CLEAN DEVELOPMENT MECHANISM ASSESSMENT REPORT

A. Executive Summary

1. The proposed Industrial Energy Efficiency Finance Program involves the promotion of industrial energy efficiency in Bangladesh through participating financial institutions, including IIDFC. The finance program will initially target the brick making sector by promoting brick kilns that are 50% more energy efficient than existing kilns. The finance program will further identify and fund bankable energy efficiency projects in other energy intensive industries like steel, cement, textile and chemicals. The finance program is in line with the ADB mission of reducing poverty through sustainable development.

2. This Clean Development Mechanism (CDM) assessment report is limited to the component of installation of energy efficient brick kilns in Bangladesh. Beside the main objectives, the mentioned energy efficiency project helps arrest the dangerous effects of climate change by reduction of greenhouse gas (GHG) emissions through reduced use of carbon emissive fossil fuel (coal). The finance program will meet the objective of the United Nations Framework Convention on Climate Change (UNFCCC) and would therefore be eligible to gain carbon credits under the CDM of the Kyoto Protocol if registered with the CDM Executive Board. For this, the project implementing agency, IIDFC in this case, has to follow procedures which are set out in this CDM Assessment Report.1 If registered successfully and implemented as planned, the 10 envisaged brick kiln projects stand to generate around 55,000 Certified Emission Reductions (CER) annually. This would generate total revenue of $550,000 per annum with assumed CER price of $10 per CER.2 ADB has promoted the Asia Pacific Carbon Fund and Future Carbon Fund which can purchase carbon credits from projects financed by ADB up to and beyond 2012 respectively.

B. Background

3. The Kyoto Protocol, which was signed in 1997 under the UNFCCC, specifies a GHG emissions cap for 38 industrialized countries. The Kyoto Protocol also provided the market based mechanism of CDM as one of the means to assist the industrialized nations to meet their commitments. CDM allows entities in the industrialized nations to support GHG mitigation projects in developing countries and purchase the GHG credits generated by these projects. Projects involving the use of clean energy sources are eligible for consideration under CDM.

4. Developing member countries are eligible to host CDM projects when they are Kyoto Protocol signatories. The majority of ADBs DMCs, including Bangladesh, has done so and can therefore take advantage of potential CDM benefits from eligible projects.

5. Projects involving use of clean energy sources like wind, biomass, hydropower, solar energy, cleaner fossil fuels like natural gas, urban infrastructure projects involving solid waste treatment through technologies like composting, anaerobic digestion, sanitary landfill with landfill gas recovery, wastewater treatment with biogas recovery and use, urban energy efficiency improvement projects, and coal mine methane recovery/use are all eligible for consideration under the CDM.

---

1 IIDFC will pursue with these registration and procedures on a parallel and independent basis from the ADB PSOD financing.

2 The current market for CERs is up to the end of first commitment period ending 2012. The negotiations for the second Kyoto Protocol commitment period are in progress at present. Should there be an agreement on the modalities the CER post 2012 may fetch a higher price (e.g. current price of pre 2012 CERs is around 8-9 Euro).
6. The finance program consists of the financing of two major components: (i) installation of high energy efficient Hybrid Hoffman Kilns (HHK) in Bangladesh; and (ii) energy efficiency improvement in other industrial sectors of Bangladesh. This CDM Assessment Report has been prepared for the assessment of the first part of the finance program. The project activity under consideration of CDM is the construction and operation of coal fired energy efficient HKKs (10 units) which will avoid the use of traditional high energy consuming Fixed Chimney Kilns (FCK) in Bangladesh. The alternative technology helps in conservation of coal and thus leads to emission reduction.

C. ADB Mission

7. ADB’s mission is to reduce poverty in the Asian and Pacific region through financing infrastructure and other projects in ADB’s developing member countries. ADB is mandated to manage funds from several European Governments to purchase carbon credits. The Asia Pacific Carbon Fund (APCF) and the Future Carbon Fund (FCF) purchases and pays up front for carbon credits from ADB assisted projects. By doing so, these funds can help to overcome the investment barrier in countries with limited recourse to market based finance.

