

**INTEGRATED SAFEGUARDS DATA SHEET
APPRAISAL STAGE**

Report No.: ISDSA12256

Date ISDS Prepared/Updated: 16-Feb-2015

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I. BASIC INFORMATION

1. Basic Project Data

Country:	China	Project ID:	P132873
Project Name:	Hebei Rural Renewable Energy Development Project (P132873)		
Task Team Leader(s):	Jin Liu		
Estimated Appraisal Date:	30-Jun-2014	Estimated Board Date:	13-Mar-2015
Managing Unit:	GENDR	Lending Instrument:	Investment Project Financing
Sector(s):	Other Renewable Energy (50%), General agriculture, fishing and forestry sector (50%)		
Theme(s):	Rural services and infrastructure (50%), Climate change (50%)		
Is this project processed under OP 8.50 (Emergency Recovery) or OP 8.00 (Rapid Response to Crises and Emergencies)?			No
Financing (In USD Million)			
Total Project Cost:	150.78	Total Bank Financing:	71.50
Financing Gap:	0.00		
Financing Source			Amount
Borrower			79.28
International Bank for Reconstruction and Development			71.50
Total			150.78
Environmental Category:	B - Partial Assessment		
Is this a Repeater project?	No		

2. Project Development Objective(s)

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

3. Project Description

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 farming and the expansion of livestock production in the rural areas are considered viable means for creating rural income and employment and securing food supply. However, the rapid agricultural development poses a threat to the local environment and public health. Every year, around 690 million tons of crop residues are produced by agricultural farming and most of them are used by households as fuel or burned as waste in open fields. This causes significant indoor and outdoor air pollution. The concentrated livestock farms in the rural areas also produce serious pollution due to inappropriate animal manure treatment. The proposed project will support installation and operation of biogas facilities that use crop residues and animal wastes as the feedstock to generate biogas mainly for rural residents cooking. This would be an effective way to reduce pollution and provide clean energy in rural areas.

The proposed project would encompass the following two components and main activities:

Component 1: Large-scale biogas facilities management and renewable energy supply

Under this component the national and international best practice in developing large-scale biogas facilities will be demonstrated. Series biogas facilities will be installed and operated in Hebei to effectively convert agricultural wastes (specifically crop residue and livestock manure) to biogas, to provide stable clean energy to local rural residents. It is expected that annually the project will produce around 42 million m³ of biogas and around 221,700 ton crop residues and 241,600 ton livestock manure will be appropriately treated as feedstock for the biogas production. The biogas will be provided to around 96,100 rural households mainly for cooking energy. The remaining biogas, after supplying the target rural residents, will be upgraded and used as vehicle fuel. An estimated around 7 million m³ of compressed natural gas (CNG) will be produced annually, which will support public transportation in the project counties.

Component 2: Technical support, project management, and monitoring

This component will support technical services, training, monitoring and evaluation, and project management. Specifically, (a) an expert team will be contracted by provincial project management office (PPMO) to provide technical assistance to the project implementation; (b) on each of the subprojects a sample laboratory will be established for day-to-day biogas facilities performance monitoring by analyzing fermenting conditions and testing biogas and slurry; (c) a monitoring system will be established both at subprojects to monitor their individual biogas system operation; and at provincial level to monitor overall project biogas system operation, project performance and its impacts; (d) around 1,800 person/day trainings will be arranged for project technical and management staff at provincial and county levels, in particular for the local technical staff at the subproject implementation units (PIUs) to obtain the skills in operating subprojects; and (e) Operational Manuals for biogas digester operation and biogas digestate application will be developed to guide the Hebei biogas program management.

4. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

Project areas are in rural areas of Hebei Province with vast agricultural land and many concentrated livestock farms. A large amount of crop residue and animal waste are produced, which cause air, water and soil pollution in those areas and appropriate agricultural waste treatments is urgently needed to reduce pollution. The project includes six biogas facilities and they are located in six

counties in Hebei, including Anping, Yutian, Zunhua, Linzhang, Chengde, and Laoting Counties. Six provincial and county energy/biogas companies and livestock farms are selected as the project entities/PIUs.

