



Jera

CORPORATE PROFILE

# About This Document

Each year, JERA publishes an Integrated Report to provide stakeholders with a clear understanding of the business activities of our group that we pursue our Mission and Vision and realize a more sustainable future for society.

This "JERA CORPORATE PROFILE" is a digest of that report.

In the Integrated Report 2023, we have included a narrative that traces the path toward realizing our Mission and Vision from our origins, through our strategy and business initiatives based on the pillars of stable energy supply and decarbonization, to our ESG initiatives supporting all of our corporate activities. In particular, we have tried to describe our transition approach in such a way that you can gain a deeper understanding of it.

In addition, we have improved the description of important themes such as safety, human resources, and compliance, including references to them in the "Top Message" from the two CEOs. We suggest reviewing the full version alongside this abridged summary.

<https://www.jera.co.jp/en/sustainability/ccb2023>



Hekinan Thermal Power Station



# Mission

**To provide cutting-edge solutions to the world's energy issues**

Through our global operations we bring the world's leading energy solutions to Japan, helping to solve the energy issues facing the country. We seek to establish new energy supply models for Japan while also offering energy supply models established in Japan to other countries that face similar energy issues, helping to solve the world's energy issues.

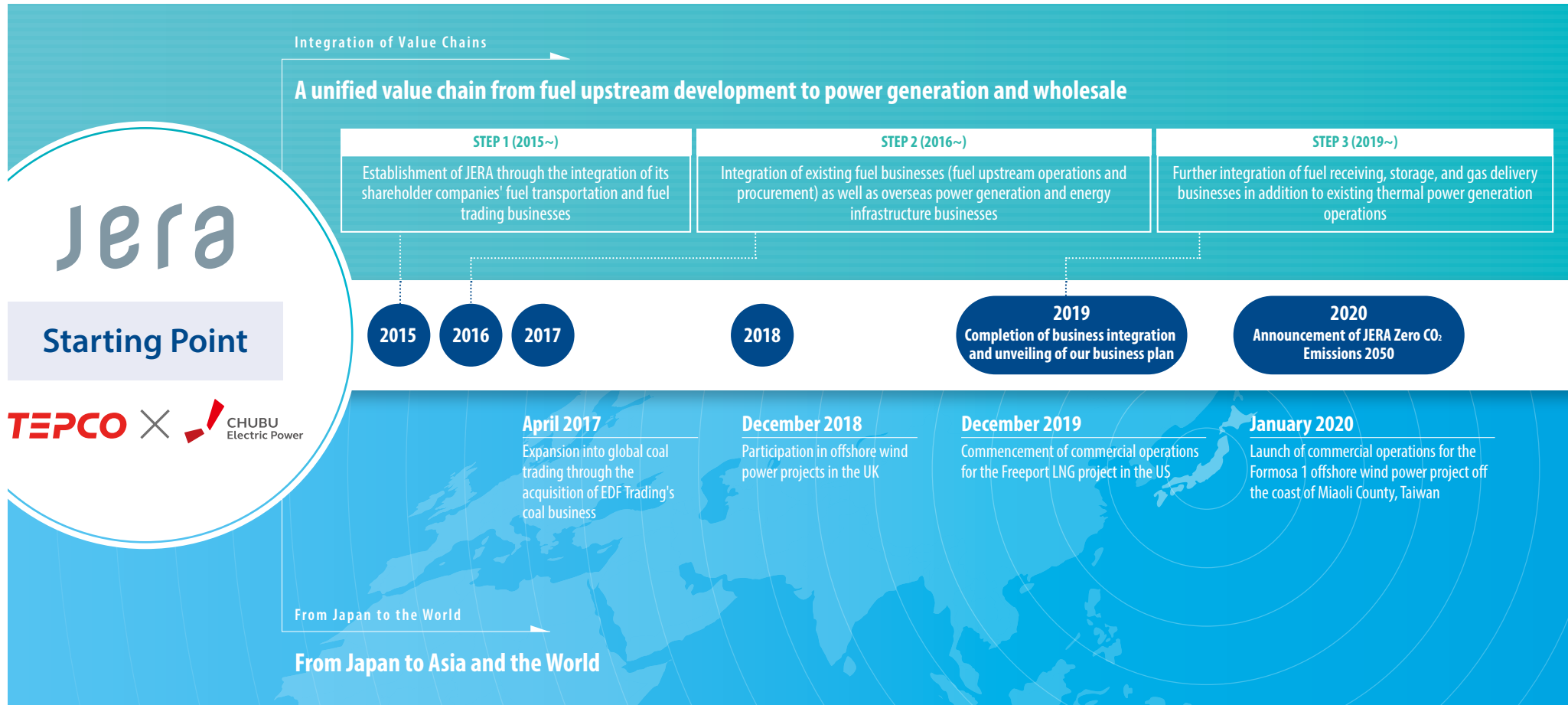
# Vision

**To scale up its clean energy platform of renewables and low greenhouse gas thermal power, sparking sustainable development in Asia and around the world**

To achieve decarbonization over the middle and long term while securing a stable electricity supply, JERA will, in addition to strengthening operations of the thermal power generation business it has cultivated over the years, establish a clean energy supply platform that utilizes digital technology to combine renewable energy and low greenhouse gas thermal power. By providing Asia and the world with a platform that achieves both supply stability and decarbonization, JERA aims to contribute to the sound growth and development of the world and maximize its corporate value.

# History of JERA

Driving the Push Toward a Decarbonized Society as a Clean Energy Company



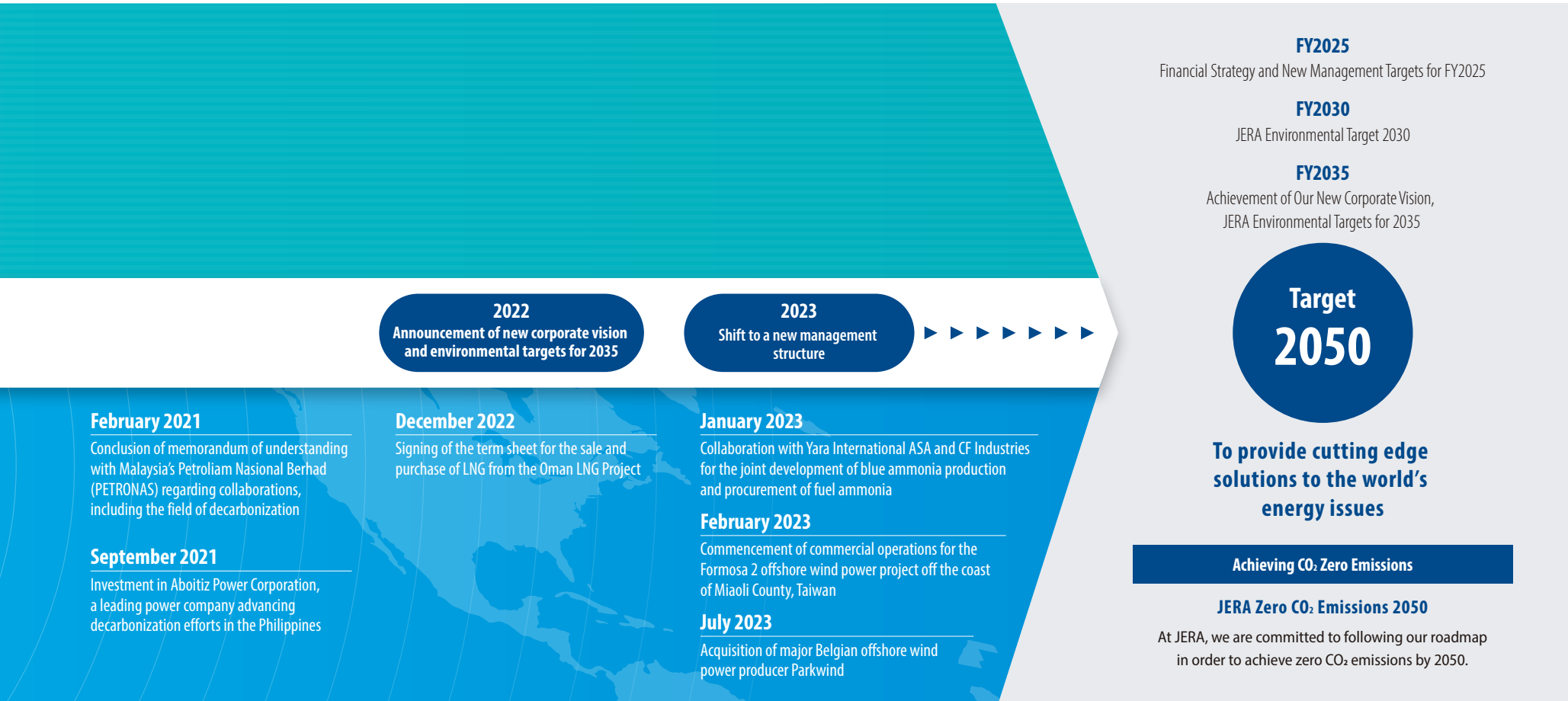
**Our Response: Adapting to Changes in Society**

**A Turning Point in Energy Policy**

Following the Great East Japan Earthquake in 2011, the role of thermal power generation became increasingly vital to compensate for Japan's electricity shortage. A global energy company capable of contending in the international market was needed to ensure a stable fuel supply for power generation and consistently provide competitive energy. In line with this vision, JERA was created through the consolidation of the fuel and thermal power departments of Tokyo Electric Power Company and Chubu Electric Power Company.

**Accelerating Decarbonization**

The rapid progression of global warming has made addressing climate change an urgent issue, and the 2015 Paris Agreement has led to stricter regulations on fossil fuels globally. After the completion of our business integration in 2019, JERA emerged as an energy company boasting Japan's largest thermal power generation capacity and one of the world's largest fuel transaction volumes. Focused on realizing a decarbonized society and establishing a robust management foundation, in April 2019, we formulated our mission, vision, and business plan leading up to FY2025. Further, in October 2020, as part of our commitment to lead the move towards a decarbonized society, we announced JERA Zero CO<sub>2</sub> Emissions 2050.



### A Drastically Changing External Environment

While renewable energy is becoming more widespread, its susceptibility to weather patterns highlights an increasing need to compensate for its instability as a power source. Against this backdrop, 2022 saw the eruption of conflicts over energy resources due to Russia's invasion of Ukraine, further complicating the environment surrounding our company, and momentum towards a decarbonized society grows stronger each day. Recognizing our mission to balance decarbonization with a stable supply of energy, in May 2022, we set forth a new corporate vision and environmental targets for 2035. At the same time, we announced financial strategy and new management targets for FY2025.

### Preparing for 2050

Our global operations are bringing the world's leading energy solutions to Japan to solve the energy issues facing the country. We seek to establish new energy supply models for Japan while also offering energy supply models established in Japan to other countries that face similar energy issues, in turn helping to solve energy issues around the world.

# At a Glance

JERA is an energy company that spans the entire value chain, from the fuel upstream business and procurement through power generation and wholesaling of electricity and gas. As a global company with the largest power generation capacity in Japan and capable of handling some of the largest fuel volumes in the world, we are committed to solving the world's energy problems and leading the way in creating a decarbonized society.



JERA Americas Inc.  
JERA Energy America LLC.

US

Mexico

Domestic Consolidated Subsidiaries, etc. 16  
Domestic Equity Method Affiliates, etc. 6  
Thermal Power Plants in Japan 26

### Business Overview

Fuel Business	Domestic Thermal Power Generation and Gas Business	Overseas Power Generation and Renewable Energy Business	
Investment in fuel upstream and other businesses, fuel transportation, and fuel trading	Thermal power generation in Japan, fuel procurement, O&M engineering, sale of electricity and gas in Japan, etc.	Investment in overseas power generation projects, etc. Development and operation of renewable energy in Japan and overseas	
Major Projects <span style="color: #f4a460;">■</span> Major Group Companies <span style="color: #f4a460;">◆</span>	Major Projects <span style="color: #0070c0;">■</span> Major Group Companies <span style="color: #0070c0;">◆</span>	Major Projects <span style="color: #70ad47;">■</span> Major Group Companies <span style="color: #70ad47;">◆</span>	
LNG Transaction Volume (annual)*1 <span style="float: right;">One of the World's Largest</span> Approx. <span style="font-size: 24pt; color: #f4a460;">35</span> million tons	Thermal Power Plants in Japan <span style="float: right; font-size: 24pt; color: white;">26</span> #1 in Japan Power Generation Capacity in Japan*2 <span style="float: right;">Approx. <span style="font-size: 24pt; color: white;">61</span> GW</span> Power Generation Output in Japan*1,*2 <span style="float: right;">Approx. <span style="font-size: 24pt; color: white;">235</span> TWh</span> Approx. 30% of country total	Number of Overseas Power Projects <span style="float: right;">Approx. <span style="font-size: 24pt; color: white;">30</span></span> Overseas Business Locations <span style="float: right;">10+ Countries</span> Overseas Power Generation Capacity (Equity output) *2 <span style="float: right;">Approx. <span style="font-size: 24pt; color: white;">12.4</span> GW</span>	Number of employees (consolidated) <span style="float: right; font-size: 24pt; color: #0070c0;">5,295</span> Revenue*1 <span style="float: right;">Approx. <span style="font-size: 24pt; color: #0070c0;">4.7</span> trillion yen</span> Total assets <span style="float: right;">Approx. <span style="font-size: 24pt; color: #0070c0;">9.1</span> trillion yen</span>
LNG Suppliers <span style="float: right; font-size: 24pt; color: #f4a460;">15</span> countries Number of Upstream Investments <span style="float: right; font-size: 24pt; color: #f4a460;">6</span>			

As of March 31, 2023 \*1 FY2022 \*2 Includes facilities under construction. Domestic figures exclude joint thermal power holdings.

A woman in a white dress is shown in silhouette, looking out over a body of water at sunset. The sky is a mix of purple, pink, and orange, with the sun low on the horizon. The water reflects the sunset colors.

# NEW WORLD.

世界は変わった。エネルギーも変わる。

# NEW ENERGY.

燃やしてもCO<sub>2</sub>が出ないアンモニアから、ゼロエミッション火力発電への挑戦、始まる。今こそ、やらなきゃダメなんだ。 **Jera**



# JERA's Co-CEO Structure

Amid dramatic shifts in the energy landscape, our company must address challenges stemming from both the global context of competition for resources and the domestic scenario of ensuring stable power supply amidst deregulation.

To tackle short-term and long-term management challenges both globally and domestically and to fulfill our original objective of growing into a global energy company, we have instituted a co-CEO structure, leveraging the individual strengths of Kani and Okuda and establishing a symbiotic relationship between them to form a robust executive framework.

Kani has extensive international experience in resource and energy business development. He excels at cultivating relationships with global partners and is capable of constructing a global management structure.

Okuda, with experience in corporate planning, is adept at leading the debate about reforming the domestic electric power system, ensuring a stable energy supply, and decarbonizing the energy industry.

The two have worked closely together for a decade, starting with the merger negotiations, capitalizing on each other's strengths as pivotal figures at the core of JERA's operations. Today, they take the helm to move the company forward together.



Co-CEO Kani, Global CEO and Chair (left); Okuda, President, Director, CEO and COO (right)

# Message from the Global CEO and Chair

## JERA's Destination: The Sentiment Embedded in Our Mission and Vision

### Transforming a hierarchical, male-dominated workplace into a flat corporate culture that embraces diversity

We established JERA with the goal of becoming a global energy company with roots in Japan, and it's been four years since completing the integration of our fuel and thermal power value chains in 2019. My colleagues and I have been fully committed to this journey so far, and the future we envision for JERA is clearly enshrined in our mission and vision.

Firstly, our mission articulates the question, "Why do we exist?" It's a message succinctly conveying our *raison d'être* and is the touchpoint we always return to. After extensive discussions within the management team about JERA's strategy for global competitiveness in the energy industry, we established the mission to provide cutting edge solutions to the world's energy issues.