D. CDM Modalities & Procedure Issues

8. A CDM project needs to demonstrate its “additionality”. It is expected to result in real measurable emission reductions that are additional to any that may occur in its absence. In other words, the project participants have to demonstrate that a baseline scenario would have occurred in the absence of the project with CDM benefits. This is done by applying a tool for demonstration and assessment of additionality that has been approved by the CDM Executive Board. The tool provides two alternative approaches; the investment analysis and the barrier analysis.

9. Specific points of the energy efficiency brick kiln projects, which will help in developing project additionality as per CDM guidelines are specified below:

   (i) Investment barrier – Total investment for HHK is much higher than the conventional FCK investment. Initial project returns are lower than the FCK returns. Therefore, the project faces an investment barrier;

   (ii) Technological barrier – Brick kiln owners i.e. project promoter/developers have a lack of technical support and knowledge of clean technologies. The promoters do not have the experience and expertise of implementation, operation and maintenance of such a new technology project activity yet;

   (iii) Entry barrier - due to the prevailing practice of the use of traditional Fixed Chimney Kilns (FCK) in Bangladesh without any technological change for a long period, there is a knowledge entry barrier;

   (iv) Further, in the view of proper regional distribution; UNFCCC is promoting CDM projects in underrepresented countries (countries with less than 10 registered CDM projects). Since Bangladesh is one of the underrepresented country in the CDM registration (only two projects are registered till date, both through IIDFC), the project will get the advantage/relaxation in CDM registration.

10. The project participants are expected to have considered CDM seriously while taking the investment decisions on the project. This must be demonstrated with documentary evidence. Projects with starting dates after 2 August 2008 must inform the Designated National Authority and/or UNFCCC Secretariat within six months of the project start date, with precise geographical location of the project. For project activities that started before 2 August 2008, the project documentation must indicate awareness of the CDM prior to the project activity start date, and it must show that the anticipated benefits of CDM were a decisive factor in the decision process to proceed with the project. Evidence to support this
would include, inter alia, minutes and/or notes related to the consideration of the decision by the Board of Directors, or equivalent, of the project participant, to undertake the project as a CDM project activity.

11. Under the recently elaborated rules in case the starting date is prior to the beginning of the validation of the project, the project participants have to provide documentary evidence to show that they were aware of CDM and seriously considered CDM registration necessary for implementing the project. At this stage, the starting date of the proposed finance program is November 2011. Representatives of IIDFC have been in touch with the ADB Technical Support Facility and have attended several awareness programs on CDM and are thus well versed with it.

12. CDM projects are expected to establish a baseline scenario, which would have prevailed had the CDM project not been undertaken. To do this, the CDM Executive Board has approved several methodologies from which the project participants have to select the most appropriate one for the scope of the proposed project. In case there is none that is directly applicable to the project, the project participants may propose either a new methodology or request the revision of an existing approved methodology which with some modifications could be applied to the scope of the proposed project. The proposed finance program falls under the sectoral scope 01: Energy Industries (Renewable/Non-Renewable) and is covered under the approved methodology AMS-II.D, Energy Efficiency and Fuel Switching Measures for Industrial Facilities. IIDFC will bundle 10 HHK brick kilns into one Project Design Document (PDD).

13. Based on the application of the above mentioned methodology, the proposed portion of the finance program (through the bundling of 10 HHK brick kilns) is likely to result in emission reductions of around 55,000 tons of CO2e each year.

14. CDM is a performance based mechanism, which means that CERs will only be issued to projects which are properly monitored, verified and certified by an independent agency called the designated operational entity (DOE). The project will have to establish an operation and monitoring plan, as required by the applied approved methodology. This operation and monitoring plan will be defined in the PDD, which will need to be validated by the DOE.