5. Environmental and Social Safeguards Specialists

Meixiang Zhou (GSURR)

Yiren Feng (GENDR)

6. Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	The proposed project is classified as Category B according to OP4.01. An Environmental Management Plan (EMP), which has all the elements of EIA has been prepared for the project. The EMP includes Environmental Codes of Practice (ECOP) and an Environmental Management Framework (EMF).
Natural Habitats OP/BP 4.04	No	The project is located in the rural areas with intensive agricultural activities and no natural habitats are in or near the project areas. Excluding or not nearing natural habitats is also set as a criterion for subproject site selection.
Forests OP/BP 4.36	No	Feedstock of the biogas facilities will be existing crop residues and livestock manures. The project will not finance any activities related to forests, as well as not use any of forest products as biogas feedstock.
Pest Management OP 4.09	No	The project will only use crop residues from existing farm land, thus no increased agricultural production and no use of pesticides are envisaged as a result of the project.
Physical Cultural Resources OP/BP 4.11	No	The project is located in the rural areas with intensive agricultural activities. The proposed sites are not in or close to any physical cultural heritage. This policy is not triggered. However, chance finds during construction may occur and relevant clauses will be included in all bidding documents and construction contracts to address this situation. Excluding and not nearing physical cultural heritage is also set as a criterion for subproject site selection.
Indigenous Peoples OP/BP 4.10	No	A social assessment was undertaken by the task team and external consulting team. The assessment findings confirmed that there is no ethnic minority community in the proposed project sites. In the proposed project localities, only a few Hui and Man people live scattered with Han people, but they are well integrated with local majority Han communities for very long time, as well as intermingled with mainstream society. These ethnic minorities do not

		fit the definition of the Bank IP. Therefore, the Bank OP/BP 4.10 is not applicable to this project.
Involuntary Resettlement OP/ BP 4.12	Yes	<p>The project will finance the construction of biogas facilities and biogas supply pipeline networks in project counties. The land acquisition is needed for three biogas facilities. Some temporary land occupation for the biogas pipe network and proposed 4 CNG station sets might need additional land acquisition. The Bank OP 4.12 involuntary resettlement policy is triggered.</p> <p>A consolidated Resettlement Action Plan (RAP) for the three subprojects and a separate RAP for each of the subprojects that need to acquire new land were prepared. In addition, a Resettlement Policy Framework (RPF) was also prepared for potential land acquisition that might be identified during the project implementation.</p>
Safety of Dams OP/BP 4.37	No	The project will not finance nor will any of its activities depend on a dam as defined under the policy.
Projects on International Waterways OP/BP 7.50	No	The policy is not triggered as the project does not involve trans-boundary rivers.
Projects in Disputed Areas OP/ BP 7.60	No	The policy is not triggered as the project does not involve any disputed areas.

II. Key Safeguard Policy Issues and Their Management

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

The proposed project was originally designed to include two batches of subprojects, for which the first batch would utilize USD 71.5 million in IBRD loan and the second batch would utilize USD 28.5 million in IBRD loan, for a total of USD 100 million in IBRD loan. As it was intended that the second batch of subprojects would be identified and prepared under a framework approach during project implementation, the Environmental Assessment (EA) and Social Assessment (SA) conducted during project preparation focused on the first batch of subprojects. However, in the later stages of project preparation, the project agency decided to downsize the overall project and only include the appraised first batch of subprojects which would utilize USD 71.5 million of IBRD loan. The provisions made for identification, preparation and appraisal of a second batch of subprojects were therefore cancelled. The final EA and SA documentation prepared under the project are therefore fully consistent with the final scope of the project.

The EA and SA have not identified any potential large scale, significant and/or irreversible impacts. The project is designed to demonstrate sustainable biogas production and utilization to improve the environment and supply clean energy in rural areas. It will mainly generate positive environmental and social impacts, such as reducing land and water pollution, indoor and outdoor

air pollution and greenhouse gas (GHG) emissions. It will also contribute to the improvement of farm land soil nutrient and agricultural product quality by supplying bio-fertilizer to replace chemical fertilizers.

OP 4.01 Environmental Assessment is triggered as some negative and short-term construction and long-term operational impacts may result from project implementation. During the construction period of the facilities, small civil works will lead to limited negative impacts on ambient air, water, and acoustic environments and create solid waste. These negative impacts will be small in size, short-term, temporary and site-specific. During the operation phase of the facilities long-term impacts will exist, including the disposal of livestock waste, the need for wastewater treatment, and other impacts associated with the operation and maintenance of biogas facilities and distribution pipelines. The proposed mitigation measures have been integrated into the project design.

OP 4.12 Involuntary Resettlement is triggered as land acquisition is needed for some project sites. The project will finance the construction of six biogas facilities, biogas supply pipeline networks in all the project counties, and four biogas CNG stations in Laoting, Zunhua and Anping Counties. Three of the six proposed subprojects (Laoting, Linzhang, and Chengde) will totally acquire 215 mu (about 15 ha) land for construction of these biogas facilities. The total number of affected people will be 203 in 45 households due to land acquisition. The remaining three subprojects (Yutian, Zunhua, and Anping) have existing land available for the civil works construction of biogas facilities under the project. In addition, during the project implementation, the construction of CNG station sets and temporary land occupation for the pipe network might need additional land acquisition. The consultations have been conducted in the project areas with the affected rural households and other stockholders, and relevant assessment work has been done with the detailed mitigation measures agreed and arranged.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

