



SECOND PARTY OPINION

JERA CO., INC.

JERA TRANSITION FINANCE FRAMEWORK

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Location: Kobe, Japan

Date: 19 Aug 2022

Ref. Nr.: PRJN-333948-2022-AST-JPN-01_Rev2.0

This evaluation report was additionally evaluated in August 2022 as Revision 2, in conjunction with the revision to the "JERA Transition Finance Framework," which added transition finance, etc, which are General Corporate Purpose instruments, to the "JERA Transition Bond Framework.

Contents

I. Introduction	10
II. Scope and Objectives	24
III. Responsibilities of JERA and DNV	26
IV. Basis of DNV’s Opinion	26
V. Work Undertaken	29
VI. Findings and DNV’s Opinion	30
VII. Assessment Conclusion	48
Schedule-1 JERA Transition Finance Nominated Eligible Projects	50
Schedule-2 Key Performance Indicators (KPIs) and Sustainability Performance Targets (SPTs)	52
Schedule-3 Transition Finance Framework Eligibility Assessment Protocol	53
Schedule-4 Transition Finance (with specific use of proceeds) Eligibility Assessment Protocol	62
Schedule-5: Transition Finance (with general corporate purpose) Eligibility Assessment Protocol	72

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.
2	19/8/2022	Addition of assessment against the revised "JERA Transition Finance Framework" (August 2022) to the existing "JERA Transition Bond Framework" (May 2022) with the addition of the four elements for executing transition loans, which are Use of Proceeds instruments, and the five elements (KPI/SPT, etc.) for executing transition-link bonds and loans, which are General Corporate Purpose instruments.

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)

Executive Summary

*This report (Revision 2) is an additional evaluation in conjunction with the revision to the "JERA Transition Finance Framework," which added transition finance, etc, which are General Corporate Purpose instruments", to the "JERA Transition Bond Framework.

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 CO₂ Emissions 2050" in October 2020, the goal of achieving zero CO₂ emissions by 2050. Under "JERA Zero CO₂ Emissions 2050", JERA will take on the challenge of achieving, by 2050, virtually zero CO₂ emissions from JERA's operations in Japan and overseas by taking the three following approaches: 1. Complementarity between Renewable Energy and Zero CO₂ 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 CO₂ Emissions 2050 Roadmap for its Business in Japan" that shows a pathway toward CO₂ zero mission by 2050 of its business in Japan. To promote CO₂ 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 CO₂ 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 CO₂ Emissions 2050 Roadmap for its Business in Japan", in order to achieve the realization of CO₂ 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 CO₂ 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 CO₂ zero emissions, aiming to reduce CO₂ 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 CO₂ 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 Finance Framework (hereinafter, "Framework") in order to finance and refinance investments that contribute to the realization of "JERA Zero CO₂ 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.

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

- Climate Transition Finance Handbook (CTFH) International Capital Market Association, 2020
- Basic Guidelines on Climate Transition Finance (CTFBG) Financial Services Agency, Ministry of Economy, Trade and Industry, Ministry of the Environment, 2021
- Green Bond Principles (GBP) International Capital Market Association (ICMA), 2021
- Green Bond Guidelines and Sustainability-Link Bond Guidelines (GBGLs/SLBGLs) Ministry of the Environment, 2022
- Green Loan Principles (GLP) Loan Market Association (LMA) etc., 2021
- Green Loan Guidelines and Sustainability-Link Loan Guidelines (GLGLs/SLLGLs) Ministry of the Environment, 2022
- Sustainability-Link Bond Principles (SLBP) International Capital Market Association, 2020
- Sustainability-Link Loan Principles (SLLP) Loan Market Association (LMA) etc., 2022

The following is a summary of the assessment results for each common element indicated in the above handbooks, principles and guidelines.

<CTF Eligibility Assessment Results>

CTF-1 ~ CTF-4 are findings and opinions of DNV against the four common elements of the CTFH and CTFBG (disclosure elements)

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

The issuer, JERA, has set a long-term goal of CO₂ zero emission by 2050, which is consistent with the goal of the Paris Agreement, in "JERA Zero CO₂ 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 CO₂ 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 materiality 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 CO₂ 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 CO₂ 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/GLP Eligibility Assessment Results>

GBP/GLP-1 ~ 4 are findings and opinions of DNV against the four elements of GBP/GBGLs and GLP/GLGLs considering transition finance with Use of Proceeds instruments.

GBP/GLP-1. Use of Proceeds:

JERA defined the project categories of the use of proceeds as the projects (transition projects) to realize zero CO₂ 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 CO₂ 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"

		<p>③ Demonstration of high co-firing rate at thermal power station using ammonia single-fuel burners</p> <ul style="list-style-type: none"> - 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). <p>※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"</p>
		<p>④ Technical verification of hydrogen co-firing power generation for the construction of a large-scale hydrogen supply chain</p> <ul style="list-style-type: none"> - 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). <p>※ Adoption of NEDO Green Innovation Fund project for "Construction of a large-scale hydrogen supply chain"</p>
	The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for high-efficiency thermal power plants	<p>⑤ Demolition of existing power generation facilities at Goi Thermal Power Station (LNG)</p>
		<p>⑥ Demolition of existing power generation facilities at Chita Thermal Power Station (LNG) (Demolition plan is in preparation)</p>

GBP/GLP-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/GLP-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/GLP-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.

<SLBP/SLLP Eligibility Assessment Results >

Followings (SLBP/SLLP-1~SLBP/SLLP-5) are findings and opinions of DNV against the five requirements of the SLBP, SLLP, SLBGLs, and SLLGLs for transition finance (transition-linked finance), which is general corporate purpose.

SLBP/SLLP-1. Selection of Key Performance Indicators (KPIs):

The KPI on transition (JERA Group's domestic CO₂ emissions intensity) shown in Table-II is an important indicator for achieving zero emissions by 2050, which JERA is promoting as the largest power generation company in Japan. DNV concludes that the selection of KPIs was a rational process and that the KPIs are clearly defined, measurable and verifiable, and robust and reliable.

SLBP/SLLP-2. Calibration of Sustainability Performance Targets (SPTs):

It was confirmed that the achievement of JERA's SPT (JERA Group's domestic CO₂ emission intensity) shown in Table-II is consistent with JERA's efforts to achieve zero emissions by 2050.

The SPT is set at a value of 0.477 kg- CO₂ /kWh or less after a further 20% reduction from the estimated national emissions intensity from thermal power generation, based on the estimated value of CO₂ emissions from electricity-derived energy, total electricity generation, and the ratio of thermal power generation in the "2030 Outlook for Energy Supply and Demand" released by the Japanese government in October 2021, therefore it was confirmed that the SPT is more ambitious than the national goals and goes beyond "Business as Usual". DNV confirmed that JERA, as the largest power generation company in Japan, has made various calculations and studies on how to achieve zero emissions from thermal power generation (reduction of emission intensity, which is the SPT for this project, and reduction of CO₂ emissions from domestic operations by at least 60% by FY 2035, which is separately specified) while fulfilling its responsibility for stable energy supply, and JERA has set the SPT as an ambitious goal required for transition-linked finance, and as a feasible goal that can be guaranteed with probability.

SLBP/SLLP-3. Finance Characteristics:

The financial and structural characteristics of the transition finance, which is general corporate purpose, executed under the Framework will change depending on the achievement of the SPT. JERA has internal procedures to ensure that each time a financing is executed, the trigger event and its scope of impact with specific SPT measurement timing and performance requirements will be linked to target achievement and financial incentives, and details including conditions will be disclosed in the bond disclosure documents or loan agreement documents.

SLBP/SLLP-4. Reporting:

The progress of the SPT against the KPIs required by the SLBP/SLLP will be published on the website on an annual basis.

SLBP/SLLP-5. Verification:

JERA plans to have the progress of SPT against KPIs verified annually by an external evaluation organization, etc.

Table- II JERA Transition Linked Finance KPIs and SPTs

KPIs	CO ₂ emissions intensity of Scope 1 in the JERA Group's domestic power generation business
Description of KPIs.	CO ₂ emissions intensity (Scope 1) in the JERA Group's ^(*1) domestic power generation business in the relevant fiscal year ^(*2) (*1) Equivalent to JERA's investment ratio in JERA Group Companies and Joint Thermal Power Business (*2) Calculated on a sending-end power basis
SPTs	JERA Group domestic CO ₂ emissions intensity in FY2030 to be 0.477 kg- CO ₂ /kWh or less
Description of SPTs.	The SPT is set at a value of 0.477 kg- CO ₂ /kWh or less after a further 20% reduction from the estimated national emissions intensity from thermal power generation, based on the estimated value of CO ₂ emissions from electricity-derived energy, total electricity generation, and the ratio of thermal power generation in the "2030 Outlook for Energy Supply and Demand" released by the Japanese government in October 2021. Specific trigger criteria for individual transition linked finance will be set by an appropriate method around the SPT, and disclosed prior to the execution of the financing in the bond disclosure documents or loan agreement documents.

On the basis of the information, including Framework, provided by JERA and the work undertaken, DNV confirmed that the Framework and Transition Finance executed by this Framework meets the criteria required by the relevant frameworks within CTFH/CTFBG, GBP/GBGLs and GLP/GLGLs, SLBP/SLBGLs and SLLP/SLLGLs, and is eligible. DNV has confirmed that any future financing by JERA is properly planned and expected to be implemented in accordance with the Framework.

