

Outline and Characteristics of the Engineering Business

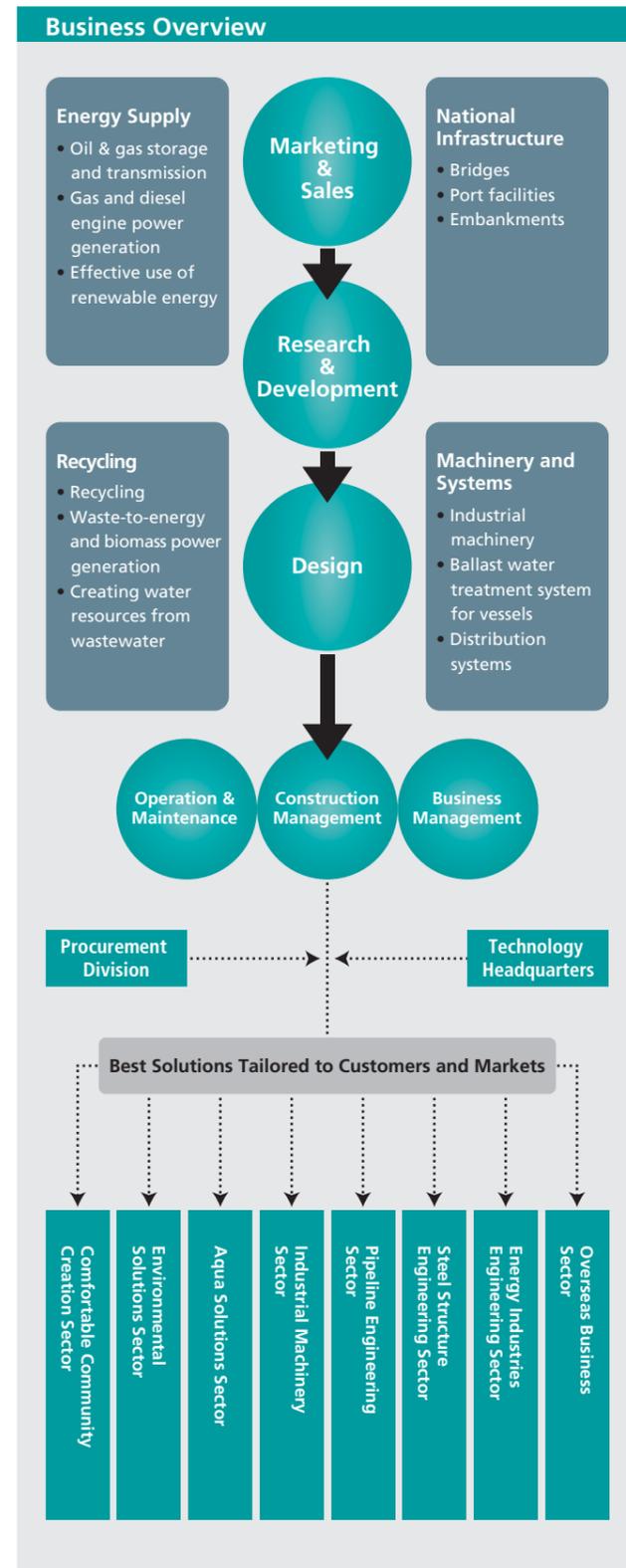
JFE Engineering Corporation

A Pioneering Company That Leverages Cutting-Edge Engineering Technologies for the Timely Provision of Products and Services

JFE Engineering supports society and industry through its engineering business. Its outstanding track record includes the development of cutting-edge technologies in such fields as natural gas and energy generation systems employing waste and sewage sludge. In recent years, JFE Engineering has been engaged in a number of construction projects for renewable energy-generation facilities, including photovoltaic, geothermal and biomass power plants. Simultaneously, it has brought its superior technological capabilities to bear in the construction of transportation, distribution and water and sewerage infrastructures, thereby making significant contributions to economic growth in countries around the world. Going forward, JFE Engineering will remain committed to providing optimal solutions that meet societal needs, thus helping maintain the crucial underpinnings of daily life.



Hisanori Kanou
President & CEO



Integrated Service Structure Encompassing Planning, Construction and Operations

Today, engineering companies are being expected to play ever broader roles in industry and society. In response, JFE Engineering is building an integrated business structure, extending the scope of operations not only to plant construction but also to plant operations. In its provision of solutions for the urban and aqueous environments, JFE Engineering proactively engages in projects involving PFI* and DBO** approaches. In either case, the commissioned company must make a project proposal, which details the project flow, layouts and equipment specifications based on the client's requirements (performance order), and to design an optimum basic plan, as well as a sound plan for operational and maintenance management, to best serve the communities involved.

