### **Overview**



## **Pioneering Company Leveraging Timely Engineering Technologies**

JFE Engineering supports industry, and indeed broader society, through its engineering business. The company's outstanding track record includes its timely development of cutting-edge technologies for systems targeting natural gas and energy generation employing waste and sewage sludge. In recent years, JFE Engineering has engaged in a number of construction projects for renewable energy generation, including biomass, photovoltaic and geothermal power plants. It has also brought its superior technological capabilities to bear in the construction of transportation, distribution and water and sewerage infrastructure that is supporting economic growth in countries worldwide. Going forward, JFE Engineering will remain committed to providing optimal solutions that meet societal needs for crucial underpinnings of daily life.

President & CEO Hisanori Kanou

#### **Businesses National Infrastructure Energy Supply** Marketing Development Oil & gas storage and transmission Bridges Port facilities Business • Effective use of renewable Embankments **Planning** Gas and diesel engine power generation **Engineering** Planning Design Recycling **Machinery and Systems Procurement Construction** Recycling Industrial machinery Waste-to-energy and • Ballast water treatment biomass power generation systems Distribution systems Wastewater treatment Maintenance

### **Overview**

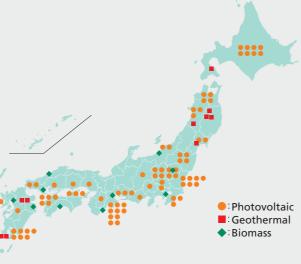
### **Solutions Encompassing Diverse Engineering, from Planning to Operations**

Engineering companies are being expected to play everbroader roles in industry and society. In addition to conventional facility construction projects, JFE Engineering provides integrated solutions that encompass both planning and operations. Solutions for urban and marine environments can be managed under private finance initiative (PFI) or design-build-operate (DBO) frameworks. In either case, comprehensive proposals cover project flow, layout and equipment specifications based on the client's requirements (performance order) and operations and maintenance plans.

JFE Engineering has operated a waste-biogas power generation center on a PFI basis for Nagaoka City since fiscal 2013.

# One-stop Engineering Service to Generate New Energy

Following the introduction of feed-in tariff (FIT) schemes under Japan's Renewable Electric Energy Act, biomass, photovoltaic and geothermal power plants are expected to become a promising next-generation energy source for the nation. JFE Engineering expects to handle a range of engineering projects associated with such plants, including the provision of one-stop services encompassing business planning and facility design, construction and operation.



Renewable energy power plants constructed and/or run by JFE Engineering

# JFE Engineering Corporation

## **Stepping Up Global Expansion** by Reinforcing Local Workforces

JFE Engineering is expanding its global business networks by actively engaging local personnel in all facets of the business, including sales, design and manufacturing. In Germany, JFE Engineering acquired Standardkessel Power Systems Holding GmbH (SPSH), a plant engineering company specializing in environment and energy, and established new bases for sales

and design in Indonesia and India through M&A. Going forward, the company will transfer technological expertise to enable these bases to provide high-quality, cost-effective engineering services, thereby ensuring continued growth overseas.



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# Highlights in 2014

### **Solar Power Plant Completed in Shizuoka City**

JFE Engineering completed its Miho Solar Power plant at the former site of its Shimizu Shipyard. The JFE Group has constructed photovoltaic power plants at more than 80 locations nationwide, amounting to a combined maximum output of approximately 285MW. The Group operates eight of these plants, generating approximately 40MW of renewable energy.



#### Order Received for Toyamashinko Port LNG Supply Facilities

JFE Engineering received an order for the construction of LNG storage and regasification

facilities and a pipeline to serve the first LNG-fed thermal power station run by Hokuriku Electric Power Company. An underground LNG storage facility will be one of Japan's largest, boasting a maximum capacity of 180,000 kl.





### Takaoka Koiki Eco Clean Center Completed

This new waste-to-energy plant was completed in only two and half years thanks to the adoption of a high-performance Hyper Z Series stoker furnace that shortened both the design and construction periods.



### President Hisanori Kanou Accompanies Japan's Prime Minister to Bangladesh

Mr. Kanou joined an official economic mission to engage in discussions with government officials and business leaders in Bangladesh.



### Parking Facility with "Cycle Tree" System Wins Good Design Award

A Good Design Award was presented in recognition of the outstanding functionality and beauty of Cycle Station Toride, a structure featuring JFE Engineering's Cycle Tree Bicycle Parking System, which was completed in front of East Japan Railway's Toride Station.



### Industrial Waste Incineration Plant Completed in Malaysia

This new facility, constructed for a joint venture between Trienekens GmbH, Germany's largest waste treatment company, and the Malaysian state of Sarawak, will treat industrial waste from hospitals and oil refineries in East Malaysia.





### Rapid Installation of Onitaka PA Exit Ramp

JFE Engineering required just six hours to complete an exit ramp for the Onitaka Parking Area on the Tokyo Metropolitan Expressway's Komatsugawa Line. The job included the installation of a huge 60-meter 290-ton block, which had to be put in place rapidly to minimize traffic disruption.



JFE Engineering will install compressors and other equipment in natural gas refineries and treatment facilities to raise yields from gas wells, thereby increasing recoverable reserves by approximately 20% and extending the field's production period by about 20 years.