The project will support biogas production and utilization by effectively converting agriculture wastes, specifically crop residue and livestock manure, to biogas. It will reduce ground water pollution caused by current inappropriate livestock manure treatment in concentrated livestock farms and air pollution caused by burning crop residue in open field. It will also bring benefits to rural residents by increasing access to clean and easy-to-use energy to replace the use of coal and crop residue as cooking fuel, which will reduce indoor air pollutions. The reduction of indoor and outdoor pollution will contribute to the improvement of local people's health and living environment. In addition, the digestate/ organic fertilizer produced by the project, which is rich in nitrogen, phosphorus, potassium, and micronutrients, will replace chemical fertilizers to reduce soil pollution and increase the quality and safety of agricultural products. As a result, the project will bring multiple social, economic and environmental benefits in the promotion of rural waste management, renewable energy supply, and green agricultural development.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

During the feasibility study phase, the environmental assessment team worked closely with the PPMO, PIUs and project designers to compare and evaluate alternatives. The EMP identified, evaluated and compared various options for biogas facility locations, pipeline alignments, and technological processes. The optimal alternatives were selected based on the avoidance of social and environmental impacts (or for having the least adverse impacts), as well as other technology and financial considerations. A "no project" scenario was also considered.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

Environmental Assessment (OP 4.01). An EMP, including an ECOP and EMF, was prepared by the Hebei Jingmiao Environmental Consulting Ltd Co. It was prepared in accordance with the domestic and Bank requirements and covers the project area of influence.

To enhance the positive and long-term environmental benefits of the project, mitigation measures have been integrated into the project design in construction and operation phases respectively. The potential adverse environmental and social impacts are thoroughly addressed, which are detailed in the EMP. Bank review has concluded that these adverse environmental and social impacts can be adequately avoided and mitigated with good management practice and mitigation measures, as developed in the EMP. All mitigation measures related to contractors will be included in the bidding documents and the corresponding contracts. The EMF was prepared as an annex to the EMP with clearly defined objectives, procedures, institutional framework, and implementation arrangements for identifying and managing potential environmental impacts from proposed biogas facilities. It is requested to be used to guide the environmental assessment for any potential project adjustments and additional technical design during the project implementation.

The potential risks associated with the biogas plants and gas pipelines have been identified as fire and explosion. A parallel safety assessment has been conducted as part of the project preparation to cope with these potential risks. This includes the institutional arrangements, mitigation measures and management system, emergency planning and response, as well as training and monitoring plans.

Environmental management responsibilities are built into the overall project management structure, with dedicated management staff to be responsible for the EMP implementation. Detailed environmental monitoring program and training plan were prepared as parts of the EMP. The monitoring plan details the environmental monitoring requirement during the project construction and operational phases, including parameters to be monitored such as the quality of air, wastewater, solid waste and noise, as well as monitoring arrangements. The environmental monitoring plan and training plan are integrated into the project's overall M&E and training plans with adequate budget allocated.

OP 4.12 Involuntary Resettlement. A project social assessment was conducted in the proposed project areas. Invited by the project entities, very experienced sociologist consultants from China Resettlement Center of Hehai University took leader of the project SA exercise, in cooperation with the project staff and the local authorities. Through extensive consultation with project stakeholders in particular the farmers living in the project areas, the project SA report was prepared to inform the project design the critical social factors that would affect or be affected by the project, and recommend appropriate measures to minimize potential social risks that could be brought about by the project, as well as the actions that should be taken to mitigate the identified risks during the project implementation.

In particular, for each of the three subprojects involving land acquisition, a RAP has been prepared, along with a consolidated RAP. A RPF has also been prepared to guide any potential land acquisition, as a small volume of extra land needs could not be determined during the project preparation period in terms of specific locations, routes and sizes for biogas supply pipe networks and the proposed CNG station sets. The RAPs have set comprehensive mitigation measures,

grievance redress mechanism, monitoring and evaluation plan, institutional arrangements and capacity building plan. They will be strictly implemented during project implementation, following Chinese government laws and regulations and complying with the Bank OP/BP4.12 policy. The implementation of RAPs and RPF will be regularly monitored both internally and externally throughout the project implementation period.

The PPMO will take overall responsibility for coordinating and overseeing the implementation of the RAPs, while each PIU will take its respective responsibility for the implementation of its own RAP, including implementing the resettlement plan, monitoring the implementation of the mitigation measures together with related local authorities and stakeholders, and promoting good practice in resettlement and social development. The PPMO will monitor overall land acquisition activities and other action plans set in the SA report, and, as necessary, take remedial action. The PPMO will also contract an external consulting institute for independent monitoring and evaluation of the implementation of the project RAPs (including the RPF). Dedicated social staff at the PPMO and each of PIUs have been assigned to coordinate social safeguards work together with the relevant local government departments.

