Side Event under Task Force3 (TF3) the Think Tank20 (T20) "Emerging Economies towards Net Zero Emission: Challenges and Opportunities on Technology Innovation and Financing"



Financing Energy Transition with Innovative Technologies



Sustainable Business Division July 20th, 2022



MUFG: Scale of operation

MUFG is a global financial institution which puts client relationships at the heart of our business model. In our steadfast commitment to serve businesses and society, by building long-term relationships, we offer a huge range of products to meet the continually evolving needs of our clients.



 MUFG is among the five largest banks in the world by assets and benefits from a credit rating of A1 / A+ / A and a deposit base significantly in excess of its loan portfolio.



- We deliver market leading solutions to our clients across corporate finance, asset financing, working capital solutions and capital markets.
- Our global network brings together **180,000** professionals in **50 countries** with **360 years** of history.
- Our long-term commitment to a scale and breadth of services takes us closer to our ultimate aim: to be the world's most trusted financial group.

Approx.

180,000

Professionals

Over

360

Years of history

Approx.

In assets

Over

Locations

Domestic Network

Overseas Network

Approx. 1,100 locations Approx. 1,200 locations

Source: MUFG Bank Economic Research Office



MUFG Carbon Neutrality Declaration

The management takes it seriously to contribute to creating a sustainable society by fostering a virtuous cycle between the environment and economy, and thus MUFG is the first Japanese bank to commit to achieve net-zero GHG*1 emissions for the finance portfolio

MUFG Carbon Neutrality Declaration

Net zero GHG emissions in our finance portfolio*2 by 2050, net zero GHG emissions in our own operations*3 by 2030

Notable recent participation in global initiatives

Glasgow Financial Alliance for Net Zero (GFANZ)

Ne-Zero Banking Alliance (NZBA)

Net-Zero Asset Managers Initiative (NZAMI)

Partnership for Carbon Accounting Financials (PCAF)

Integrity Council for the Voluntary Carbon Markets (ICVCM)

A global coalition of financial institutions committed to accelerating the decarbonization of the economy

An initiative for banks committed to achieve <u>net zero in</u> their lending and investment portfolio at latest by 2050

An initiative mainly for asset managers committed to achieve net zero in their investment portfolio by 2050

An initiative to harmonize GHG <u>emissions accounting</u> methods for loans and investment

An initiative to scale an <u>effective and efficient voluntary</u> <u>carbon markets</u>

Notable recent participation in Asia-specific initiatives

Asia Transition Finance Study Group

An initiative to discuss <u>practical guidelines for transition</u> finance and to provide policy recommendations for Asia

(ASEAN) JSFWG-Industry Advisory Panel *4

A panel providing <u>recommendations to regulators related</u> to sustainable finance including transition finance

^{*1} Greenhouse Gas *2 Scope3 under the GHG Protocol *3 Scope1 and Scope2 under the GHG Protocol, *4 Joint Sustainable Finance Working Group (JSFWG)-Industry Advisory Panel is under the auspices of the WC-CMD (ASEAN Working Committee on Capital Market Development) and ACMF (ASEAN Capital Markets Forum). MUFG's subsidiary Bank of Ayudhya Public Company Ltd. (Krungsri) is participating the Working Group on Transition Standards under JSFWG-Industry Advisory Panel.

Asia Transition Finance Study Group

One of intiatives under the Asia Energy Transition Initiative (AETI) of the Green Growth Partnership Ministerial Meeting (AGGPM)

Excerpt from Chair's summary of the first AGGPM (October 2021)

13. We acknowledged that it is essential to establish a framework that financially supports technologies and projects contributing to energy transitions, and to explore the study of the concept of "Asia Transition Finance (ATF)" by the "Asia Transition Finance Study Group" led by private financial institutions.