I. Introduction

i. About the fundraiser

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

Optimization: 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. Fundraiser's Initiatives for ESG/SDGs


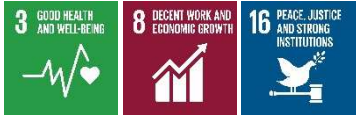

JERA sets "To provide cutting edge solutions to the world's energy issues" as its mission, and believes that it is important to fully understand and manage the impact of the external environment on JERA and the effects of its business activities on the society and the environment. JERA tackles to sophisticate 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. Fundraiser’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 CO₂ Emissions 2050” in October 2020, to achieve zero CO₂ emissions by 2050. It states that JERA will take on the challenge of achieving, by 2050, virtually zero CO₂ emissions from JERA’s operations in Japan and overseas by taking the three approaches as follows: 1. Complementarity between Renewable Energy and Zero CO₂ 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 CO₂ Emissions 2050 Roadmap for its Business in Japan” that shows a pathway toward CO₂ zero mission by 2050 for its business in Japan. To promote CO₂ 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 CO₂ 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 CO₂ zero emissions and clarified and announced its goal to reduce CO₂ 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)

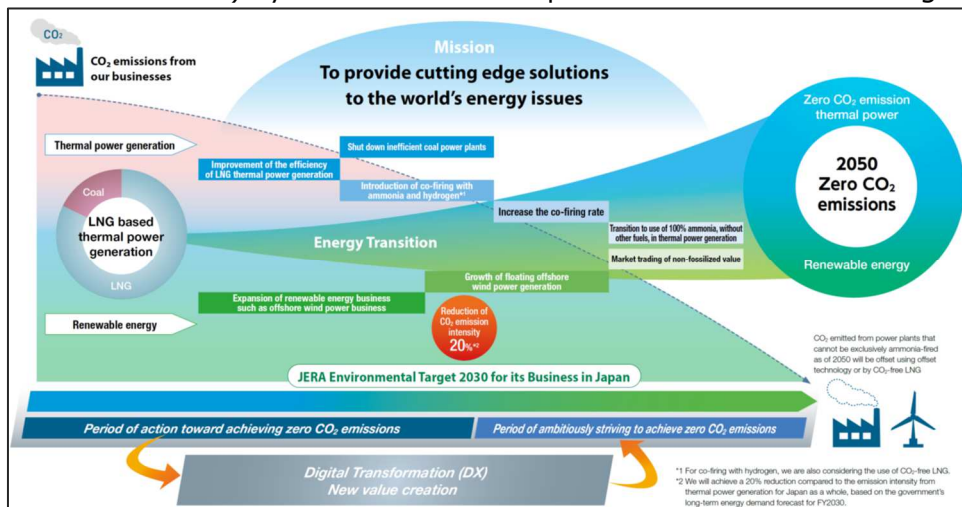


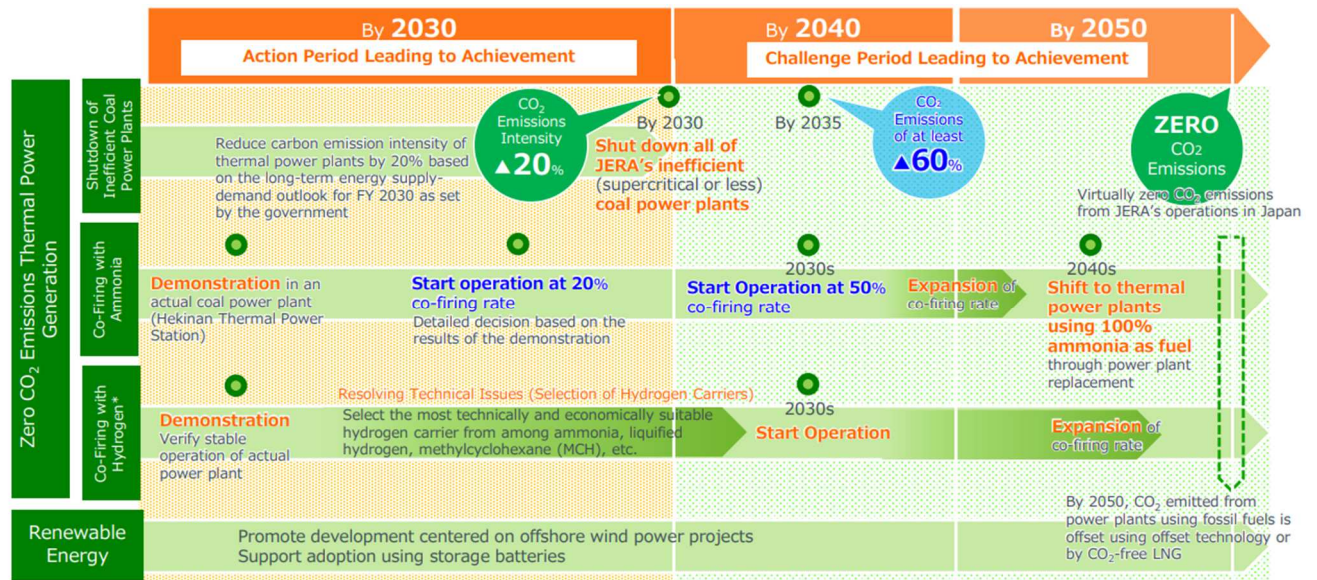
Figure-1: JERA's approach towards zero CO₂ Emissions by 2050 (Decarbonization strategy)

Table-2 Approaches of JERA Zero CO₂ Emissions 2050 (Decarbonization strategy)

Initiatives	Goal
<p>JERA will take on the challenge of achieving CO₂ 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".</p> <ul style="list-style-type: none"> ◆ Complementarity between Renewable Energy and Zero CO₂ Emission Thermal Power Generation ◆ Establishment of Roadmaps Suitable for Each Country and Region ◆ Adoption of "Smart Transition" <p>Promotion of zero CO₂ Emission Thermal Power and Renewable energy</p> <ul style="list-style-type: none"> ◆ 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 	<p>2050 Zero CO₂ emissions</p>
	<p>2035</p> <ol style="list-style-type: none"> ① Reduce CO₂ 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.
	<p>2030</p> <ol style="list-style-type: none"> 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 CO₂ 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 CO₂ zero emissions, the "JERA Zero CO₂ 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 CO₂ 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 CO₂ zero emissions, aiming to reduce CO₂ 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 CO₂ 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.



This roadmap will be gradually developed in greater detail based on relevant conditions such as government policies. JERA will revise the roadmap when relevant conditions change significantly.
*The use of CO₂-free LNG is also being considered.

Figure-2: "JERA Zero CO₂ 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-CO₂

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 CO₂ only. Scope 1 covers CO₂, CH₄ (methane), N₂O (nitrous oxide), SF₆ (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)		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)		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		Discussing the initiatives required to governments and industries to ensure the sustainable expansion of offshore wind power towards 2050.

iv. About the JERA Transition Finance Framework

In order to advance the initiatives toward CO₂ zero emissions set forth in “JERA Zero CO₂ 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 Finance Framework (hereinafter, “Framework”). The criteria which this Framework specifically referred to is described in (3) of Section II below.

v. Fundraiser’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 CO₂ 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 CO₂ emission intensity by 2030 and CO₂ emission reduction target for 2035 are closely related to the pathway outlined in the transition roadmap for the electricity sector of METI (Figure-3).

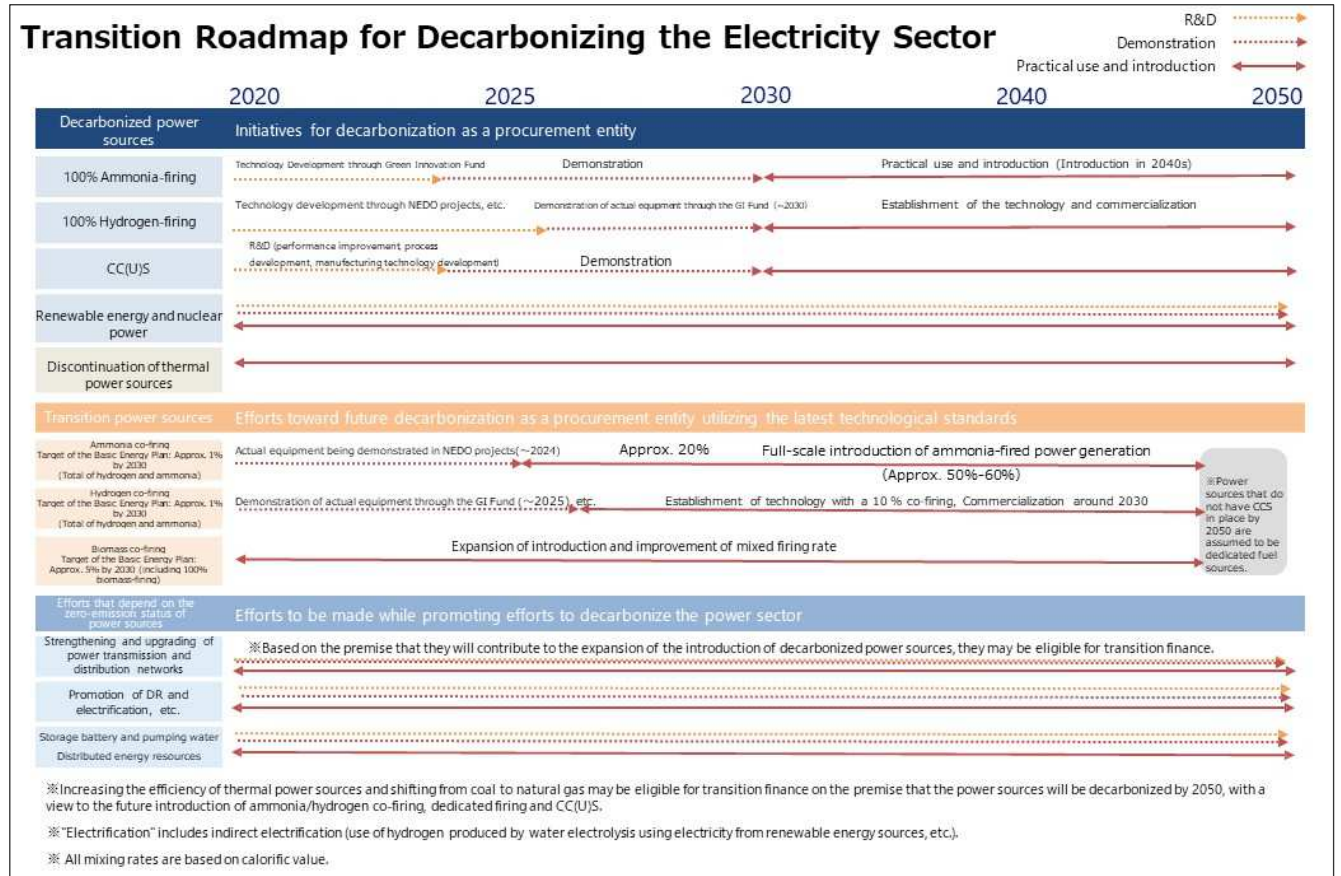


Figure-3: "Transition Roadmap for Electricity Sector", February 2022, Ministry of Economy, Trade and Industry (Provisional translation by DNV based on the Japanese version)

(2) Fundraiser's Transition Strategies

JERA has positioned its efforts to achieve its medium- and long-term goals, that aim at realizing CO₂ zero emission by 2050 set out in “JERA Zero CO₂ Emissions 2050” and “JERA Zero CO₂ Emissions 2050 Roadmap for its Business in Japan”, as its transition strategy. These are consistent with the Transition Roadmap for the electricity sector.