The energy issues affecting Japan are not necessarily the same as those affecting other parts of the world. As we delve into the individual issues facing Asia, Europe, the Middle East, and Africa, I perceive the crux of the energy dilemma to revolve around simultaneously achieving three things: sustainability (realizing a decarbonized society), affordability (providing electricity to all), and stability (ensuring a secure supply). For instance, Russia's invasion of Ukraine poignantly brought home to Europe, which hitherto prioritized sustainability, the importance of affordability and stability in energy supply while highlighting the challenge of achieving all three simultaneously.

In addressing these issues, we aim to turn JERA into a

global solution provider. It is imperative that those solutions be cutting edge. It's not about merely selling wholesale electricity but building teams and coming up with agile ideas and proposals capable of solving societal challenges and customer concerns that transcend national and generational boundaries. This is by no means an easy journey, but I believe it's an exciting one.

We want to deliver cutting edge solutions that don't yet exist, and I don't think that's achievable with a homogeneous group of people. I want us to transition from a hierarchical patriarchy to an inclusive, egalitarian culture that welcomes diversity. Regardless of race or nationality, I envision a team where everyone, whether outspoken or reserved, can openly share their opinions, tune into the needs of our clients, and collectively craft solutions. That's my approach to team building and the reason why diversity is so important.

Our vision serves as a more specific illustration of our mission. We aim to provide a stable supply of clean energy by combining three of JERA's strengths: our value chain, which encompasses investment, procurement, transportation, and sales of LNG; renewable energy; and zero-emission thermal power through hydrogen and ammonia. While some companies specialize in either LNG or renewable energy, only JERA, by bringing these diverse options together, can offer cutting edge solutions to the challenges facing our customers. I believe this ability to provide a variety of solutions is a unique value

that we possess at JERA. Many of our initiatives provide examples of clean energy platforms that combine these options, including one domestic example: our 24/7 Carbon-Free Energy project in collaboration with Toho Studios. The goal is to combine renewable energy sources like solar power and zero-emission thermal power, integrating the latest digital technologies to visualize electricity demand and CO<sub>2</sub> reductions in real-time.

As stated in our vision of "sparking sustainable development in Asia and around the world," JERA is committed to making contributions in Asia. The situation in many Asian countries, which are resource-poor, surrounded by the sea, or share similar meteorological and marine conditions with Japan, is quite different from continent-centric regions like Europe and the Americas. As economic growth in these places is significant and the demand for electricity is only expected to increase, it's unrealistic to assert, with the same logic as in the West, that only clean energy is acceptable. We aim to contribute to the development of Asia by offering the cutting edge energy supply model we are building in Japan, which combines zero-emission thermal power and renewable energy, and tailoring it to suit the circumstances of each country in the region.

One key example in the Asian region is our 2021 investment in Aboitiz Power, a major power company in the Philippines. To accelerate decarbonization in the

Philippines, we are aiming to introduce a balanced mix of LNG and renewable energy while initiating discussions on the feasibility of utilizing ammonia at their coal-fired power plants and contemplating the construction of a domestic hydrogen/ammonia supply chain. Moving forward, we will continue to fulfill our role as a leader in addressing climate change alongside our partners in each country.

Our core values dictate our non-negotiables. They tell us how we should approach our daily work in order to accomplish our mission and vision. They encompass being fair and open, valuing diversity, and pursuing excellence. Given the size and social obligations of JERA as an organization, we believe that making a positive impact in the world is critical.

The reason I highlight our core values of fairness, diversity, excellence, and lastly, impact, is that as an energy company, JERA plays a substantial role in climate change—with about 70% of the world's CO<sub>2</sub> emissions being energy-related—while also having the potential to be part of the solution. That's why we are conscious of our potential to make a substantial impact on society, and I believe we must deliver results for the sake of humanity's future.

But we can't tackle climate change issues single-handedly—we have to work together with global partners. To be recognized as a peer among leading global companies requires two things. The first is whether

we can share our mission and vision, and the other is whether a potential partner has a culture that makes us want to work together. Becoming business partners can mean working together in the same office for decades. If we can't empathize with each other's mission and vision and can't respect each other's culture, it will be quite hard to work together. Conversely, when these all align, we can build solid teams with our partners and move closer to fulfilling our mission and vision.

Lastly, Safety and compliance are not a matter of priority—they are prerequisites for doing business. I tell our employees and executives that without adhering to these, we have no right to be in business in the first place. Valuing safety means protecting our colleagues and their families. You wouldn't feel safe working for a company that didn't value its employees and their families, would you?

Compliance isn't complicated—it's about basic principles like being honest and following the rules. Non-compliance leads to betraying the company and losing society's trust. I tell all our employees that they should speak up if something feels amiss, no matter how minor.

I am committed to rigorously enforcing safety and compliance to protect all our stakeholders, employees, and the company itself.



**Yukio Kani**  
Global CEO and Chair

# Message from the President, Director, CEO and COO

**Driven by a strong sense of social responsibility and the power of imaginative innovation, at JERA, we are committed to delivering new value through a transitional approach to decarbonization strategies.**

JERA's vision is to create a new infrastructure that allows us to deliver clean energy reliably and economically under any circumstances. To achieve this, we believe it is crucial to possess both a strong sense of social responsibility and the power of imaginative innovation and to strike an elaborate balance between them. Having a strong sense of social responsibility means that we must continue to pursue the stable supply and cost-effectiveness honed over the long history of traditional power companies. However, we also understand that conventional approaches and incremental improvements alone will not suffice. I envision a company capable of reimagining how electricity is produced and utilized and then delivering new value through these innovations. But this ambition hinges on the free-spirited, innovative prowess of each of our employees. I will personally take the helm in redefining longstanding values and preconceptions, directing our company towards a creative vision that delivers unparalleled value to the world.

To pass our beautiful planet on to the next generation, it's imperative to pursue integrity, safety, and sustainability across the realms of the economy, society, and environment. JERA ranks among the world's largest power producers and buyers of LNG in terms of trade volume. We are also the largest in Japan in both respects. As an energy provider, we are trying to create a sustainable society around three pillars: stable supply, decarbonization, and digital transformation (DX). Russia's invasion of Ukraine has drastically altered the flow of resources, putting resource-poor countries in a

precarious situation and leaving many of them to grapple with fuel scarcity. Amid these concerns, JERA has established an agile fuel supply chain capable of responding in times of crisis. We are also steadily transitioning to the most efficient thermal power generation facilities available to ensure a stable supply of electricity while reducing our environmental footprint.

Furthermore, in alignment with the shared global objective of decarbonization, we've established "JERA Zero CO<sub>2</sub> Emissions 2050," which outlines our aims to achieve net-zero CO<sub>2</sub> emissions from our operations in Japan and abroad by 2050. This policy will materialize through renewable energy and zero-emission thermal power generation. We are also committed to using digital technology to build a new supply and demand infrastructure that balances economic viability while fulfilling our mission of ensuring decarbonization and a stable energy supply. Harnessing digital technology allows us to focus on creating systems that deliver value, such as further reducing our environmental impact and responding flexibly to short- and long-term fluctuations in supply and demand.

JERA's mission is to "provide cutting-edge solutions to the world's energy issues," but the world's energy issues vary greatly by time and place. European nations initially set extremely ambitious decarbonization targets and swiftly pivoted towards renewables, backed by multilaterally interconnected power grids. However, the invasion of Ukraine has shown that relying solely on renewables to

realize a sustainable society isn't as straightforward as was once thought. While tackling climate change is a common global objective, energy issues are intricate webs of geographical, economic, and market dynamics; no single nation can address these challenges in isolation.

To address them, JERA adopts and champions an "energy transition" approach. Instant divestment from fossil fuels or thermal power plants would jeopardize energy security. Instead, by maximizing the use of existing facilities and reliable technologies and transitioning thermal power plants to decarbonized fuels such as hydrogen and ammonia, we aim to provide stable and cost-effective energy while achieving zero emissions. This is JERA's vision for zero-emissions thermal power. While these fuels may initially be more expensive than gas or coal, we anticipate that policy support for decarbonization will foster their adoption. Just as the proliferation of LNG has led to cost reductions and market growth, we expect hydrogen and ammonia to become widely adopted and more affordable over time. Another strength of zero-emission thermal power is its ability to compensate for the intermittency of renewables. While we are pushing for renewable energy developments worldwide, renewables will not only serve as the energy sources needed for hydrogen and ammonia production but will also enable us to convert and store energy as hydrogen and ammonia. Our vision for the future outlines a plan to scale up our clean energy platform of renewables and low greenhouse gas thermal power, sparking sustainable

development in Asia and around the world. Neither renewable energy nor zero-emission thermal power alone is the answer; they are two sides of the same coin. What is needed is a clean energy supply infrastructure where each one complements the other. Rather than a binary choice between renewable energy and thermal power, we are determined to establish a clean energy infrastructure that integrates them, ensuring harmony in healthy global growth and development.

In a rapidly changing market environment, the power of imaginative innovation is vital to sustained value creation. We must offer new ideas to society and drive its sustainability, which in turn leads to our own sustainability as a company. Diversity in a company's workforce is at the heart of creativity and innovation, which is why we must continue to be a company that attracts and retains top talent. When I say "talent," I'm not only referring to our employees. JERA is dedicated to delivering more compelling messaging to our customers, our business partners, and everyone associated with JERA. For our employees, it's not about buzzwords like "work-style reform," which you often hear in Japan. We must pivot toward a paradigm that aligns with genuine employee well-being and happiness.

As I've mentioned, a profoundly strong sense of social responsibility lies at our company's core. Given this mantle of responsibility, my mission is to harness the power of imaginative innovation to offer new value to society. At the same time, I am committed to driving our company's

growth, regardless of the prevailing circumstances. I would also like to touch on one of the foundational tenets that we cherish at JERA: robust on-site capabilities that combine world-class safety, disaster prevention, and resilience. While the importance of everyday safety is unquestionable, our unique position requires us to maintain operations even during typhoons and other emergencies, ensuring safety throughout. Encouraging innovation on a regular basis is pivotal in ensuring safety and responding flexibly in times of crisis. I am convinced that by combining a strong sense of social responsibility and the power of imaginative innovation, JERA can transcend the confines of a conventional energy provider and evolve into something far more exhilarating. Only in a culture that fosters innovation daily can our employees thrive and find excitement in growing together with their roles, spurring a virtuous cycle of value creation.

As stated in the *Analects of Confucius*, "They who know the truth are not equal to those who love it, and they who love it are not equal to those who delight in it." I firmly believe in finding joy in one's work and have practiced this throughout my life. This is truly a once-in-a-century opportunity to reshape the energy industry. It is my hope that our employees will find pleasure in tackling the issues with fresh ideas and growing as individuals. As JERA's President, Director, CEO and COO, I am committed to going above and beyond to deliver on our promises to stakeholders.



**Hisahide Okuda**  
President, Director, CEO and COO

# Understanding the External Environment

## The Increasing Importance of Energy Security

### Mounting Challenges in Energy Resource Procurement

The energy landscape has undergone dramatic upheaval in recent years as reliable energy resource procurement has taken on greater importance to ensure a stable energy supply in times of peace and those of strife.

Europe had been dependent on Russia for natural gas and other energy resources but has been hurrying to secure alternative energy sources, including coal, since Russia's invasion of Ukraine in February 2022. This has resulted in a temporary global spike in natural gas and coal prices, making economical and flexible procurement even more challenging than before. As Japan also relies heavily on foreign energy sources, the unstable international situation represents a significant risk to reliable energy procurement for the country.

Furthermore, while more economically challenged nations in Asia will see increasing demand for electric power as their economies and populations grow, the sharp rise in resource prices will present a challenge as they work to secure their energy supplies.

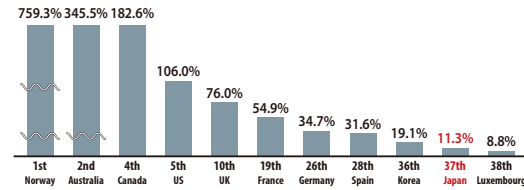
### In Pursuit of Stable Electricity Supply

Expanded efforts to introduce renewable energy can be expected when examined from the perspective of improving upon energy self-sufficiency. However, while Europe has abundant renewable energy sources—most notably wind power—as well as an extensive power grid connecting the continent and a high degree of connectedness between countries, Japan and other countries in the Asia-Pacific region face limitations in terms of sunlight and wind conditions, as well as coverage and connectivity issues in the regional power grid.

Nuclear power plants have not returned to operation since the Great East Japan Earthquake, and the offshore earthquake near Fukushima in March 2022 damaged thermal power plants along the Pacific coast. As a result, Japan is now facing an energy crunch.

Within the S+3E framework (Safety + Energy Security, Economic Efficiency, and Environmental Compatibility) that forms the core of Japan's energy policy, pressing issues include stable energy resource procurement for ensuring secure electricity supplies, as well as the creation of the requisite power supply facilities.

Comparison of Primary Energy Self-sufficiency Rates of Major Countries (2020)



Source: Prepared based on "Japan's Energy: 10 Questions for Understanding the Current Energy Situation, in FY2022 version," Agency for Natural Resources and Energy website ([https://www.data.jma.go.jp/cpdinfo/temp/list/an\\_wld.html](https://www.data.jma.go.jp/cpdinfo/temp/list/an_wld.html)) (Japanese)

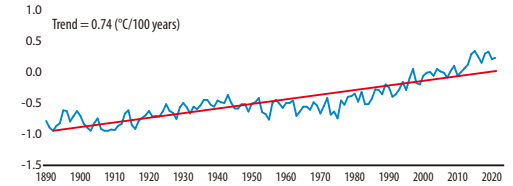
## Developments Toward Accelerating Decarbonization

### The State of Global Warming

The IPCC Sixth Assessment Report, released in August 2021, stated for the first time that it is beyond doubt that not only is global warming occurring, but that it is being caused by human influence.

The report further states that the global average temperature relative to pre-industrial levels is on track to increase by 1.5°C by 2040, and unless greenhouse gas emissions are significantly reduced in the next few decades, it will exceed 2°C within the 21st century. Additionally, it reported that as global warming continues to progress, the frequency and intensity of extreme weather events will increase, indicating that for every 0.5°C rise in global warming, there will be a marked increase in the severity and frequency of extreme temperatures (including heat waves), heavy rainfall, and drought in some regions. The world has already seen climbing average temperatures, melting snow and ice, torrential rains, and rising sea levels. In 2022, many parts of Europe experienced record-high temperatures, while Hurricane Ian cost North America 112.9 billion US dollars in economic damage. Japan is no exception, with notable events like the 2020 Kyushu floods and large typhoons, including Typhoon No. 14 in 2022.

Annual Global Average Temperature Anomalies (deviation from 1991–2020 average)



Source: Prepared based on "Annual Anomalies of Global Average Surface Temperature," Japan Meteorological Agency. (Japanese)

### The Essential Commitment to Decarbonization

The movement toward becoming a decarbonized society is accelerating on a global scale. At the 2015 Paris Climate Conference (COP21), the Paris Agreement was adopted as an international framework for reducing greenhouse gas emissions after 2020, including setting climate goals of 2°C and 1.5°C. Investment and legislation for achieving a decarbonized society continue to progress at the national level, particularly in Europe and the US. Moreover, with the increasing demand for energy, primarily in Asia, the push to move away from coal and toward renewable energy and gas transition is gaining traction. In October 2021, Japan also set a target to reduce greenhouse gas emissions by 46% by FY 2030 compared to the FY 2013 levels. In light of this movement away from carbon, a commitment to decarbonization has become essential for businesses operating on a global scale.

