2021 Medium-Term Business Plan Progress (FY2021-2023)

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Executive Summary

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2021 Medium-Term Business Plan (MTBP) initiatives progressing according to plan with positive effects now being seen.
Further build on these positive outcomes in FY23 to achieve 7% business profit margin.

- Existing business growth : Steady progress in initiatives in Metals Machinery and other businesses addressing industry's decarbonization needs
- Services expansion : Utilize DX and fill out services portfolio
- Profitability improvements and organizational transformation : Review business portfolio, including reorganization of Thermal Power and others

2

Responding to the world's diverse needs, contribute to decarbonization of both energy supply and demand in leadup to global achievement of Carbon Neutrality

- Decarbonize existing infrastructure : World's No. 1 market share in gas turbines.
  Further expand business, responding to need for future conversion to hydrogen firing
- Build a CO_2 solutions ecosystem : Inquiries for CO_2 capture doubled YoY.
  Lead market creation efforts together with partners such as ExxonMobil.
- Smart Infrastructure : Pursue unique value offering with ΣSynx

3

New business opportunities appearing due to increased concern for national security as geopolitical risks surface.
Fulfill the role expected of MHI as a leading company in nuclear power and defense.

I. 2021 MTBP Targets

2021 MTBP Initiatives

Strengthen Profitability

- Grow existing businesses
- Expand services
- Execute profitability improvements and organizational transformation

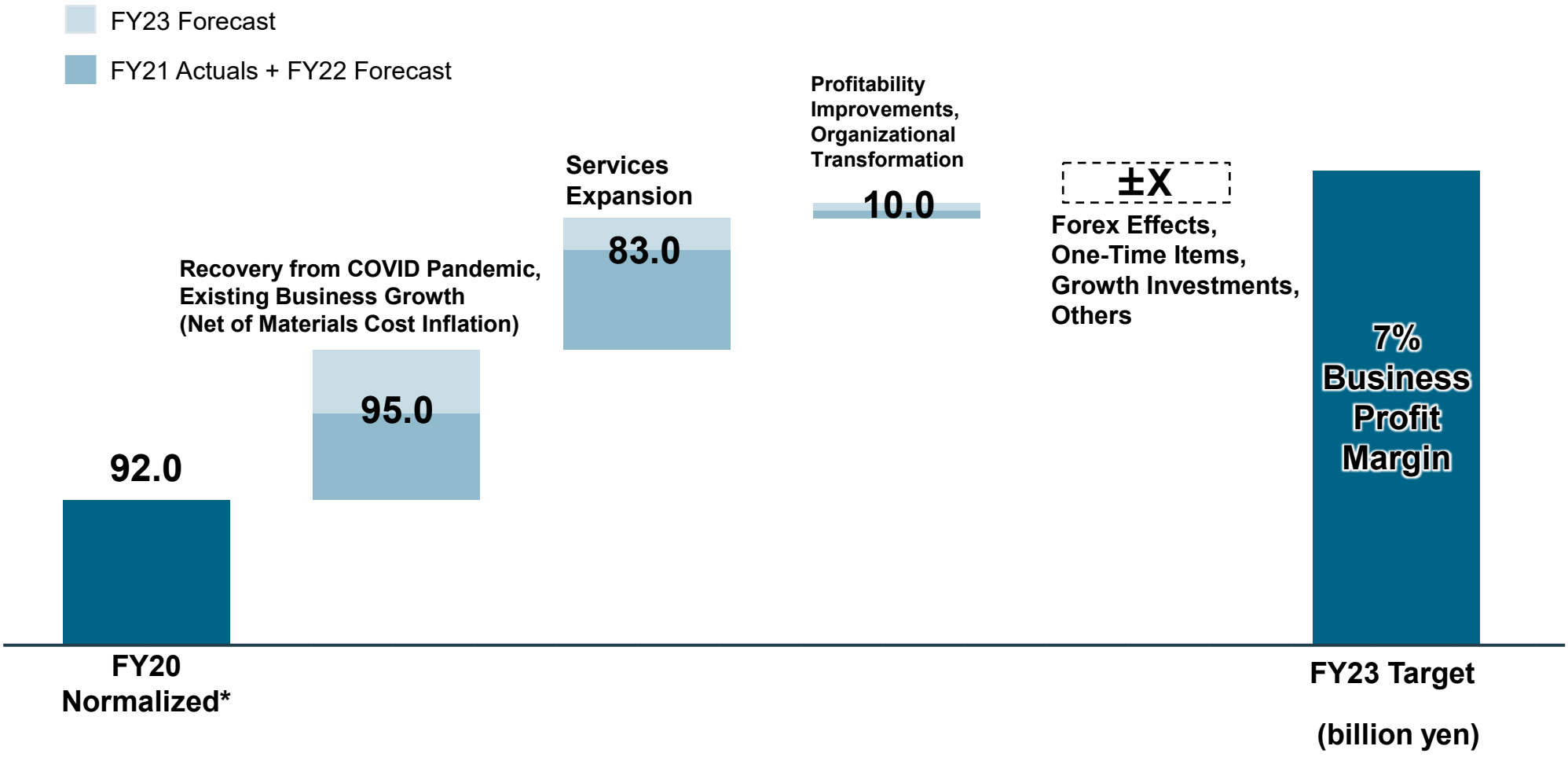
Develop Growth Areas

- Boldly reallocate resources
- Strengthen growth investments
- Improve intragroup cooperation

II. Strengthen Profitability

Profit Bridge

- Drive forward 2021 MTBP initiatives in line with plan while flexibly responding to changes in operating environment to achieve 7% business profit margin target in FY2023



*FY20 normalized business profit calculated by subtracting one-time items (incl. SpaceJet and MVOW -¥38.0 bn) from FY20 actual business profit (¥54.0 bn)

Initiatives Toward Achievement of FY23 Targets

- Steady progress in initiatives laid down in 2021 MTBP with positive effects now being seen
- Continue pursuing these initiatives in FY23 toward achievement of 2021 MTBP targets

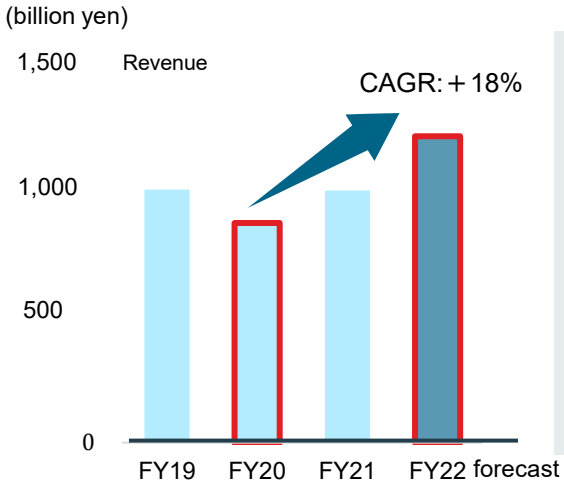
	Achievements (1Q FY21 – 4Q FY22)	Effects FY20 → FY23		
Recovery from COVID Pandemic	• Logistics, Thermal & Drive Systems (LT&D) recovered to pre-COVID levels during FY21 • In Aero Engines, strengthened internal manufacturing capabilities and growing business with expansion of production facilities (Nagasaki and Komaki) • Aero Structures still recovering, continuing fixed cost optimization	Revenue +¥380.0 bn	**Business Profit +¥95.0 bn**	**Slide 9**
Existing Business Growth	• Business grew through steady progress in efforts to address decarbonization needs in GTCC, Metals Machinery, and others			
Services Expansion	• Expanded services businesses through DX and shifting of resources • Strengthened LT&D services hubs and grew market share in equipment leases and rentals	Revenue +¥220.0 bn	**Business Profit +¥83.0 bn**	**Slide 10**
Profitability Improvements and Organizational Transformation	• Revised business portfolio (Naval Ships, Off-Shore Wind, Machine Tools, and others) • Reorganized Thermal Power businesses (consolidated manufacturing facilities, downsized European business unit) • Sold certain European Metals Machinery operations • Reached basic agreement with Mitsubishi Electric to form Power Generator Systems JV		**Business Profit +¥10.0 bn** (Benefits from fixed cost reductions and others)	

Achievements through FY22 (1/2)

Recovery from COVID Pandemic and Existing Business Growth

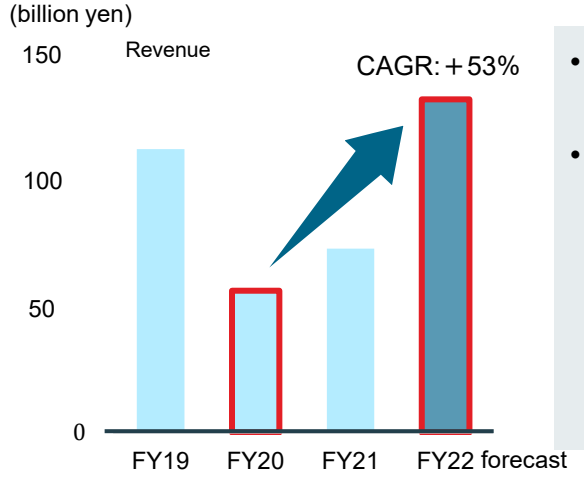
Recovery from COVID Pandemic

LT&D



- Recovered to pre-COVID levels in FY21
- Increasing sales prices to compensate for rising materials and logistics costs in a timely manner, minimizing impact

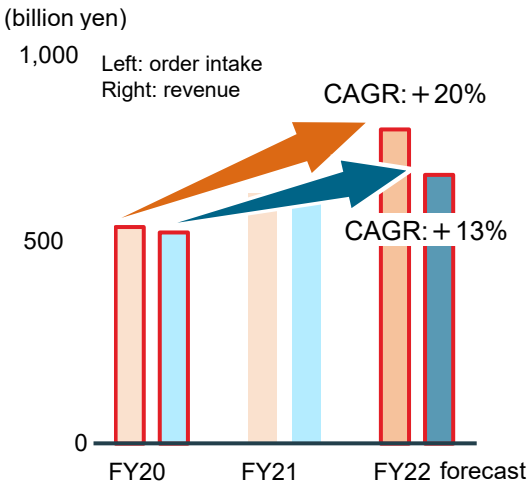
Aero Engines



- Forecasted to surpass pre-COVID levels in FY22
- Based on increasing global MRO* needs, completed expansion work on engine repair facility (Komaki). Maintenance capacity will triple in future.