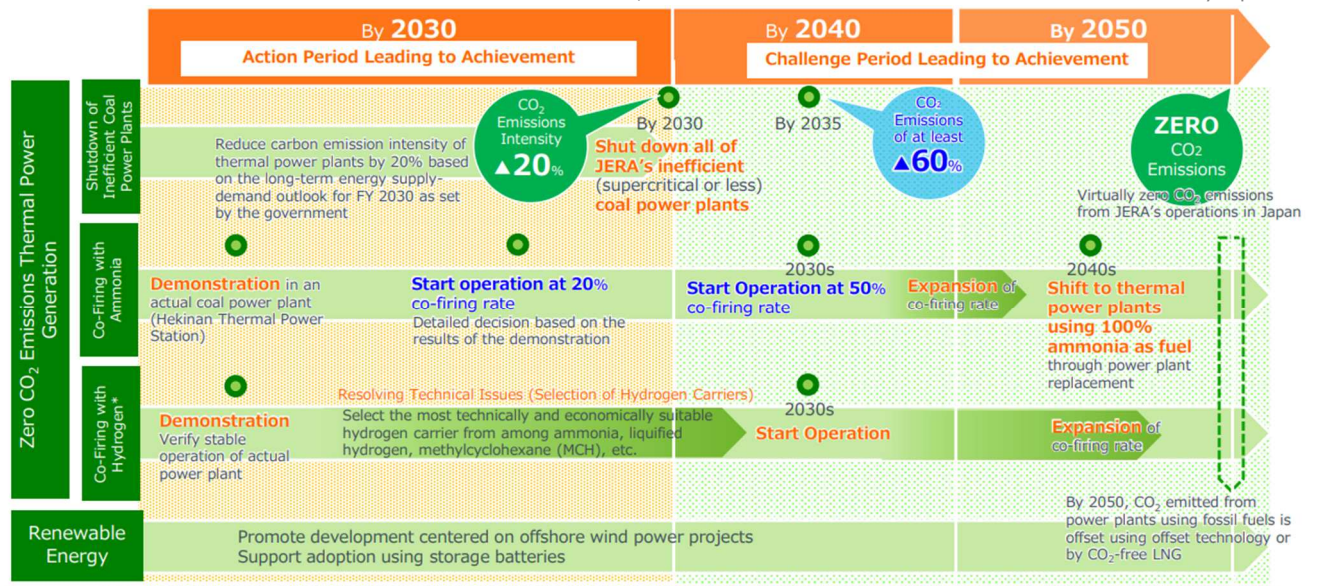
Given the fact that indirect emissions from power generation accounts for 38% of the CO₂ emissions per final energy consumption in Japan where JERA operates, the transition strategy of JERA, whose major emissions come from its thermal power generation, will not only contribute to reducing emissions from 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	<ul style="list-style-type: none"> ◆ 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	<ul style="list-style-type: none"> ◆ REDUCE CO₂ 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	<ul style="list-style-type: none"> ◆ CO₂ 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.



This roadmap will be gradually developed in greater detail based on relevant conditions such as government policies. JERA will revise the roadmap when relevant conditions change significantly. *The use of CO₂-free LNG is also being considered.

Figure-2 (Re-posted): "JERA Zero CO₂ 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.

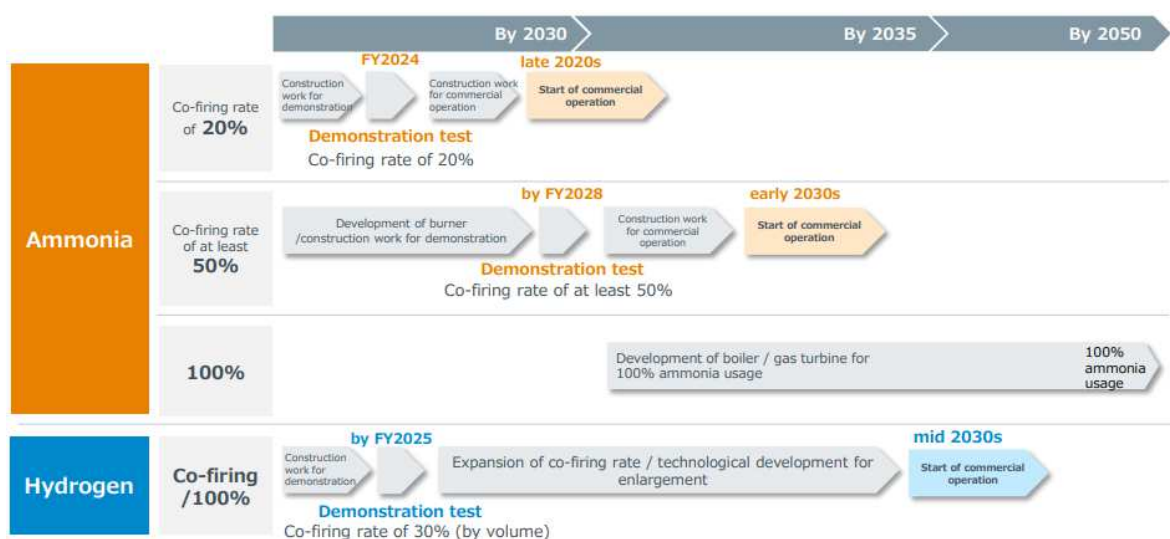


Figure-4: Specific Initiatives for Decarbonization

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

Project categories	Eligibility Criteria	Project Overview (Main Expenditure)
<p>Transition Project Projects for the realization of zero CO₂ emission thermal power</p>	<p>The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing</p>	<p>① Demonstration study of 20% ammonia co-firing in 1 million kW class coal-fired power plant</p> <ul style="list-style-type: none"> - 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) <p>※ 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"</p>
		<p>② Demonstration study on actual equipment to establish technology for high ammonia co-firing rate at commercial thermal power plants</p> <ul style="list-style-type: none"> - 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). <p>※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"</p>
		<p>③ Demonstration of high co-firing rate at thermal power station using ammonia single-fuel burners</p> <ul style="list-style-type: none"> - 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). <p>※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"</p>
		<p>④ Technical verification of hydrogen co-firing power generation for the construction of a large-scale hydrogen supply chain</p> <ul style="list-style-type: none"> - 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 Fundraiser (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.

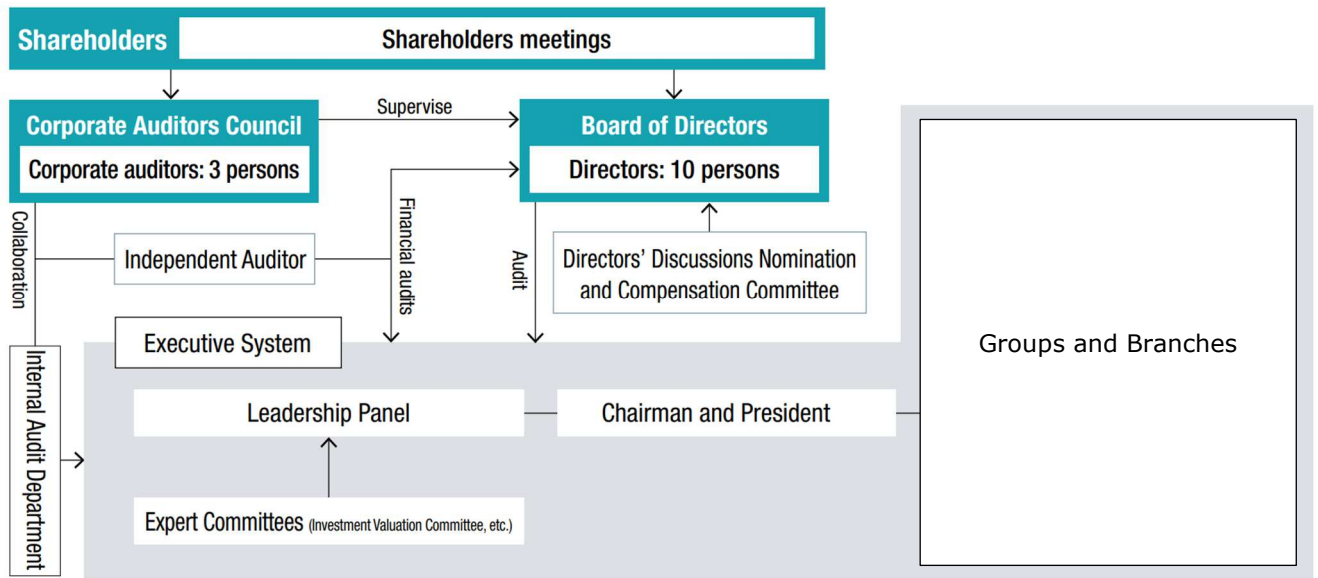


Figure-5 Corporate Governance System (Changed in April 2022)

Name of issuer: JERA Co., Inc.

Name of Framework: JERA Transition Finance Framework

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

Date of report: 19th Aug 2022



II. Scope and Objectives

DNV has been commissioned by JERA to provide a pre-funding assessment on JERA Transition Finance Framework (hereinafter, "Framework") and the Transition Finance. Our objective is to implement an assessment on whether the JERA's Framework and Transition Finance meet the criteria established on CTFH•CTFBG, GBP/ GBGLs•GLP/GLGLs and SLBP/SLBGLs•SLLP/SLLGLs provide a second party opinion on the eligibility of the Framework and the Transition Finance 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 Finance, the value of any investments in the Finance, or the long-term environmental impacts of the transaction.

Transition Finance with specific Use of Proceeds

* Below are listed based on GBP but replaced with loan-specific items as appropriate.

(1) Scope of Review*

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

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

*The scope of review is to be applied as a part of the evaluation of the sustainable finance (Green or Transition) 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 (Specific Use of Proceeds)

- | | |
|---|--|
| <input checked="" type="checkbox"/> Second party opinion | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification | <input type="checkbox"/> Rating |
| <input type="checkbox"/> Other (<i>please specify</i>): | |

Transition Finance with General Corporate Purpose

* Below are listed based on SLBP but replaced with loan-specific items as appropriate

(1)At the launch of the bond/bonds at the time of loan execution/ the structure is

- | | |
|---|---|
| <input checked="" type="checkbox"/> A step-up structure | <input checked="" type="checkbox"/> A variable redemption structure |
|---|---|

* Any of the above or others (e.g. donations) is set individually based on the fundraiser's internal processes when executing the finance.

(2)Scope of Review

The review assessed the following elements and confirmed their alignment with the gist of SLBP/SLLP.

- | | |
|---|---|
| <input checked="" type="checkbox"/> assessed all the following elements (complete review) | <input type="checkbox"/> only some of them (partial review) |
| <input checked="" type="checkbox"/> Selection of KPIs | <input checked="" type="checkbox"/> Bond characteristics |

- Calibration of SPTs
- Reporting
- Verification
- and confirmed their alignment with the SLBP/SLLP

* The scope of review is to be applied as a part of the evaluation of the Sustainable finance (Transition) with general corporate purpose.

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

(3) Role(s) of Review Provider

- Second Party Opinion
- Certification
- Verification
- Rating

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*3}	International Capital Market Association (ICMA), 2021
4.	Green Bond Guidelines and Sustainability-Link Bond Guidelines (GBGLs/SLBGLs)* ^{2*3}	Ministry of the Environment, 2022
5.	Green Loan Principles (GLP) * ^{2*3}	Loan Market Association (LMA) etc., 2021
6.	Green Loan Guidelines and Sustainability-Link Loan Guidelines (GLGLs/SLLGLs) * ^{2*3}	Ministry of the Environment, 2022
7.	Sustainability-Link Bond Principles (SLBP)	International Capital Market Association (ICMA), 2020
8.	Sustainability-Link Loan Principles (SLLP)* ⁴	Loan Market Association (LMA) etc., 2022

*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).

