



## JERA Transition Bond Framework

### 1. Background of the Framework and Issuer's Strategy

JERA Co., Inc. (hereinafter, "JERA") has established the Transition Bond Framework (hereinafter, "this Framework") as follows. JERA has obtained a second party opinion from DNV BUSINESS ASSURANCE JAPAN K.K. (hereinafter, "DNV"), an independent external reviewer, that this Framework is aligned with Climate Transition Finance Handbook 2020 (ICMA), Basic Guidelines on Climate Transition Finance (May 2021) (Financial Services Agency, Japan; Ministry of Economy, Trade and Industry, Japan; and Ministry of the Environment, Japan), Green Bond Principles 2021 (ICMA), and Green Bond Guidelines 2020 (Ministry of the Environment, Japan). JERA will issue Transition Bonds based on this Framework.

#### 1.1 Overview of Issuer

##### 1.1.1 JERA's Origins

JERA Co., Inc. 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.

With the aim of becoming a Japan-based global energy company, JERA proceeded to consolidate businesses in stages after its establishment, and with the April 1, 2019 consolidation of existing thermal power generation businesses established a 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.



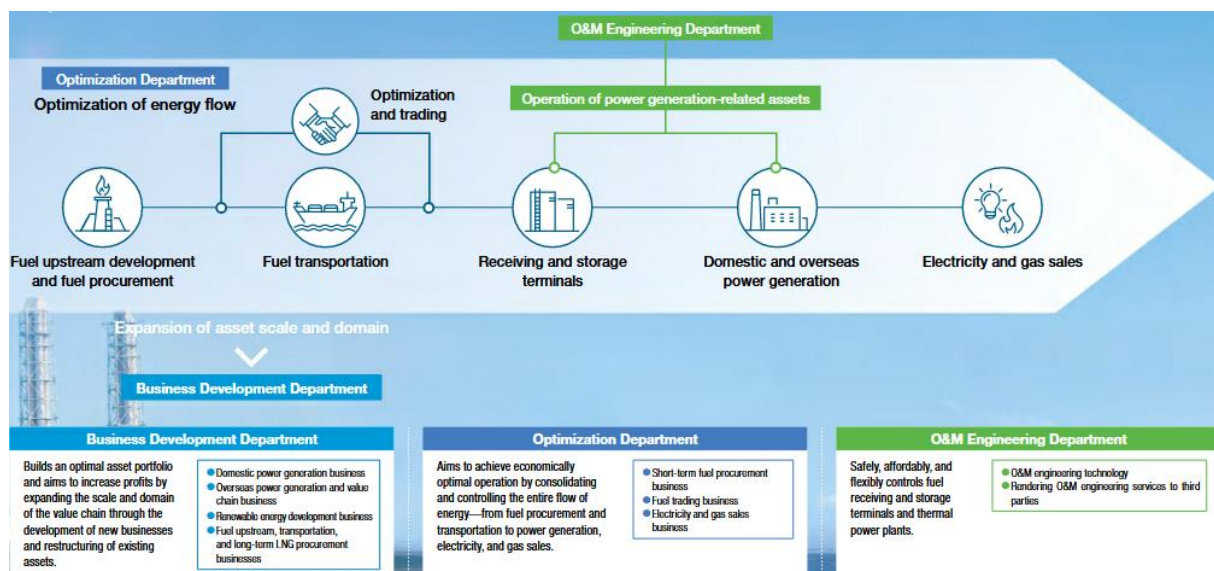
Completed the consolidation of value chains in April 2019 after expanding the scope of consolidation four years after establishment in April 2015

April 2015	October 2015	July 2016	June 2017	May 2018	April 2019
JERA established	Fuel transportation and fuel trading businesses consolidated	Fuel upstream and procurement, overseas power generation, and energy infrastructure businesses consolidated	Joint-venture agreement concluded to consolidate existing thermal power generation businesses	Absorption-type company split agreement concluded to consolidate existing thermal power generation businesses	Existing thermal power generation businesses consolidated

### 1.1.2 JERA's Business Model

JERA owns businesses across the entire supply chains for fuel and thermal power, from fuel upstream business (gas field development) to fuel transportation and storage (fuel terminal operation) to power generation and wholesaling.

Thus, we will engage in borderless management of all businesses from fuel procurement to power generation and sales in three profit centers—business development, optimization, and O&M engineering to establish a system capable of pursuing expertise and excellence and maximizing synergy in each business.



