



Jera





JERA
Energy for a New Era

Kawagoe Thermal Power Station (Mie Prefecture)

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.

TOP MESSAGE

A Global Company Aiming to Earn the Regard of the Global Energy Market and Be Indispensable to the People of the World

Chairman, Representative Director **Toshihiro Sano**

Our company was established in April 2015 with the aim of creating a globally competitive energy company in Japan based on a comprehensive alliance between Tokyo Electric Power Company and Chubu Electric Power Company. Since then, we have consolidated businesses in stages, and completed the process in April 2019 with the consolidation of existing thermal power generation businesses. At that point, we established a unified, continuous value chain from fuel upstream and procurement business to power generation and electricity and gas sales, earning our status as an energy company with power generation capacity equivalent to half of Japan's thermal power generation output and a fuel transaction volume among the world's highest.

To respond appropriately to changes in both the domestic and global environments in line with business expansion, we established a system to enable us to maximize the synergies of Business Development, Optimization and O&M Engineering. We also strengthened the governance function and established a borderless organization not constrained by preconceptions.

We prioritize diversity and inclusivity in the strategy to achieve sustainable growth. Diverse human resources respect each other's background and communicate on equal terms to create new value.

The world faces an enormous task in addressing climate change and other environmental issues, while also contending with the need to provide all people access to reliable and affordable energy. To address this challenge, we need to provide optimal solutions to energy issues. We will pool our efforts as a company to resolve these issues to contribute to the development of a sustainable society, and improve our corporate value in an effort to become a global company that is worthy of the regard of the global energy market and indispensable to the people of the world.

Spearheading the Realization of a Low-Carbon Society as a Global Leader Laying the Foundation for the Future of Energy

President, Representative Director **Satoshi Onoda**

JERA's mission is to provide cutting-edge solutions to the world's energy issues. Specifically, while monitoring global trends such as the development of LNG infrastructure, growth of optimization and trading, expansion of renewable energy, improvements in LNG thermal power generation and de-carbonization, we will expand our business. While continuing to deliver a stable supply of safe, economical electricity and gas to support people's lives and the commercial industry, we aim to scale up our clean energy platform of renewables and low greenhouse gas thermal power, sparking sustainable development in Asia and around the world. Making the most of the thermal power generation technologies we have developed, we will deploy a model that combines Zero CO₂ Emission thermal power with renewable energy in developing countries, particularly in Asia where economic growth is remarkable. We will support their stable supply of electricity that contributes economic growth and de-carbonization.

As Japan's largest power company, we realize that we are in a position to proactively lead the way toward achieving a decarbonized society. To help create a sustainable society, we formulated JERA Zero CO₂ Emissions 2050 in October 2020 to work on effectively achieving zero CO₂ emissions from our domestic and international businesses by 2050. As a specific approach to achieve this, we formulated a roadmap for Japan to illustrate the path toward zero CO₂ emissions in the country and established new environmental targets to be achieved by 2035. We plan to develop roadmaps suited to the circumstances in individual countries and regions to guide our efforts in the future.

Realizing a low-carbon society is a challenge shared by all of humanity. As a global company committed to resolving the world's energy issues, we will spearhead the realization of a low-carbon society.



JERA Zero CO₂ Emissions 2050:

Taking on the challenge of zero CO₂ emissions in JERA's business both in Japan and overseas

As a global company committed to resolving the world's energy issues, JERA considers measures to counteract global warming to be the highest-priority management issue. To clarify our long-term vision for the company as Japan's largest power generation utility, we established "JERA Zero CO₂ Emissions 2050."



JERA Zero CO₂ Emissions 2050

- JERA's mission is to provide cutting-edge solutions to the world's energy issues.
- In order to help achieve a sustainable society, JERA, in the course of carrying out its mission, is taking on the challenge of achieving zero CO₂ emissions* from its business both in Japan and overseas.

The Three Approaches of JERA Zero CO₂ Emissions 2050

1 Complementarity between Renewable Energy and Zero CO₂ Emission Thermal Power Generation

JERA will achieve Zero CO₂ emissions through a combination of renewable energy and zero CO₂ emission thermal power generation. The adoption of renewable energy is supported by thermal power generation capable of generating electricity regardless of natural conditions. JERA will promote the adoption of greener fuels and pursue thermal power that does not emit CO₂ during power generation.

