

Project for Introducing Energy Efficient and Low-Carbon Technology and Equipment to India

TERMS OF REFERENCE

1. PROJECT

Project for Introducing Energy Efficient and Low-Carbon Technology and Equipment to India (hereinafter referred to as “the Project”)

2. IMPLEMENTING ORGANIZATION

International Center for Environmental Technology Transfer (ICETT)

3. OVERVIEW OF THE PROJECT

3-1. BACKGROUND OF THE PROJECT

India is one of the countries which have experienced rapid economic growth in recent decades. The rate of growth has been increasing and accordingly the country has become the 5th largest emitter of greenhouse gases in the world. It is well known that the country has a large potential to reduce its energy consumption resulting in energy cost saving by introducing energy efficient technologies and renewable energy sources contributing to the reduction of greenhouse gas emissions. Japan is one of the leading countries which have been sincerely working to transfer its energy efficient and low-carbon technologies and equipments to India. A large amount of public funding has been provided to the country to this very end in the past years, but recently the role of private sector finance has been recognized to be more important than before in accelerating wide-spread diffusion of these technologies and equipments across this large country.

Prior to the launch of the Project, ICETT interviewed a number of Japanese companies as well as governmental organizations operating to promote technology transfer on a commercial basis, and learned that there are several barriers for Japanese companies to reach agreements on technology transfer projects. Among various barriers identified, ICETT addresses the following categories of barriers as those which need supports especially in the case where the companies concerned are of medium and small size;

- *Informational barriers* meaning that the information available to Japanese companies are limited and in many cases insufficient for them to examine the feasibility of entering the country for business, which keep them from moving forward to launch a project. Japanese companies often face these barriers when they initially consider transfer of their technologies and / or equipments to a new market.

(e.g.) information on local law and regulations, applicability of financial incentives to the technology and equipment to be transferred, local market size of the technology and equipment to be transferred;

- *Technical barriers* are those that Japanese companies face when they start to examine feasibility of installation of the relevant technologies and / or equipments from technical and economic perspectives.

(e.g.) lack of reliable data at local plants to enable cost-benefit analysis of introducing technologies and / or equipments, insufficient management skills at local enterprises necessary to maximize the benefits of introducing the technologies and / or equipments; and,

- *Communication barriers* often stemming from misunderstanding among the concerned parties, which discourages further examination of any technology / equipment transfer projects. These barriers are most prevalent when both parties have no experience in conducting businesses in the other country in question.

(e.g.) lack of mutual understanding due to differences in working practices and “common sense” in both countries, less understanding of the relevant technology and equipment to be transferred due to limited time for exchanging their technical information,.

Upon identifying these barriers, ICETT launched the Project to further clarify these barriers and examine possible solutions to effectively address these barriers from both Japanese and Indian perspectives, and contribute to facilitate transfer of energy efficient and low-carbon technologies and equipments to mitigate global warming.

3-2. OBJECTIVES OF THE PROJECT

The ultimate goal of the Project is reduce the greenhouse gas emissions by introducing energy efficient and low-carbon technologies and equipments to India while benefiting both Indian and Japanese companies in the process. For achieving this goal, the Project will identify the barriers to reaching an agreement to start a project to transfer technologies and equipments, and the barriers to diffusing the technologies and equipments to other areas or all over the country. In order to contribute to actual reduction in energy consumption and the resulting greenhouse gas emission reductions while benefiting the parties involved, the Project also aims to support Indian and Japanese companies in reaching agreements on projects to transfer technologies and equipments.

Through this Project, we envisage that Indian industry would enhance their technical understanding of energy efficient and low-carbon technologies and equipments as well as technical and managerial capacity to make their plant operation more profitable. The Project is also expected to broaden Indian company’s knowledge on Japanese energy efficient and low-carbon technologies and equipments, which we expect will help them identify the most appropriate and applicable ones for

their facilities.

