sales Business

O&M & Engineering: O&M Engineering technology, Rendering O&M engineering services to third parties

ii. Issuer's Initiatives for ESG/SDGs

JERA sets "To provide cutting edge solutions to the world's energy issues" as its mission, and believes that it is important to fully understand and manage the impact of the external environment on JERA and the effects of its business activities on the society and the environment. JERA tackles to sophisticate the ESG initiatives together with all value chain.
In order to simultaneously provide the solution for social issues and increase its corporate value over medium-to-long-term, JERA identified the material issues (materiality) shown in Table-1 and aims to contribute to the achievement of the Sustainable Development Goals (SDGs) set by the United Nations by promoting sustainable activities that are integrated with its business activities.
Among all the material issues (materiality), the issue mainly relevant to the transition finance is "to tackle the climate change"(See Table-1 "I Environment"), as outlined in JERA's vision, "Global leader in LNG and renewables, sparking the transition to a clean energy economy" *, and the relationship with the SDGs is summarised as follows:

Table-1 JERA's Mission, Vision, Material Issues (Materiality) and Relevant SDGs

Mission			
To provide cutting edge solutions to the world's energy issues			
Vision			
Global leader in LNG and renewables, sparking the transition to a clean energy economy*			
Categories of material issues		**Materiality**	**Relevant SDGs**
I	Environment	Decarbonization / expansion of renewable energy	
		Compliance with environmental legislation	
		Improved efficiency of thermal power Generation	
II	Human Resources	Respect for diversity	
		Securing and developing global, strategic human resources	
		Securing and developing skilled workers	
		Management of employee health and workplace safety and sanitation	
		Promoting of work-life balance	
III	Society	Energy supply in pursuit of customer satisfaction	
		Application of digital technology	

		Leveraging our technology to make contributions in various fields	
		Communication with local communities	
		Improvement of energy infrastructure in developing countries	
IV	Human Rights	Consideration of the human rights of local community members	
V	Governance	Enhancement of corporate governance	
		Risk identification, management, and response	
		Strengthening of earning power	
		Stable supply of electricity	
		Safety of facilities (process safety, disaster prevention and response measures)	
		Response to large-scale disasters and pandemics	
		Rigorous compliance	
		Bilateral communication with stakeholders	

*In May 2022, JERA's vision was changed to "To scale up its clean energy platform of renewables and low greenhouse gas thermal power, sparking sustainable development in Asia and around the world"

iii. Issuer's Environmental Initiatives

Bearing in mind the promotion of decarbonization at low cost and high speed while keeping a stable energy supply, JERA formulated "JERA Zero CO_2 Emissions 2050" in October 2020, to achieve zero CO_2 emissions by 2050. It states that JERA will take on the challenge of achieving, by 2050, virtually zero CO_2 emissions from JERA's operations in Japan and overseas by taking the three approaches as follows: 1. Complementarity between Renewable Energy and Zero CO_2 Emission Thermal Power Generation, 2. Establishment of Roadmaps Suitable for Each Country and Region and 3. Adoption of "Smart Transitions".
In addition, JERA established "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan" that shows a pathway toward CO_2 zero mission by 2050 for its business in Japan. To promote CO_2 zero emissions in domestic operations in accordance with this road map into practice, JERA has formulated "JERA Environmental Target 2030 for its Business in Japan" as its new environmental goals as of FY2030. JERA committed to the achievement of the following goals:

① Shut down/decommission all inefficient (supercritical or less) coal-fired thermal power plants and promote demonstration experiments of mixed combustion with ammonia at high-efficiency (ultra-supercritical) coal-fired thermal power plants.
② Promote the development of renewable energy centered on offshore wind power generation projects and work to further improve the efficiency of LNG thermal power generation.
③ Reduce CO_2 emission intensity by 20% compared to that of thermal power plants in Japan as a whole, based on the long-term energy supply and demand outlook for FY2030 set by the government. (Table-2/Figure-1 and 2)

In May 2022, JERA established the "JERA Environmental Target 2035" to accelerate further its efforts to achieve the realization of CO_2 zero emissions and clarified and announced its goal to reduce CO_2 emissions from domestic operations by at least 60% (relative to FY 2013) by FY 2035 and to improve the ammonia co-firing rate. (Figure-2)

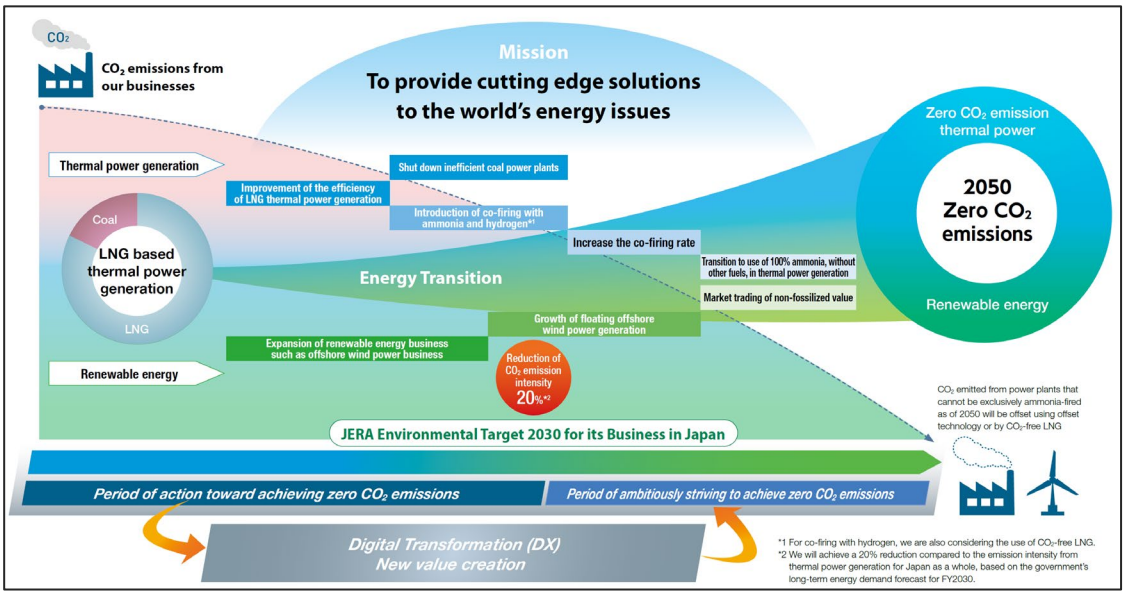


Figure-1: JERA's approach towards zero CO_2 Emissions by 2050 (Decarbonization strategy)

Table-2: Approaches of JERA Zero CO_2 Emissions 2050 (Decarbonization strategy)

Initiatives	Goal
	2050 **Zero CO_2 emissions**
JERA will take on the challenge of achieving CO_2 zero emissions from JERA's operations in Japan and overseas by 2050 through the achievement of its mission, "To provide cutting-edge solutions to the world's energy issues". ◆ Complementarity between Renewable Energy and Zero CO2 Emission Thermal Power Generation ◆ Establishment of Roadmaps Suitable for Each Country and Region ◆ Adoption of "Smart Transition"	**2035** ① Reduce CO_2 emissions from domestic operations by at least 60% (relative to FY 2013). ② Given the expanded adoption of renewable energy based on the national government's 2050 carbon neutral policy, JERA will strive to develop and adopt renewable energy in Japan. ③ Work to reduce carbon emission intensity from thermal power generation by promoting hydrogen and ammonia co-firing.
Promotion of zero CO_2 Emission Thermal Power and Renewable energy ◆ Shut down all inefficient (supercritical or less) coal power plants ◆ Demonstration tests of mixed combustion with ammonia ◆ Implementation of mixed combustion with Hydrogen ◆ Promoting offshore wind power	**2030** ① Shut down/decommission all inefficient (supercritical or less) coal-fired thermal power plants and promote demonstration experiments of mixed combustion with ammonia at high-efficiency (ultra-supercritical) coal-fired thermal power plants. ② Promote the development of renewable energy centered on offshore wind power generation projects and work to further improve the efficiency of LNG thermal power generation. ③ Reduce CO_2 emission intensity by 20% compared to that of thermal power plants in Japan as a whole, based on the long-term energy supply and demand outlook for FY2030 set by the government.

For the realization of CO_2 zero emissions, the "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan" (Figure 2) states that JERA will promote various research and development, demonstration, introduction of technologies and facilities while promoting CO_2 emissions reduction by utilizing decarbonization technologies in the medium term.

In May 2022, JERA added a target to accelerate further its efforts to achieve the realization of CO_2 zero emissions, aiming to reduce CO_2 emissions from domestic operations by at least 60% (relative to FY2013) by FY 2035 with the establishment of the "JERA Environmental Target 2035" and the update of the "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan". Furthermore, JERA have developed a more ambitious transition strategy including clarifying the timing of full-scale operation at 20% and 50% ammonia co-firing rates in coal-fired thermal power generation, which is consistent with the transition roadmap for the electricity sector of METI.

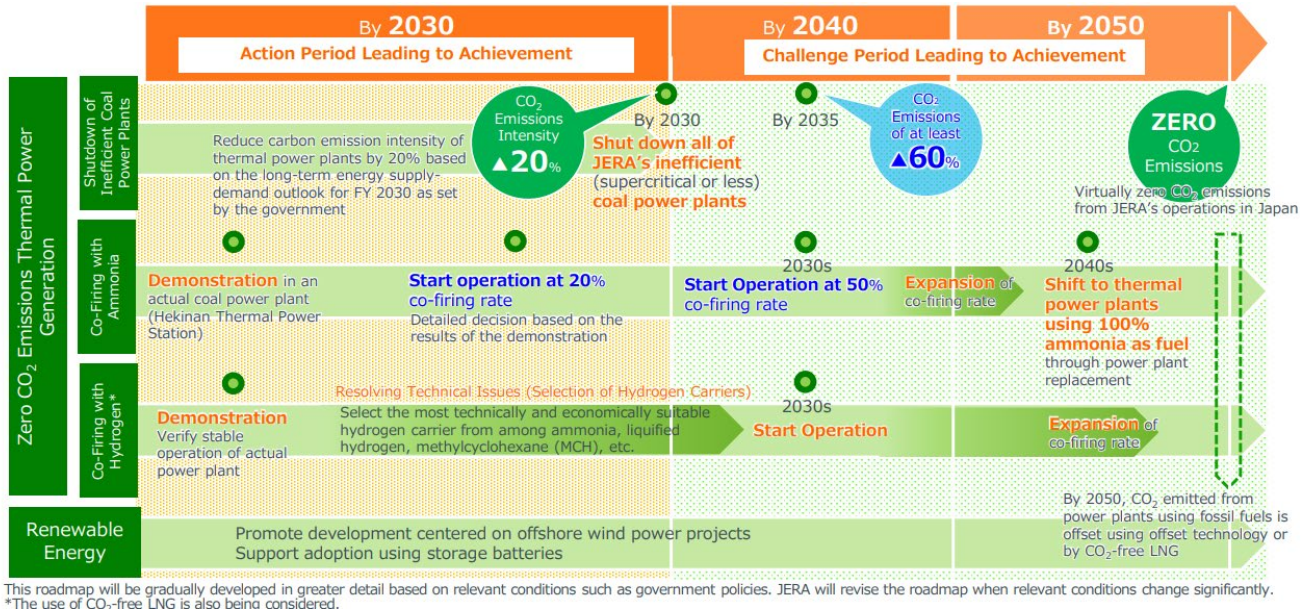


Figure-2: "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (Updated May 2022)"

Table-3: JERA's non-consolidated greenhouse gas emissions in Japan (FY2020 results)

Scope	GHG Emissions (CO_2 equivalent)
Scope1	114,950,000 t-CO_2
Scope 2	4,000 t-CO_2
Scope3	20,680,000 t-CO_2
Total	**135,640,000 t-CO_2**

Scope 1: Direct emissions of greenhouse gases by the company itself (combustion of fuels, industrial processes)
Scope 2: Indirect emissions from the use of electricity, heat and steam supplied by other companies
Scope 3: Indirect emissions other than Scope 1 and 2 (emissions from other companies related to the company's' activities)
∗Data includes emissions of Hitachinaka Generation Co. Inc.
∗Scope 2 and 3 cover CO_2 only. Scope 1 covers CO_2, CH_4 (methane), N_2O (nitrous oxide), SF_6 (sulphur hexafluoride) and HFC (alternative freon).

Table-4: JERA's participation in External Initiatives and Endorsements

External Initiatives		JERA's Initiatives
Sustainable Development Goals (SDGs)	SUSTAINABLE DEVELOPMENT GOALS	Contribute to the achievement of the SDGs by promoting business activities aimed at realising its vision, "To scale up its clean energy platform of renewables and low greenhouse gas thermal power, sparking sustainable development in Asia and around the world" (see Table-1).
Task Force on Climate-related Financial Disclosures (TCFD)	TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES TCFD Consortium	JERA endorses the TCFD recommendations and will use scenario analysis for identifying climate change-related business opportunities and risks. JERA is also a member of the TCFD Consortium, which is discussing how to disclose information on climate change responses in line with the TCFD recommendations.
Ocean Renewable Energy Action Coalition	GWEC GLOBAL WIND ENERGY COUNCIL	Discussing the initiatives required to governments and industries to ensure the sustainable expansion of offshore wind power towards 2050.

iv. About the JERA Transition Bond Framework

In order to advance the initiatives toward CO_2 zero emissions set forth in "JERA Zero CO_2 Emissions 2050", and in order to raise funds for transition activities contributing to realize the transition roadmap for the electricity sector of METI through transition finance, JERA formulated the JERA Transition Bond Framework (hereinafter, "Framework"). The criteria which this Framework specifically referred to is described in (3) of Section II below.

v. Issuer's Transition Strategy for Decarbonization

(1) Strategies by Sector (Industry) at the International/National/Regional Level

Figure-3 shows the transition roadmap for the electricity sector of METI.

The transition roadmap for the electricity sector of METI (see figure-3) and JERA's Roadmap (see figure-2) are well aligned in terms of decarbonizing power sources and increasing the efficiency of thermal power generation as a transition power source by developing and introducing the latest technologies. The transition roadmap for the electricity sector refers to the Sixth Strategic Energy Plan, which is in line with the Plans for Global Warming Countermeasures. These are established based on Japanese government's aim to achieve carbon neutrality in 2050 and to reduce greenhouse gas emissions by 46% in 2030 compared to the FY2013 level in refer to IPCC 1.5°C Special Report. These are consistent with the Paris Agreement.

JERA will shut down all inefficient coal-fired power plants by 2030, and promote the demonstration of mixed combustion with ammonia at high-efficiency (ultra-supercritical) coal-fired thermal power plants. In addition, JERA will replace the existing inefficient LNG thermal power stations with high-efficiency stations, and carry out the demonstration of mixed combustion with hydrogen. Through these approaches, JERA will achieve reducing carbon emission intensity from thermal power plants by 20% based on the long-term energy supply-demand outlook for FY 2030 as set by the government. JERA also aim to reduce CO_2 emissions from domestic operations by at least 60% (relative to FY 2013) by FY 2035. Thus, it is considered that JERA's policy of shutting down the inefficient coal power plants indicated in its roadmap, and its reduction target of CO_2 emission intensity by 2030 and CO_2 emission reduction target for 2035 are closely related to the pathway outlined in the transition roadmap for the electricity sector of METI (Figure-3).