* Private Finance Initiative
** Design Build Operate



JFE Engineering operates a waste-biogas power generation center under Nagaoka City's PFI project



Establishment ceremony for J&M Steel Solutions

Growing Business Networks and Local Workforces in Countries Abroad

With the aim of securing the sustainable growth of its overseas business, JFE Engineering is striving to secure business networks built on local workforces. Encompassing operations ranging from sales and design to manufacturing, these networks are being strengthened through the establishment of joint ventures, the pursuit of mergers and acquisitions and the formulation of business alliances, and are thus welcoming an increasingly greater number of personnel who are well versed in local conditions. This approach has resulted in initiatives such as J&M Steel Solutions, an infrastructure construction joint venture established in Myanmar by JFE Engineering and Myanmar's Ministry of Construction, which began operating its new Yangon plant in April 2014.

Blazing a Path to New Engineering Fields

JFE Engineering is taking on challenges related to new businesses creation and has expanded its operations to encompass such fields as agriculture and healthcare. In smart agribusiness, plans call for launching its first cultivation facility in Tomakomai, Hokkaido Prefecture, in July 2014. Incorporating cutting-edge technologies to optimize cultivation, the facility will ship such agricultural produce as tomatoes from summer 2014 onward.



Artist's rendering of J Farm Tomakomai

Fiscal 2013 Highlights

April 2013

- Newly developed hybrid tide embankment was constructed in Iwate Prefecture
- Reformed the personnel administration system (eliminated administrative specialists and welcomed temporary employees into full-time employment)

May 2013

- Initiated a drilling survey in the Matsuo Hachimantai area of Iwate Prefecture in preparation for the launch of a geothermal power generation facility
- Completed the Malun Bridge in Myanmar
- Received an order for a sewage water treatment facility in the Philippines
- Completed the Phoenix-Ohashi Bridge in Niigata

June 2013

- Received an order for installation of the "Cycle Tree" bicycle parking system in an office building near Nagoya Station
- The JFE BallastAce® product lineup was expanded to cover all types of vessels
- Entered into an alliance in the renewable energy generation business
- Received an order for the construction of Japan's largest container crane in Yokohama Port
- Conducted *kariyushi* Cool Biz campaign
- Completed the Shake Daiichi Elevated Bridge for the Metropolitan Inter-City Expressway

July 2013

- Received an order for a core system to be installed in the central wholesale market of Niigata city
- Initiated an internship program for university students from Southeast Asia
- Launched a biogas plant in Nagaoka, Niigata Prefecture
- Commenced power generation at Kumozu Solar Power in Tsu, Mie Prefecture
- Received an order for the Fujikawa Bridge, the largest bridge designed by JFE Engineering during fiscal 2013

August 2013

- Received an order for a Kawasaki biomass power plant that will boast the largest power generation capacity in Japan
- Received an order for the construction of a mega solar photovoltaic power generation facility in Kushiro, Hokkaido
- Received an order for the construction of a passenger terminal in Ulan Bator's international airport
- Received multiple orders for the refurbishment of waste-to-energy plants' core systems

September 2013

- Received an order from the Hokuriku Regional Agricultural Administration Office for Japan's first steel surge tank for irrigation
- Completed the expansion of an LNG storage facility at Kawagoe Thermal Power Station and the construction of a submarine gas pipeline crossing Ise Bay

Geothermal Power Generation Facility Drilling Survey Begins

Iwate Chinetsu K.K., a geothermal power generation business in which JFE Engineering has invested, initiated a drilling survey in the Matsuo Hachimantai area in Iwate Prefecture. With the aim of commercializing renewable energy generation, efforts are now under way to launch a facility capable of generating around 7,000kW.



Phoenix-Ohashi Bridge Completed in Niigata

Spanning the Shinanogawa river, the Phoenix-Ohashi bridge constitutes part of Route 404, a national road that connects the Nagaoka and Joetsu areas. JFE Engineering spent approximately three years completing this large bridge which extends 870 meters and incorporates 4,400 tons of steel.



Kariyushi Cool Biz Campaign

JFE Engineering adopted a Companywide summer dress code incorporating *kariyushi* shirts, a type of dress shirt originating in Okinawa and well suited to the region's hotter climate, with the aim of promoting energy-saving operations.



