



Jera





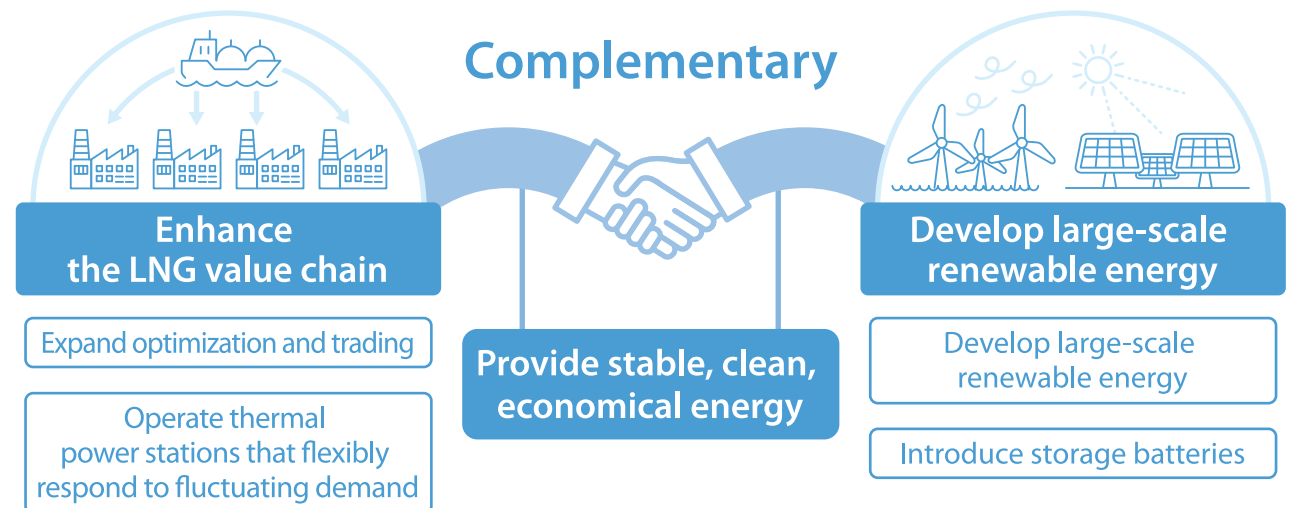
Jera
Energy for a New Era

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 **Global leader in LNG and renewables, sparking the transition to a clean energy economy**

As we look toward 2025, the energy solutions we offer will focus mainly on two businesses: the LNG value chain business and the large-scale renewable energy business. These businesses are complementary; renewable energy with variable power generation output is complemented by flexible, clean LNG thermal power generation. With demand expected to grow globally, particularly in Asia, we aim to become a leader in these two businesses.



TOP MESSAGE

Strengthen internal organizational and governance structures to become a more “borderless” company

Chairman, Representative Director **Toshihiro Sano**

The operating environment around the energy industry environment has been changing dramatically with the expansion of renewable energy, the acceleration of efforts to reduce CO2 emissions, and the structural reform of the industry in Japan and elsewhere. Against this backdrop, we marked a milestone on 1 April, 2019 with the integration of our existing thermal generation businesses in Japan and the unification of the entire value chain from upstream investment to fuel procurement, power generation, and sales of electricity and gas. Since our founding, we have followed our corporate principles of building a global energy company, creating a new energy business model, and strengthening the overall value chain, and we are confident that this integration creates conditions favorable to advancing these principles. We have enhanced our internal organizational structure to ensure that we continue to drive our business forward as a company with one of the largest physical fuel transaction volumes in the world. We have also strengthened our governance structure as we aim for a “borderless” organization unconstrained by preconceived notions. While proactively incorporating change, we remain committed to sustaining the energy supply in Japan, maintaining our mindset at the time of our founding. With the recent business integration, we aim to continue to grow as a global company and to supply Japan with a stable, economical energy supply. We will continually strive to meet the expectations of all our stakeholders.

