

**Mitsubishi Heavy Industries, Ltd. 40th Series Unsecured Bond
(1st Mitsubishi Heavy Industries Transition Bond) Reporting (FY2022)**

Introduction

Mitsubishi Heavy Industries (MHI) Group has developed “Mitsubishi Heavy Industries, Ltd. Green/Transition Finance Framework”^{*1} with the aim of further promoting the initiatives^{*2} set forth in its 2040 Carbon Neutrality Declaration and Roadmap to Achieve Carbon Neutrality. We are working on "Decarbonize existing infrastructure," "Build a hydrogen solutions ecosystem," and "Build a CO₂ solutions ecosystem," which are Eligible businesses and/or projects of Transition Projects defined in the framework.

*1: <https://www.mhi.com/finance/stock/esg/transitionbond/pdf/fw.pdf>

*2: <https://www.mhi.com/company/aboutmhi/carbon-neutral>

The proceeds from Mitsubishi Heavy Industries, Ltd. 40th Series Unsecured Bond (1st Mitsubishi Heavy Industries Transition Bond) issued on September 8, 2022 have been allocated to new investments and refinancing of existing investments in Hydrogen gas turbine (co-firing) classified as “Decarbonize existing infrastructure” and Hydrogen production (blue or turquoise, etc.) classified as “Build a hydrogen solutions ecosystem,” which are Eligible businesses and/or projects of Transition Projects. Both projects are proceeding as planned in terms of the allocation and the development and demonstration of technologies.

MHI group's energy transition initiatives to achieve a Carbon Neutral society are progressing as planned. We will continue our efforts to achieve Net Zero by 2040 and realize a Carbon Neutral society.

1. Allocation Reporting (As of March 31, 2023)

The following table shows the allocation of the net proceeds from the ¥10 billion raised by 1st Mitsubishi Heavy Industries Transition Bond, excluding issuance costs.

The unallocated balance is managed in cash or cash equivalents, and the allocation is scheduled to be completed as planned in FY2023.

(Unit: billion Yen)

Section	Amount
Proceeds raised (Amount Excluding Issuance Costs from the Issue Amount of the Bonds)	99.52
Proceeds used	65.46
Hydrogen gas turbine (co-firing) – (1)	26.77
New investment	26.77
Refinancing	16.97
Hydrogen production (blue or turquoise, etc.) – (2)	12.82
New investment	12.82
Refinancing	8.90
Proceeds to be used	34.06

2. Impact Reporting

(1) Hydrogen gas turbine (co-firing)

① Development of Hydrogen GTCC

- Project overview

Development of hydrogen co-firing, single-fuel hydrogen firing gas turbines, consideration of operation in actual pressure combustion test facility and power generation demonstration facility

- Period

- FY2030 (planned)

- Progress

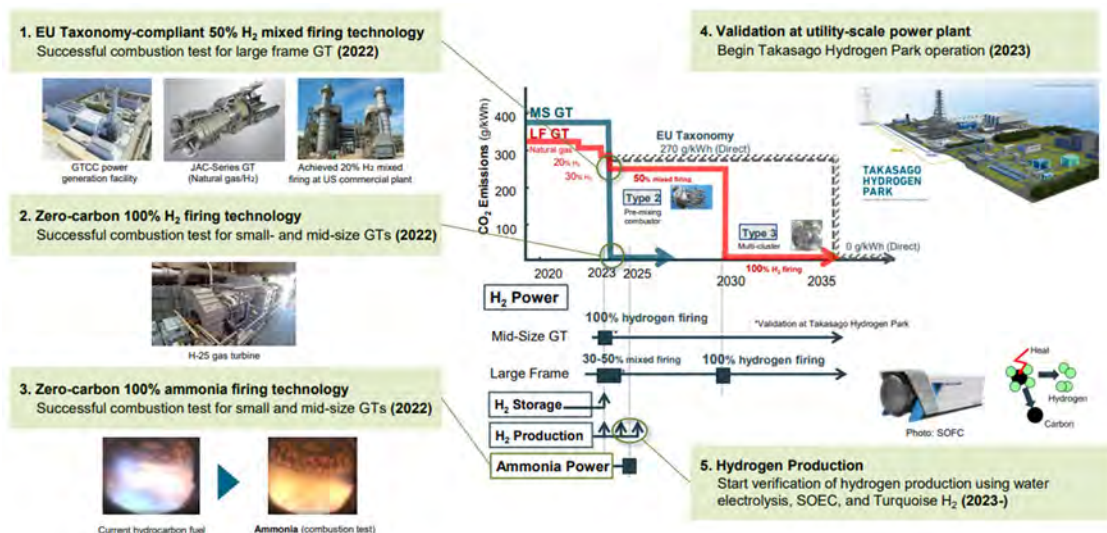
The project has completed the development of a gas turbine combustor capable of mixing natural gas with hydrogen at a ratio of 30% by volume (hereinafter, "30% co-firing") in large gas turbines, and been developing a combustor that is capable of mixing 50% by volume (hereinafter, "50% co-firing") in large gas turbines. Furthermore, MHI has conducted combustion testing of 100% hydrogen dry firing in a combustor for small- and medium-sized gas turbines, and is developing a combustor for large gas turbines based on the knowledge obtained, and that the development has been progressing as planned.