## 1.2 JERA's Transition Strategy

### 1.2.1 JERA Zero CO2 Emissions 2050

As a global company solving energy issues not only in Japan but also throughout the world, JERA considers global warming countermeasures to be one of its most important management issues. Thermal power generation using fossil fuels accounts for about 80% of Japan's electricity demand but about 40% of its total CO2 emissions. Reducing CO2 emissions from thermal power generation is essential to realizing a low-carbon society.

As Japan's largest power producer, JERA is in a position to actively lead the way in realizing a low-carbon society. To further accelerate its initiatives so far, and to clarify its long-term vision, JERA has established "JERA Zero CO2 Emissions 2050", the goal of achieving zero CO2 emissions by 2050.

### JERA Zero CO<sub>2</sub> Emissions 2050

- ▶ JERA's mission is to provide cutting edge solutions to the world's energy issues.
- ▶ To contribute to the realization of a sustainable society, we will take on the challenge of achieving, by 2050, virtually zero CO<sub>2</sub> emissions from JERA's operations in Japan and overseas.\*

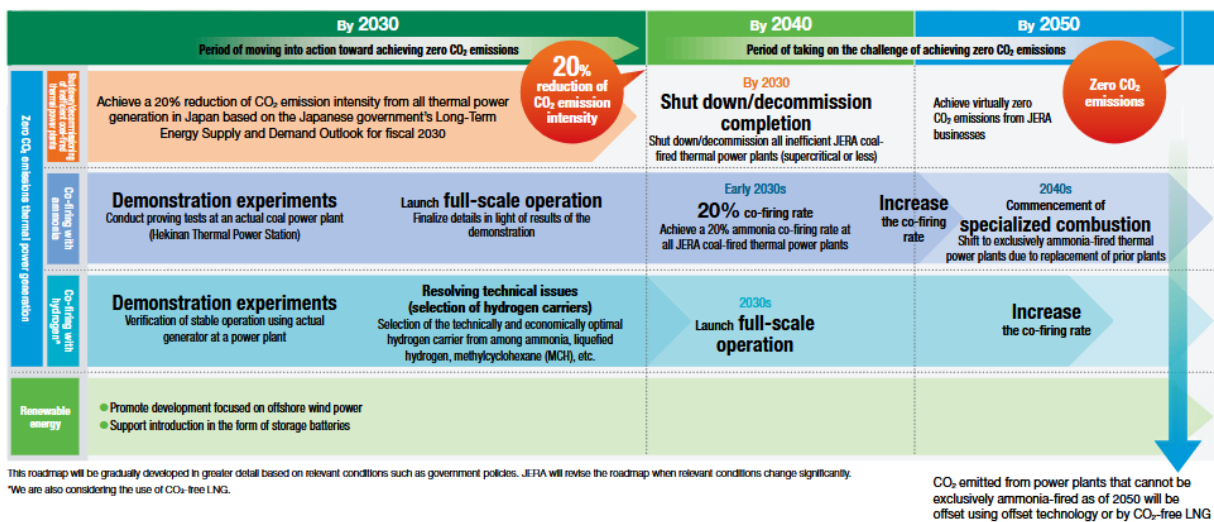
※JERA Zero CO2 Emissions 2050 is premised on the continual development of decarbonization technology, economic rationality, and consistency with government policy. JERA is developing its own decarbonization technologies and taking the initiative to ensure economic rationality.

Under “JERA Zero CO<sub>2</sub> Emissions 2050,” JERA aims to achieve, by 2050, virtually zero CO<sub>2</sub> emissions from JERA’s operations in Japan and overseas by taking the following three approaches.

## Three Approaches of JERA Zero CO<sub>2</sub> Emissions 2050

- 1 Complementarity between Renewable Energy and Zero CO<sub>2</sub> Emission Thermal Power Generation**  
 JERA will achieve Zero CO<sub>2</sub> emissions through a combination of renewable energy and zero CO<sub>2</sub> emission thermal power generation. The adoption of renewable energy is supported by thermal power generation capable of generating electricity regardless of natural conditions. JERA will promote the adoption of greener fuels and pursue thermal power that does not emit CO<sub>2</sub> during power generation.
- 2 Establishment of Roadmaps Suitable for Each Country and Region**  
 Zero CO<sub>2</sub> emissions will be achieved by establishing roadmaps that show optimal solutions for each country and region. Since the energy situation is different for each country and region—such as the presence of regional transmission lines or pipelines and the types of renewable energy that could be adopted—JERA will work with stakeholders on a country and regional basis to establish roadmaps. We have developed a roadmap for our business in Japan and will extend this approach to other countries and regions.
- 3 Smart Transitions**  
 Zero CO<sub>2</sub> emissions will be achieved through a combination of technologies that are available and reliable at the time adoption decisions are made, lowering technical risk and smoothing the transition to a green society.

