

TECHNICAL ASSISTANCE COMPLETION REPORT

Division: EAEN

TA No. and Name TA 3079-PRC: Promotion of Clean Technology			Amount Approved: \$3,500,000	
			Revised Amount:	
Executing Agency: National Development and Reform Commission	Source of Funding: Technical Assistance Special Fund (TASF) and Japan Special Fund (JSF)		TA Amount Undisbursed \$332,793	TA Amount Utilized \$3,167,207
Date			Completion Date	
Approval 29 Sep 1998	Signing 3 Feb 1999	Fielding of Consultants 26 July 1999	Original 30 Jun 2001	Actual 1 Jul 2004
			Closing Date	
			Original 30 Jun 2001	Actual 30 Jun 2005
Description				
<p>Over the past two decades, the People's Republic of China (PRC) economy has expanded rapidly. From 1990 to 2005, gross domestic product has grown by about 9% annually. However, the rapid economic growth has been achieved at heavy environmental and social costs. Environmental losses are estimated to comprise approximately 3% of the annual GDP. The high economic losses reflect waste and inefficiency in the utilization of energy, raw materials, and other resources in the production of goods and services. This is partially a legacy of inappropriate pricing policies with inadequate incentives for energy and materials conservation in industrial processes. Preventing pollution by cleaner production (CP) processes represents a strategic link between economic development and environmental protection in the PRC. Although the Government of PRC (the Government) has taken significant measures in reforming industrial practices, there are still a number of barriers for implementation of CP technology, including lack of legislative incentives, administered pricing of natural resources and weakness in industrial management expertise. The TA was designed to address the key barriers for CP technology uptake into the PRC industrial sector. Due to the inter-ministerial nature of CP implementation, a cluster approach was adopted.</p>				
Expected Impact, Outcome and Outputs				
<p>The overall goal of the TA 3079-PRC was to help improve national-level policies, institutional capacity, and financing mechanisms for the promotion, and application of CP technologies to achieve sustainable environmental development. The objective of the TA was to support the use of CP technology and associated pollution reduction by (i) improving the policy framework to remove current implementation barriers, (ii) building the capacity of the concerned agencies, (iii) improving access to information on CP technology, and (iv) developing new project financing concepts and market orientated incentives to introduce and adopt CP. The TA consisted of the following six outputs:</p>				
<p>Output 1. Policies for Promotion of Clean Technology. The output was designed to formulate strategies for implementation of CP technologies. The output (i) reviewed the impact of existing environmental, investment and pricing policies on industrial adoption of CP practices, and (ii) prepared medium and long term action plans for development and implementation of policies to promote CP.</p>				
<p>Output 2. National Network for Clean Technology Transfer. The output established regional centers for Environmentally Sustainable Technology Transfer in Tianjin and Chengdu through the following tasks; (i) capacity building of professional staff through hands-on audit training and training workshops in February, March and April 2001, (ii) development of environmental audit procedures and commencement at 20 test sites, (iii) procurement of equipment and materials for the regional centers, (iv) installation of information management systems at the two regional centers and the Beijing center, (v) provision of business and project finance training, (vi) public information dissemination activities and launch workshops, and (vii) development of business plans for self sustaining operations.</p>				
<p>Output 3. Legislative Support for Clean Technology. The output included; (i) training of legislative drafters in November 2000, (ii) holding CP Legislation Seminar in June 2001, (iii) drafting of Cleaner</p>				

Production Law, and (iv) holding workshop in October 2001 to review Cleaner Production Law.

Output 4. Clean Technology Development. The output evaluated the financing alternatives for the adoption of CP technologies in key industrial sectors. This included (i) analyzing existing institutional and financial mechanisms and barriers to adoption of CP technologies, (ii) providing recommendations on innovative funding mechanisms for adoption of CP technologies, (iii) development of a management “framework” for screening of potential CP technologies and projects, and (iv) identifying 18 potential projects in key industry sectors in Changzhou, Chengdu and Tianjin to demonstrate the CP screening framework.

Output 5. Environmental Management for Cleaner Production. The output provided assistance to the State Environmental Protection Administration (SEPA) and the provincial and local environmental protection bureaus to develop environmental controls and improve compliance enforcement, especially relating to CP and ecological industry partnerships. The output focused specifically on (i) command and control system, (ii) market-based instruments, and (iii) voluntary measures. Specific activities included (i) analyzing current practices in PRC and internationally, (ii) providing recommendations regarding improvement of compliance, (iii) preparation and analysis of case studies, and (iv) development of action plans at the factory and government level for specific industries.

Output 6. Financing Mechanism for Cleaner Production. The output identified strategies to promote adoption of CP in Town and Village Enterprises (TVE’s) and Small and Medium Enterprises (SME’s), including (i) conducting a financing needs survey and assessed financing mechanisms appropriate for SME’s, (ii) identifying financing barriers and development of a long term financing plan, (iii) identifying short term interventions and priority areas for CP investments, and (iv) developing two preliminary loan concepts.