3-3. MAIN ACTIVITY OF THE PROJECT

The Project consists of 2 main activities described as follows. The activities will be managed and performed by ICETT but a part of them shall be commissioned to an organization which ICETT recognizes capable enough to implement the project with ICETT to achieve the objectives of the Project (hereafter referred to as “the Partner”)

3-3-1. Identification of barriers and possible solutions to the transfer and dissemination of energy efficient and low-carbon technologies and equipments

- (1) Interviews with relevant organizations and individual companies (to be performed by the Partner and ICETT individually)
- (2) Identification of barriers while implementing the supporting activities mentioned in 3-3-2 (to be performed by the Partner and ICETT individually)
- (3) Analysis of the identified barriers to search for possible solutions and their feasibilities (to be performed by the Partner and ICETT individually and cooperatively)

3-3-2. Supporting activities to establish a project to transfer Japan’s energy efficient and low-carbon technologies / equipments to India on a commercial basis

- (1) Open recruitment and first-step selection of Japanese energy efficient and low-carbon technologies and equipments (to be performed by ICETT)
- (2) Research on the needs for the selected Japanese technologies and equipments in India (to be performed by the Partner)
- (3) Interview with Japanese companies and final selection of Japanese technologies and equipments (to be performed by ICETT with supports from the Partner)
- (4) Collection of information on Indian industrial associations and companies interested in the selected technologies and equipments (to be performed by the Partner)
- (5) Organization of a forum to introduce Japanese technologies and equipments (to be performed by the Partner and ICETT cooperatively)
- (6) Follow up on further discussions between the Japanese and Indian companies with mutual interests (to be performed by the Partner and ICETT cooperatively)

The activity 3-3-2 is designed as an important information source and an opportunity for an on-site study for the activity 3-3-1, as well as for facilitating projects to transfer energy efficient and low-carbon technologies and equipments to mitigate global warming.

3-4. OBJECTIVES OF COMMISSIONING A PART OF THE PROJECT ACTIVITY

ICETT will commission a part of project activities to the Partner which are relevant to 3-3-1 (1) and (2), and 3-3-2 (2) and (4), and request to work with ICETT for the work of 3-3-1 (3), and 3-3-2 (3), (5) and (6) in order to achieve the objectives of the Project in a time and cost effective manner.

3-5. DESCRIPTION OF THE PROJECT ACTIVITIES AND SCOPE OF WORK

3-5-1. Identification of barriers and possible solutions to the transfer and dissemination of energy efficient and low-carbon technologies and equipments.

These activities, to be conducted throughout the Project, aim to facilitate projects to transfer energy efficient and low-carbon technologies and equipments for accelerating reduction of greenhouse gas emissions from India. The Partner and ICETT will first identify the barriers in transferring technologies and equipments from Japan to India individually, and then exchange information to better understand the barriers identified in the partner country. In the next step, effective solutions to the barriers shall be examined individually, and the information shall be exchanged for discussion and eventual summary to be produced. Although short reports on the barriers and solutions shall be produced by the Partner and ICETT individually and shared at the end of the research, close communication will be required throughout the process to exchange information on the barriers collected and the ideas for solutions examined at milestones to periodically reflect their research contents and methods.

The Partner shall be in charge of the following activities;

- Interviewing relevant Indian organizations, individual companies which are experiencing or have experienced technology / equipment transfer projects in order to identify barriers
- Analyzing barriers to be identified while doing the supporting activities as described in 3-5-2
- Producing and submitting to ICETT a short report on the barriers in **electronic form (both Microsoft Word and PDF) by E-mail or by courier saved in CD-R by 31 January 2011 by 12:00 local time.**¹
- Providing comments on the barriers identified by ICETT from Indian perspective
- Analyzing possible solutions to the barriers related to India, which will be identified by the Party and ICETT
- Producing and submitting to ICETT a short report on the possible solutions and **in electronic form (both Microsoft Word and PDF) by E-mail or by courier saved in CD-R by 28 February 2011 by 12:00 local time.**²

¹ ICETT will produce a short report of the same contents but from Japanese point of view and submit it to the Partner by the same time.