2 Establishment of Roadmaps Suitable for Each Country and Region

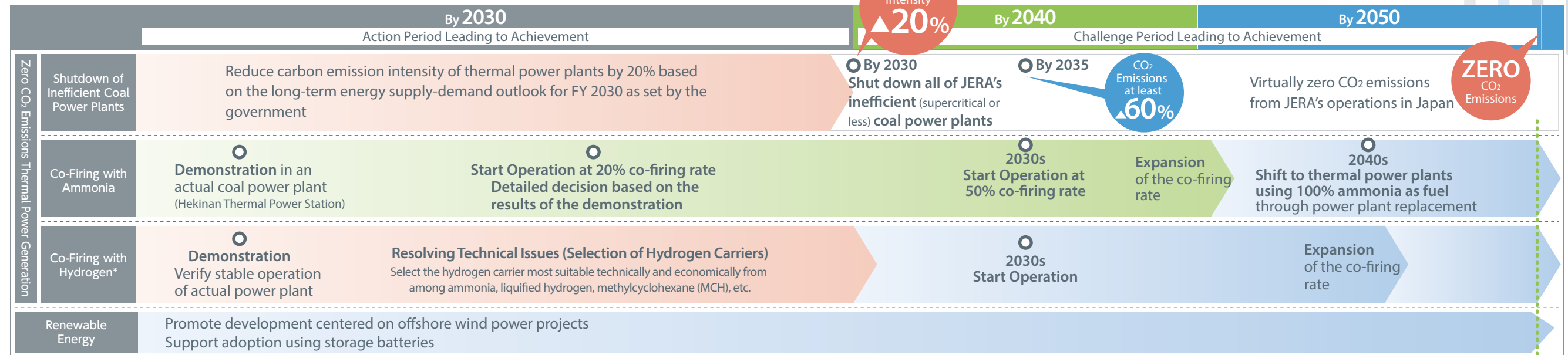
Zero CO₂ emissions will be achieved by establishing roadmaps that show optimal solutions for each country and region. Since the energy situation is different for each country and region—such as the presence of regional transmission lines or pipelines and the types of renewable energy that could be adopted—JERA will work with stakeholders on a country and regional basis to establish roadmaps. We have developed a roadmap for our business in Japan and will extend this approach to other countries and regions.

3 Smart Transition

Zero CO₂ emissions will be achieved through a combination of technologies that are available and reliable at the time adoption decisions are made, lowering technical risk and smoothing the transition to a green society.

* "JERA Zero CO₂ Emissions 2050" is premised on steady advances in decarbonization technology, economic rationality, and consistency with government policy. JERA is developing its own decarbonization technologies and taking the initiative to ensure economic rationality.

JERA Zero CO₂ Emissions 2050 Roadmap for its Business in Japan



This roadmap will be gradually developed in greater detail based on relevant conditions such as government policies. JERA will revise the roadmap when relevant conditions change significantly.

*The use of CO₂-free LNG is also being considered.

By 2050, CO₂ emitted from power plants using fossil fuels is offset using offset technology or by CO₂-free LNG

JERA Environmental Target 2030

JERA is actively working to reduce CO₂ emissions. In its domestic operations, JERA will achieve the following by FY2030:

- Shut down all inefficient (supercritical or less) coal power plants and conduct demonstration tests of mixed combustion with 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 emission intensity of thermal power plants by 20% based on the long-term energy supply-demand outlook for FY 2030 as set by the government.

JERA Environmental Target 2035

JERA aims to reduce CO₂ emissions from domestic operations by at least 60% (relative to FY 2013) by FY 2035 through the following:

- Given the expanded adoption of renewable energy based on the national government's 2050 carbon neutral policy, JERA will strive to develop and adopt renewable energy in Japan.
- JERA will work to reduce carbon emission intensity from thermal power generation by promoting hydrogen and ammonia co-firing.

