


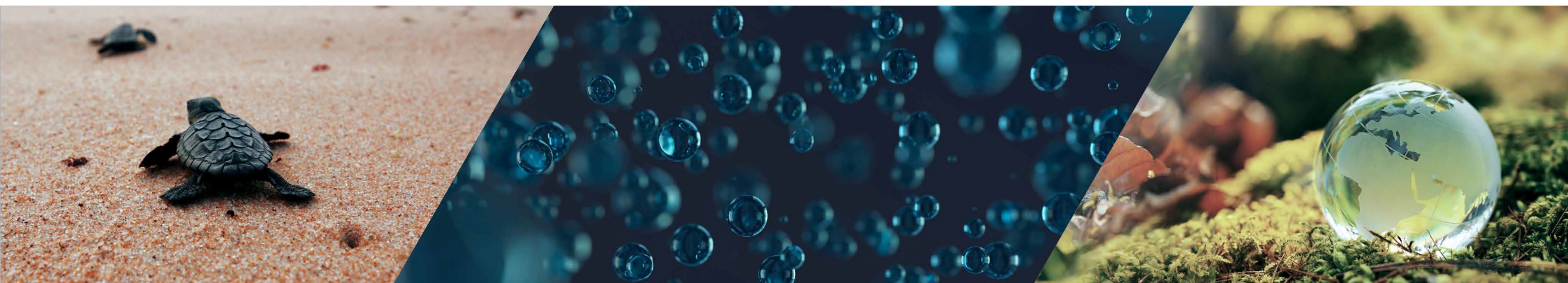


MOVE THE WORLD FORWARD  **MITSUBISHI  
HEAVY  
INDUSTRIES  
GROUP**

Leading Societal Change with our Technology

# **MITSUBISHI HEAVY INDUSTRIES GROUP**

## **SUSTAINABILITY MANAGEMENT**



## COMPANY OVERVIEW

As a global leader in manufacturing and engineering, the Mitsubishi Heavy Industries Group has been contributing to people's daily lives and society around the world with its partners inside and outside Japan since its foundation in 1884.

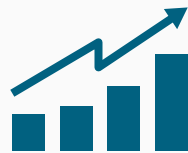
### SALES

# 4,202.7

billions of yen

(sales revenue; consolidated/IFRS)

\*March 2023



### NUMBER OF EMPLOYEES

# 76,859

(consolidated)

\*As of March 31, 2023



### GROUP COMPANIES

# 187

 Overseas  

# 67

 In Japan

\*As of March 31, 2023



### FOUNDATION

# 1884



### CAPITAL

# 265.6

billion yen

\*As of March 31, 2023



### HEAD OFFICE LOCATION

# Tokyo



### RENEWABLE ENERGY CONSUMPTION

# 109

GWh

\*FY2022



### CSR EXPENDITURES

# 1.17

billion yen

\*FY2022

## OUR BUSINESS

MHI Group contributes to creation of a sustainable society with our skills and technology developed over many years and by offering optimal solutions in a wide range of business areas covering land, sea, sky, and space.

### ENERGY SYSTEMS



With development of a decarbonized society as a goal, we offer a wide variety of energy and environmental solutions.

### PLANTS & INFRASTRUCTURE SYSTEMS



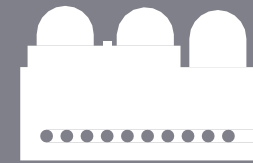
We contribute to the development of the maritime industry through our shipbuilding technology, and to the creation of a sustainable, circular society through our environmental plants and metals machinery businesses.

### LOGISTICS, THERMAL & DRIVE SYSTEMS



We create products such as forklift trucks, air conditioning systems, turbochargers, and engines that support daily living.

### NUCLEAR ENERGY SYSTEMS



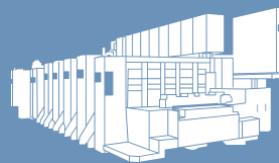
We design and construct nuclear plants that supply a large volume of stable electricity and build devices for them.

