

# INTEGRATED SAFEGUARDS DATA SHEET

## CONCEPT STAGE

**Report No.:** ISDSC9818

**Date ISDS Prepared/Updated:** 16-Dec-2014

**Date ISDS Approved/Disclosed:** 16-Jan-2015

### I. BASIC INFORMATION

#### A. Basic Project Data

<b>Country:</b>	China	<b>Project ID:</b>	P148599
<b>Project Name:</b>	Hebei Clean Heating Project (P148599)		
<b>Task Team Leader(s):</b>	Gailius J. Draugelis		
<b>Estimated Appraisal Date:</b>	21-Sep-2015	<b>Estimated Board Date:</b>	25-Feb-2016
<b>Managing Unit:</b>	GEEDR	<b>Lending Instrument:</b>	Investment Project Financing
<b>Sector(s):</b>	Energy efficiency in Heat and Power (100%)		
<b>Theme(s):</b>	Pollution management and environmental health (40%), Climate change (10%), Other urban development (50%)		
<b>Financing (In USD Million)</b>			
<b>Total Project Cost:</b>	188.70	<b>Total Bank Financing:</b>	91.00
<b>Financing Gap:</b>	0.00		
<b>Financing Source</b>			<b>Amount</b>
Borrower			97.70
International Bank for Reconstruction and Development			91.00
Total			188.70
<b>Environmental Category:</b>	A - Full Assessment		
<b>Is this a Repeater project?</b>	No		

#### B. Project Objectives

9. The proposed project development objective (PDO) is to improve the efficiency and environmental performance of heating services in project areas of selected municipalities of Hebei Province.

#### C. Project Description

The proposed project consists of two components: (A) District Heating Subprojects and (B) Project

Management Support and Technical Assistance. Currently, Component A includes physical investments in four subcomponents. The total estimated project costs are RMB 1.160 billion (US \$188.7 million equivalent). The proposed indicative financing plan includes an IBRD loan of US\$91 million, about 48% of total currently estimated project costs, and counterpart funds comprising corporate loans and connection fees from new construction. As standard practice, the proposed IBRD loan will be onlent by the Ministry of Finance to Hebei Province, which will sign a Project Agreement with the Bank, taking primary responsibility for overall project implementation. The IBRD loan will be onlent by the Provincial Finance Bureau to the final administrative unit (i.e. county town) responsible for the project areas. The final administrative unit will onlend the proceeds to the final sub-borrowers, the heating companies, who will be responsible for implementing their subprojects.

#### Component A: District Heating Subprojects

Subproject A1: Chengde District Heating Subproject (estimated cost RMB 282 million; indicative Bank financing \$20 million, RMB 123 million equivalent)

Chengde, a prefecture level city located northwest of Beijing and home of Qing dynasty's summer palace – a UNESCO world heritage site - plans to improve district heating services in the old downtown area. The DH system is supplied by a coal fired 2x330MW Combined Heat and Power (CHP) plant for base load heating and a 2x58MW coal fired peak load boiler. The project proposes to finance (a) DH network extension of about 6.7 km (channel length) new pipeline; (b) 23 group substations, and 153 building level substations; and (c) DH primary network and secondary network rehabilitation, replacement of 4.4 km primary and 57 km secondary pipelines, installation of 64 high quality valves in primary network and 753 balancing valves in secondary network. The investments will extend the district heating network by 2.9 million m<sup>2</sup>, including replacing small boilers that supply about 87,000 m<sup>2</sup> of heating area. The total project heating area is 15.25 million m<sup>2</sup>. The proposed sub-borrower is the Chengde Heating Group Company, Ltd., a state-owned enterprise and the only major district heating company in Chengde.