JERA Zero CO₂ Emissions 2050 Roadmap and JERA Environmental Targets are premised on steady advances in de-carbonization technology, economic rationality, consistency with policy, and the business environment under which they will be realized.

JERA's Value Chain and Company Overview

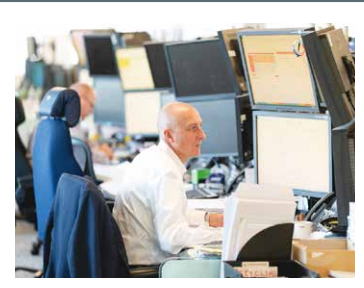
Upstream Development
Fuel Procurement

5 Upstream Investment Projects

LNG Procurement from **13** Countries^{1,2}



Optimization and Trading



Fuel Transportation

20 LNG Fleet Carriers




LNG Receiving and Storage Terminals

6.65 million kL³
LNG Tank Capacity in Japan

Equivalent to approx. 30% of LNG tank capacity in Japan

11 LNG Receiving Terminals in Japan³




Domestic Power Generation

27 Thermal Power Stations⁴

Approx. **70** GW⁴ Power Generation Capacity
The Largest in Japan

Power Generation Output Approx. **245** TWh^{1,4}
Equivalent to approx. 30% of power generation in Japan




Overseas Power Generation

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

Power Generation Capacity (Output Corresponding to Equity) Approx. **9.4** GW⁴

Renewables Development Capacity (Included Power Generation Capacity) Approx. **1.2** GW



