Civil Aviation Symposium 2023

October 5th, 2023

Mitsubishi Corporation

Mitsubishi Corporation (MC) Company Profile

- MC is a global integrated business enterprise that develops and operates businesses in 90 countries thru its global network of approximately 1,700 group companies.

- MC has x12 Business Groups that operate across key industries;

• Natural Gas	• Industrial Infrastructure
• Industrial Material	• Automotive & Mobility
• Petroleum & Chemicals	• Food Industry
• Mineral Resources	• Consumer Industry
• Power Solution	• Urban Development
• **Next Generation Energy**	• Industry DX

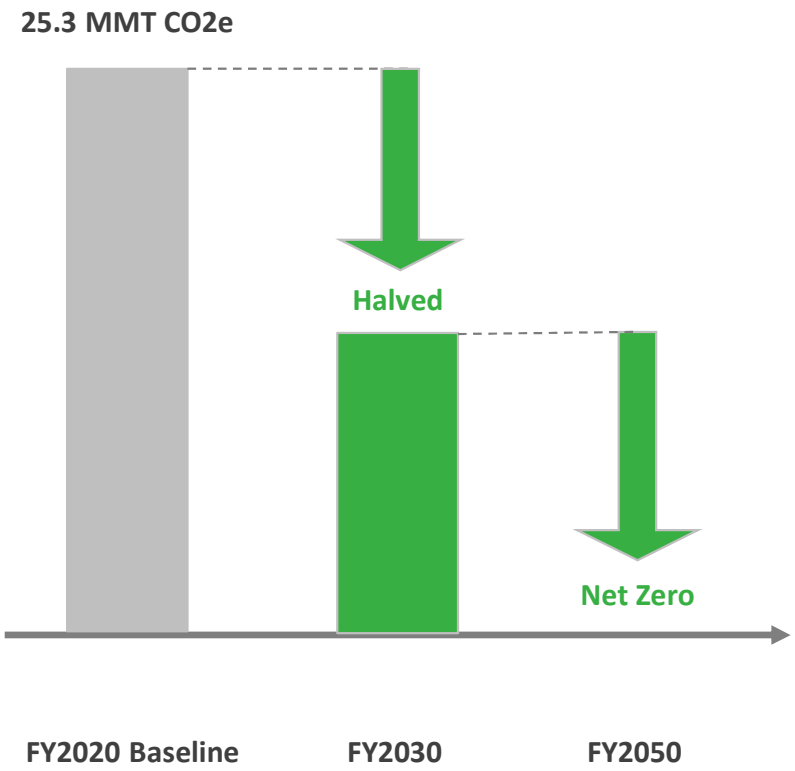
<Company Overview>

Company :	Mitsubishi Corporation
Established:	April 1, 1950
Market Capitalization:	JPY 10.6 Trillion (approx. US$ 75 billion)
Employees :	80,728 (Consolidated)