Subproject A2. Zhangjiakou Qiaodong District Heating Subproject (estimated cost RMB 342 million; indicative IBRD financing US\$ 28 million, RMB 172 million equivalent)

Zhangjiakou, a prefecture level city that is located northwest of Beijing plans to improve the environmental performance and energy efficiency of heating services in the Qiaodong District in the city center. The project heating area is supplied by one large 4x64MWth heat-only boiler (HOB) plant (3.5 million m<sup>2</sup> heating area) and 99 small dispersed heating boilers (2.6 million m<sup>2</sup>). The project will replace use of these heating sources located in the city center with a district heating network supplied by the Datang Zhangjiakou coal fired Combined Heat and Power Plant located 15 km away from the project area. It was previously a thermal power plant and has completed converting 2x300MW units into CHP (capable of supplying 24 million m<sup>2</sup>) and plans to convert its remaining 6x300MW units in future to supply other urban areas. The Dongyuan Heating Company plans to lease capacity from an existing transmission pipeline (about 12 km in channel length from the CHP) owned by another heating company. The subproject is proposed to include: (a) a pressure isolation station; (b) about 18 km additional primary network construction; (c) installation of about 59 heat exchange substations (HEX), of which about 41 are to be installed in the existing boiler house areas; and (e) installation of a SCADA system in the pressure isolation station. The proposed sub-borrower is the Zhangjiakou Dongyuan Heating Company, a state owned enterprise.

In addition, conversion of the 4x64MW coal fired peak load boiler to gas might also be feasible as the gas pipeline from Ordos to Beijing will run through Hebei near Zhangjiakou and will be completed by 2016. Zhangjiakou has not yet decided on whether to pursue the gas boiler conversion as it is awaiting for assured gas supply

Subproject A3. Xingtai Xian (County) Heating Subproject (estimated cost RMB 390 million; indicative IBRD financing US\$ 31 million, RMB 190 million equivalent)

Xingtai, one of the most polluted counties in China, is a heavy industrial center (with significant iron, steel, and chemical industries). The purpose of the subproject is to meet significantly expanding heating demand by optimizing the energy mix for heating through expanded use of industrial waste heat for district heating. The heat sources will be supplied by China RISUN Coal Chemicals Group (RISUN). Based on its website, RISUN is the world's largest independent coke and coking chemicals producer (in terms of coke production volume). The optimization will reduce primary energy consumption, avoid or reduce related emissions and reduce the cost of delivered heating in the subproject area. The subproject would use industrial waste heat recovery from cooling water systems in RISUN and construct (a) about 8.5 km channel length of pipelines connecting four cooling water systems (1 main source and 3 backup) to the primary station in RISUN; (b) a primary station including a steam-driven absorption heat pump for heat recovery from industrial cooling water; (c) about 44 km channel length of primary district heating network; (d) 72 heat exchanger substations; (e) central automation and control system. The network is expected to be completed by 2017.

The proposed sub-borrower is the RISUN Anneng Heating Company, Ltd, a new joint venture (JV) company, established for this project. The JV is privately owned. 50% is owned by Shijiazhuang Anneng Co., Ltd., which is owned by three individuals (40%, 40%, 20%) and 50% is owned by China (Zhongmei) RISUN Xuyang Coking Company, Ltd., which itself is a private company. China Xuyang Coking Company, Ltd. shareholding comprises: 45% shares owned by China National Coal Group (Zhongmei) Corporation (a Central SOE, [www.chinacoal.com](http://www.chinacoal.com)), 45% owned by privately-held Xuyang Group (in English – China RISUN Coal Chemicals Group, Ltd., [www.risuntj.com](http://www.risuntj.com), [www.risun.com](http://www.risun.com)), and 10% owned by Delong Holdings Ltd. ([delong.listedcompany.com](http://delong.listedcompany.com)) a private (partially publicly listed) company.

