

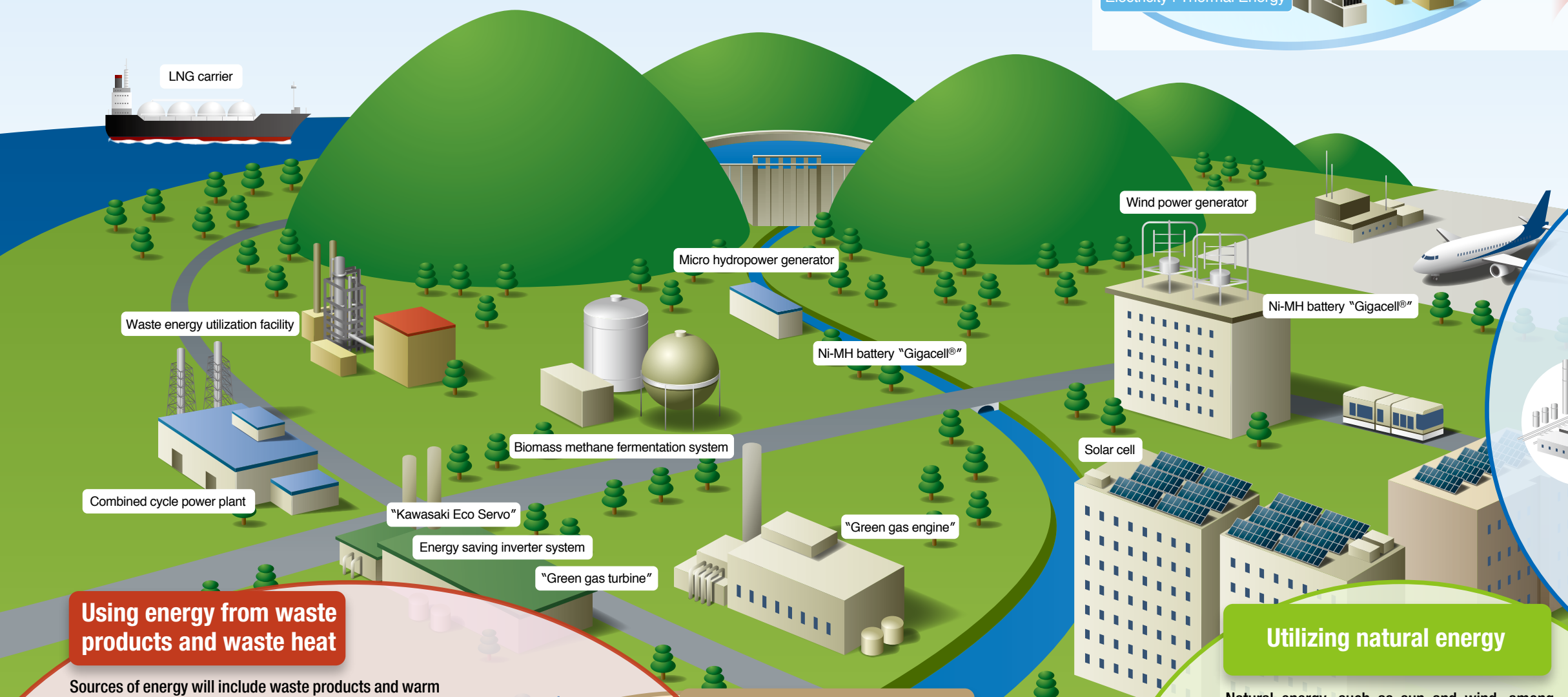
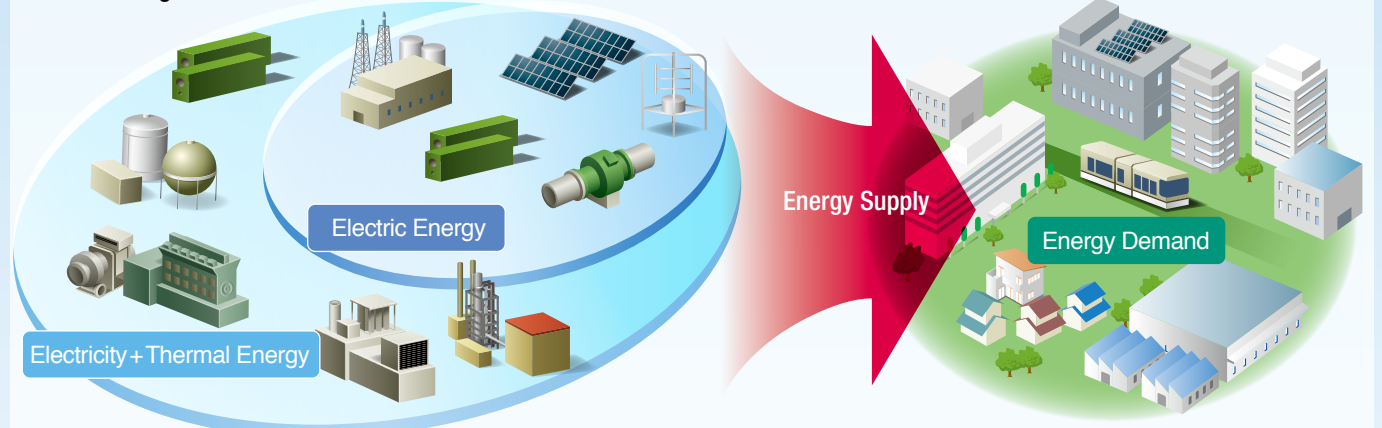
We will use our integrated technological expertise to create values that point the way to the future.