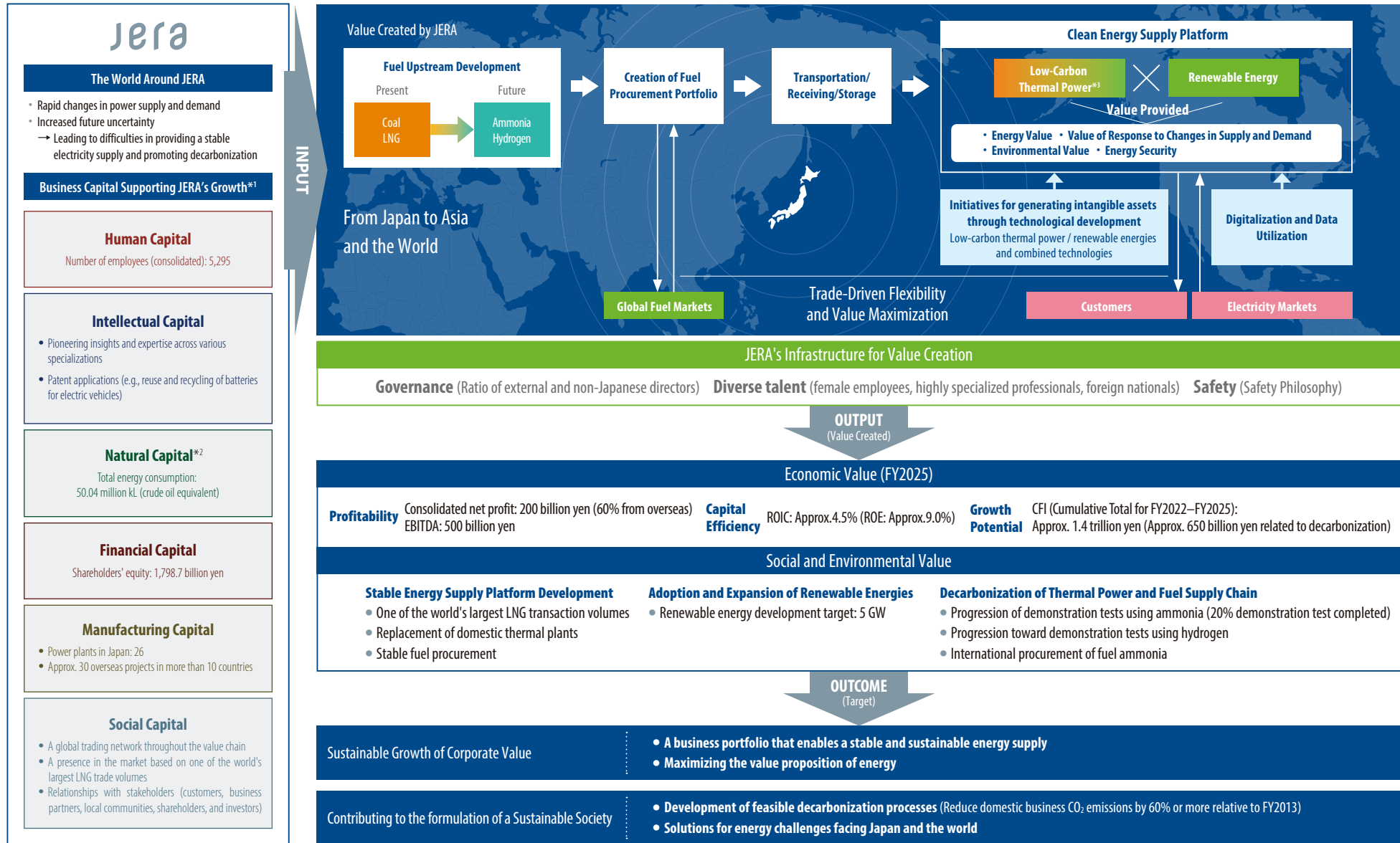
\*Prepared based on the following reference materials:

- "Energy White Paper 2023," Agency for Natural Resources and Energy
- "International Strategy to Achieve Carbon Neutrality, Document 3," METI Industrial Science and Technology Policy and Environment Bureau, Agency for Natural Resources and Energy. The 4th Joint Meeting of the Subcommittee for the Promotion of Green Transformation, Industrial Technology and Environment Subcommittee of the Industrial Structure Council, and the Subcommittee for the Study of Next Generation Energy Supply and Demand Structure for Carbon Neutrality in 2050, Basic Policy Subcommittee of the Advisory Committee on Natural Resources and Energy ([https://www.meti.go.jp/shingikai/sankoshin/sangyo\\_gijutsu/green\\_transformation/004.html](https://www.meti.go.jp/shingikai/sankoshin/sangyo_gijutsu/green_transformation/004.html)) (Japanese)

\*Prepared based on the following reference materials:

- Provisional translation of the Summary for Policy Makers of the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report Working Group 1, Ministry of Education, Culture, Sports, Science and Technology / Japan Meteorological Agency. (Japanese)
- "Annual Report on the Environment, the Sound Material-Cycle Society and Biodiversity in Japan 2023," Ministry of the Environment. (Japanese)
- "Framework from 2020: Paris Agreement," Ministry of Foreign Affairs website ([https://www.mofa.go.jp/ic/ch/page1we\\_000102.html](https://www.mofa.go.jp/ic/ch/page1we_000102.html))

# Value Creation Process



\*1 As of March 31, 2023 \*2 Results for FY2022 \*3 Thermal power generation facilities assuming the use of zero-emission fuels such as hydrogen and ammonia

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

Committed to Achieving Zero CO<sub>2</sub> Emissions across Domestic and Overseas Operations



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

- ▶ JERA's mission is to provide cutting edge solutions to the world's energy issues.
- ▶ We are taking on the challenge of achieving net-zero CO<sub>2</sub> emissions in Japan and around the world in hopes of creating a more sustainable society for us all.\*

\* JERA Zero CO<sub>2</sub> Emissions 2050 is premised on steady advances in decarbonization technology, economic viability, and consistency with government policy. We are developing its own decarbonization technologies and taking the initiative to ensure economic viability.

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

1

### Combining Complementarity Renewable Energy with Zero-CO<sub>2</sub> Emission Thermal Power

We will achieve its vision 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 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 Country and Region-Specific Roadmaps

We will achieve zero CO<sub>2</sub> emissions by establishing roadmaps that chart optimal solutions for each country and region. Since the energy situation varies by country and region, with different solutions available based on the feasibility of renewable energy options and the presence of pipelines and transmission lines, we will work with stakeholders to establish country and region-specific roadmaps. We have already developed a roadmap for our business in Japan, which we will extend to other countries and regions.

3

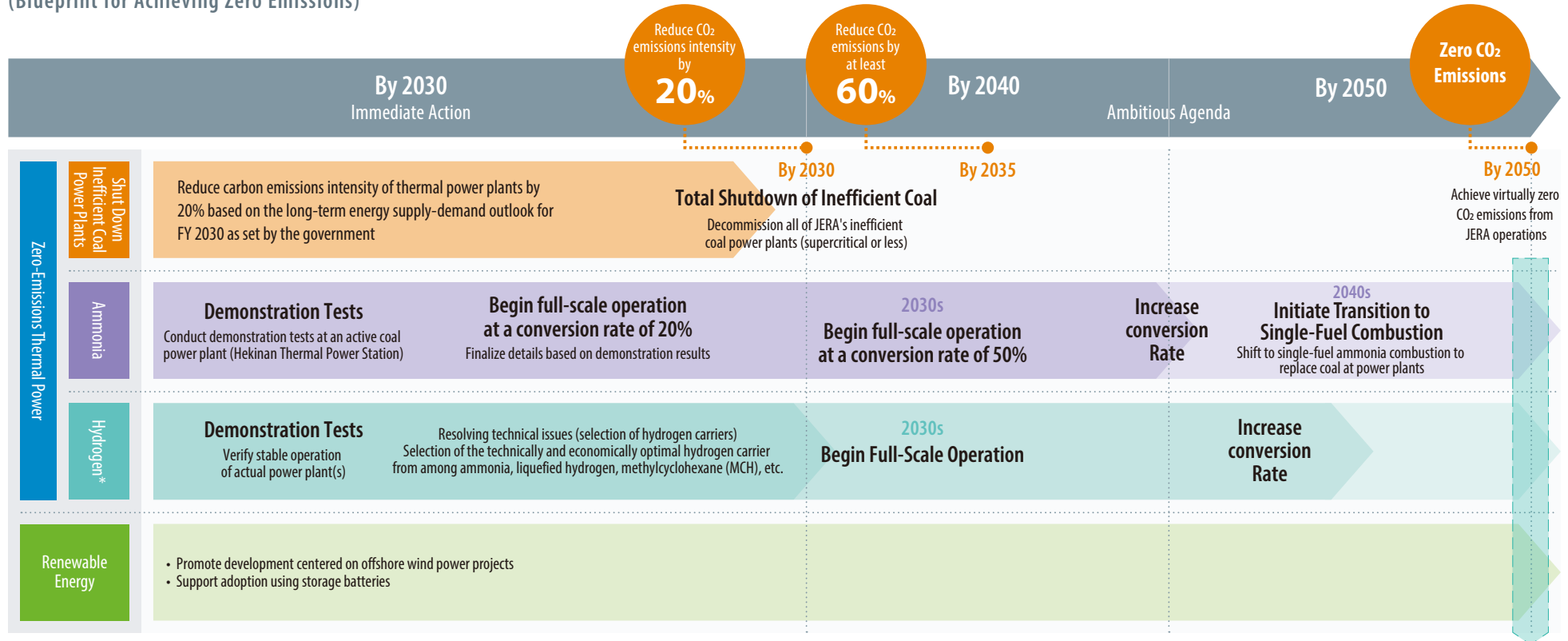
### Ensuring Smart Transitions

We will achieve zero CO<sub>2</sub> emissions through our smart transition strategy, which combines innovative and viable technologies available when adoption decisions are made. This approach will lower technical risk and facilitate a transition to a green society.



# JERA Zero CO<sub>2</sub> Emissions 2050 Roadmap for Its Business in Japan

(Blueprint for Achieving Zero Emissions)



This roadmap will evolve incrementally, adapting to changes in government policy and other relevant conditions, and will be revised as needed.  
 \*We are also considering the use of CO<sub>2</sub>-free LNG.

By 2050, CO<sub>2</sub> emissions from power plants still using fossil fuels will be offset using technologies like CO<sub>2</sub>-free LNG

## JERA Environmental Target 2030

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

- Decommission all inefficient coal power plants (supercritical or less) and conduct demonstration tests of conversion to ammonia at high-efficiency (ultra-supercritical) coal power plants.
- Promote the development of renewable energy centered on offshore wind power projects and work to further improve the efficiency of LNG thermal power generation.
- Reduce carbon emissions intensity of thermal power plants by 20% based on the long-term energy supply-demand outlook for FY 2030 as set by the government.

## JERA Environmental Target 2035

JERA aims to reduce CO<sub>2</sub> emissions from domestic operations relative to FY2013 by at least 60% by FY2035 through the following initiatives:

- Strive to develop and adopt renewable energy in Japan, given expanded adoption under the national government's 2050 carbon-neutral policy.
- Commit to reducing carbon emissions intensity from thermal power generation by promoting hydrogen and ammonia conversion.

"JERA Zero CO<sub>2</sub> Emissions 2050 for Its Business in Japan" and the "JERA Environmental Targets" are premised on steady advances in decarbonization technology, economic rationality, policy consistency, and the business climate under which these goals will be realized.

These targets have been formulated in alignment with Japan's greenhouse gas reduction goals and long-term strategy, both of which were established with an eye towards realizing the global ambition set forth in the Paris Agreement—that of limiting the global average temperature increase to as close to 1.5°C above pre-industrial levels as possible.

# Zero-Emissions Thermal Power

## Plan for Ammonia and Hydrogen Introduction

In FY2023, we plan to start demonstration tests in which we convert 20% of the existing fuel mix to ammonia at Hekinan Thermal Power Station Unit 4. We will increase the ammonia component to at least 50% by FY2028 and conduct more demonstration tests with the aim of making high-ammonia mixes (50%+) commercially viable in the early 2030s. Converting 20% of the fuel in a 1 million kW coal-fired power plant with ammonia will reduce annual CO<sub>2</sub> emissions by approximately 1 million tons (calculated based on the Central Research Institute of Electric Power Industry's "Comprehensive Assessment of Life Cycle CO<sub>2</sub> Emissions from Power Generation Technologies in Japan").

We also plan to conduct demonstration tests in which we convert (by volume) 30% of the existing fuel mix to hydrogen at our gas turbine-type LNG-fired thermal power plants in the 2020s to make hydrogen mix commercially viable in the mid-2030s.

## Progress of Ammonia Demonstration Tests at Hekinan Thermal Power Station

Since FY2021, we have been collaborating with IHI Corporation to initiate actual demonstration tests\* at Hekinan Thermal Power Station Unit 4 (Hekinan City, Aichi Prefecture, Japan).

For these tests, a receiving facility will be installed at the coal unloading berth, and liquid ammonia unloaded from an ammonia transport will be transported via a pipeline to an ammonia tank. From there, the liquid ammonia will be regasified for combustion in the ammonia burners installed at Unit 4. To date (as of August 2023), the installation of such ammonia facilities as ammonia burners, tanks, and regasifiers has progressed as planned.

The power plant has been using ammonia to remove NO<sub>x</sub> from exhaust gas since commencing operations. As ammonia is also used in large quantities as fuel, we will implement adequate safety measures and seek understanding from the local residents as we proceed.

\*Implemented under "Development of Technologies for Carbon Recycling and Next-Generation Thermal Power Generation / Research, Development and Demonstration of Technologies for Ammonia Converting Thermal Power Generation" subsidized by the New Energy and Industrial Technology Development Organization (NEDO). NEDO is a national research and development agency.



Construction Progressing on Ammonia Demonstration Test Facility at Hekinan Thermal Power Station

## Hydrogen Power Generation Initiatives



Hydrogen Power-enabled Linden Gas Thermal Power Station Unit 6 (US)

We are promoting hydrogen power generation initiatives in Japan and abroad. In Japan, we are utilizing NEDO's Green Innovation Fund Projects to explore demonstration tests for hydrogen power generation. At our thermal power plants, we aim to convert (by volume) 30% of LNG fuel to hydrogen and evaluate factors such as operational and environmental characteristics. We have been conducting business feasibility studies since FY2021, and based on the results, we plan to proceed with practical demonstration tests. Overseas, we have finished modifying the gas turbine for hydrogen use at Linden Gas Thermal Power Station Unit 6 in the US (fuel: natural gas), in which we have invested through our US subsidiary. The plant is now capable of mixed combustion with up to 40% hydrogen (by volume), using hydrogen supplied from an adjacent oil refinery.

Since the use of hydrogen power generation in Japan requires the development of hydrogen carrier technology for economically rational hydrogen pricing and marine transportation, we are working on developing new catalysts for high-efficiency, low-cost hydrocracking of ammonia, a hydrogen carrier that can be transported and stored at low cost.\*

We will continue our efforts to resolve the challenges surrounding the use of hydrogen energy. Furthermore, by promoting the earlier use of hydrogen where it is readily available, we aspire to accumulate technological capability and experience deployable across our domestic and overseas power generation businesses.