To create the clean energy economy of the future

President, Representative Director **Satoshi Onoda**

Since its founding in April 2015, JERA Co., Inc. has gradually integrated its businesses and accomplished a great deal, particularly overseas. Complete integration was achieved on 1 April, 2019, establishing a unified value chain from upstream investment to fuel procurement, power generation, and sales of electricity and gas that was envisioned when the business was launched. Our 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, and improvements in LNG thermal power generation, we will expand our business both in Japan and overseas. 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 become a global leader in LNG and renewables, sparking the transition to a clean energy economy by 2025. Making the most of the thermal power generation technologies we have developed, we will build highly flexible power generation systems. These systems incorporate LNG thermal power generation that absorbs the fluctuations of renewable energy and the flexible fuel purchasing to support such operation. Moreover, these systems support the further introduction of offshore wind power, storage batteries, and other technologies. In addition to the physical assets we have assembled, we have also drawn talented people. By successfully integrating and enhancing this talent, and creating a vibrant workplace, we aim to become a global company that complies with the law and contributes to society. We appreciate your continued support.

JERA's Value Chain and Company Overview

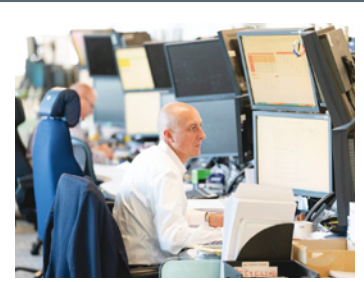
Upstream Development
Fuel Procurement

5 Upstream Investment Projects

LNG Procurement from **17** Countries²



Optimization and Trading



Fuel Transportation

18 LNG Fleet Carriers




LNG Receiving and Storage Terminals

7.74 million kL⁴
LNG Tank Capacity in Japan

Equivalent to approx. 40% of LNG tank capacity in Japan

8 LNG Receiving Terminals in Japan⁴




Domestic Power Generation

26 Thermal Power Stations⁵

Approx. **67**GW⁵ Power Generation Capacity
Among the largest in Japan

Power Generation Output Approx. **292.5**TWh³
Equivalent to approx. 33% of power generation in Japan




Overseas Power Generation



Approx. **25** Projects
In more than **10** Countries

Power Generation Capacity (Development Output) Approx. **9**GW⁵

Renewables Development Capacity Approx. **0.7**GW
(Included Power Generation Capacity)



Electricity and Gas Sales

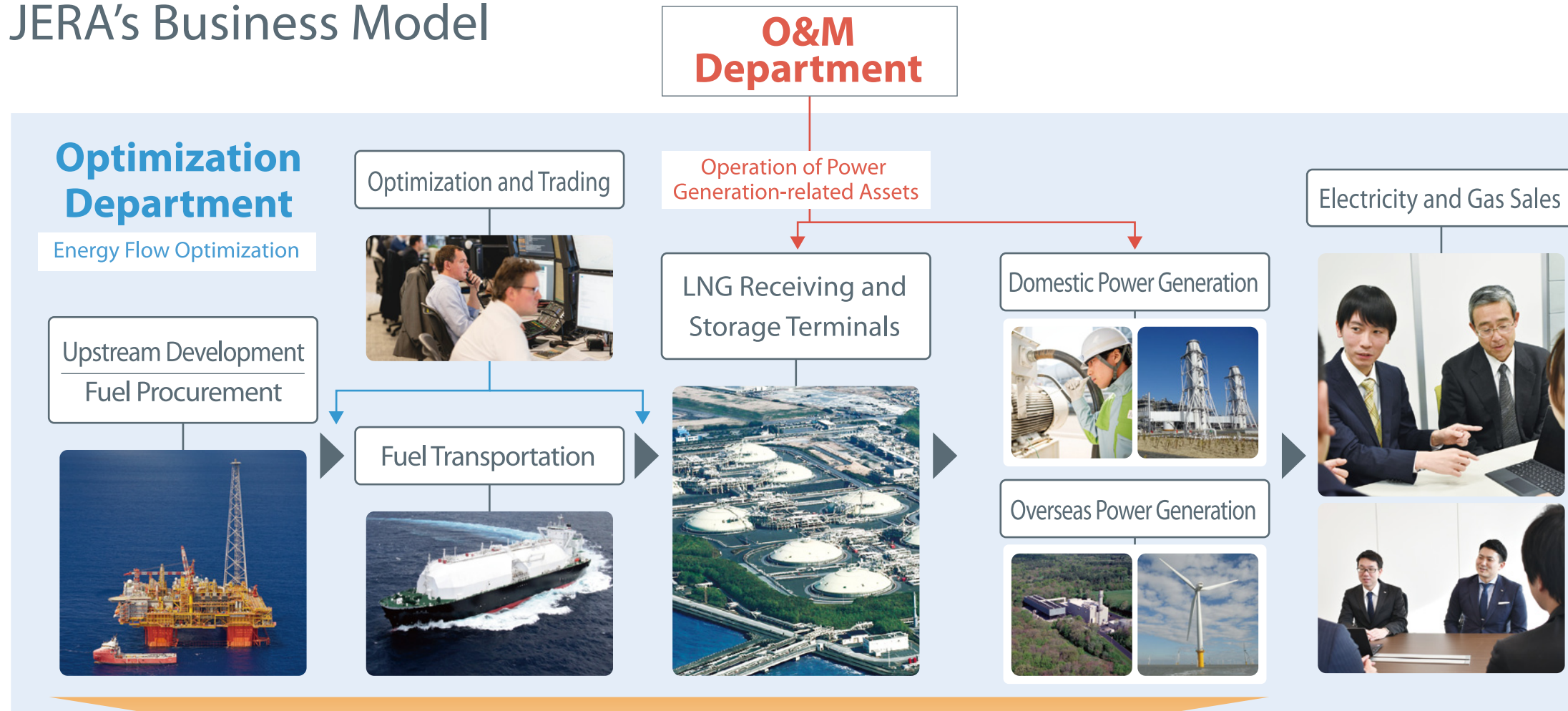
LNG Transaction Volume (Annual)
Approx. **35** MTPA
Among the largest in the world