In addition, JERA’s first step in aiming to achieve zero CO<sub>2</sub> emissions in its domestic and overseas businesses by 2050 was to establish a "JERA Zero CO<sub>2</sub> Emissions 2050 Roadmap for its Business in Japan."



The main pillars of the roadmap are the shutdown of all inefficient coal power plants (supercritical or less) by 2030, and a gradual increase in the ratio of mixed combustion of fossil fuels, ammonia, and hydrogen at thermal power plants. Going forward, JERA will gradually develop the roadmap in greater detail based on relevant conditions such as government policies.

## 1.2.2 JERA Environmental Target 2030

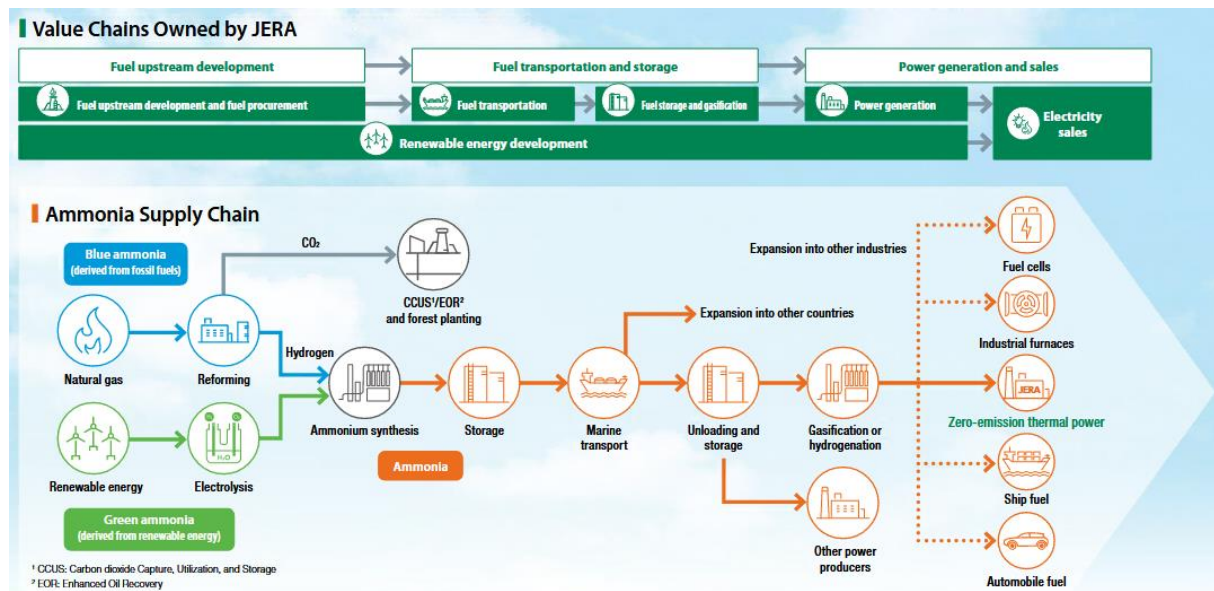
JERA is actively working to reduce CO<sub>2</sub> emissions. In its domestic operations, JERA will achieve the following by FY2030.

- ☑ 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.
- ☑ 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.
- ☑ Reduce CO<sub>2</sub> 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 Zero CO<sub>2</sub> Emissions 2050 Roadmap for Its Business in Japan" and "JERA Environmental Target 2030" are premised on the continual progress of decarbonization technology, economic rationality, and consistency with government policy. JERA is continuing to develop decarbonization technology by ourselves, and is taking the initiative to ensure economic rationality.

## 1.2.3 Initiatives to Manufacture, Transport, and Institutionalize Green Fuels

JERA is actively involved in business throughout the value chain from the upstream development, transportation, and storage of fuel to the generation and sale of electricity. We intend to leverage these advantages to begin establishing entire supply chains for green fuel, and will consider expanding our business domains with our sights set on endeavors such as selling green fuel not only for electricity but for other uses such as transportation.