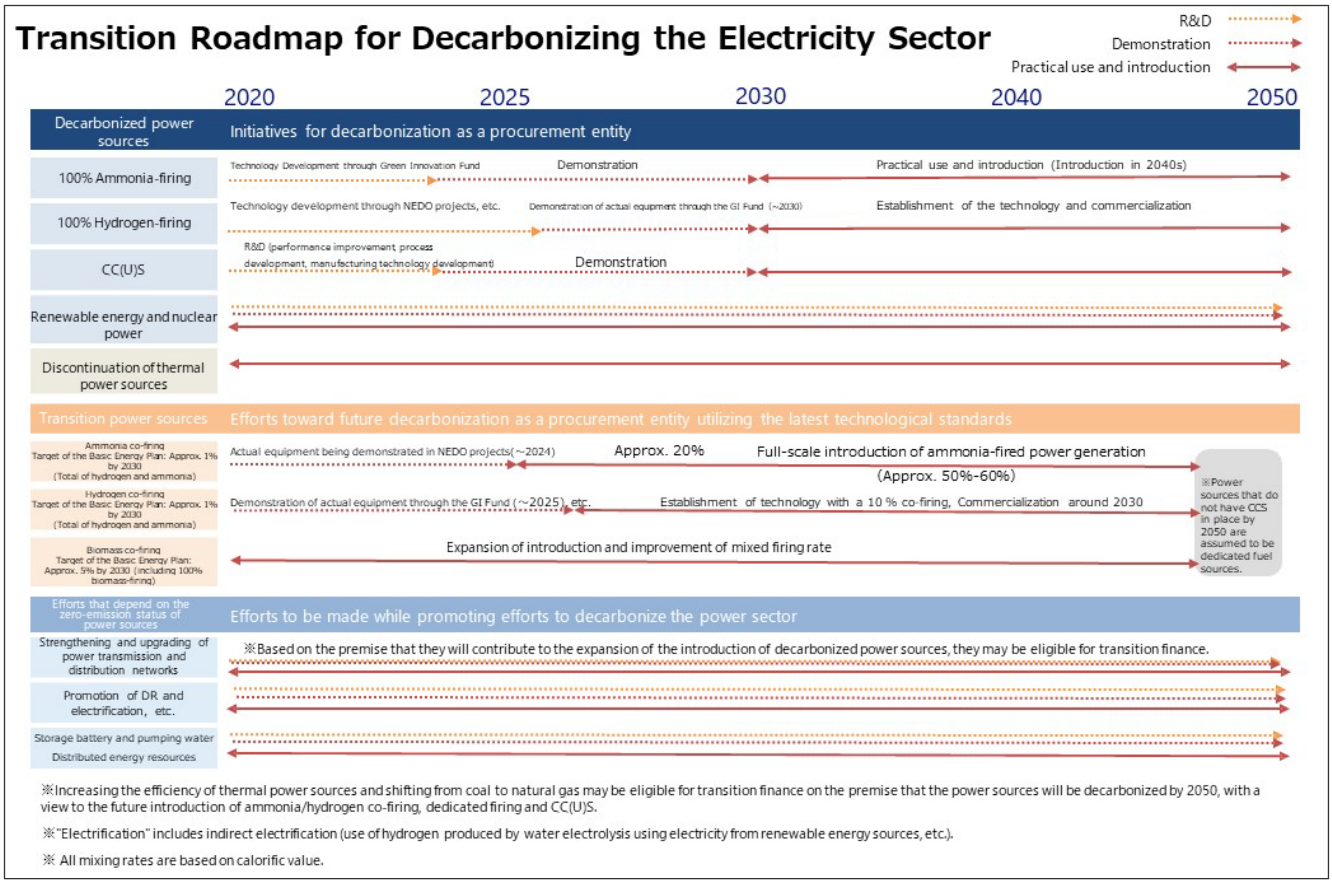


Figure-3: "Transition Roadmap for Electricity Sector", February 2022, Ministry of Economy, Trade and Industry (Provisional translation by DNV based on the Japanese version)

(2) Issuer's Transition Strategies

JERA has positioned its efforts to achieve its medium- and long-term goals, that aim at realizing CO_2 zero emission by 2050 set out in "JERA Zero CO_2 Emissions 2050" and "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan", as its transition strategy. These are consistent with the Transition Roadmap for the electricity sector.

Given the fact that indirect emissions from power generation accounts for 38% of the CO_2 emissions per final energy consumption in Japan where JERA operates, the transition strategy of JERA, whose major emissions come from its thermal power generation, will not only contribute to reducing emissions from its own business activities (Scope 1 and 2), but also contribute to achieving the decarbonization goals of diverse entities.

Table-5 below shows JERA's goal by 2050 and the mid-term goals, "JERA Environmental Target 2030" and "JERA Environmental Target 2035". In addition, Figure-2 below (re-posted) shows the overview of JERA's transition strategy, specific initiatives and timelines. The main initiatives for achieving carbon neutrality are shown in Table-5 below.

Table-5: JERA Transition Goals

MEDIUM-TERM GOALS	**JERA ENVIRONMENTAL TARGET 2030**	• **REDUCE CARBON EMISSION INTENSITY OF THERMAL POWER PLANTS BY 20% BASED ON THE LONG-TERM ENERGY SUPPLY-DEMAND OUTLOOK FOR FY 2030 AS SET BY THE GOVERNMENT.** • **SHUT DOWN ALL INEFFICIENT (SUPERCRITICAL OR LESS) COAL POWER PLANTS** • **PROMOTE DEMONSTRATION OF MIXED COMBUSTION WITH AMMONIA AT HIGH-EFFICIENCY (ULTRA-SUPERCRITICAL) POWER PLANTS** • **PROMOTE THE DEVELOPMENT OF RENEWABLE ENERGY CENTERED ON OFFSHORE WIND POWER PROJECTS** • **WORK TO FURTHER IMPROVE THE EFFICIENCY OF LNG THERMAL POWER GENERATION**
	JERA ENVIRONMENTAL TARGET 2035	• **REDUCE CO_2 EMISSIONS FROM DOMESTIC OPERATIONS BY AT LEAST 60% (RELATIVE TO FY 2013) BY FY 2035.** • **GIVEN THE EXPANDED ADOPTION OF RENEWABLE ENERGY BASED ON THE NATIONAL GOVERNMENT'S 2050 CARBON NEUTRAL POLICY, JERA WILL STRIVE TO DEVELOP AND ADOPT RENEWABLE ENERGY IN JAPAN** • **JERA WILL WORK TO REDUCE CARBON EMISSION INTENSITY FROM THERMAL POWER GENERATION BY PROMOTING HYDROGEN AND AMMONIA CO-FIRING**
LONG-TERM GOALS	**2050**	• CO_2 ZERO EMISSIONS

*JERA's roadmap will be refined in stages based on policy and other assumptions. The roadmap will also be revised if the assumptions change significantly.

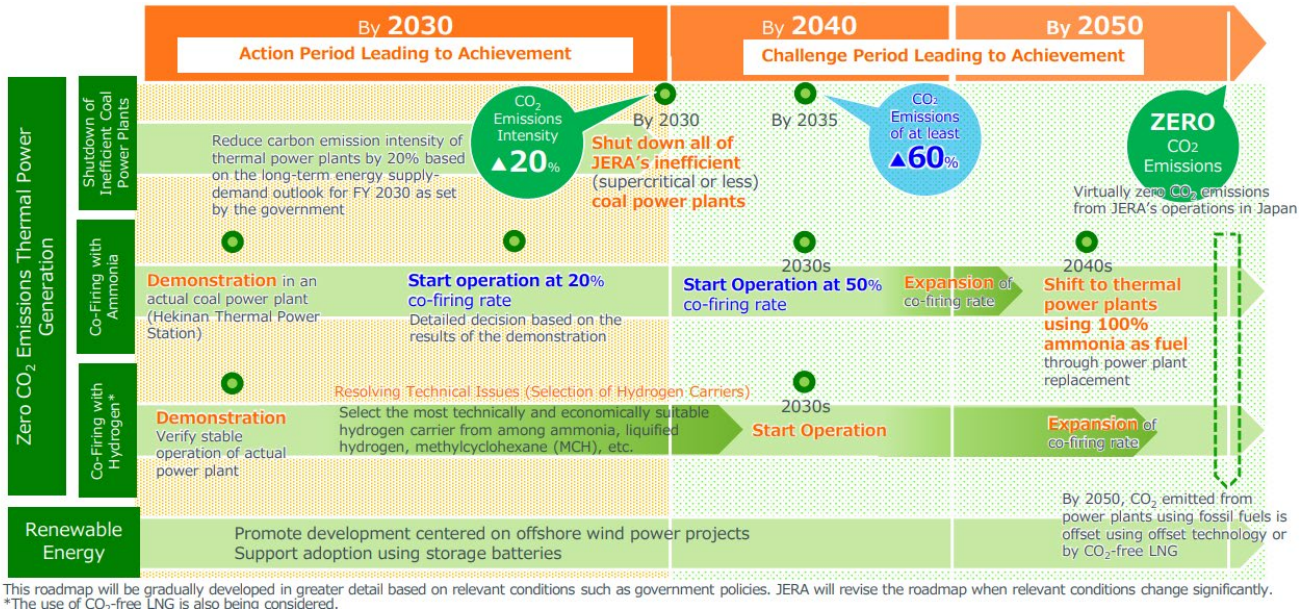


Figure-2 (Re-posted): "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (Updated in May 2022)"

Figure-4 shows a timeline for the commercial operation of ammonia and hydrogen co-firing rates in thermal power generation. Table-6 shows the major efforts to achieve carbon neutrality.

To achieve the JERA Environmental Targets, JERA aims to develop decarbonization technologies in the following timeline:

- A demonstration test with an ammonia co-firing rate of 20% will start at Hekinan Thermal Power Station Unit 4 by FY2024, and another demonstration test with a co-firing rate of at least 50% will be conducted at Hekinan Thermal Power Station Unit 5 by FY2028. JERA aims for commercial operation at the same co-firing rate.
- A demonstration test of with a hydrogen co-firing rate of 30% (by volume) using JERA's gas turbine combustor will be conducted by FY2025 with the aim of commercial operation in the mid 2030s.

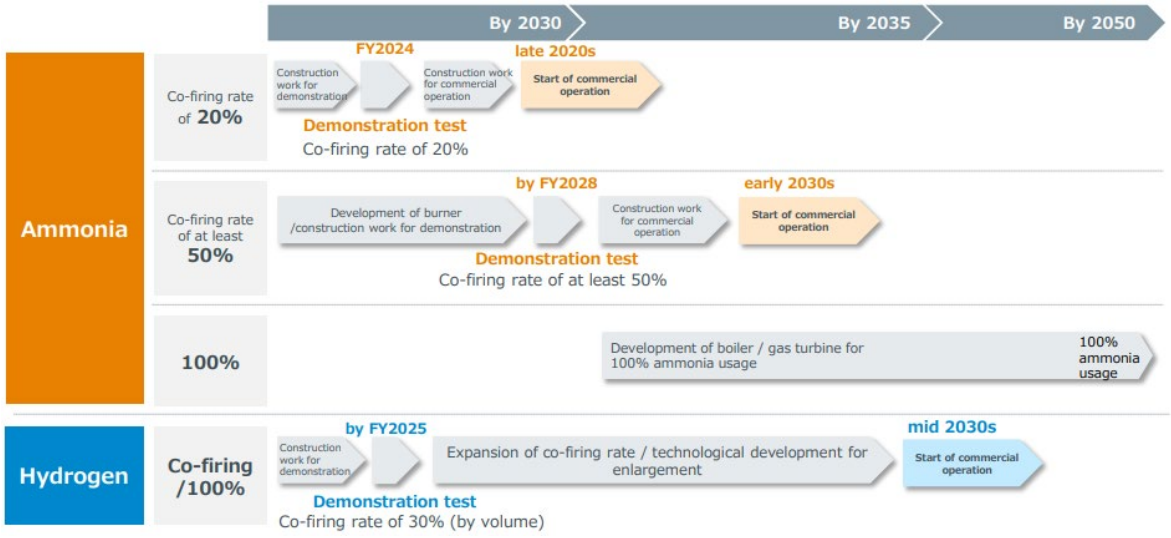


Figure-4: Specific Initiatives for Decarbonization

Table-6: JERA's Main Initiatives to Achieve Carbon Neutrality
(Transition Finance and Nominated Projects)

Project categories	Eligibility Criteria	Project Overview (Main Expenditure)
Transition Project Projects for the realization of zero CO_2 emission thermal power	The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing	① Demonstration study of 20% ammonia co-firing in 1 million kW class coal-fired power plant - Project period: June 2021 - March 2025 - Project description: Development and demonstration test of technology to convert 20% of fuel (calorific value ratio) to ammonia at Hekinan Thermal Power Station Unit 4 (to FY2024) ※ Adoption of New Energy and Industrial Technology Development Organization (NEDO) subsidized project "Development of Technologies for Carbon Recycling and Next-Generation Thermal Power Generation / Research, Development and Demonstration of Technologies for Ammonia Co-Firing Thermal Power Generation"
		② Demonstration study on actual equipment to establish technology for high ammonia co-firing rate at commercial thermal power plants - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia high-efficiency burner and study of the specifications of the equipment (to FY 2024), and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at the Hekinan thermal power station (to FY2028). ※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"
		③ Demonstration of high co-firing rate at thermal power station using ammonia single-fuel burners - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia single-fuel burner and study of the specifications of the equipment (to 2024), and conducting technology development and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at two different boiler units (to FY2028). ※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"
		④ Technical verification of hydrogen co-firing power generation for the construction of a large-scale hydrogen supply chain - Project period: October 2021 to March 2026 - Project description: Conducting demonstration tests at large-scale LNG-fired power plants in Japan to convert approximately 30% (by volume) of LNG into hydrogen for power generation (to FY2025).

		※ Adoption of NEDO Green Innovation Fund project for "Construction of a large-scale hydrogen supply chain"
	The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for high-efficiency thermal power plants	⑤ Demolition of existing power generation facilities at Goi Thermal Power Station (LNG)
		⑥ Demolition of existing power generation facilities at Chita Thermal Power Station (LNG) (Demolition plan is in preparation)

(3) Governance of the Issuer (Sustainability Promotion System)

JERA considers all matters related to transition finance as matters related to its management strategy and implements the following corporate governance system. In order to expand business throughout the world in a wide range of fields, the Board of Directors consisting of directors from JERA who are familiar with JERA's business, and outside directors who have extensive knowledge and experience shall make material business decisions and supervise business executions. Further, JERA has corporate auditors as independent officers (the "Corporate Auditors") who shall be responsible for auditing the execution of the Directors' duties. In addition, in order to separate the decision-making and supervision of management from the execution of business and to effectuate accurate and prompt decision-making and efficient business execution, JERA has adopted an executive officer system where executive officers are responsible for business execution based on the decisions made by the Board.

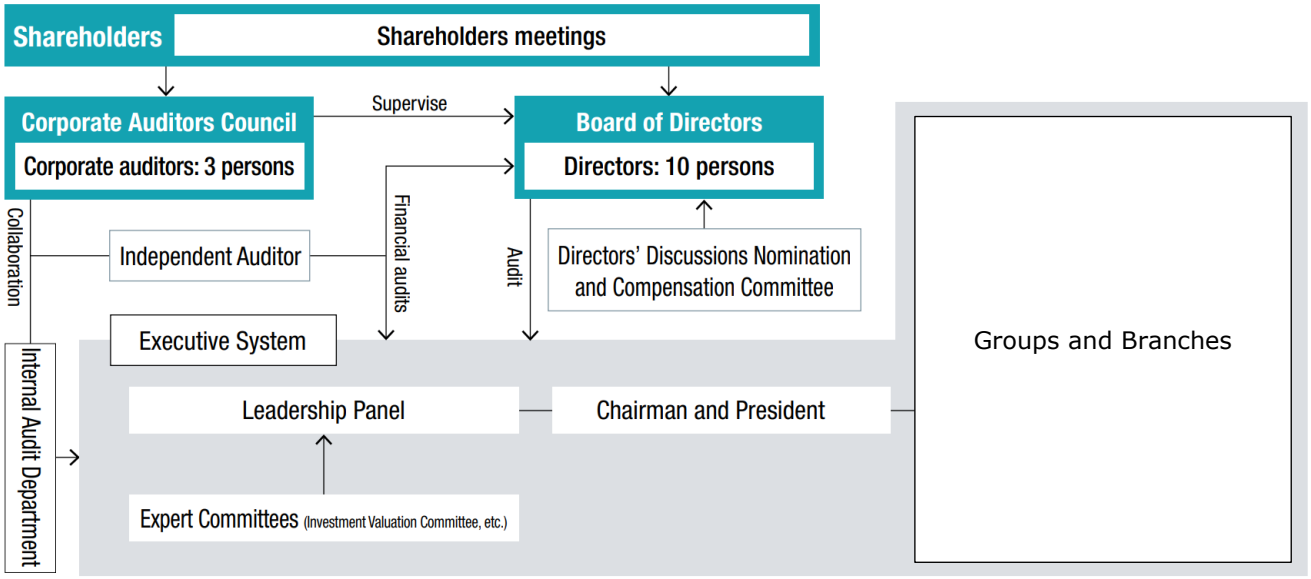


Figure-5 Corporate Governance System (Changed in April 2022)

Name of issuer: JERA Co., Inc.

Name of Framework: JERA Transition Bond Framework

Name of external reviewer: DNV Business Assurance Japan K.K.

Date of report: 12th May 2022

II. Scope and Objectives

DNV has been commissioned by JERA to provide a pre-issuance assessment on JERA Transition Bond Framework (hereinafter, "Framework") and the Transition Bonds. Our objective was to implement an assessment on whether the JERA's Framework and Transition Bonds meet the criteria established on CTFH･CTFBG and GBP･GBGLs and provide a second party opinion on the eligibility of the Framework and the Transition Bonds to be issued.

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 JERA.

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

(1) Scope of Review*

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

- ☒. Use of Proceeds
- ☒. Process for Project Evaluation and Selection
- ☒. Management of Proceeds
- ☒. 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

- ☒ Consultancy (incl. 2nd opinion)
- ☐ Certification
- ☐ Verification
- ☐ Rating
- ☐ Other *(please specify)*:

(3) Standards/Guidelines to be Applied

No.	Standards/guidelines	Scheme owner
1.	Climate Transition Finance Handbook (CTFH)*1	International Capital Market Association (ICMA), 2020
2.	Basic Guidelines on Climate Transition Finance (CTFBG) *1	Financial Services Agency, Ministry of Economy, Trade and Industry, Ministry of the Environment, 2021
3.	Green Bond Principles (GBP) *2	International Capital Market Association (ICMA), 2021
4.	Green Bond Guidelines (GBGLs) *2	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 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 that meets the four elements of transition and has a specific use of proceeds (quoted from CTFBG).

