

FINANCING LOW CARBON TECHNOLOGY TRANSFER FOR SMALL-MEDIUM-ENTERPRISES (SMEs): A MATCH-MAKING STRATEGY

1 Context/Rationale

SMEs are active in business development, producing creative ideas, and possessing large potential for introducing low-carbon technologies. However, they have not received enough attention in climate discussions. The lack of match-making strategy among stakeholders forms a major barrier in enhancement of financing technology transfer to them. The session addressed the question on barriers and success factors for low-carbon technology transfer (LCTT) to small and medium enterprises (SMEs) in developing countries.

2 Objectives

The ultimate objective of the session was to bring private sector, government and experts together to identify an effective match-making platform to enable the conditions for financing technology transfer for SMEs in developing countries.

3 List of Speakers

[Moderator]

Kazuhisa Koakutsu Leader / Principal Policy Researcher, Climate and Energy Area, IGES

[Speakers]

Yuqing Yu Task Manager / Senior Policy Researcher, Climate and Energy Area, IGES

Hidehiro Kitayama Leader, Heat Pump Sales Section of unimo Products Department, Higashi Hiroshima Plant, MAYEKAWA MFG. CO., LTD.

Girish Sethi Director, Industrial Energy Efficiency Division, The Energy and Resources Institute (TERI)

Osamu Kawanishi Senior Policy Analyst, Environment Directorate, The Organisation for Economic Co-operation and Development (OECD)

Shobhakar Dhakal Associate Professor, Asian Institute of Technology (AIT)

Le Ngoc Tuan Director, Science, Technology and International Cooperation Division, Department of Meteorology, Hydrology and Climate Change, Ministry of Natural Resources and Environment, Viet Nam

A.M. Monsurul Alam Joint Secretary and Director, Department of Environment, Government of Bangladesh

[Discussants]

Takahiro Ueno Visiting Researcher, Graduate School of Public Policy, The University of Tokyo / Researcher, Socio-economic Research Center, Central Research Institute of Electric Power Industry

Naoki Mori Head, Climate Change Office / Group Leader, Environmental Management, Global Environment Department, Japan International Cooperation Agency (JICA)

Tatsuya Hanaoka Senior Researcher, Center for Social and Environmental Systems Research, National Institute for Environmental Studies (NIES)



4 Key Messages

- **SMEs should be given more attention in LCTT, given their significant potential to reduce GHG emissions.**
- **Mobilise domestic financial resource, since SMEs cannot access overseas finance. The equity markets in developing countries appear to be readily available at a reasonable cost so this could be used as an important tool to finance LCTT to SMEs. Bond market and securitisation could be also considered in this regard.**
- **LCTT process has different stages, and policy interventions vary accordingly. Promoting research development and demonstration (RDD) is not sufficient to promote LCTT. Follow-up activities to promote deployment is also crucial, so the process of “RDD&D” should be considered rather than “RDD”.**
- **The demonstration stage is extremely important, and a significant portion of the financial resource available should be devoted to it. The Joint Crediting Mechanism (JCM) and the clean development mechanism (CDM) could be considered at this stage.**
- **Focus should be on green infrastructure, where institution investors play a crucial role. Securitisation could be alternative capital market for long-term financing for those institution investors.**
- **The Climate Technology Centre Network (CTCN) is an important tool for developed countries to understand the need of developing countries.**
- **Although the JCM could present an important tool to promote LCTT, the concept and operation of this mechanism is still not clear for large number of companies in Japan as well as overseas. Therefore, more awareness creation in this regard is needed.**
- **JICA-SIDBI two-step loan initiative is a successful case to finance LCTT to SMEs, which could be extended in India as well as replicated in other countries.**
- **Matchmaking among stakeholders is extremely important. Intermediaries, such as research institutes, NGOs/NPOs, should take leading role in the match-making process between Business to Government (B₂G), Business to Businesses (B₂B), and Business to Funding institution (B₂F).**

5 Summary of Presentation

In her framing presentation, Yuqing Ariel Yu identified wind turbines, solar PV, heating, hydro and biomass, as priority technologies, and India and other developing countries in Asia as priority regions, which should be given priority in LCTT. She emphasised that mobilising private sector engagement is crucial to finance LCTT, and identified the equity markets as an important option.

Hidehiro Kitayama introduced lessons learnt from on the ground projects, based on implementing pilot projects regarding heat pump technology in India. He emphasised that onsite training and direct communication with SMEs, through cluster workshops, are crucial to raise awareness of SMEs about the offered technology. He highlighted that sources to finance LCTT to SMEs could vary according to the stage of technology transfer process. He mentioned that the JCM and the CDM schemes could be needed more at the demonstration and deployment stages, but private financial intervention could be needed more at the diffusion stage. Girish Sethi highlighted that SMEs should be given more attention in LCTT, given their significant potential to reduce GHG emissions. He agreed with Hidehiro Kitayama

that LCTT process has different stages and policy intervention vary accordingly. In this regards, he emphasised that promoting research development and demonstration (RDD) is not sufficient to promote LCTT, but follow up activities to promote the “deployment” is also crucial, hence the focus should be on “RDD&D” rather than only on “RDD”.

Osamu Kawanishi outlined how to mobilise private investment for green infrastructure. He noted that the focus should be more on green infrastructure, where institution investors play crucial role. In this regard, he emphasised that securitisation could be an alternative capital market for long-term financing for those institution investors.

The last three presentations focused on the issue of international and bilateral mechanisms to promote LCTT. In this regard, Shobhakar Dhakal introduced the Climate Technology Centre Network (CTCN) and its importance in assisting developing countries. He highlighted that CTCN is an important tool for developed countries to understand the need of developing countries. Le Ngoc Tuan and A.M. Monsurul Alam introduced the progress and achievement of the JCM signed mutually between Japan and their respective countries. They both agree that although the JCM could present an important tool to promote finances of LCTT to SMEs, the concept and operation of this mechanism is still not clear for a large number of companies in Japan as well as in their own countries; further awareness creation activities are needed in this regards.

6 Summary of Discussion

The panel discussion focused on two topics: 1) Finance and technology transfer and 2) Matchmaking strategy. Naoki Mori introduced the JICA-SIDBI two steps loan initiative in India as a successful case to finance LCTT to SMEs. He also emphasised that mobilising domestic financial resources is extremely important, since SMEs cannot access overseas finance. Tatsuya Hanaoka stressed again on the importance of targeting SMEs in LCTT process, and highlighted that modes of technology transfer are diverse, hence it is necessary to address them differently. For instance, he suggested that projects should be supported financially according to their internal rate of return (IRR). In this regard, Osamu Kawanishi suggested that the bond market and securitisation could be considered as alternative capital markets for long-term financing of LCTT. Shobhakar Dhakal introduced the pyramid of CTCN services to explain that CTCN is a country-driven process, a bottom-up approach, that provides various services in various domains, and it is for a developing country to submit a request for assistance and the CTCN will provide it.

The discussion on the second topic involved the following members: Takahiro Ueno, Hidehiro Kitayama, A.M. Monsurul Alam, and Girish Sethi. All discussants emphasised that technology transfer is a complex process that has various steps and involves various stakeholders. The matchmaking process to promote LCTT to SMEs should include matching technologies to local conditions as well as matching related stakeholders to each other. In this regard, they called for technology customisation and especially follow-up activities to projects which have been demonstrated, as measures to match technology to local conditions. They also called for intermediaries, such as research institutes, NGOs/NPOs, to take leading roles in the matchmaking process among related stakeholders.