\*Implemented under NEDO's "Development of Technologies for Building a Competitive Hydrogen Supply Chain"

## Promoting and Expanding Green Fuels by Leveraging the Strengths of the Full LNG Value Chain

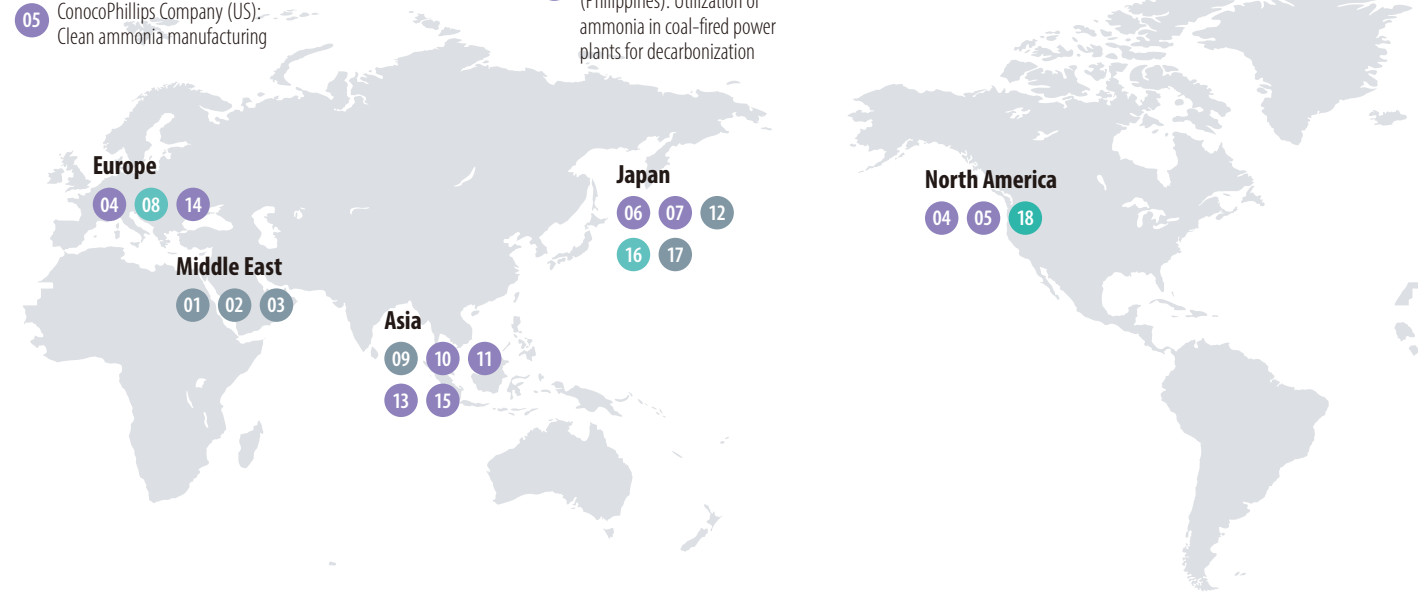
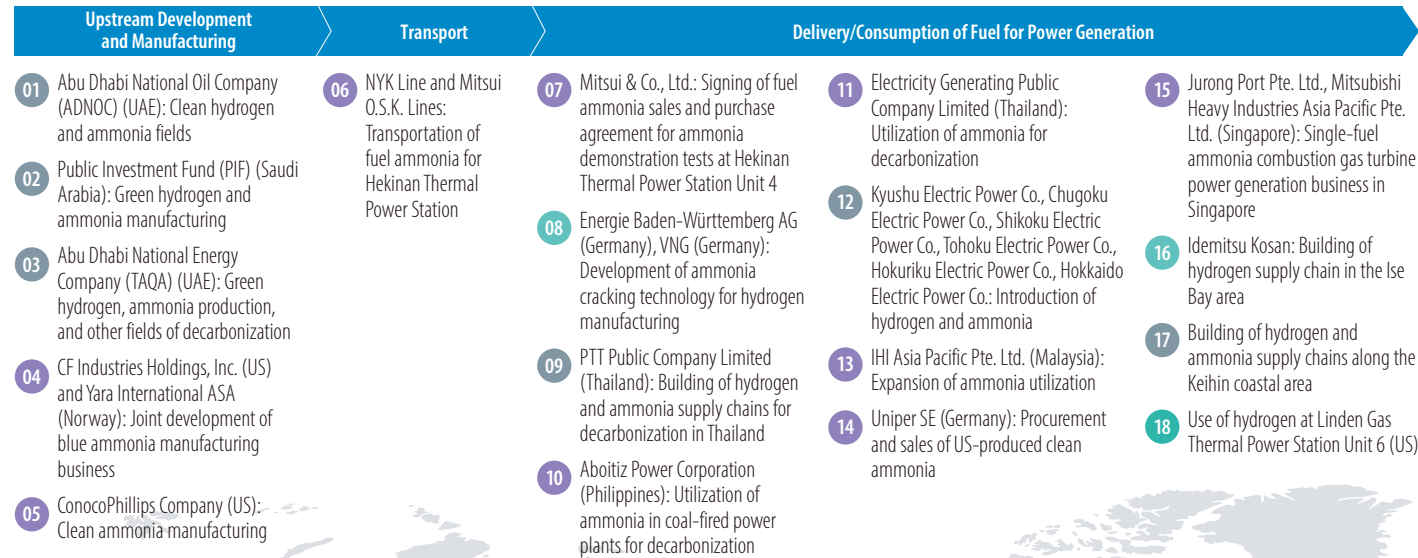
Building robust supply chains is essential to promote clean hydrogen and ammonia usage. In collaboration with leading corporate partners in Japan and overseas, we are steadily advancing initiatives for tangible clean hydrogen and ammonia development, as well as technology innovation projects, leveraging expertise from the successful establishment of a solid revenue base and experience with LNG value chain spanning upstream fuel development, transportation, storage, power generation, and sales.

In Asia, where zero emission is a common goal, we are using our knowledge and technology to establish a decarbonization roadmap with key partners in each country and are exploring solutions that take characteristics into account specific to each region and country, including the use of hydrogen and ammonia.

Our commitment to resolving global decarbonization and energy issues is demonstrated through our development of hydrogen and ammonia supply chains both in Japan and globally and through our ambitious expansion into business areas that envision the sale of green fuel for applications beyond power generation.

## Collaboration with Companies Abroad to Build Robust Hydrogen and Ammonia Supply Chains

● Hydrogen ● Ammonia ● Hydrogen/Ammonia



# Renewable Energy Business

Our renewable energy business has played a pivotal role in the JERA Zero CO<sub>2</sub> Emissions 2050 initiative, and we have strategically enhanced our offerings to include offshore wind, onshore wind, solar, and battery storage projects on a global scale. Moving forward, we aim to establish a glocal system that efficiently leverages the insights and technologies we have consolidated within our European renewable energy organization for projects in various regions. And we are committed to further expanding this renewable energy business by capitalizing on our strength in providing multifaceted options such as LNG, hydrogen, and ammonia.

## Strengthening Our Renewable Energy Initiatives

Until now, our renewable energy business was a collaborative effort between the JERA headquarters and our development teams across various regions, but there were challenges to coordination between regions. In some cases, knowledge and talent within the JERA Group were dispersed across the globe, which meant there were instances when we could not capitalize on potential synergies.

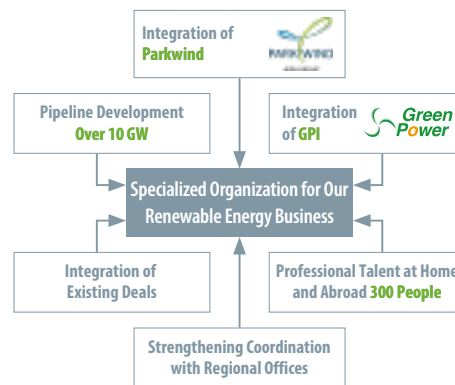
To further accelerate our renewable energy business, we have established a glocal system by forming a group of professionals stationed at our renewable energy hub in Europe, which will be responsible for project development, construction, and operations. This structure will allow us to leverage global insights and talent across local project development across different regions. Specifically, we have already begun to consolidate our renewable energy business under the umbrella of our UK company, JERA Green, bringing together Parkwind and Green Power Investment (hereinafter "GPI"), which were acquired in 2023. Additionally, we will promote the commercialization of a development pipeline exceeding 10 GW by integrating existing renewable energy projects in Japan and overseas with a global team of 300 specialized professionals.

This structure will strengthen cooperation among our offices in regions around the world, allowing us to efficiently utilize valuable management resources that were previously scattered within our group. Moreover, it promises the potential for synergy among different technologies and businesses, such as offshore and onshore wind, solar, and battery storage, which will balance the adoption and deployment of global renewable energy standards with local perspectives in legislative frameworks, supply chain formation, and community coexistence strategies.

Moving forward, we are committed to further expanding our renewable energy business on both domestic and international fronts. By strengthening collaboration with our other businesses in LNG, hydrogen, and ammonia, we aim to enhance the competitiveness of our renewable energy business. JERA stands unique in its capability to offer multifaceted options and is well poised to elevate its position in the competitive landscape of renewable energy.

### Structure of Future Initiatives

Consolidating our renewable energy business under a specialized organization and establishing a glocal framework



## Acquisition of Major Renewable Energy Companies in Europe and Japan

As a key move toward establishing a glocal system, we acquired Parkwind, a leading offshore wind power operator in Belgium, in July 2023. Not only does Parkwind have a culture that closely aligns with ours, but the company also boasts a proven track record in Europe, the global leader in offshore wind power. We plan to leverage their diverse talent and advanced expertise in our strategic regions, starting with Japan.

Furthermore, in August 2023, in partnership with NTT Anode Energy Corporation, we acquired Green Power Investment Corporation (GPI), a renewable energy operator in Japan. This acquisition aims to strengthen our business development in our home market of Japan. In particular, since many domestic offshore wind projects are slated to commence operations around 2030, involvement in GPI's projects allows us to accumulate experience that we believe will be significantly beneficial for our future domestic projects.



Courtesy of GPI

## Initiatives in Taiwan

We are focused on accumulating insights in Taiwan, a pioneer in offshore wind power in Asia. In doing so, we aim to extend our operations to other regions, such as Japan, which share similar weather and marine conditions. In 2019, we participated in the Formosa 1 project, Asia's first large-scale offshore wind project, and subsequently took the lead as the largest shareholder in Formosa 2 from its initial construction phase.

During the construction of Formosa 2, we navigated unique challenges as a Japanese company, which included project delays and escalating costs due to the COVID-19 pandemic, but we were able to hold a completion ceremony in May 2023, attended by Taiwan's President Tsai Ing-wen (pictured below). The valuable experience and knowledge gained from both projects will be utilized for future business endeavors.



Courtesy of Formosa 2 Wind Power Co., Ltd. (Unauthorized use prohibited)

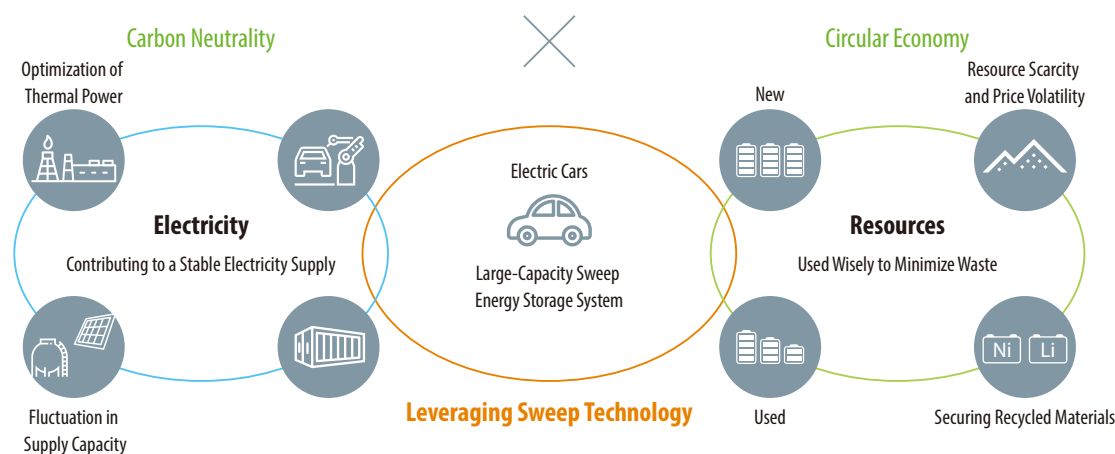
## Intellectual Property for Zero Emission: Large-Capacity Sweep Energy Storage System

As we see more renewable energy sources introduced to reduce CO<sub>2</sub> emissions and achieve carbon neutrality, battery storage is expected to experience a rise in demand as a stabilizer in energy supply and demand. Furthermore, given the limited reserves of resources such as cobalt and lithium, which are required for manufacturing storage batteries, it is essential to promote environmentally friendly practices, such as putting reclaimed electric car batteries to good use. In light of such conditions, since 2018, together with Toyota Motor Corporation, we have continuously investigated establishing technologies for battery reuse, resulting in the development of a large-capacity sweep storage system (pending national and international patents) that can fully utilize the capacity of a mixed array of batteries, regardless of their level of degradation. Moreover, we possess a high-voltage pulse technology (pending domestic and international patents) as a low-environmental-impact recycling technique for batteries, enabling us to achieve a reduction in CO<sub>2</sub> emissions associated with battery use throughout its lifecycle.

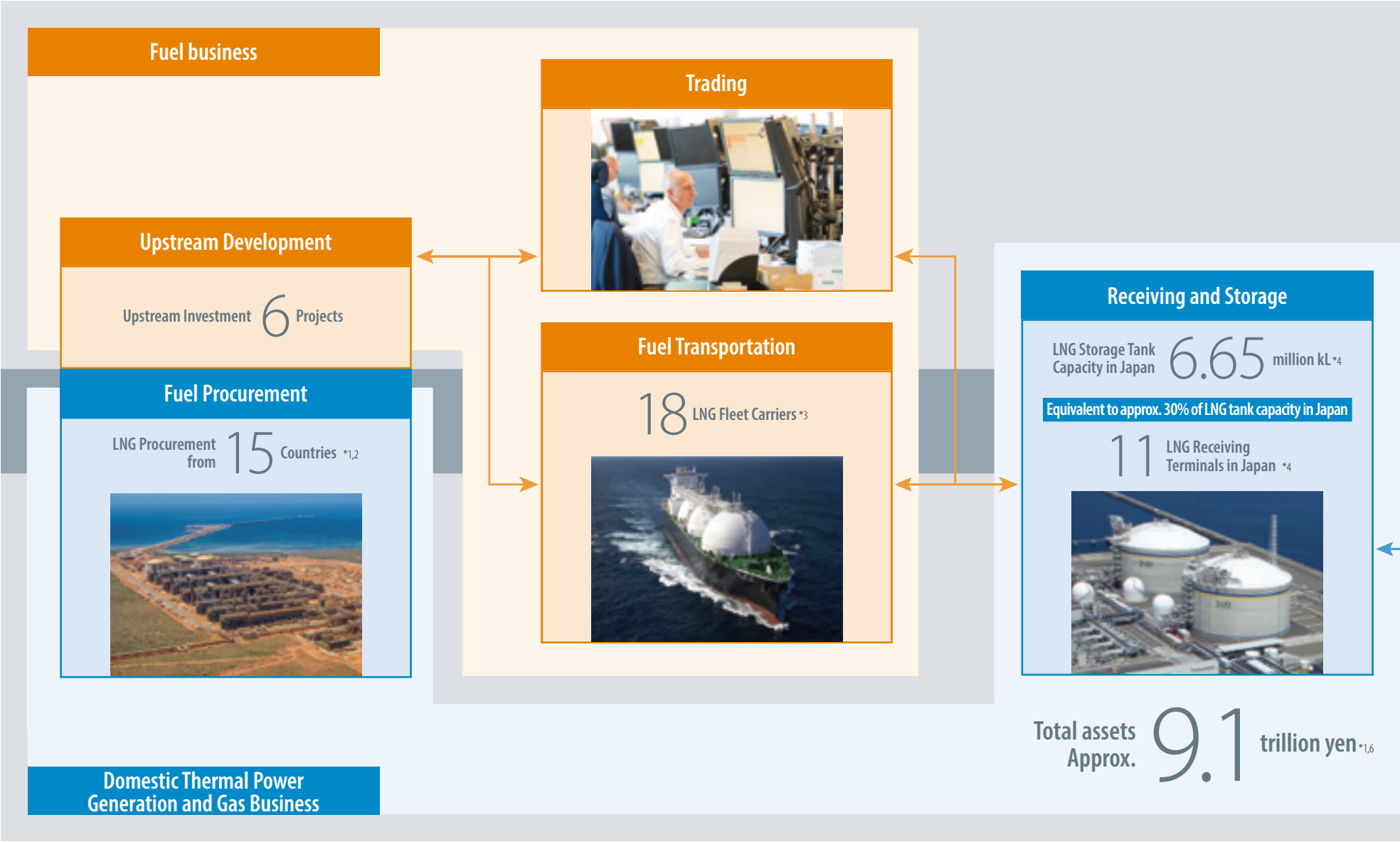
We are committed to contributing to the circular economy and taking on challenges to address new social issues using the intellectual property generated in our efforts toward carbon neutrality.