III. Responsibilities of JERA and DNV

JERA 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 JERA and other interested stakeholders of JERA's Transition Finance 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 JERA. 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 JERA's management and used as a basis for this assessment were not correct or completed.

IV. Basis of DNV's Opinion

To provide as much flexibility for the issuer, JERA as possible, we have adapted our JERA Transition Finance assessment methodologies, which incorporates the requirements of the CTFH, CTFBG and GBP, GBGLs, to create a JERA Transition Finance Eligibility Assessment Protocol (hereinafter, "Protocol"). Please refer to Schedule-2 and Schedule-3.

DNV, as an independent external reviewer, provides second party opinion according to the protocol.

Our Protocol includes a set of suitable criteria that can be used to underpin DNV's opinion. The overarching principle behind the Climate Transition Finance of Bond with a specific use of proceeds as the basis for the opinion are as follows:

"provide an investment opportunity with transparent sustainability credentials"

"enable capital-raising and investment for new and existing projects with environmental impacts"

As per our Protocol, the criteria against which the JERA Transition Finance has been reviewed are grouped into common elements below, represented by CTFH, CTFBG and GBP, GBGLs.

(1) Four Elements of CTFH/CTFBG (disclosure elements)

- **Principle One: Issuer's Climate Transition Strategy and Governance**
  The financing purpose should be for enabling the issuer's climate change strategy.
- **Principle Two: Business Model Environmental Materiality**
  The planned climate transition trajectory should be relevant to the environmentally-material parts of the issuer's business model.
- **Principle Three: Transition is Science-based including Targets and Pathway**
  Issuer's climate strategy should reference science-based targets and transition pathways.
- **Principle Four: 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 of the underlying investment program.

(2) Four elements of GBP/GBGLs

- **Principle One: Use of Proceeds**

  The Use of Proceeds criteria are guided by the requirement that the issuer of a green bond must use the funds raised to bond eligible activities. The eligible activities should produce clear environmental benefits.

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

  The Project Evaluation and Selection criteria are guided by the requirements that the issuer of a green bond should outline the process it follows when determining eligibility of an investment using green bond proceeds, and outline any impacts objectives it will consider.

- **Principle Three: Management of Proceeds**

  The Management of Proceeds criteria are guided by the requirements that a green bond 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 Four: Reporting**

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

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 (Transition Bonds Framework and Transition Bonds)

- Creation of a JERA-specific Protocol, adapted to the purpose of the JERA Transition Finance, as described above and in Schedule-2 to this assessment.
- Assessment of documentary evidence provided by JERA on the JERA Transition Finance and supplemented assessment by a comprehensive desktop research. These checks refer to current assessment best practice and standards methodologies;
- Discussions with JERA, and review of relevant documentation;
- Documentation of findings against each element of the criteria.

ii. Post-funding Assessment (**not included in this report*)

- Interview with JERA management, and review of the relevant documentation;
- Field research and inspection (if necessary)
- Document creation of post-issuance assessment results

VI. Findings and DNV's Opinion

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

CTF-1 to 4 in (1) below are the findings and opinions of DNV against the disclosure elements of CTFH and CTFBG.

Please see Schedule-2 for details.

GBP-1 to 4 in (2) below are the findings and opinions of DNV against the requirement of the four common elements of GBP/GBGLs.

Please see Schedule-3 for details.

(1) Findings and Opinions of DNV against the Four Common Elements (Disclosure Elements) of CTFH and CTFBG

CTF-1. Issuer's Climate Transition Strategy and Governance

- JERA released "JERA Zero CO_2 Emissions 2050", the goal of achieving zero CO_2 emissions by 2050, and "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan" in October 2020. JERA has set a long-term goal of CO_2 zero emission by 2050, which is consistent with the goal of the Paris Agreement, and also has set the medium-term goals "JERA Environmental Target 2030" to achieve its long-term goal. JERA disclosed its strategic plan to achieve the goal of transitioning to carbon neutrality in its roadmap.
- In May 2022, JERA added a target to accelerate further its efforts to achieve the realization of CO_2 zero emissions, aiming to reduce CO_2 emissions from domestic operations by at least 60% (relative to FY 2013) by FY 2035 with the establishment of the "JERA Environmental Target 2035" and the update of the "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan". Furthermore, JERA has developed a more ambitious transition strategy, including clarifying the timing of full-scale operation at 20% and 50% ammonia co-firing rates in thermal power generation, consistent with the transition roadmap for the electricity sector of METI.
- Based on the science-based long-term targets quantified by JERA, DNV has reviewed and confirmed that JERA's targets correspond to achieving the goals of the Paris Agreement. JERA sets corporate environmental strategies that are important to its business model based on the identification of risks and opportunities and scenario analysis referred to TCFD guidance.
- Specifically, JERA's Transition Strategy is consistent with the transition roadmap for the electricity sector of METI and is incorporated with its activity plan which referred to the TCFD guidance. In addition, in order to achieve continuous emission reductions in the future, JERA plans to review its efforts in

a timely and appropriate manner, considering the development status of the corresponding technology and the timeline.

- JERA recognizes that response to climate change, including the implementation of Transition Strategy, is one of the most significant issues of its business, and has established system and Framework to promote the initiatives specified in “JERA Zero CO_2 Emissions 2050”” and “JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan” at the management level.

- As a global company that provide energy solutions not only in Japan, but also around the world, JERA considers global warming countermeasures as its highest-priority management issue. Given that there are many countries in the world experiencing such remarkable growth that the supply of power is unable to keep up while there are also many areas that remain non-electrified and are in need of power generation facilities, JERA's mission is not only to provide optimal, environmentally conscious power solutions to these countries and regions, but also to create jobs via the power facility construction process as well as to cultivate human resources through the provision of technology and expertise. In turn, these will serve as springboards for further growth and development of industries, communities, and societies. Through these activities, JERA aims to broadly contribute to achieving the Sustainable Development Goals (SDGs) set by the United Nations. Among the materiality issues identified in the JERA Group Corporate Communication Book 2021 (Integrated Report)", transition finance mainly relates to "Expansion of decarbonization/Renewable energy" and "Improvement of thermal efficiency of thermal power generation".
- DNV has confirmed that the implementation plan provided by JERA, which is established based on the Framework, “JERA Zero CO_2 Emissions 2050” and “JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan”, is well aligned with JERA's Transition Strategy. Through the assessment, DNV has also confirmed that the implementation plan established based on its Transition Strategy is reliable, ambitious and achievable.

CTF-2. Business Model Environmental Materiality

- Given the fact that indirect emissions from power generation accounts for 38% of the CO_2 emissions per final energy consumption in Japan where JERA operates, the transition strategy of JERA, whose major emissions come from its thermal power generation, will not only contribute to reducing emissions from its own business activities (Scope 1 and 2), but also contribute to achieving the decarbonization goals of diverse entities. In other words, JERA's approach towards transition aiming to achieve decarbonization at a lower cost and higher speed while maintaining stable energy supply, will directly support its own transition as well as the transition of society as a whole.

- JERA's roadmap is aligned with the transition roadmap for the electricity sector of METI.
- DNV confirmed that JERA's plan to implement its Transition Strategy is one of the activities of JERA's core business and is closely linked to the activities that contribute to the CO_2 reduction of the society as a whole, thus will contribute to the overall environment. JERA's Transition Strategy is associated with the materiality that JERA has identified by facilitating GRI standards*[1], ISO26000, SASB standards*[2], etc., and will contribute to generate significant positive environmental impacts both qualitatively and quantitatively.

*1: An international standard providing ESG-related reporting, management and analysis methods established by Global Reporting Initiative

*2: A disclosure standard on ESG factors that are expected to have a high financial impact in the future developed by the Sustainable Accounting Standards Board

CTF-3. Climate Transition to be Science-based including Targets and Pathways

- JERA has set a transition plan consistent with the Paris Agreement, which is science-based, and a transition trajectory consistent with the transition roadmap for the electricity sector of METI. The transition roadmap for the electricity sector refers to the Sixth Strategic Energy Plan, which is in line with the Plans for Global Warming Countermeasures. These are established based on Japanese government's aim to achieve carbon neutrality in 2050 and to reduce greenhouse gas emissions by 46% in 2030 compared to the FY2013 level referring to IPCC 1.5°C Special Report. These plans are consistent with the Paris Agreement.

  DNV has confirmed that JERA's Transition Strategy quantified emission intensity, absolute value and ratio based on a consistent methodology with prescribed assumptions. Specifically, JERA sets out the following transition targets in its roadmap.

Table-5 (Re-posted) JERA Transition Goals

MEDIUM-TERM GOALS	**JERA ENVIRONMENTAL TARGET 2030**	**• REDUCE CARBON EMISSION INTENSITY OF THERMAL POWER PLANTS BY 20% BASED ON THE LONG-TERM ENERGY SUPPLY-DEMAND OUTLOOK FOR FY 2030 AS SET BY THE GOVERNMENT. • SHUT DOWN ALL INEFFICIENT (SUPERCRITICAL OR LESS) COAL POWER PLANTS • PROMOTE DEMONSTRATION OF MIXED COMBUSTION WITH AMMONIA AT HIGH-EFFICIENCY (ULTRA-SUPERCRITICAL) POWER PLANTS • PROMOTE THE DEVELOPMENT OF RENEWABLE ENERGY CENTERED ON OFFSHORE WIND POWER PROJECTS • WORK TO FURTHER IMPROVE THE EFFICIENCY OF LNG THERMAL POWER GENERATION**

	JERA ENVIRONMENTAL TARGET 2035	◆ **REDUCE CO_2 EMISSIONS FROM DOMESTIC OPERATIONS BY AT LEAST 60% (RELATIVE TO FY 2013) BY FY 2035.** ◆ **GIVEN THE EXPANDED ADOPTION OF RENEWABLE ENERGY BASED ON THE NATIONAL GOVERNMENT'S 2050 CARBON NEUTRAL POLICY, JERA WILL STRIVE TO DEVELOP AND ADOPT RENEWABLE ENERGY IN JAPAN** ◆ **JERA WILL WORK TO REDUCE CARBON EMISSION INTENSITY FROM THERMAL POWER GENERATION BY PROMOTING HYDROGEN AND AMMONIA CO-FIRING**
LONG-TERM GOALS	**2050**	◆ CO_2 ZERO EMISSIONS

JERA's roadmap will be refined in stages based on policies and other assumptions. The roadmap will also be revised if the assumptions change significantly.

CTF-4. Implementation Transparency

- DNV confirmed that the investment and project plans related to JERA's transition strategy included investments and expenditures that has been implemented and are scheduled in the future. DNV also confirmed that the overall investment plan (investment amount) will be executed in accordance with the timeline. DNV confirmed that in order to ensure transparency, JERA will discuss on the disclosure, wherever possible, of its basic investment plan (investment amount).
- DNV also reviewed the Framework and the ESG management of JERA and confirmed high transparency in the implementation. JERA explained the appropriateness of its execution to DNV and DNV agreed on the appropriateness.

(2) Findings and Opinions of DNV against the Four Common Elements of GBP/GBGLs

*The four elements are criteria of transition finance in the format of use of proceeds instrument, and green bonds stated below can be read as transition finance (bond) partially.

GBP-1. Use of Proceeds

JERA has defined the eligibility criteria as transition projects that aligned with its Transition Strategy and related handbooks, principles and guidelines (CTF-H and CTF-BG). Table-6 (Re-posted) shows the eligibility criteria of JERA's Transition Finance and the overview of the projects.

Table-6 (reposted) JERA's Main Initiatives to Achieve Carbon Neutrality
(Transition Finance and Nominated Projects)

Project categories	Eligibility Criteria	Project Overview (Main Expenditure)
Transition Project Projects for the realization of zero CO_2 emission thermal power	The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing	① Demonstration study of 20% ammonia co-firing in 1 million kW class coal-fired power plant - Project period: June 2021 - March 2025 - Project description: Development and demonstration test of technology to convert 20% of fuel (calorific value ratio) to ammonia at Hekinan Thermal Power Station Unit 4 (to FY2024) ※ Adoption of New Energy and Industrial Technology Development Organization (NEDO) subsidized project "Development of Technologies for Carbon Recycling and Next-Generation Thermal Power Generation / Research, Development and Demonstration of Technologies for Ammonia Co-Firing Thermal Power Generation"
		② Demonstration study on actual equipment to establish technology for high ammonia co-firing rate at commercial thermal power plants - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia high-efficiency burner and study of the specifications of the equipment (to FY 2024), and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at the Hekinan thermal power station (to FY2028). ※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"
		③ Demonstration of high co-firing rate at thermal power station using ammonia single-fuel burners - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia single-fuel burner and study of the specifications of the equipment (to 2024), and conducting technology development and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at two different boiler units (to FY2028). ※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"
		④ Technical verification of hydrogen co-firing power generation for the construction of a large-scale hydrogen supply chain - Project period: October 2021 to March 2026 - Project description: Conducting demonstration tests at large-scale LNG-fired power plants in Japan to convert approximately 30% (by volume) of LNG into hydrogen for power generation (to FY2025).

		※ Adoption of NEDO Green Innovation Fund project for "Construction of a large-scale hydrogen supply chain"
	The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for high-efficiency thermal power plants	⑤ Demolition of existing power generation facilities at Goi Thermal Power Station (LNG)
		⑥ Demolition of existing power generation facilities at Chita Thermal Power Station (LNG) (Demolition plan is in preparation)

DNV has confirmed that JERA plans to allocate the net proceeds from Transition Finance to financing and refinancing the capital investments, operating expenses, investments, R&D expenses and demobilization cost of eligible transition projects that in line with JERA's investment plans for implementation of its transition strategy.

These projects are representative projects exemplified by CTFH/CTFBG and GBP/GBGLs that contribute to business transformation. These projects also directly or indirectly support the decommissioning of inefficient coal-fired thermal power and the shift to LNG and ammonia/hydrogen co-firing. Moreover, they contribute to the achievement of the transition roadmap for electricity sector of METI. These projects are regarded as having clear and positive environmental impacts in line with JERA's Transition Strategy, and are expected to contribute to the SDGs. The projects are aligned with GBP-1.

Table-7 shows the details of six transition projects falling under the two eligibility criteria to which the proceeds of the Transition Bond (to be issued in May 2022) will be allocated.

Table-7 Transition Bonds (to be issued in May 2022) Details of Transition Projects

Eligibility Criteria		Project Overview (Main Expenditure)
①	The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing	**Project Name:** Demonstration study of 20% ammonia co-firing in 1 million kW class coal-fired power plant **Project Overview:** Development and demonstration test of technology to convert 20% of fuel (calorific value ratio) to ammonia at Hekinan Thermal Power Station Unit 4 (to FY2024). **Project Period:** June 2021 - March 2025 **Environmental Impacts:** The overview and progress status of project will be reported.
②		**Project Name:** Demonstration study on actual equipment to establish technology for high ammonia co-firing rate at commercial thermal power plants **Project Overview:** Development of a new ammonia high-efficiency burner and study of the specifications of the equipment (to FY 2024), and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at the Hekinan thermal power station (to FY2028). **Project Period:** FY2021 to FY2028 **Environmental Impacts:** The overview and progress status of project will be reported.
③		**Project Name:** Demonstration of high co-firing rate at thermal power station using ammonia single-fuel burners **Project Overview**: Development of a new ammonia single-fuel burner and study of the specifications of the equipment (to 2024), and conducting technology development and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at two different boiler units (to FY2028). **Environmental Impacts:** The overview and progress status of project will be reported.
④		**Project Name:** Technical verification of hydrogen co-firing power generation for the construction of a large-scale hydrogen supply chain **Project Overview:** Conducting demonstration tests at large-scale LNG-fired power plants in Japan to convert approximately 30% (by volume) of LNG into hydrogen for power generation (to FY2025). **Project Period:** October 2021 to March 2026 **Environmental Impacts:** The overview and progress status of project will be reported.
⑤	The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for	**Project Name:** Demolition of Goi Thermal Power Station **Project Overview:** Demolition of existing power generation facilities at Goi Thermal Power Station (LNG) **Completion of Demolition work:** September 2023 **Environmental Impacts:** The overview and progress status of project will be reported.

⑥	high-efficiency thermal power plants	**Project Name:** Demolition of Chita Thermal Power Station **Project Overview:** Demolition of existing power generation facilities at Chita Thermal Power Station (LNG) (Demolition plan is in preparation) **Completion of Demolition work:** TBD **Environmental Impacts:** The overview and progress status of project will be reported.