Electricity and Gas Sales



LNG Transaction Volume (Annual)¹

Approx. **40** MTPA

Among the largest in the world

Sales

Approx. **JPY 2.7** trillion¹

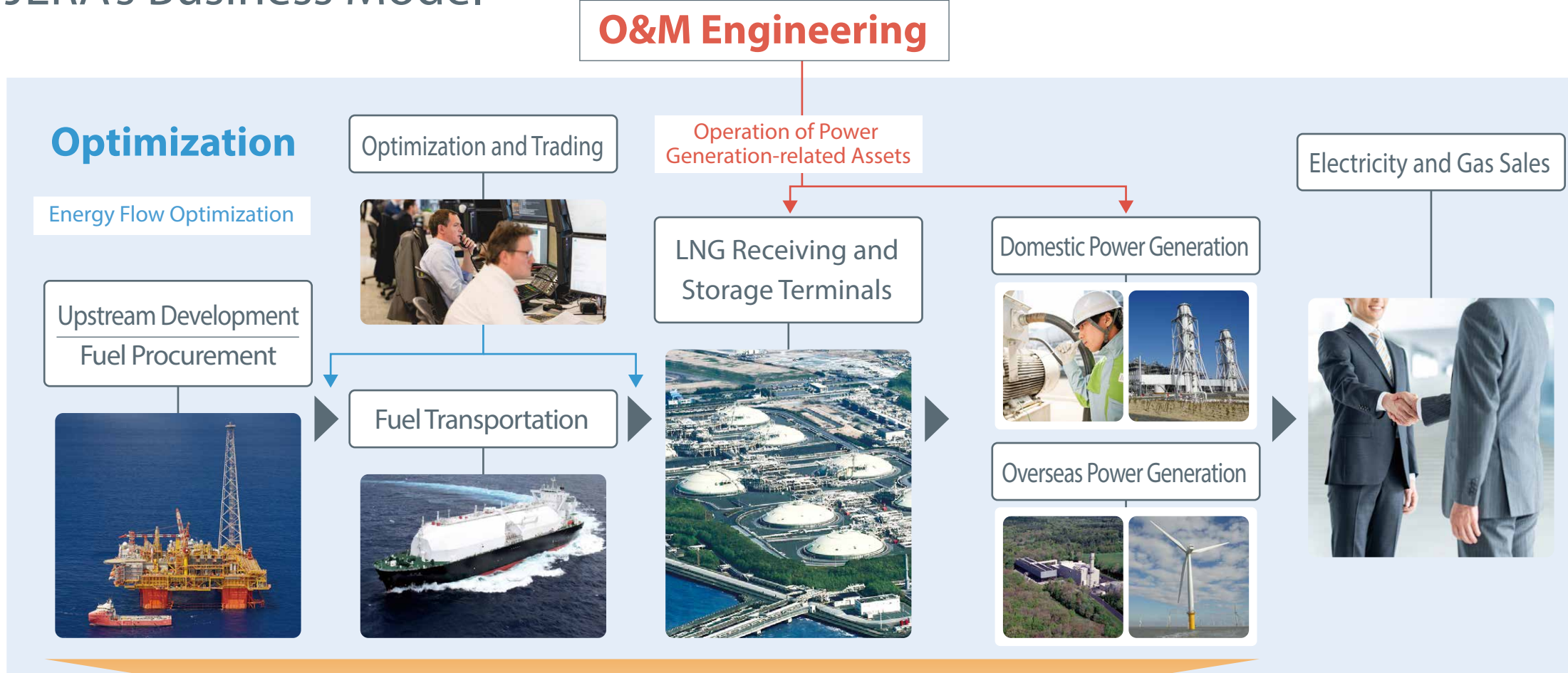
Total Assets

Approx. **JPY 4.1** trillion

As of March 31, 2021

1 Fiscal 2020
2 Represents the number of countries that imported LNG to LNG receiving terminals of JERA.
3 Includes jointly operated terminals in Chita and Yokkaichi area
4 Includes capacity under construction. Excludes joint thermal power in Japan.

JERA's Business Model



Expansion of Asset Scale and Domain

Business Development

Business Development
 Build an optimal asset portfolio by expanding the scale and domain of the value chain through the development of new businesses and the restructuring of existing assets

Optimization
 Achieve the most economically-efficient operation by optimizing the entire energy flow from fuel procurement to transport, power generation, and sales of electricity and gas

O&M Engineering
 Operate fuel receiving and storage terminals and thermal power stations safely, flexibly, and at low cost

Business Development

JERA is one of the largest power producers in the world.

We participate in the ownership of 11 LNG receiving terminals and power generation assets with a total capacity of approximately 80GW.

We are also in the fuel business, operating 20 LNG carriers, taking part in five LNG production projects, and engaged in long-term LNG procurement from 10 countries around the world.

We are constantly improving our diverse development capabilities honed through these large-scale businesses to actively develop integrated gas-to-power projects that cover fuel procurement through power generation as well as large-scale renewable energy projects, expanding our operations to meet the needs of each country and region.

Fuel Upstream, Long-term LNG Procurement and Transportation Business

We are engaged in the fuel upstream business and LNG vessel business, taking full advantage of the scale of our long-term LNG purchase and sales agreements. We secure resources and operate vessels in-house to contribute to a stable, flexible, and competitive fuel supply.

Domestic Power Generation Business

While utilizing our existing thermal power plant infrastructure, we will strengthen competitiveness and reduce environmental impact by moving forward in replacing it with high-efficiency generation systems. We provide an energy mix in line with the nation's energy and environmental policies to ensure both the stability and sustainability of energy supply.