Subproject A4. Pingshan Xian (County) (estimated cost RMB 146 million; indicative IBRD financing US\$ 12 million, RMB 74 million equivalent)

Pingshan County, located some 30 km west of Shijiazhuang, the capital of Hebei Province, is also expanding its existing urban area to create opportunities for higher living standards and services for the surrounding rural population. The project heating area is 6.95 million m<sup>2</sup>, including 3 million m<sup>2</sup> of new buildings. The heating supply is provided by the Xibaipo Thermal Power Plant (4x330 MWp and 2x600MWp) which has converted 2x330MW units to CHP with supply capacity of about 7.2 million m<sup>2</sup>. The subproject proposes to finance: (a) extension of primary network by 4 km channel length; (b) renovation of existing primary network of 3.2 km channel length (to improve reliability to allow the pipes to handle the increased pressure and temperature, eliminate corroded pipes); (c) installation of about 32 new consumer substations, including five BLS, (d) renovation and expansion of five existing substations, (e) heat metering for 1.92 million m<sup>2</sup>, (f) automatic control systems for existing substations (controls, frequency converters, meters, and data communication); and (g) installation of a SCADA and central monitoring and control system for the whole DH system. The proposed sub-borrower is Pingshan Heating Company, an existing state owned district heating

company.

Component B: Project Management Support and Technical Assistance (indicative IBRD financing to be determined)

The details and cost of the Project Management Support and Technical Assistance Component would be discussed during preparation as the Hebei Province is cautious in borrowing for technical assistance. Some initial ideas for the component discussed at identification include:

a. **Project Management Consultant:** Project management support to the Provincial PMO with the implementation and monitoring of the project by hiring a Project Management Consultant. Hiring a Project Management Consultant to support procurement, contract management and other related operational functions is a common practice, especially for similar projects with many subprojects and entities with weak capacity or lack of experience with foreign capital utilization projects. The Provincial PMO confirmed interest in a Project Management Consultant to strengthen its capacity to supervise the proposed Project.

b. **Provincial Long-Term Support Mechanism for Clean Heating:** The ban on the construction of new coal fired boilers creates a need for well-planned and prepared alternative heating supply. This may be beyond the abilities of many municipalities and towns (such as some in the proposed Project) which have little or no experience with such work. During the pre-identification visit and at the identification mission, the task team discussed with the Provincial DRC, Provincial Finance Department and Provincial Housing/Urban-Rural Construction Department how this project could help to develop a platform at the provincial level to help other municipalities, especially counties, plan and develop clean heating solutions. The Province could consider establishing a technical unit to advise cities, especially smaller ones, on developing appropriate clean heating solutions. The provincial-level technical team could review proposals from counties and guide preparation of feasibility studies to ensure good quality results. The unit could be established during project preparation to gain experience and test the viability of such a service, so that other cities outside the project can benefit.

c. **Local Project Management and Operations Assistance:** The project would involve one new company with nearly no experience in managing heating systems or other companies with limited knowledge of modern management approaches. These companies could consider using the loan for TA support to build capacity in operating and maintaining the subproject heating systems. One idea to consider might be to hire an experienced heating company from another city to provide management services of the heating network. Training in O&M of networks and possible workshops and study tours for the four project heating companies may also be considered. This could include visiting, for instance, Northern European systems that include multi-heat source dispatching, use of building level substations, integrated accounting and billing systems, etc.

d. **Accounting and Billing System Improvement:** Feasibility study consultants are expected to evaluate the accounting and billing systems of each subproject for readiness to implement consumption based billing. The outcomes of this assessment could include provision of technical assistance, equipment and software to integrate accounting and billing systems to help further automate billing, track payments and make accounting entries smoothly.

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

The proposed Project includes four subprojects, and they will be located in four different municipalities of Hebei Province. They include Shuangqiao District in Chengde Municipality, Qiaodong District in Zhangjiakou Municipality, Xingtai Municipality, and Pingshan County in Shijiazhuang Municipality. The four project counties amount to a total of 5,000 square kilometers of area and a population of 2.2 million. About one quarter of total population in these counties is urban.

#### **E. Borrowers Institutional Capacity for Safeguard Policies**

Even though the provincial PMO has some experience with World Bank financed projects, for the project cities and counties, it is their first engagement with Bank financed projects. Therefore, the clients lack experience with Bank funded projects and are unfamiliar with Bank's safeguards policies. However, they have exhibited strong commitment during project identification. The provincial PMO will guide and supervise the project preparation and implementation. For each project city or county, a Project Implementation Unit (PIU) will be set up to prepare and implement the project in the project city, which will be expanded to meet the Bank's requirements for technical works, environmental and social safeguards, financial management, procurement, as well as project management. With representatives from relevant government agencies and professionals, they will be responsible for preparing and implementing all the subcomponents. Their duties include the management of the feasibility study and engineering designs, social and environment safeguard preparation, monitoring and evaluation, as well as financial management and procurement in accordance with Bank guidelines.