Examples of Representative Transition Projects

Photo-1 Project 1: JERA Hekinan Thermal Power Station Unit 4

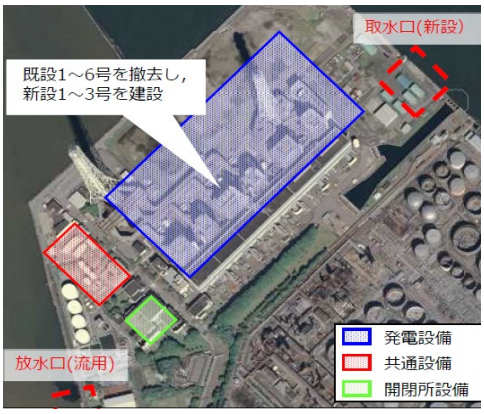


Photo-2 Project 5: JERA Goi Thermal Power Station

GBP-2. Process for Project Evaluation and Selection

JERA confirms that the transition projects contribute to the achievement of its Transition Strategy. In addition, JERA also confirms that the following contents (< Exclusion Criteria>) are included in the Framework. Specifically, JERA's Finance Group will select nominated Eligible Projects as specified in the eligibility criteria and the related business departments will analyze and review the financial risks, technical and operational risks, market environment and ESG risks comprehensively. After that, Executive Officer, Head of the Finance Group will be responsible for selecting the Eligible Projects. The process had been established and will be executed in line with the normal operation of JERA. DNV confirmed that that the plan will be implemented in accordance with the appropriate process.

< Exclusion Criteria>

- 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 related to human rights and the environment

Evaluation and selection

☒.	Conforms to the issuer's achievement of environmental contribution goals	☒	Documented process to determine that projects fit within defined categories
☒.	The project is eligible for use of proceeds by green bond and transparency is ensured.	☒	Documented process to identify and manage potential ESG risks associated with the project
☒.	The project is evaluated and selected based on the published standard summary	☐	Other *(please specify):*

Information on Responsibilities and Accountability

☒	Evaluation / Selection criteria subject to external advice or verification	☒.	In-house assessment
☐	Other (please specify):		

GBP-3. Management of Proceeds

The proceeds will be deposited into JERA's common account, and JERA's Finance Group will manage the allocation for each project using the accounting manual, accounting system and proceeds management forms for transition bonds.

The usage of accounting manual and accounting system as well as other applicable systems enables JERA's Finance Group to trace the proceeds over the redemption or repayment period. JERA's Finance Group will review the allocation status at least once a year, based on the proceeds management forms for transition bonds. Vouchers related to the management of the proceeds will be kept in accordance with accounting manual.

Such allocation to the Eligible Projects will be made within three years from the issuance. If the proceeds are to be used for refinancing existing expenditures, the look-back period is three years from the time of the financing, and the proceeds will be allocated to the eligible transition projects in accordance with the process set out in GBP-2.

The unallocated proceeds will be managed in cash or cash equivalents until the proceeds have been fully allocated.

Prior to any transition finance executed under this Framework in the future, the management of proceeds will be disclosed in legal documents.

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:

- ☐ Allocations to future investments only
- ☐ Allocations to both existing and future investments
- ☒ Allocation to individual disbursements
- ☐ Allocation to a portfolio of disbursements
- ☐ Disclosure of portfolio balance of unallocated proceeds
- ☐ Other *(please specify)*:

GBP-4. Reporting

DNV confirmed that the issuer will report on transition finance (annually) until the proceeds are allocated, and will disclose the allocation status. As for the positive environmental impacts, DNV confirmed that JERA plans to report on the overview and progress of eligible projects been allocated until the completion of eligible projects.

DNV confirmed that even after the allocation plan or the allocation itself is completed, JERA will disclose information through reports on a timely basis or in the event of any significant change in transition strategy and pathway, the allocation plan and implementation status of projects.

Reports will be disclosed on the issuer's website.

<Allocation Status>

- Eligibility Criteria been allocated and the aggregated amount of proceeds allocated to the Eligible Projects at Eligibility Criteria level
- The amount of unallocated proceeds and management methods
- The amount of proceeds used for existing investments

<Positive Environmental Impacts>

- Positive environmental impacts are disclosed as overviews of the projects (including progress, completion, operation, etc.) within the scope of confidentiality, to the extent practicable, and in consideration of the characteristics of the project.

<Others>

- Efforts to achieve zero CO_2 emissions by 2050 will be reviewed in a timely manner based on policies, technological trends, etc. and disclosed whenever necessary.

Table-8 shows the reporting plans (calculation methods) for positive environmental impacts of the six projects that will be financed by the scheduled transition bonds.

Table-8 Calculating Methods of the Positive Environmental Impacts (Six Eligible Projects of the Scheduled Transition Bonds)

Eligibility Criteria		Project Name and Overview	Positive Environmental Impact
①	The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing	Demonstration study of 20% ammonia co-firing in 1 million kW class coal-fired power plant NEDO subsidized project "Development of Technologies for Carbon Recycling and Next-Generation Thermal Power Generation / Research, Development and Demonstration of Technologies for Ammonia Co-Firing Thermal Power Generation"	The overview and progress status of project will be reported.
②		Demonstration study on actual equipment to establish technology for high ammonia co-firing rate at commercial thermal power plants Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"	
③		Demonstration of high co-firing rate at thermal power station using ammonia single-fuel burners Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"	
④		Technical verification of hydrogen co-firing power generation for the construction of a large-scale hydrogen supply chain Adoption of NEDO Green Innovation Fund project for "Construction of a large-scale hydrogen supply chain"	
⑤	The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for high-efficiency thermal power plants	Demolition of existing power generation facilities at Goi Thermal Power Station (LNG)	
⑥		Demolition of existing power generation facilities at Chita Thermal Power Station (LNG) (Demolition plan is in preparation)	

Use of Proceeds Reporting

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

Information Reported:

☒ Allocated amounts
☐ GB refinanced share of total investment
☐ Other *(please specify):*

Frequency:

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

Impact Reporting (Environmental Impacts):

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

Frequency:

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

Information Reported (Expected or Ex-post):

☐ GHG Emissions / Savings
☐ Energy savings
☒ *Other ESG indicators (please specify):* Overview project and progress status of project

Means of Disclosure

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

VII. Assessment Conclusion

On the basis of the information provided by JERA and the work undertaken, it is DNV's opinion that the JERA Transition Bond Framework and Transition Bond issued by JERA meets the criteria established in the Protocol, and that it is aligned with the following stated definition or purpose of climate transition finance for bonds that specify the use of proceeds within the CTFH/CTFBG, GBP/GBGLs, GLP/GLGLs.

"provide an investment opportunity with transparent sustainability credentials"

"enable capital-raising and investment for new and existing projects with environmental impacts"

DNV Business Assurance Japan K.K.

12 May 2022

Mark Robinson
Manager, Sustainability Services
DNV Business Assurance, Australia

Naoki Maeda
Managing Director
DNV Business Assurance Japan K.K.

Masato Kanedome
Project leaders
DNV Business Assurance Japan K.K.

Tsuyoshi Katori
Assessor
DNV Business Assurance Japan K.K.

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

Responsibilities of the Management of the Issuer 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 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 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 the Issuer's management and used as a basis for this assessment were not correct or complete

Schedule-1 JERA Transition Bond Nominated Eligible Projects

The projects listed in the table are transition finance candidates that have been evaluated for eligibility at the time of pre-issue eligibility assessment (as of February 2022). In the future, bonds issued under the JERA Transition Bond Framework will be selected from one or more of the eligible project candidates and disclosed before financing in the legal documents or reported in post-financing reports. If additional transition projects are included, eligibility will be evaluated in advance by JERA in accordance with the JERA Transition Bond Framework and, if necessary, DNV will evaluate them in a timely manner.

Project Overview (Main Expenditure)		
1)	The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing	① Demonstration study of 20% ammonia co-firing in 1 million kW class coal-fired power plant - Project period: June 2021 - March 2025 - Project description: Development and demonstration test of technology to convert 20% of fuel (calorific value ratio) to ammonia at Hekinan Thermal Power Station Unit 4 (to FY2024) ※ Adoption of New Energy and Industrial Technology Development Organization (NEDO) subsidized project "Development of Technologies for Carbon Recycling and Next-Generation Thermal Power Generation / Research, Development and Demonstration of Technologies for Ammonia Co-Firing Thermal Power Generation"
		② Demonstration study on actual equipment to establish technology for high ammonia co-firing rate at commercial thermal power plants - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia high-efficiency burner and study of the specifications of the equipment (to FY 2024), and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at the Hekinan thermal power station (to FY2028). ※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"
		③ Demonstration of high co-firing rate at thermal power station using ammonia single-fuel burners - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia single-fuel burner and study of the specifications of the equipment (to 2024), and conducting technology development and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at two different boiler units (to FY2028). ※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"

		④ Technical verification of hydrogen co-firing power generation for the construction of a large-scale hydrogen supply chain - Project period: October 2021 to March 2026 - Project description: Conducting demonstration tests at large-scale LNG-fired power plants in Japan to convert approximately 30% (by volume) of LNG into hydrogen for power generation (to FY2025). ※ Adoption of NEDO Green Innovation Fund project for "Construction of a large-scale hydrogen supply chain"
2)	The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for high-efficiency thermal power plants	⑤ Demolition of existing power generation facilities at Goi Thermal Power Station (LNG)
		⑥ Demolition of existing power generation facilities at Chita Thermal Power Station (LNG) (Demolition plan is in preparation)

Schedule-2 Climate Transition Bond Eligibility Assessment Protocol

The checklists (1-4) below are DNV evaluation procedures created for JERA Transition Bond Framework and Transition Bond Eligibility Evaluation based on the disclosure requirements of CTFH and CTFBG. The "confirmed documents" in the Work Undertaken include public or private documents (internal documents of the issuer or borrower), etc., and are provided by JERA as evidence of eligibility judgment for DNV. *Please replace “Issuer”, “Investor” to “Borrower/Fundraiser”, “Lender” in the context in the following requirements.

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
1	Issuer’s Climate Transition Strategy and Governance	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. < Suggested information and indicators> • 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℃ and, at the very least, to well below 2℃); • Relevant interim targets on the trajectory towards the long-term goal; • Disclosure on the issuer’s levers towards decarbonisation, and strategic	Confirmed documents - Framework - JERA Zero CO_2 Emissions 2050 - JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (Updated in May 2022) - JERA Environmental Target 2030 - JERA Environmental Target 2035 - JERA Group Corporate Communication Book 2021 (Integrated Report) - Information related to each project - METI, “Transition roadmap for the electricity sector” Interviews with stakeholders	JERA released "JERA Zero CO_2 Emissions 2050", the goal of achieving zero CO_2 emissions by 2050, and “JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan” in October 2020. JERA has set a long-term goal of CO_2 zero emission by 2050, which is consistent with the goal of the Paris Agreement, and also has set the medium-term goals “JERA Environmental Target 2030” to achieve its long-term goal. JERA disclosed its strategic plan to achieve the goal of transitioning to carbon neutrality in its roadmap. Based on the science-based long-term targets quantified by JERA, DNV has reviewed and confirmed that JERA's targets correspond to achieving the goals of the Paris Agreement. JERA sets corporate environmental strategies that are important to its business model based on the identification of risks and opportunities and scenario analysis referred to TCFD guidance. In May 2022, JERA added a target to accelerate further its efforts to achieve the realization of CO_2 zero emissions, aiming to reduce CO_2 emissions from domestic operations by at least 60% (relative to FY2013) by FY

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
		planning towards a long-term target to align with the goals of the Paris Agreement; • Clear oversight and governance of transition strategy and, • Evidence of a broader sustainability strategy to mitigate relevant environmental and social externalities and contribute to the UN Sustainable Development Goals.		2035 with the establishment of the "JERA Environmental Target 2035" and the update of the "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan". Furthermore, JERA have developed a more ambitious transition strategy including clarifying the timing of full-scale operation at 20% and 50% ammonia co-firing rates in coal-fired thermal power generation, which is consistent with the transition roadmap for the electricity sector of METI. Specifically, JERA's Transition Strategy is consistent with the transition roadmap for the electricity sector of METI and is incorporated with its activity plan which referred to the TCFD guidance. In addition, in order to achieve continuous emission reductions in the future, JERA plans to review its efforts in a timely and appropriate manner, considering the development status of the corresponding technology and the timeline. JERA recognizes that response to climate change, including the implementation of Transition Strategy, is one of the most significant issues of its business, and has established system and Framework to promote the initiatives specified in "JERA Zero CO_2 Emissions 2050", " and "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (Updated in May 2022)", "JERA Environmental Target 2030" and "JERA Environmental Target 2035" at the management level. As a global company that provide energy solutions not only in Japan, but also around the world, JERA considers global warming countermeasures as its highest-priority management issue. Given that there are many countries in the world experiencing such remarkable growth that

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				the supply of power is unable to keep up while there are also many areas that remain non-electrified and are in need of power generation facilities, JERA's mission is not only to provide optimal, environmentally conscious power solutions to these countries and regions, but also to create jobs via the power facility construction process as well as to cultivate human resources through the provision of technology and expertise. In turn, these will serve as springboards for further growth and development of industries, communities, and societies. Through these activities, JERA aims to broadly contribute to achieving the Sustainable Development Goals (SDGs) set by the United Nations. Among the materiality issues identified in the JERA Group Corporate Communication Book 2021 (Integrated Report)", transition finance mainly relates to "Expansion of decarbonization/Renewable energy" and "Improvement of thermal efficiency of thermal power generation". DNV has confirmed that the implementation plan provided by JERA, which is established based on the Framework, “JERA Zero CO_2 Emissions 2050” and “JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (Updated in May 2022)”, is well aligned with JERA's Transition Strategy. Through the assessment, DNV has also confirmed that the implementation plan established based on its Transition Strategy is reliable, ambitious and achievable.

<table>
<tr><th>Ref.</th><th>Criteria</th><th>Requirements</th><th>Work Undertaken</th><th>DNV Findings</th></tr>
<tr>
<td>2</td>
<td>Business model environmental materiality</td>
<td>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.</td>
<td>Confirmed documents
- Framework
- JERA Zero Co_2 Emissions 2050
- JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (Updated in May 2022)
- JERA Environmental Target 2030
- JERA Environmental Target 2035
- JERA Group Corporate Communication Book 2021(Integrated report)
- METI, “Transition roadmap for the electricity sector”
Interviews with stakeholders</td>
<td>DNV assessed whether the key activities related to JERA's business correspond to the contribution to the environment and the JERA's transition strategy evaluated.

JERA's non-consolidated greenhouse gas emissions in Japan (FY2020) are shown below.

Scope 1: 114,950,000 t-CO_2
Scope 2: 0.40,000 t-CO_2
Scope3: 20,680,000 t-CO_2
Total: 135,640,000 t-CO_2
<table>
<tr><th>Scope</th><th>GHG Emissions (CO_2 equivalent)</th></tr>
<tr><td>Scope1</td><td>114,950,000 t-CO_2</td></tr>
<tr><td>Scope 2</td><td>4,000 t-CO_2</td></tr>
<tr><td>Scope3</td><td>20,680,000 t-CO_2</td></tr>
<tr><td>Total</td><td>135,640,000 t-CO_2</td></tr>
</table>
Scope 1: Direct emissions of greenhouse gases by the company itself (combustion of fuels, industrial processes)
Scope 2: Indirect emissions from the use of electricity, heat and steam supplied by other companies
Scope 3: Indirect emissions other than Scope 1 and 2 (emissions from other companies related to the company’s’ activities)
∗Data includes emissions of Hitachi Naka Generation Co. Inc.
∗The greenhouse gases covered are CO_2, CH_4 (methane), N_2O (nitrous oxide), SF_6 (sulphur hexafluoride) and HFC (alternative freon).</td>
</tr>
</table>

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				Given the fact that indirect emissions from power generation accounts for 38% of the CO_2 emissions per final energy consumption in Japan where JERA operates, the transition strategy of JERA, whose major emissions come from its thermal power generation, will not only contribute to reducing emissions from its own business activities (Scope 1 and 2), but also contribute to achieving the decarbonization goals of diverse entities. In other words, JERA's approach towards transition aiming to achieve decarbonization at a lower cost and higher speed while maintaining stable energy supply, will directly support its own transition as well as the transition of society as a whole. JERA's roadmap is aligned with the transition roadmap for the electricity sector of METI. DNV confirmed that JERA's plan to implement its Transition Strategy is one of the activities of JERA's core business and is closely linked to the activities that contribute to the CO_2 reduction of the society as a whole, thus will contribute to the overall environment. JERA's Transition Strategy is associated with the materiality that JERA has identified by facilitating GRI standards*1, ISO26000, SASB standards*2, etc., and will contribute to generate significant positive environmental impacts both qualitatively and quantitatively. *[1]: Global Reporting Initiative (an international standard providing ESG-related reporting, management and analysis methods)

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				*[2]: A disclosure standard developed by the Sustainable Accounting Standards Board on ESG factors that are expected to have a high financial impact in the future
3	Climate transition strategy to be science-based including targets and pathways	Issuer's climate strategy should reference science-based targets and transition pathways. The planned transition trajectory should: • be quantitatively measurable (based on a measurement methodology which is consistent over time); • be aligned with, benchmarked or otherwise referenced to recognized, science-based trajectories where such trajectories exist; • be publicly disclosed (ideally in mainstream financing filings), include interim milestones, and; • be supported by independent assurance or verification < Suggested information and indicators> • Short, medium, and long-term greenhouse gas reduction targets aligned with Paris Agreement; • Baseline • Scenario utilised, and methodology applied (e.g. ACT, SBTi, etc.);	Confirmed documents - Framework - JERA Zero Co_2 Emissions 2050 - JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (Updated in May 2022) - JERA Environmental Target 2030 - JERA Environmental Target 2035 - JERA Group Corporate Communication Book 2021(Integrated report) - METI, "Transition roadmap for the electricity sector" Interviews with stakeholders	JERA has set a transition plan consistent with the Paris Agreement, which is science-based, and a transition trajectory consistent with the transition roadmap for the electricity sector of METI. The transition roadmap for the electricity sector refers to the Sixth Strategic Energy Plan, which is in line with the Plans for Global Warming Countermeasures. These are established based on Japanese government's aim to achieve carbon neutrality in 2050 and to reduce greenhouse gas emissions by 46% in 2030 compared to the FY2013 level referring to IPCC 1.5°C Special Report. These plans are consistent with the Paris Agreement. DNV has confirmed that JERA's Transition Strategy quantified emission intensity, absolute value and ratio based on a consistent methodology with prescribed assumptions. Specifically, JERA sets out the following transition targets in its roadmap. **TABLE JERA TRANSITION TARGETS**

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
		• Greenhouse gas objectives covering all scopes (Scope 1, 2 and 3[11]); and, • Targets formulated both in intensity and absolute terms		**MEDIUM-TERM GOALS** **FY 2030** ◆ Reduce carbon emission intensity of thermal power plants by 20% based on the long-term energy supply-demand outlook for FY 2030 as set by the government. ◆ Shut down all inefficient (supercritical or less) coal power plants ◆ Promote demonstration of mixed combustion with ammonia at high-efficiency (ultra-supercritical) power plants ◆ Promote the development of renewable energy cantered on offshore wind power projects ◆ Work to further improve the efficiency of LNG thermal power generation **FY 2035** ◆ Reduce CO_2 emissions from domestic operations by at least 60% (relative to FY 2013) by FY 2035. ◆ Given the expanded adoption of renewable energy based on the national government's 2050 carbon neutral policy, JERA will strive to develop and adopt renewable energy in Japan ◆ Work to reduce carbon emission intensity from thermal power generation by promoting hydrogen and ammonia co-firing **LONG-TERM GOALS** ◆ CO_2 zero emissions JERA's roadmap will be refined in stages based on policy and other assumptions. The roadmap will also be revised if the assumptions change significantly.