² ICETT will produce a short report of the same contents but from Japanese point of view and submit it to the Partner

- Providing comments on the possible solutions examined by ICETT from Indian perspective

3-5-2. Supporting activities to establish a project to transfer Japanese low-carbon technologies / equipments to India on a commercial basis

(1) Research on the needs for the selected Japanese technologies and equipments in India

The purpose of this research is to identify general needs for the Japanese technologies and equipments that will be listed by ICETT prior to this research based on the application from the Japanese company to this project scheme. The Partner is requested to furnish the following information;

- Strength of local needs for the selected technologies and equipments
- Their potential of greenhouse gas emission reduction in local situations
- Size of units which could introduce them
- The potential for diffusion within India

If local needs are strong enough to proceed to examine the possibility of projects to transfer the selected technologies and equipments on a commercial basis,

- Supporting and regulatory policy to introduce them into local units
- Identifying industrial associations such as industrial clusters and, if possible, individual companies which would be interested in introducing the technology and equipment.

The detailed research contents will be discussed as necessitated between the Party and ICETT throughout the Project.

The number of the technologies and equipments for the research is estimated to be 4-6 and technical information shall be provided for the Partner by 13 September 2010. The research includes both literature review and interviews with relevant organizations, experts and/or individual enterprises.

The relevant information shall be summarized and submitted to ICETT in a short report by technology and equipment in **electronic form (both Microsoft Word and PDF) by E-mail or by courier saved in CD-R by 30 September 2010 at 12:00 local time.**

(2) Interviews with the Japanese companies and final selection of the Japanese technologies and equipments

ICETT will interview the Japanese companies which hold the researched technologies and equipments with the short report of the previous research to ensure their willingness to participate in the Project, and complete the final selection of the target 3-4 technologies and equipments for the Project. The Partner may be asked to furnish local information and advise from the local point of view as ICETT make the final selection.

by the same time.

(3) Collection of information on Indian industrial associations and individual companies interested in the selected Japanese technologies and equipments

This activity is to identify specific industrial associations and companies interested in introducing the target Japanese technologies and equipments. The industrial associations and companies identified will be invited to the ensuing forum.

The Partner shall collect following information in appropriate and efficient manners;

- Organizational overview
- Flow chart
- Existing technology and equipment which would be replaced with the Japanese technology and equipment
- Their willingness to take up the technology and equipment

The detailed contents and procedure of the research shall be discussed and determined through discussion between the Partner and ICETT.

The list of the target technology and equipment shall be provided by 15 October 2010. The information gained from the research shall be summarized and submitted to ICETT in a report by technology and equipment in **electronic form (both Microsoft Word and PDF) by E-mail or by courier saved in CD-R by 12 November 2010 at 12:00 local time.**

(4) Organization of a forum to introduce Japanese technologies and equipments

A forum will be organized to provide Indian industrial groups and companies with information on the selected Japanese technology and equipment to facilitate matching of Japanese and Indian companies for a technology / equipment transfer project. The Partner, in cooperation with ICETT, shall prepare and organize the forum by doing the following work;

- Selecting a venue
- Communicating with the staff of the venue
- Communicating with and inviting local industrial organizations / associations and individual companies
- Preparing handouts (*Original data for the handouts shall be prepared by ICETT)
- Arranging venue site
- Organizing a reception desk for the forum
- Summarizing of a questionnaire to local companies

(5) Follow up on discussions between the Japanese and Indian companies with mutual interests

This activity aims to support both the Japanese and Indian companies interested to each other to exchange information for accelerating formulation of projects to transfer the technologies and

equipments. Besides the information exchange, the Japanese company will visit the Indian company to provide basic on-site technical advice to improve energy efficiency of the partner's facility in order to support the formulation of a project by fostering better mutual understanding of their working practices and technical capabilities. The Partner shall provide the following services during this activity;

- Coordinating with Indian companies
- Supporting Japanese companies to gain information on the Indian companies with close communication with them
- Supporting Indian companies to understand the Japanese technology and equipment in a manner that they can recognize the benefits expected by introducing the energy efficient and low-carbon technologies and equipments into their facility
- Supporting both the Japanese and Indian companies, in cooperation with ICETT, to foster their mutual understanding of their own customs in management of operation and business practices, which usually underlie beneath their opinions and behaviors in discussion and negotiations
- Arranging travels to the Indian companies for the Japanese companies

3-6. POLICY OF THE COMMISSIONED WORK

ICETT considers the following as the guiding principles in pursuing the objectives of the Project:

- The commissioned work shall be implemented in close communication with mutual understanding between ICETT and the Partner,
- The Partner shall implement the commissioned work in line with the objectives and the principles outlined herein;
- While ICETT welcomes advice and suggestions from the Partner to guide the Project to a better outcome in a more efficient and effective manner from local perspectives, the final decision shall be made by ICETT.