Institutional Assessment. A Project Leading Group headed by a vice-governor and consisting of members from key line departments such as the Hebei Provincial Finance Department, Development and Reform Commission, Agriculture Department and Energy Department has been established at the provincial level to provide overall guidance and coordination to the project preparation and implementation. The PPMO and PIUs have also been established with adequate staff to be responsible for the project design and implementation, including social and environmental safeguards, procurement and financial management. The staff in PPMO and PIU have rich experience in Government biogas program management. However, their experience in implementing the Bank safeguards policy is limited. The Bank task team has assisted clients in improving their capacity during the project preparation by providing more hands-on support to PPMO and PIU through frequent short missions and intensive trainings on Bank project management, including safeguards; and those assistances will be continually provided during project implementation to improve the PMO's capacity in properly implementing the project.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

Key project stakeholders are local governments, individual rural residents (households), village groups and communities in the project areas, as well as the PIUs.

Public consultations with various stakeholders of the project, including expert consultations, questionnaires, meetings, and interviews, were conducted for both environment and social assessment processes. The consulted people cover different gender, socioeconomic and educational backgrounds, and occupations. The majority of those consulted people expressed strong support to the project.

For instance, led by the project SA team, an extensive project information dissemination and consultation campaign was conducted, along with intensive socio-economic survey fieldwork in the areas where land acquisition is needed. Within 12 selected sample villages of the 6 project counties: (a) 33 meetings were held with the farmers affected by land acquisition, with the potential biogas users, and with the crop residue suppliers; 330 farmers (around 30% of which were women) attended the meetings; (b) 768 people from the villages were interviewed, while another 800 local households filled out questionnaire. In addition, 26 meetings with other

stakeholders, including local governmental agencies and PIUs, were also held. The SA identified that the project will bring significant benefits to rural residents by increasing access to clean energy and reducing pollution from traditional livestock manure treatment and direct burning of crop residue. The visited households expressed their interest, enthusiasm, and support for the project and fully understood the potential risks and opportunities associated with the project.

The project design has incorporated countermeasures to address the concerns and requests raised by those consulted, such as in the aspects of safety measures of biogas use, the cost of installation of biogas use facility, training needs for biogas use, and emergency planning and response.

Hebei Province has a minority population of 2.63 million, accounting for 3.9% of its total population. The ethnic minority groups mainly include Man, Hui, Mongolian, Zhuang, Korean, Miao, Tujia, Buyi, Yi, Yao and Bai. During project preparation, the social assessment was undertaken and found a small number of Hui and Man ethnic minority people live scattered with Han people in the subproject sites. Among them, only five Man people will be affected by the project in terms of land acquisition. Those ethnic minority people live mixed-in with the local majority population without significant ethnic characteristics. They speak Mandarin Chinese, have a life style similar to local majority Han people, and have been well integrated with the local majority Han people for a long time. They do not fit the definition of the Bank IP term. It is concluded that the Bank OP/BP 4.10 is not applicable to this project.

In accordance with Bank disclosure policy, prior to project appraisal, the safeguards documents, including the EMP, RAP, and SA report were made available on May 15, 2014 at the PPMO, the PIUs and the Agriculture Departments of participating counties, as well as on the Websites of the Hebei Agriculture Department at <http://www.he.xinhuanet.com/zfwq/xny/>. All safeguard documents were also disclosed at the World Bank InfoShop on June 9, 2014 and the subsequent versions of EMP and RAP on June 16, 2014.

B. Disclosure Requirements

Environmental Assessment/Audit/Management Plan/Other	
Date of receipt by the Bank	25-May-2014
Date of submission to InfoShop	09-Jun-2014
For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors	////
"In country" Disclosure	
China	15-May-2014
<i>Comments:</i>	
Resettlement Action Plan/Framework/Policy Process	
Date of receipt by the Bank	25-May-2014
Date of submission to InfoShop	09-Jun-2014
"In country" Disclosure	
China	15-May-2014
<i>Comments:</i>	
If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.	

If in-country disclosure of any of the above documents is not expected, please explain why:

C. Compliance Monitoring Indicators at the Corporate Level

OP/BP/GP 4.01 - Environment Assessment			
Does the project require a stand-alone EA (including EMP) report?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
Are the cost and the accountabilities for the EMP incorporated in the credit/loan?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
OP/BP 4.12 - Involuntary Resettlement			
Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
The World Bank Policy on Disclosure of Information			
Have relevant safeguard policies documents been sent to the World Bank's Infoshop?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
All Safeguard Policies			
Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
Have costs related to safeguard policy measures been included in the project cost?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]

III. APPROVALS

Task Team Leader(s):	Name: Jin Liu	
Approved By		
Practice Manager/ Manager:	Name: Iain G. Shuker (PMGR)	Date: 16-Feb-2015