Large-capacity sweep energy storage system that uses electric car batteries



# Our Value Chain and Management Capital



About JERA

Medium and Long-Term Strategy

Business Strategies

The Infrastructure Behind Our Strategies

Data

## Overseas Power Generation and Renewable Energy Business

### Overseas Power Generation and Renewable Energy


Approx. **30** Projects In more than **10** Countries

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Power Generation Capacity (Equity output) Approx. **12.4** GW \*5

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Renewables Development Capacity (Included Power Generation Capacity) Approx. **2.2** GW



### LNG Transaction Volume (annual) \*1

Approx. **35** MT

One of the World's Largest

### Fuel Business

Use the market to optimize the production and transport of LNG—a primary fuel for thermal power generation—as well as the assets of the JERA Group (including LNG upstream operations and fuel procurement contracts for our domestic thermal power generation and gas business)

### Overseas Power Generation and Renewable Energy Business

Comprise our power generation ventures outside Japan as well as renewable energy development projects both domestically and internationally

### Domestic Power Generation

**26** Thermal Power Stations \*5

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Power Generation Capacity Approx. **61** GW \*5

**Among the largest in Japan**


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Power Generation Output Approx. **235** TWh \*1,5

**Approx. 30% of country total**



### Electricity and Gas Sales



Revenue Approx. **4.7** trillion yen \*1,6

### Domestic Thermal Power Generation and Gas Business

Manage essential fuel procurement contracts, receives fuel based on those contracts, and performs operation and maintenance (O&M) and engineering functions (development and construction), offering high-quality energy services while fulfilling its primary responsibility of ensuring a stable energy supply for the domestic market

As of March 31, 2023 \*1 FY2022 \*2 Represents the number of countries that exported LNG to our terminals \*3 As of September 2023 \*4 Includes joint projects with other companies in Chita and Yokkaichi \*5 Includes in-progress construction. Domestic figures exclude joint thermal power holdings \*6 Voluntarily adopted International Financial Reporting Standards (IFRS)

# Business Initiatives

## Fuel Business

As the recent growth of renewable energy and other uncertain factors lead to increasing fluctuations in electricity demand, we have been minimizing these impacts by optimizing the entire value chain, from fuel procurement to electricity sales. Especially in our fuel business, we engage in upstream fuel projects to ensure a stable supply of competitive LNG and establish and optimally operate fleets for flexible LNG transportation. Moreover, by leveraging our global trading network, we provide supply flexibility to respond to demand fluctuations. Through these measures, we have achieved both enhanced supply stability and improved profitability.

### Distinguishing Features

We have constructed a resilient portfolio by diversifying procurement regions and contract durations, as well as participating in upstream ventures, among other initiatives. To ensure a stable energy supply, we also utilize market intelligence centered around JERAGM, building a framework that can flexibly respond to fluctuations in demand. The Board of Directors sets transaction limits for JERAGM and monitors the status of transactions, ensuring proper risk management with respect to market risks and credit risks arising in the fuel business.

#### Strengths

- The world's largest competitive and flexible LNG procurement portfolio
- Extensive market intelligence
- Flexibility in LNG terminal and power plant operations and fuel receiving

#### Issues

- Increased interest-bearing liabilities due to the surge in resource prices
- Decarbonization efforts in upstream development projects

#### Opportunities

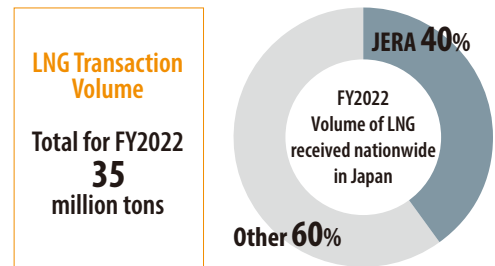
- Increased market volatility leading to optimization opportunities
- Increased transaction opportunities with new customers
- Acquisition of premium upstream development project information through leveraging overseas subsidiaries and the world's largest buyer network

#### Risks

- Negative impact of geopolitical risks on fuel procurement
- Reduced optimization opportunities due to domestic power supply and demand constraints
- Credit Risk
- Income and expenditure fluctuations in upstream development projects due to resource price volatility

### Business Indicators and Revenue Generation

Our LNG trade volume is approximately 35–40 million tons per year, and we have built a strong and extensive network in the global market. Drawing on our expertise, we efficiently seize profit opportunities in the market and operate smoothly by taking a holistic view of the entire value chain while ensuring proper risk management. Our approach achieves both enhanced fuel supply stability and increased profitability.



### Business Overview

#### Fuel Upstream and Transportation

We handle approximately 35 million tons of LNG annually and actively participate in LNG upstream ventures in Australia and the United States. By securing competitive LNG and gaining access to valuable intelligence from major production projects, we contribute to the stable fuel supply. Additionally, in our LNG transportation business, we achieve flexible and competitive fuel transportation through the optimal configuration and efficient operation of our fleet. By leveraging our expertise in LNG and the world's largest off-take capacity, we aim to build a fuel value chain for hydrogen and ammonia as well, to achieve zero-emission thermal power generation, supply it to other industries, and expand our business globally.





## Business Overview

### Fuel Trading

Centered around JERA Global Markets (JERAGM), headquartered in Singapore, we operate with a team of about 300 people, trading in the global LNG, coal, and shipping markets. A hallmark of our fuel trading is asset-backed trading. Leveraging one of the world's largest fuel procurement scales, we integrate third-party transactions with fuel flows for our shareholders, optimally managing the volume and destinations of each contract and flexibly responding to market trends. Additionally, we harness financial methods to capitalize on the benefits from these transactions by real contracts, ensuring revenue opportunities at a relatively low risk.



## Strengths of JERAGM

- 1 Asset-backed Trading Model**
  - Leveraging the flexibility inherent in fuel contracts
  - Optimizes ~10% of global LNG volumes

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- 2 Global Trading Expertise**
  - Global base of operations
  - Experienced team of traders that deploy asset-backed trading strategies
  - Strong fundamental analysis capabilities

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- 3 Supported By a Robust Foundation**
  - Middle office to monitor and support transactions
  - Centralized transaction management through an IT infrastructure centered on the ETRM system

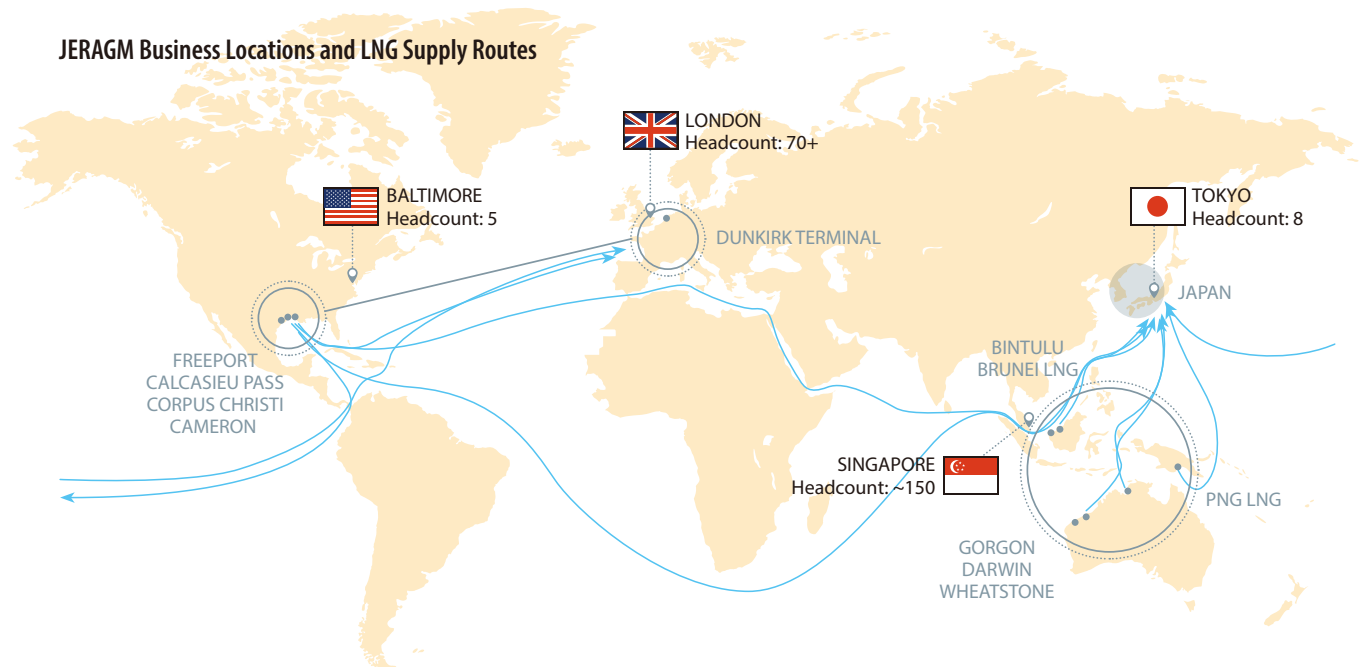
### Fuel Trading By JERAGM

#### – Supporting Communities Through Energy Security

JERAGM operates one of the largest energy portfolios in the world, which gives it an in-depth understanding into the dynamics of local, regional, and international energy markets. These insights enable it to help its customers increase their security of supply, optimize their portfolios, and improve the risk management of their assets. JERAGM manages all coal and short-term LNG procurement for JERA while maximizing value through optimization and trading.

JERAGM is the culmination of two very different but complementary business activities – Japanese fuel procurement and European energy trading – creating a global trading business with seamlessly interconnected operations across four strategic locations, with full coverage of the physical and financial energy markets.

### JERAGM Business Locations and LNG Supply Routes



# Overseas Power Generation and Renewable Energy Business

We are engaged in the development and operation of gas-fired power generation and renewable energy projects in Japan as well as across various regions worldwide, including Asia, the Middle East, Europe, and North America. In our gas-fired power generation development, we are actively involved in LNG supply and procurement of fuel in addition to infrastructure development in our aims to achieve a stable energy supply throughout the entire value chain. Furthermore, as we look toward decarbonizing thermal power, we are exploring the use of new fuels like hydrogen and ammonia, as well as the application of Carbon Dioxide Capture and Storage (CCS). Alongside our aggressive development of renewable energy both domestically and abroad, we are working to provide optimal solutions tailored to each region.

## Distinguishing Features

The business landscape surrounding energy is rapidly evolving due to policy shifts, market changes, advancements in renewable energy, and carbon-reduction technologies. Moreover, the needs of each country and region are unique. In light of these diverse landscapes, it's essential to not only move our business forward by leveraging the experience and trust we've built through past projects but also to swiftly propose and implement optimal solutions to meet this changing environment. That is why we are collaborating with partners around the world, including platform-based companies, to deliver business solutions tailored to the needs of each region.

## Strengths

- Leading the way in initiatives and insights into decarbonization technologies
- Development, construction, and operation of offshore wind power generation, which is rare among Japanese companies
- Selection of the latest and most optimal measures through collaboration with overseas development groups

## Issues

- Strengthening of renewable energy specialists and organizational capabilities
- Enhancement of the renewable energy supply chain in Japan and Asia
- Expanding the scale of development to gain further bargaining power

## Opportunities

- Expansion of competition in electricity and gas sales
- Market creation and new system introductions
- Fluctuations in resource prices
- Worldwide trends toward decarbonization
- Expansion and maturation of global renewable energy market
- Increased demand for storage batteries as a balancing force

## Risks

- Shortfalls in adjustment functions due to the expansion of renewable energy
- Adverse impacts arising from the emergence of geopolitical risks
- Uncertainty in development due to external factors such as changes in the bidding system, vulnerabilities in the grid at locations suitable for renewable energy, and more

## Business Indicators and Revenue Generation

To effectively conduct our business and consistently meet the expectations of our stakeholders, it's imperative that we continually commit to renewable energy development. By bolstering our renewable energy capabilities and growing into one of the world's leading renewable energy providers, we will achieve a robust and global expansion of our renewable energy business.

Renewable Energy  
Development Output

Total for FY2022  
**2.5 GW**

## Business Overview

### Renewable Energy

Moving forward, we plan to consolidate our renewable energy business, both domestically and abroad, around our European base of operations. By partnering with local teams in each region, we aim to establish a glocal (global + local) structure. In offshore wind, where significant growth is anticipated, we are also intensifying our efforts in floating wind technology, a new frontier in the field. In addition to offshore wind power, we will actively pursue our solar power generation business in Japan and expand our solar and onshore wind power generation businesses in North America, India, and other countries. At the same time, we will also work on battery storage solutions in each country, which will contribute to stabilizing the supply-demand balance.



## Business Overview

### Overseas Power Generation

Globally, we operate close to 30 projects across over 10 countries, and we are continuing to expand our operations by leveraging our expertise in the development and operation of numerous large-scale power plants both domestically and abroad. Particularly in Asia, we are collaborating with platform-based companies that span multiple business domains, advancing not only power infrastructure development but also ensuring stable LNG supply and promoting decarbonization efforts.



### Platform-Based Companies & Main IPPs\*

We are utilizing the experience we have gained from each of the countries where we operate to engage in business development. Recently, we have been steadily expanding our renewable energy ventures, primarily in offshore wind power generation, through equity acquisitions in projects like the Brady Gas Power IPP business in the United States, our joint venture with Gia Lai Electricity Joint Stock Company in Vietnam, Parkwind in Belgium, and Green Power Investment Corporation in Japan. Moreover, in Asia, we are bolstering our collaborations with platform-based companies that have a strong presence in local markets and offer access to a wealth of business opportunities. In light of evolving business conditions, we endeavor to achieve an optimal asset composition by reorganizing our portfolio through asset divestitures and reinvestments, with a focus on securing funds and increasing earnings.

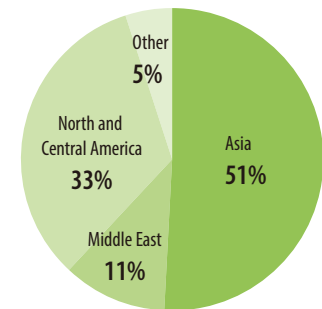
\*IPP: Independent Power Producer  
IWPP: Independent Water and Power Producer

### Main Platform-Based Companies Business Investments\*

		Thermal Power Projects		Renewable Energy Projects	
Country	Company	Country	Company	Country	Company
The Philippines	TeaM Energy	Vietnam	Gia Lai Electricity Joint Stock Company	India	ReNew Power
The Philippines	Aboitiz Power	Belgium	Parkwind	Japan	Green Power Investment Corporation
Thailand	EGCO				
Bangladesh	Summit Power International				

\*Platform-based companies business investments: Businesses involved in multiple power generation projects, etc.

### Business Portfolio by Region



# Domestic Thermal Power Generation and Gas Business

We are the largest power company in Japan, supplying approximately 30% of all domestic power generation output. Ensuring a stable supply of energy is the utmost priority in the Domestic thermal power generation and gas business. We achieve an economical and reliable supply by combining fuel procurement with the optimal operation of our power generation portfolio and our expertise in operating and maintaining power generation facilities.

In recent years, we have leveraged the electricity market and continued to make contributions to its growth and maturation. Looking ahead, we will continue to offer solutions to meet the evolving customer demands, including the establishment of a clean energy supply infrastructure needed to realize a decarbonized society.

## Distinguishing Features

Our business faces numerous challenges, such as risks associated with fluctuating resource prices and the complexity of plant operations amidst significant volatility in domestic thermal power demand. Nonetheless, we adapt flexibly and respond swiftly by utilizing diverse fuel procurement sources and trading strategies in the face of resource price fluctuations. Additionally, we leverage diverse sales channels, including market transactions, and draw upon our years of experience in thermal power generation management to provide the best possible response to fluctuations in domestic thermal power demand.