### ENGINEERING SOLUTIONS



Through engineering of transportation systems, chemical plants, and CO<sub>2</sub> capture systems, we contribute to the realization of a comfortable lives and a enrich society around the world.

### MACHINERY SYSTEMS



We design, manufacture, and construct products including toll collection systems, mechanical parking lots, food packaging machines, and box making machines to support social infrastructure.

### INTEGRATED DEFENSE & SPACE SYSTEMS



We offer rocket launch services and also develop, design, and manufacture various defense products.

### COMMERCIAL AVIATION SYSTEMS



We supply components such as main wings and fuselages to the world's leading aircraft manufacturers.

1

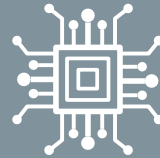


**PROVIDE ENERGY SOLUTIONS TO ENABLE A CARBON NEUTRAL WORLD**

We will decarbonize MHI Group's business activities by 2040 and contribute to building energy infrastructure for establishing a decarbonized society by 2050.



2



**TRANSFORM SOCIETY THROUGH AI AND DIGITALIZATION**

By maximizing the use of AI and digitalization technology, we will create a society where economic development and solutions to social issues become realities at the same time (Society 5.0).



3



**BUILD A SAFER AND MORE SECURE WORLD**

By applying our business experience and knowledge, we will build social systems that are flexible and robust, and save labor. We will contribute to the realization of a safer and more secure society.



**FIVE MATERIAL ISSUES TO ADDRESS TO ACHIEVE SUSTAINABILITY MANAGEMENT**

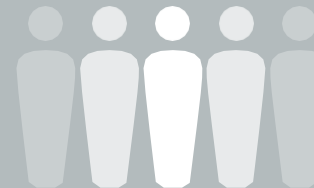
MHI Group has set five material issues to address in order to achieve sustainability management. We will contribute to creation of a sustainable society through energy transition to develop a carbon-neutral society and digital transformation that shifts people's lives to a better future.

5



**ENHANCE CORPORATE GOVERNANCE**

In addition to observing laws and regulations and fully committing to integrity and fair and just business practices, we disclose management information and ensure fairness and transparency.



**PROMOTE DIVERSITY AND INCREASE EMPLOYEE ENGAGEMENT**

By promoting diversity and health and productivity management, we support the growth and health maintenance of our human resources. We will develop human resources who can contribute to society even after retirement.

