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Mitsubishi UFJ Morgan Stanley

**Climate Risk and Investment Symposium  
Framing Private Challenges and Opportunities  
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# **Prospects for Climate Change Adaptation Business in Japan**

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- MUMSS is a brokerage and investment banking arm of Mitsubishi UFJ Financial Group. Clean Energy Finance Division has been active in climate consulting service since 2001.
- MUMSS carried out a study aiming for promoting climate change adaptation activity led by Japanese private sector commissioned by Japanese Ministry of Economy, Trade and Industry (METI)
  - **Develop the Adaptation Business Vision for Japanese private sector**
    - Grasped global adaptation market size
      - World Bank, IPCC, UNEP, WRI, UK, etc.
    - Identified potential sectors and areas for adaptation activity
      - Analyzed more than 2400 Japanese companies
      - Compiled good practice examples to date
  - **Call for Feasibility Study proposal**
    - 5 projects selected
    - Sectors include food/agriculture, finance, and disaster prevention

- **From risk to opportunity**

- Questionnaire done by KPMG (2008): 79% see adaptation as risk, at the same time, 82% consider opportunity
- C4C (2015) noted adaptation offers various business opportunities and benefits

Private sectors are standing at a turning point now, they can recognize climate change as a business opportunity and building a strategy on response to adaptation would appeal to investors, shareholders and customers.

MUMSS's study has found that there are many existing technologies, products and private sector activities in Japan that contribute to climate change adaptation as well as SDGs. However, potential is not yet adequately recognized and greater effort is needed to encourage more private sector participation.

**Current Situation and Challenges :**

- Lack of concrete framework hinders entry into the adaptation business despite expectations for economic growth of the market in future.
- Amid the situation where adaptation business could be applied to a wide range of fields, there is no clear-cut boundary for private companies to take on global initiatives.

**• <Potential Market Size of Adaptation Business>**

- Potential global market size of adaptation business is estimated to reach as much as US\$ 500 billion annually by 2050, indicating considerable business opportunities to be generated.

\*UNEP estimates the costs of adaptation measures under the situation where “rise in temperature is controlled to be 2 degrees Celsius from the pre-Industrial revolution level” to be US\$ 140 ~ 300 billion annually between 2025 ~ 2030 and US\$ 280 ~ 500 billion annually between 2030 ~ 2050.

\* The British Government has taken action to seize the adaptation market as it estimates the worldwide sale of adaptation and resilience products and services to reach approximately £68.7 billion annually in 2010 and 2011 and expects a growth in 2015 and 2016 by 7.1% as compared to the level of 2010 and 2011.

- **<Prospective Adaptation Business Fields>**

- Japanese private companies can contribute globally in such adaptation fields as “Resilient Infrastructure against Natural Disasters”, “Sustainable Energy Supply”, “Food Security & Strengthening Food Production Base”, “Health & Sanitation”, “Weather Observation, Monitoring and Early Warning”, “Secure Resources & Sustainable Water Supply”, “Climate Change Finance”

\*“Adaptation Private Sector Initiative (PSI)” by UNFCCC specifies 12 fields of adaptation such as "Water resources", "Science, assessment, monitoring and early warning", "Transport, infrastructure and human settlements", "Food security, agriculture, forestry and fisheries", "Terrestrial ecosystems", "Capacity building, education and training", "Human health", "Tourism", "Energy", "Finance and insurance", "Technology and Information & Communications Technology (ICT)", "Ocean and coastal areas".

- Demand is already high for adaptation as an urgent task in developing countries vulnerable to climate change. **Branding of corporate initiatives** as “Adaptation Measures” and “Resilience” will attract global funds in terms of ESG investment and governmental support from the counterparty while generating such benefits as enhanced corporate brand and trust.

Current Situation and Challenges :

- Despite a number of companies capable of developing diverse adaptation business, few projects have actually been launched due to a lack of domestic awareness of adaptation business.
- Japanese companies have few human resources capable of extending existing business through linkage with “Adaptation”.
- There is no place to share information or promote cooperation to facilitate adaptation business through public-private cooperation.

- **Adaptation Business Platform**

- A forum can be set up to share knowledge, experience and information in order to raise awareness of adaptation business opportunities and to carry out comprehensive and diverse measures specifically in Japan, which could grow into a foundation to drive public-private cooperation initiatives overseas.