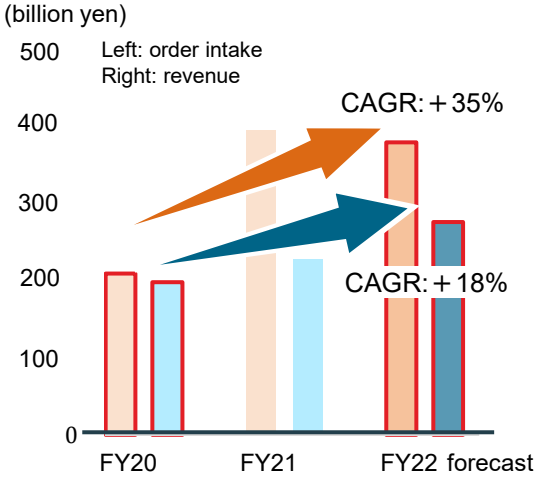
Existing Business Growth

GTCC



- Demand strong for gas-fired thermal power due to low environmental impact and high demand for electricity
- Turnover increased due to high customer rating of systems reliability

Metals Machinery



- Active investments in green steel in Europe, US, Middle East, and Asia
- Leverage proprietary electric arc furnace and direct-reduction ironmaking technologies and know-how to respond to needs for high-spec, high-efficiency steelmaking facilities

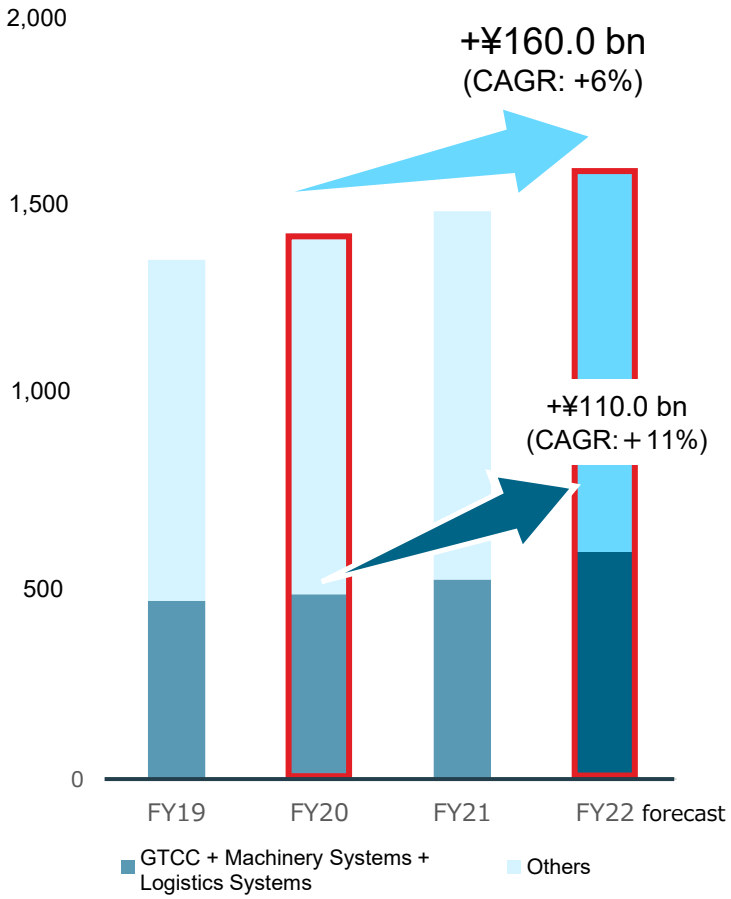
CAGR: Average growth rate from FY20 to FY22 *MRO: Maintenance, Repair, and Overhaul

Achievements through FY22 (2/2)

Services Expansion

- Expanding services business turnover by maximizing customer value through DX and other initiatives

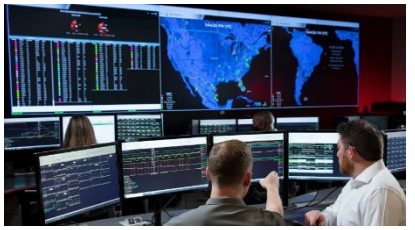
Services Revenue (billion yen)



Examples of Initiatives

GTCC

- Expanded TOMONI® support organization to 5 HUBs, remotely monitoring over 100 units
- Proposing plant operational efficiency improvements using data obtained through TOMONI®



Orlando, FL TOMONI HUB

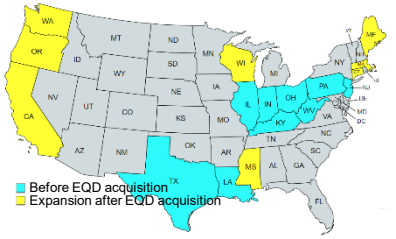
Machinery Systems

- Established remote services organization in North America utilizing AR,[1] enabling response to customers' urgent requests at any time

Using AR to service box making machine

Logistics Systems

- Expanded direct sales area (~25% to ~35%) through new acquisitions by EQD[2]
- Filled out services lineup including rentals, used equipment, and warehouse equipment



MHI direct sales area in US

CAGR: Average growth rate from FY20 to FY22

1 Augmented Reality

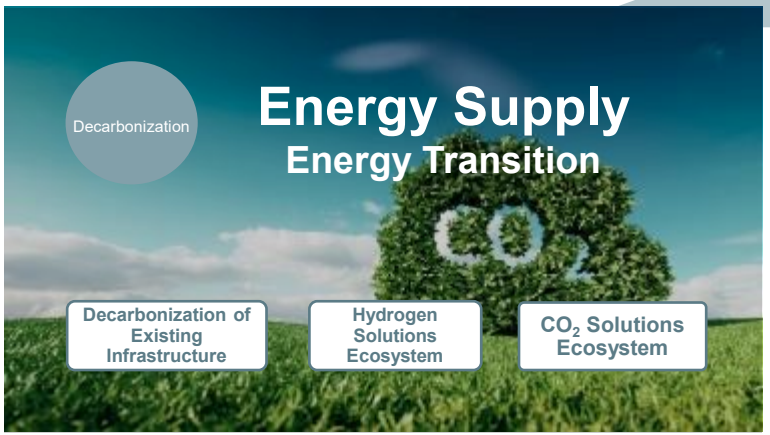
2 Equipment Depot: acquired as subsidiary in 2019

III. Develop Growth Areas

Develop Growth Areas

- Announced commitment to achieve Carbon Neutrality in 2040 (MISSION NET ZERO)
- Promoting decarbonization of energy supply through Energy Transition together with energy conservation, automation, and decarbonization of energy demand with Smart Infrastructure

Safe, secure, and comfortable world



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III-1. Energy Supply

Energy Transition

Recent Developments in the Energy Transition

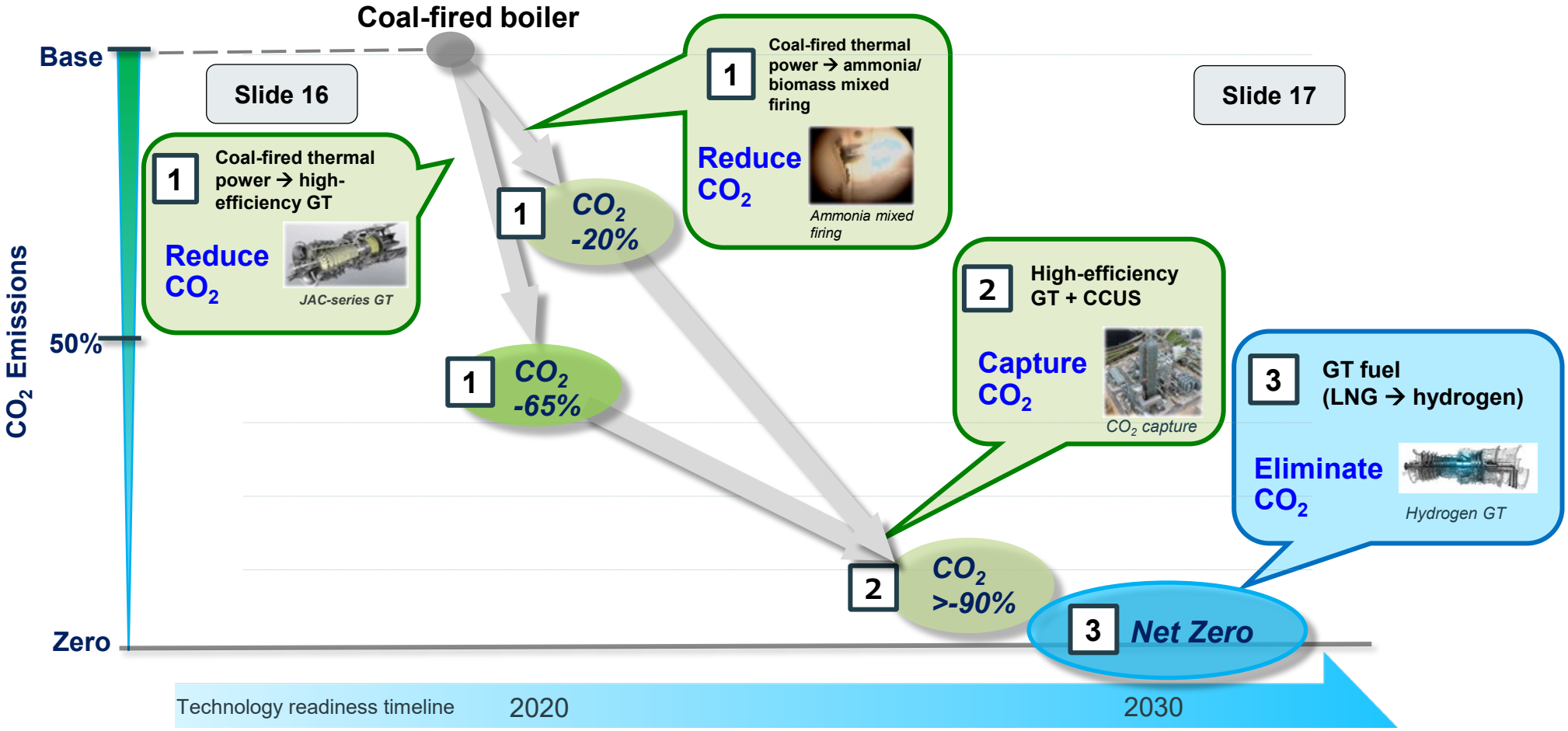
- Forecasting rapid acceleration of Energy Transition, where Europe has previously led, mainly in US

Country/ Region	Governmental Support	Monetary Amount	Details	
 **US**	**Inflation Reduction Act (IRA)** (2022)	**$369 bn budget includes $270 bn in tax incentives** to combat global warning	Hydrogen/ Ammonia	• **$8 bn** budget (10 years) • Hydrogen production: Tax credits up to 30% CAPEX. Max tax credit $3/kg-$H_2$ (10 years).
			CCUS	• **$3 bn** budget (10 years) • CO_2 capture: Tax credits up to 30% capex. Tax credits of $85/t-$CO_2$ for storage and $180/t-$CO_2$ for DAC* (12 years).
 **EU**	**Fit for 55 REPowerEU** (2021, 2022)	**Public/private investment ~€1 tr**	Hydrogen/ Ammonia	• Additional **€27 bn** in investment planned in EU (through 2030) • Set threshold for GHG emissions from hydrogen production (3t-CO_2/t-H_2)
			CCUS	• **€10 bn** in investments planned by 2030 in EU • Building CCUS hub and cluster at North Sea oil fields, suitable sites for CO_2 storage
 **Japan**	**Green Transformation (GX) Basic Policy** (2022)	**Public/private investment ¥150 tr, incl. ¥20 tr in government funds**	Hydrogen/ Ammonia	• **¥7 tr** in public/private investment (10 years) • Considering creation of system to supplement differences in fuel prices and/or support systems for supply point infrastructure improvements
			CCUS	• Execute **¥4 tr and ¥3 tr** in public/private investments for CCS and CCU, respectively (10 years) • Build CCUS value chain in Asia by 2030 through CCUS business legislation and governmental cost-sharing

*Direct Air Capture

Decarbonize Existing Infrastructure

- **Reducing, capturing, and eliminating CO_2** is one path to decarbonizing thermal power
- Another path is to reduce CO_2 emissions by maximum utilization of nuclear power, a carbon-free energy source (Slides 30 and 31)