E. Support from ADB under the Credit Marketing Facility

15. ADB has taken several initiatives to mainstream climate change considerations into its funding. The current CDM support program of ADB is administered through the Carbon Market Initiative (CMP), managed by the Sustainable Infrastructure Division of the Regional and Sustainable Development Department. CMP has three components:
   (i) Upfront carbon financing through the Asia Pacific Carbon Fund (APCF) and the Future Carbon Fund (FCF);
   (ii) CDM related technical support through the Technical Support Facility (TSF); and
   (iii) Marketing support for residual carbon credits through the Credit Marketing Facility (CMF).

16. The APCF is a fund established and managed by ADB which co-finances CDM projects in its DMCs by securing a portion of the expected future CERs from CDM-eligible

---

3 As per the CDM Glossary of terms, Starting date is defined as earliest date at which either the implementation or construction or real action of a project activity begins. It is the date on which the project participant has committed to expenditures related to the implementation or related to the construction of the project activity. This, for example, can be the date on which contracts have been signed for equipment or construction/operation services required for the project activity (Paragraph 67, Executive Board 41 report).
projects (that are generated up to 31 December 2012) in exchange for upfront finance. The FCF can similarly provide upfront financing by purchasing credits that will be generated during the period 2013 – 20. The TSF provides comprehensive technical support to project sponsors to develop CDM-eligible projects, thus contributing to a continuous pipeline of “viable” clean energy projects that may be considered for ADB financing and upfront funds from the APCF. The CMF provides marketing support services to project sponsors in obtaining optimal prices and sale terms for CERs in the open market. The CMP assistance covers the:

(i) PDD preparation;
(ii) Assistance in validation/registration;
(iii) Purchase of part of CERs by APCF/FCF and upfront funding;
(iv) Assistance in marketing of balance CERs;
(v) Capacity building.

17. ADB CMP shall support the proposed finance program through its national expert in Bangladesh as well as through CDM experts based at ADB headquarters.

F. Transaction Costs of CDM Registration/ Revenue Potential

18. The CDM project registration with UNFCC requires various activities to be completed as per the CDM guidelines. These include: (i) the preparation of CDM documents (PDD preparation), (ii) approval from Designated National Authority (DNA), (iii) project validation by an international DOE/validator, and (iv) the registration with UNFCC. For documentation, the project entity may need the assistance of a CDM consultant. The project might require various interventions to progress the CDM documentation and process at various stages of the PDD preparation. These interventions are usually done by third party consultants and include the following processes/costs: (i) in some countries, the DNA Authority charges fees to obtain host country approval (HCA) (in Bangladesh there are no fees for HCA); (ii) to validate the project a third party designated operational entity (DOE) charges fees, which vary according to the complexities in the project – the total CDM (one-off) validation fees required for this (bundle of 10 HHK projects) subproject will be around $70,000 to $110,000; and (iii) the UNFCC Registration fees will depend on the quantum of CERs generated by a CDM project annually. These registration fees will have to be paid to the UNFCCC Secretariat by the project proponent. Since the subproject activity of energy efficient brick kilns is a small scale CDM projects, there will be no registration fees charged by the UNFCCC.

19. Once implemented, the project participants have to monitor the parameters as required by the CDM methodology that is being utilized. The monitoring cost will depend on the required level of instrumentation and the level of skills of the people undertaking the monitoring. The proposed project entity would internalize the cost of monitoring or hiring an independent agency for monitoring of the project. The project operation and the monitoring report prepared by the project entity will be verified by either the same DOE who validated the project (for small scale CDM projects) or by another DOE (for normal scale CDM project) before being certified. The DOE will charge fees for each verification.

20. The implementing agency (or the project participant) will generally enter into a CER purchase agreement (CERPA) with a buyer at an appropriate stage of processing. The price of CERs contracted will normally be stated in the CERPA or could be set by spot market CER prices. In case of the proposed project, the implementing agency, IIDFC, would enter into CERPA with FCF. The negotiations for this are in progress.
G. Timeline and Responsibilities

21. TSF is carrying out the detailed CDM assessment of the project activity. On approval of the finance program by December 2011, the preparation of project CDM documents required for project registration with UNFCCC for CDM benefits will have commenced.

22. It is expected that by April 2012, all necessary CDM documents, as per UNFCCC guidelines will be ready for further processing.