*3 Green projects were assessed for eligibility using the referable technical criteria of the Climate Bond Initiative's Climate Bond Standard.

*4 Sustainability Linked Loan: A Sustainability Linked Loan is a loan that encourages borrowers to achieve ambitious sustainability performance targets (SPTs) set by borrowers in advance, and are any type of loan product and/or contingent facility (bonding loan facility, guaranteed loan facility, credit contingent facility (bonding loan facility, guaranteed loan facility, letter of credit, etc.)) (Quoted from SLLP. The evaluation for SLBP is conducted synonymously.) Note that SLLGLs is based on the idea that the SLLP (2021) requirements can be evaluated to encompass SLLGLs, so it is not directly applicable but is used as a reference.

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, GBP/ GBGLs·GLP/GLGLs and SLBP/SLBGLs·SLLP/SLLGLs, to create a JERA Transition Finance Eligibility Assessment Protocol (hereinafter, "Protocol"). Please refer to Schedule-3 to 5. The Protocol is applicable to the Transition Finance under the CTFH/CTFBG, GBP/ GBGLs·GLP/GLGLs and SLBP/SLBGLs·SLLP/SLLGLs.

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 Transition Finance and Transition-Linked Finance as the basis for the opinion are as follows:

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

"provide an investment opportunity with transparent sustainability credentials"

"Climate Transition Finance is important (as climate transitions) through KPIs and SPTs, quantitative, pre-determined, ambitious, and regularly monitored and externally validated and encourage the achievement of ESG (in terms of climate transitions) of fundraisers"

As per our Protocol, the criteria against which the Sustainable Finance has been reviewed are grouped into common elements bellow, represented by CTFH·CTFBG, GBP/ GBGLs·GLP/GLGLs and SLBP/SLBGLs·SLLP/SLLGLs.

(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·GLP/GLGLs

- **Principle One: Use of Proceeds**
The Use of Proceeds criteria are guided by the requirement that the issuer of a green/transition finance 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/transition finance should outline the process it follows when determining eligibility of an investment using green/transition finance, 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/transition finance should be tracked within the issuing organization, that separate portfolios should be created when necessary and that a declaration of how unallocated funds will be handled should be made.
- **Principle 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.

* The GLGLs set out requirements (internal reviews) for loan-specific elements. This is identified in the green loan requirements check.

(3) Five elements of SLBP/SLBGLs•SLLP/SLLGLs^{*1} * Please replace “Sustainability” with “Transition” in the context if necessary.

Principle One: Selection of Key Performance Indicator (KPIs)

The Fundraiser of a sustainability-linked finance should clearly communicate its overall sustainability objectives, as set out in its sustainability strategy, and how these relate to its proposed SPTs. The KPI should be reliable, material to the Fundraiser’s core sustainability and business strategy, address relevant ESG challenges of the industry sector and be under management control.

Principle Two: Calibration of Sustainability Performance Targets (SPTs)

The SPTs should be ambitious, meaningful and realistic. The target setting should be done in good faith and based on a sustainability improvement in relation to a predetermined performance target benchmark.

Principle Three: Finance characteristics

The finance will need to include a financial and/or structural impact depending on whether the selected KPIs reach (or not) the predefined SPTs. The finance documentation needs to require the definitions of the KPI(s) and SPT(s) and the potential variation of the SLB’s and SLL’s financial and/or structural characteristics. Any fallback mechanisms in case the SPTs cannot be calculated or observed in a satisfactory manner, should be explained.

Principle Four: Reporting

Fundraisers should publish and keep readily available and easily accessible up to date information on the performance of the selected KPI(s), as well as a verification assurance report (see Principle 5) outlining the performance against the SPTs and the related impact and timing of such impact on the loan’s financial and/or structural characteristics, with such information to be provided to those institutions participating in the finance or to investors participating in the finance at least once per annum.

Principle Five: Verification

The Fundraiser should have its performance against its SPTs independently verified by a qualified external reviewer with relevant expertise, at least once per annum. The verification of the performance against the SPTs should be made publicly available.

*1: The Sustainability Linked Finance DNV Assessment Protocol consists of five requirements set based on the SLLP (2021) and includes SLBGLs/SLLGLs (2022).

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 Finance Framework assessment)

- Creation of a JERA-specific Protocol, adapted to the purpose of the Transition Finance, as described above and in Schedule-3 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), (2) and (3) 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-3 for details.

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

Please see Schedule-4 for details.

SLBP/SLBGLs·SLLP/SLLGLs-1 to 5 in (3) below are the findings and opinions of DNV against the requirement of the five common elements of SLBP/SLBGLs·SLLP/SLLGLs in Transition Linked Finance. ^{*1}

Please see Schedule-5 for details.

*1: Loans with potentially financial and structural changes linked to the achievement of future transition goals

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

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

- JERA released "JERA Zero CO₂ Emissions 2050", the goal of achieving zero CO₂ emissions by 2050, and "JERA Zero CO₂ Emissions 2050 Roadmap for its Business in Japan" in October 2020. JERA has set a long-term goal of CO₂ 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 CO₂ zero emissions, aiming to reduce CO₂ 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 CO₂ 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 CO₂ Emissions 2050" and "JERA Zero CO₂ 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 CO₂ Emissions 2050" and "JERA Zero CO₂ 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 CO₂ 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 CO₂ 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	<ul style="list-style-type: none"> ◆ 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	<ul style="list-style-type: none"> ◆ REDUCE CO₂ 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	<ul style="list-style-type: none"> ◆ CO₂ 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·GLP/GLGLs

*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/GLP-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)
<p>Transition Project Projects for the realization of zero CO₂ emission thermal power</p>	<p>The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing</p>	<p>① Demonstration study of 20% ammonia co-firing in 1 million kW class coal-fired power plant</p> <ul style="list-style-type: none"> - 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) <p>※ 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"</p>
		<p>② Demonstration study on actual equipment to establish technology for high ammonia co-firing rate at commercial thermal power plants</p> <ul style="list-style-type: none"> - 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). <p>※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"</p>
		<p>③ Demonstration of high co-firing rate at thermal power station using ammonia single-fuel burners</p> <ul style="list-style-type: none"> - 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). <p>※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"</p>
		<p>④ Technical verification of hydrogen co-firing power generation for the construction of a large-scale hydrogen supply chain</p> <ul style="list-style-type: none"> - 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, GBP/ GBGLs•GLP/GLGLs and SLBP/SLBGLs•SLLP/SLLGLs 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.

GBP/GLP-2. Process for Project Evaluation and Selection

JERA will confirm 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

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

Information on Responsibilities and Accountability

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



GBP/GLP-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 finance.

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 finance. 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:

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



GBP/GLP-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 refinancing

<Environmental Benefits>

- ◆ 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 CO₂ emissions by 2050 will be reviewed in a timely manner based on policies, technological trends, etc. and disclosed whenever necessary.

Table-7 shows the reporting plans for the environmental benefits of the six candidate projects for which Transition Bond will be used.

Table-7 Calculating Methods of Environmental Benefits (Six Transition Bonds Candidate Projects)

Eligibility Criteria		Project Overview	Environmental benefits
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 Benefits):

- 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)

(3) Findings and Opinions of DNV against the Five elements of SLBP/SLLP

SLBP/SLLP-1 Selection of Key Performance Indicator (KPIs)

- DNV reviewed JERA's KPIs related to transition finance and confirmed that the selected KPIs are relevant and important to JERA's core transition strategy and sustainability management. The selected KPIs are detailed in Schedule-2.
- The CO₂ emissions intensity of JERA's domestic power generation business is an important indicator for JERA's transition strategy and sustainability management, and is a transparent KPI that can be measured and evaluated on an annual basis. The KPI will contribute to both transition strategy and sustainability management to realize "JERA Zero CO₂ Emissions 2050".
- DNV confirmed that the KPIs selected by JERA are consistent with the "Sixth Basic Energy Plan" of the Agency for Natural Resources and Energy and the "Transition Roadmap for the Electricity Sector" of METI, and that the KPIs are appropriately set as comparable indicators
- The GHG emissions required for the evaluation of KPIs are in accordance with the GHG Protocol, a global standard, and are calculated based on the "Manual for Calculating and Reporting Greenhouse Gas Emissions "under the "Act on Promotion of Global Warming Countermeasures", which is externally verifiable and can be benchmarked against external references. DNV concluded that the Scope 1 CO₂ emissions intensity of the JERA Group's domestic power generation operations is a robust and reliable indicator.

List of selected KPIs

List of selected KPIs

- ✓ KPI : CO₂ emissions intensity of Scope 1 in the JERA Group's domestic power generation business

Definition, Scope and Parameters

- | | |
|--|---|
| <input checked="" type="checkbox"/> Clear definition of each selected KPIs | <input checked="" type="checkbox"/> Clear calculation methodology |
| <input type="checkbox"/> Other | |

Relevance, robustness, and reliability of the selected KPIs

- | | |
|--|--|
| <input checked="" type="checkbox"/> Credentials that the selected KPIs are relevant, core and material to the Issuer's sustainability and business strategy. | <input checked="" type="checkbox"/> Evidence that the KPIs are externally verifiable |
| <input checked="" type="checkbox"/> Credentials that the KPIs are measurable or quantifiable on a consistent methodological basis | <input checked="" type="checkbox"/> Evidence that the KPIs can be benchmarked |
| <input type="checkbox"/> Other | |

SLBP/SLLP-2 Calibration of Sustainability Performance Targets (SPTs):

- JERA, as the largest power generation company in Japan, recognizes that it is in a position to actively lead the realization of a decarbonized society in Japan, and has set forth "JERA Zero CO₂ Emissions 2050" and "JERA Zero CO₂ Emissions 2050 Roadmap for its Business in Japan" to clarify its long-term vision. In addition, as a target to be achieved by FY2030, JERA has announced in the "JERA Environmental Target 2030" a "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."
- This target is set as the SPT in JERA's transition finance, and is consistent with the "Sixth Basic Energy Plan" of the Agency for Natural Resources and Energy and the "Transition Roadmap for the Electricity Sector" of METI, as well as being an ambitious SPT as the largest power producer in Japan. Achieving this SPT is meaningful to JERA's business as it relates to reducing GHG emissions, a sustainability challenge faced by power generators.
- On the other hand, in the SPT setting, the SPT is set at a value of 0.477 kg- CO₂ /kWh or less after a further 20% reduction from the estimated national emissions intensity from thermal power generation, based on the estimated value of CO₂ emissions from electricity-derived energy, total electricity generation, and the ratio of thermal power generation in the "2030 Outlook for Energy Supply and Demand" released by the Japanese government in October 2021.
- SPT estimates assume steady progress in decarbonizing technologies, economic rationality, and policy consistency. JERA, as the largest power generation company in Japan, has made various calculations and studies on how to achieve zero emissions from thermal power generation (reduction of emission intensity, which is the SPT for this project, and reduction of CO₂ emissions from domestic operations by at least 60% by FY 2035, which is separately specified) while fulfilling its responsibility for stable energy supply, and JERA has set the SPT as an ambitious goal required for transition-linked finance, and as a feasible goal that can be guaranteed with probability.
- DNV confirmed that this SPT is related to KPI improvement. In order to achieve zero emissions by 2050, JERA aims to reduce CO₂ emissions from domestic operations by at least 60% relative to FY 2013 level by FY 2035, and by 20% from the emissions intensity of thermal power generation for the country as a whole, based on the long-term energy supply and demand outlook for FY2030 set by the government, a goal that goes beyond "business as usual".
- DNV confirmed that the SPT goal-setting process was based on an appropriate combination of multiple benchmarking approaches.
 - The eligibility criteria defined by JERA in the framework include " The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for high-efficiency thermal power plants" and



"The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing". They are also recognized as Best Available Technology or other technologies that come close in the "Sixth Basic Energy Plan" of the Agency for Natural Resources and Energy and the "Transition Roadmap for the Electricity Sector" of METI.