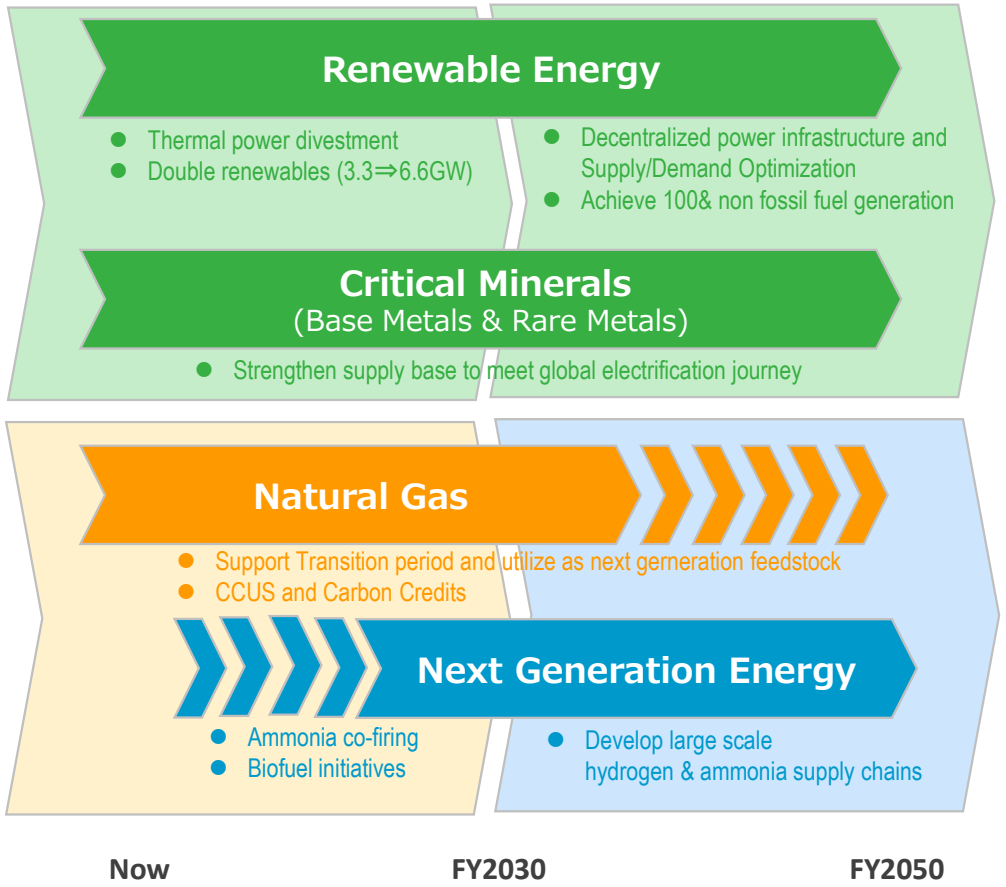
Our Roadmap to a Carbon Neutral and Energy Transformation

- We aim to (1) halve GHG emissions by FY2030, and (2) achieve “net zero” by 2050
- Achieved, through portfolio replacement, procurement of renewable energy, fuel switching, and industry transformation