KHI Group's Ideal Society: In the Fields of Energy and the Environment

Energy should be efficient, environment- and resource-conscious, and most certainly reliable. As a company whose role includes the building of infrastructures worldwide, the KHI Group provides new values with energy and the environment, both present and future, integral to the development of safe and comfortable lifestyles.

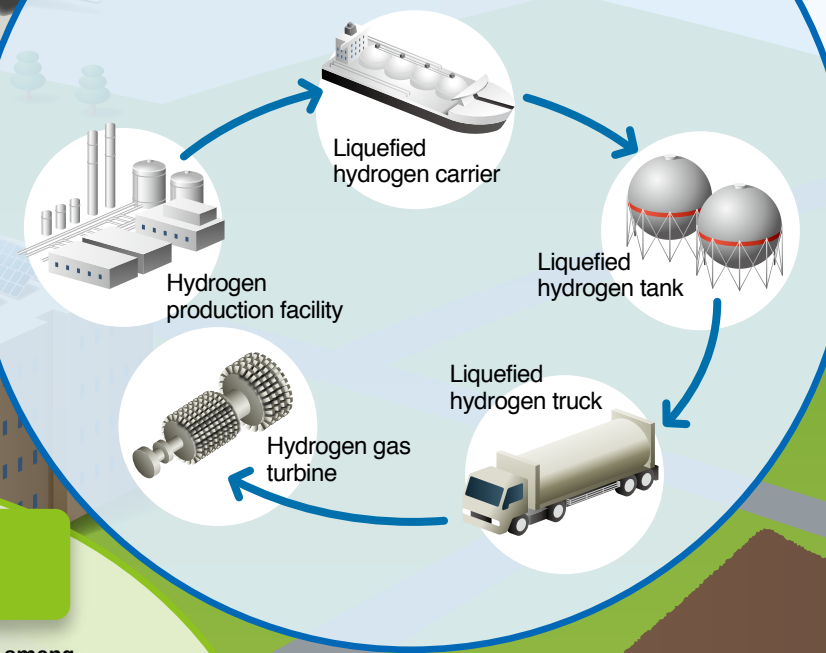
Distributed energy systems

Distributed energy systems are highly efficient and contribute to the creation of safe and secure communities because they are better configured to withstand disasters.