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				In Japan, where indirect emissions from electricity account for 38% of the total CO_2 JERA's transition strategy contributes not only to the reduction of emissions from its own operations (Scope 1 and 2), but also to the achievement of the decarbonization targets of various bodies. Transition initiatives and respective scope emissions are disclosed in "JERA Zero CO_2 Emissions 2050", "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (Updated in May 2022)" and "JERA Group Corporate Communication Book 2021(Integrated report)", etc.
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 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. <Suggested information and indicators>	Confirmed documents - Framework - JERA Zero Co_2 Emissions 2050 - JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (Updated in May 2022) - JERA Environmental Target 2030 - JERA Environmental Target 2035 - JERA Group Corporate Communication Book 2021(Integrated report) - METI, "Transition roadmap for the electricity sector"	DNV confirmed that the investment and project plans related to JERA's transition strategy included investments and expenditures that has been implemented and are scheduled in the future. DNV also confirmed that the overall investment plan (investment amount) will be executed in accordance with the timeline. DNV confirmed that in order to ensure transparency, JERA will discuss on the disclosure, wherever possible, of its basic investment plan (investment amount). DNV also reviewed the Framework and the ESG management of JERA and confirmed high transparency in the implementation. JERA explained the appropriateness of its execution to DNV and DNV agreed on the appropriateness.

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
		• Disclosure on the percentage of assets/revenues/ expenditures/divestments aligned to the various levers outlined in Element 1 above; • Capex roll-out plans consistent with the overall strategy and climate science	Interviews with stakeholders	

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

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

In Schedule-3, it is referred to as GBP or GLP 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) that specifies the use of proceeds based on CTFH and CTFBG, so please read as the meaning of the transition as appropriate.

GBP/GLP-1 Use of proceeds

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
1a	Types of funds	The types of green/transition finance are classified into one of the following types defined by GBP. · (Standard) Green/transition Bond/Loan · Green/transition Revenue Bond/Loan · Green/transition Project Bond/Loan · Other	Confirmed documents - Framework Interviews with stakeholders	Through the evaluation work, DNV confirmed that JERA Transition Finance (bond) fall into the following categories: (Standard) Green/transition Bond
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 - Framework - Investment plan for the use of proceeds - Information related to each project	DNV confirmed that JERA Transition Bond aims to fund transition projects focused on JERA's environmental goals and transition strategy, as described in the Framework and Schedule-1. Specifically, all Transition Finance Eligible Project Candidates listed in Schedule-1 are evaluated as conforming to the Transition Strategy, and the proceeds through Transition Finance are planned to be financed one or more of the Transition Finance Eligible Project Candidates. If a transition project is pre-selected

<table>
<tr><th>Ref.</th><th>Criteria</th><th>Requirements</th><th>Work Undertaken</th><th>DNV Findings</th></tr>
<tr><td></td><td></td><td></td><td>- Amendment Shelf Registration Statement

Interviews with stakeholders</td><td>before the financing is implemented, this will be disclosed in legal documents.

Through the assessment, DNV concludes that the Transition eligible projects candidates will bring concrete and actual environmental impacts.

Table JERA's Main Initiatives to Achieve Carbon Neutrality (Transition Finance and Nominated Projects)

<table><tr><th>Eligibility Criteria</th><th>Project Overview (Main Expenditure)</th></tr><tr><td>The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing</td><td>① Demonstration study of 20% ammonia co-firing in 1 million kW class coal-fired power plant

- Project period: June 2021 - March 2025
- Project description: Development and demonstration test of technology to convert 20% of fuel (calorific value ratio) to ammonia at Hekinan Thermal Power Station Unit 4 (to FY2024)

※ NEDO subsidized project "Development of Technologies for Carbon Recycling and Next-Generation Thermal Power Generation / Research, Development and Demonstration of Technologies for Ammonia Co-Firing Thermal Power Generation"</td></tr></table></td></tr>
</table>

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				② Demonstration study on actual equipment to establish technology for high ammonia co-firing rate at commercial thermal power plants - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia high-efficiency burner and study of the specifications of the equipment (to FY 2024), and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at the Hekinan thermal power station (to FY2028). ※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"
				③ Demonstration of high co-firing rate at thermal power station using ammonia single-fuel burners - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia single-fuel burner and study of the specifications of the equipment (to 2024), and conducting technology development and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at two different boiler units (to FY2028).

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings	
					※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"
					④ Technical verification of hydrogen co-firing power generation for the construction of a large-scale hydrogen supply chain - Project period: October 2021 to March 2026 - Project description: Conducting demonstration tests at large-scale LNG-fired power plants in Japan to convert approximately 30% (by volume) of LNG into hydrogen for power generation (to FY2025). ※ Adoption of NEDO Green Innovation Fund project for "Construction of a large-scale hydrogen supply chain"
				The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for high-efficiency thermal power plants	⑤ Demolition of existing power generation facilities at Goi Thermal Power Station (LNG)
					⑥ Demolition of existing power generation facilities at Chita Thermal Power Station (LNG) (Demolition plan is in preparation)

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
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 - Framework - Investment plan for the use of proceeds - Information related to each project Interviews with stakeholders	Transition projects will contribute to goals based on JERA's Transition Strategy, and to low and decarbonized emissions through the two eligible criteria categories indicated in 1b. The environmental impact is the reduction of CO_2 emissions, which has been quantitatively or qualitatively evaluated by the issuer. It was confirmed that, prior to the implementation of the transition finance, only the outline of each project shall be disclosed. In the annual report, the outline and progress of each project should be reported to the extent practicable, taking into account the characteristics of the project.
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 - Framework - Investment plan for the use of proceeds - Information related to each project Interviews with stakeholders	JERA plans to use all proceeds for new investments, refinancing, or both for eligible project candidates included in Schedule-1. If it is clear in advance whether to make new investment or refinance before implementing financing, it will be disclosed in legal documents. DNV confirmed that if it is not yet clear, the Issuer plans to disclose the amounts of the proceeds which was allocated to refinancing through reporting (annual report).

GBP/GLP-2 Process for Project Evaluation and Selection

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
2a	Project selection process	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): ・The process by which the issuer determines that the project in question is included in the business category of a qualified green project. ・ Creation of criteria for eligibility of projects for which green bond funding will be used ・ Environmental sustainability goals	Confirmed documents - Framework - Information related to each project Interviews with stakeholders	DNV confirmed that the issuer has a process and a system of determining the eligibility of projects for which the transition finance, and that the outline is specified in the Framework.
2b	Issuer's Environmental and Social Governance Framework	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.	Confirmed documents - Framework - Information related to each project Interviews with stakeholders	The issuer complies with environment-related laws, ordinances and regulations, and considers that the effects of environmental improvement such as CO_2 reduction are clear in the entire life cycle or each process when selecting transition projects to be implemented. In the operation and implementation of the project, each of the departments involved is committed to the preservation of the surrounding environment. DNV has confirmed that the transition projects implemented by the issuer are consistent with issuer's management and environmental policies, as well as with the transition strategy, goals and pathways.

GBP/GLP -3 Management of Proceeds

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 - Framework - Funds management forms of transition bonds - Accounting regulations Interviews with stakeholders	DNV has confirmed that the proceeds by the transition financing can be tracked in line with the issuer's accounting system and confirmed the systems or the systems to be planed for use and the dedicated document to be created and other documents actually used through the assessment, and confirmed that the management status of the proceeds was proved.
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 - Framework - Funds management forms of transition bonds - Accounting regulations Interviews with stakeholders	DNV confirmed that the issuer plans to periodically (at least annually) review the balance of the transition finance by the accounting system, the dedicated document to be created and others described in 3a during the period from the implementation of the transition finance to its redemption or repayment.
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 - Framework - Funds management forms of transition bonds	DNV has confirmed that the confirmation process through the issuer's accounting system, the dedicated document to be created and others is structured to ensure that the balance of unallocated proceeds are recognized sequentially. DNV confirmed through the Framework and Assessment that the balance of unallocated proceeds will be managed in cash or cash equivalents. DNV has also confirmed that the balance of

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
			- Accounting regulations Interviews with stakeholders	unallocated proceeds will be disclosed through reporting on the allocation status of proceeds.

GBP/GLP-4 Reporting

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
4a	Periodical Reporting	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. -Confidentiality and competitive considerations -Outline of each project, expected sustainable environmental and social effects	Confirmed documents - Framework - Investment plan for the use of proceeds - Funds management forms of transition bonds - Information related to each project Interviews with stakeholders	DNV confirmed that the issuer will report on the transition finance (annual report) until the proceeds are allocated, and disclose information on the allocation status. As for the environmental improvement impacts, DNV confirmed that JERA plans to conduct reporting on the overview and progress of projects for which funds have been allocated until the completion of eligible projects. DNV also confirmed that, even after the allocation plan or allocation has been completed, the issuer plans to report in a timely manner or in its reporting on any changes in transition strategy or pathways, or any major changes in the allocation plan or project implementation status (e.g. interruption of a project for which allocation has been started, significant postponement on an annual basis, sale or retirement, etc.). The report will be disclosed on the website. <Allocation Status> ◆ Eligible criteria and amounts to be allocated ◆ Balance of unallocated amounts and the management method ◆ Amount of proceeds to be used for refinancing <Environmental Impacts> ◆ Environmental impacts are disclosed within the scope of confidentiality, to the extent practicable, and in consideration of the characteristics of the project, including an overview of the project (including

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				progress, completion, operation, etc.) and the expected environmental benefits (e.g., t- CO_2 /year). <Others> • Efforts to achieve zero CO_2 emissions by 2050 will be reviewed as appropriate in light of policy and technological trends, and disclosed as required. The currently planned reporting for the transition project is described in the section of GBP/GLP-4. Reporting in this document.

Schedule-4: Basic Guidelines on Climate Transition Finance Eligibility 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/～/18/ 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 Fundraiser's Climate Transition Strategy 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[9]. 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	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//17/ /18/ Interviews with stakeholders	The financing that JERA implements by utilizing transition finance is aimed at achieving the JERA transition strategy which is in line with the low carbon decarbonization strategy set by the transition roadmap for electricity sector of METI, which aims to align with the goals of the Paris Agreement. JERA set a long-term goal of zero CO_2 emissions by 2050 in the "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (Updated in May 2022)" as a goal of its transition strategy. JERA also incorporates the medium-term targets and its strategic plan for decarbonization (a plan to introduce

<table>
<tr><th>Ref.</th><th>No.</th><th>Disclosure elements</th><th>Requirement check</th><th>Work Undertaken</th><th>DNV Findings</th></tr>
<tr><td></td><td></td><td>strategic planning.</td><td></td><td></td><td>technologies that contribute to the transition) into JERA Environmental Target 2030”.

In "JERA Environmental Target 2035," JERA has established a target to reduce CO_2 emissions from its domestic operations by at least 60% (relative to FY 2013) by FY 2035.

TABLE JERA TRANSITION TARGETS
<table><tr><td rowspan="2">MEDIUM-TERM GOALS</td><td>FY 2030
◆ Reduce carbon emission intensity of thermal power plants by 20% based on the long-term energy supply-demand outlook for FY 2030 as set by the government.
◆ Shut down all inefficient (supercritical or less) coal power plants
◆ Promote demonstration of mixed combustion with ammonia at high-efficiency (ultra-supercritical) power plants
◆ Promote the development of renewable energy cantered on offshore wind power projects
◆ Work to further improve the efficiency of LNG thermal power generation</td></tr><tr><td>FY 2035
◆ Reduce CO_2 emissions from domestic operations by at least 60% (relative to FY 2013) by FY 2035.
◆ Given the expanded adoption of renewable energy based on the national government’s 2050 carbon neutral policy, JERA will strive to develop and adopt renewable energy in Japan
◆ Work to reduce carbon emission intensity from thermal power generation by promoting hydrogen and ammonia co-firing</td></tr></table></td></tr>
</table>

<table>
<tr><th>Ref.</th><th>No.</th><th>Disclosure elements</th><th>Requirement check</th><th>Work Undertaken</th><th>DNV Findings</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>
<table>
<tr><td>LONG-TERM GOALS</td><td>• CO_2 zero emissions</td></tr>
</table>
JERA's roadmap will be refined in stages based on policy and other assumptions. The roadmap will also be revised if the assumptions change significantly.
</td></tr>
<tr><td>◎
(△)</td><td>1-b)</td><td>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[10]. 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.</td><td>☒ Yes
☐ No
☐ Not Applicable</td><td>Confirmed documents:
01//02//03//04//05//
/15//16//17//18/
Interviews with stakeholders</td><td>The JERA’s Transition Strategy takes into account scenarios that make use of the TCFD guidance. The JERA’s Transition Strategy includes the significant reduction targets by 2030, which realize to reduce carbon emission intensity of thermal power plants by 20% based on the long-term energy supply-demand outlook for FY 2030 as set by the government, regarding the thermal power generation business as its core business. Regarding the coal power, shutting down all inefficient (supercritical or less) power plants, promoting demonstration tests of mixed combustion with ammonia at high-efficiency (ultra-supercritical) power plants and the measures of further improve the efficiency of LNG thermal power generation are incorporated.

The following (table below) are listed as specific initiatives of the transition strategy.

Table JERA's Main Initiatives to Achieve Carbon Neutrality (Transition Finance and Nominated Projects)
<table>
<tr><th>Eligibility Criteria</th><th>Project Overview (Main Expenditure)</th></tr>
</table>
</td></tr>
</table>

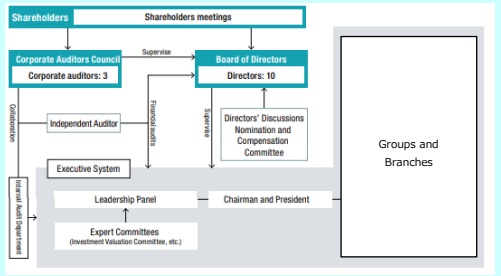
Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings	
					The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing	① Demonstration study of 20% ammonia co-firing in 1 million kW class coal-fired power plant - Project period: June 2021 - March 2025 - Project description: Development and demonstration test of technology to convert 20% of fuel (calorific value ratio) to ammonia at Hekinan Thermal Power Station Unit 4 (to FY2024) ※ NEDO subsidized project "Development of Technologies for Carbon Recycling and Next-Generation Thermal Power Generation / Research, Development and Demonstration of Technologies for Ammonia Co-Firing Thermal Power Generation"
						② Demonstration study on actual equipment to establish technology for high ammonia co-firing rate at commercial thermal power plants - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia high-efficiency burner and study of the specifications of the equipment (to FY 2024), and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at the Hekinan thermal power station (to FY2028).