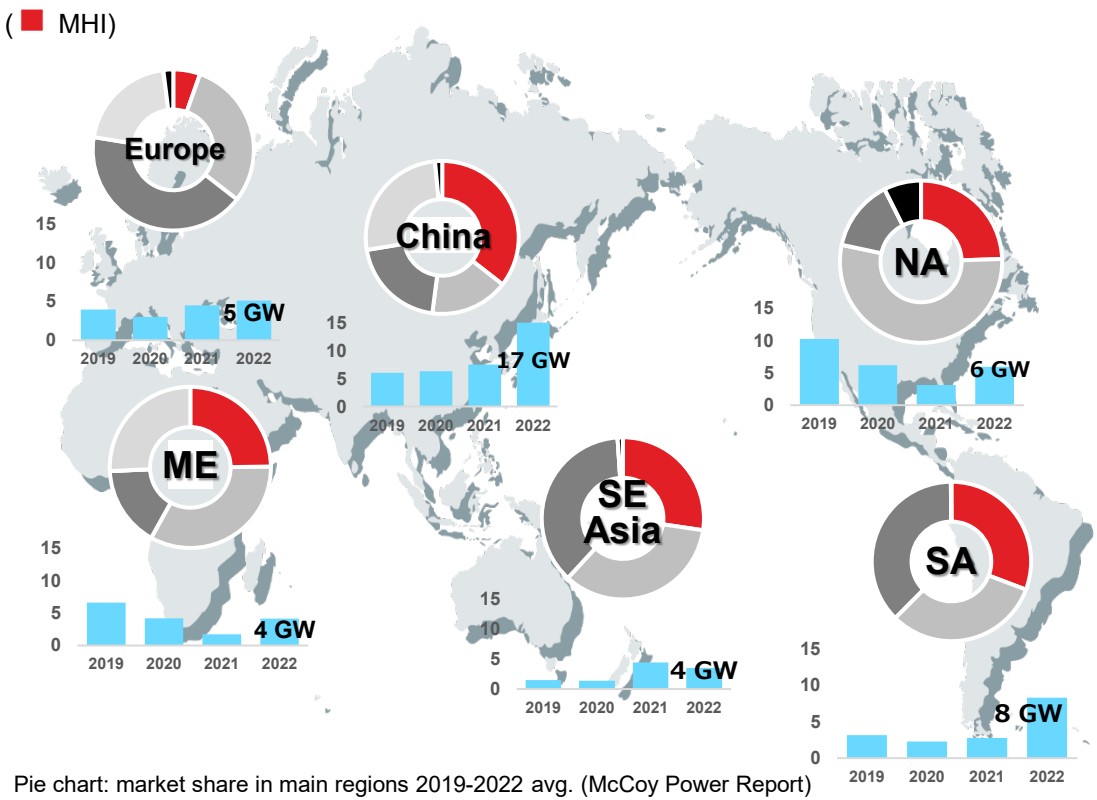


Decarbonize Existing Infrastructure

1 Reduce CO_2

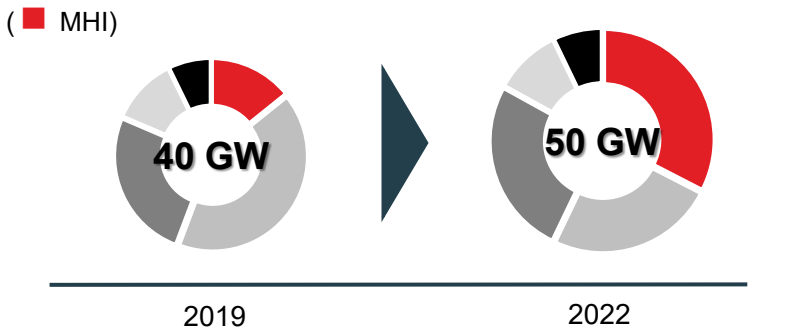
- Respond to needs for conversion from coal-fired thermal power to low-carbon gas-fired thermal power
- Achieved No. 1 market share in CY22 due to high evaluation of gas turbine reliability, ability to install CO_2 capture plants in future, and ease of hydrogen conversion. Maintain high market share while aiming to increase turnover.

MHI Market Share in Main Regions (unit: GW)

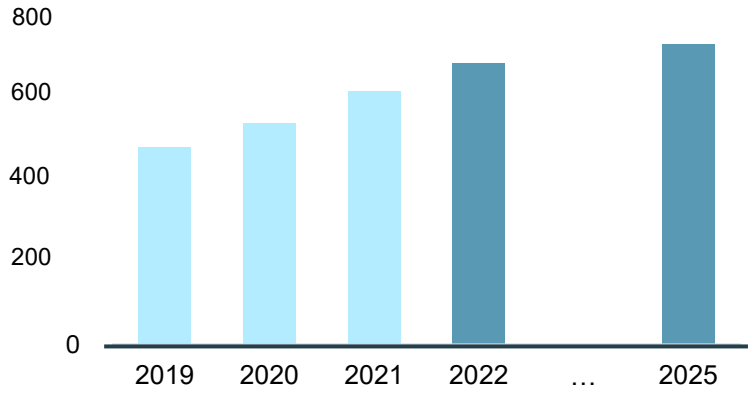


Pie chart: market share in main regions 2019-2022 avg. (McCoy Power Report)
Bar graph: market size (capacity base) trends 2019-2022

MHI Global Market Share



MHI Revenue (billion yen)



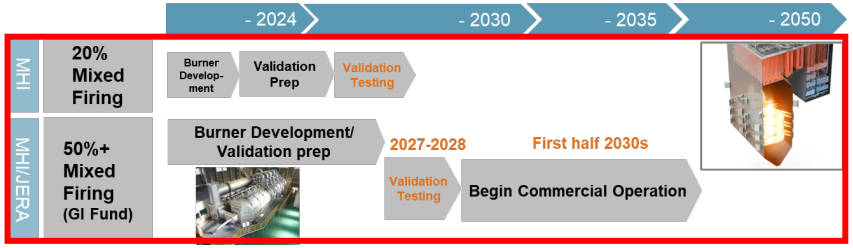
Decarbonize Existing Infrastructure

1 2 Reduce + capture CO_2 | 3 Eliminate CO_2

MITSUBISHI HEAVY INDUSTRIES

- Amid tailwinds from public CCUS incentives around the world, pursuing overall power plant optimization including CO_2 capture facilities
- Hydrogen gas turbine development has met the first criteria of the EU Taxonomy (development progressing ahead of competitors)

Ammonia Mixed Firing Boiler



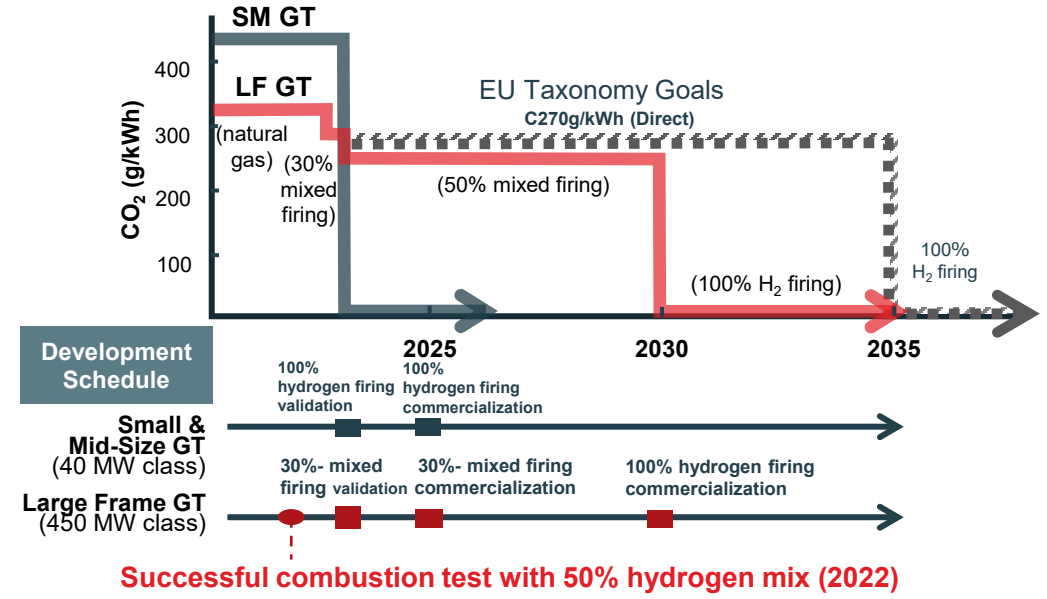
- In coal-fired thermal power, developing >50% ammonia mixed firing technology with goal of commercialization in first half of 2030s

GTCC + CO_2 Capture

Genesee Generating Station (Alberta, Canada)

- Awarded Front End Engineering Design (FEED) study for CO_2 capture plant applied to an LNG-fired GTCC power plant in Alberta, Canada
- Supporting customers' decarbonization efforts with both GTCC and CO2 capture

Hydrogen Gas Turbine

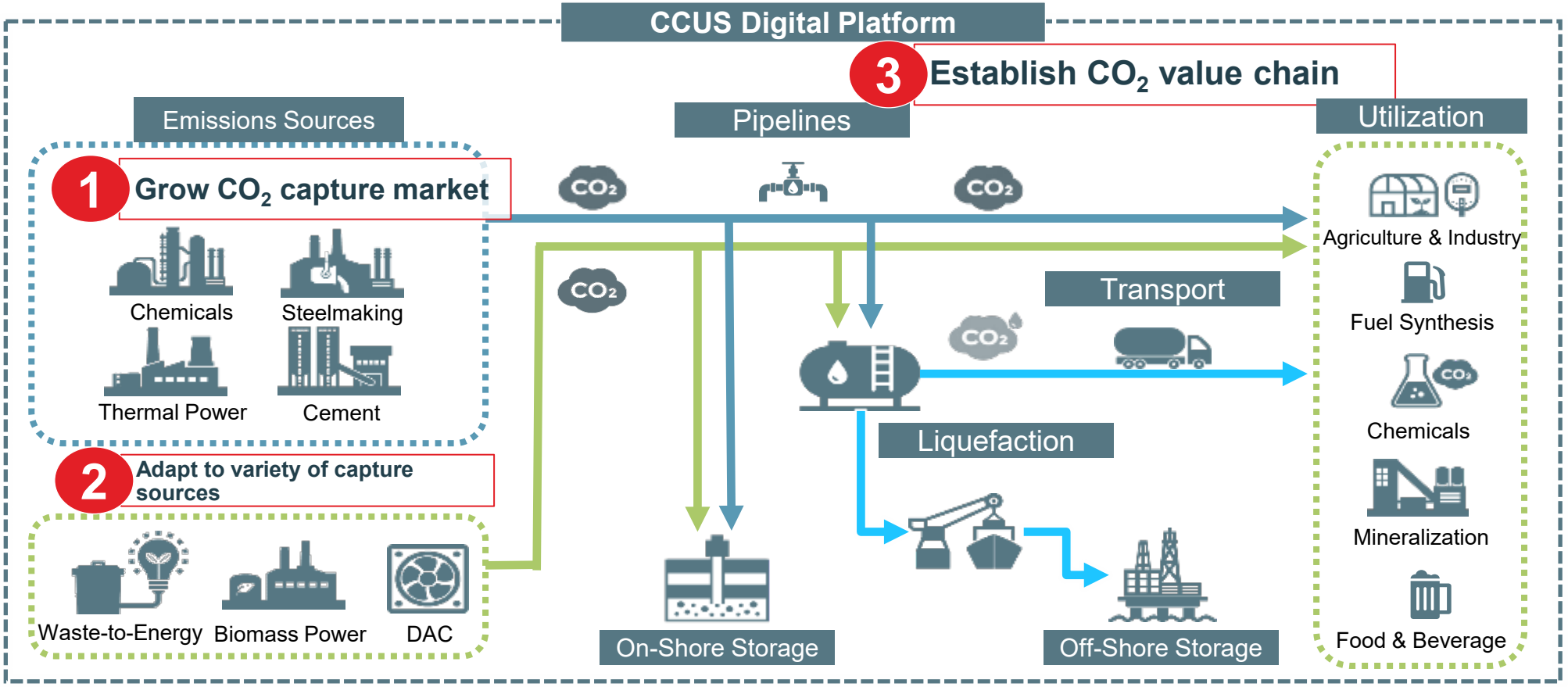


Successful combustion test with 50% hydrogen mix (2022)