### Strengths

- Flexible and agile response based on expertise in thermal power generation and operation cultivated over years of experience
- A team of highly-skilled professionals in each area of technical expertise
- Robust on-site capabilities with excellent safety and disaster-prevention performance
- A competitive and flexible fuel procurement portfolio
- Know-how in market transactions

### Issues

- Optimization of plant operations and fuel/power utilization in highly volatile conditions
- Decarbonization of thermal power generation
- New approaches to work enabled by digital technology

### Opportunities

- Applying digital technologies
- Attaining zero emissions
- Improving liquidity in the domestic electricity market
- Evolving customer needs in electricity and gas sales

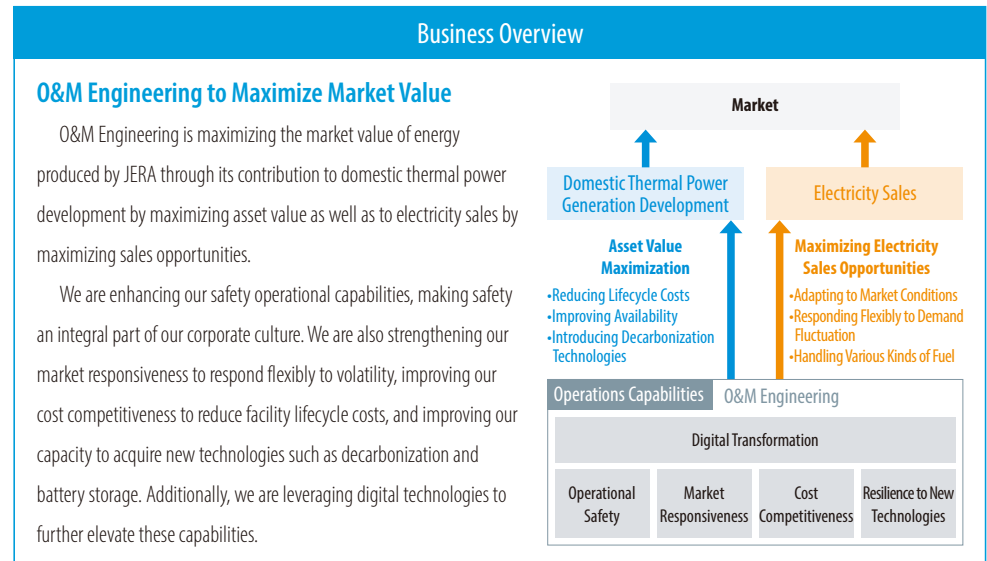
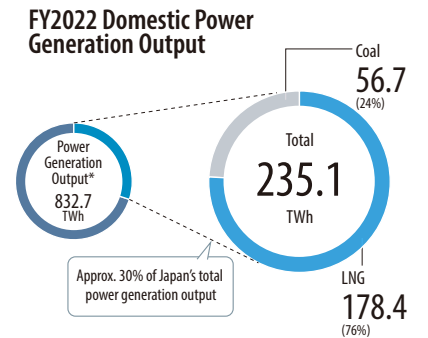
### Risks

- Fluctuations in resource prices
- Negative impact of geopolitical risks on fuel procurement
- Risk of natural disasters such as major earthquakes
- Disruption of operations caused by equipment problems or accidents

## Business Indicators and Revenue Generation

We rank among the world's largest power producers and play a pivotal role in ensuring a dependable electricity supply in Japan through its substantial power generation output. These electricity generation figures include not only the power generated by state-of-the-art replacement thermal power sources but also the electricity generated through the reactivation of idle thermal power sources, which were awarded contracts through public bidding during the peak-demand summer and winter periods.

\*Source: Agency for Natural Resources and Energy website (As of July 12, 2023) ([https://www.enecho.meti.go.jp/statistics/electric\\_power/ep002/](https://www.enecho.meti.go.jp/statistics/electric_power/ep002/)) (Japanese)



## Business Overview

### Domestic Thermal Power Generation Development

We are in the process of replacing existing thermal power plants with facilities that have higher thermal efficiency and lower CO<sub>2</sub> emissions, making the most of their existing locations. Moreover, we are working on the construction of receiving facilities for decarbonized fuels like ammonia and hydrogen, alongside their power generation facilities, to accelerate the transition to carbon-neutral fuels that result in zero CO<sub>2</sub> emissions during combustion.

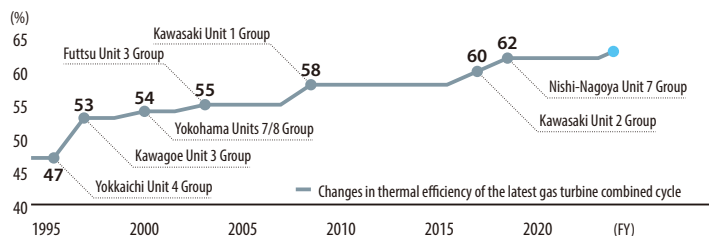


### Anegasaki Thermal Power Station

#### Replacing Existing Facilities with Highly Efficient and Agile Power Plants



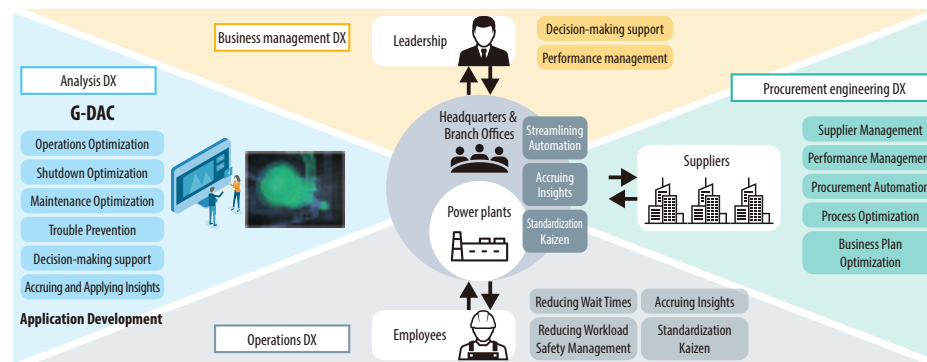
After 60 years of operation, the Anegasaki Thermal Power Station has undergone a remarkable transformation. Units 1 to 4 have been decommissioned, making way for the construction of a cutting-edge LNG thermal power plant with replacement units that boast world-leading power generation efficiency of around 63%. Apart from achieving a nearly 30% reduction in CO<sub>2</sub> emissions compared to the decommissioned facilities, it also offers exceptional flexibility.



### Digital Power Plant (DPP) Project

We harness digital technology to create cutting-edge O&M solutions. Cutting-edge solutions are not confined to just a few power plants. We're driving integrated operations, encompassing our headquarters, power plants, and partners. This is the essence of our Digital Power Plant (DPP) Project.

Within the framework of the DPP project, we are promoting digital transformation (DX) across four critical aspects: operations, analysis, business management, and procurement, with a central focus on power plants. Our endeavors encompass advanced data analysis for predictive monitoring, the development of DPP applications, the integration of operations through the metaverse, and the implementation of JERA knowledge management with AI-generated capabilities.



## Business Overview

### Electricity and Gas Sales

We are able to sell electricity and gas to meet the diverse needs of our customers based on our supply capabilities backed by our excellent track record of thermal power generation and experience with large-scale fuel contracts. In addition to traditional retail sales to both shareholder companies, we are expanding our sales channels to include third-party wholesalers and market trading, with a focus on unbiased risk management for both domestic and international markets. We have also established a subsidiary for electricity trading, allowing us to effectively manage and utilize our power sources and contract capacity.

Moving forward, we will continue to expand our market presence while ensuring a balance between a stable energy supply and increased profitability as a trusted power generation company by customers and business partners alike.



# Talent Acquisition & Retention Strategy

JERA stands by the policy of being a world-class company that leads the well-being of our employees and their families. We believe that to truly elevate employee engagement, we must consider not just individual employees but their families as well. We are committed to this HR policy as we drive our corporate growth and value creation from the standpoints of both “offensive” and “defensive” talent acquisition and retention.

Our company aims to harness a symbiotic relationship with employees as the company provides the foundations and environment needed for them to unleash their potential and grow. Through this growth and collaboration of our employees, we aspire to drive our company forward and meet the expectations of society.



## Mission

To provide cutting edge solutions to the world's energy issues

## 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

## HR Policy

A world-class company that leads the well-being of our employees and their families

## HR Value

### On the “Offensive”

Enhancing strategic certainty through strategy and talent alignment

Driving JERA's growth with an “offensive” and “defensive” approach to talent acquisition and retention

### On the “Defensive”

Providing an environment where a diverse range of talent feel secure taking on new challenges

## Key Initiatives

1

### Transformation to Job-Based Talent Management



- Aligning Business Strategy with Talent
- JERA's Job-Based Management Approach
- Expansion of Mid-Career Recruitment

2

### Professional Development



- Support for Independent Career Development
- Evaluation System
- Development of Global and Managerial Talent

3

### Building Our Corporate Culture



- Promoting Diversity & Inclusion
- Promoting Health Management
- Flexible Approaches to Work
- Award Programs

# Transformation to Job-Based Talent Management

## Background and Purpose of the Job-Based Management Approach

**Aligning compensation with the market ensures a dynamic match between business strategy and talent (e.g., recruiting, training, and positioning top talent, both internally and externally)**

As we move forward, JERA must expand its global presence and devise novel solutions like constructing hydrogen and ammonia supply chains in order to address global energy challenges. And top-tier talent is essential for reliable execution. In addition to the retention of exceptional talent internally, compensation levels must be linked to the market in order to attract talent and expertise in areas missing within the company. At the same time, it is imperative that we achieve dynamic alignment between business strategy and talent (hiring, training, and positioning exceptional talent, both internally and externally).

Considering the social challenges facing Japan, such as the declining birthrate, aging population, and rigidity of the labor market, we expect competition for exceptional talent to intensify in the future. Additionally, we cannot overlook the fact that we are under pressure to respond to changes in employee career awareness, such as an increase in the number of foreign nationals, female employees, and other diversity-related themes, as well as a growing tendency for employees to change jobs.

With that in mind, we believe that to achieve our business strategy, we must transition from a conventional membership-based talent management approach to a job-based approach. While it has only been implemented for a select managerial segment, the job-based management system is going to be rolled out for all managers (approximately 1,000 individuals) by FY2024. As this system presupposes an equal footing between the company and employees, whereby individuals can autonomously choose and pursue their respective jobs and career paths, we will concurrently promote the fluidity of our internal talent market and lay the foundation so that an ethos of independent career development can spread throughout our organization.

JERA Business Direction	Social Issues in Japan	Changes in Individual Employees
<p><b>Globalization of Business</b> (Solving global energy issues)</p> <p><b>Providing Advanced Solutions</b> (Hydrogen, ammonia, renewable energy, etc.)</p>	<p><b>Low Birthrate and Aging Population</b> (Decrease in the working population)</p> <p><b>Rigidity and Closure of the Labor Market</b></p>	<p><b>Increase in Diverse Talent</b> (Foreign nationals, female employees, seniors, people with disabilities)</p> <p><b>Change in Career Awareness</b> (Career change-oriented)</p> <p><b>Lifestyle Changes</b> (Dual-career families/Emphasis on work-life balance)</p>

To achieve our business strategy, we must move away from a conventional membership-based talent management mode and move toward a job-based approach.

## JERA's Target for Job-Based Talent Management

**The job-based employment system serves as a base for a "JERA-style" approach that considers Japan's unique labor environment**

Based on this labor landscape—marked by low talent mobility and strong ties between university education and employment, among other factors—we have established a job-based management system tailored to JERA.

Key features include meeting employment obligations up to the age of 65, hiring new graduates based on potential, and applying membership-based performance reviews for general roles. These features are based on job-based employment systems commonly found overseas but are designed with Japan's unique labor landscape in mind.

	Japanese Market	JERA Job-based Management	Global Market
Employment Practices	Lifetime Employment Obligation to Hire Until Age 65	Lifetime Employment Obligation to Hire Until Age 65	Career Changes for Upward Mobility Termination Due to Performance
Hires	Employment Based on Potential	New Graduates: Hired based on potential Mid-Career: Hired for specific positions	Hired for specific positions
Evaluation and Promotion	Seniority-based/Skills-based Compensation (Pay for Person)	Managers: Linked to specific positions (Pay for Job) General Positions: Reflects ability (Pay for Person)	Linked to specific positions (Pay for Job)
Compensation Setting	Non-market Related	Industry-specific Market Alignment	Role-specific Market Alignment
Career Development	Company-initiated	Individual-driven	Individual-driven

## Progress of Job-Based Employment (Expansion of Mid-Career Hires)

**The number of mid-career hires has increased with the development of each of our businesses.**

**Mid-career hires now account for approximately 10% of all employees**

As mentioned in Background and Purpose of the Job-Based Management Approach, we are expanding job-based hires due in part to the need for dynamic alignment of our talent and business strategies. This is supported by the fact that the number of mid-career hires has been increasing year over year, especially within corporate divisions that underpin our various business segments, aligning with the growth of our business units (with around 400 hires in total).

### Number of Mid-career Hires by Segment

	Overseas Power Generation and Renewable Energy Business	Domestic thermal power generation and gas Business	Fuel Business	Other Corporate Divisions, etc.	Total
FY2019	4	1	1	15	21
FY2020	7	8	5	52	72
FY2021	10	22	11	89	132
FY2022	13	27	9	102	151

# Key Initiatives

## Talent Development

### Fundamental Approach

Respecting each employee's career plan as we anticipate and embrace the challenges of a new era

Offering challenging opportunities and providing maximum support for those aiming to become professionals in their area of expertise

### Talent Development Policy

The JERA Group considers every employee an essential asset and conducts talent development as described below

#### [ Talent Development Objectives ]

- 1 To allow employees to grow and live their lives to the fullest
- 2 To enhance the JERA Group's corporate value and to help us achieve our mission and vision through employee growth

#### [ Fundamental Approach ]

**The JERA Group respects the diversity of its workforce and supports employees in all areas of the organization to realize their professional aims**

- Helping JERA employees improve their skills and develop a mindset for sustained success and dominance inside and outside Japan, as well as contributing to social progress

**The JERA Group provides opportunities to take on challenges that help the company stay ahead of the times.**

- Helping employees learn how to adapt quickly in times of uncertainty
- Striving to provide a work environment that allows employees to grow further and demonstrate their abilities.

**The JERA Group honors employees' career goals and provides maximum support to help them achieve them.**

- Providing skills training and job rotation opportunities so employees can achieve their career goals

We actively support the growth of all JERA Group employees, including those working overseas.

### Assembling the Ideal JERA Team

#### Four Defining Characteristics

Diversity



Employees strive for individual and organizational growth by respecting diversity at all levels of the organization, regardless of differences in gender, nationality, ethnicity, experience, or expertise.

Excellence



Employees aim for individual growth and seek to become professionals who consistently and enthusiastically incorporate new skills and know-how.

Entrepreneurialism



Employees are keen to recognize change, pursue new opportunities, and innovate.

Fairness



Employees hold themselves accountable and engage in all initiatives from a position of high ethical standards and fairness.

### Training System

Establishing a training system to support skill development as a mechanism to support independent career development

As part of our framework to encourage independent career development, we have established pillars of growth and a training system to facilitate multifaceted skill development. Currently, there are roughly 70 training programs with 130 different lectures to choose from, allowing employees to choose their courses according to their envisioned career paths. Additionally, in light of the trends toward decarbonization, we also deploy staff to the Green Innovator Project.

#### Five Pillars of Growth

Professional Training	General Training
<p><b>Professionalism</b></p> <ul style="list-style-type: none"> <li>• Skills of each business division</li> </ul>	<p><b>Innovativeness</b></p> <ul style="list-style-type: none"> <li>• Critical thinking</li> <li>• Analytical skills, etc.</li> </ul>
<p><b>Leadership</b></p> <ul style="list-style-type: none"> <li>• Interpersonal skills</li> <li>• Influence, etc.</li> </ul>	<p><b>Management skills</b></p> <ul style="list-style-type: none"> <li>• Management Know-How</li> <li>• Organization and employee management</li> </ul>
	<p><b>Fairness</b></p> <ul style="list-style-type: none"> <li>• Corporate Ethics</li> <li>• Corporate Philosophy</li> </ul>

### Fostering Global Talent

We are promoting a variety of initiatives to improve our talent's global adaptability, including offering opportunities for language acquisition

In order to achieve our vision for 2035, we believe that it is also essential to improve the global adaptability of our workforce. To this end, we are rolling out language learning opportunities and study abroad programs for our employees. Approximately 700 participants have joined language learning opportunities offered since FY2022.