- DNV confirmed that SPT target setting was properly disclosed.
 - Through the Framework and the JERA Zero CO₂ Emissions 2050 Roadmap, it explains how GHG emission reductions will be achieved.

Table- II (re-posted) JERA Transition Linked Finance KPIs and SPTs

KPIs	CO ₂ emissions intensity of Scope 1 in the JERA Group's domestic power generation business
Definition of KPI	<p>CO₂ emissions intensity (Scope 1) in the JERA Group's ^(*1) domestic power generation business in the relevant fiscal year ^(*2)</p> <p>(*1) Equivalent to JERA's investment ratio in JERA Group Companies and Joint Thermal Power Business</p> <p>(*2) Calculated on a sending-end power basis</p>
SPTs	JERA Group domestic CO ₂ emissions intensity in FY2030 to be 0.477 kg- CO ₂ /kWh or less
Definition of SPT	<p>The SPT is set at a value of 0.477 kg- CO₂ /kWh or less after a further 20% reduction from the estimated national emissions intensity from thermal power generation, based on the estimated value of CO₂ emissions from electricity-derived energy, total electricity generation, and the ratio of thermal power generation in the "2030 Outlook for Energy Supply and Demand" released by the Japanese government in October 2021.</p> <p>Specific trigger criteria for individual transition linked finance will be set by an appropriate method around the SPT, and disclosed prior to the execution of the financing in the bond disclosure documents or loan agreement documents.</p>

(SPTs) Rationale and level of ambition

- | | |
|--|---|
| <input checked="" type="checkbox"/> Evidence that the SPTs represent a material improvement | <input checked="" type="checkbox"/> Credentials on the relevance and reliability of selected benchmarks and baselines |
| <input checked="" type="checkbox"/> Evidence that SPTs are consistent with the Issuer's sustainability and business strategy | <input checked="" type="checkbox"/> Credentials that the SPTs are determined on a predefined timeline |
| <input type="checkbox"/> Other | |

Benchmarking approach

- | | |
|--|---|
| <input checked="" type="checkbox"/> Issuer own performance | <input type="checkbox"/> Issuer's peers |
| <input checked="" type="checkbox"/> Reference to the science | <input checked="" type="checkbox"/> Other |

Additional disclosure

- | | |
|---|--|
| <input checked="" type="checkbox"/> potential recalculations or adjustments description | <input checked="" type="checkbox"/> Issuer's strategy to achieve description |
| <input checked="" type="checkbox"/> identification of key factors that may affect the achievement of the SPTs | <input checked="" type="checkbox"/> Other |

SLBP/SLLP-3 Bond/Loan Characteristics

The transition financing, which is general corporate purpose, (bonds or loans) executed under the Framework will have financial and structural characteristics that will change depending on the achievement of the SPT. It was confirmed that JERA has internal procedures to ensure that each time a financing is executed, the trigger event and its scope of impact with specific SPT measurement timing and performance requirements will be linked to target achievement and financial incentives, and details including conditions will be disclosed in the bond disclosure documents or loan agreement documents.

DNV confirmed that JERA has reviewed the appropriate fallback mechanisms (preliminary alternatives) and, as a result, has decided not to establish alternative SPTs or calculation methods at this time because the risks that cannot be calculated or observed are very small.

It was confirmed that JERA intends to disclose an explanation of the changes in the event of unforeseen events (such as significant changes in regulatory or other systems or the occurrence of unusual events) that may materially affect the measurement method and scope of KPIs, the setting of SPTs, and assumptions due to circumstances unforeseeable at the time of the execution of transition financing (general corporate purpose), either in the disclosure documents for the bonds or the loan agreement.

Financial impact:

- variation of the coupon
- Other: Changes in financial and structural characteristics

Structural characteristic:

- Other: terms and conditions of trigger judgement (judgement date and SPT) will be set by the period of an individual bond or loan, etc., and clarified in a legal disclosure documentation (or other disclosure method to the public) or an agreement document.



SLBP/SLLP-4 Reporting

- DNV has confirmed that the required information will be made available to the public in a timely manner for the following details required by the SLBP/SLLP
 - KPI performance against SPT: After the execution of the Transition Linked Finance, Jera will obtain verification from an external institution at least once a year, and disclose this information on its website before the completion of redemption or repayment.
 - SPT achievement status: Subject to annual verification by an independent third party to determine financial and structural characteristics.
 - When SPT changes are required : JERA will discuss with the parties concerned the establishment of SPTs with a level of ambition equal to or greater than the existing evaluation standards based on the changes, and will obtain second-party opinions from third-party evaluation organizations as necessary.

Information reported:

- | | |
|--|--|
| <input checked="" type="checkbox"/> performance of the selected KPIs | <input checked="" type="checkbox"/> verification assurance report (second party opinion) |
| <input checked="" type="checkbox"/> level of ambition of the SPTs | <input type="checkbox"/> Other : |

Frequency

- | | |
|--|--------------------------------------|
| <input checked="" type="checkbox"/> Annual | <input type="checkbox"/> Semi-annual |
| <input type="checkbox"/> Other | |

Means of Disclosure

- | | |
|--|---|
| <input type="checkbox"/> Information published in financial report | <input checked="" type="checkbox"/> Information published in sustainability report |
| <input type="checkbox"/> Information published in ad hoc documents | <input checked="" type="checkbox"/> Other (please specify): disclosed on issuer's website |
| <input type="checkbox"/> Reporting reviewed | |

Level of Assurance on Reporting

- | | |
|---|---|
| <input checked="" type="checkbox"/> Limited assurance | <input type="checkbox"/> Reasonable assurance |
| <input type="checkbox"/> Other | |



SLBP/SLLP-5 Verification:

- DNV has confirmed that JERA plans to undergo independent verification of the data related to the KPIs at least once a year by a qualified external evaluation body with relevant expertise in SPT triggering events.

Information reported:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Limited assurance | <input type="checkbox"/> Reasonable assurance |
| | <input type="checkbox"/> Other |

Frequency

- | | |
|--|--------------------------------------|
| <input checked="" type="checkbox"/> Annual | <input type="checkbox"/> Semi-annual |
| <input type="checkbox"/> Other | |

Material change:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Perimeter | <input checked="" type="checkbox"/> KPI methodology |
| <input checked="" type="checkbox"/> SPTs calibration | |

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 Finance Framework and Transition Finance executed by JERA meets the criteria established in the Protocol, and that it is aligned with the following stated definition or purpose of bonds and loans that specify/unspecify the use of proceeds, within the CTFH•CTFBG, GBP/ GBGLs•GLP/GLGLs and SLBP/SLBGLs•SLLP/SLLGLs.

- “enable capital-raising and investment for new and existing projects with environmental benefits”
- “provide an investment opportunity with transparent sustainability credentials”
- “Climate Transition Finance is important (as climate transitions) through KPIs and SPTs, quantitative, pre-determined, ambitious, and regularly monitored and externally validated and encourage the achievement of ESG (in terms of climate transitions) of fundraisers”



DNV Business Assurance Japan K.K.

19 Aug 2022

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DNV Business Assurance, Australia

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About DNV

Driven by our purpose of safeguarding life, property and the environment, DNV enables organisations to advance the safety and sustainability of their business. Combining leading technical and operational expertise, risk methodology and in-depth industry knowledge, we empower our customers' decisions and actions with trust and confidence. We continuously invest in research and collaborative innovation to provide customers and society with operational and technological foresight.

With our origins stretching back to 1864, our reach today is global. Operating in more than 100 countries, our 16,000 professionals are dedicated to helping customers make the world safer, smarter and greener.

Disclaimer

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 Finance 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 August 2022).

In the future, Finance executed under the JERA Transition Finance 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 Finance Framework and, if necessary, DNV will evaluate them in a timely manner.

Project Overview (Main Expenditure)	
1)	<p>The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing</p> <ul style="list-style-type: none"> ① Demonstration study of 20% ammonia co-firing in 1 million kW class coal-fired power plant <ul style="list-style-type: none"> - 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 <ul style="list-style-type: none"> - 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 <ul style="list-style-type: none"> - 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 <ul style="list-style-type: none"> - 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 Key Performance Indicators (KPIs) and Sustainability Performance Targets (SPTs)

KPIs Key Performance Indicators

KPI	Overview
<p>CO₂ emissions intensity of Scope 1 in the JERA Group's domestic power generation business</p>	<p>CO₂ emissions intensity (Scope 1) ^(*2) from domestic power generation business of the JERA Group ^(*1) in the fiscal year was selected as KPI for Transition Finance, which is General Corporate Purpose, executed in accordance with the framework.</p> <p>^{*1} Equivalent to JERA's investment ratio in JERA Group Companies and Joint Thermal Power Business</p> <p>^{*2} Calculated on a sending-end power basis</p>

SPTs Sustainability Performance Targets

SPT	Overview
<p>JERA Group domestic CO₂ emissions intensity in FY2030 to be 0.477 kg- CO₂ /kWh or less</p>	<p>This SPT will be used for Transition Finance, which is General Corporate Purpose, executed in accordance with the Framework.</p> <p>The SPT is set at a value of 0.477 kg- CO₂/kWh or less after a further 20% reduction from the estimated national CO₂ emissions intensity from thermal power generation, based on the estimated national CO₂ emissions from energy-derived electricity, the total amount of electricity generated, and the power source composition ratio of thermal power generation, as stated in the "Energy Supply and Demand Outlook for FY2030" released by the Japanese government in October 2021.</p> <p>Specific trigger criteria for individual transition-linked finance will be set by an appropriate method around the SPT and disclosed prior to the execution of the financing in the bond disclosure documents or loan agreement documents.</p>