Sourced from Chevron Australia

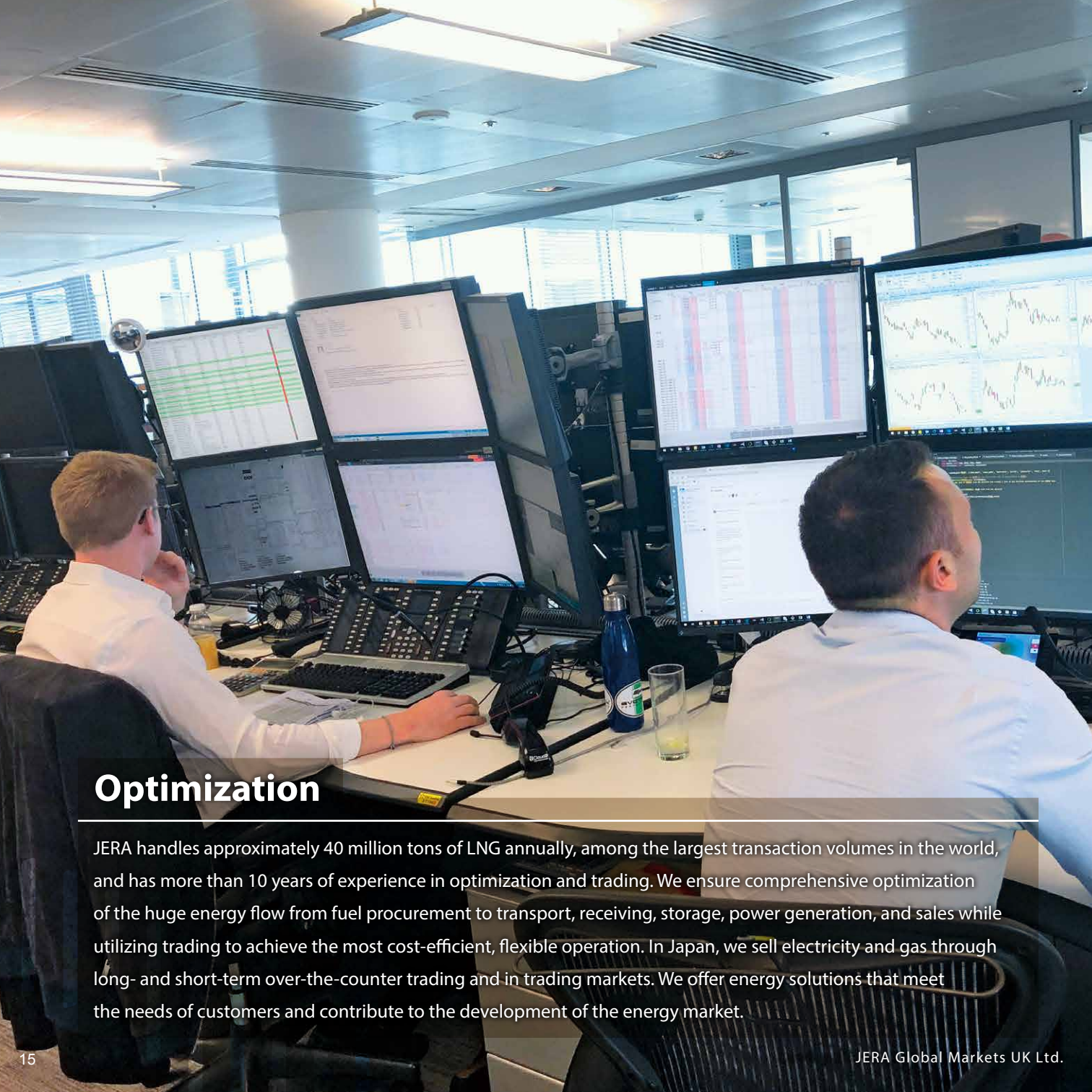
Overseas Power Generation and Value Chain Business

Our overseas power generation business began in the 1990s. Since then, we have utilized our experience gained through projects around the world to develop and operate power generation assets that meet national or regional needs and circumstances, ranging from the merchant power businesses in deregulated markets in mature economies, to integrated developments that include fuel supply in addition to the construction and operation of power stations in emerging markets.

Renewable Energy Development Business

We have positioned renewable energy—including storage batteries, now an important power generation option thanks to technological innovation—as one of our core businesses for the future. We are gaining experience through project development and operation in other countries and regions with advanced renewable energy businesses, and applying that expertise in Japan. We are promoting development focused mainly on offshore wind farms that take advantage of our capability in large-scale development.





Optimization

JERA handles approximately 40 million tons of LNG annually, among the largest transaction volumes in the world, and has more than 10 years of experience in optimization and trading. We ensure comprehensive optimization of the huge energy flow from fuel procurement to transport, receiving, storage, power generation, and sales while utilizing trading to achieve the most cost-efficient, flexible operation. In Japan, we sell electricity and gas through long- and short-term over-the-counter trading and in trading markets. We offer energy solutions that meet the needs of customers and contribute to the development of the energy market.



Short-term Fuel Procurement, the most cost efficient and flexible operation

While we pursue improvement of the terms and conditions of existing procurement contracts, we also develop a procurement strategy for additional short-term fuel requirements (4 years or less for LNG). In addition, we implement the most cost efficient and flexible operation of a portfolio of LNG and coal power plants. Through JERA Global Markets, we achieve price-competitive short-term procurement which is capable of coping with volume and price fluctuation risk. We contribute to Japan's supply of reliable and economical electricity and gas by utilizing the portfolio to expand our fuel optimization footprints.

