PROJECT INFORMATION DOCUMENT (PID)
CONCEPT STAGE

Report No.: PIDC1114

Project Name	Hebei Rural Renewable Energy Development Demonstration Project (P132873)
Region	EAST ASIA AND PACIFIC
Country	China
Sector(s)	Other Renewable Energy (50%), General agriculture, fishing and forestry sector (50%)
Theme(s)	Rural services and infrastructure (50%), Climate change (50%)
Lending Instrument	Investment Project Financing
Project ID	P132873
Borrower(s)	People's Republic of China
Implementing Agency	Hebei Provincial Rural New Energy Office
Environmental Category	B-Partial Assessment
Date PID Prepared/ Updated	25-Aug-2013
Date PID Approved/ Disclosed	26-Aug-2013
Estimated Date of Appraisal Completion	15-Jul-2014
Estimated Date of Board Approval	20-Feb-2015
Concept Review Decision	Track I - The review did authorize the preparation to continue

I. Introduction and Context

Country Context

China’s economy has experienced remarkable growth over the past several decades, but this growth has been accompanied by an increase in social and environmental challenges. Intensive agricultural farming and the expansion of livestock production in the rural areas are considered viable means for creating rural income and employment and secure a food supply. However, the rapid agricultural development poses a threat to the local environment and public health. Every year, around 728 million tons of crop residues are produced by farming and most is used by households as fuel or burned in open fields. This is causing significant indoor and outdoor air pollution in the rural areas. The livestock farms in the rural areas also produce around 3,926 million tons of livestock manure every year, which leads to serious pollution from the inappropriate manure treatment. Traditionally, livestock manure is stored in open lagoons or piled up on farms and discharge from the livestock waste affects surface and ground water quality.

Chinese government is paying considerable attention to pollution reduction in the rural areas as it is one of the top priorities of China's national rural development strategy. It promotes installation and operation of biogas facilities, which would use crop residues and animal wastes as the feedstock to product biogas mainly for rural residents cooking and heating. It is proven an effective way to reduce pollution from agricultural waste and provide clean energy to replace the use of coal by households and other rural residents to reduce greenhouse gas (GHG) emissions. As set by the national agricultural 12th Five-year Plan (FYP) for 2011-2015, by 2015 waste treatment facilities should have been built at around 50% of all livestock farms. By the same year, 55 million households should be able to access biogas, of which around 3 million households should be able to access it from large-scale biomass facilities. In addition, the Government's energy development strategy targets to increase the share of non-fossil fuels in primary energy from 8 percent in 2011 to 15 percent by 2020, as well as it commitments to reduce carbon intensity by 40-45 percent from 2005 to 2020. Biogas generation and supply would be a key supplementary clean fuel source in rural areas.

Sectoral and Institutional Context

Hebei, as one of China's leading agricultural provinces, is endowed with abundant resources for agricultural biomass and has a large production of livestock. The negative environmental impacts of the intensive farming and concentrated livestock production in Hebei basically reflect the overall situation in China, with Hebei experiencing even heavier pollution as a result of rapid agricultural growth. In addition, around 40 million rural residents in Hebei largely rely on coal and wood-fuel for individual household cooking and heating. This also results in heavy indoor pollution and serious health problems.

The Government of Hebei considers that biogas utilization is an effective approach to address the problem of environmental degradation and to provide clean cooking and heating energy in rural areas. Over the last five years, with the support of national subsidy programs for biogas development, hundreds of medium and large-sized biogas digesters and millions of household-based biogas digesters have been installed in the province. Developing biogas program continues to be one of the key development goals outlined in the 12th FYP (2011-2015) of the Hebei Rural Development Strategy. The project would contribute to the achievement of the objectives of the Hebei 12th FYP, which targets improving environmental conditions and generating renewable energy in rural areas.

Though the development of large-scale biogas program has become increasingly important in rural development, a number of barriers are preventing the effective operation of larger-scale biogas plant programs in China, such as the barriers on technology, operational skills, financial viability, and biogas distribution. As a result, a majority of large-scale biogas projects have yet proven their long-term operational stability with performing significantly below design capacity. The Government, therefore, is seeking for the Bank' support to tackle the challenges and demonstrate sustainable biogas program management in China.