- In lead up to commercialization in 2025, completed successful combustion test with 50% hydrogen mix, thereby meeting EU Taxonomy goals
- Development progressing in line with plan toward 100% hydrogen firing in large frame gas turbines in 2030

Realize a CO_2 Solutions Ecosystem

- Working to build a CO_2 solutions ecosystem connecting diverse emissions sources with storage and utilization providers
- Respond to CO_2 capture needs of diverse industries by leveraging long track record
- Accelerating efforts to build a value chain together with our partners

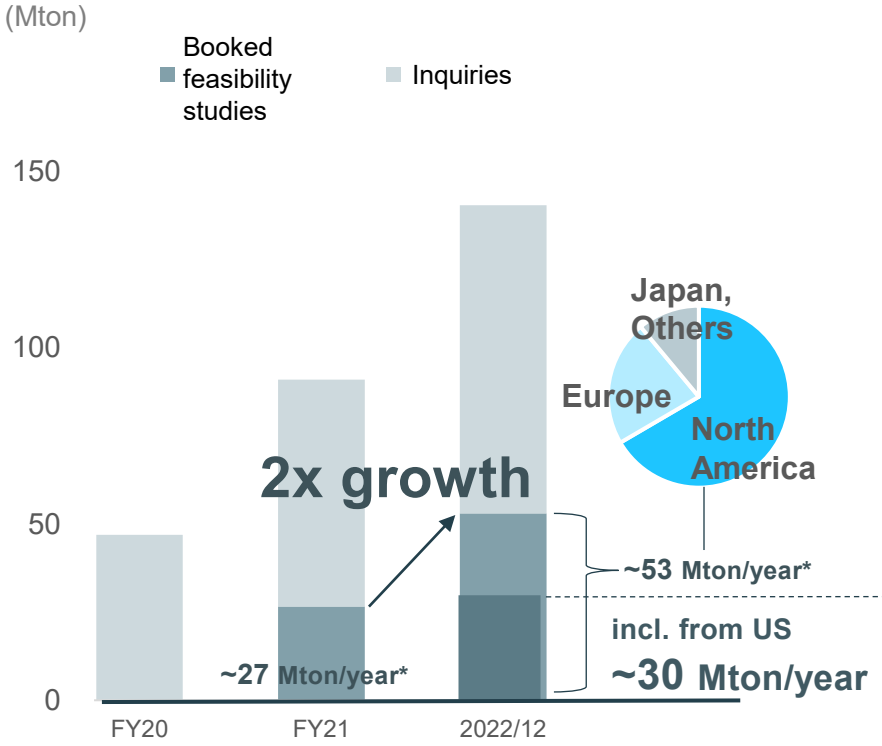


(1) Grow CO_2 Capture Market

- Inquiries strong especially in Europe and US on back of IRA. Feasibility studies doubled since FY21.
- Aiming to grow business by responding to CO_2 capture demand mainly in US, which has high probability of further growth going forward

Global Inquiries

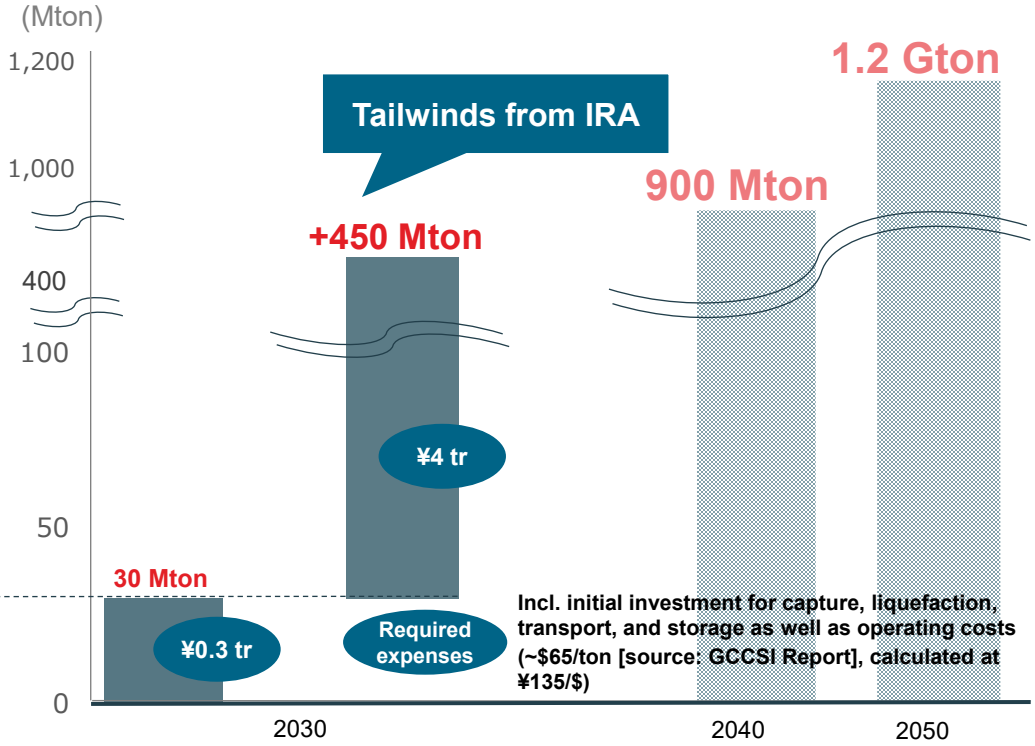
(CO_2 capture volume)



CO_2 Capture Volume Needed for Net Zero Scenario (US)

(CO_2 capture volume)

Source: MHI data based on interpretation of IEA World Energy Outlook 2022 Net Zero scenario



*MHI calculation of yearly CO_2 capture volumes assuming 300 days of operation/year

(2) Adapt to Variety of Capture Sources

- Pursuing improvements and standardization of CO_2 capture process for use in diverse industries (including hard-to-abate sectors)
- Executing validation testing with ArcelorMittal and other diverse partners

Executing Validation Testing with Multiple Partners

Industry	Partner	Validation Timing/Results
Steelmaking	**ArcelorMittal and Others**	• Signed collaboration agreement (Oct '22) • PreFeed for each emissions source using MHI 0.3t/day mobile unit • After completing first round of validation, will begin conceptual design of commercial scale capture for steelmaking plants
Cement	**Tokuyama**	• Validation period: end Jun 2022 – end May 2023 • Evaluation: Accumulation behavior of exhaust gas impurities, effect of absorbent degradation
Waste-to-Energy	**Yokohama City**	• Validation period: Jan 2023 – Mar 2024 • Evaluation: Accumulation behavior of exhaust gas impurities
Gas Engines	**In-House**	• Validation period: end Jul 2022 – end May 2023 • Evaluation: Accumulation behavior of exhaust gas impurities

	Emission Source	Site
1	Blast furnace	Ghent, Belgium
2	Rolling mill reheat furnace	Ghent, Belgium
3	Direct reduction furnace	North America

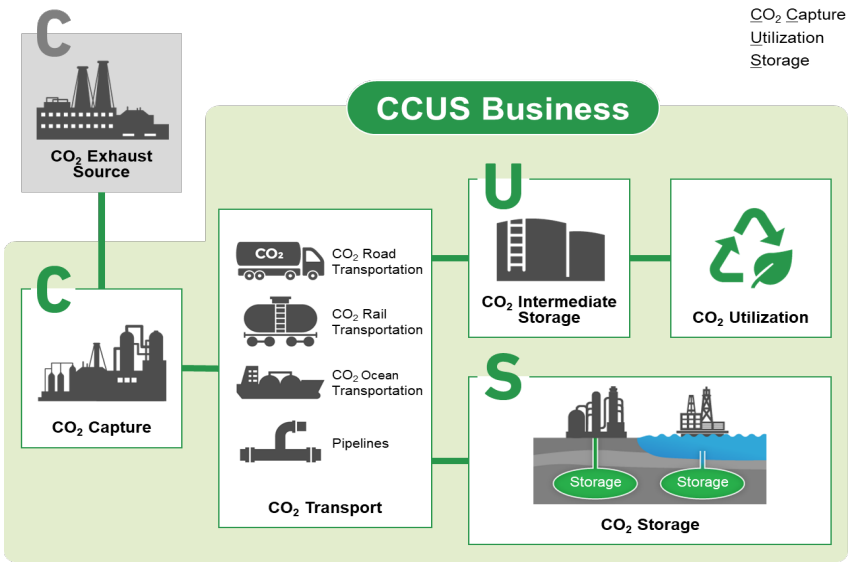
Signing ceremony in UK with ArcelorMittal and others

Modular CO_2 capture system (mobile unit)

(3) Establish CO_2 Value Chain

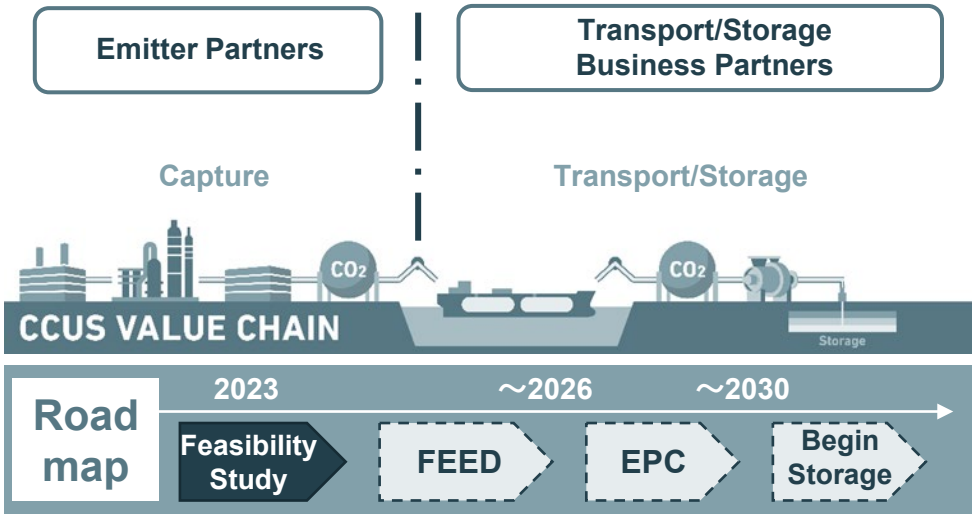
- Formed alliance with ExxonMobil in 2022. Working to establish organization to provide solutions for entire value chain and to accelerate development of projects around globe.
- Building CO_2 solutions ecosystem by linking diverse emissions sources with storage and utilization providers

Global: Partnership with ExxonMobil



- Joint technological development on CO_2 capture processes and project development using this technology
- Enables end-to-end CCS solutions from capture to storage for industrial customers by combining MHI's CO_2 capture technology with ExxonMobil's pipeline transport and underground storage technology