Optimization and Trading

Our coal optimization and trading business started in 2008 and have already expanded to LNG. Staffed by about 300 employees, the business is undertaken by JERA Global Markets, which is based in Singapore and London. JERA Global Markets contributes to optimizing the overall supply chain through asset-backed trading by leveraging our world-leading fuel procurement volume.



Electricity and Gas Sales

We have built an excellent electricity and gas sales portfolio through long-term, large-scale over-the-counter trading based on market prices and conditions, as well as by utilizing short-term over-the-counter trading and the electricity and gas markets in Japan. We are also developing the electricity and gas trading in Japan based on our experience in fuel trading and the electricity business in North America.

O&M Engineering

JERA inherits a 70-year track record in providing stable power in the Kanto and Chubu areas. We have expertise in operation and maintenance(O&M) and engineering, as we currently own and operate power stations with a total capacity of approximately 80GW in and outside Japan.

We assume long-term responsibility for our business, from construction to maintenance and operation of power stations, and ensure harmony with local communities. We offer world-class O&M Engineering services by combining the expertise gained through business operations with the world's leading technologies to ensure safe, competitive, flexibly adjustable operation of power stations and receiving terminals for customers in and outside Japan.

Kawasaki Thermal Power Station (Kanagawa Prefecture)

O&M Engineering

Based on expertise gained operating power stations in and outside Japan, we strengthen cost competitiveness by reducing the time required for periodic inspections while still ensuring safe operation, and achieve flexible power station operation by increasing the fuel types handled. We also introduce remote monitoring using digital technologies, predictive management using big data, and new technologies such as batteries to offer world-class O&M Engineering services the "JERA O&M Way".



Rending O&M Engineering Services to Third Parties

We deploy the "JERA O&M Way" globally to meet the needs of customers in each country. We also actively identify needs in various fields, expanding our O&M Engineering services by utilizing expertise gained through thermal power generation.

Major Overseas Business

Major LNG Supplying Countries*
(■ In blue)

Netherlands

- Rietlanden Coal Terminal

UK

- Gunfleet Sands Offshore Wind Power
- Zenobe Battery Energy Storage
- JERA Global Markets (Optimization and Trading)



JERA Global Markets UK Ltd.

Qatar

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

UAE

- Umm Al Nar Gas Thermal IWPP

India

- ReNew Power Wind and Solar Power IPP



Bangladesh

- Summit Power IPP Project
- Meghnaghat Gas Thermal IPP

Taiwan

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

Formosa 1 Offshore Wind Power IPP



Japan

Philippines

- TeaM Energy

Indonesia

- Paiton Coal Thermal IPP
- Cirebon Coal Thermal IPP

Oman

- Sur Gas Thermal IPP



EGCO IPP

Thailand

- EGCO IPP
- Ratchaburi Gas Thermal IPP
- Cogeneration Project in industrial Estate
- Wind Power IPP
- Solar Power IPP
- Rice Husk Biomass Thermal IPP

Vietnam

- Phu My Gas Thermal IPP

Singapore

- JERA Global Markets (Optimization and Trading)

Australia

- Darwin LNG
- Gorgon LNG
- Wheatstone LNG
- Ichthys LNG



Darwin LNG

US

- Tenaska Gas Thermal IPP
- Carroll County Gas Thermal IPP
- Cricket Valley Gas Thermal IPP
- Linden Gas Thermal IPP
- Compass Gas Thermal IPP
- Freeport LNG
- JERA Global Markets (Optimization and Trading)



Linden Gas Thermal IPP

Mexico

- Valladolid Gas Thermal IPP
- Falcon Gas Thermal IPP

As of March 31, 2021

IPP (Independent Power Producer)

IWPP (Independent Water and Power Producer)

*Represents the countries that imported LNG to LNG receiving terminals of JERA. (Fiscal 2020)