Safeguards documents such as the Environmental Assessment (EA) and the Resettlement Action Plan (RAP) will be prepared by professional institutions with required qualification and adequate experience with Bank projects in China. Further, the PMO will undertake a Social Assessment to assist with the design of relevant resettlement activities. To assist with the lack of capacity for Bank safeguards policies, substantial training will be provided to the provincial PMO and project city PIUs on all relevant safeguards in the early stage of project preparation. The timely interaction between the Bank's task team and the clients will help improve the clients' capacity to the acceptable level during project preparation and throughout implementation.

#### **F. Environmental and Social Safeguards Specialists on the Team**

Shunong Hu (GWADR)

Yiren Feng (GENDR)

Yongli Wang (GSURR)

Youxuan Zhu (GEDDR)

## **II. SAFEGUARD POLICIES THAT MIGHT APPLY**

<b>Safeguard Policies</b>	<b>Triggered?</b>	<b>Explanation (Optional)</b>
Environmental Assessment OP/BP 4.01	Yes	The project will have significant benefits in terms of providing efficient district heating services. Investments under Component A include civil works for sub-stations, transmission pipelines, and household metering, depending on the scale and actual needs of each county.  It is expected that environmental impacts during construction are mainly related to small-scale

	<p>construction of transmission pipelines and substations, e.g. disturbance to traffic and local communities along the sites for pipeline construction and near the sites for sub-stations, disposal of spoil, nuisance of dust and noise. The Proposed project is expected to replace the existing small coal-fired boilers by providing more energy efficient district heating, dismantle the small boilers may generate the hazardous wastes (i.e. asbestos), a small boilers dismantle</p> <p>management plan will be developed as a part of the EMP to cope with the identification, dismantle operation, storage, transportation and disposal of the hazardous waste. Environmental impacts during operation mainly include (1) noise from the substations, building-level substations (2) air pollutants emission and noise of the peak boilers. The main adverse social impacts besides the OP 4.10 and OP 4.11 include the loss of employment of temporary workers due to the shutdown of small coal-fired boilers, however the overall social impact is positive as the project will improve the heating service quality and provide heating service to the communities not connected.</p> <p>It is expected that the project will overall increase the heating efficiency and reduce the air pollution loads in Hebei Province. The adverse impacts are localized, limited and can be readily managed with accepted measures of good environmental codes of practice (ECOP). And most mitigation measures will be included in engineering designs and construction specifications.</p> <p>The project was assigned as Category A project given the scale of works, the potential linked activities, the displacement of workers and social issues, and potential operating safety risks during the operation phase.</p> <p>An single EIA/EMP will be prepared for all the four subprojects. The EIA will include the due diligence review of the associated facilities that will (1) supply the heating source for the project; (2) provide the backup peak heating to the project. The EMP will include (i) Generic mitigation measures for contractors for inclusion in the bidding documents</p>
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		<p>and contracts. (ii) Site specific mitigations measures for potential adverse impacts during construction and operation; (iii) Institutional arrangement of Environmental supervision, monitoring plan and Reporting requirements and (iv) EMP implementation budget. For a Category A project, an EA Summary will be prepared based on the information from the EIA and EMP. In the EIA, cumulative impact assessment will be conducted focusing on the reduction of air pollutants of primary concern in project areas based on the provincial air quality clean up action plan. During preparation of the proposed instruments, the WBG's Environmental, Health and Safety Guideline will be referenced in the EIA. On asbestos from dismantling of coal-fired boilers, the project will refer to the WBG Asbestos Guidance Note. the EIA will also include the main results of the Social assessment conducted by the social team.</p> <p>Public consultation and information disclosure will follow OP4.01 requirements during EA preparation. At least two rounds of public consultation will be carried out with potentially affected persons and other relevant stakeholders through various methods, e.g., questionnaire surveys, interviews, and public meetings as needed. The full draft EA will be disclosed locally.</p>
Natural Habitats OP/BP 4.04	TBD	The project is mainly in the urban and periurban area of Hebei and the areas already disturbed by intensive human activities. The initial screening of the project indicated that it will not convert, degrade or restore any natural habitats or critical natural habitats, this will be further screened and confirmed once all the civil works determined during the project preparation.
Forests OP/BP 4.36	No	The project will not finance activities that would involve significant conversion or degradation of critical forest areas or related critical natural habitats as defined under the policy. Hence this policy is not triggered.
Pest Management OP 4.09	No	The Project will not lead to purchase nor use of any pesticides. This policy is not triggered.
Physical Cultural Resources OP/BP 4.11	TBD	Based on the available information and preliminary screening carried out by the Bank team, there are no physical cultural resources identified to be affected

