Study on the effect of technology transfer and diffusion through the CDM

~the case of India~

Key Words: Clean Development Mechanism(CDM),technology transfer, technology diffusion, Unilateral CDM, Additionality, small scale CDM, Energy efficiency project, local livelihood

1. INTRODUCTION AND OBJECTIVE

Scientific consensus about climate change increasingly has emphasized low carbon energy technologies to mitigate emissions of carbon dioxide, which is the most important gas related to climate change. Most of the new carbon abatement technologies are being developed in industrialized countries that have enough technological and financial ability to develop new technologies. However, much of potentials to make significant GHG reductions are in developing countries like India and China, where fossil fuel consumption is increasing rapidly. Therefore, the technology transfer and diffusion of these low carbon technology is essential to tackle climate change issues. One of the mechanisms which are expected to promote transfer of low carbon technology is Clean Development Mechanism (CDM). It is recognized it may contribute to technology transfer by financing emission reduction projects introducing technologies currently not available in the host countries.

In India which has significant GHG emission reduction potentials and thus huge CDM potentials, project developers tend to implement Unilateral CDM projects with domestic funds and technologies, which is said to have less technology transfer But it is quite difficult to transfer low carbon high-technology from developed countries to local area in India because of significant technological gap between urban area and local area. Based on the situation of local area in India, the research tries to reconsider significance of Unilateral CDM regarding technology transfer. Moreover, the research analyses what effect the CDM make on technology transfer and diffusion in local area by the case study.

2. METHODOLOGY

The research about reconsideration of technology transfer through Unilateral CDM consists of: ①Survey on technology transfer by Unilateral CDM/ other CDM forms from CDM project design documents registered in CDM Executive board, ②Study on CDM approval procedures and ③Literature review.

In addition, the research focused on Vertical Shaft Brick Kiln projects as a typical case of technology diffusion through the CDM to analyze factors of technology diffusion by literature review and the interview to the researchers in The Energy Research Institute (TERI).

3. CONCLUSION

As a finding of the research from project design document, most of CDM projects are unilateral CDM projects in India, and they have less technology transfer. But, as CDM approval procedures in India shows, India regards technology transfer not from foreign countries, but within country as important “technology transfer”. In conclusion, Unilateral CDM which does not have technology transfer from aboard can involve important technology transfer.

And the case study shows that technology transfers within country through CDM contribute to appropriate technology diffusion to small-sized companies in local area. Small sized CDM and Bundling CDM projects can promote technology diffusion. Furthermore, additionality takes a role of deciding what technology should be diffused and what scale it should be diffused.