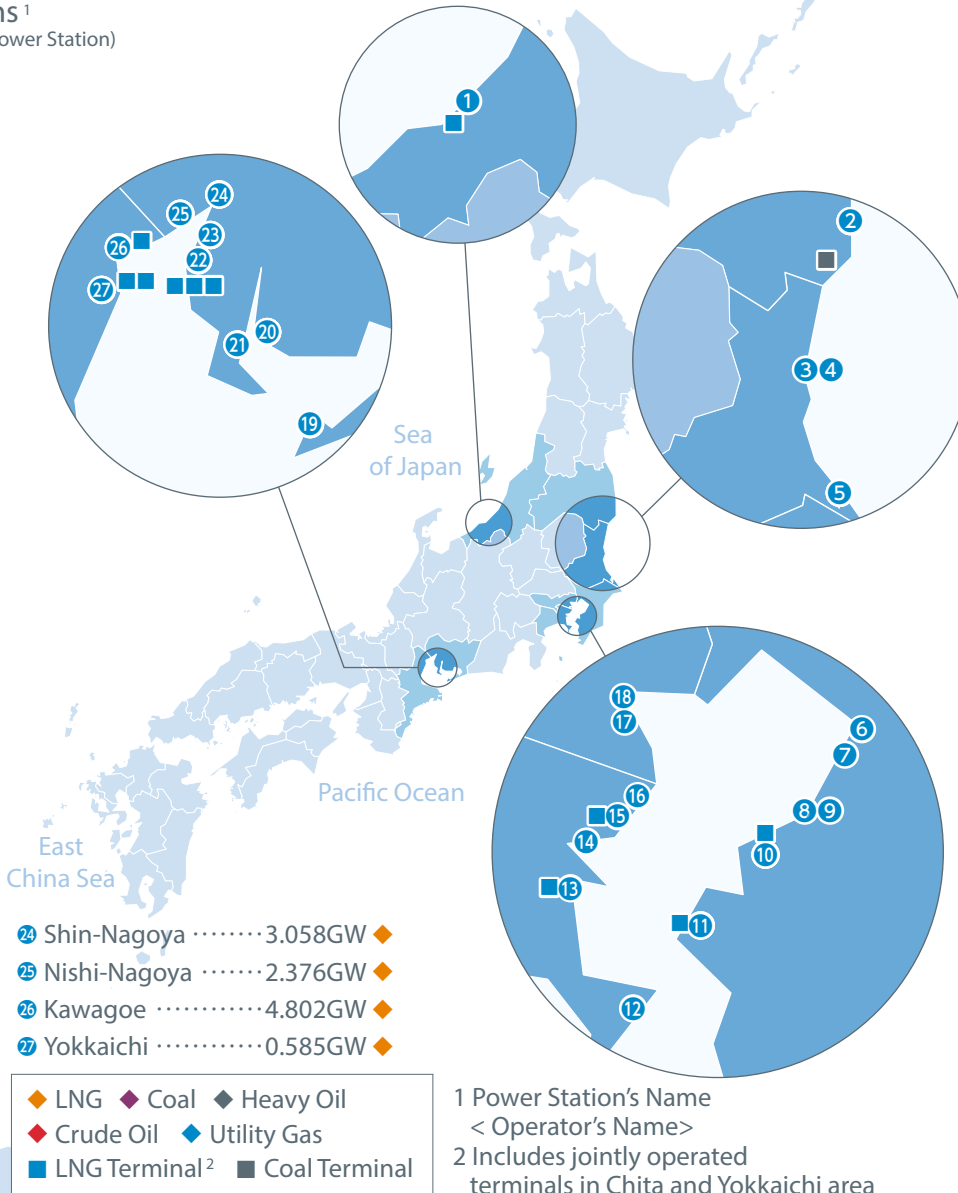
Thermal Power Stations in Japan

As of March 31, 2021

List of Thermal Power Stations¹

(Total Output, Fuel Type for Each Thermal Power Station)