Schedule-3 Transition Finance Framework Eligibility Assessment Protocol

The checklists (1-4) below are DNV evaluation procedures created for JERA Transition Finance Framework and Transition Finance (specific use of proceeds and general corporate purpose) Eligibility Evaluation based on the disclosure requirements of CTFH. The "confirmed documents" in the Work Undertaken include public or private documents (internal documents of the issuer or fundraiser), 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	<p>The financing purpose should be for enabling an issuer's climate change strategy. A 'transition' label applied to a debt financing instrument should serve to communicate the implementation of an issuer's corporate strategy to transform the business model in a way which effectively addresses climate-related risks and contributes to alignment with the goals of the Paris Agreement.</p> <p>< Suggested information and indicators ></p> <ul style="list-style-type: none"> • A long-term target to align with the goals of the Paris Agreement (e.g. the objective of limiting global warming ideally to 1.5°C and, at the very least, to well below 2°C); • Relevant interim targets on the trajectory towards the long-term goal; • Disclosure on the issuer's levers towards decarbonisation, and strategic planning towards a long-term target to 	<p>Confirmed documents</p> <ul style="list-style-type: none"> - Framework - JERA Zero CO₂ Emissions 2050 - JERA Zero CO₂ 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" <p>Interviews with stakeholders</p>	<p>JERA released "JERA Zero CO₂ Emissions 2050", the goal of achieving zero CO₂ emissions by 2050, and "JERA Zero CO₂ Emissions 2050 Roadmap for its Business in Japan" in October 2020. JERA has set a long-term goal of CO₂ 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.</p> <p>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.</p> <p>In May 2022, JERA added a target to accelerate further its efforts to achieve the realization of CO₂ zero emissions, aiming to reduce CO₂ emissions from domestic operations by at least 60% (relative to FY2013) by FY 2035 with the establishment of the "JERA Environmental</p>

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
		<p>align with the goals of the Paris Agreement;</p> <ul style="list-style-type: none"> • 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. 		<p>Target 2035" and the update of the "JERA Zero CO₂ 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.</p> <p>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.</p> <p>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 CO₂ Emissions 2050", " and "JERA Zero CO₂ 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.</p> <p>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</p>

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				<p>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".</p> <p>DNV has confirmed that the implementation plan provided by JERA, which is established based on the Framework, "JERA Zero CO₂ Emissions 2050" and "JERA Zero CO₂ 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.</p>

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings										
2	Business model environmental materiality	The planned climate transition trajectory should be relevant to the environmentally-material parts of the issuer’s business model, taking into account potential future scenarios which may impact on current determinations concerning materiality.	<p>Confirmed documents</p> <ul style="list-style-type: none"> - Framework - JERA Zero Co₂ Emissions 2050 - JERA Zero CO₂ 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” <p>Interviews with stakeholders</p>	<p>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.</p> <p>JERA's non-consolidated greenhouse gas emissions in Japan (FY2020) are shown below.</p> <p>Scope 1: 114,950,000 t-CO₂ Scope 2: 0.40,000 t-CO₂ Scope3: 20,680,000 t-CO₂ Total: 135,640,000 t-CO₂</p> <table border="1"> <thead> <tr> <th>Scope</th> <th>GHG Emissions (CO₂ equivalent)</th> </tr> </thead> <tbody> <tr> <td>Scope1</td> <td>114,950,000 t-CO₂</td> </tr> <tr> <td>Scope 2</td> <td>4,000 t-CO₂</td> </tr> <tr> <td>Scope3</td> <td>20,680,000 t-CO₂</td> </tr> <tr> <td>Total</td> <td>135,640,000 t-CO₂</td> </tr> </tbody> </table> <p>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 CO₂, CH₄ (methane), N₂O (nitrous oxide), SF₆ (sulphur hexafluoride) and HFC (alternative freon).</p>	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-CO₂
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Total	135,640,000 t-CO₂													

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				<p>Given the fact that indirect emissions from power generation accounts for 38% of the CO₂ 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.</p> <p>JERA's roadmap is aligned with the transition roadmap for the electricity sector of METI.</p> <p>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 CO₂ 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.</p> <p>*1: Global Reporting Initiative (an international standard providing ESG-related reporting, management and analysis methods)</p>

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				<p>*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</p>
3	<p>Climate transition strategy to be science-based including targets and pathways</p>	<p>Issuer’s climate strategy should reference science-based targets and transition pathways. The planned transition trajectory should:</p> <ul style="list-style-type: none"> • 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 <p>< Suggested information and indicators ></p> <ul style="list-style-type: none"> • Short, medium, and long-term greenhouse gas reduction targets aligned with Paris Agreement; • Baseline • Scenario utilised, and methodology applied (e.g. ACT, SBTi, etc.); • Greenhouse gas objectives covering all scopes (Scope 1, 2 and 3¹¹); and, 	<p>Confirmed documents</p> <ul style="list-style-type: none"> - Framework - JERA Zero Co₂ Emissions 2050 - JERA Zero CO₂ 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” <p>Interviews with stakeholders</p>	<p>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.</p> <p>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.</p> <p style="text-align: center;">TABLE JERA TRANSITION TARGETS</p> <hr/>

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings					
		<ul style="list-style-type: none"> Targets formulated both in intensity and absolute terms 		<table border="1"> <tr> <td data-bbox="1420 346 1592 804" rowspan="2">MEDIUM-TERM GOALS</td> <td data-bbox="1592 346 2107 804"> <p>FY 2030</p> <ul style="list-style-type: none"> 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 </td> </tr> <tr> <td data-bbox="1592 804 2107 1161"> <p>FY 2035</p> <ul style="list-style-type: none"> Reduce CO₂ 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 data-bbox="1420 1161 1592 1225">LONG-TERM GOALS</td> <td data-bbox="1592 1161 2107 1225"> <ul style="list-style-type: none"> CO₂ zero emissions </td> </tr> </table> <p>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.</p> <p>In Japan, where indirect emissions from electricity account for 38% of the total CO₂ JERA's transition</p>	MEDIUM-TERM GOALS	<p>FY 2030</p> <ul style="list-style-type: none"> 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 	<p>FY 2035</p> <ul style="list-style-type: none"> Reduce CO₂ 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	<ul style="list-style-type: none"> CO₂ zero emissions
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Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				<p>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.</p> <p>Transition initiatives and respective scope emissions are disclosed in “JERA Zero CO₂ Emissions 2050”, “JERA Zero CO₂ Emissions 2050 Roadmap for its Business in Japan (Updated in May 2022)” and “JERA Group Corporate Communication Book 2021(Integrated report)”, etc.</p>
4	Implementation transparency	<p>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.</p> <p><Suggested information and indicators></p> <ul style="list-style-type: none"> • Disclosure on the percentage of assets/revenues/ expenditures/divestments aligned to 	<p>Confirmed documents</p> <ul style="list-style-type: none"> - Framework - JERA Zero Co₂ Emissions 2050 - JERA Zero CO₂ 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” <p>Interviews with stakeholders</p>	<p>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).</p> <p>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.</p>



Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
		the various levers outlined in Element 1 above; <ul style="list-style-type: none">• Capex roll-out plans consistent with the overall strategy and climate science		

Schedule-4 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 Eligibility Assessment (with specific use of proceeds) based on the requirements of GBP and GLP. "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 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	<p>The types of green/transition finance are classified into one of the following types defined by GBP.</p> <ul style="list-style-type: none"> · (Standard) Green/transition Bond/Loan · Green/transition Revenue Bond/Loan · Green/transition Project Bond/Loan · Other 	<p>Confirmed documents</p> <ul style="list-style-type: none"> - Framework <p>Interviews with stakeholders</p>	<p>Through the evaluation work, DNV confirmed that JERA Transition Finance (bond/loan) fall into the following categories:</p> <p>(Standard) Green/transition Bond/Loan</p>
1b	Green/transition Project Classification	<p>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.</p>	<p>Confirmed documents</p> <ul style="list-style-type: none"> - Framework - Investment plan for the use of proceeds - Information related to each project <p>Interviews with stakeholders</p>	<p>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.</p> <p>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 before the financing is implemented, this will be disclosed in legal documents.</p>

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings					
				<p>Through the assessment, DNV concludes that the Transition eligible projects candidates will bring concrete and actual environmental impacts.</p> <p>Table JERA's Main Initiatives to Achieve Carbon Neutrality (Transition Finance and Nominated Projects)</p> <table border="1" data-bbox="1332 539 2101 1417"> <thead> <tr> <th data-bbox="1332 539 1541 619">Eligibility Criteria</th> <th data-bbox="1541 539 2101 619">Project Overview (Main Expenditure)</th> </tr> </thead> <tbody> <tr> <td data-bbox="1332 619 1541 1152" rowspan="2"> <p>The expenditures related to demonstration projects of fossil fuels and ammonia/hydro gen co-firing</p> </td> <td data-bbox="1541 619 2101 1152"> <p>① Demonstration study of 20% ammonia co-firing in 1 million kW class coal-fired power plant</p> <ul style="list-style-type: none"> - 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) <p>※ 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"</p> </td> </tr> <tr> <td data-bbox="1541 1152 2101 1417"> <p>② Demonstration study on actual equipment to establish technology for high ammonia co-firing rate at commercial thermal power plants</p> <ul style="list-style-type: none"> - 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 </td> </tr> </tbody> </table>	Eligibility Criteria	Project Overview (Main Expenditure)	<p>The expenditures related to demonstration projects of fossil fuels and ammonia/hydro gen co-firing</p>	<p>① Demonstration study of 20% ammonia co-firing in 1 million kW class coal-fired power plant</p> <ul style="list-style-type: none"> - 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) <p>※ 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"</p>	<p>② Demonstration study on actual equipment to establish technology for high ammonia co-firing rate at commercial thermal power plants</p> <ul style="list-style-type: none"> - 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
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Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				<div data-bbox="1541 347 2107 619"> <p>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).</p> <p>※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"</p> </div> <div data-bbox="1541 619 2107 1177"> <p>③ Demonstration of high co-firing rate at thermal power station using ammonia single-fuel burners</p> <ul style="list-style-type: none"> - 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). <p>※ Adoption of NEDO Green Innovation Fund Project "Establishment of Fuel Ammonia Supply Chain Project"</p> </div> <div data-bbox="1541 1177 2107 1401"> <p>④ Technical verification of hydrogen co-firing power generation for the construction of a large-scale hydrogen supply chain</p> <ul style="list-style-type: none"> - Project period: October 2021 to March 2026 - Project description: Conducting demonstration tests at large-scale LNG-fired </div>