## 1.3 JERA's Materialities and Governance System

### 1.3.1 Materialities

With the adoption of sustainable development goals (SDGs) and the Paris Agreement in 2015, the global community has recognized an urgent need to work together to achieve sustainable societies. In order to sustain growth while adapting flexibly to changes in the business environment amid the increasing uncertainty of the modern world, it is important to fully understand and manage the impact of the external environment on us and the effects of our business activities on stakeholders and society. We have identified priority issues that we need to address which we call "Materialities" for resolving society's issues and enhancing our corporate value over the medium and long term. We will make efforts to instill the identified materialities throughout our company, incorporate the materialities into our business strategies and formulate targets and KPI\* for each issue, and also to contribute to the achievement of SDGs through our initiatives. Note that we use the JERA Group Corporate Communication Book (Integrated Report) to report the results of our initiatives and issues therein.

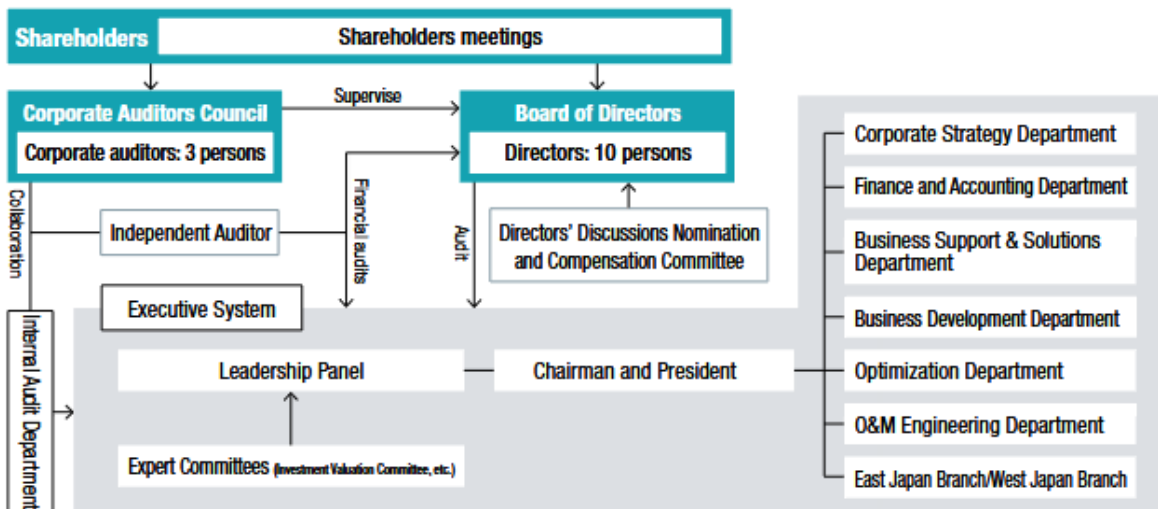




### 1.3.2 Governance System

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.

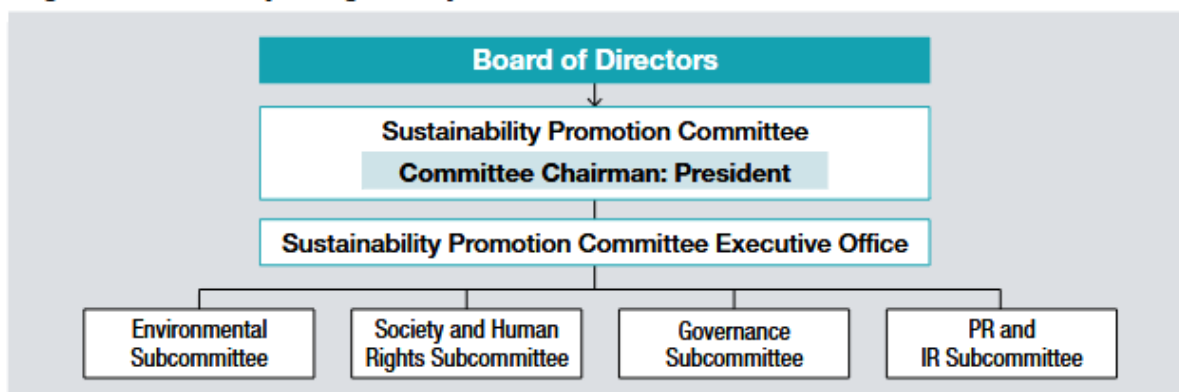


### 1.3.3 Sustainability Management System

In May 2019, we established the Sustainability Promotion Committee to oversee sustainability across departments throughout the company. The committee is under the direct control of the Board of Directors and is chaired by the company president.