Relationship to CAS

The project is consistent with the Bank's Country Partnership Strategy (CPS 2013-2016 of November 6, 2012). Overall, the project would benefit to improving rural environment and generating biogas mainly for households and other residents cooking and heating in rural areas. The project objective is in line with the CPS, which calls for supporting greener growth with better ways

to integrate biogas in farming, improved livestock waste management, and the adoption of cleaner and more efficient household energy solutions in rural areas.

II. Proposed Development Objective(s)

Proposed Development Objective(s) (From PCN)

The proposed Project Development Objective (PDO) is to demonstrate sustainable renewable energy production and utilization to reduce environmental pollution and supply clean energy in rural areas.

Key Results (From PCN)

A monitoring plan, including the formulation of key results and indicators, will be developed during project preparation. Tentatively, the following results are expected from the implementation of the project:

(a) Technical best practice and a sustainable operational model for a large-scale biogas project demonstrated;
(b) Experience with a solar and biomass pellets hybrid system piloted;
(c) Improved environmental conditions in project areas;
(d) Improved energy services in project areas from clean energy sources, including biogas, solar, and biomass;
(e) Greenhouse gas emissions mitigated;
(f) Renewable Energy to households provided.

III. Preliminary Description

Concept Description

The following components and main activities were proposed in PCN stage:

(a) Component 1: Large-scale biogas facilities development and sustainable management. The proposed project activities are expected to demonstrate sustainable large-scale biogas facilities management and biogas supply to mainly meet local rural community/resident cooking and heating energy needs.

(b) Component 2: Pilot of the use of solar energy and biomass pellets combustion hybrid heating system. The PCN review meeting decided to further discuss with client to remove this component from the project during the project preparation.

(c) Component 2: Technical support, project management, and monitoring. This component includes technical services, training and extension, policy advice, monitoring and evaluation, and project management. In addition, provincial-level central laboratory and subproject based laboratories will be established and guidance and operational manuals for the biogas digester operation and biogas supply services, as well as slurry application would be developed.

Around 12 subprojects were proposed by project agencies and around 10 provincial and county energy companies and livestock farms are proposed as the project entities/project

IV. Safeguard Policies that might apply

Safeguard Policies Triggered by the Project	Yes	No	TBD
Environmental Assessment OP/BP 4.01	x		
Natural Habitats OP/BP 4.04		x	
Forests OP/BP 4.36		x	
Pest Management OP 4.09		x	
Physical Cultural Resources OP/BP 4.11		x	
Indigenous Peoples OP/BP 4.10		x	
Involuntary Resettlement OP/BP 4.12	x		
Safety of Dams OP/BP 4.37		x	
Projects on International Waterways OP/BP 7.50		x	
Projects in Disputed Areas OP/BP 7.60		x	

V. Financing (in USD Million)

Total Project Cost:	200.00	Total Bank Financing:	100.00
Total Cofinancing:		Financing Gap:	0.00

Financing Source	Amount
Borrower	100.00
International Bank for Reconstruction and Development	100.00
Total	200.00

VI. Contact point

World Bank

Contact: Jin Liu
Title: Senior Rural Development Specialist
Tel: 5788+7687
Email: jliu@worldbank.org

Borrower/Client/Recipient

Name: People's Republic of China
Contact: Mr. Licheng Yao
Title: Director
Tel: 86 10 68551174
Email: yaolicheng@mof.gov.cn

Implementing Agencies

Name: Hebei Provincial Rural New Energy Office
Contact: Mr. Wang Xiangxue
Title: Director of PMO
Tel: 0086-1533-3310-209
Email: wb_hebei 2012@163.com

VII. For more information contact:

The InfoShop
The World Bank
1818 H Street, NW
Washington, D.C. 20433
Telephone: (202) 458-4500
Fax: (202) 522-1500
Web: http://www.worldbank.org/infoshop