

Meet
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Cherepovets, Republic of Tatarstan, Russian Federation

**Natural gas into fertilizer!
A valuable contribution to global food production**

The world's population has been rapidly expanding since the mid-20th century, giving rise to an increasing demand for fertilizers that contribute to a stable food supply. The production of nitrogen fertilizers* generated from natural gas or the like has grown nine-fold in the 50 years since 1961.

After delivering its first fertilizer plant in 1958, MHI has gone on to build many more fertilizer plants around the world. Capitalizing on the abundant natural gas fields of Russia, the company is currently constructing two fertilizer plants: one in Cherepovets, some 400 km to the north of Moscow, and the other in the Republic of Tatarstan, some 1,000 km to the east of Moscow. The fertilizers are for use in Russia and abroad.

Today, that green and tasty salad on your plate may very well have been grown with natural gas fertilizer courtesy of MHI.

*Fertilizer with nitrogen as the main ingredient, e.g. ammonium sulfate, ammonium nitrate, urea



Fertilizer plant under construction in the Republic of Tatarstan (as of 2014)

Fertilizers from natural gas contribute to a stable food supply

Meet
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Yokohama City, Kanagawa Prefecture, and others

MHPS further expands thermal power generation in Japan and abroad

In February 2014, MHI and Hitachi, Ltd. merged their respective thermal power generation systems businesses to form Mitsubishi Hitachi Power Systems, Ltd. (MHPS). With increasing economic growth and demand for electricity from newly emerging nations, the improved efficiency of thermal power generation has become an essential factor in the important task of protecting the global environment. Under such circumstances, MHPS products and unique technologies will make a real contribution to reducing environmental impact and stabilizing supplies of electricity, as convincingly shown by the Gas Turbine Combined Cycle (GTCC) power plant with a conversion rate of over 60% fuel to power, and the Integrated coal Gasification Combined Cycle (IGCC) power plant, generating power with about 20% less CO₂ emissions than conventional coal-fired thermal power plants. This powerfully enriched and integrated product lineup, including highly efficient gas turbines and boilers, and environmental systems that remove harmful substances from exhaust gas, will be the mainstay of energy generation for utility companies through to factories with in-house power generation. The synergy created with the birth of MHPS will be beneficial for improving energy efficiency and solving the environmental issues of our expanding global society.



A key product — the gas turbine: The J-series gas turbine incorporates unique MHPS technology and ranks among the world's top class in power generation efficiency with a fuel-to-power conversion rate of more than 60%.

The stage is the world market: highly efficient thermal power systems benefiting local life.



Mitsubishi Hitachi Power Systems, Ltd. (MHPS). Head office in Yokohama, and Works in Hitachi, Yokohama, Takasago, Nagasaki and other cities.

Meet MHI

Life with MHI

Energy & Environment

MHI's innovative technologies and outstanding products surround us, expanding across land, sea, air, and even out into space. The company is quietly supporting every aspect of our daily lives — technologies from Japan across the world and far beyond.

Meet
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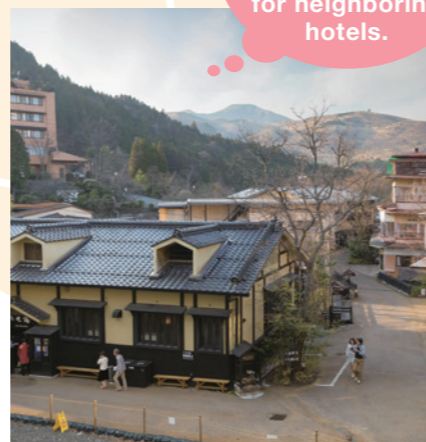
Kokonoe Town, Kusu County, Oita Prefecture

Kyushu tourism and hot springs fired up by geothermal power generation!

Clean energy development is very popular, and geothermal power generation is one of today's hottest topics with a technology that holds a promising future for volcanic Japan. Several kilometers underground molten magma flows at around 1,000°C, ideal for harnessing power to operate turbines. In 1967 MHI delivered Japan's first water-dominated geothermal power plant to the Otake Power Plant in Oita Prefecture. Today, MHI has delivered to five other sites in Oita and Kagoshima

Prefectures. The plants not only supply power to local communities, but also hot water to hot spring resorts. After power generation, steam is effectively used as a hot water resource for neighboring hotels. For the Japanese people who love their hot spas, it's just a case of clean energy serving two essential needs with one hot idea.

Hot spring water from the Oita Prefecture Hatchobaru Power Plant heats up neighboring hot spring resorts.



After power generation, steam becomes a valuable resource for neighboring hotels.

Meet
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São Paulo State, Brazil

MHI electric buses score big in Brazil!

Brazil may be half a world away from Japan, but both are humming with new MHI environment-conscious electric buses. With the latest batteries and citywide charging, the system has been successfully demonstrated in the four Japanese cities of Kyoto, Aomori, Fukuoka and Nagasaki (within the shipyard).

Our partner is the METRA Group, a local bus company in São Paulo, and in November 2013, after technological development of the storage and

charging systems was completed, a six-month road test began with regular passengers. Brazil has many Japanese descendants and many are engineers, so our project team has been outstanding effectively. This summer, Brazil hosted the 2014 FIFA World Cup, and MHI electric buses played a winning role in transporting the thousands of football fans to their goal.



With an overall length of 18m and a passenger capacity of 150, the double-car "E-bus" is put through the paces. (as of April 2014)

Articulated electric bus in Brazil powered by MHI battery systems