4

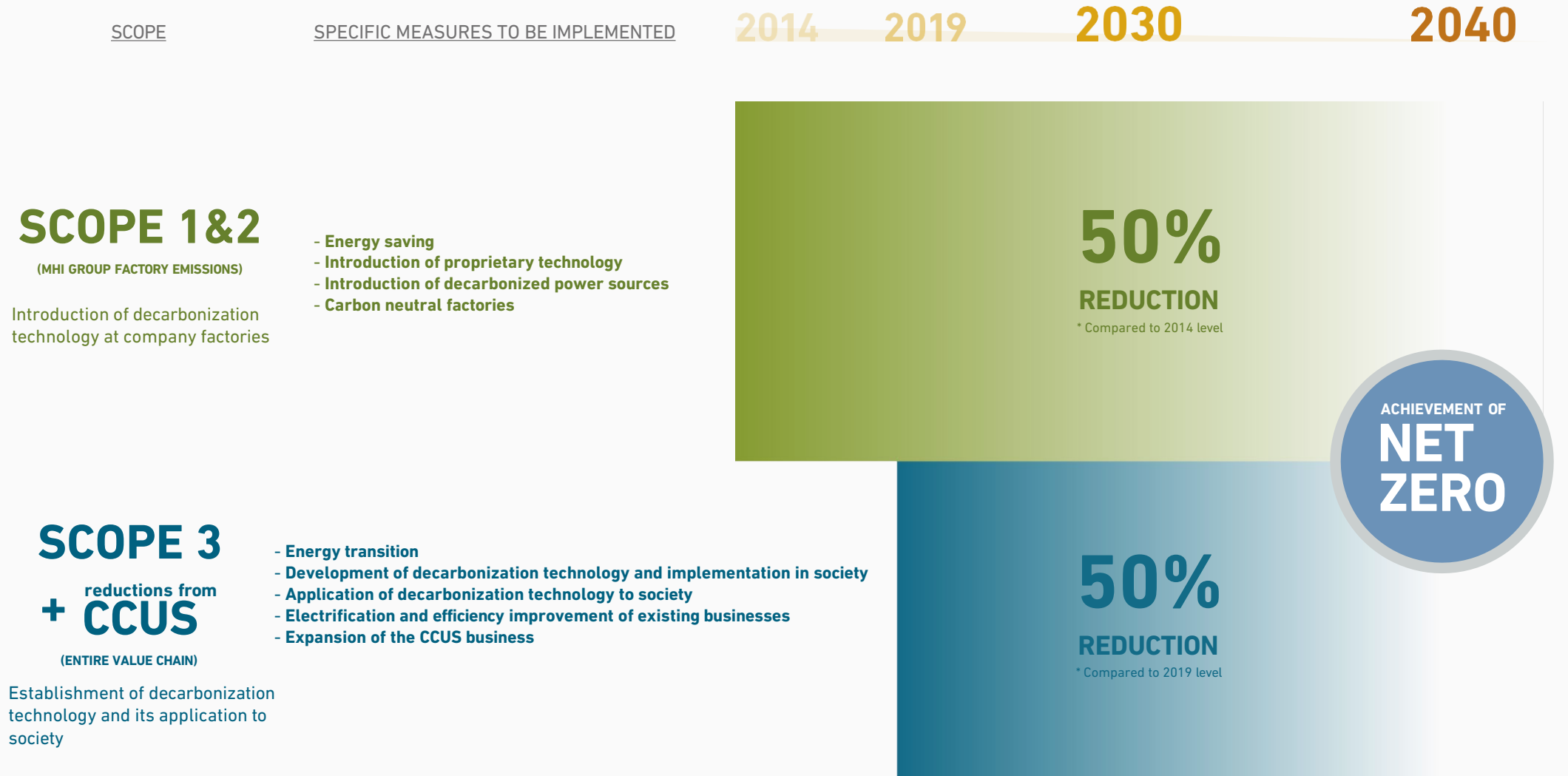


# MATERIALITY 1 INITIATIVES

## “MISSION NET ZERO”

### OUR CHALLENGE

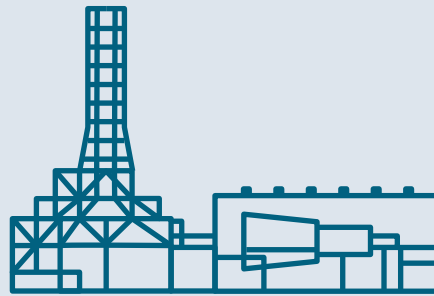
MHI Group has defined two growth areas: Energy Transition, whereby we pursue decarbonization as an energy supplier, and creation of Smart Infrastructure through which we achieve decarbonization, energy saving, and labor saving as an energy consumer. In addition to the above, we will advance decarbonization, electrification, and intelligence in existing businesses to achieve Net Zero and a carbon neutral society in 2040.



**CCUS:** Carbon dioxide Capture, Utilization and Storage  
**Scope 3:** The calculation standard is based on the GHG Protocol. However, we also account for reductions achieved by CCUS as an MHI original index.

## MHI GROUP COMMITMENT TO SUSTAINABILITY

With the goal of creating a sustainable society, we are developing and demonstrating hydrogen gas turbines, building a CO<sub>2</sub> ecosystem in which CO<sub>2</sub> is captured, converted and utilized, applying hydrogen production technology to achieve zero carbon, and developing automated and intelligent products.