Under the Sustainability Promotion Committee, four subcommittees investigate issues and promote measures in four areas: the “environment”; “society and human rights”; “governance”; and “public and investor relations” in terms of ESG. All departments have been involved in making progress in the consideration of matters relating to sustainability through the activities.

**Diagram of Sustainability Management System**



We continue to promote sustainable activities that are integrated with our business activities and move forward with initiatives aiming to develop business and resolve social issues in addition to contributing to the achievement of SDGs.

### 1.4 Participation in External Initiatives

#### Endorsement to the TCFD Recommendations

As a global enterprise that solves energy problems not only in Japan but also around the world, JERA considers climate change measures to be a priority issue and specifies them in its Materiality. For the purpose of appropriately evaluating climate-change-related risks and opportunities and sustainably enhancing corporate value, we have summarized our climate-change-related systems and businesses in general and the efforts represented by the “3 approaches” set forth in “JERA Zero CO2 Emissions 2050” into four elements (governance and risk management, strategy, metrics, and targets) in line with the TCFD recommendations. In September 2021, JERA endorsed the TCFD Recommendations and joined the TCFD Consortium.

- Declaration on "Challenge Zero"

JERA has endorsed declaration on "Challenge Zero (Challenge Net Zero Carbon Innovation)," a new initiative by the Japan Business Federation in collaboration with the Japanese government, aiming to proactively publicize and support actions to create innovation taken by companies and organizations towards a "decarbonized society" which the Paris Agreement (the international framework on climate change) sets as the long-term goal. Besides the declaration, we have disclosed our concrete actions towards innovation challenges. We are also listed in the list of "Zero-Emission Challenge Companies" by the Ministry of Economy, Trade and Industry (Biojet Fuel Production Technology Development Project).

- Participation in The Ocean Renewable Energy Action Coalition

JERA has participated in the Ocean Renewable Energy Action Coalition since January 2020. The Action Coalition has been formed by global companies involved in the offshore wind sector to advance sustainable deployment of ocean-based renewable energy and mitigate the harmful impacts of climate change. The Action Coalition was formed in response to the September 2019 Call for Ocean-Based Climate Action made by the High-Level Panel for a Sustainable Ocean Economy, a unique initiative of 14 serving world leaders including Japan, and is spearheaded by leading offshore wind power companies Ørsted and Equinor. With additional partners including Global Wind Conference and the UN Global Compact, the Action Coalition will represent the offshore wind sector in the global dialogue on climate action. We are the only Japanese company participating in this coalition.

## 1.5 Rationale for Transition Bonds Issuance

### 1.5.1 Rationale for Bonds Issuance

JERA believes that our transition strategy is consistent with the Japanese government's 2050 Carbon Neutral Declaration, the Basic Energy Plan, the IPCC 1.5°C Report, and the Transition Roadmap for the Electric Power Sector established by the Ministry of Economy, Trade and Industry, and will contribute to the Paris Agreement. The funds raised through the issuance of transition bonds will be used to carry out various transition projects to realize JERA Zero CO2 Emission 2050 and Environmental Target 2030. We believe that the issuance of transition bonds will provide us opportunities to communicate our initiatives to our stakeholders and will support the realization of a carbon-neutral and decarbonized society. JERA's long-term strategy will be reviewed in light of changes in policies and other preconditions.

### 1.5.2 Corresponding Sections to the Four Disclosure Elements

JERA will issue transition bonds aligned with Climate Transition Finance Handbook 2020 (ICMA), Basic Guidelines on Climate Transition Finance (May 2021) (Financial Services Agency, Japan; Ministry of Economy, Trade and Industry, Japan; and Ministry of the Environment, Japan), the Green Bond Principles 2021 (ICMA), and Green Bond Guidelines 2020 (Ministry of the Environment, Japan).

The four key elements to the recommended disclosure of transition finance and the corresponding sections are as follows.