Japan: Joint Study on Value Chain Businesses



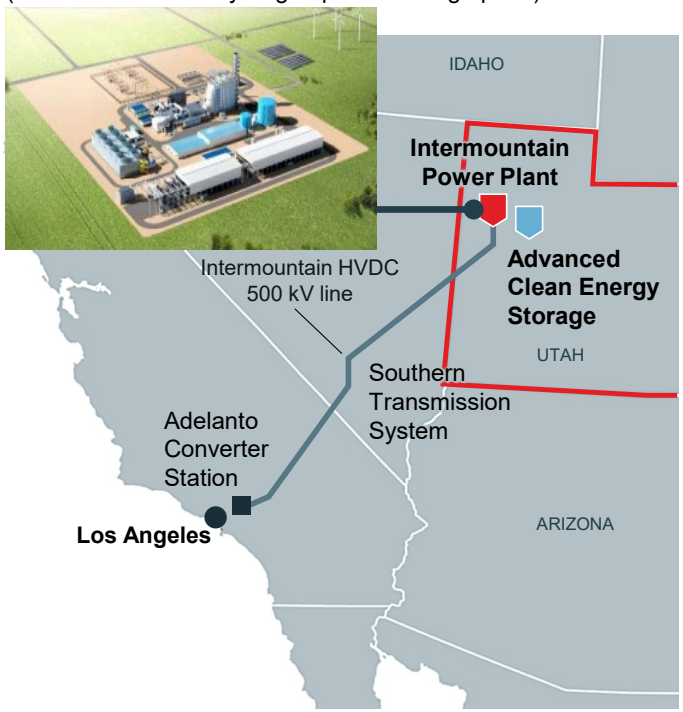
- Japanese government promoting long-term CCS roadmap including CAPEX and OPEX subsidies
- Plan for domestic CCS efforts to develop rapidly with 3-5 projects representing different combinations of CO_2 emissions source, transport method, and CO_2 storage region selected.
- MHI plans to execute joint study as CCS provider with INPEX and others in FY23

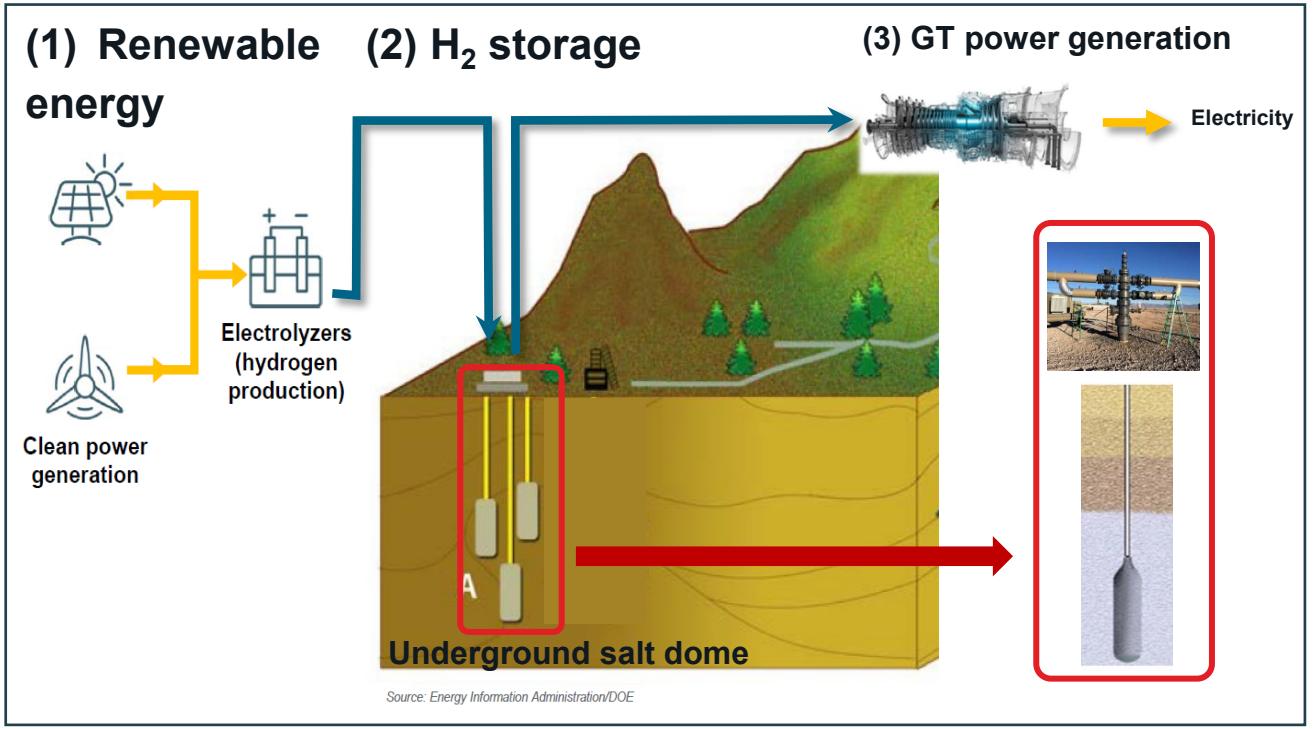
Build a Hydrogen Solutions Ecosystem

Advanced Clean Energy Storage Project

- Developing world's largest hydrogen hub in Utah with American partners
- Project will produce hydrogen with renewable electricity, store it in underground salt domes, and supply hydrogen to nearby power station
- Received ~$500 mn loan guarantee from US Department of Energy in June 2022. Aiming for start of commercial operation in 2025

(artist's rendition of hydrogen power/storage plant)





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III-2. Energy Demand

Smart Infrastructure

Smart Infrastructure

- Offer customers automation, optimization, and high reliability with easy, one-stop solutions

Customer Pain Points

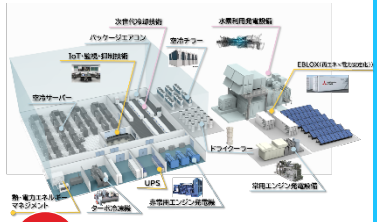
New growth areas

Existing products/ technologies

One-Stop Solutions

1 Intelligent Logistics

2 Refrigerated Warehouses



3 Data Centers

ΣSynX[1]

Intelligently Connect

Energy Systems	Plants & Infrastructure Systems		Logistics, Thermal & Drive Systems	Aircraft, Defense & Space
Power Generation Equipment	ITS	External Partners	Natural Refrigerant Chillers	Defense Systems
	Mechanical Parking Garages		AGV/AGF	Ships, Aircraft
	Environmental Testing Equipment			

1 Read “Sigma Syncs”

ITS: Intelligent Transport Systems AGV: Automated Guided Vehicle AGF: Automated Guided Forklift

Realizing Our Customers' DX Aspirations with SynX

- Proven track record of proprietary digital products accumulated in existing product lines enables us to provide agile digital solutions
- Based on this track record, deliver functionality and added value meeting customer needs in new growth areas

Proprietary Digital Products	Installations (Existing Product Areas)	
DIASYS Netmation 4S machinery control	Control power generation equipment and marine vessels	1,000-
TOMONI remote monitoring and maintenance	Monitoring power plants around the world	100-
InteRSePT cyberattack protection	Protect important infrastructure	10-
SynX Supervision image monitoring and audio commands	Automate steel mills	-10

Apply

One-Stop Solutions

Auxiliary systems integration	Operational data access	Cooling and power source monitoring	
Remote monitoring and support	Remote information gathering	Remote operation support	
System security	System security	System security	
Operator and machine condition detection	Equipment use condition detection	Physical security and malfunction monitoring	
Integrated control	Thermal simulation	Integrated operation management	New functions for each area
Operator-machine coordination	Total engineering	Energy optimization	
Labor shortages	Design complexity	Operation difficulty	Main customer pain points
Automation	Optimization planning	Reliability and efficiency	Added value provided
1 Intelligent Logistics	2 Refrigerated Warehouses	3 Data Centers	New growth areas

Deliver agile digital solutions for use cases throughout industry

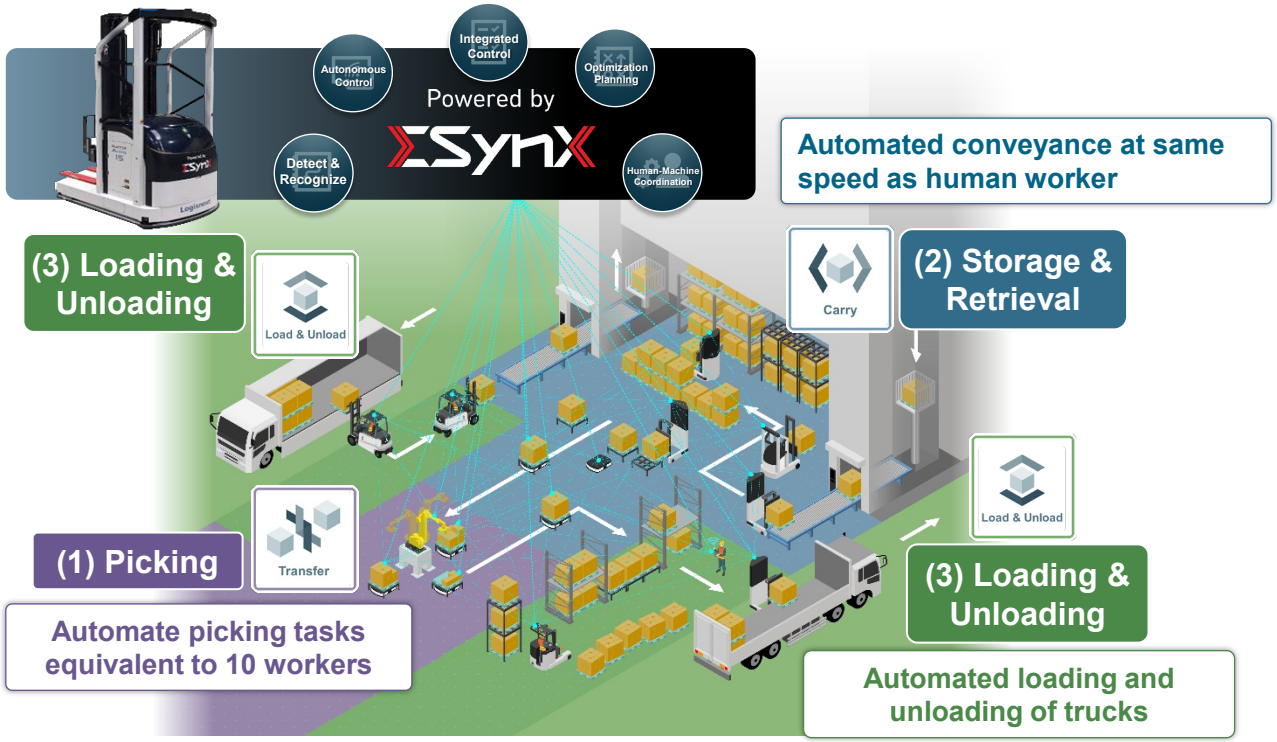
SynX

Slide 26 Slide 27 Slide 28

1 Intelligent Logistics

- Integrate ΣSynX into AGF and Warehouse Control Systems (WCS) to improve functionality including object detection and recognition, automated control, human-machine coordination, and integrated control
- Expanding automation to areas including storage/retrieval and loading/unloading zones, aiming to automate all of warehouse logistics
- Started joint validation of automated picking solution with Kirin Group in November 2022

Integrate ΣSynX into AGFs and WCS to drive warehouse logistics automation

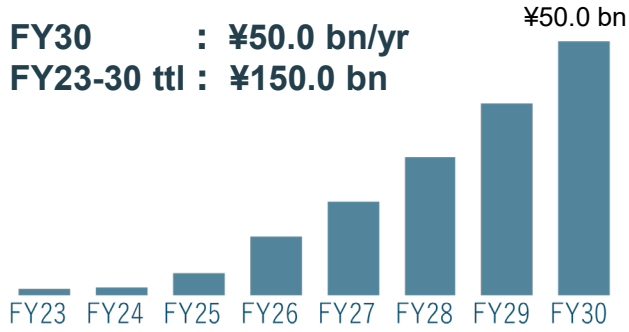


Expand automated tasks in steps (1), (2), and (3)

Started joint validation with Kirin Group

MHI Revenue Targets

FY30 : ¥50.0 bn/yr
FY23-30 ttl : ¥150.0 bn



2 Refrigerated Warehouses

- Propose optimal facilities for new construction projects based on operational analysis using total engineering and thermal simulations
- Achieved ~1.5-month (10%) decrease in construction time of warehouse for Kyoto Salted and Dried Fish Wholesale Cooperative (completed Jan 2023)
- Improved cooling efficiency and reduced power usage through equipment and operational optimizations
- Grow business within Japan while keeping an eye on demand in international markets (Southeast Asia)

▼construction complete

ΣSynX

Basic plan & design → Detailed design & construction → Operational analysis → Operational improvement & modification → Optimi-zation

MHI construction & operation DB

Total engineering

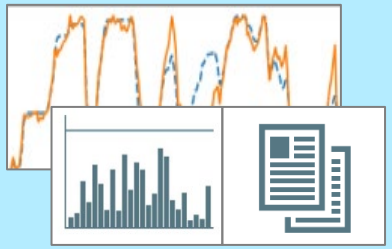
Utilize component choice simulations, etc.