- 1 Joetsu 2.38GW ◆
- 2 Hirono 4.4GW ◆◆◆
- 3 Hitachinaka 2GW ◆
- 4 Hitachinaka Kyodo
<HITACHINAKA GENERATION>
..... 0.65GW ◆
- 5 Kashima 5.66GW ◆◆◆
- 6 Chiba 4.38GW ◆
- 7 Goi<GOI UNITED GENERATION>
Replacement is being planned.
- 8 Anegasaki 3.6GW ◆
- 9 Anegasaki<JERA Power ANEGASAKI>*
..... 1.941GW ◆
(*Scheduled to start operation in fiscal 2023.)
- 10 Sodegaura 3.6GW ◆
- 11 Futtsu 5.16GW ◆
- 12 Yokosuka<JERA Power YOKOSUKA>*
..... 1.3GW ◆
(*Scheduled to start operation in fiscal 2023.)
- 13 Minami-Yokohama 1.15GW ◆
- 14 Yokohama 3.541GW ◆
- 15 Higashi-Ohgishima 2GW ◆
- 16 Kawasaki 3.42GW ◆
- 17 Oi 1.05GW ◆
- 18 Shinagawa 1.14GW ◆
- 19 Atsumi 1.4GW ◆◆
- 20 Hekinan 4.1GW ◆
- 21 Taketoyo<JERA Power TAKETOYO>*
..... 1.07GW ◆
(*Scheduled to start operation in fiscal 2022.)
- 22 Chita 3.966GW ◆
- 23 Chita Daini 1.708GW ◆
- 24 Shin-Nagoya 3.058GW ◆
- 25 Nishi-Nagoya 2.376GW ◆
- 26 Kawagoe 4.802GW ◆
- 27 Yokkaichi 0.585GW ◆



Directors & Officers

As of April 1, 2022

Directors & Corporate Auditors

Chairman
Toshihiro Sano

President
Satoshi Onoda

Director
Yukio Kani Hisahide Okuda Kazuo Sakairi David Crane Joseph M. Naylor
Miyuki Suzuki Satoru Katsuno Seiji Moriya

Corporate Auditors
Shigeyoshi Araki Hideo Oishi Michitaka Kondo

Business Execution System

Chairman
Toshihiro Sano

President
Satoshi Onoda

Corporate Vice President
Yukio Kani Business Development
Hisahide Okuda Corporate Strategy
Kazuo Sakairi Chief Financial Officer, Finance and Accounting

Senior Managing Executive Officer
Sami BEN JAMAA Global Chief Information and Digital Officer, ICT Hiroshi Oyabu Business Support & Solutions
Sunao Nakamura Optimization Tetsuya Watabe O&M Engineering
Toshiro Kudama CEO, JERA Asia Pte. Ltd. Steven Winn CEO, JERA Americas Inc.

Managing Executive Officer
Satoshi Yajima Head of the Renewable Energy & Overseas Power Development Division
Toshio Kumazawa Head of the East Japan Branch Hiromi Sakakibara Head of the West Japan Branch
Kazunori Kasai CEO, JERA Global Markets Pte. Ltd. Tatsuya Tsunoda ESG
Takashi Ekida Head of the O&M Engineering Division Minako Fujiie Diversity & Inclusion

Company Organization

As of April 1, 2022

Please visit the URL or scan the QR code to see our Company Organization.

<https://www.jera.co.jp/english/corporate/organization/>



JERA Co., Inc.

Company Overview

- Company Name JERA Co., Inc.
- Office Locations
 - Head Office
Nihonbashi Takashimaya Mitsui Building 25th Floor
2-5-1 Nihonbashi, Chuo-ku, Tokyo 103-6125 JAPAN
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 - East Japan Branch
Hibiya Kokusai Building 9th Floor, 2-2-3
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 - West Japan Branch
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Nagoya-shi, Aichi 450-6318 JAPAN
Tel: +81-52-740-6842 Fax: +81-52-740-6841
- Established 30 April, 2015
- Paid-in Capital JPY 100 billion
- Shareholding Ratio TEPCO Fuel & Power, Inc. 50% Chubu Electric Power Co., Inc. 50%
- Business Description Thermal Power Generation Business, Renewable Energy Business, Gas & LNG Business, Engineering & Consulting for Each Business, etc.



For details about JERA, please visit our website at
www.jera.co.jp/english/