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
					※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project”
					③ Demonstration of high co-firing rate at thermal power station using ammonia single-fuel burners - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia single-fuel burner and study of the specifications of the equipment (to 2024), and conducting technology development and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at two different boiler units (to FY2028). ※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project”
					④ Technical verification of hydrogen co-firing power generation for the construction of a large-scale hydrogen supply chain - Project period: October 2021 to March 2026 - Project description: Conducting demonstration tests at large-scale LNG-

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
					fired power plants in Japan to convert approximately 30% (by volume) of LNG into hydrogen for power generation (to FY2025). ※ Adoption of NEDO Green Innovation Fund project for "Construction of a large-scale hydrogen supply chain"
					The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for high-efficiency thermal power plants: ⑤ Demolition of existing power generation facilities at Goi Thermal Power Station (LNG)
					The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for high-efficiency thermal power plants: ⑥ Demolition of existing power generation facilities at Chita Thermal Power Station (LNG) (Demolition plan is in preparation)
○	**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	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//09//10//11//12/ Interviews with stakeholders	DNV confirmed that there are no additional significant social or environmental impacts on the implementation of JERA's Transition Strategy at this time. DNV also confirmed that the negative environmental/social considerations are potentially taken into account for implementation of the projects, JERA has the process to verify the appropriateness of each correspondence required in subject facilities, installation countries/regions/communities, in the project evaluation and selection process.

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
		consideration the impact of business innovations to society and environment other than climate change.			
◎ (△)	**1-d)**	Climate change-related scenarios[11] 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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//05/ /17//18/ Interviews with stakeholders	JERA's transition strategy is built on the transition roadmap for electricity sector of the METI and the use of TCFD guidance. JERA developed a transition strategy that is consistent with the transition roadmap for the electricity sector, which the energy industry should refer to, and which identifies criteria, pathways and targets for CO_2 emission reductions.
○	**1-e)**	Transition strategies and plans must be highly credible in terms of their effectiveness. Therefore, it is recommended that a transition strategy and plan are linked to management strategy and business plan, including medium-term management plans.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//05/ /17//18/ Interviews with stakeholders	JERA has formulated "JERA Zero CO_2 Emissions 2050" and "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (Updated in May 2022)", with the introduction of renewable energy and zero-emission thermal power as key points in the plan. In order to ensure the implementation of this plan, JERA has set "JERA Environmental Target 2030" and "JERA Environmental Target 2035" as the medium-term target by 2030, and have drawn up specific transition strategies and plans. These cover thermal power generation, which is JERA's core business, and include quantitative targets, so they are closely related to the management plan and are judged to be highly effective and credible initiatives.
△	**1-f)**	However, because such strategies and plans run for a long period of time, it is possible	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//15/ /16//17//18/	JERA has included a range of technology options in the implementation of its Transition Strategy. DNV also confirmed through the assessment that JERA plans to implement

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
		that the content may be modified or adjusted in the event of a major change in the assumed external environment and so on.		Interviews with stakeholders	changes and modifications to the Transition Strategy and Plan in a flexible manner in response to revisions to the national guidelines.
△	**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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01/ Confirmation through this assessment	DNV confirmed that JERA's transition strategy is generally implemented for the "recommend" and "be considered/possible" items in this basic guideline. DNV also confirmed that there are plans to further consider the content of the disclosures as the standards, policies and targets are reviewed in the future.
◎	**1-h)**	In order to secure the effectiveness of the transition strategy, the fundraiser should establish an organizational structure[12] 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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//05//18/ Interviews with stakeholders	JERA considers all matters relating to transition finance to be matters of management strategy, and implements them under the following corporate governance structure: ◆ JERA considers all matters related to transition finance to be the management strategy and implements the following corporate governance system. In order to develop JERA's business globally in a variety of fields, the Board Director, which consists of directors who are familiar with the company's business and outside board directors with a wealth of knowledge and experience, is responsible for making significant management decisions, and supervisors of the independent audit company adopt the system for the

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
					auditor installation company that implement the audit for operation status of board directors. ◆ In order to realize the appropriate and prompt decision-making and efficient operation, JERA separates the decision-making and supervision of management from the execution of business operation, and has adopted an executive officer system under which executive officers are responsible for business execution based on decisions made by the Board of Directors.  Figure Corporate Governance System (Changed in April 2022)
△	**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	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//15//16//18/ Interviews with stakeholders	JERA's transition strategy includes, in addition to its strategy as an energy company engaged in upstream fuel procurement, power generation, and wholesale electricity and gas sales, activities to contribute to the reduction of CO_2 emissions in Japan and abroad, and in society as a whole, through the provision of technologies, products and services that contribute to low-carbon demand and decarbonization, in accordance with national and other policies.

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
		not just a single company but its supply chain.			
◎	**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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//05//18/ Interviews with stakeholders	JERA's transition strategy (and environmental initiatives in general) is explained and disclosed to stakeholders and the public in advance through "JERA Zero CO_2 Emissions 2050" and "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (Updated in May 2022)", "JERA Environmental Target 2030", "JERA Environmental Target 2035", the Integrated Report, the website and other media.
△	**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)[13].	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: 01//02//03//04//05//18/ Interviews with stakeholders	JERA's transition strategy takes into account the TCFD recommendations, and its transition strategy is consistent with the governance of TCFD recommendations. JERA discloses governance-related items in its integrated report, website and Framework. Relevant information can be found in 1-d), 1-h) and 1-j).
○	**1-l)**	If the implementation of a transition strategy assumes impacts on society and environment other than climate change, it is recommended that the fundraiser explain the view underlying its approach[14], etc. to	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//05//09//10//11//12//18/ Interviews with stakeholders	DNV confirmed that there are no additional significant social or environmental impacts on the implementation of JERA's Transition Strategy at this time. DNV also confirmed that the negative environmental/social considerations are potentially taken into account for implementation of the projects, JERA has the process to verify the appropriateness of each correspondence required in subject facilities, installation

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
		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.			countries/regions/communities, in the project evaluation and selection process. the material issue (materiality) mainly relevant to the transition finance is to tackle the climate change, as outlined in JERA's vision, "Global leader in LNG and renewables, sparking the transition to a clean energy economy", and the relationship with the SDGs is summarised as follows: Reference (in Table-1 of the main text) Vision: Global leader in LNG and renewables, sparking the transition to a clean energy economy Materiality: Environment (Climate change)  Goal 7: Affordable and Clean Energy Goal12: Responsible Consumption and Production Goal 13: Climate Action *In May 2022, JERA's vision was changed to "To scale up its clean energy platform of renewables and low greenhouse gas thermal power, sparking sustainable development in Asia and around the world"
◎	**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,	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//17//18/ Interviews with stakeholders	JERA has included a range of technology options in the implementation of its Transition Strategy. DNV also confirmed through the assessment that JERA plans to implement changes and modifications to the Transition Strategy and Plan in a flexible manner in response to revisions to the national guidelines and technology movement. JERA plans to disclose any material changes to its transition strategy and plans in a timely manner, together with the reasons for such changes.

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
		the contents of the modification should be disclosed together with the underlying reason in a timely manner.			
○	**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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//05/ /18/ Interviews with stakeholders	JERA has established the following organizational structure, and the details are disclosed in JERA Group Corporate Communication Book 2021(Integrated report). ◆ JERA considers all matters related to transition finance to be the management strategy and implements the following corporate governance system. In order to develop JERA's business globally in a variety of fields, the Board Director, which consists of directors who are familiar with the company's business and outside board directors with a wealth of knowledge and experience, is responsible for making significant management decisions, and supervisors of the independent audit company adopt the system for the auditor installation company that implement the audit for operation status of board directors. ◆ In order to realize the appropriate and prompt decision-making and efficient operation, JERA separates the decision-making and supervision of management from the execution of business operation, and has adopted an executive officer system under which executive officers are responsible for business execution based on decisions made by the Board of Directors.

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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//05/ /15//16//17//18/ Interviews with stakeholders * Confirmation through this assessment	JERA uses a review by DNV, an external reviewer, for an objective assessment of the eligibility of its transition finance, including its transition strategy.
△	**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	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//05/ /15//16//17//18/ Interviews with stakeholders * Confirmation through this assessment	DNV has confirmed the following about the review of JERA's transition strategy: - JERA's Transition Strategy is consistent with the scenarios (specific action plans) and targets shown in the table below. - JERA's transition strategy is positioned as an activity to realize"JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (Updated in May 2022)" and its credibility is judged to be supported by specific plans and targets as "JERA Environmental Target 2030" and "JERA Environmental Target 2035". - The management processes and governance of the Transition Strategy will be properly implemented under the JERA's Corporation Governance Structure. **TABLE JERA TRANSITION TARGETS**

Ref.	No.	Disclosure elements	Requirement check	Work Undertaken	DNV Findings
					MEDIUM-TERM GOALS **FY 2030** ◆ Reduce carbon emission intensity of thermal power plants by 20% based on the long-term energy supply-demand outlook for FY 2030 as set by the government. ◆ Shut down all inefficient (supercritical or less) coal power plants ◆ Promote demonstration of mixed combustion with ammonia at high-efficiency (ultra-supercritical) power plants ◆ Promote the development of renewable energy cantered on offshore wind power projects ◆ Work to further improve the efficiency of LNG thermal power generation **FY 2035** ◆ Reduce CO_2 emissions from domestic operations by at least 60% (relative to FY 2013) by FY 2035. ◆ Given the expanded adoption of renewable energy based on the national government's 2050 carbon neutral policy, JERA will strive to develop and adopt renewable energy in Japan ◆ Work to reduce carbon emission intensity from thermal power generation by promoting hydrogen and ammonia co-firing **LONG-TERM GOALS** ◆ CO_2 zero emissions JERA's roadmap will be refined in stages based on policy and other assumptions. The roadmap will also be revised if the assumptions change significantly.

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 as a whole. 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.[15]	☒ Yes ☐ No ☐ Not Applicable	Confirmed Documents: /01//02//03//04//05/ /07//09//10//11/ /12//18/ Interviews with stakeholders	JERA's Transition Strategy includes significant reduction goals to achieve to reduce carbon emission intensity of thermal power plants by 20% based on the long-term energy supply-demand outlook for FY 2030 as set by the government. The following measures are incorporated: for coal-fired thermal shutting down all inefficient (supercritical or less) coal power plants, and promoting the demonstration of mixed combustion with ammonia/hydrogen at high-efficiency (ultra-supercritical) power plants; for the LNG thermal power generation, further improve the efficiency of LNG-fired power generation. The transition

<table>
<tr><th>Ref.</th><th>No.</th><th>Disclosure elements</th><th>Requirement Check</th><th>Work Undertaken</th><th>DNV Findings</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>strategy includes the following specific measures (see table below)

Table JERA's Main Initiatives to Achieve Carbon Neutrality (Transition Finance and Nominated Projects)
<table><tr><th>Eligibility Criteria</th><th>Project Overview (Main Expenditure)</th></tr><tr><td>The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing</td><td>① Demonstration study of 20% ammonia co-firing in 1 million kW class coal-fired power plant
- Project period: June 2021 - March 2025
- Project description: Development and demonstration test of technology to convert 20% of fuel (calorific value ratio) to ammonia at Hekinan Thermal Power Station Unit 4 (to FY2024)
※ NEDO subsidized project "Development of Technologies for Carbon Recycling and Next-Generation Thermal Power Generation / Research, Development and Demonstration of Technologies for Ammonia Co-Firing Thermal Power Generation"</td></tr></table></td></tr>
</table>

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings
					② Demonstration study on actual equipment to establish technology for high ammonia co-firing rate at commercial thermal power plants - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia high-efficiency burner and study of the specifications of the equipment (to FY 2024), and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at the Hekinan thermal power station (to FY2028). ※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"
					③ Demonstration of high co-firing rate at thermal power station using ammonia single-fuel burners - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia single-fuel burner and study of the specifications of the equipment (to 2024), and conducting technology development and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at two different boiler units (to FY2028).

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings	
						※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"
						④ Technical verification of hydrogen co-firing power generation for the construction of a large-scale hydrogen supply chain - Project period: October 2021 to March 2026 - Project description: Conducting demonstration tests at large-scale LNG-fired power plants in Japan to convert approximately 30% (by volume) of LNG into hydrogen for power generation (to FY2025). ※ Adoption of NEDO Green Innovation Fund project for "Construction of a large-scale hydrogen supply chain"
					The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for high-efficiency thermal power plants	⑤ Demolition of existing power generation facilities at Goi Thermal Power Station (LNG)
						⑥ Demolition of existing power generation facilities at Chita Thermal Power Station (LNG) (Demolition plan is in preparation)

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings
○	**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[16].	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04/ /05//18/ Interviews with stakeholders	JERA discloses climate change-related information in line with the recommendations of the TCFD. Specifically, JERA discloses information on governance, strategy (analysing risks and opportunities for “Average temperature below 2°C scenarios” and "4°C or more scenarios", including the period from the medium term to 2030 and the long term to 2050 for analysing period), risk management ("Management for integrated risks classified to "Operation risk", "Market risks", “Credit risks") and indicators and targets. JERA's Transition Strategy is linked to this TCFD initiative.
△	**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[17].	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04/ /05//18/ Interviews with stakeholders	In identifying materiality, JERA has used analysis and evaluation methods using GRI standard[*1], ISO 26000, TCFD, etc. In addition, efforts to address environmental materiality include not only the reduction of emissions from the company's own business activities, but also activities that contribute to the reduction of the scope3 and other companies. Furthermore, the contribution to the SDGs is also taken into account, and these are disclosed in the Framework and other documents. *1: Global Reporting Initiative (an international standard providing ESG-related reporting, management and analysis methods)
◎	**2-d)**	The fundraiser should indicate that climate change is an environmentally material part of business activities[18].	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04/ /05//18/ Interviews with stakeholders	One of the materialities defined for JERA, “Environment (climate change)” is closely linked to “Global leader in LNG and renewable energy leading to the clean energy economy" which is the JERA’s vision. These are disclosed in the integrated report and on the website. *In May 2022, JERA’s vision was changed to “To scale up its clean energy platform of renewables and low greenhouse gas

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings
					thermal power, sparking sustainable development in Asia and around the world"
○	**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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04/ /05//18/ Interviews with stakeholders	JERA recognizes that the TCFD recommendations and the efforts to join the TCFD consortium are appropriate scenario analyses in order to provide effective corporate disclosure on climate change responses and to help financial institutions and others make appropriate investment decisions. These are disclosed in the integrated report and on the website.

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.

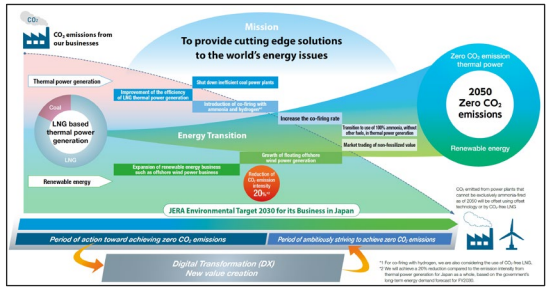
CTF-3 Climate Transition Strategy to be Science-based Including Targets and Pathways

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings
◎	**3-a)**	The fundraiser should reference science-based targets in developing its transition strategies.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//05/ /18/ Interviews with stakeholders	JERA's transition strategy and targets are in line with the transition roadmap for electricity sector of the METI, which aims to align with the goals of the Paris Agreement. The transition roadmap for the electricity sector of METI is based on the scientific-based required to achieve the goals of the Paris Agreement, and therefore JERA's Transition Strategy is considered to be a science-based goal.
◎	**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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//05/ /18/ Interviews with stakeholders	JERA has developed its Transition Strategy as "JERA Zero CO_2 Emissions 2050", "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (Updated in May 2022)" and "JERA Environmental Target 2030" and "JERA Environmental Target 2035", which set CO_2 zero emissions by 2050 and its medium-term goals by 2030 and 2035. Moreover, the strategic and specific plans for decarbonization (a plan to introduce technologies that contribute to transition) is also incorporated. Each goal based on JERA's Transition Strategy is disclosed as follows. **TABLE JERA TRANSITION TARGETS** **MEDIUM-TERM GOALS**: **FY 2030** ◆ Reduce carbon emission intensity of thermal power plants by 20% based on the long-term energy supply-demand outlook for FY 2030 as set by the government. ◆ Shut down all inefficient (supercritical or less) coal power plants ◆ Promote demonstration of mixed combustion with ammonia at high-efficiency (ultra-supercritical) power plants

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings
					• Promote the development of renewable energy cantered on offshore wind power projects • Work to further improve the efficiency of LNG thermal power generation **FY 2035** • Reduce CO_2 emissions from domestic operations by at least 60% (relative to FY 2013) by FY 2035. • Given the expanded adoption of renewable energy based on the national government's 2050 carbon neutral policy, JERA will strive to develop and adopt renewable energy in Japan • Work to reduce carbon emission intensity from thermal power generation by promoting hydrogen and ammonia co-firing **LONG-TERM GOALS**: • CO_2 zero emissions JERA's roadmap will be refined in stages based on policy and other assumptions. The roadmap will also be revised if the assumptions change significantly.
◎ (△)	**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	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//05//18/ Interviews with stakeholders	JERA's emissions reductions are assessed on a per-unit basis in Scope 1. Scope 3 emissions from JERA's business activities are measured and disclosed to the extent practicable, but no reduction targets have been set because the ratio is small compared to Scope 1.