Construction

Refrigerated Warehouses

Logistics Systems

Operational analysis with thermal simulations



Chiller output, power consumption, warehouse temperature, product temperature, etc.

Completed warehouse for Kyoto Salted and Dried Fish Wholesale Cooperative

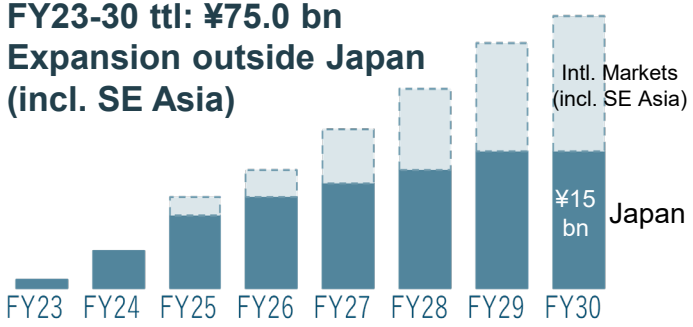
construction

chillers

logistics systems

MHI Revenue Targets

FY30 : ¥15.0 bn/yr
FY23-30 ttl: ¥75.0 bn
Expansion outside Japan (incl. SE Asia)



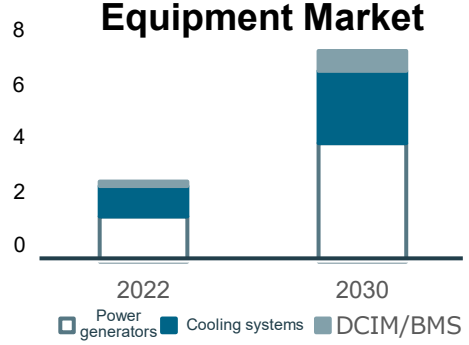
3 Data Centers

- Energy conservation, decarbonization, and stable operation are challenges for data centers
- MHI offers high-reliability, high-efficiency power supplies, cooling and monitoring systems, and integrated controls in one stop

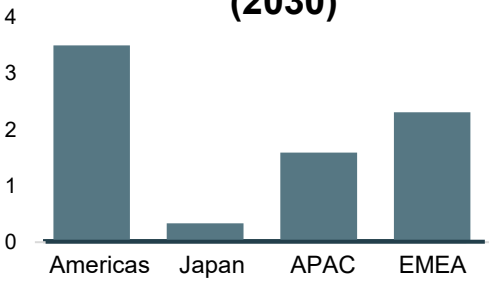
The expanding data center market

(trillion yen)

Data Center Equipment Market



Market Size by Region (2030)



Source: MHI estimates based on Arizton "Data Center Construction Market Global Outlook & Forecast" and others

Value offered in one stop

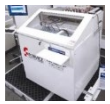
Reduce power use, decarbonize

Zero-carbon power sources (small-large)

- Hydrogen power generation systems (under development)
- Renewable power sources + BESS
- UPS (planning integration)

Advanced cooling systems

- Chillers
- Immersion cooling (under development)
- Chip cooling (under development)



Reduce maintenance costs, stabilize operation

- Operation monitoring
- DCIM
- Stand-by power generators

Our goal

High availability systems
Contribute to 99.999% availability rate

High energy efficiency
PUE <1.1[1]
(35% improvement vs. standard 1.7)

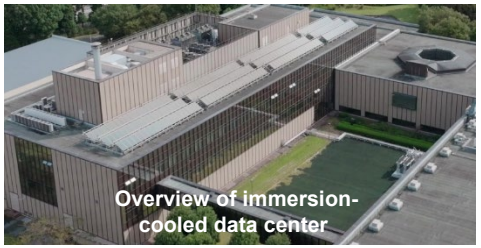
Zero CO_2 emissions

One-Stop Integrated solutions
Power supply + Cooling + Monitoring

2030 revenue target >¥100.0 bn

Validating next-generation cooling technologies

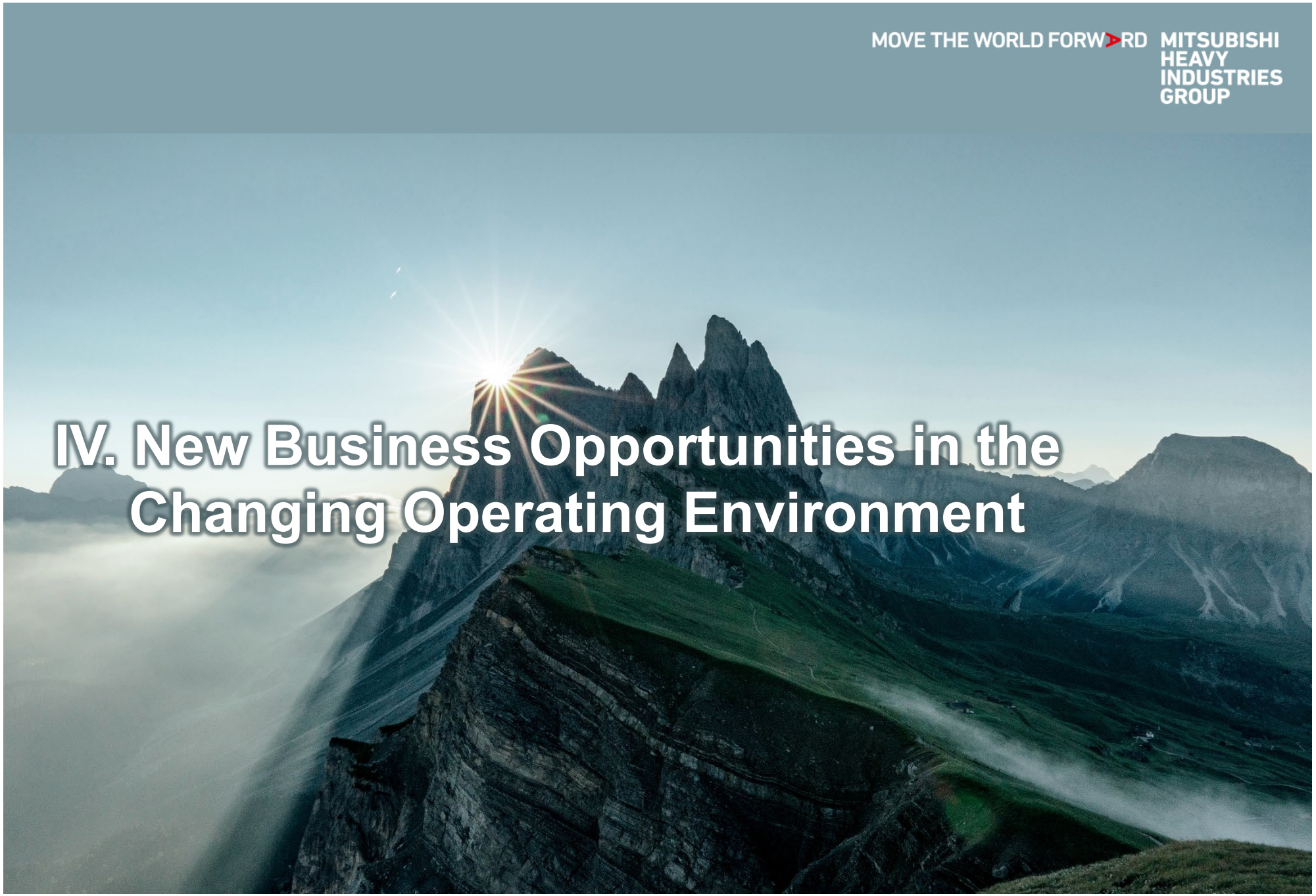
Achieve >90% cut in cooling power use[2]


Overview of immersion-cooled data center


Immersion cooling system

1 Index of data center power conservation (Power Usage Effectiveness)
= data center facility total energy use ÷ IT component energy use
2 Joint validation with KDDI and NEC Networks & System Integration Corporation

DCIM: Data Centre Infrastructure Management, BMS: Building Management System, BESS: Battery Energy Storage System



IV. New Business Opportunities in the Changing Operating Environment

Nuclear Power's Contributions to Energy Security and Carbon Neutrality

- Nuclear power is a carbon free, large-scale, stable power source. Viewed through the lens of energy security, utilization of nuclear power will be essential to achieving Carbon Neutrality by 2050.
- Supporting restarts aiming to achieve safe and stable operation of existing plants. Providing regularly scheduled maintenance work for restarted plants and continuing efforts to establish the nuclear fuel cycle.
- Contribute to achieving stable, carbon-neutral energy supply by accelerating commercialization of Advanced Light Water Reactor SRZ-1200,[1] which will boast some of world's highest standards of safety

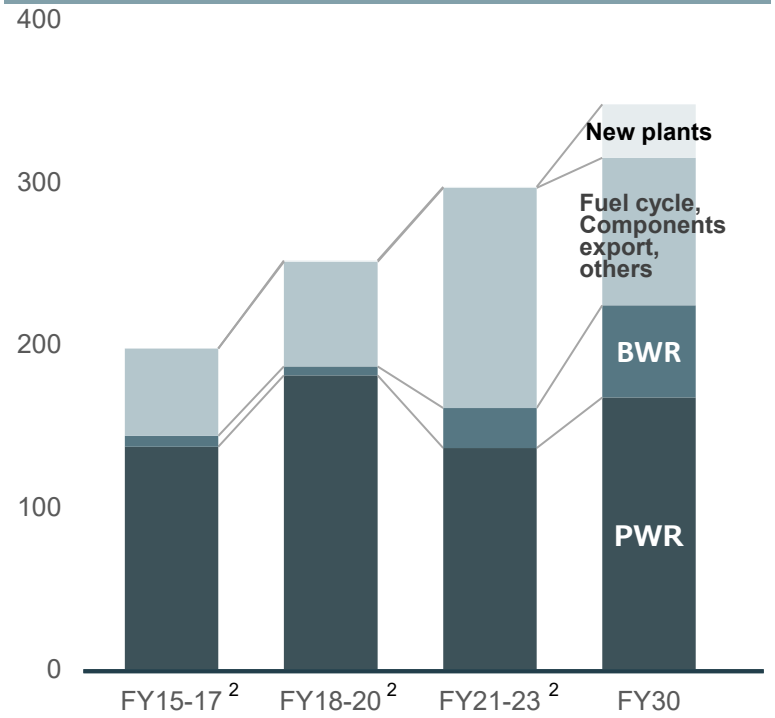
PWR/BWR restart support

Establishing the nuclear fuel cycle

Components export

Commercialization of Advanced Light Water Reactor SRZ-1200

MHI Revenues (billion yen)