### **Japan's Largest-ever Container Crane Completed**

A container crane installed at Yokohama Port's Minami Honmoku Pier accommodates the world's largest container ships. Its design includes advanced seismic isolation capable of enduring a major tremblor equivalent to that of the powerful Great Kanto Earthquake of 1923.



### Commercializing the Biomass Power

Generation Business
JFE Engineering established
Green Energy Tsu Corporation
on the premises of its Tsu Works
as a joint venture with
Development Bank of Japan Inc.
and four other companies to
launch a commercial biomass
power-generation business.

### Steel Structure Component Facility in Myanmar Slated for Expansion

After inaugurating production in April 2014, J&M Steel Solutions received orders that raised production to the plant's maximum annual capacity of 10,000 tons, prompting the decision to expand its facilities in the foreseeable future.



### Remote Operational Support for Waste-to-Energy Plants Nationwide Having established a Remote

Service Center at its Yokohama
Head Office, JFE Engineering
rolled out the JFE Hyper Remote
System to provide operational
support in the form of aroundthe-clock centralized monitoring
and management of waste-toenergy plants throughout Japan.

### Internship Program for University Students from Southeast Asia

The program, now in its second year, develops personnel who are expected to play crucial roles in leading economic development in their respective countries. So far, the program has welcomed 20 students from four countries.



### April 2014

- Hisanori Kanou assumed office of President & CEO
- Opened Okinawa Branch
- Received simultaneous orders for Ishikari LNG supply facilities and pipelines
- Entered electricity retail market by establishing Urban Energy Corporation
- Received order for Toyamashinko Port LNG supply facilities

### May 2014

- Integrated waterworks plant business with Isomura Hosui Kiko Co., Ltd.
- JE1 team received Impressive Prize from Nationwide QC Circle Conference sponsored by Union of Japanese Scientists and Engineers

#### June 2014

- Opened Fukushima Reconstruction Branch
- Entered alliance in smart agribusiness with Netherlands-based Priva B.V.
- Received Technology Award from Japan Gas Association for three "Only One"
- Completed first natural gas pipeline in Okinawa Prefecture

### **July 2014**

- Established engineering centers in Indonesia and India
- Production at steel structure component manufacturing facility in Myanmar reached maximum capacity
- Received order for construction of western segment of Kyushu Hokubu mega pipeline for SAIBUGAS Co., Ltd.
- Received order to upgrade small watersupply facilities on Oshima and Jinoshima islands in Fukuoka Prefecture
- Received Contributor Award from Engineering Advancement Association of Japan for Shwegondine elevated bridge construction project in Myanmar. Also received Special Encouragement Award for hybrid tide embankment
- Launched internship program for university students from Southeast Asia

### August 2014

- Established Shape Up 20 project team
- Released explosion-resistant LANEX-Tablet incorporating iPad mini
- Initiated production at first smart-agriculture facility in Tomakomai City
- Received order for Myaynigone Overpass steel elevated bridge in Yangon,
- Received order for biomass power plant with maximum output of 50MW from Saiki City, Oita Prefecture

### September 2014

- President Hisanori Kanou joined Prime Minister Abe's delegation to Bangladesh
- Initiated remote support for waste-toenergy plants nationwide
- Established project team to guide internal reforms
- Commercialized biomass power generation business
- Received order for expansion of Minami-Nagaoka Gas Field facilities

 Completed Takaoka Koiki Eco Clean Center

#### October 2014

- Completed Miho Solar Power plant in Shizuoka City
- Commenced shipment of tomatoes from smart-agriculture facility in Tomakomai City
- Completed Ibusuki geothermal binary power generation facility in Kagoshima Prefecture
- Facility incorporating Cycle Tree bicycle parking system won Good Design Award

### November 2014

- Received order for bridge construction in India-Japan project to establish cargo railway connecting Delhi and Mumbai
- Completed elevated access road for Yokkaichi Junction of Tomei Expressway
- Completed industrial waste incineration plant in Malaysia
- JFE Engineering employee won first prize in Japan Boiler Association's Nationwide Boiler Welding Competition for second consecutive year

### December 2014

- Expanded Tokyo Head Office to consolidate sales departments
- Completed acquisition of Standardkessel Power Systems Holding GmbH in Germany
- Received order for Japan's first combined biomass power plant as private finance initiative project
- Completed renovation of north wholesale market of Kawasaki City
- Completed jet fuel supply facilities for new terminal at Noi Bai International Airport

### January 2015

- Expanded smart-agriculture facility in Tomakomai City
- Expanded after-sales service structure for JFE Ballast Ace®
- Received order for sewage-water treatment facility in Paranaque, Philippines
- Completed Irabu-Ohashi Bridge

### February 2015

- Received order for sewage-water treatment facility in Kandy, Sri Lanka
- Initiated verification test of Japan's first energy recycling-type garbage recovery system for waste-to-energy power generation
- Initiated collaboration to commercialize cutting-edge cancer diagnostic reagent
   Decided to expand J&M Steel Solutions'
- manufacturing facilities
   Completed Japan's largest container
- Commenced treatment of disaster waste
- in Fukushima Prefecture

   Completed overnight installation of
- bridge block for exit ramp of Onitaka Parking Area

### March 2015

 Completed 26.2MW mega solar photovoltaic power generation facility on former golf course in Fukushima Prefecture

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