Operations Commence at Kumozu Solar Power

Aiming to launch a full-scale power generation business, JFE Engineering plans to develop mega solar photovoltaic power generation facilities across Japan. Kumozu Solar Power has been completed in Tsu city, Mie Prefecture, and JFE Engineering foresees a network of such facilities covering a further seven locations, including Kurashiki city, Okayama Prefecture, and Hagamachi, Tochigi Prefecture.

Order Received for a Waste-Heat Recovery Power Generation Facility in Indonesia

JFE Engineering received an order for this facility from an Indonesian state-run cement company. This facility development project is subject to the Joint Crediting Mechanism (JCM) aimed at facilitating the reduction of CO₂ emissions.



Hybrid Caissons for Breakwater at Kamaishi Port Completed

Two hybrid caissons for a breakwater being constructed at the entrance to Kamaishi Port have been completed at the Tsu Works' large dock for offshore structures and shipped to Kamaishi Port.



Myanmar's First Elevated Road Completed

JFE Engineering has completed a bridge in the Shwegondine area of central Yangon, Myanmar, thereby contributing to a significant decrease in traffic delays.



Order Received for Newly Developed Hybrid Tide Embankment for Kesennuma Port

Halving the construction period, JFE Engineering's hybrid tide embankment method employs body blocks prefabricated during a steel pipe pile foundation is built at the construction site.



JFE Kankyo Corporation Begins Neutralizing Waste with Low PCB Concentrations

The Yokohama Eco-Clean Plant, the first facility in Kanagawa Prefecture to acquire certification from Japan's Minister of the Environment for the disposal of waste containing low concentrations of PCBs, is working to safely help dispose of the large volume of items containing PCBs now stored in the greater Tokyo metropolitan area.



Waterworks Plant Business Is Integrated with Isomura Hosui Kiko Co., Ltd.

JFE Engineering is expanding its aqueous business in Japan and overseas by establishing a one-stop service structure capable of serving needs related to waterworks and sewage treatment facilities.



Disposal of Debris from Miyagi Prefecture's Disaster-Stricken Areas Completed

Working at the behest of local governments, JFE Engineering successfully completed the disposal of debris from areas with extensive damage from the Great East Japan Earthquake. Approximately 440,000 tons of debris have been collected from four locations across Miyagi Prefecture and disposed of in JFE Engineering's incineration facilities.



Installation of Steam Supply Facility for Geothermal Power Plant Completed in Indonesia

The Patuha Geothermal Power Plant in West Java, Indonesia, will initiate power generation by the end of 2014. With the market expected to expand due to the country's abundant geothermal resources, plans call for setting up many other similar plants.

October 2013

- Received a Project Innovation Award from the International Water Association for a sewage water treatment facility built in Poblacion, Manila
- Launched Tsurunoura Solar Power in Kurashiki, Okayama Prefecture
- Received an order for a power generation facility employing waste heat recovery systems in Indonesia
- Established the Comfortable Community Creation Sector
- Received an order for waterworks infrastructure for the Hakone district from the Enterprise Department of the Kanagawa prefectural government

November 2013

- Disclosed CAD data for the design of bicycle parking systems
- Received the first order for a new PET system for cerebral stroke diagnosis from Kagawa University
- Opened the Tomakomai Sales Office
- Integrated the waterworks plant business with Isomura Hosui Kiko Co., Ltd.
- Established the joint venture J&M Steel Solutions in Myanmar

December 2014

- Received an order for a waste-to-energy plant from Cleaning Kounan Union in Kochi Prefecture
- Completed the disposal of debris from areas in Miyagi Prefecture affected by the Great East Japan Earthquake
- Completed the construction of the first elevated road in Myanmar

January 2014

- Established the Aqua Solutions Sector
- Completed the construction of hybrid caissons for a breakwater at Kamaishi Port
- Opened the Minami Kyushu Sales Office
- Received an order for the repair work of a ferry pier in Yangon, Myanmar

February 2014

- Received an order for a newly developed tide embankment for Kesennuma Port

March 2014

- Launched Haga Solar Power, the largest photovoltaic power generation facility constructed by JFE Engineering, in Tochigi Prefecture
- Held a groundbreaking ceremony for the Smart Agricultural Production Plant
- JFE Kankyo Corporation began neutralizing waste containing low concentrations of PCBs
- Completed elevated road crossings for two districts for the Metropolitan Inter-City Expressway
- Completed the installation of a steam supply facility for a geothermal power plant in Indonesia
- Delivered gas engine power generation facilities to Kyoto University Hospital and Osaka University Hospital as independent power supply systems for emergencies