- **Development Infrastructure**

- Adaptation can widely be applied as it encompasses mitigation and **cross-sectional** activities. For the products and services of companies to fit for adaptation business, each company must press ahead with measures against climate change risks arising from reliance on natural resources while **developing the human resources who can find a solution to adaptation challenges through linkage to such risks (storytelling)**.
- **Development of business guidebooks** enhancing understanding of potential risks and opportunities derived from climate change,
- **Database of business models and case studies** on climate change adaptation technology and services

### Current Situation and Challenges :

- Despite significant demand, knowledge and awareness of adaptation measures and technology is low in many developing countries and thus demand remains unattended.
- Little acknowledgement is given to contribution to global adaptation actions.

## • Adaptation Business Visualization

- Some developing countries list up required adaptation measures and technology in NAP (National Adaptation Plan), NAPA (National Adaptation Programmes of Action), NDC (Nationally Determined Contributions), etc. but there is still room for **enhancing their knowledge and understanding of specific measures or specific technology**. Japan should invite government officials from these countries to Japan for training or send experts to introduce such adaptation fields and technology to which Japan's technology can contribute



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- Amid the growing trend where “SDGs: Sustainable Development Goals” is becoming the mainstream development goals of developing countries, Japan can demonstrate to the world with its innovative approach by **associating adaptation and resilience activities of Japanese companies with 17 goals under SDGs.**
  - It is crucial to **visualize the benefits of corporate contribution through global projects as part of the overall contribution efforts in the field of adaptation** as Japan’s response to the impact of global warming. In order to raise motivation of companies and to further advance the contribution to solve adaptation challenges, it is imperative to establish **a contribution benchmark based on the existing performance indicators for “Sustainable Development”** in cooperation with relevant organizations and to award excellent adaptation projects identified based on such benchmark.
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Having studied public information of more than 2000 companies and analyzed activities that are seemingly contributing to adaptation measures overseas, 7 key areas have been identified where Japanese private companies can contribute to global adaptation initiatives.

-  Resilient Infrastructure against Natural Disasters
-  Sustainable Energy Supply
-  Food Security & Strengthening Food Production Base
-  Health & Sanitation
-  Climate Monitoring and Early Warning
-  Secure Resources & Sustainable Water Supply
-  Climate Change Finance

[Highly-relevant SDGs]



## Current Situation and Challenges :

- Despite a boost in the number of successful adaptation business of Japanese companies, successive structuring of such business cases has yet to be established to further invigorate the market.
  - There is a lack of support to invigorate the adaptation market and to further expand corporate activities.
- The key to invigorating the market is to identify areas for providing **assistance based on the studies and to keep delivering symbolic cases of success.**
  - **Demand should be matched to Japan's technology and related seeds** so as to create business opportunities.(adaptation business exhibitions, establishment of database on adaptation technology, products and services)
  - Adequate support should be provided to enhance **accessibility to the funding resources** through coordination with relevant organizations and support for application procedures, to reinforce linkage with funding schemes.

	Area	Project outline	Company
1	Resilient infrastructure / weather observation / early warning	Reduce potential risks associated with natural disasters for a potential construction site via Shimizu Global Hazard Evaluation System	Shimizu Corporation
2	Resilient infrastructure	Protect community from a threat of sea level rise by building permanent concrete seawall including wave control structures.	Taisei Corporation
3	Sustainable energy supply	Promote a solar lighting equipment to provide local community with access to electricity in times of major disasters	Panasonic Corporation
4	Food security and agriculture	Introduce high quality cacao agroforestry and build capacity of local farmers to enhance agricultural sustainability and productivity	Dari K Co., Ltd.
5	Health and sanitation	Provide insecticide-treated mosquito net to reduce the prevalence of infectious disease.	Sumitomo Chemical Co., Ltd.
6	Health and sanitation / food security and agriculture	Provide soap-based fire extinguishing foam to protect forest by reducing smoke damage caused by repeated wildfire.	Shabondama Soap Co., Ltd.
7	Climate monitoring / early warning	Install water leak detection system and undertake water demand projection system to reduce damages from floods, etc.	NEC Corporation
8	Sustainable water supply	Install clean water supply system featuring slow sand filtration method to reduce risk brought by water contamination.	Yamaha Motor Co., Ltd.
9	Climate change finance	Introduce weather index insurance to minimize financial losses caused by extreme weather events	Sompo Japan Nipponkwa Insurance Inc.

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