### VALIDATION OF HYDROGEN PRODUCTION AND POWER GENERATION TECHNOLOGY TAKASAGO HYDROGEN PARK

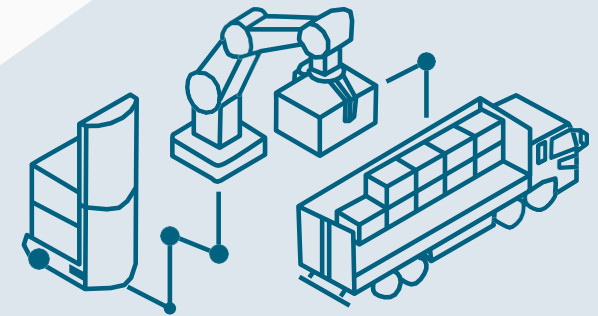
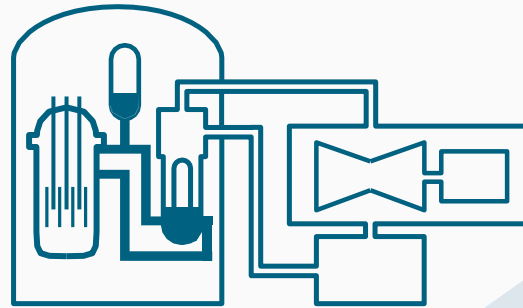
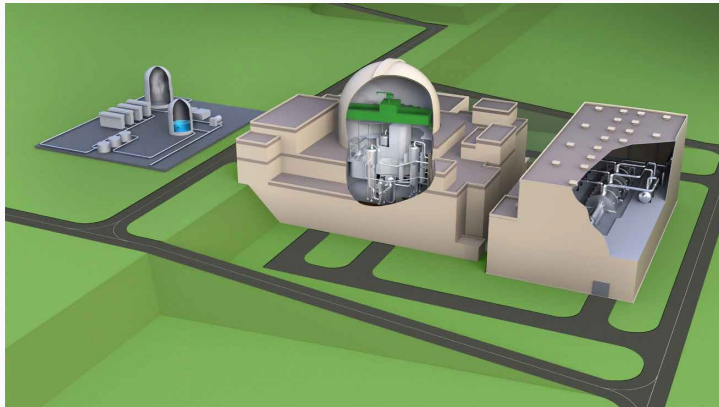
In the pursuit of an early market release of hydrogen gas turbines, we created the Takasago Hydrogen Park at Takasago Machinery Works, our gas turbine development and manufacturing base. Takasago Hydrogen Park is the world's first facility for testing the whole technological process from hydrogen production to power generation. We will gradually enhance the relevant equipment for the release in 2025 of a large frame gas turbine enabling 30% hydrogen co-firing and medium and small gas turbines enabling 100% hydrogen firing.

### CO<sub>2</sub> CAPTURE AND RECYCLING CCUS (CO<sub>2</sub> CAPTURE SYSTEM)

We will build a CO<sub>2</sub> value chain such as CCUS (capturing, transferring, utilizing, and storing CO<sub>2</sub>) to create an environment-friendly CO<sub>2</sub> Solutions Ecosystem. We will reorganize the CCUS value chain in the context of the CO<sub>2</sub>NTAIN, CO<sub>2</sub>NNECT, and CO<sub>2</sub>NVERT approaches and seek to achieve a carbon neutral society in each area.



# MHI GROUP COMMITMENT TO SUSTAINABILITY



## IMPROVED SAFETY AND POWER ADJUSTMENT FUNCTIONALITY DEVELOPMENT OF AN INNOVATIVE NEXT-GENERATION PWR

Aiming for use in the mid-2030s, we are developing the Innovative Next-Generation PWR (Pressurized Water Reactor), a nuclear power plant that will achieve the world's highest level of safety by utilizing innovative technology as well as have high economic efficiency.

In addition, we have improved the functionality for power adjustment to compensate for the power fluctuation of renewable energy.