Sales (FY 2019 forecast)
Approx. **JPY 3.6** trillion¹

Total Assets
Approx. **JPY 3.8** trillion¹

As of April 2019
1 Estimated value. Total Assets as of the end of FY2019.
2 Fiscal 2018
3 Fiscal 2017
4 Includes jointly operated terminals
5 Includes capacity under construction

JERA's Business Model



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

Operate fuel receiving and storage terminals and thermal power stations safely, flexibly, and at low cost

Business Development Department

Business Development Department

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

We participate in the ownership of 8 LNG receiving terminals and power generation assets with a total capacity of approximately 75GW.

We are also in the fuel business, operating 18 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.

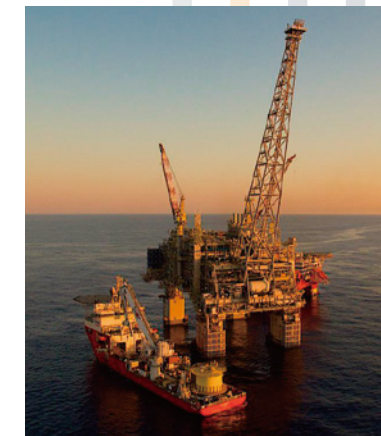
Marcus Hook Energy Center (the "Compass Portfolio")