[Relevant information]

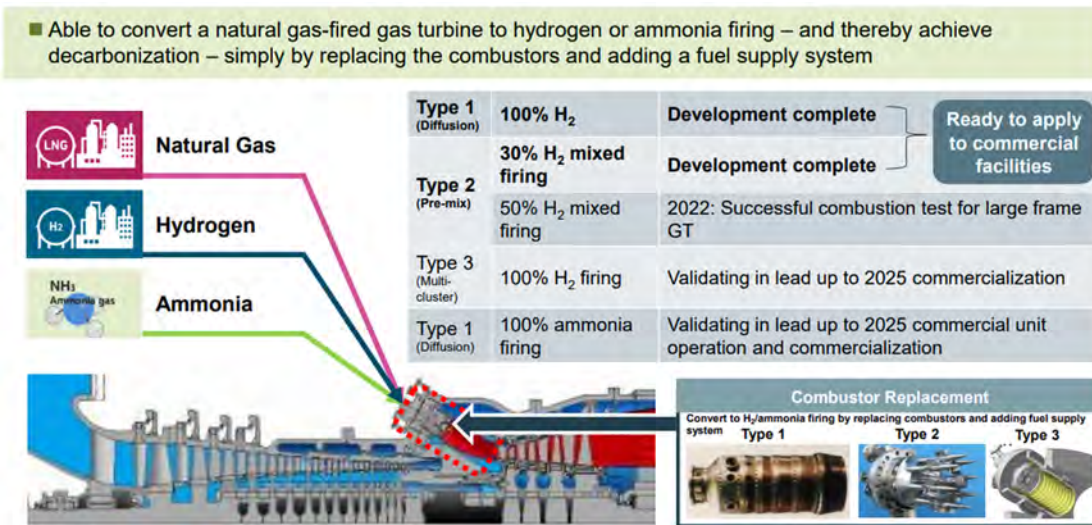
Mitsubishi Heavy Industries, Ltd. technical Review Vol. 59 No. 4 (2022) Carbon Neutral Development of Hydrogen/Ammonia-firing Gas Turbine for Carbon Neutrality

<https://www.mhi.co.jp/technology/review/pdf/e594/e594040.pdf>

[EU CO₂ Emissions Regulations and Gas Turbines Development Schedule]



[Hydrogen- and Ammonia-Fired Gas Turbines]



(2) Hydrogen production (blue or turquoise, etc.)

① : Hydrogen Power Generation Demonstration Facility "Takasago Hydrogen Park"

• Project overview

Development, verification, and manufacturing of 100% hydrogen firing hydrogen gas turbine for early commercialization

(Takasago City, Hyogo Prefecture "Takasago Hydrogen Park")

• Period

FY2021 - FY2023 (planned)

• Progress

As originally planned, the Takasago Hydrogen Park, which is the world's first integrated verification facility for technologies ranging from hydrogen production to power generation, has been established at the Takasago Machinery Works, where hydrogen gas turbines are developed and manufactured.