Disclosure Elements	Sections
1. Issuer's climate transition strategy and governance	1.2、 1.3、 1.4、 1.5 2.1、 2.2、 2.4、 2.5
2. Business model environmental materiality	1.2、 1.3、 1.4、 1.5 2.1、 2.2
3. Climate transition strategy to be science-based including targets and pathways	1.2、 1.4 2.1、 2.4
4. Implementation transparency	1.2、 1.3、 1.4、 1.5 2.1、 2.2、 2.3、 2.4、 2.5

**2. Transition Bond Framework**

**2.1 Use of Proceeds**

**2.1.1 Eligibility Criteria**

JERA will use the proceeds of the Transition Bonds to finance and refinance new and existing expenditures relating to Eligible Projects falling within the following Eligibility Criteria. In the case of existing expenditures, allocation is limited to expenditures made within past three years from the issuance of the Transition Bonds.

<b>Project Category</b>	<b>Eligibility Criteria</b>	<b>SDGs</b>
<b>Transition Project Projects for the realization of zero CO2 emission thermal power</b>	· The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing	7.AFFORDABLE AND CLEAN ENERGY 9. INDUSTRY, INNOVATION AND INFRASTRUCTURE 12. RESPONSIBLE CONSUMPTION AND PRODUCTION
	The expenditures related to decommissions of inefficient thermal power plants, with the aim of replacement for high-efficiency thermal power plants	13. CLIMATE ACTION 17. PARTNERSHIPS FOR THE GOALS

**2.1.2 Exclusion Criteria**

The proceeds of the Transition Bonds will not be allocated to projects related to:

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

**2.2 Process for Project Evaluation and Selection**

JERA's Finance and Accounting Department will select nominated Eligible Projects as specified in section 2.1, and the related business departments will analyze and review the financial risks, technical and operational risks, market environment and ESG risks comprehensively. After that, Officer in charge of Finance and Accounting Department will be responsible for selecting the Eligible Projects.

During the operation and implementation of the projects, the related business departments are working on the conservation of the surrounding environment and monitoring the overall processes regularly.

**2.3 Management of the Proceeds**

JERA's Finance and Accounting Department 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. Such allocation to the Eligible Projects will be made within 3 years from the issuance. The unallocated proceeds will be managed in cash or cash equivalents until the proceeds have been fully allocated.



**2.4 Reporting**

**2.4.1 Allocation Report**

JERA will report the allocation of the proceeds of the Transition Bonds on JERA’s website annually until the proceeds have been fully allocated to Eligible Projects. The report will include the aggregated amount of proceeds allocated to the Eligible Projects at Eligibility Criteria level, the amount of unallocated proceeds and the amount of proceeds used for existing investments. JERA will report timely in the event of a significant change in the allocation plan.

**2.4.2 Impact Report**

Where possible, JERA will report the following impact metrics of Eligible Projects on JERA's website, until the Eligible Projects have finished.

Project Category	Eligibility Criteria	Impact Metric
<p><b>Transition Project</b>  <b>Projects for the realization of zero CO2 emission thermal power</b></p>	<ul style="list-style-type: none"> <li>• The expenditures related to demonstration projects of fossil fuels and ammonia/hydrogen co-firing</li> </ul>	<ul style="list-style-type: none"> <li>• The outline and the progress of the eligible project</li> </ul>
	<ul style="list-style-type: none"> <li>• The expenditures related to decommission of inefficient thermal power plants, with the aim of replacement for high-efficiency thermal power plants</li> </ul>	<ul style="list-style-type: none"> <li>• The outline and the progress of the eligible project</li> </ul>

**2.5 External Review**

**2.5.1 Second Party Opinion**

JERA has obtained a second party opinion from DNV, an independent external reviewer, on the alignment of this Framework with Climate Transition Finance Handbook 2020 (ICMA), Basic Guidelines on Climate Transition Finance (May 2021) (Financial Services Agency, Japan; Ministry of Economy, Trade and Industry, Japan; and Ministry of the Environment, Japan), Green Bond Principles 2021 (ICMA), and Green Bond Guidelines 2020 (Ministry of the Environment, Japan).

**2.5.2 Annual Review**

Within one year from the date of issuance of the Transition Bonds, JERA will obtain a review from DNV, an independent external reviewer, to evaluate whether its reporting aligned with this Framework. This review will be conducted annually until the proceeds of the Transition Bonds have been fully allocated.