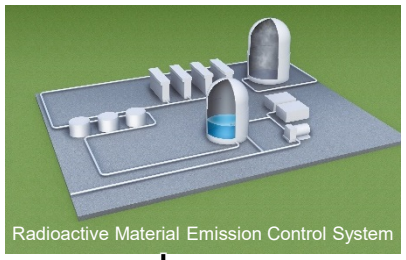
1 1200 refers to electric generation output, 1,200 MW, i.e., 1.2 GW

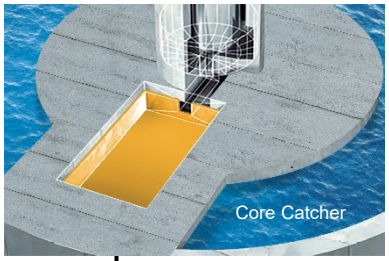
2 3-year average

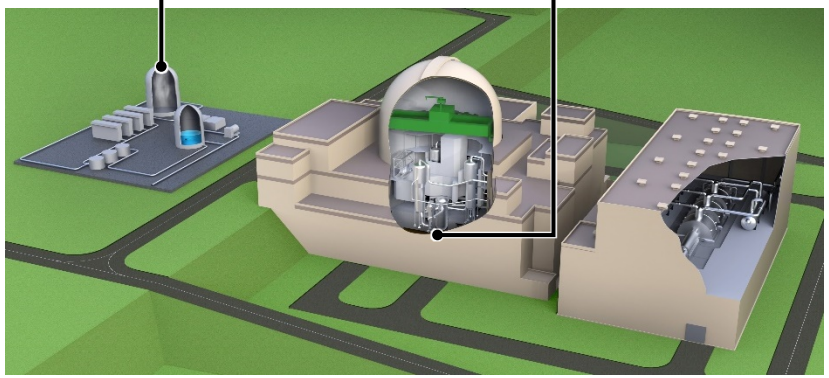
Nuclear Power's Contributions to Energy Security and Carbon Neutrality

- Jointly developing advanced light water reactor with Japan's four PWR electric utilities.* ~80% of basic design for standard plant SRZ-1200 complete.
- In order to acquire and improve data for permissions, executing full-scale tests through opportunities provided by governmental projects. Going forward, will complete basic and detailed design for individual plants, aiming for commercialization in mid-2030s.

SRZ-1200







SRZ-1200 Development Schedule (MHI estimates)

Year	'20	'25	'30
Standard Plant Design (4 electric utilities)	Conceptual Design → Basic Design	Consideration of plant systems specifications for permissions	
Validation Testing (Government Projects)		Testing	Full-scale testing for newly designed components
Individual Plants	Design of specific plants considering individual conditions including site	Start construction ▼	Commercial operation ▼

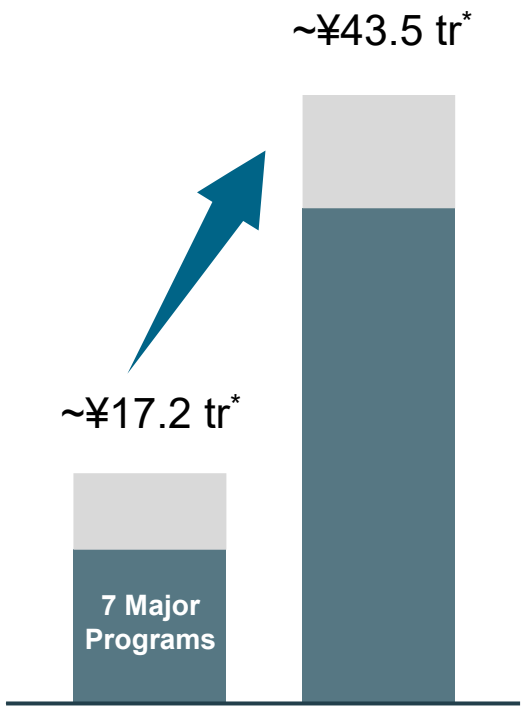
Basic Design → Detailed Design → Manufacture/ Construction → Operation

*Hokkaido Electric Power Company, Kansai Electric Power Company, Shikoku Electric Power Company, and Kyushu Electric Power Company

Contributions to Japan's National Defense

- In response to growing momentum towards strengthening national defense, Japan's Defense Buildup Program has been expanded extensively
- As a leading company in defense, MHI is pursuing a wide variety of initiatives to support the safety and security of the nation

Defense Buildup Program Expenses and Contents



7 Major Programs	Stand-off Defense Capabilities
	Integrated Air and Missile Defense Capabilities
	Unmanned Defense Capabilities
	Cross-domain Operation Capabilities
	Mobile Deployment Capabilities/Civil Protection
	Command and Control/Intelligence-related Functions
	Sustainability and Resiliency
Reinforcing Defense Production Base	
Research and Development	
Improvements to Bases	
Training Costs, Fuel, Others	

*Contract amount (non-personnel costs) for new programs

Source: Japan Ministry of Defense, "Medium-Term Defense Program (FY 2019 – FY 2023)" and "Defense Buildup Program"

MHI Initiatives

Stand-off Defense Capabilities

- Development and mass production of upgraded missile systems

Integrated Air and Missile Defense Capabilities

- Joint development and production of SM-3 with US

Unmanned Defense Capabilities

- Unmanned aerial vehicle coordination and control technologies
- Unmanned surface vehicle technologies

Cross-domain Operation Capabilities

- Continuous manufacture of new-type frigates
- Development and mass production of combat vehicles

Sustainability and Resiliency

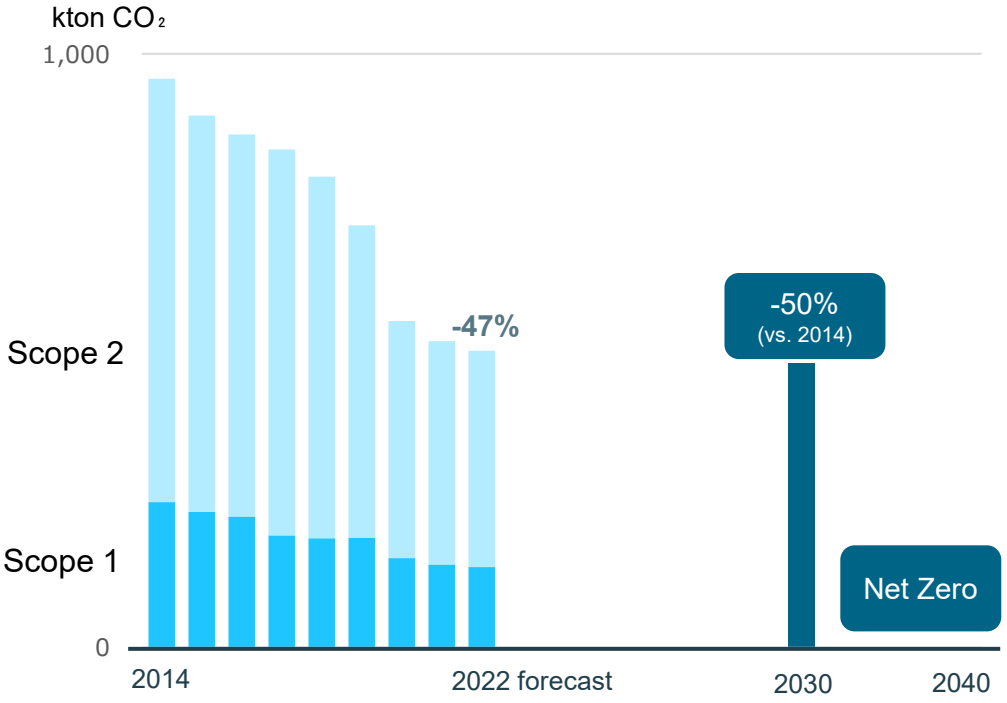
- Operation support to improve operational availability of fighter jets and helicopters

V. MISSION NET ZERO Initiatives

Progress Toward Achievement of Carbon Neutrality in 2040

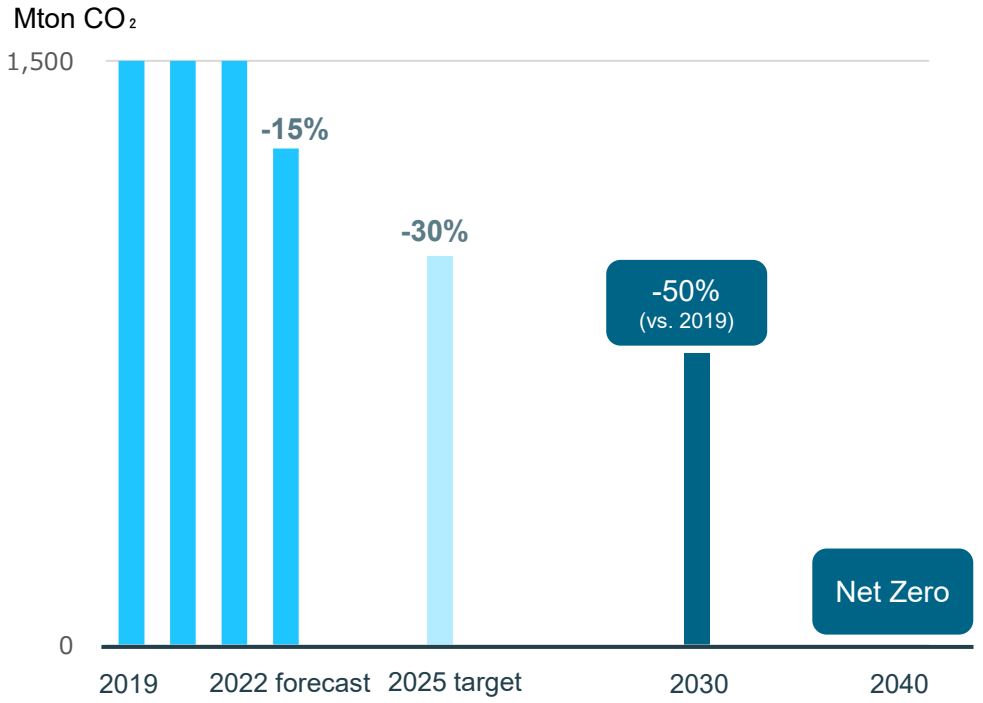
- Steadily reducing CO_2 emissions in lead up to 2030 target and Net Zero in 2040

Scope 1 & 2



- Forecasting 47% reduction in '22 (vs. '14) due to energy conservation, decrease in carbon intensity of Japan's power supply (incl. nuclear restarts), and installation of decarbonized power sources
- Going forward, will apply lessons learned during decarbonization solutions validation testing at Mihara Carbon Neutral Factory (going live April 2024) to other facilities, achieving Net Zero in '40

Scope 3 + reductions from CCUS



- Reducing CO_2 emissions from use of MHI products
- Following in-house development and validation of fuel conversions, energy conservation, electrification, and CCUS, will encourage speedy commercialization, achieving Net Zero in '40

MISSION NET ZERO Initiatives

- Developing and validating variety of solutions in-house in lead up to MISSION NET ZERO achievement
- Leverage knowledge gained in this process to build actual business

Mihara Machinery Works

Carbon Neutral Factory

Systems validation incl. solar power and electrification

~-100%

Takasago Machinery Works

Hydrogen gas turbine development and validation, hydrogen production development

~-100%

Nagasaki Dockyard/R&I Center

Ammonia combustion development, hydrogen production development, CO_2 capture development

~-100%

CO_2 reduction at time of commercialization

Yokohama Hardtech Hub

(Automated picking solutions validation)

-65%~

MHIET Sagamihara Machinery Works

(Validation of CO_2 capture from gas engines)

-90%~

VI. Conclusion

Conclusion

- During the 2021 Medium-Term Business Plan, MHI Group has moved forward with various initiatives while responding flexibly and quickly to changes in the operating environment, and we are now realizing the benefits of these efforts.