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings
		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 when it could be subject to significant reduction in the fundraiser's business model[19]. It is also possible to disclose the avoided emissions as necessary.			
◎ (△)	**3-d)**	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. - Scenarios widely recognized in the international community (Examples include the Sustainable Development Scenario (SDS) outlined by the International Energy Agency (IEA)[20])	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//05//17//18/ Interviews with stakeholders	JERA's transition strategy targets refer to the following: - A widely recognized international scenario ⇒For scenario analysis responding to TCFD, refer to IEA's analysis, " SDS : Sustainable Development Scenario", "STEPS : Stated Policies Scenario" and "SSP1-1.9, SSP1-2.6" and "SSP3-7.0, SSP5-8.5" in the IPCC Sixth Assessment Report, Working Group I. - JERA's roadmap and targets, such as the Science Based Targets Initiative (SBTi), have not been verified, but the dealing validity of the plan has been confirmed through assessment. - Targets consistent with the Paris Agreement targets (e.g. NDC, roadmaps by sector, scientific evidence set by industry etc.)

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings
		- Objectives verified under the Science Based Targets Initiative (SBTi) and such like - Nationally Determined Contributions (NDC) of countries aligned with the goals of the Paris Agreement, roadmaps by industry sector[21], industries set out plans that are science-based achieving the Paris Agreement[22] and so on.			⇒See the transition roadmap for the electricity sector of METI.
◎	**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[23].	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//17//18/ Interviews with stakeholders	JERA's medium-term targets (year of 2030) are based on the asset deployment and technology development plans set out in the pathway (transition roadmap) towards the long-term target of 2050. *See 3-b) for details.
△	**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	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//17//18/ Interviews with stakeholders	In developing the roadmap, JERA has taken into account a range of issues (short term initiatives, medium- and long-term technology development and implementation) and plans to achieve its targets through multiple technology options. JERA recognizes that shutting down all inefficient (supercritical or less) coal power plants, further improvement of the efficiency of LNG thermal power generation and introduction of renewable energy are material, regarding the CO_2 emission reduction until

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings
		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.			the establishment of technology for realization of decarbonized society. Therefore, the goals toward 2030 are set considering above. JERA is planning a non-linear pathway towards CO_2 zero emissions in 2050.  JERA Decarbonization Strategy
◎	**3-g)**	The fundraiser should disclose the short- to mid-term and long-term targets they have set, including the base years etc.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04/ /18/ Interviews with stakeholders	JERA's Transition Strategy sets out the following medium-term goals by 2030: ◆ **Reduce** carbon emission intensity of thermal power plants **by 20%** based on the long-term energy supply-demand outlook for FY 2030 as set by the government. ◆ **Shut down all** inefficient (supercritical or less) coal power plants ◆ Promoting demonstration of mixed combustion with ammonia at high-efficiency (ultra-supercritical) power plants ◆ Promoting the development of renewable energy cantered on offshore wind power projects ◆ Further improvement of the efficiency of LNG thermal power generation

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings
					JERA's Transition Strategy sets out the following medium-term goals by 2035: ◆ Reduce CO_2 emissions from domestic operations by at least 60% (relative to FY 2013) by FY 2035 ◆ Given the expanded adoption of renewable energy based on the national government's 2050 carbon neutral policy, JERA will strive to develop and adopt renewable energy in Japan ◆ Work to reduce carbon emission intensity from thermal power generation by promoting hydrogen and ammonia co-firing JERA has also set long-term goals of CO_2 zero emissions by 2050. These are disclosed in "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (Updated in May 2022)".
©	**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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//17//18/ Interviews with stakeholders	The long-term targets and efforts in JERA's Transition Strategy are consistent with those of the transition roadmap for the electricity sector of METI. The transition roadmap for the electricity sector of METI refers various Japanese policies and international scenarios aimed at achieving carbon neutrality in 2050, and are clearly consistent with the Paris Agreement.

<table>
<tr><th>Ref.</th><th>No.</th><th>Disclosure elements</th><th>Requirement Check</th><th>Work Undertaken</th><th>DNV Findings</th></tr>
<tr><td>△</td><td>3-i)</td><td>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.</td><td>☒ Yes
☐ No
☐ Not Applicable</td><td>Confirmed documents:
/01//02//03//04/
/09//10//11//12/
Interviews with stakeholders</td><td>JERA has set forth the following specific initiatives as examples of typical projects (eligible project categories) that may be eligible for investment among the initiatives toward the long-term goals.

Table JERA's Main Initiatives to Achieve Carbon Neutrality (Transition Finance and Nominated Projects)
<table><tr><th>Eligibility Criteria</th><th>Project Overview (Main Expenditure)</th></tr><tr><td>The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing</td><td>① Demonstration study of 20% ammonia co-firing in 1 million kW class coal-fired power plant

- Project period: June 2021 - March 2025
- Project description: Development and demonstration test of technology to convert 20% of fuel (calorific value ratio) to ammonia at Hekinan Thermal Power Station Unit 4 (to FY2024)

※ NEDO subsidized project "Development of Technologies for Carbon Recycling and Next-Generation Thermal Power Generation / Research, Development and Demonstration of Technologies for Ammonia Co-Firing Thermal Power Generation"</td></tr></table></td></tr>
</table>

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings
					② Demonstration study on actual equipment to establish technology for high ammonia co-firing rate at commercial thermal power plants - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia high-efficiency burner and study of the specifications of the equipment (to FY 2024), and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at the Hekinan thermal power station (to FY2028). ※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"
					③ Demonstration of high co-firing rate at thermal power station using ammonia single-fuel burners - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia single-fuel burner and study of the specifications of the equipment (to 2024), and conducting technology development and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at two different boiler units (to FY2028).

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings	
						※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"
						④ Technical verification of hydrogen co-firing power generation for the construction of a large-scale hydrogen supply chain - Project period: October 2021 to March 2026 - Project description: Conducting demonstration tests at large-scale LNG-fired power plants in Japan to convert approximately 30% (by volume) of LNG into hydrogen for power generation (to FY2025). ※ Adoption of NEDO Green Innovation Fund project for "Construction of a large-scale hydrogen supply chain"
					The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for high-efficiency thermal power plants	⑤ Demolition of existing power generation facilities at Goi Thermal Power Station (LNG)
						⑥ Demolition of existing power generation facilities at Chita Thermal Power Station (LNG) (Demolition plan is in preparation)

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings
△	**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 ➡Whether the disclosed information explains the alignment with the Paris Agreement - Whether the short- to mid-term targets are determined using a GHG emissions forecast calculated based on a climate change scenario analysis ➡Whether scenarios, etc. widely recognized in the international community are used or referenced - Whether the actual values of the indicators used for the targets are quantitatively measured using consistent measurement methods ➡Whether a specific GHG emissions reduction measure has been	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04/ /17//18/ Interviews with stakeholders *Confirmation through this assessment	Based on the documentation and information provided by JERA, DNV has reviewed the following and confirmed that JERA's targets and trajectories are science-based. - Whether the long-term target is aligned with science-based targets ➢ The targets and trajectory based on JERA's transition strategy refers various Japanese policies and international scenarios aimed at achieving carbon neutrality in 2050, which is incorporated into the transition roadmap for the electricity sector of METI. In addition, the transition roadmap for the electricity sector of METI is clearly consistent with the Paris Agreement. - Whether the short- and medium-term targets are based on climate change scenario analysis and greenhouse gas calculation forecast ➢ Based on the IEA and IPCC scenarios, JERA conducts scenario analysis respectively for 2030 and 2050 for below 2°C and 4°C or more (assessment of risks and opportunities by scenario). This is closely related to JERA's efforts on greenhouse gas emissions and climate change. - Whether the actual values of emission intensity indicators used for the targets are quantitatively measured using consistent measurement methods ➢ The actual value for the indicator adopted for the targets is the emission intensity. JERA has defined the methods to calculate and evaluate the reduction effects based on the amount of CO_2 emission and power energy in Scope 1. Through the review, DNV confirmed that the CO_2 reduction effect is estimated based on the above actual value.

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings
		developed to achieve short- to mid-term targets aligned with long-term goals			With difficulty of calculation of the direct CO_2 reduction benefits for some projects, the reduction effect will be disclosed by releasing the project progress, plans, etc.

19 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	☒ Yes ☐ No	Confirmed documents:	DNV confirmed that the investment and business plans related to JERA transition strategy included agreement on investments that has been implemented and

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings
		practicable.	☐ Not Applicable	/01//02//03//04//07//18/ Interviews with stakeholders	investments and expenditure in the future. DNV also confirmed that overall investment plan (investment amount) will be executed in accordance with the timeline. DNV confirmed that JERA plans to consider the disclosure of its basic investment plan (investment amount) with a view to ensuring transparency to the extent possible. In addition, DNV reviewed the Framework and the efforts to ESG management of JERA and found the high transparency in the implementation. DNV also confirmed that the explanation and agreement for appropriateness of execution has been provided by JERA.
○	**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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//07//09//10//11//12//18/ Interviews with stakeholders	The investment plan includes one or more of the following capitals, operational and running costs necessary to implement the following strategies that contribute to the necessary efforts to implement the Transition Strategy. The specific efforts (Project overview and main expenditure) are listed in the below table.

Eligibility Criteria		Project Overview
1)	The expenditures related to demonstration projects	① Demonstration study of 20% ammonia co-firing in 1 million kW class coal-fired power plant - Project period: June 2021 - March 2025

Ref.	No.	Disclosure elements		Requirement Check	Work Undertaken	DNV Findings
			of fossil fuels and ammonia/hydrogen co-firing	- Project description: Development and demonstration test of technology to convert 20% of fuel (calorific value ratio) to ammonia at Hekinan Thermal Power Station Unit 4 (to FY2024) ※ NEDO subsidized project "Development of Technologies for Carbon Recycling and Next-Generation Thermal Power Generation / Research, Development and Demonstration of Technologies for Ammonia Co-Firing Thermal Power Generation"		
				② Demonstration study on actual equipment to establish technology for high ammonia co-firing rate at commercial thermal power plants - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia high-efficiency burner and study of the specifications of the equipment (to FY 2024), and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at the Hekinan thermal power station (to FY2028). ※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"		
				③ Demonstration of high co-firing rate at thermal power station using ammonia single-fuel burners - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia single-fuel burner and study of the specifications of the equipment (to 2024), and conducting technology development and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at two different boiler units (to FY2028). ※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"		
				④ Technical verification of hydrogen co-firing power generation for the construction of a large-scale hydrogen supply chain - Project period: October 2021 to March 2026 - Project description: Conducting demonstration tests at large-scale LNG-fired power plants in Japan to convert approximately 30% (by volume) of LNG into hydrogen for power generation (to FY2025). ※ Adoption of NEDO Green Innovation Fund project for "Construction of a large-scale hydrogen supply chain"		
			2) The expenditures related to decommissions of inefficient thermal power plants, with	⑤ Demolition of existing power generation facilities at Goi Thermal Power Station (LNG)		
				⑥ Demolition of existing power generation facilities at Chita Thermal Power Station (LNG) (Demolition plan is in preparation)		

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings
		the aim of replacement for high-efficiency thermal power plants			
△	**4-c)**	It is recommended that the investment plan outline the assumed climate-related outcomes and impacts[24] in a quantitative fashion where possible, along with the calculation methods and prerequisites[25]. If quantification is difficult, the use of external certification systems can be considered as a substitute for qualitative assessment.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//07//09//10//11//12//18/ Interviews with stakeholders	The climate-related outcomes and impacts assumed by the investment plan are the reduction by conducting "Co-firing demonstration of fossil fuels with ammonia/hydrogen" and "The decommissioning of existing inefficient thermal power stations with a view to rebuilding them with high-efficiency thermal power stations" which is the eligible criteria shown in 4-b). " The decommissioning of existing inefficient thermal power stations with a view to rebuilding them with high-efficiency thermal power stations" sets the CO_2 reduction amount as the index. Meanwhile, "Co-firing demonstration of fossil fuels with ammonia/hydrogen" sets the progress status of demonstration test as the index. Through the assessment, DNV confirmed that JERA has established calculation methods and prerequisites for eligible criteria or each project category as appropriate. However, JERA will not disclose those to the public if the business strategy and customer information are included, and DNV confirmed the appropriatenes of that.
○	**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	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//07//09//10//11//12//18/	Any critical factors that would impede a "just transition" through the implementation of JERA's Transition Strategy have not identified. Regarding the utilization of CO_2-free LNG, DNV considers that the influence on the business or employment related to mining LNG will

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings
		report how consideration of a "just transition"[26] is incorporated into the transition strategy.		Interviews with stakeholders	remain in the medium-to-long-term. However, in the process transiting to low carbonized/decarbonized and global society, it is considered that the above-mentioned will not be the disturbing factor for "Just transition" by reviewing the use of existing supply chain and plans of existing business. In addition, through the assessment, it was confirmed that JERA will take appropriate measures and disclose information, when necessary, if any negative impacts on "Just transition" or SDGs are considered in future projects to be implemented by JERA.
○	**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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//07//09//10//11//12//18/ Interviews with stakeholders	DNV confirmed that there are no additional significant social or environmental impacts on the implementation of JERA's Transition Strategy at this time. However, for the eligibility assessment of each project, JERA will confirm the negative environmental/social impacts are potentially taken into account, and the procedures for facility certification, approval and license and environmental assessment required in the countries, regions and communities where the project is to be implemented are appropriate.
◎	**4-f)**	Moreover, the outcomes arising from investments included in the investment plan should align with the targets.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//07//09//10//11//12//18/ Interviews with stakeholders	JERA quantitatively evaluates the results (reduction effects of CO_2 emission intensity) of each eligible project candidate (see (2-a)) included in the investment plan are consistent with the targets (see (3-b)).

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings
○ (△)	**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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//07//09//10//11//12//18/ Interviews with stakeholders	JERA plans to allocate its transition finance to fund both new initiatives and refinancing of existing ones (amounts and ratio are expected to vary for each project and bond). Where refinancing is targeted, DNV confirmed that a reasonable look-back period should be set (e.g. the transitional nature of the target asset should be maintained at the time of refinancing and the environmental improvement benefits should be realised during the redemption).
○	**4-h)**	It is recommended that investment plans be disclosed by linking the outcomes and impacts with the expenditures to the extent practicable[27].	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//07//09//10//11//12//18/ Interviews with stakeholders	DNV confirmed that the investment and business plans related to JERA transition strategy included agreement on investments that has been implemented and investments and expenditure in the future. DNV also confirmed that overall investment plan (investment amount) will be executed in accordance with the timeline. DNV reviewed the Framework and the efforts to ESG management of JERA and found the high transparency in the implementation. Moreover, the explanation and agreement for appropriateness of execution has been provided by JERA.
○	**4-i)**	It is recommended that the fundraiser, after securing financing, reports any deviations between the initial plan and the actual expenditure, outcomes and impacts.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//07//09//10//11//12//18/ Interviews with stakeholders	JERA will include in its post-funding reporting any significant variances in expenditure, outcomes or impacts from the original plan, as well as the reasons for such variances.

Ref.	No.	Disclosure elements	Requirement Check	Work Undertaken	DNV Findings
		For any deviations, it is recommended that the underlying reasons be explained.			
◎	**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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01/ Interviews with stakeholders	JERA has set a look-back period of three years. This is a standardised period of time during which JERA's transition projects are likely to remain transitional in the short term. DNV confirmed that JERA will explain the reasons for the refinance at an appropriate time (e.g. in legal documents or reports prior to the bond issue) if necessary, after JERA confirms that transitional subject assets are maintained, and the environmental benefits appears during the redemption period, in the event of refinancing.
○ (△)	**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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01/ Interviews with stakeholders *This report	JERA will not be financed by the execution of loans.

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.	☐ Yes ☐ No ☒ Not Applicable	Interviews with stakeholders	JERA is not a small business.

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_2 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_2 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 Green Bond Guidelines (Transition Finance with specific use of proceeds) Eligibility Assessment

Following check list (GBGLs-1 ~ GBGLs-4) is prepared based on the Green Bond Guidelines (GBGLs, MOE, 2020).
According to the GBGLs, Requirements/Work Undertaken are divided into following two terms, Should:◎ Recommend:○
The numbers /01/, /02/ ~ /20/ listed in the Work Undertaken column are the confirmed documents, and the 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 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" or "finance (bond)".

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	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//07//09//10//11//12//18/ Interviews with stakeholders	The proceeds from transition finance will be allocated to JERA's projects that contribute to low and decarbonization through the business related to environment (climate change), which is a materiality issue for JERA. Specific environmental benefits have been evaluated by the issuer as leading to a CO_2 reduction.
○	**1-①**	Environmental benefit of Green Bond proceeds, where feasible, quantification is recommended.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//07//09//10//11//12/ Interviews with stakeholders	JERA will report on the project outline and progress within the scope of confidentiality, to the extent practicable, and taking into account the characteristics of the project.