Takasago Hydrogen Park plans to expand its related facilities in order to commercialize 30% co-firing large gas turbines in 2025 and 100% hydrogen firing small and medium sized gas turbines by 2025 or later.

[Relevant information]

Mitsubishi Heavy Industries, Ltd. technical Review Vol. 59 No. 4 (2022) Carbon Neutral Initiatives "Takasago Hydrogen Park" to Create a Hydrogen Society

<https://www.mhi.co.jp/technology/review/pdf/e594/e594030.pdf>

[Relevant news]

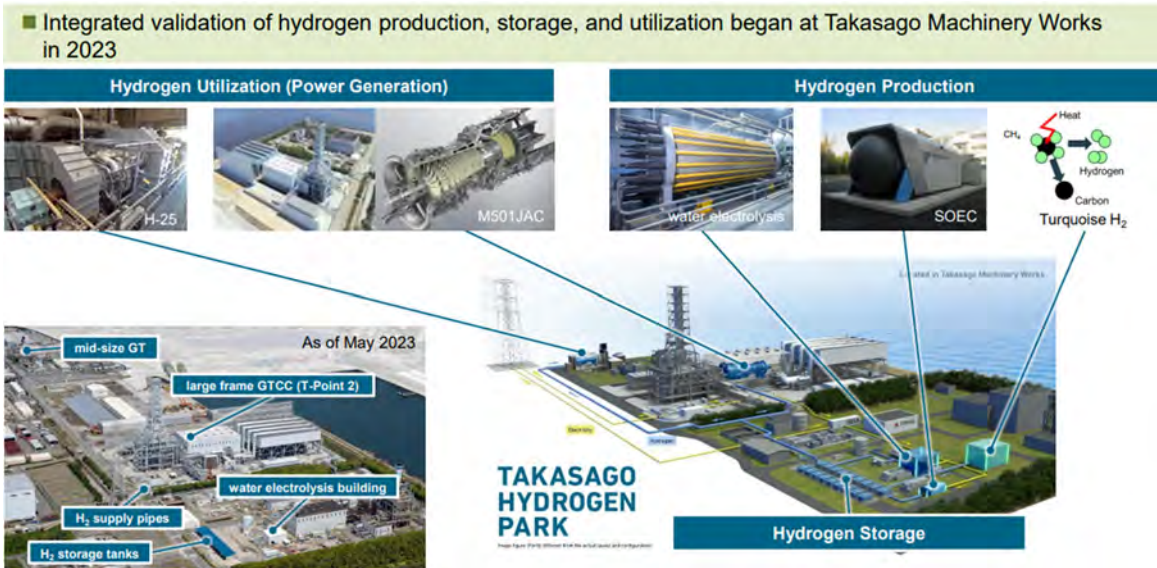
February 22, 2022, News release

Mitsubishi Power to Establish Hydrogen Power Demonstration Facility "Takasago Hydrogen Park" at Takasago Machinery Works

- In-house Structure for Systematic Validation of Hydrogen Value Chain from Production to Power Generation -

<https://www.mhi.com/news/22022202.html>

[Takasago Hydrogen Park]



② Investment in Monolith Materials, Inc.

• Project overview

MHI invests in Monolith Materials, Inc. (Monolith), a U.S. company with innovative technology enabling the production of hydrogen and carbon black from methane, which is abundant in natural gas, by the process of methane pyrolysis. The investment has been executed through Mitsubishi Heavy Industries America, Inc., MHI's base of regional operations in the U.S. Monolith Materials is the first U.S. manufacturer to produce a clean, industry-transforming hydrogen known as "turquoise hydrogen" (Note) on a commercial scale.

By investing in Monolith, MHI Group looks to strengthen and diversify its hydrogen value chain - one of the key factors needed to reduce environmental impact and ensure the energy transition's success - through technologies that can produce turquoise hydrogen, which does not emit CO₂ in its production process, as well as high-purity carbon black. Specifically, this investment advances the production and supply of hydrogen through plasma-based methane pyrolysis technology, which uses renewable energy as its heat source.