  In FY23, we will further expand on these accomplishments to achieve a 7% business profit margin.

- As we develop growth areas in both the energy supply and demand sides in the leadup to achievement of global Carbon Neutrality, new business opportunities are emerging with increased governmental support for decarbonization and greater momentum toward strengthening national security

- In order to seize these opportunities, we will continue reviewing our business portfolio and accelerate the shift of resources into growth areas, ensuring a strong future trajectory for the company

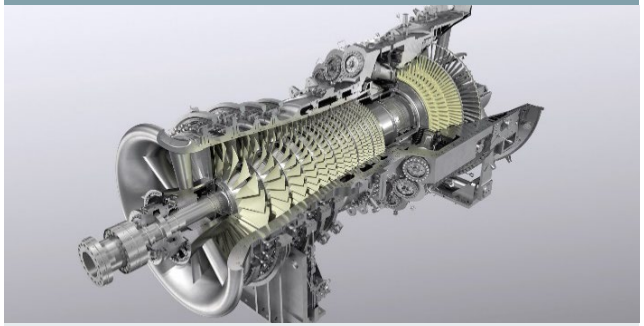
VII. Appendix

(FY2022 highlights by business)

FY22 Highlights

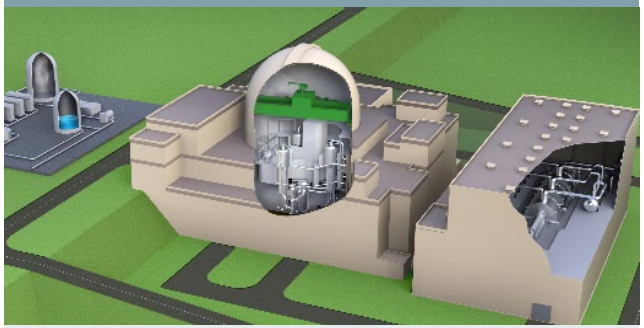
Energy Systems

Achieved World's Top Market Share in Gas Turbines



- Achieved world's top market share in gas turbines in CY2022
- Total installed base of cutting-edge J-series surpassed 100 units

Announced Joint Development on Advanced Light Water Reactor SRZ-1200 with 4 PWR Electric Utilities



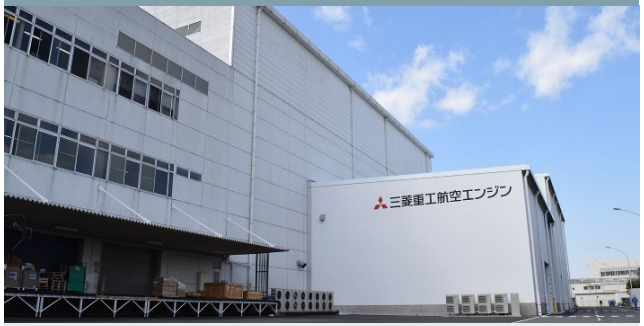
- Jointly developing basic design for Advanced Light Water Reactor SRZ-1200 standard plant, which will achieve the world's highest standards of safety, with four PWR electric utilities* in Japan

*Hokkaido Electric Power Company, Kansai Electric Power Company, Shikoku Electric Power Company, and Kyushu Electric Power Company

World's Largest Hydrogen Mixed Firing Validation Test

- Successfully completed world's largest hydrogen fuel blending test with 20% mixed fuel at existing high-efficiency, large-frame GTCC facility in US

Expansion of MHIAEL Aero Engine Facility in Komaki, Aichi to Meet Increasing Demand



- Completed expansion work at aero engine maintenance shop
- Planning to double commercial engine MRO capacity from 5 units per month by 2026 and to eventually triple this in future

Construction Finished on 5 Specialized Security Facilities, Expanding Support for BWRs

- Completed construction of Specialized Security Facilities at Mihama 3, Genkai 3 & 4 and Oi 3 & 4, which are required under new regulatory standards
- Leveraging track record in PWRs to extend support to BWRs

Signed MOU for Electricity Generation with Clean Fuels

- Multiple MOUs signed for introduction of mixed combustion of hydrogen, ammonia, and biomass in thermal power plants in total of seven countries
- Supporting energy decarbonization to achieve Net Zero targets

FY22 Highlights

Plants & Infrastructure Systems

ExxonMobil Alliance Expands CO_2 Capture Lineup

- Formed alliance with petrochemical major ExxonMobil. End-to-end solutions from CO_2 capture to storage now possible.
- Commercialized modular CO_2 capture system. Our wide lineup of products, including large-scale plants, is now being used in diverse industries.

LNG-Fueled Ferry Completed

- First ferry in Japan to be equipped with high-performance dual fuel engine capable of using LNG and fuel oil was completed
- Reduces CO_2 emissions by more than 20% per calorific value compared to conventional fuel oil and SOx emissions to nearly zero

Promoting Green Steel Including for Environmental Benefits

- Third MEROS (dry exhaust gas treatment system) delivered to an Italian steelworks began operation
- Seven systems total were ordered for the same steel plant, with construction of the remaining four underway
- The systems eliminate toxic substances from exhaust emissions and greatly improve air quality

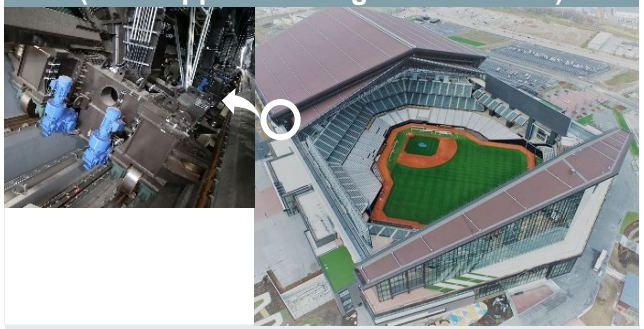
Contributing to Engineering Industry Development with Execution of International Projects

- Three overseas projects were awarded Engineering Commendation Awards by the Engineering Advancement Association of Japan
  - Uzbekistan Fertilizer Plant Project
  - Manila MRT-3 Rail Line Maintenance and System Rehabilitation Project
  - US Large-Scale Polyethylene Plant Construction Project

Participating in Waste-to-Energy Projects via Public-Private Partnership Schemes

- Completed construction of one of the world's largest waste-to-energy facilities in Singapore. MHI Group is participating in waste-to-energy business via a public-private partnership scheme.
- Began 25-year operation and maintenance service period

Delivered Large Retractable Roof Drive Mechanism (New Nippon Ham Fighters Stadium)



- 24 drivetrains open and close the ~10,000-ton roof
- System detects real-time changes in load due to effect of snow and automatically controls speed of drive mechanism
- Newly developed integrated management support tool helps user operate drive mechanism remotely

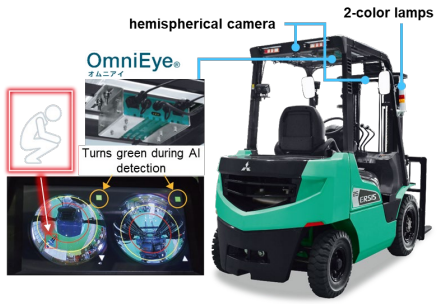
FY22 Highlights

Logistics, Thermal & Drive Systems

Participated in Real-World Validation Test of Fuel Cell-Powered Forklift

- Participated in customer's validation test using a fuel cell-powered forklift. Achieved carbon-neutral cargo handling.

AI Human-Detection Alarm System



- Hemispherical cameras mounted on the mast and overhead guard detect people in various positions with AI, triggering warning lamps to prevent collisions

Development of Hydrogen and Ammonia Engines Contributing to Carbon Neutrality

- Working toward finalization of hydrogen mixed firing production model specs
- Validation testing of 100% hydrogen firing and ammonia mixed firing engines underway. Commercialize in a timely manner responding to infrastructure development status and customer needs.

Received Two Demand Side Management Awards (Chairman's Award and Promotion Award to Air-Cooled Heat Pump Chiller and ATES, Respectively)

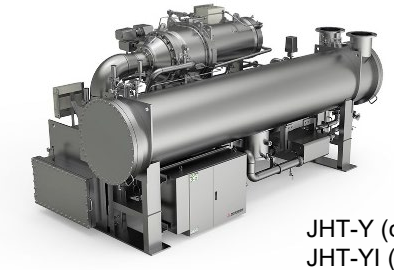
High-efficiency air-cooled heat pump chiller MSV2

Aquifer Thermal Energy Storage (ATES) system

High-efficiency air-cooled heat pump chiller MSV2:
- Modular connection enables multiple units to be installed together and is compatible with various heat loads. Contributes to power load leveling.

Aquifer Thermal Energy Storage system:
- Stores and uses underground heat, an untapped resource
- Takes into account underground heat balance and achieves significant energy savings

Launched JHT-Y/YI, a New Series of Large-Capacity Centrifugal Chillers with Low-GWP Refrigerant (Jun 2022)



JHT-Y (constant-speed)
JHT-YI (inverter-equipped)

- Uses HFO-1234yf refrigerant, which has extremely low environmental impact with GWP* less than 1 and zero ozone depletion
- A new type of compressor enables high performance in the entire capacity range which varies according to chiller output

*GWP: Global Warming Potential

Developed Double Scroll Turbocharger for Low-Noise Vehicles

- Developed double scroll turbocharger with improved noise performance, which has been confirmed for use in a customer's next-generation vehicle
- Improved both fuel efficiency and output while maintaining aerodynamic performance and reducing noise levels by 13 dB compared to conventional products

FY22 Highlights

Aircraft, Defense & Space

Delivered Frigate “Mogami”

- Held handover ceremony at Nagasaki Shipyard & Machinery Works for the 3,900-ton frigate “Mogami,” built for the Japan Ministry of Defense
- This is the namesake of the Mogami class of frigate. Planning to continue delivery of this class of frigate in the future.

H-IIA Launch Vehicle

- Successfully launched Intelligence Gathering Satellite(IGS)-Radar 7 with H-IIA launch vehicle No. 46.

Japan, UK, and Italy Jointly Developing Next-Generation Fighter

- The Japanese government announced that the next-generation fighter will be jointly developed with the governments of UK and Italy
- MHI will continue to work diligently to develop the next-generation fighter and contribute to Japan’s national security

(Image courtesy of Japan Ministry of Defense)

Naming and Launch of Patrol Vessel “Hateruma”

- Mitsubishi Heavy Industries Maritime Systems (MTS) held a naming and launch ceremony at its Tamano Shipyard for 1,000-ton patrol vessel “Hateruma,” built for the Japan Coast Guard
- This is the second naming and launch ceremony for the new company MTS, which started operations in October 2021

Naming and Launching Ceremonies for Submarine “Jingei”

- Kobe Shipyard held a naming and launch ceremony for 3,000-ton submarine "Jingei" built for the Japan Ministry of Defense
- Leveraging technological synergies in defense equipment spanning land, air, and sea, this advanced submarine boasts superior functionality as well as technical and cost performance

Recycling Carbon Fiber Composite Waste into Home Appliances

- Reusing processed waste material from Boeing 787 composite aircraft wings into parts for Mitsubishi Electric cordless stick cleaners
- Contributing to mitigation of environmental impact and protection of global environment by being the first to build a supply chain that includes reuse of difficult-to-recycle carbon fiber waste material into a mass-manufactured product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