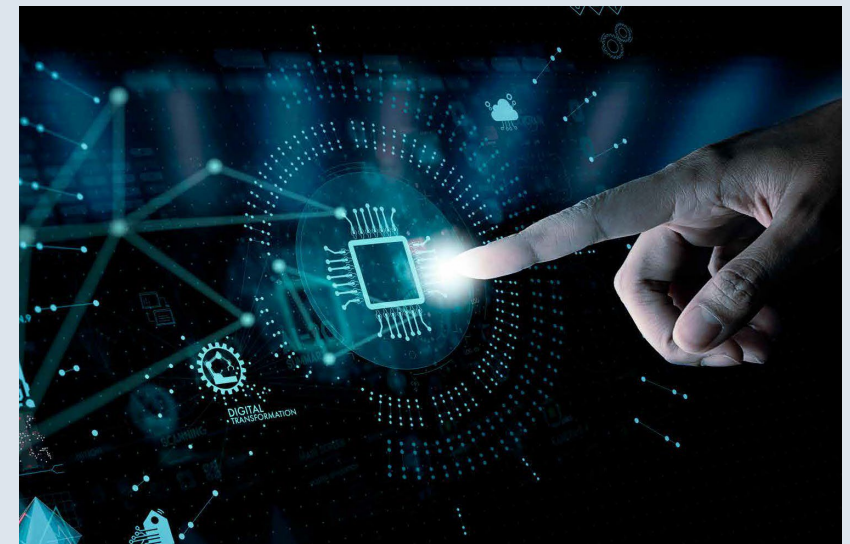
These PWR plants will contribute to both a carbon-neutral society and a stable energy supply.

"ΣSynX" is a standardization platform that synchronizes and coordinates various mechanical systems and integrates digital technologies that enable their optimal operation.

In ΣSynX, Σ is the total sum, Syn represents synchronization and coordination, and X refers to the future. With these elements, the term ΣSynX was created based on the concept of "developing technology centered on people and that can be coordinated with people." We will apply ΣSynX to our many different products, such as automated forklift trucks.



## CONNECTING SOCIAL SYSTEMS FOR INTELLIGENCE ΣSynX



# MHI GROUP COMMITMENT TO SUSTAINABILITY

## LOW-CARBON TRANSPORT SOLUTIONS



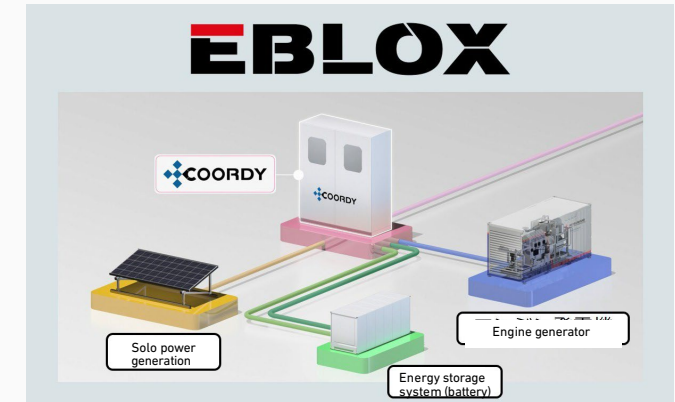
Through delivery and O&M services for transport systems, we will help achieve a carbon-neutral society by solving environmental issues around the world.

## AUTOMATED GUIDED FORKLIFTS TRUCKS TO SOLVE LOGISTICS WORK PROBLEMS



By developing automated guided forklifts, we solve issues such as labor shortages and the securing of storage space for increasing and fluctuating loads.

## EBLOX FOR OPTIMAL USE OF RENEWABLE ENERGY



EBLOX is a stand-alone triple hybrid power system that makes the most out of renewable power sources by combining batteries with engine generators. We conducted demonstration studies in Japan and Turkey and are now planning full-scale sales.

## WASTE-TO-ENERGY PLANTS



The Waste-to-Energy plants we developed safely incinerate and stabilize waste from general households and effectively utilize the extra heat from incineration for electric power.

## VLGC TO CONTRIBUTE TO PRACTICAL USE OF AMMONIA FUEL



We completed the conceptual design of a Very Large Gas Carrier (VLGC) that can be converted from using LPG fuel to using ammonia fuel that does not emit CO<sub>2</sub>.

## HEAT PUMPS



Taking advantage of heat pump technology, we generate heat with low CO<sub>2</sub> emissions and little energy. We use refrigerants having low global warming potential.



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