3-7. COMMUNICATION

The language to be used for communication between ICETT and the Partner shall be in English and/or Japanese. ICETT considers close communication to be vital for satisfactory results of the Project and requires the Partner to communicate with ICETT periodically by E-mail and other means especially during the Delegated Research.

3-8. CONTRACT PERIOD

The Partner will sign a Memorandum of Understanding (MoU) with ICETT and conduct the Commissioned Research accordingly. The contract period is from the contract day to 15 March 2011.

4. PARTNER SELECTIONS AND CONTRACT

4-1. SUBMISSION OF PROPOSAL

4-1-1. Required Items for the Proposal

- a. Research procedure and methodology
 - Procedure and methodology to be applied to the research on the needs for the identified Japanese technologies and equipments
 - Procedure and methodology to be applied for collect information on Indian industrial organizations and companies interested in the selected Japanese technologies and equipments
 - Procedure and methodology to be applied to the research on the barriers to transferring energy efficient and low-carbon technologies and equipments, and the barriers to disseminating the once transferred technologies and equipments to other areas and around India, and possible interviewees for the research

- b. Network
 - Existing network with the organizations which would bring benefits to the Project

- c. Implementation Structure
 - Name, background and experiences, and certification of all the research members
 - Roles of each member in the Commissioned Research and implementation structure
 - The representative of the research members and his/her contact

- d. Estimation of Contract Fee
 - Contract fee consists of **labor costs**, **other costs** (such as travel costs for Field Research), and **administration costs**³.
 - The currency of the contract fee shall be **US Dollar**.
 - Documentation on unit labor costs (per hour or per day) shall be attached⁴.

4-1-2. Languages

Japanese or English

4-1-3. Deliveries

Proposal in PDF file shall be attached to an E-mail addressed to ICETT at info@icett.or.jp, followed by a fax message to ICETT to inform the proposal has been sent.

³ Each cost shall be described in "unit * number" formula when possible.

⁴ The documentation should show the objectivity of labor costs by such means as standards determined by the organization of the candidates.

4-1-4. Deadlines

31 August 2010, Tuesday

4-2. SELECTION OF THE PARTNER

4-2-1. Criteria for Selection

- Implementation structure and background/experiences of the research members
- Compatibility with the project objectives and policy
- Specificity and effectiveness of proposed research process and methodology
- Validity of estimated contract fee

4-2-2. Notifications of Results

ICETT shall inform the results of the selection to the representatives by 3 September 2010, Friday by E-mail.

4-3. SIGNING OF MOU

The Partner shall execute an MoU with ICETT for the Contracted Research. The details of the MoU shall be, in due course, discussed between the Partner and ICETT and agreed upon mutual understanding.

5. SCHEDULE

	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
1. Selecting the Partner									
(1) Disclosure of TOR	☆								
(2) Submission of Proposal	—								
(3) Determination of the Partner		☆							
(4) Signing of Memorandum of Understanding		☆							
2. Project Activity (tentative)									
2-1. Identification of barriers and possible solutions to the transfer and dissemination of low-carbon technologies and equipments									
(1) Identification of the barriers		—————★						
(2) Examination of the possible solutions		—————★							
(3) Summarizing the barriers and solutions							—————		
2-2. Supporting activities to establish a project to transfer Japan's low-carbon technologies / equipments to India on a commercial bases									
(1) Open recruitment of Japanese low-carbon technologies and equipments	—								
(2) Research on the needs for the selected Japanese technologies and equipments in India		—★							
(3) Interview with Japanese companies and final selection of Japanese technologies and equipments			—☆						
(4) Collection of information on Indian industrial associations and companies interested in the technologies and equipments				—★					
(5) Organization of a forum to introduce Japanese technologies and equipments					◎				
(6) Follow up on further discussions between Japanese and Indian companies					—————				
3. Completing the Project									
Settling down of Contract Fee							—————		

☆: Decision making ★:Submission of reports ◎: Event

6. CONTACT

Should you have any question, please contact

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