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings				
				<table border="1"> <tr> <td data-bbox="1330 344 1538 571"></td> <td data-bbox="1538 344 2103 571"> <p>power plants in Japan to convert approximately 30% (by volume) of LNG into hydrogen for power generation (to FY2025).</p> <p>※ Adoption of NEDO Green Innovation Fund project for “Construction of a large-scale hydrogen supply chain”</p> </td> </tr> <tr> <td data-bbox="1330 571 1538 975"> <p>The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for high-efficiency thermal power plants</p> </td> <td data-bbox="1538 571 2103 975"> <p>⑤ Demolition of existing power generation facilities at Goi Thermal Power Station (LNG)</p> <p>⑥ Demolition of existing power generation facilities at Chita Thermal Power Station (LNG) (Demolition plan is in preparation)</p> </td> </tr> </table>		<p>power plants in Japan to convert approximately 30% (by volume) of LNG into hydrogen for power generation (to FY2025).</p> <p>※ Adoption of NEDO Green Innovation Fund project for “Construction of a large-scale hydrogen supply chain”</p>	<p>The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for high-efficiency thermal power plants</p>	<p>⑤ Demolition of existing power generation facilities at Goi Thermal Power Station (LNG)</p> <p>⑥ Demolition of existing power generation facilities at Chita Thermal Power Station (LNG) (Demolition plan is in preparation)</p>
	<p>power plants in Japan to convert approximately 30% (by volume) of LNG into hydrogen for power generation (to FY2025).</p> <p>※ Adoption of NEDO Green Innovation Fund project for “Construction of a large-scale hydrogen supply chain”</p>							
<p>The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for high-efficiency thermal power plants</p>	<p>⑤ Demolition of existing power generation facilities at Goi Thermal Power Station (LNG)</p> <p>⑥ Demolition of existing power generation facilities at Chita Thermal Power Station (LNG) (Demolition plan is in preparation)</p>							
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.	<p>Confirmed documents</p> <ul style="list-style-type: none"> - Framework - Investment plan for the use of proceeds - Information related to each project <p>Interviews with stakeholders</p>	<p>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 CO₂ emissions, which has been quantitatively or qualitatively evaluated by the issuer.</p> <p>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.</p>				

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
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 <ul style="list-style-type: none"> - 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	<p>Green bond issuers should provide an overview of the process of qualifying projects for which green bond funding will be used. This includes (but is not limited to):</p> <ul style="list-style-type: none"> • 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 	<p>Confirmed documents</p> <ul style="list-style-type: none"> - Framework - Information related to each project <p>Interviews with stakeholders</p>	<p>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.</p>
2b	Issuer's Environmental and Social Governance Framework	<p>In addition to criteria and certifications, the information published by issuers regarding the green bond process also considers the quality of performance of the issuer's framework and environmental sustainability.</p>	<p>Confirmed documents</p> <ul style="list-style-type: none"> - Framework - Information related to each project <p>Interviews with stakeholders</p>	<p>The fundraiser complies with environment-related laws, ordinances and regulations, and considers that the effects of environmental improvement such as CO₂ reduction are clear in the entire life cycle or each process when selecting transition projects to be implemented.</p> <p>In the operation and implementation of the project, each of the departments involved is committed to the preservation of the surrounding environment.</p> <p>DNV has confirmed that the transition projects implemented by the fundraiser are consistent with issuer's management and environmental policies, as well as with the transition strategy, goals and pathways.</p>

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 <ul style="list-style-type: none"> - Framework - Funds management forms of transition finance - 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 <ul style="list-style-type: none"> - Framework - Funds management forms of transition finance - Accounting regulations Interviews with stakeholders	DNV confirmed that the fundraiser 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 <ul style="list-style-type: none"> - Framework - Funds management forms of transition finance - Accounting regulations 	DNV has confirmed that the confirmation process through the fundraiser'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
			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	<p>In addition to reporting on the use of proceeds and the temporary investment of unallocated proceeds, the issuer will consider each project at least once a year for projects to which the Green bond proceeds have been allocated, taking into account the following: A list of each project should be provided.</p> <ul style="list-style-type: none"> -Confidentiality and competitive considerations -Outline of each project, expected sustainable environmental and social effects 	<p>Confirmed documents</p> <ul style="list-style-type: none"> - Framework - Investment plan for the use of proceeds - Funds management forms of transition finance - Information related to each project <p>Interviews with stakeholders</p>	<p>DNV confirmed that the fundraiser 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.</p> <p>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.).</p> <p>The report will be disclosed on the website.</p> <p><Allocation Status></p> <ul style="list-style-type: none"> ◆ Eligible criteria and amounts to be allocated ◆ Balance of unallocated amounts and the management method ◆ Amount of proceeds to be used for refinancing <p><Environmental Impacts></p> <ul style="list-style-type: none"> ◆ 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
				<p>progress, completion, operation, etc.) and the expected environmental benefits (e.g., t- CO₂ /year).</p> <p><Others></p> <ul style="list-style-type: none"> • Efforts to achieve zero CO₂ emissions by 2050 will be reviewed as appropriate in light of policy and technological trends, and disclosed as required.

Schedule-5: Transition Finance (with general corporate purpose) Eligibility Assessment Protocol

Since JERA Transition Finance is executed as a General Corporate Purpose transition-linked bond or loan, which does not specify the use of proceeds, it is evaluated by applying the five elements of SLBP and SLLP required for eligibility evaluation of a bond or loan that does not specify the use of proceeds defined by CTFH and CTFBG.

The following checklist (SLBP/SLLP 1 to 5) is a DNV evaluation procedure created for JERA Transition Finance (Transition Bond or Loan with general corporate purpose) based on the requirements of SLBP and SLLP.

The "confirmed documents" in the Work Undertaken include public or private documents (materials inside the fundraiser), etc., and are provided by JERA as evidence of eligibility judgment for DNV.

SLLP/SLBP-1 Selection of KPIs (Key Performance Indicators)

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
1a	KPI – material to core sustainability and business strategy	<p>The fundraiser’s sustainability performance is measured using sustainability KPIs that can be external or internal. The KPIs should be material to the fundraiser’s core sustainability and business strategy and address relevant environmental, social and/or governance challenges of the industry sector and be under management’s control. The KPI should be of high strategic significance to the fundraiser’s current and/or future operations;</p> <p>It is recommended that fundraiser communicate clearly to investors the rationale and process according to which the KPI(s) have been selected and how the KPI(s) fit into their sustainability strategy.</p>	<p>Confirmed documents</p> <ul style="list-style-type: none"> - Framework - JERA Zero CO₂ Emissions 2050 - JERA Zero CO₂ Emissions 2050 Roadmap for its Business in Japan (Updated May 2022) - JERA Environmental Target 2030 - JERA Environmental Target 2035 - JERA Group Corporate Communication Book 2021 (Integrated report) - SPT calculation sheet <p>Interviews with stakeholders</p>	<p>DNV reviewed JERA's KPIs related to transition finance and confirmed that the selected KPIs are relevant and important to JERA's core transition strategy and sustainability management.</p> <p>JERA, as a global company that is committed to solving energy problems not only in Japan but around the world, considers global warming countermeasures to be a top management priority. JERA recognizes that thermal power generation using fossil fuels supports approximately 80% of Japan's electricity demand while accounting for approximately 40% of total CO₂ emissions in Japan, and that reducing CO₂ emissions from thermal power generation is essential to achieving a decarbonized society.</p> <ul style="list-style-type: none"> - As the largest power generation company in Japan, JERA is in a position to proactively lead the realization of a decarbonized society, and has set forth " JERA Zero CO₂ Emissions 2050" to further accelerate its efforts to date and clarify its long-term vision. JERA aims to achieve zero CO₂ emissions in its domestic and overseas

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings		
				<p>operations by 2050, and has first formulated the " JERA Zero CO₂ Emissions 2050 Roadmap for its Business in Japan" which outlines the pathway to zero CO₂ emissions in its domestic operations. In the " JERA Environmental Target 2030" announced as a goal to be achieved by FY2030, JERA has set " by 20% from the emissions intensity of thermal power generation for the country as a whole, based on the long-term energy supply and demand outlook for FY2030 set by the government ". This is clearly communicated in the Framework in connection with JERA's transition strategy.</p> <p>The KPIs selected for this project are as follows and are detailed in Schedule-2. CO₂ emissions intensity is an important indicator for JERA's transition strategy and sustainability management, and is a transparent KPI that is measurable and can be evaluated annually. This KPI will contribute to both transition strategy and sustainability management to realize " JERA Zero CO₂ Emissions 2050".</p> <table border="1" data-bbox="1435 1007 2119 1129"> <thead> <tr> <th data-bbox="1435 1007 2119 1054">KPI</th> </tr> </thead> <tbody> <tr> <td data-bbox="1435 1054 2119 1129">CO₂ emissions intensity of Scope 1 in the JERA Group's domestic power generation business</td> </tr> </tbody> </table>	KPI	CO ₂ emissions intensity of Scope 1 in the JERA Group's domestic power generation business
KPI						
CO ₂ emissions intensity of Scope 1 in the JERA Group's domestic power generation business						
1b	KPI - Measurability	KPIs should be measurable or quantifiable on a consistent methodological basis; externally verifiable; and able to be benchmarked, i.e. as much as possible using an external reference or definitions to	Confirmed documents <ul style="list-style-type: none"> - Framework - JERA Zero CO₂ Emissions 2050 - JERA Zero CO₂ Emissions 2050 Roadmap for its Business in Japan (Updated May 2022) 	DNV concluded that the GHG emissions required for the evaluation of KPIs are in accordance with the GHG Protocol, a global standard, and are calculated based on the "Manual for Calculating and Reporting Greenhouse Gas Emissions "under the "Act on Promotion of Global Warming Countermeasures", which is externally verifiable and can be benchmarked against external references. DNV concluded that the Scope 1 CO ₂ emissions intensity		

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
		<p>facilitate the assessment of the SPT’s level of ambition.</p> <p>Fundraiser are encouraged, when possible, to select KPI(s) that they have already included in their previous annual reports, sustainability reports or other non-financial reporting disclosures to allow investors to evaluate historical performance of the KPIs selected. In situations where the KPIs have not been previously disclosed, fundraiser should, to the extent possible, provide historical externally verified KPI values covering at least the previous 3 years.</p>	<ul style="list-style-type: none"> - JERA Environmental Target 2030 - JERA Environmental Target 2035 - JERA Group Corporate Communication Book 2021 (Integrated report) - SPT calculation sheet Interviews with stakeholders 	<p>of the JERA Group's domestic power generation operations is a reliable indicator.</p> <p>DNV confirmed that the KPIs selected by JERA are consistent with the "Sixth Basic Energy Plan" of the Agency for Natural Resources and Energy and the "Transition Roadmap for the Electricity Sector" of the METI, and that the KPIs are appropriately set as comparable indicators</p>
1c	KPI – Clear definition	A clear definition of the KPI(s) should be provided and include the applicable scope or perimeter as well as the calculation methodology	<p>Confirmed documents</p> <ul style="list-style-type: none"> - Framework - SPT calculation sheet <p>Interviews with stakeholders</p>	<p>DNV confirmed that the KPIs selected by JERA provide a clear evaluation scope and calculation methodology. DNV concluded that the GHG emissions required for the evaluation of KPIs were in accordance with the GHG Protocol, a global standard, and were calculated and informed based on the “Manual for Calculating and Reporting Greenhouse Gas Emissions “under the "Act on Promotion of Global Warming Countermeasures".</p>