Delivery of Inputs and Conduct of Activities

A consortium of international consulting firms was engaged in accordance with ADB’s Guidelines on the Use of Consultants to carry out the TA. The international consulting team comprised 22 specialists (total 93 person-months) and the domestic consulting team comprised 34 specialists (total 275 person-months). The consulting team had the appropriate technical skills to carry out the assignment. Final reports were completed in August 2001 (Output 1), June 2002 (Output 2), November 2002 (Output 3), March 2003 (Output 4), May-July 2004 (Output 5), and November 2003 (Output 6). ADB was satisfied with the quality of the work conducted by the consultant team¹. The relative cost of the inputs compared to the outputs derived from the TA is considered acceptable.

There are six separate implementing agencies for the outputs with the National Development and Reform Commission (NDRC) acting as coordinating agency. The implementing agencies are NDRC (Output 1), Ministry of Science and Technology (Output 2), Environment and Resource Protection Committee of the National People’s Congress (Output 3), State Economic and Trade Commission (Output 4), SEPA (Output 5) and Ministry of Agriculture (Output 6). The implementing agencies were generally satisfied with the performance of the consultants. ADB provided close supervision of the project progress through regular correspondence and review missions. The performance of ADB and the implementing agencies are rated as satisfactory.

Evaluation of Outputs and Achievement of Outcome

Output 1. Policies for Promotion of Clean Technology. The medium and long term action plans developed under this output were instrumental in incorporating CP into PRC’s 10th Five-Year Plan.

Output 2. National Network for Clean Technology Transfer. The output successfully established two regional technology centers for evaluation and dissemination of appropriate CP technology. The TA provided staff capacity building, hardware, and operating procedures to ensure sustainable operations. The two centers have played an important ongoing role in regional incorporation of CP technology into industrial operations.

Output 3. Legislative Support for Clean Technology. The Draft Cleaner Production Law developed under this output was approved by the National People’s Congress on 29 June 2002.

Output 4. Clean Technology Development. The output provided innovative, practical financing

¹ ADB Consultant Performance Evaluation Report classified the consultant as “satisfactory”.

modalities for adoption of clean technologies in target industrial sectors. A number of the proposed financing modalities have since been utilized in PRC to support CP. The output has been instrumental in raising awareness of alternative CP financing modalities amongst government and project developers.

Output 5. Environmental Management for Cleaner Production. The output provided guidance on environmental management compliance, relating to CP and ecological industry partnerships. In recent years, the Government has made significant improvements in enforcement of environmental compliance. This output has directly contributed to identification of optimum environmental management compliance techniques utilized by the Government.

Output 6. Financing Mechanism for Cleaner Production. The output identified detailed specific strategies for promotion of CP in TVE's and SME's. The results were presented to a range of Government officials and project proponents. A number of report recommendations, including introduction of financing modalities and development of "clean energy" projects, have since been implemented in Gansu and Guizhou Provinces. The output has directly contributed to identification of optimum financing modalities.

Overall Assessment and Rating

The TA is considered to have achieved the targeted impacts through development of national-level policies, improved institutional capacity and provision of alternative financing mechanisms. The TA has assisted in developing CP technology in PRC through (i) development of CP implementation strategies, (ii) identification of alternative financing mechanisms, particularly in TVE's and SME's, (iii) improved implementation capacity through development of regional CP promotion centers for ongoing promotion of CP, (iv) improved legislative support, particularly through development of the Cleaner Production Law, (v) provision of support for improved industry environmental compliance, and (vi) capacity improvement of relevant agencies and project proponents in key industry sectors. Through improved development of CP technology in PRC, the TA has contributed to sustainable development objectives. The cluster approach is considered largely successful as it provided comprehensive coverage of a complex topic which is both inter-ministerial and cross sectoral in nature. The TA completion date was delayed on a number of occasions. This was primarily due to the complexity of implementing 6 individual projects with different implementing agencies. Some delays were also experienced due to the SARS incident. The consultant's output was satisfactory and the recommendations provided were innovative and practical and had been established through close consultation with ADB and the PRC government. The TA is rated as successful.

Major Lessons

The use of the cluster approach for this TA is considered effective due to the complex nature of the topic and the requirement for simultaneous intervention on a number of levels, as reflected by the varying scope of the outputs. However, considerable effort was required to ensure each output was adequately targeted to produce demonstrable outcomes in key industry sectors. Development of CP technologies had the additional impact of improving energy efficiency and conservation of resources. Integration of the TA recommendations into government policy will require long-term engagement of a number of PRC government ministries over an extended period of time. This TA should be treated as an important step in assisting the PRC to mainstreaming CP technologies in a range of industrial sectors.

Recommendations and Follow-Up Actions

ADB should maintain direct dialogue with the relevant Government officials to provide further technical guidance, as required. Incorporation of CP technologies in PRC is currently continuing through loans to a number of industrial sectors. Between 1992 and 2001, ADB approved nine projects in PRC that included use of CP technologies (one ongoing, eight closed). ADB interventions into PRC industry, through both public and private sectors, should directly utilize the recommendations presented in this TA.

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