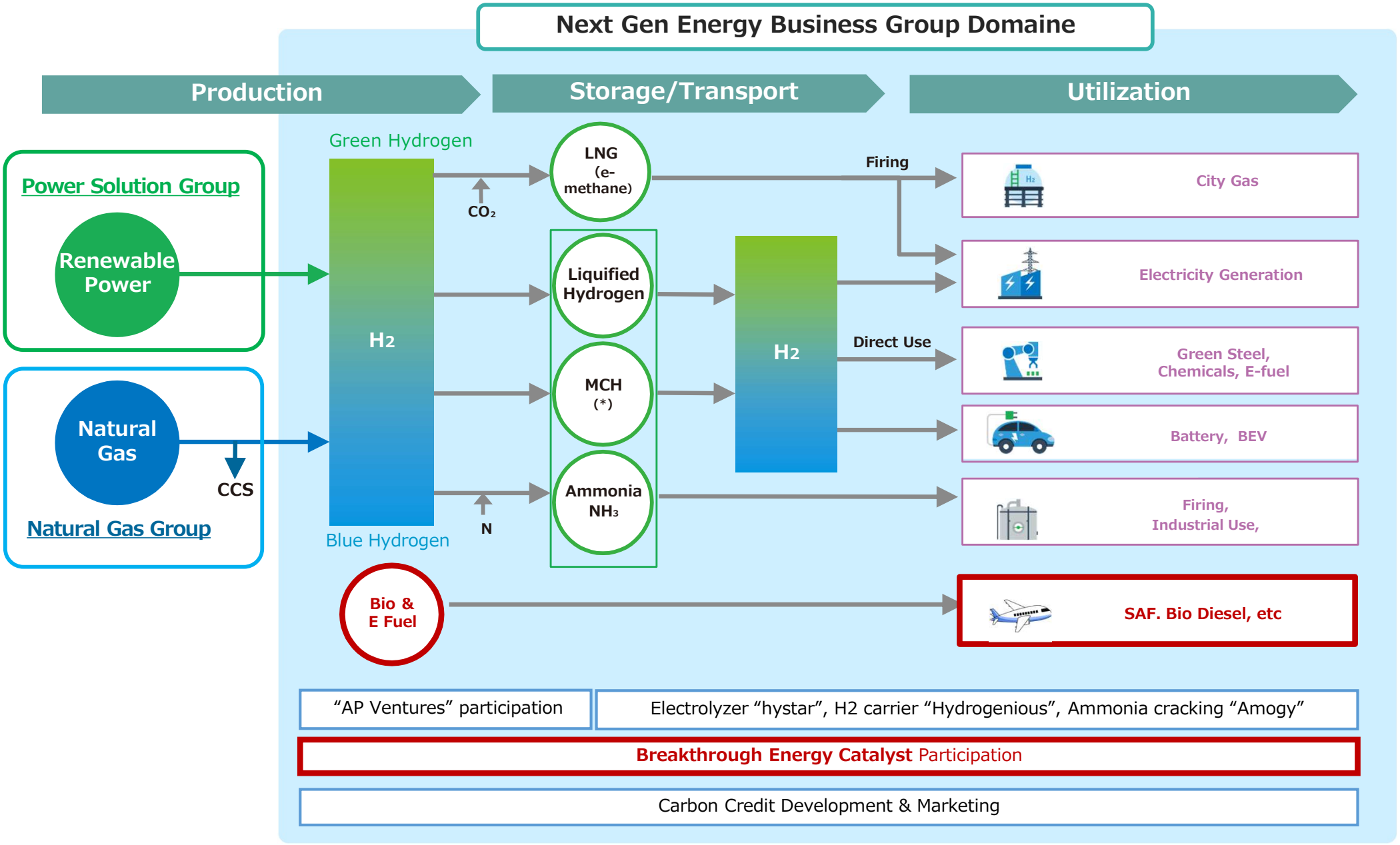
Greenhouse Gas(GHG) Emissions Reduction Targets



- Fulfilling our responsibility as a reliable energy supplier
- Taking global initiatives to double our renewable power capacity and develop new energy supply chains
- 2 Trillion Yen of capital earmarked for EX investments by 2030



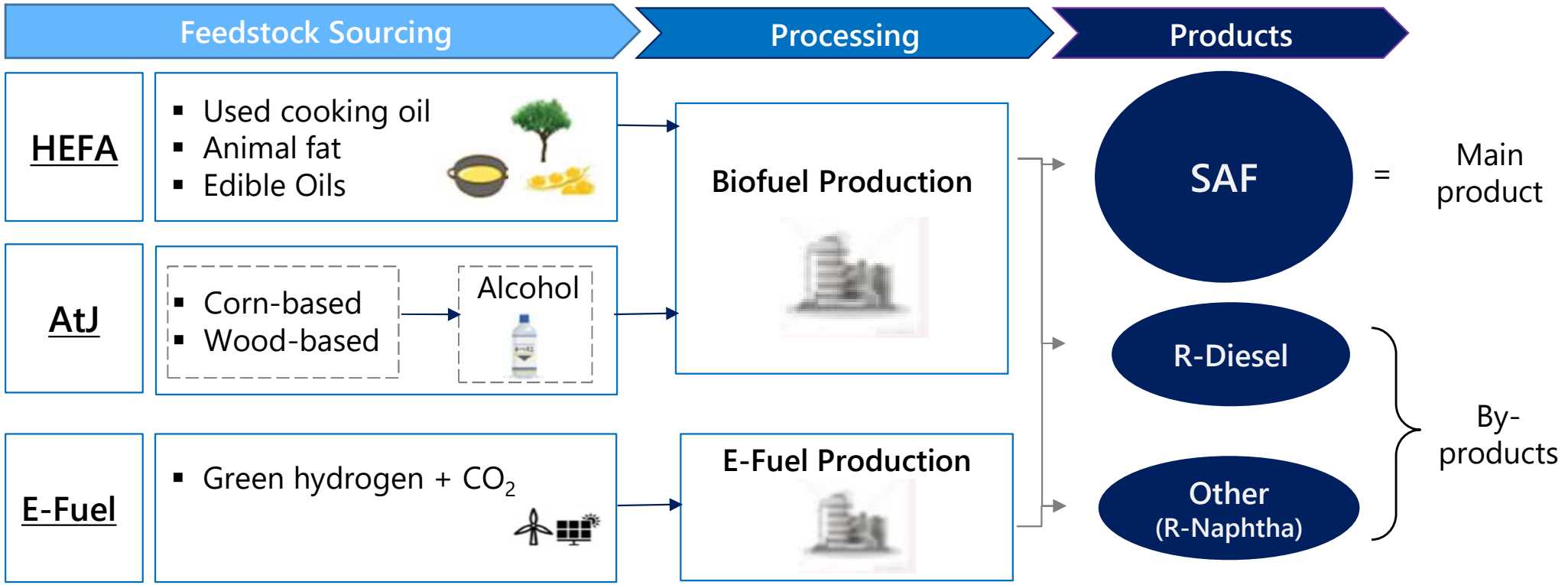
Next Generation Energy Business Group Focus