# Key Initiatives

## Building Our Corporate Culture

### Overview of D&I Promotion

#### Creating New Value Rooted in Diversity

To achieve our mission, we need to create new value by advancing globalization and breaking free from stereotypes. What is crucial is an ethos that respects individuality, irrespective of nationality, age, gender, sexual orientation, gender identity, or disability. We have high hopes for JERA to become a place where every individual can maximize their abilities in a fair and equitable environment, where they feel a sense of contribution and individual growth.



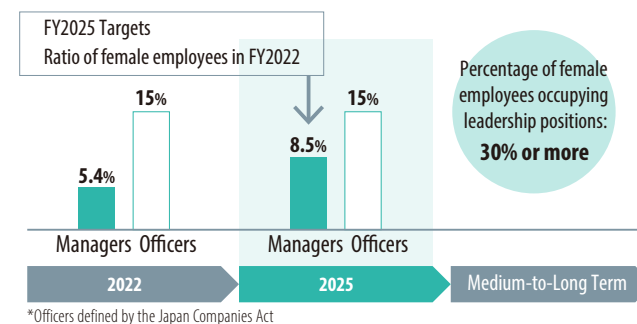
### D&I Initiatives

#### Promoting initiatives that respect and embrace diversity and provide opportunities for all

##### Gender Diversity Initiatives

At JERA, we perceive further active engagement of motivated female employees as indispensable for enhancing corporate value. To that end, we hold a variety of events to attract female employees when recruiting new graduates. In FY2022, we hired 17 female employees from humanities backgrounds (48% of all humanities hires) and 13 from the sciences (23% of all science hires). In addition, we introduced a sponsorship system\* in FY2021 to increase the ratio of women in leadership roles. We aim to achieve 8.5% in FY2025 and over 30% over the medium-to-long term.

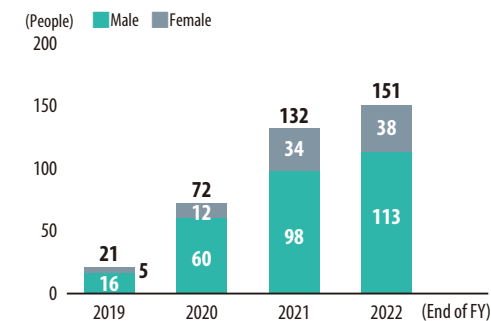
\*A policy aimed at supporting the career development of female employees by assigning them a sponsor, who is a supervisor not in their direct reporting chain. This sponsor assists them in accessing new opportunities and building networks, working in collaboration with their immediate supervisor.



We are actively hiring people with diverse backgrounds and advanced expertise not yet represented at JERA.

With the demand for agile matching of talent to business strategy, the number of mid-career hires is showing an annual upward trend as each business evolves.

#### Number of Mid-Career Hires (by gender)



Diversity and Inclusion  
<https://www.jera.co.jp/en/corporate/diversity>

# Coexisting with Local Communities

Our operations have a broad international reach, and we recognize how imperative it is for us to actively cooperate with the regions and communities where we do business to find solutions to global issues such as climate change as well as poverty, inequality, natural resource problems, and demographic change.

As a company focused on working responsibly with local communities, we formulated our Social Contribution Activity Policy in 2021 to contribute to realizing a sustainable society. Specifically, we have positioned Coexisting with the Environment, Educating the Next Generation, and Resolving Community Issues as our areas of focus within social contribution and are committed to promoting and working closely with local communities.

As we move forward, we will continue leveraging our strengths to address and resolve the issues faced by people in every region. We will also strengthen our relationships with stakeholders and strive to create a virtuous cycle that builds social trust and enhances our corporate value.

(Established July 2021)

## Social Contribution Activity Policy

### [Basic Policy]

The JERA Group aims to engage proactively in social contribution activities, build strong relationships of trust with regional communities and other stakeholders, and achieve sustainable development with local communities as it conducts business globally. Our social contribution activities respect the cultures, customs, nature, history, and other characteristics of individual countries and regions. At the same time, we will contribute to society and community development through activities that leverage the strengths of the entire JERA Group.

#### > Purpose of Activities

The purpose of our social contribution is the creation of a continuous virtuous cycle in which trust between JERA and our stakeholders contributes to the realization of a sustainable society, which in turn enhances corporate value.

#### > Areas of Focus

Aiming to realize a sustainable society, we will engage in activities prioritizing the following three areas: Coexisting with the Environment, Educating the Next Generation and Resolving Community Issues.

#### 1 Coexisting with the Environment

We will contribute to better conservation of the global environment by working to reduce the environmental burden of our business activities together with measures such as promoting greening and environmental protection.

#### 2 Educating the Next Generation

We will pass on the skills and expertise gained through business operations to the next generation and contribute to the education of individuals who can lead the future of energy globally.

#### 3 Resolving Community Issues

We will help resolve the many issues facing countries and regions where we do business, including increasing disaster preparedness, creating jobs, and reducing the number of communities without electricity.

#### > Support for Employee Social Contribution

We will provide our employees with opportunities for social participation and support employees' voluntary social contribution activities.

#### > Collaboration with Stakeholders

We will communicate with stakeholders as we work to address various social issues.

#### > Information Disclosure

We will proactively disseminate information about our Social Contribution Activity Policy and associated efforts via our website and reports.

## Coexisting with the Environment

### Environmental Conservation and Landscape Preservation Measures at Thermal Power Plants

The thermal power plants we own throughout Japan implement measures to preserve the landscape in consideration of the impact of operations on the surrounding environment. Landscape simulations help us select the shapes and colors for our plants' chimneys. In addition, to achieve balance with nature, we also proactively plant trees at power plant sites, many of which have become forests for many rare insects and other species to inhabit.

### Cleanup and Environmental Beautification Activities

JERA's thermal power plants and other places of business work with affiliates and local governments to conduct cleanup and environmental beautification activities in the surrounding communities.

In addition, every year since FY2020 onward, we have conducted beach cleanup activities in Akita Prefecture in cooperation with local residents and the players and staff of the Aranmare women's basketball team, of which JERA is an official sponsor.



## Educating the Next Generation

### Support for Activities of Sakura Tempesta, Junior High and High School Student Robotics Team

Sakura Tempesta is one of the most notable robotics teams in Japan. In the 2018 FIRST Robotics Competition—the world's most prominent international robotics competition—SAKURA Tempesta received the Rookie All-Star Award, given to a rookie team with outstanding success in advancing respect and appreciation for engineering and engineers.

JERA is a sponsor of Sakura Tempesta and works with the team on community service and workshops to promote STEAM education\* for the next generation. In FY2022, we collaborated on a robotics contest and workshop at our Family Day to promote understanding among employees and their families.

\* STEAM education fields: An educational concept that integrates science, technology, engineering, liberal arts, and mathematics



Photo courtesy of NPO Sakura Tempesta

### Continuing Our Scholarship Program

We established the JERA Asia Scholarship program for international students from Asian countries to study at Japanese universities and graduate schools to contribute to the education of the next generation who will lead economic growth in Asia.

Since FY2020, we have continued to provide scholarships to students from various Asian countries studying at the International University of Japan, which has engaged in the education of global talent for many years.

## Resolving Community Issues

### Community Development Using Locally Produced Energy for Local Consumption and Local Disaster Prevention\*

We are promoting Locally Produced Energy for Local Consumption and Local Disaster Prevention\*, in which locally-produced energy using local resources is utilized for disaster prevention. In the event of an emergency, we cooperate with each local government to help create safe and secure towns.

In Atsuma Town, which sustained damage in the Hokkaido East Iburi Earthquake, we provided support for energy management efforts by installing renewable energy power generation equipment and storage batteries in public facilities.

### Overseas/Affiliate Initiatives and Contributions to SDGs

We invested in TeaM Energy Corporation (JERA and Marubeni each have a 50% stake), an affiliate in the Philippines, which is working to solve social issues in that country. Specifically, through TeaM Energy Foundation, Inc., a non-profit corporation, we have sought to alleviate poverty, protect the environment, provide support for education and medical care, and support against drug abuse by providing electricity to areas and homes previously without power as part of various multi-year initiatives.

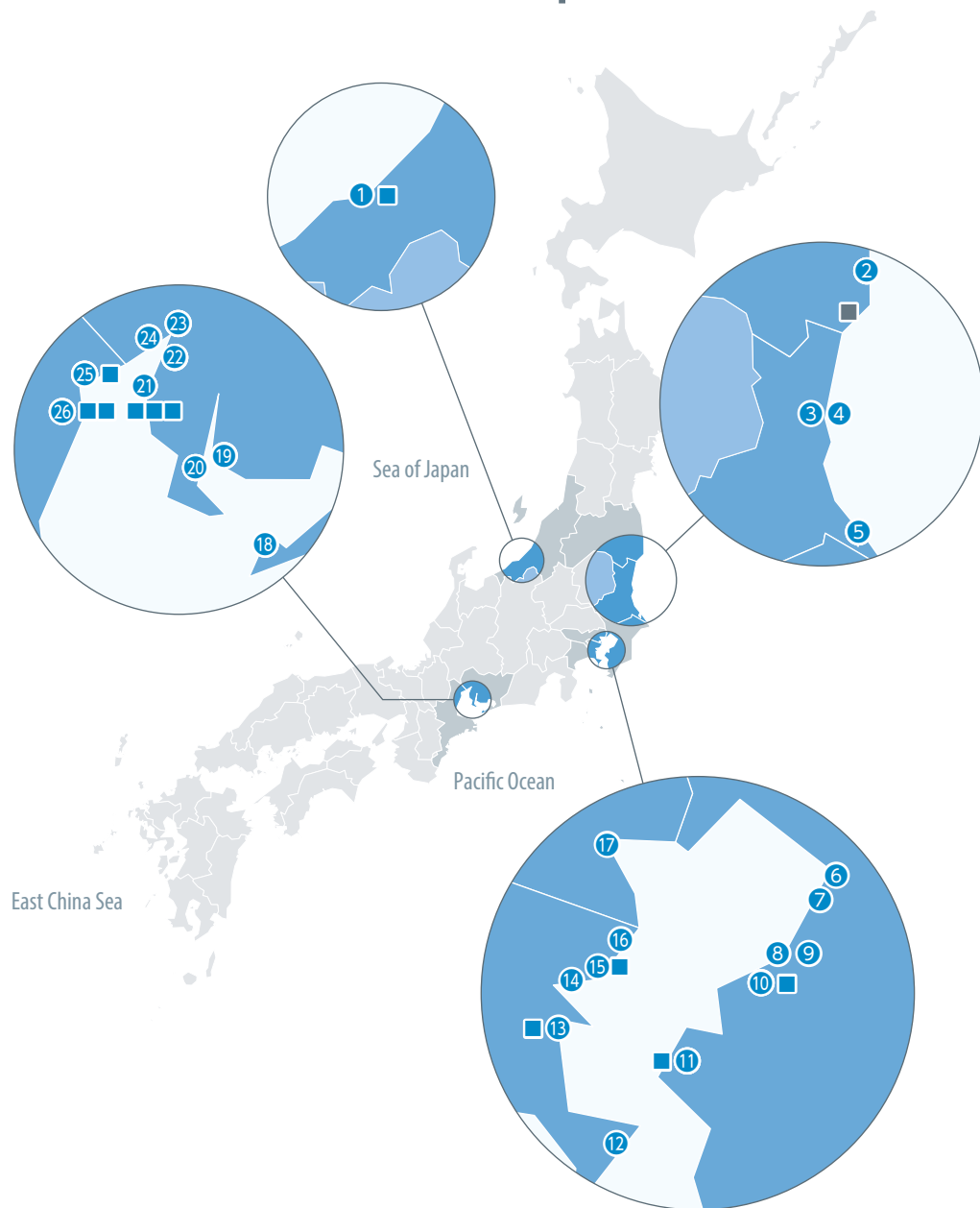
In addition, our affiliate Reliance Bangladesh LNG & Power (JERA has a 49% stake, Reliance Power has 51%) has been making contributions to communities based on local needs, such as donating equipment to four elementary schools in the surrounding area, providing courses to promote employment, and offering free health checkups.





# Thermal Power Stations in Japan

As of June 30, 2023



## ● List of Thermal Power Stations \*1

(total output and fuel type listed for each Station)

1 Joetsu	2.38GW	◆	13 Minami-Yokohama	1.15GW	◆
2 Hirono	4.4GW	◆◆◆	14 Yokohama	3.016GW	◆
3 Hitachinaka	2GW	◆	15 Higashi-Ohgishima	2GW	◆
4 Hitachinaka Joint Thermal Power Station (Hitachinaka Generation Co., Inc.)	0.65GW	◆	16 Kawasaki	3.42GW	◆
5 Kashima	1.26GW	◆	17 Shinagawa	1.14GW	◆
6 Chiba	4.38GW	◆	18 Atsumi	1.4GW	◆◆
7 Goi (Goi United Generation LLC)	2.34GW	◆	19 Hekinan	4.1GW	◆
(Scheduled to begin operation in FY2024)			20 Taketoyo (JERA Power Taketoyo)	1.07 GW	◆
8 Anegasaki	1.2GW	◆	21 Chita	1.708GW	◆
9 Anegasaki (JERA Power Anegasaki)	1.941GW	◆	22 Chita Daini	1.708GW	◆
(Sequential start of operations, beginning with commercial operation of the Anegasaki Thermal Power Station New Unit 1 in February 2023)			23 Shin-Nagoya	3.058GW	◆
10 Sodegaura	3.6GW	◆	24 Nishi-Nagoya	2.376GW	◆
11 Futtsu	5.16GW	◆	25 Kawagoe	4.802GW	◆
12 Yokosuka (JERA Power Yokosuka)	1.3GW	◆	26 Yokkaichi	0.585GW	◆
(Sequential start of operations, beginning with commercial operation of the Yokosuka Power Station Unit 1 in June 2023)					

◆	LNG	◆	Coal	◆	Heavy Oil	■	LNG Terminal*2
◆	Crude Oil	◆	Natural Gas	■	Coal Terminal		

\*1 Power station name followed by name of operating company in parentheses.

\*2 Includes jointly operated terminals in Chita and Yokkaichi area

# Major Overseas Business

As of September 30, 2023

## Major LNG Supplying Countries (■ In blue)

- Thermal power generation
- Renewable energy
- Fuel upstream
- Optimization

### Netherlands

- Rietlanden Coal Terminal

### UK

- Gunfleet Sands Offshore Wind IPP Project
- Zenobe Battery Storage
- JERA Global Markets

### Belgium

- Parkwind Offshore Wind Power Project\*<sup>2</sup>



### Qatar

- Ras Laffan B Gas Thermal IWPP Project
- Ras Laffan C Gas Thermal IWPP Project
- Mesaieed Gas Thermal IPP Project
- Umm Al Houf Gas Thermal IWPP Project

### UAE

- Umm Al Nar Gas Thermal IWPP Project\*<sup>1</sup>





## Bangladesh

- Summit Power IPP Project\*1,2
- Meghnaghat Gas Thermal IPP Project

## Taiwan

- Chang Bin / Fong Der / Star Buck Gas Thermal IPP Project\*1
- Formosa 1 Offshore Wind Power IPP Project
- Formosa 2 Offshore Wind Power IPP Project



## US

- Tenaska Gas Thermal IPP Project
- Carroll County Gas Thermal IPP Project
- Cricket Valley Gas Thermal IPP Project
- Linden Gas Thermal IPP Project\*1
- Compass Gas Thermal IPP Project
- El Sauz • Wind Power Project
- Brady Thermal IPP Project\*1
- Freeport LNG Project
- JERA Global Markets



## Japan

## Philippines

- TeaM Energy IPP Project\*2
- Aboitiz Power IPP Project\*2

## Vietnam

- Phu My Gas Thermal IPP Project
- Gia Lai Electricity Joint Stock Company\*2

## Indonesia

- Cirebon Coal Thermal IPP Project

## Australia

- Darwin LNG Project
- Gorgon LNG Project
- Wheatstone LNG Project
- Ichthys LNG Project
- Barossa Gas Project

## India

- ReNew Power Wind and Solar Power IPP Project\*2



## Oman

- Sur Gas Thermal IPP Project

## Thailand

- EGCO IPP Project\*2
- Solar Power IPP Project
- Ratchaburi Gas Thermal IPP Project\*1
- Wind Power IPP Project

## Singapore

- JERA Global Markets

\*1 IPP: Independent Power Producer

IWPP: Independent Water and Power Producer

\*2 Platform-based companies business investments: Businesses involved in multiple power generation projects, etc.