SLBP/ SLLP -2. Calibration of SPT (Sustainability Performance Targets)

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
2a	Target Setting - Meaningful	The SPTs should be ambitious, realistic and meaningful to the fundraiser's business and be consistent with the issuers' overall strategic sustainability/ESG strategy	<p>Confirmed documents</p> <ul style="list-style-type: none"> - Framework - JERA Zero CO₂ Emissions 2050 - JERA Zero CO₂ Emissions 2050 Roadmap for its Business in Japan (Updated May 2022) - JERA Environmental Target 2030 - JERA Environmental Target 2035 - JERA Group Corporate Communication Book 2021 (Integrated report) - SPT calculation sheet <p>Interviews with stakeholders</p>	<p>JERA, as the largest power generation company in Japan, recognizes that it is in a position to actively lead the realization of a decarbonized society in Japan, and has set forth "JERA Zero CO₂ Emissions 2050" and "JERA Zero CO₂ Emissions 2050 Roadmap for its Business in Japan" to clarify its long-term vision. In addition, as a target to be achieved by FY2030, JERA has announced in the "JERA Environmental Target 2030" a "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."</p> <p>This target is set as the SPT in JERA's transition finance, and is consistent with the "Sixth Basic Energy Plan" of the Agency for Natural Resources and Energy and the "Transition Roadmap for the Power Sector" of the Ministry of Economy, Trade and Industry, as well as being an ambitious SPT as the largest power producer in Japan. Achieving this SPT is meaningful to JERA's business as it relates to reducing GHG emissions, a sustainability challenge faced by power generators.</p> <p>On the other hand, in the SPT setting, the SPT is set at a value of 0.477 kg- CO₂ /kWh or less after a further 20% reduction from the estimated national emissions intensity from thermal power generation, based on the estimated value of CO₂ emissions from electricity-derived energy, total electricity generation, and the ratio of thermal power generation in the "2030 Outlook for Energy Supply and Demand" released by the Japanese government in October 2021.</p>

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				<p>SPT estimates assume steady progress in decarbonizing technologies, economic rationality, and policy consistency. JERA, as the largest power generation company in Japan, has made various calculations and studies on how to achieve zero emissions from thermal power generation (reduction of emission intensity, which is the SPT for this project, and reduction of CO₂ emissions from domestic operations by at least 60% by FY 2035, which is separately specified) while fulfilling its responsibility for stable energy supply, and JERA has set the SPT as an ambitious goal required for transition-linked finance, and as a feasible goal that can be guaranteed with probability.</p> <p>DNV concluded that this SPT is realistic, the plan is feasible, and has a good chance of achieving the SPTs outlined in the Framework, as well as being consistent with JERA's Sustainability/Transition Strategy.</p>
2b	Target Setting - Meaningful	SPTs should represent a material improvement in the respective KPIs and be beyond a "Business as Usual" trajectory; where possible be compared to a benchmark or an external reference and be determined on a predefined timeline, set before (or concurrently with) the issuance of the loan.	<p>Confirmed documents</p> <ul style="list-style-type: none"> - Framework - JERA Zero CO₂ Emissions 2050 - JERA Zero CO₂ Emissions 2050 Roadmap for its Business in Japan (Updated May 2022) - JERA Environmental Target 2030 - JERA Environmental Target 2035 - JERA Group Corporate Communication Book 	<p>DNV confirmed that this SPT is related to KPI improvement. This is based on the estimated emissions intensity from thermal power generation for the country as a whole, based on the CO₂ emissions from electricity-derived energy, the total amount of electricity generated, and the power source composition ratio of thermal power generation in the "energy supply and demand outlook for FY2030E" released by the Japanese government in October 2021. The SPT is set at 0.477 kg- CO₂ /kWh or less, which is the value after a further 20% reduction from the relevant value. It is more ambitious than the national goals and goes beyond "Business as Usual."</p>

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
			2021 (Integrated report) - SPT calculation sheet Interviews with stakeholders	
2c	Target Setting – benchmarks	<p>The target setting exercise should be based on a combination of benchmarking approaches:</p> <ol style="list-style-type: none"> 1. The fundraiser’s own performance over time for which a minimum of 3 years, where feasible, of measurement track record on the selected KPI(s) is recommended and when possible forward-looking guidance on the KPI 2. The SPTs relative positioning versus the fundraiser’s peers where comparable or available, or versus industry or sector standards 3. Systematic reference to science-based scenarios, or absolute levels (e.g. carbon budgets) or official country/regional/international targets or to recognised Best-Available-Technologies or other proxies 	<p>Confirmed documents</p> <ul style="list-style-type: none"> - Framework - JERA Zero CO₂ Emissions 2050 - JERA Zero CO₂ Emissions 2050 Roadmap for its Business in Japan (Updated May 2022) - JERA Environmental Target 2030 - JERA Environmental Target 2035 - JERA Group Corporate Communication Book 2021 (Integrated report) - SPT calculation sheet <p>Interviews with stakeholders</p>	<p>DNV confirmed that the SPT goal-setting process was based on an appropriate combination of multiple benchmarking approaches.</p> <ul style="list-style-type: none"> • The eligibility criteria defined by JERA in the framework include " The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for high-efficiency thermal power plants" and "The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing". They are also recognized as Best Available Technology or other technologies that come close in the "Sixth Basic Energy Plan" of the Agency for Natural Resources and Energy and the "Transition Roadmap for the Electricity Sector" of the METI. • DNV concludes that the SPT is appropriately related to the goals of the Japanese government. The framework is also consistent with national guidelines consistent with achieving the goals of the Paris Agreement.
2d	Target setting – disclosures	Disclosures on target setting should make clear reference to:	<p>Confirmed documents</p> <ul style="list-style-type: none"> - Framework 	DNV confirmed that SPT target setting was properly disclosed.

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
		<ol style="list-style-type: none"> 1. The timelines of target achievement, the trigger event(s), and the frequency of SPTs 2. Where relevant, the verified baseline or reference point selected for improvement of KPIs as well as the rationale for that baseline or reference point to be used 3. Where relevant, in what situations recalculations or pro-forma adjustments of baselines will take place 4. Where possible and taking into account competition and confidentiality considerations, how the borrowers intend to reach such SPTs 	<ul style="list-style-type: none"> - JERA Zero CO₂ Emissions 2050 - JERA Zero CO₂ Emissions 2050 Roadmap for its Business in Japan (Updated May 2022) - JERA Environmental Target 2030 - JERA Environmental Target 2035 - JERA Group Corporate Communication Book 2021 (Integrated report) - SPT calculation sheet Interviews with stakeholders 	<ul style="list-style-type: none"> • Through the Framework and the JERA Zero CO₂ Emissions 2050 Roadmap, it explains how GHG emission reductions will be achieved. <p>Based on each of the JERA documents provided to DNV, DNV concluded that the SPT is realistic, the plan is feasible, and the SPT goals outlined in the Framework are likely to be met.</p>

SLBP/SLLP-3 Loan Characteristics

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
3a	Loan Characteristics – SPT Financial/structural impact	The SLL/SLB will need to include a financial and/or structural impact involving trigger event(s) based on whether the KPI(s) reach the predefined SPT(s).	Confirmed documents - Framework Interviews with stakeholders	<p>DNV has confirmed that the framework includes trigger events and is compliant with the requirements described in the SLLP.</p> <p>The financial and structural characteristics of the transition finance, which is general corporate purpose, executed under the Framework will change depending on the achievement of the SPT. It was confirmed that JERA has internal procedures to ensure that each time a financing is executed, the trigger event and its scope of impact with specific SPT measurement timing and performance requirements will be linked to target achievement and financial incentives, and details including conditions will be disclosed in the bond disclosure documents or loan agreement documents.</p>
3b	Loan Characteristics – Fallback mechanism	<p>Any fallback mechanisms in case the SPTs cannot be calculated or observed in a satisfactory manner should be explained.</p> <p>Fundraisers may also consider including, where needed, language in the bond or loan documentation to take into consideration potential exceptional events.</p>	Confirmed documents - Framework Interviews with stakeholders	<p>DNV confirmed that JERA has reviewed the appropriate fallback mechanisms (preliminary alternatives) and, as a result, has decided not to establish alternative SPTs or calculation methods at this time because the risks that cannot be calculated or observed are very small.</p> <p>It was confirmed that JERA intends to disclose an explanation of the changes in the event of unforeseen events (such as significant changes in regulatory or other systems or the occurrence of unusual events) that may materially affect the measurement method and scope of KPIs, the setting of SPTs, and assumptions due to circumstances unforeseeable at the time of the execution of transition financing (general corporate purpose), either in the disclosure documents for the bonds or the loan agreement</p>

SLBP/SLLP-4 Reporting

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
4a	Reporting	<p>Fundraisers of SLLs should publish, and keep readily available and easily accessible:</p> <ol style="list-style-type: none"> 1.Up-to-date information on the performance of the selected KPI(s), including baselines where relevant 2.A verification assurance report relative to the SPT outlining the performance against the SPTs and the related impact, and timing of such impact, on the loan's financial and/or structural characteristics 3.Any information enabling investors to monitor the level of ambition of the SPTs <p>This reporting should be published regularly, at least annually, and in any case for any date/period relevant for assessing the SPT performance leading to a potential adjustment of the SLL's financial and/or structural characteristics.</p>	<p>Confirmed documents - Framework Interviews with stakeholders</p>	<p>DNV has confirmed that the required information will be made available to the public in a timely manner for the following details required by the SLBP/SLLP</p> <ul style="list-style-type: none"> • KPI performance against SPT: After the execution of the Transition Linked Finance, Jera will obtain verification from an external institution at least once a year, and disclose this information on its website before the completion of redemption or repayment. • SPT achievement status: Subject to annual verification by an independent third party to determine financial and structural characteristics • When SPT changes are required: JERA will discuss with the parties concerned the establishment of SPTs with a level of ambition equal to or greater than the existing evaluation standards based on the changes, and will obtain second-party opinions from third-party evaluation organizations as necessary.



SLBP/SLLP-5 Verification

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
5a	External Verification	Fundraisers should have its performance against each SPT for each KPI independently verified by a qualified external reviewer with relevant expertise, at least once a year and for each SPT trigger event.	Confirmed documents - Framework Interviews with stakeholders	DNV has confirmed that JERA plans to undergo independent verification of the data related to the KPIs at least once a year by a qualified external evaluation body with relevant expertise in SPT triggering events.