<table>
<tr><th>Ref.</th><th>Section</th><th>Requirements</th><th>Requirement check</th><th>Work Undertaken</th><th>DNV Findings</th></tr>
<tr><td>◎</td><td>1-④</td><td>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.</td><td>☒ Yes
☐ No
☐ Not Applicable</td><td>Confirmed documents:
/01//07//09//10//11//12//14/
Interviews with stakeholders</td><td>JERA plans to explain the use of proceeds to investors in advance through the Framework and the Amended Shelf Registration Statement, etc.</td></tr>
<tr><td>◎</td><td>1-⑤</td><td>The provision of the information regarding the use of proceeds should specify the Green Project categories.</td><td>☒ Yes
☐ No
☐ Not Applicable</td><td>Confirmed documents:
/01//07//09//10//11//12//14/
This report
Interviews with stakeholders</td><td>The proceeds will be allocated to one or more of the following projects, which will be explained to investors through the Framework, the Amended Shelf Registration Statement and other documents and the results of external reviews.
Table JERA's Main Initiatives to Achieve Carbon Neutrality
(Transition Finance and Nominated Projects)
<table>
<tr><th>Eligibility Criteria</th><th>Project Overview (Main Expenditure)</th></tr>
<tr><td>The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing</td><td>① Demonstration study of 20% ammonia co-firing in 1 million kW class coal-fired power plant
- Project period: June 2021 - March 2025
- Project description: Development and demonstration test of technology to convert 20% of fuel (calorific value ratio) to ammonia at Hekinan Thermal Power Station Unit 4 (to FY2024)
※ NEDO subsidized project "Development of Technologies for Carbon Recycling and Next-Generation Thermal Power Generation / Research, Development and Demonstration</td></tr>
</table></td></tr>
</table>

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
					of Technologies for Ammonia Co-Firing Thermal Power Generation"
					② Demonstration study on actual equipment to establish technology for high ammonia co-firing rate at commercial thermal power plants - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia high-efficiency burner and study of the specifications of the equipment (to FY 2024), and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to ammonia at the Hekinan thermal power station (to FY2028). ※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"
					③ Demonstration of high co-firing rate at thermal power station using ammonia single-fuel burners - Project period: FY2021 to FY2028 - Project description: Development of a new ammonia single-fuel burner and study of the specifications of the equipment (to 2024), and conducting technology development and demonstration tests to convert more than 50% of the fuel (calorific value ratio) to

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings	
						ammonia at two different boiler units (to FY2028). ※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"
						④ Technical verification of hydrogen co-firing power generation for the construction of a large-scale hydrogen supply chain - Project period: October 2021 to March 2026 - Project description: Conducting demonstration tests at large-scale LNG-fired power plants in Japan to convert approximately 30% (by volume) of LNG into hydrogen for power generation (to FY2025). ※ Adoption of NEDO Green Innovation Fund project for "Construction of a large-scale hydrogen supply chain"
					The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for high-efficiency	⑤ Demolition of existing power generation facilities at Goi Thermal Power Station (LNG)
						⑥ Demolition of existing power generation facilities at Chita Thermal Power Station (LNG) (Demolition plan is in preparation)

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
					thermal power plants
O	1-⑤	In the cases where individual Green Projects have been specified, it is recommended that issuers clearly present the projects to investors.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//07//09//10//11//12//14/ This report Interviews with stakeholders	The explanations given to investors, taking into account confidentiality and other considerations, clearly outline the transition projects through the disclosure of the Framework and the results of the external review. Details of the specific eligible project candidates and projects to be funded are provided to the external reviewer to confirm eligibility. In case that the actual projects allocated to are decided in advance, those projects will be disclosed by every appropriate classification, through the Amended Shelf Registration Statement, etc. If the allocation is not decided, it will be disclosed through the annual report.
◎	1-⑥	In cases where Green Projects have incidental negative environmental 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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//07//09//10//11//12//14/ Interviews with stakeholders	Negative impacts on project implementation are those identified below in the preliminary process for evaluation and selection. Projects with significant negative impacts are limited to those for which the necessary action has been taken or will be taken in advance. In addition to the following, if additional explanations are deemed necessary for investors, it will be explained in the Amended Shelf Registration Statement, etc. The funds raised by the transition bond will not be used for projects related to the following: ・ Inappropriate relationships such as unfair trade, bribery, corruption, extortion, embezzlement, etc. that do not comply with the laws of the country of residence ・ Transactions that can cause social problems such as human rights and the environment

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
O	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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//07//09//10//11/ /12//14/ Interviews with stakeholders	DNV confirmed that JERA plans to disclose the estimated amount (or ratio) of the portion of the proceeds allocated to refinancing in the integrated report published on an annual basis or website. If the inclusion of refinancing and the nature of the refinancing is determined prior to the issue of the bond, JERA plans to disclose the necessary information in legal documents in accordance with CTF 4-g).
◎	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, evaluate the long-term sustainability of environmental benefits and obtain an assessment from an external reviewers for verification.	☐ Yes ☐ No ☒ Not Applicable	Confirmed documents: /01//07//09//10//11/ /12/ Interviews with stakeholders	At present, there are no plans to allocate for refinancing to projects that are long overdue. In cases where refinancing is targeted, DNV confirmed that a reasonable look-back period (e.g. the transitional nature of the target asset should be maintained at the time of refinancing and the environmental benefits should be realized during the redemption period) should be set.

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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04/ /18/ Interviews with stakeholders	The financing that JERA implements by utilizing transition finance is aimed at achieving the JERA transition strategy which is in line with the low-carbon decarbonization strategy set by the transition roadmap for the electricity sector of METI, which aims to align with the goals of the Paris Agreement. JERA has developed the roadmap for its transition strategy in "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (Updated in May 2022)" and incorporated the medium-term goals and a strategic plan for decarbonization (a plan to introduce technologies that contribute to transition). Each goal based on JERA's Transition Strategy is disclosed as follows. These are planned to be explained to investors in advance through the Framework, the external review and the Amendment Shelf Registration Statement. **TABLE JERA TRANSITION TARGETS** **MEDIUM-TERM GOALS**: **FY 2030** ◆ Reduce carbon emission intensity of thermal power plants by 20% based on the long-term energy supply-demand outlook for FY 2030 as set by the government. ◆ Shut down all inefficient (supercritical or less) coal power plants ◆ Promote demonstration of mixed combustion with ammonia at high-efficiency (ultra-supercritical) power plants ◆ Promote the development of renewable energy cantered on offshore wind power projects

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
					<table><tr><td></td><td>◆ Work to further improve the efficiency of LNG thermal power generation</td></tr><tr><td></td><td>FY 2035 ◆ Reduce CO_2 emissions from domestic operations by at least 60% (relative to FY 2013) by FY 2035. ◆ Given the expanded adoption of renewable energy based on the national government's 2050 carbon neutral policy, JERA will strive to develop and adopt renewable energy in Japan ◆ Work to reduce carbon emission intensity from thermal power generation by promoting hydrogen and ammonia co-firing</td></tr><tr><td>LONG-TERM GOALS</td><td>◆ CO_2 zero emissions</td></tr></table> JERA's roadmap will be refined in stages based on policy and other assumptions. The roadmap will also be revised if the assumptions change significantly.
◎	**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	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04/ /18/	It was confirmed through the Framework and Assessment that the eligibility of the JERA Transition Project is described on the basis of which evaluation criteria (standards). Specifically, the criteria are as follows: - Climate Transition Finance Handbook

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
		sustainability objectives described above		Interviews with stakeholders	International Capital Market Association (ICMA), 2020 - Basic Guidelines on Climate Transition Finance Financial Services Agency, Ministry of Economy, Trade and Industry, Ministry of the Environment, 2021 - Green Bond Principles International Capital Market Association (ICMA), 2021 - Green Bond Guidelines Ministry of the Environment, 2020 These will be specified in the Framework and external review and will be explained to investors in advance, through the Amended Shelf Registration Statement.
◎	**2-①**	In advance, issuers should provide investors with information regarding the following: 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)	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04//14//18/ Interviews with stakeholders	DNV confirmed that there is a description of the process by which decisions on the selection of transition projects were made in the Framework. Specifically, eligible projects are selected by the Finance Group, based on the eligible criteria, and finalised by Executive Officer, Head of the Finance Group after a comprehensive analysis and review of financial, technical and operational, market environment and ESG risks by the relevant departments. DNV confirmed that these processes had been established as a normal operation of JERA that the plan will be implemented in accordance with the appropriate processes.
O	**2-⑥**	It is recommended that the issuers explain to investors in advance any	☒ Yes ☐ No	Confirmed documents:	The transition strategy, which forms the basis for the evaluation and selection of transition finance, is JERA's roadmap based on

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
		environmental standards or certifications that the issuers will refer to in evaluating and selecting a Green Project to be financed.	☐ Not Applicable	/01//02//03//04/ /14//18/ Interviews with stakeholders	the transition roadmap for the electricity sector of METI, with specific targets (medium and long term) and plans. These will be explained to investors through the Framework and second party opinions. There are no project-specific environmental standards or certifications. Some activities may include the project through the fund projects (Green Innovation Fund Project).
◎	**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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//07//09//10/ /11//12//14/ Interviews with stakeholders	JERA has set out the following in its Framework as common confirmation for transition finance (a concept equivalent to exclusion criteria). The funds raised by the transition bond will not be used for projects related to the following: ・Inappropriate relationships such as unfair trade, bribery, corruption, extortion, embezzlement, etc. that do not comply with the laws of the country of residence ・ Transactions that can cause social problems such as human rights and the environment
O	**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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04/ /18/ Interviews with stakeholders	DNV confirmed that there is a description of the process by which decisions on the selection of transition projects were made in the Framework. Specifically, eligible projects are selected by the Finance Group, based on the eligible criteria, and finalised by Executive Officer, Head of the Finance Group after a comprehensive analysis and review of financial, technical and operational, market environment and ESG risks by the relevant departments. DNV confirmed that these processes had been established as a normal operation of JERA that the plan will be implemented in accordance with the appropriate processes.
O	**2-⑪**	It is recommended that issuers position their environmental objectives, criteria and information on their processes in the context of their	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//02//03//04/	The transition strategy, which forms the basis for the evaluation and selection of transition finance, is JERA's roadmap based on the transition roadmap for the electricity sector of METI, with specific targets (medium and long term) and plans. These will

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
		comprehensive environmental sustainability objectives, strategy, policies and so on (e.g., medium-term management plan, sustainability strategy, CSR strategy) when explaining them to investors.		/05//09//10//11//12//18/ Interviews with stakeholders	be explained to investors through the Framework and second party opinions. JERA's transition strategy, "JERA Zero CO_2 Emissions 2050" and "JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (Updated in May 2022)", are closely linked to its ESG management and its initiatives under the TCFD.

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 activities should be controlled by the issuer's internal process.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//08//13/ Interviews with stakeholders	DNV confirmed that JERA plans to manage the procured funds in accordance with the procedures set out in the accounting regulations, by compiling payment data extracted from the accounting system into the "Funds management forms of transition bonds " and ensuring that the total transition-eligible project amount (or individual project amount) is not less than the amount of transition finance issued (or allocation amount). DNV also confirmed through the interviews that there is an operation (system) that can track the proceeds in the above management.
◎	**3-②**	As long as the Green Bonds are outstanding, issuers manage the amount of the allocation to the green project is	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//08//13/	DNV has confirmed that JERA plans to manage the appropriated and unappropriated amounts on a regular basis (at least annually) using the funds management

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
		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.		Interviews with stakeholders	forms of transition bonds, based on data extracted from the accounting system on the allocation 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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//08//13/ Interviews with stakeholders	DNV confirmed that JERA will identify the balance of unallocated proceeds by means of "Funds management forms of transition bonds", etc., and explain to investors how the funds will be managed (by cash and cash equivalents) through the Framework. In addition, DNV confirmed that JERA plans to allocate the funds (including refinancing) to eligible projects in a timely manner after raising funds. However, if the project implementation (planning, construction, etc.) takes a long time, the period of allocation and refinancing may be flexibly adjusted to take into account the characteristics of the project transition. DNV also confirmed that if any significant excess to the original plan occurs, JERA will report it in the reporting, along with the reasons for such excess.
◎	**3-⑤**	In advance, issuers should provide investors with information on how Green Bond proceeds will be tracked and managed.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//08//13//14/ Interviews with stakeholders	DNV confirmed that JERA has internal processes in place to enable it to track and control the proceeds. DNV confirmed that these are planned to be explained to investors in the Framework, etc.
O	**3-⑥**	It is recommended that issuers keep evidenced documents appropriately that	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents:	DNV has confirmed that there are internal processes in place to ensure that documents relating to the

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
		demonstrate how they tracked and managed Green Bond proceeds.		/01//08//13/ Interviews with stakeholders	management of proceeds are properly retained throughout the reimbursement period in accordance with JERA's accounting regulations
◎	**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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//08//13//14/ Interviews with stakeholders	DNV confirmed through the Framework that JERA describes how the pre-allocation equivalent of funds is to be managed (in cash or cash equivalents).
O	**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	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//08//13/ Interviews with stakeholders	Cash or cash equivalents as specified in the Framework are highly secure assets and comply with the requirements.

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	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01/ Interviews with stakeholders	From the year following the issuance of the transition finance, it was confirmed that the status of allocation of the proceeds from the issuance of the transition finance to the use of proceeds and the environmental benefits are planned to be reported at least annually until the allocation of all proceeds is completed. In addition, if necessary, the environmental benefits will be reported until the eligible projects by the transition finance are completed. The annual report will be disclosed on the JERA's website.
◎	**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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01/ Interviews with stakeholders	Same as 4-(1). In addition, if there is a significant change in the transition strategy or pathway, allocation plan or project implementation status (e.g., interruption of the project that started allocation, significant postponement on a yearly basis, sale or retirement, etc.), JERA will report the change in a timely manner or in reporting.
◎	**4-③**	Disclosed information should include the following contents: <Contents> ・A list of the Green Projects to which Green Bond proceeds have been allocated ・A brief description of each Green Project (including up-to-date progress) ・The amount allocated to each Green Project	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//07//09//10//11//12/ Interviews with stakeholders	The disclosed information will include the following contents in consideration of confidentiality. The report will be disclosed on the website. <Allocation Status> ◆ Eligible criteria to be allocated and allocated amounts ◆ Balance of unallocated amounts and its management ◆ Estimated amount (or percentage) of the proceeds used for refinancing <Environmental benefits> ◆ Environmental benefits are disclosed within the scope of confidentiality, to the extent practicable, and in consideration of the characteristics of the project,

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
		• The expected environmental benefits of each Green Project • 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 allocates to Green Projects, and how the unallocated proceeds are managed until allocation)			including an overview of the project (including progress, completion, operation, etc.) and the expected environmental benefits (e.g., t-CO_2/year) < Other> ◆ Efforts to achieve CO_2 zero emissions by 2050 will be reviewed as appropriate in light of policy and technological trends, and disclosed as necessary.
O	**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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//07//09//10/ /11//12/ Interviews with stakeholders	DNV confirmed that JERA plans to disclose the estimated amount (or ratio) of the portion of the proceeds allocated to refinancing in the integrated report published on an annual basis or website.
O	**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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//07//09//10/ /11//12/ Interviews with stakeholders	It was confirmed that the disclosure of information is based on the disclosure of information for each transition project, but may take place in an aggregated format depending on the circumstances, taking into account confidentiality agreements.
◎	**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,”	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//07//09//10/ /11//12/	The environmental benefits will be based on the CO_2 reduction effect, but JERA will use an appropriate indicator and the progress status of projects depending on the nature of the project to be allocated for transition finance.

Ref.	Section	Requirements	Requirement check	Work Undertaken	DNV Findings
		the “criteria” for Green Projects specified in Section 2, “Process for Project Evaluation and Selection,” and the characteristics of Green Projects.		Interviews with stakeholders	
O	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.	☒ Yes ☐ No ☐ Not Applicable	Confirmed documents: /01//07//09//10/ /11//12/ Interviews with stakeholders	Environmental improvement effects will be disclosed on a project-by-project basis, taking into account the nature of the projects subject to allocation.

List of Reference Materials

/01/ JERA Transition Bond Framework

/02/ JERA Zero CO_2 Emissions 2050

/03/ JERA Zero CO_2 Emissions 2050 Roadmap for its Business in Japan (Updated in May 2022)

/04/ JERA Environmental Target 2030

/05/ JERA Group Corporate Communication Book 2021 (Integrated Report)

/06/ Business Plans reflecting the integration of existing thermal power projects, etc. (April 2019)

/07/ Investment plan for the use of proceeds

/08/ Funds management forms of transition bonds

/09/ Project-related information: Overview of Ammonia co-firing demonstration test

/10/ Project related information: Overview of the hydrogen co-firing demonstration test

/11/ Project related information: Goi Thermal Power Station

/12/ Project related information: Chita Thermal Power Station

/13/ Accounting regulations

/14/ Amended Shelf Registration Statement

/15/ Ministry of Economy, Trade and Industry, “Green Growth Strategy Through Achieving Carbon Neutrality in 2050” (December 2020)

/16/ “Basic Energy Plan" (October 2021)

/17/ Transition Roadmap for the Electricity Sector of Ministry of Economy, Trade and Industry, Japan (February 2022)

/18/ JERA Environmental Target 2035

Other related information from JERA website