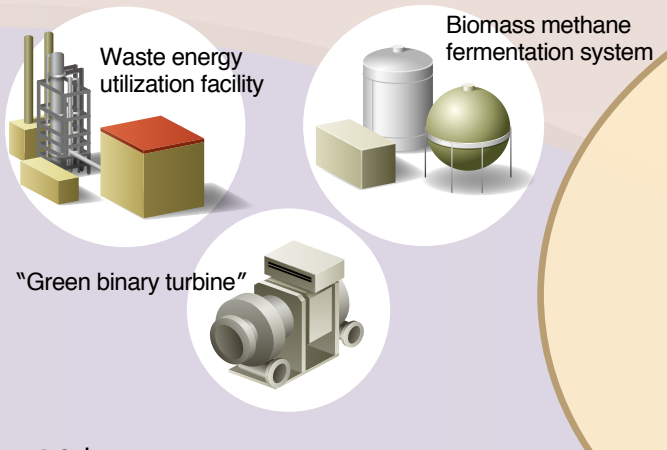
Realizing the perfect energy for tomorrow

We have proposed the CO₂-free hydrogen chain as a new energy system for tomorrow's energy needs.



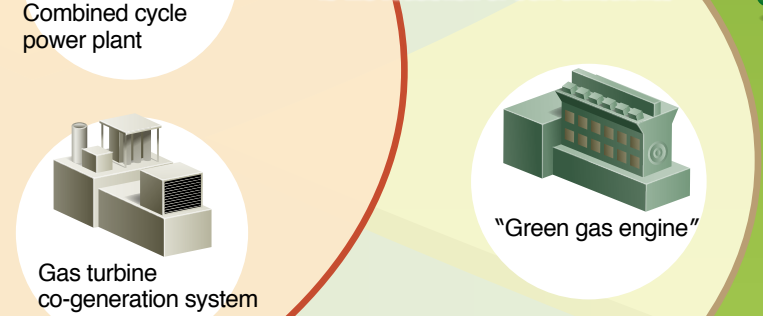
Using energy from waste products and waste heat

Sources of energy will include waste products and warm water, steam and exhaust gas released from plants.



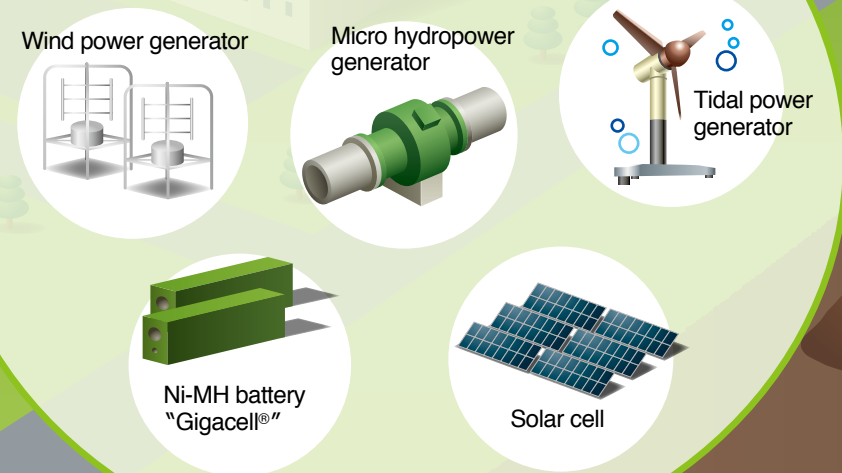
Reducing energy consumed to generate power

High-efficiency energy use will contribute to the reduction of CO₂ emissions.



Utilizing natural energy

Natural energy, such as sun and wind, among others, will not generate CO₂.



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The KHI Group consistently applies a practical perspective to activities aimed at improving product quality, ensuring product safety and boosting customer satisfaction. In this report, we showcase activities undertaken by the Ship & Offshore Structure Company, the Plant & Infrastructure Company and the Precision Machinery Company to highlight efforts to improve product quality, ensure product safety, and boost customer satisfaction, respectively.