• Period

FY2020 - FY2024 (planned)

• Progress

Through its capital investment in Monolith, MHI Group will enter the field of hydrogen production and supply supporting that company's pyrolysis technology which enables use of renewable energy as the heat source. MHI will explore technological innovations to promote decarbonization throughout the industrial sector, using the produced hydrogen not only in power generation systems, but also in fertilizer production facilities, steelworks, etc.

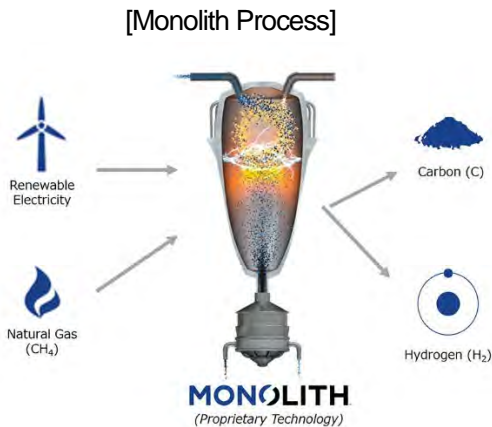
[Relevant news]

November 30, 2020, News release

Mitsubishi Heavy Industries Invests in Monolith Materials

- Leader in Innovative Technology for Reducing Environmental Impact -

<https://www.mhi.com/news/201130.html>



③ Investment in C-Zero Inc.

• Project overview

MHI has invested in C-Zero, a hard tech startup located in Santa Barbara, Calif., to accelerate the first commercial-scale deployment of C-Zero's drop-in decarbonization technology, which will allow industrial natural gas consumers to avoid producing CO₂ in applications like electrical generation, process heating and the production of commodity chemicals like hydrogen and ammonia. The investment has been executed through Mitsubishi Heavy Industries America, Inc.

C-Zero's technology uses innovative thermocatalysis to split methane – the primary molecule in natural gas – into hydrogen and solid carbon in a process known as methane pyrolysis. The hydrogen can be used to help decarbonize a wide array of existing applications, including hydrogen production for fuel cell vehicles, while the carbon can be permanently sequestered. When renewable natural gas is used as the feedstock, C-Zero's technology can even be carbon negative, effectively extracting carbon dioxide from the atmosphere and permanently storing it in the form of high-density solid carbon.

With the investment, MHI continues to strengthen and diversify the hydrogen value chain, advancing both strategic initiatives for its energy transition business and its commitment to making continued progress toward global carbon neutrality goals.

• Period

FY2020 - FY2022

• Progress

The investment signals cooperation around accelerating the use of "turquoise hydrogen," which could further strengthen the hydrogen value chain. Hydrogen produced via methane pyrolysis processes like C-Zero's is increasingly being referred to as "turquoise hydrogen," as it combines the benefits of both "blue hydrogen," (SMR with CO₂ sequestration) and "green hydrogen" (produced by splitting water via electrolysis) by being low cost and low emissions, respectively.

[Relevant news]

February 10, 2021, News release

MHI Invests in C-Zero, a U.S. Hard Tech Startup, to Accelerate Efforts to Produce Clean Hydrogen from Natural Gas

<https://www.mhi.com/news/21021001.html>

3. MHI Group's Transition Initiatives

Realizing a Carbon Neutral Society is a global issue, and we believe that as a technology leader, with a proven track record in the field of decarbonization, it is MHI's responsibility to help lead the fight against climate change.

The steady execution of its Energy Transition Strategy will contribute to the realization of the Government of Japan's goal of carbon neutrality by 2050.

MHI considers the execution of Green/ Transition Finance as the funding for our initiatives toward achieving MHI group's Net Zero in 2040, and believe that dialogue with stakeholders through the framework of green and transition finance, annual reports, integrated reports, etc. will serve as an opportunity to disseminate our company's Initiatives. MHI's long-term strategy will be reviewed when government policies or other assumptions change.

4. External Review

MHI has received an annual review from DNV Business Assurance Japan K.K. and has posted the review results on our website