*….MCH: Methylcyclohexane(form of Liquid Organic Hydrogen Carrier)

Striving for creation of "Next Generation Fuel" Supply Chain

- Key enablers for large scale SAF deployment
  - Cross-pollinate expertise of different industries
  - Optimize multiple technology threads all having differing maturity levels (From "HEFA" to "E-Fuel")
  - Renewable " By-Product " distributions
  - Public policy and roadmap for SAF and By-products
- MC tapping into expertise of multiple business segments to unlock SAF pathways



Mitsubishi's SAF activities :

In Japan :

- Joint feasibility study with Japanese oil refiner aimed at commercializing SAF in Japan.
  1. Developing sustainable feedstock derived from bio-based raw materials
  2. Producing SAF with newly emerging techniques
  3. Building a supply chain for next generation fuels, with a focus on SAF

Outside Japan :

HEFA	▪ Used cooking oil ▪ Animal fat ▪ Edible Oils	Short-midterm ⇒Biofuel ◎ US ◎ Europe
AtJ	▪ Corn-based ▪ Wood-based → Alcohol	
E-Fuel	▪ Green hydrogen + CO_2	Long term ⇒E-fuel ◎ US ◎ Europe

Breakthrough Energy Catalyst :

- **Establishment** : In 2021
- **Concept** :
  - Aiming to accelerate deployment of climate tech
  - Scaleup projects.
- **Target area** :
  SAF / Clean H2 / Direct Air Capture /
  Long Duration Energy Storage
- Mitsubishi Corporation being the very first Asia headquartered "Anchor Partner"

- **Anchor partners :**
  Investments from leading companies in various industries such as finance, energy, steel, transportation, IT, manufacturing.

American Airlines, BUILDERS VISION, ArcelorMittal, BlackRock, HSBC, gm, Microsoft, BCG, IKEA Foundation, BANK OF AMERICA, citi, Mitsubishi Corporation

SAF Commercialization ～ Opportunities and Challenges ～

- **Opportunities and Challenges for each pathway**
  - "Bio-derived fuel" : HEFA and AtJ
    - Technology mature and commercialized
    - Feedstock availability is a key challenge,
    - Traceability and transparency of supply chain and "Food vs Fuel" issue for edible oil
  - "Synthetic fuel" : E-fuel
    - Ideal pathway for SAF due to low-carbon footprint
    - Technology development is the key challenge, followed by access to competitive, renewable-energy source
- **Policy and Support mechanism**
  - Global coverage of mandated SAF requirements rather than just EU and US
    - Japanese regulations currently being designed
    - Other regions?
  - Incentivize global participation SAF supply chain
    - Regional difference In SAF supply chain (upstream, midstream, downstream) is stark
    - Incentive schemes for all countries to participate in SAF supply chain