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

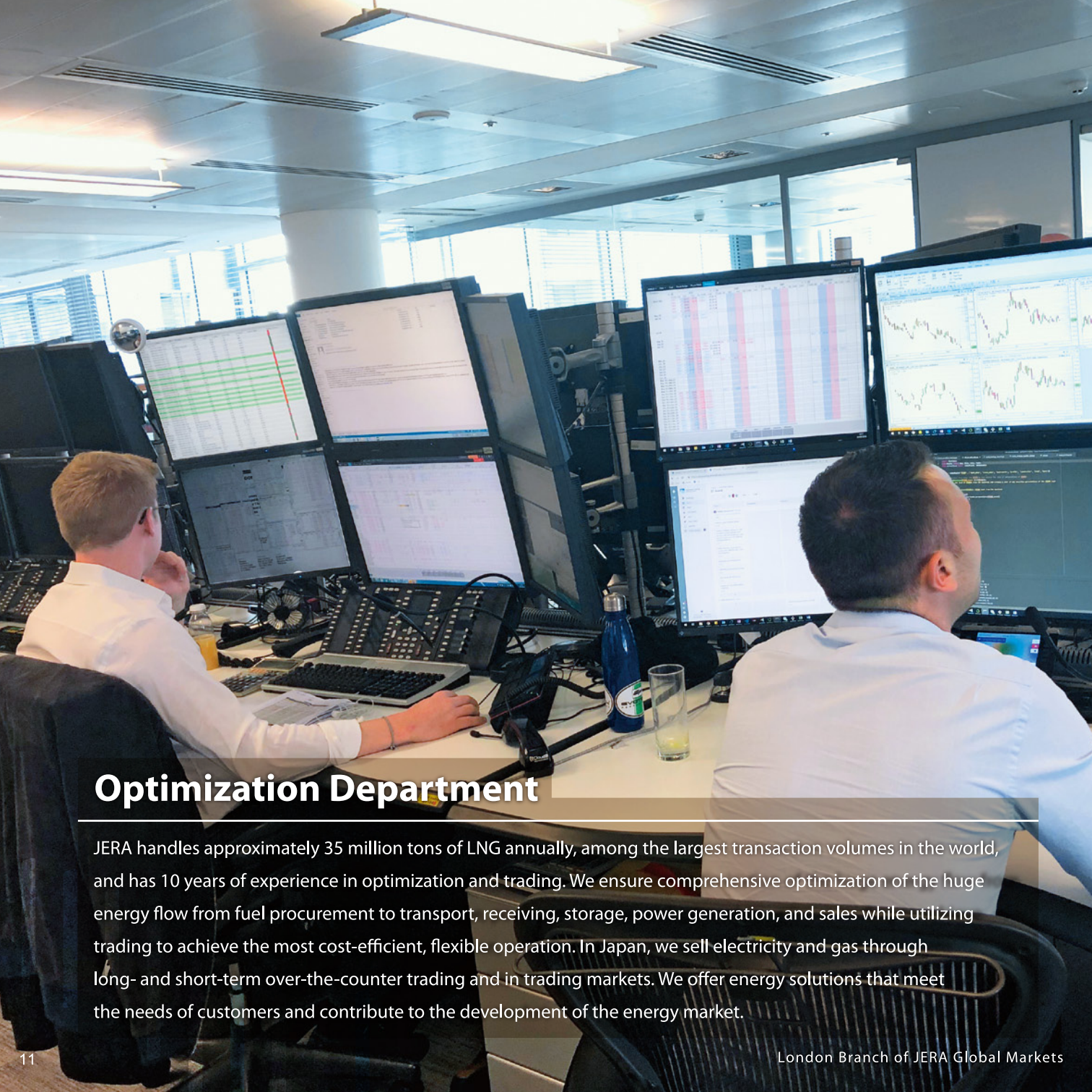
Overseas Power Generation and Value Chain Business

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 Department

JERA handles approximately 35 million tons of LNG annually, among the largest transaction volumes in the world, and has 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 Department

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), as we currently own and operate power stations with a total capacity of approximately 75GW 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 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 services the "JERA O&M Way".



Rendering O&M 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 services by utilizing expertise gained through thermal power generation.

Major Overseas Business

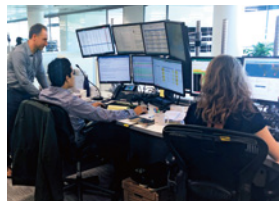
LNG Supplying Countries* (■ In blue)

Netherlands

- Rietlanden Coal Terminal

UK

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



London branch of JERA Global Markets

Qatar

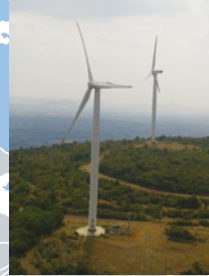
- Ras Laffan B Gas Thermal IWPP
- Ras Laffan C Gas Thermal IWPP
- Mesaieed Gas Thermal IPP
- Umm Al Houli Gas Thermal IWPP

UAE

- Umm Al Nar Gas Thermal IWPP

India

- ReNew Power Wind and Solar Power 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

Vietnam

- Phu My Gas Thermal IPP

Singapore

- JERA Global Markets (Optimization and Trading)

Japan

Taiwan

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

Formosa 1 Offshore Wind Power



Philippines

- TeaM Energy

Indonesia

- Paiton Coal Thermal IPP
- Cirebon Coal Thermal IPP



Darwin LNG

Australia

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

Canada

- Goreway Gas Thermal IPP

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 April 2019

IPP(Independent Power Producer)

IWPP(Independent Water and Power Producer)