Efforts to Improve Product Quality

Ship and Offshore Structure Company

The Ship and Offshore Structure Company, the business segment that quite literally launched KHI, has delivered more than a thousand ships. Here we highlight efforts to improve product quality by capitalizing on the many opportunities we have to interact with customers in the building of ships and the face-to-face relationships that are formed as the process unfolds.

1 Development, contract

We accurately identify customer needs and determine ship specifications through numerous meetings.



Ship building specifications

2 Design

Even at the design stage, we frequently hold technical meetings with customers and confirm requirements by obtaining approval of drawings while putting forward reliable designs conforming to technical standards.



Design work setting

3 Procurement

We order equipment and components from more than a hundred suppliers. We accompany customers to suppliers' shop test of critical equipment and confirm that the products meet the required specifications.



Shop test of critical equipment

With our customers

6 After-sales services

We take account of post-delivery customer feedback and quickly extend technical support to customers requiring repairs or supply of components. The information obtained through such activities is valuable and passed on to all the departments involved because the feedback is useful in efforts to improve quality.



Ship visited for after-sales services with the crew

5 Sea trial, delivery

In the final stage of shipbuilding, the ship is actually put to sea and we, along with our customers, confirm performance. Later, we bid farewell as the ship leaves the shipyard quay to ply the world's oceans, marking delivery to the customer.



Sending the ship off from the quay amid waving flags

4 Manufacturing, inspection

At the shipyard, the ship takes form over multiple stages, such as steel plate fabrication, welding, painting and installation of equipment. Customers dispatch supervisors to track progress and together we ensure quality through various inspections.



Welding inspection using an aerial work platform

Efforts to Ensure Product Safety

Plant & Infrastructure Company



Hiroshi Takaya
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One way to assess safety based on plant design is to use HAZOP (Hazard and Operability Studies). We applied HAZOP to a fertilizer plant project to ascertain safety. The HAZOP exercise brought together the parties involved in the project—the customer, the provider of fertilizer manufacturing technology and KHI—to 1) identify areas of possible safety issues, 2) analyze the hazardous events that would occur in the areas and look into their causes, and 3) formulate safeguards and necessary improvements to prevent such hazardous situations from arising, but if they were to occur, to avert an actual accident, on the assumption that operations deviated considerably from normal, in such areas as flow rate, pressure and temperature. This hypothetical scenario enabled us to reduce risk to a permissible level. Specifically, we suggested a safety device that brings the

plant to an emergency stop when pressure rises in the fertilizer synthesis equipment, a safety device that stops the compressor in an emergency, when the compressor inlet pressure drops, and a warning display to prevent an excess drop in pump pressure when the tank water level decreases due to manual valve mishandling by the operator. We thus identified possible hazards at an early stage and verified the status of safety from a design perspective and confirmed the need for improvements. Through HAZOP, we were able to raise awareness of safety design and implemented approaches to reduce risk by addressing concerns in the actual plant design.



Fertilizer plant for Fatima Fertilizer Company Ltd. (Pakistan)

Efforts to Boost Customer Satisfaction

Precision Machinery Company, Nishi-Kobe Works



Shoji Fujiwara
Quality Assurance Department,
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The Precision Machinery Company produces hydraulic equipment and hydraulic units responsible for motion control in a range of machinery and provides products to countries all over the world. Among these products, hydraulic equipment for construction machinery, especially hydraulic shovels, have captured high shares and have earned a stellar reputation from customers. We have also earned the solid trust of customers by providing products fine-tuned to customers' varied needs right from the design stage.

In addition, we have offices in Japan, of course, as well as England, the United States, China and South Korea to expedite after-sales service requests, and through these quick responses we are able to meet customers' needs and maintain excellent customer satisfaction. We strive to enhance the activities that support this capability. Comments from customer questionnaires are categorized into themes: product quality, after-sales services, performance and delivery, and the information is shared among all divisions and with management. We take the results seriously and everyone strives daily to address issues that customers have noted so as to raise the level of customer satisfaction.



Training the people responsible for after-sales services



Overhauling hydraulic equipment