# Financial Data

Unit: Million yen		Japanese GAPP		IFRS				
		FY2019	FY2020	FY2021	FY2022			
<b>Profit and Loss Statement (P&amp;L) Information</b>		Net sales (operating revenue)	3,280,002	2,730,146	Revenue	2,769,127	4,737,870	
		Operating profit	167,008	249,438	Operating profit	39,718	138,301	
		Ordinary profit	174,429	244,194				
		Profit before income taxes	195,386	227,818	Profit before tax	38,612	102,264	
		Profit attributable to owners of parent	168,543	157,852	Net profit attributable to owners of parent	5,676	17,847	
(P&L by segment)	Fuel business	Net sales	864,708	1,076,200	Revenue	454,728	585,731	
		Segment profit (loss)	25,094	48,014	Net profit (loss)	146,137	201,318	
	Overseas power generation renewable energy business	Net sales	2,180	2,663	Revenue	4,166	8,673	
		Segment profit (loss)	36,126	(7,661)	Net profit (loss)	(34,779)	(6,548)	
	Domestic thermal power generation and gas business	Net sales	2,926,760	2,391,044	Revenue	3,118,347	6,153,470	
		Segment profit (loss)	135,814	152,858	Net profit (loss)	(121,438)	(11,032)	
	Adjusted	Net sales	(513,647)	(739,762)	Revenue	(808,114)	(2,010,005)	
		Segment profit (loss)	(28,492)	(35,358)	Net profit (loss)	15,757	(165,889)	
			Depreciation and amortization	197,940	187,737	Depreciation and amortization	202,882	214,786
			Capital expenditures	244,541	225,997	Capital expenditures	339,948	378,592
		Research and development costs	1,433	1,142	Research and development costs	1,079	1,566	
		Domestic thermal power generation and gas business	177	132	Domestic thermal power generation and gas business	106	184	
		Other	1,255	1,009	Other	973	1,381	
<b>Financial Condition Information</b>		Total assets	4,035,324	4,090,880	Total assets	8,495,106	9,172,358	
		Total net assets	1,601,267	1,762,120	Equity	1,731,664	2,039,705	
		Net worth	1,540,522	1,686,194	Own equity	1,724,859	2,022,874	
		Interest-bearing liabilities	1,505,957	1,613,291	Interest-bearing liabilities	2,639,128	3,510,822	
<b>Cash Flow Information</b>	Cash flows from operating activities		551,670	340,825	Cash flows from operating activities	(318,202)	450,710	
	Cash flows from investing activities		(310,863)	(272,092)	Cash flows from investing activities	(649,330)	(369,452)	
	Cash flow from financing activities		(452,054)	89,542	Cash flow from financing activities	798,713	796,236	
	Free cash flow		240,807	68,733	Free cash flow	(967,533)	81,258	
	Cash and cash equivalents at end of the period		402,431	561,685	Cash and cash equivalents at end of the period	456,430	1,360,906	
<b>Key Financial Indicators</b>	Net profit <sup>(2)</sup>		90,082	111,629	Net profit attributable to owners of parent <sup>(2)</sup>	248,594	200,336	
	EBITDA <sup>(3)</sup>		292,812	359,305	EBITDA <sup>(3)</sup>	591,599	574,045	
	Return on invested capital (ROIC) (%) <sup>(4)</sup>		3.2	3.7	Return on invested capital (ROIC) (%) <sup>(4)</sup>	6.7	4.4	
	Return on equity (ROE) (%) <sup>(5)</sup>		8.5	6.9	Return on equity (ROE) (%) <sup>(5)</sup>	14.6	10.3	
	Net debt-to-equity ratio <sup>(6)</sup>		0.7	0.6	Net debt-to-equity ratio <sup>(6)</sup>	1.3	1.0	
		Net debt-to-EBITDA ratio <sup>(7)</sup>	3.6	2.8	Net debt-to-EBITDA ratio <sup>(7)</sup>	3.7	3.7	
<b>Other</b>	Synergy effects (billion yen)		25.0	45.0	Synergy effects (billion yen)	85.0	120.0	
	Credit ratings		S&P A-, R&I A+, JCR AA-	S&P A-, R&I A+, JCR AA-	Credit ratings	S&P A-, R&I A+, JCR AA-	S&P A-, R&I A+, JCR AA-	

(1) International Financial Reporting Standards (IFRS) have been voluntarily adopted, starting with the consolidated financial statements for FY2022 (2) Excluding time lag (3) EBITDA = Earnings before interest and taxes\* + Depreciation and amortization + Interest expenses \*Excluding time lag

(4) ROIC = (Net profit\*1 + Interest expense × (1 - Effective tax rate\*2)) ÷ (Interest-bearing liabilities + Net worth\*3)\*4 \*1 Excluding time lag \*2 Using the company's effective tax rate (based on figures listed in the Financial Statement) \*3 Capital - Non-controlling interests \*4 Average at the beginning and end of the period

(5) ROE = Net profit\*1 ÷ Net worth\*2 \*1 Excluding time lag \*2 Average at the beginning and end of the period (6) Net debt-to-equity ratio = (Interest-bearing liabilities - Cash and deposits) ÷ Net worth\* \*Capital - Non-controlling interests (7) Net Debt / EBITDA = (Interest-bearing liabilities - Cash and deposits) ÷ EBITDA\* \*Excluding time lag

## Power Sold / Power Generated

		FY2019	FY2020	FY2021	FY2022
<b>Power sold (TWh)</b>		265.7	246.6	255.5	255.1
<b>Power generated (TWh)</b>	LNG	215.6	201.5	192.3	178.4
	Coal	48.4	43.2	55.0	56.7
	Fuel oil / Crude oil	1.3	0	0	0
	Total	265.3	244.6	247.3	235.1



# Non-Financial Data

## Environmental Data

Item	Unit	FY2019	FY2020	FY2021	FY2022
<b>JERA in Japan*1</b>					
<b>Installed capacity by source*2</b>	MW	65,476	66,126	59,893	57,210
Coal	MW	7,300	7,950	7,950	9,020
Gas	MW	48,126	48,126	42,943	43,590
Others	MW	10,050	10,050	9,000	4,600
<b>Fuel consumption</b>					
Coal*3	million ton	17	16	20	21
Oil	million kL	0.34	0.05	0.04	0.04
LNG, LPG	million ton	29	27	26	24
Natural gas	billion Nm <sup>3</sup>	2	2	2	2
Biomass*4	million ton	0.4	0.4	0.4	0.5
<b>Net electricity generation</b>	TWh	265	245	247	235
<b>Gas sales volume</b>	million ton	3	3	4	4
<b>Total energy consumption (crude oil equivalent)</b>	million kL	55	51	51	50
<b>Purchased electricity</b>	million kWh	175	162	86	73

\*1 Calculation boundary: JERA in Japan, Hitachinaka Generation Co., Inc., JERA Power TAKETOYO LLC, JERA Power Yokosuka LLC, and JERA Power Anegasaki LLC (unless otherwise noted)

\*2 Calculated based on our own facilities as of the end of the fiscal year (March 31) of the year in which the data was collected

\*3 Totaled on a wet coal basis (ar: as received)

\*4 Totaled on a dry basis (ad: air dried)

## Social Data

Item	Unit	FY2019	FY2020	FY2021	FY2022
<b>Employees (JERA consolidated)*1</b>	People	4,797	4,907	5,059	5,295
<b>Employees (JERA only)*2</b>					
Total	People	3,726	3,847	3,910	4,008
(full-time employees)	People	–	–	3,900	3,999
(contract workers)	People	–	–	10	9
Male	People	3,452	3,557	3,581	3,638
(full-time employees)	People	–	–	3,574	3,632
(contract workers)	People	–	–	7	6
Female	People	274	290	329	370
(full-time employees)	People	–	–	326	367
(contract workers)	People	–	–	3	3
<b>Average age (JERA only)</b>					
Total	Years old	44.3	44.7	44.6	45.1
Male	Years old	44.5	44.8	44.9	45.6
Female	Years old	41.8	42.2	41.6	40.8

Item	Unit	FY2019	FY2020	FY2021	FY2022
<b>Managers (JERA only)</b>					
Total	People	689	730	713	841
Male	People	664	698	677	796
Female	People	25	32	36	45
Ratio of female managers	%	3.6	4.4	5.0	5.4
<b>New graduate hires (JERA only)*3</b>					
Total	People	50	51	79	92
Male	People	43	43	68	62
Female	People	7	8	11	30
<b>Mid-career hires (JERA only)</b>					
Total	People	21	72	132	151
Male	People	16	60	98	113
Female	People	5	12	34	38
<b>Turnover rate (JERA only)*4</b>					
Total	%	—	—	1.3	2.0
Male	%	—	—	1.3	1.9
Female	%	—	—	1.5	3.0
<b>Employees using childcare leave (JERA only)</b>					
Total	People	5	10	20	89
Male	People	0	0	10	56
Female	People	5	10	10	33
<b>Return-to-work rate after childcare leave (JERA only)*5</b>					
Total	%	100	100	100	100
Male	%	–	–	100	100
Female	%	100	100	100	100
<b>Gender wage gap (the ratio (female/male) where a gap exists)*6</b>					
	%	–	–	–	73.6
<b>Employee engagement*7</b>					
	%	68.1	68.6	68.8	68.8
<b>Labor union membership rate</b>					
	%	100	100	100	100

\*1 Figures from FY2021 and FY2022 are compiled in accordance with International Financial Reporting Standards (IFRS)

\*2 Excluding employees on loan from JERA to other companies and including employees on loan to JERA from other companies

\*3 Figures from FY2021 and earlier represent the number of employees initially assigned to JERA from shareholder companies (New graduate hiring began in FY2022)

\*4 Figures include individuals who have an employment relationship with JERA, including employees on loan. Turnover rate due to personal reasons

\*5 Percentage of employees who returned to work during the fiscal year among all scheduled to return

\*6 In April 2021, JERA introduced its own compensation system. There is no wage gap between male and female employees who share the same attributes (age, position, rank, etc.).

\*7 An average of 58.4% among all businesses subject to a survey conducted by a third party

# Directors & Officers

As of July 1, 2023

## Directors & Corporate Auditors

Global CEO and Chair

**Yukio Kani**

President, Director, CEO and COO

**Hisahide Okuda**

Director

**Kazuo Sakairi**  
**Lim Hwee Hua**\*1,2

**Tetsuya Watabe**  
**Toshihiro Sano**

**Joseph M. Naylor**\*1,2  
**Satoru Katsuno**\*1

**Miyuki Suzuki**\*1,2  
**Daisuke Sakai**\*1

**John Rittenhouse**\*1,2

Corporate Auditor

**Hideo Oishi**\*3,4

**Shuichi Kimura**

**Michitaka Kondo**\*3

## Business Execution System

Global CEO and Chair

**Yukio Kani**

President, Director, CEO and COO

**Hisahide Okuda**

Corporate Vice President, Managing Executive Officer

**Kazuo Sakairi** Chief Financial Officer (CFO) Financial Strategy and Planning Division / Accounting Division / Group Business Management Division

**Tetsuya Watabe** Chief O&M - E Officer (COMEO) O&M Engineering Strategy Division / O&M Engineering Operation Division / Equipment & Materials Procurement Division

Senior Managing Executive Officer

**Kazunori Kasai** Chief Optimization Officer (COPTO) Optimization Division / Sales Management Division / Procurement Management Division / Solution Service Division **Hiroshi Oyabu** Chief Business Support & Solutions Officer (CBSO) General and Regional Affairs Division / Secretariat / Legal Group

**Steven Winn** Chief Global Strategist (CGS) Platform Business Division / Low Carbon Fuel Value Chain Division **Sami BEN JAMAA** Global Chief Information and Digital Officer (G-CIDO) ICT Strategy Group / Information and Communication Technology Division / Digital Creation Group / Information Security Section

**Satoshi Yajima** Chief Power Generation Development Officer (CPGDO) Domestic Zero-Emission Thermal Power Promotion Division / Global Renewable Energy Division **Junya Tawa** Chief Strategy Officer (CSO) and Head of the Planning Division

**Taisuke Yokota** Chief Human Resources Officer (CHRO) and Head of the Human Resources Division

**Stephen O'Rourke** CEO, JERA Americas Inc.

**Toshiro Kudama** CEO, JERA Asia Pte. Ltd.

**Justin Rowland** CEO, JERA Global Markets Pte. Ltd.

Managing Executive Officer

**Toshio Kumazawa** Head of the East Japan Branch

**Hiromi Sakakibara** Head of the West Japan Branch

**Tatsuya Tsunoda** ESG

**Takashi Ekida** Head of the O&M Engineering Operation Division

**Minako Fujiie** Enterprise Value Creation\*5

**Tomoyuki Fujitomi** Head of the Information and Communication Technology Division

**Takeshi Takahashi** Head of the Group Business Management Division

**Nathalie Oosterlinck** Head of the Global Renewable Energy Division

**Hiroyuki Nakai** Head of the O&M Engineering Strategy Division

**Jun Minamoto** CFO, JERA Americas Inc.

\*1 Indicates an outside director as provided for in Article 2-15 of the Companies Act

\*2 Indicates an outside director who meet the Company's independence criteria

\*3 Indicates an outside corporate auditor as provided for in Article 2-16 of the Companies Act

\*4 Indicates an outside corporate auditor who meet the Company's independence criteria

\*5 In charge of Public Relations Group and Diversity & Inclusion Section.

Independence Criteria ; [https://www.jera.co.jp/en/sustainability/governance/independence\\_criteria](https://www.jera.co.jp/en/sustainability/governance/independence_criteria)



## Company Organization

You can also access the latest information about JERA from your computer or smartphone.  
<https://www.jera.co.jp/en/corporate/about/organization>



# Corporate Overview

Corporate Name	JERA Co., Inc.	
Locations	Headquarters	Nihonbashi Takashimaya Mitsui Building 25th Floor 2-5-1 Nihonbashi, Chuo-ku, Tokyo 103-6125 Japan TEL: +81-3-3272-4631(Main) FAX: +81-3-3272-4635
	East Japan Branch	Hibiya Kokusai Building 9th Floor 2-2-3 Uchisaiwai-cho, Chiyoda-ku, Tokyo 100-0011 Japan TEL: +81-3-3272-4631 FAX: +81-3-6363-5781
	West Japan Branch	JP TOWER NAGOYA 18th Floor 1-1-1 Meieki, Nakamura-ku, Nagoya-shi, Aichi 450-6318 Japan TEL: +81-52-740-6842 FAX: +81-52-740-6841
Incorporated	April 30, 2015	
Capital	100 billion yen	
Shareholding Ratio	TEPCO Fuel & Power, Inc.: 50% Chubu Electric Power Co., Inc.: 50%	
Description of Business	<ul style="list-style-type: none"> <li>● Thermal power generation</li> <li>● Renewable energy</li> <li>● Gas and LNG</li> <li>● Engineering, consulting, and other activities related to the above businesses</li> </ul>	
Number of Employees	5,295 (As of March 31, 2023)	

## Company Information

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<https://www.jera.co.jp/en/corporate/>



Anegasaki Thermal Power Station

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<https://www.jera.co.jp/en>