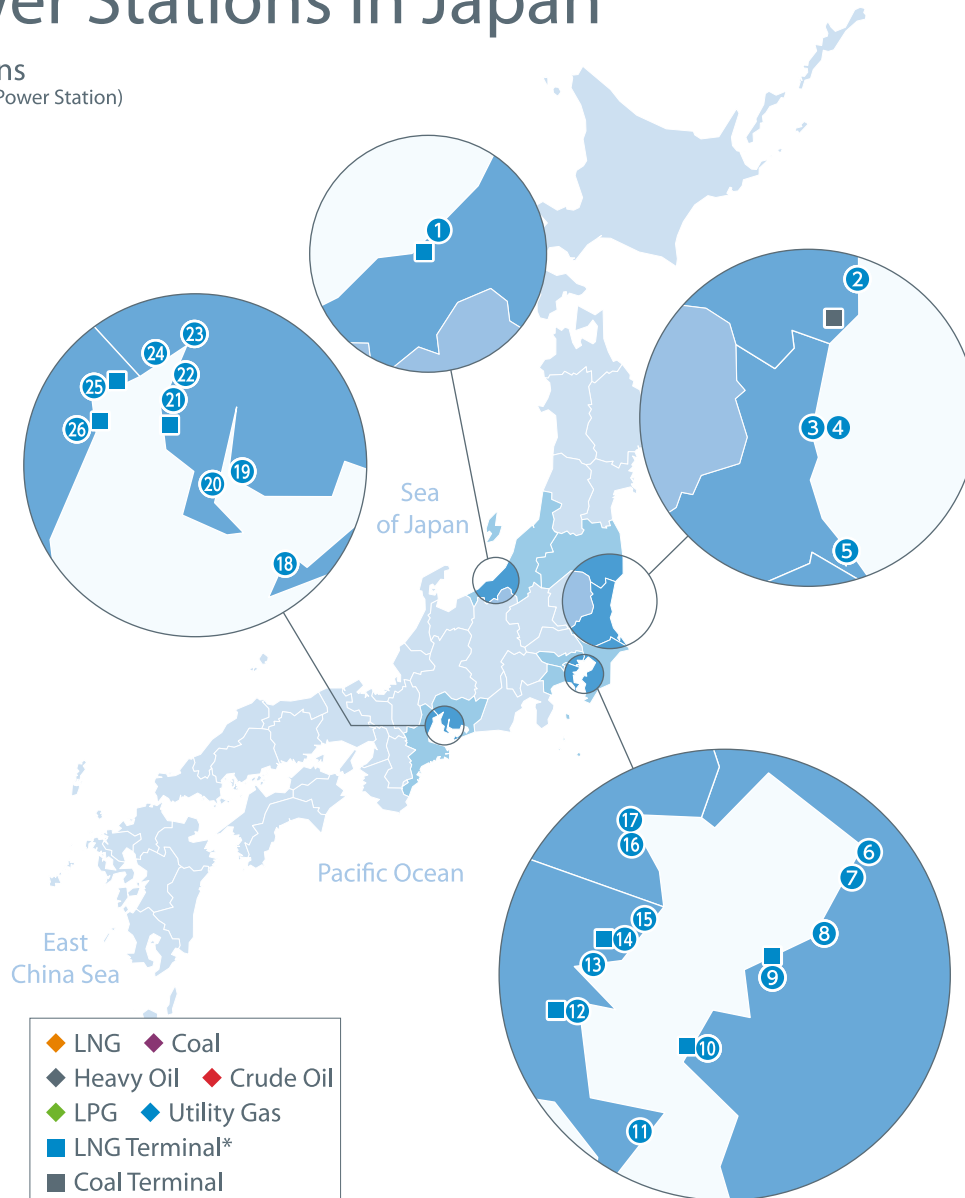
*Include reloading(Fiscal 2018)

Thermal Power Stations in Japan

List of Thermal Power Stations

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

- 1 Joetsu2.38GW ◆
- 2 Hirono4.4GW ◆◆◆
- 3 Hitachinaka2GW ◆
- 4 Hitachinaka Generation*650MW ◆
(*Scheduled to start operation in fiscal 2020.)
- 5 Kashima5.66GW ◆◆◆
- 6 Chiba4.38GW ◆
- 7 Goi
Replacement is being planned.
- 8 Anegasaki*3.6GW ◆◆
(*Replacement is being planned.)
- 9 Sodegaura3.6GW ◆
- 10 Futtsu5.16GW ◆
- 11 Yokosuka
Replacement is being planned.
- 12 Minami-Yokohama1.15GW ◆
- 13 Yokohama3.541GW ◆◆◆
- 14 Higashi-Ohgishima2GW ◆
- 15 Kawasaki3.42GW ◆
- 16 Oi1.05GW ◆
- 17 Shinagawa1.14GW ◆
- 18 Atsumi1.4GW ◆◆
- 19 Hekinan4.1GW ◆
- 20 Taketoyo*1.07GW ◆
(*Scheduled to start operation in fiscal 2021.)
- 21 Chita3.966GW ◆
- 22 Chita Daini1.708GW ◆
- 23 Shin-Nagoya3.058GW ◆
- 24 Nishi-Nagoya2.376GW ◆
- 25 Kawagoe4.802GW ◆
- 26 Yokkaichi585MW ◆



