

Summary of MIDORI ∞ INFINITY by MAFF Japan

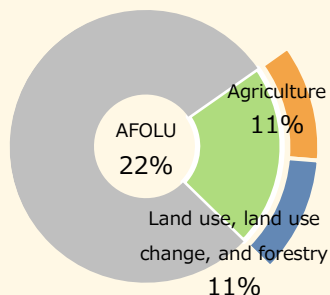
(Initiative for Net-zero compatible with Food security through International expansion of Japan's Innovative Technology)

Challenges Facing the AFOLU Sector

The Agriculture, Forestry and Other Land Use (AFOLU) sector accounts for **22%** of global GHG emissions.

Only **4.3%** of climate finance is allocated to the agricultural sector.

(Source : Climate Policy Initiative (2023))



(Source : IPCC (2022))

GHG (Greenhouse Gas) Emission Reduction Technologies and Initiatives in the Agriculture, Forestry, and Fisheries Sector

GHG Emission Reduction Technologies and Initiatives

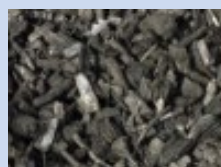
*1 The figures are based on research conducted in Japan and abroad, and may vary depending on the crop, cultivation methods, and environmental conditions.

Methane Emission Reductions from Paddy Fields

Methane from paddy fields will be reduced by approx. 30%*¹ through **Alternate Wetting and Drying (AWD)** and **prolonging mid-season drainage**.

**Carbon Storage Increase in Agricultural Soils**

With the application of unused biomass in the region to farmland as **biochar**, carbon from atmospheric CO₂ will be sequestered in soils and soil quality will be improved.

**N₂O Emission Reductions with Reduced Fertilizer Application**

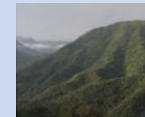
Biological Nitrification Inhibition (BNI) enabled wheat maintains the yield even with 60%*¹ reduced nitrogen fertilizer application. It can achieve 25%*¹ reduction in GHG emissions. This also contributes to biodiversity conservation by preventing excessive fertilizer application.

**Methane and N₂O Emission Reductions from Livestock Production**

GHG emissions will be reduced without reducing livestock production, by feeding **amino acid balanced feed, bypass amino acids** (25%*¹ N₂O and 10%*¹ methane reduction), and a **feed additive reducing methane from enteric fermentation** (20%*¹ methane reduction).

**Reducing Emissions from Deforestation and Forest Degradation (REDD+*²) and Enhancement of Forest Carbon Sinks**

Reducing GHG emissions and enhancement of forest carbon sinks will be promoted through **appropriate forest management, providing alternative livelihoods, and afforestation/reforestation**.

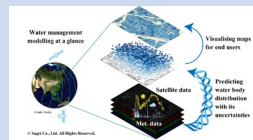


*2 Reducing Emissions from Deforestation and forest Degradation in developing countries.

Foundational Technologies and Frameworks for Supporting GHG Emission Reductions

Measurement, Reporting, and Verification (MRV)

With satellite and other data, GHG emission reductions and absorption will be quantified effectively and accurately. In addition, methodologies for calculating the amount of CO₂ stored in seagrass and seaweed beds (blue carbon) have been developed and published.

**Smart Agriculture Technology**

Use of ICT such as robots, AI, and IoT (e.g., automatic steering systems and remote sensing) contributes to reducing fuel consumption and excessive fertilizer application, while maintaining/improving productivity and addressing climate change.

Visualization of Efforts to Reduce Environmental Burden

Labeling the degree of contribution to GHG reduction and biodiversity conservation, at the production stage by the number of stars.



Measures for Promoting Technologies Overseas

Technology Development and Business Support

- ① Utilizing frameworks for overseas deployment, region-specific strategies and technologies
- ② Promoting technology development, R&D, and on-site demonstration
- ③ Promoting startup development and capacity building
- ④ Supporting business development
- ⑤ Addressing the taxonomy

The JCM Framework

- ① Promoting feasibility studies and demonstration projects
- ② Promoting development of methodologies and projects
- ③ Establishing relationships with partner countries

International Cooperation Frameworks

Promoting the overseas deployment of Japan's technologies by utilizing multilateral/bilateral cooperation frameworks (**AZEC, ASEAN-Japan MIDORI Cooperation Plan, Global MIDORI Cooperation Plan, and the climate change strategy of JICA**).

Support Programs for Japanese Companies

MIDORI∞INFINITY provides information on cross-ministerial and cross-agency support programs, including financial and informational supports, that Japanese companies can utilize both domestically and internationally. This includes support programs of **MAFF, the Cabinet Secretariat, the Cabinet Office, MOFA, MEXT, METI, JAXA, JICA, JCMA, JICN**, and so on.

【The Goals of MIDORI∞INFINITY】

- ① Facilitate climate investment in the agriculture and food sectors and expand market opportunities for agricultural and food companies in the climate business.
- ② Lead the discussion at COP30 where agriculture and forestry are parts of the main topics of discussion.
- ③ Contribute to global food security through utilization of Japanese GHG emission reduction technologies.
- ④ Contribute to NDCs of Japan and partner countries.

To promote collaboration among companies, Japanese companies and other entities that match the purpose of MIDORI∞INFINITY are listed in the Appendix.