Objectives

- Provide practical guidelines for financial institutions to fund transition activities
- Formulate recommendations to policymakers



Focus topics

- Scope of Study Group activities (target sectors / instruments)
- Definitions of transition activities
- Principles to define transition activities
- Carbon offsets
- (Key focus) Decarbonization pathways, energy mix scenarios and technology roadmaps
- (Key focus) Usability/interoperability



Expected output

- Guidelines for transition finance practitioners
- Recommendations to policymakers (incl. developing national-/sectorlevel pathways and incentive schemes)

Source: Ministry of Economy, Trade and Industry (2021)



Challenges and missing pieces to finance energy transition with innovative technologies in the emerging countries

Challenges

- ✓ Lack of track record ("first-of-its-kind")
- Clarification on risks and responsibilities
- Lack of viable business model

Missing Pieces

- ✓ Solid revenue cash flow
- Alignment with government policies and support
- Confidence in new technologies
- ✓ De-risking instruments

Possible solutions?

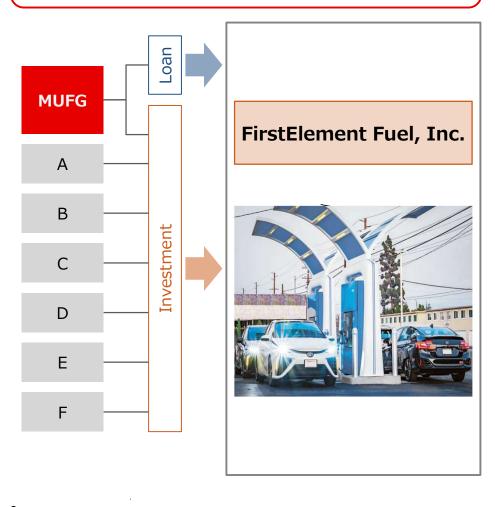
- Public financing support such as concessional finance, equity injection, ECA finance, guarantees, financial incentives and broader risk-sharing (blended finance), etc.
- ✓ Insurance products to cover innovative technologies



Current MUFG initiatives: hydrogen fuel stations

Notable deal in supporting new technologies

Hydrogen Fueling Stations



Deal Overview

■ MUFG supported FirstElement Fuel, Inc. (FEF), California's developer and distributor of hydrogen fuel stations – funded by institutions such as Mitsui & Co., Ltd. and JBIC – via a USD50M loan to FEF (March 2021) and a USD25M investment in FEF(November 2021)

Purposes of the investment to FEF

- MUFG intends to gain further expertise in the hydrogen business space via the investment in FEF to further support financing needs in hydrogen value chain creation
- California is leading the world in developing hydrogen fuel infrastructure. As a Japanese financial institution, MUFG plans to support Japanese auto makers on the sales of FCEV and Japanese hydrogen equipment manufactures' business in the region
- → To create a viable hydrogen economy by increasing hydrogen needs and developing infrastructure with FEF and other shareholder companies



MUFG: Efforts to support transition and innovation

- Support innovation starting from the R&D and feasibility study phases, and contribute to the realization of carbon neutrality

A track record of supporting renewable energyrelated businesses

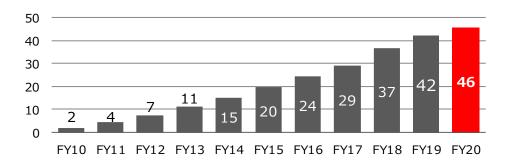
Offshore wind power generation business

• In 2005, MUFG participated in the world's first project finance for offshore wind power generation business, and as a leading bank has financed a total of 41 projects in Japan and abroad

Geothermal power generation business

 Starting in 2012, MUFG has financed projects in Japan and abroad targeting the geothermal power generation business, which is expected to be an inexpensive, stable base load power source

Cumulative total amount of renewable energy project finance by MUFG (USD billion)



Efforts related to realizing future innovation

R&D Feasibility Commercial Market expansion

Past focus areas

Future focus areas

Take advantage of the knowledge and experience gained through past business support...

Investigate/implement financial services that support new businesses from early stages such as R&D and feasibility study



Increasing the efficiency of renewable energy

Distributed power sources, next-generation storage batteries

CCUS/Circular economy batteries

Development of energy control systems using digital technology



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