- ◆ LNG ◆ Coal
- ◆ Heavy Oil ◆ Crude Oil
- ◆ LPG ◆ Utility Gas
- LNG Terminal*
- Coal Terminal

*Sodegaura and Negishi (Jointly owned and operated with Tokyo Gas), Chita (Jointly owned and operated with Toho Gas)

Directors & Officers

As of 1 April, 2019

Toshihiro Sano Chairman, Representative Director

Satoshi Onoda President, Representative Director

Hendrik Gordenker Senior Corporate Vice President, Director
Chief Global Strategist

Yukio Kani Corporate Vice President, Director
Chief Operating Officer, Business Development Department

Shunichiro Ide Corporate Vice President, Director
Chief Operating Officer, O&M Department

Kazuo Sakairi Managing Executive Officer, Director
Chief Financial Officer, Finance and Accounting Department

Mike Winkel Director* David Macfarlane Director*

Akihisa Mizuno Director* Seiji Moriya Director*

*Non-executive Director

Auditor

Shigeyoshi Araki Hideo Oishi Minako Fujjie

Managing Executive Officer

Hisahide Okuda Chief Operating Officer, Corporate Strategy Department

Sami BEN JAMAA Global Chief Information and Digital Officer,
Corporate Strategy Department

Masahiro Takizawa Chief Operating Officer,
Human Resources and General Affairs Department

Hiroki Sato Senior Operating Officer, Business Development Department

James H. Vigil Senior Operating Officer, Business Development Department

Toshiro Kudama JERA Energy Development Asia CEO

Sunao Nakamura Chief Operating Officer, Optimization Department

Tetsuya Watabe Senior Operating Officer, Optimization Department

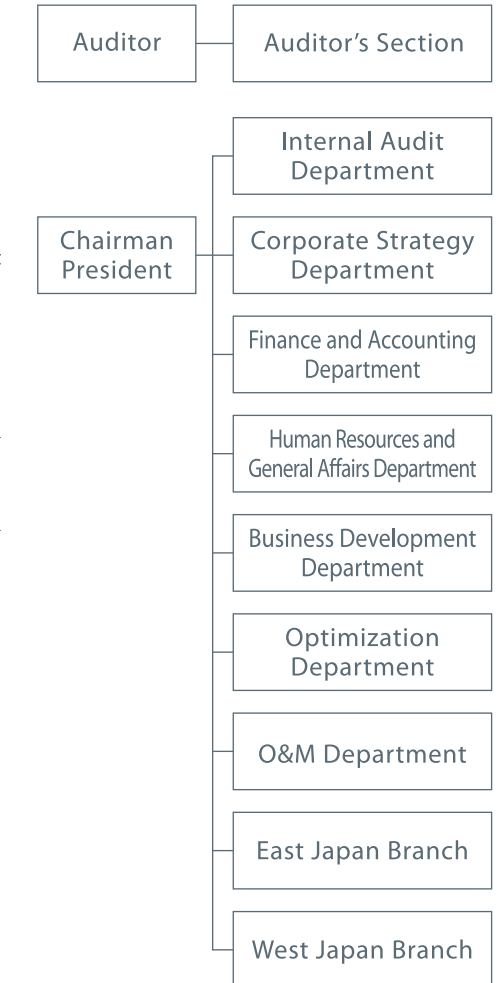
Shintaro Uzawa Senior Operating Officer, O&M Department

Masayuki Ishida Head of the East Japan Branch

Tatsunori Miwada Head of the West Japan Branch

Company Organization

As of 1 April, 2019



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
Tel: +81-3-3272-4631 (main number) Fax: +81-3-3272-4635
 - East Japan Branch
Hibiya Kokusai Building 9th Floor, 2-2-3
Uchisaiwaicho, 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,
Aichi 450-6318 JAPAN
Tel: +81-52-740-6842 Fax: +81-52-740-6841
- Established 30 April, 2015
- Paid-in Capital JPY 5 billion
- Shareholding Ratio TEPCO Fuel & Power, Inc. 50% Chubu Electric Power Co., Inc. 50%
- Business Description Electricity business; gas business; heat supply business; the development, mining, processing, trading, and transportation of energy resources; related businesses



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