		by the project. It will be confirmed by a detail survey to be carried out during project preparation, The policy is marked as “TBD” at this stage. Chance-find procedures will be included in the EMP.
Indigenous Peoples OP/BP 4.10	TBD	Among four project cities or counties, most project components are located in urban areas and it is unlikely ethnic minority communities defined by the Bank will be affected by the Project. A screening will be conducted during social assessment for all project cities to confirm whether there are any ethnic minority communities in the project areas and whether Bank IP policy will be applied for the Project.
Involuntary Resettlement OP/ BP 4.12	Yes	<p>Under Component A, each city or county will develop heating system to meet heating requirement. On Heating Source, two types will be involved. Chengde, Zhangjiakou and Pingshan will use heat from existing CHPs; and Xingtai will use industrial waste heat from Coking Plant. In connecting with the heat sources, primary heating station, pressure isolation station or pumping station will be built in Xingtai and Zhangjiakou Cities. Among them, Xingtai primary heat station and pump station will be built on land areas (60 mu) obtained by the project sponsor last year. For Zhangjiakou Subproject, pressure isolation station will be built on the site used to be a chemical factory, which was closed down a few years ago and was allocated to project sponsor by local government. For the required sites for Zhangjiakou and Xingtai subprojects, due diligence review will be conducted to ensure no legacy issues involved. For existing CHPs and chocking plant, all of them were constructed many years ago with no new land acquisition involved.</p> <p>On Heat Transmission and Distribution, they include 2.4km of trunk heating pipeline in Zhangjiakou City, 68.6 km of primary heating pipelines and 186 heat exchange stations will be constructed among all four cities. Most of heat transmission lines will be constructed along the urban roads with limited impacts. However, in some newly developed urban areas where urban roads have not yet been constructed, temporary occupation of farmland might be required. For heating transmission impacts, a brief resettlement plan will be prepared for each subproject. For those cities where heating pipeline</p>



		<p>alignment could not be determined during project preparation, a resettlement policy framework should be prepared. In terms of heat exchange stations, they will be constructed either within the existing boiler houses or on the site provided by housing development companies with no land acquisition and resettlement.</p> <p>On Heat Service Area, they vary widely among four subprojects. For Zhangjiakou and Chengde subprojects, proposed heating area include large portion of existing housing stock which will be realized by replacing many small boilers. For Xingtai and Pingshan Subprojects, the heating area mainly covers part of new urban area, where all new housing are either completed or under construction. For those subprojects requiring closing down of small boilers, a reemployment plan is required as part of the resettlement action plan.</p>
Safety of Dams OP/BP 4.37	Yes	The proposed project will not finance the construction and rehabilitation of any dam. However, for the Xingtai Subproject, the sub-project will use industrial waste heat from Xingtai Risun Group. It is found that the cooling water of the Xingtai Risun Group comes from the existing reservoir upstream of the Risun Group. OP4.37 is therefore triggered for the subproject. A Dam Safety Report needs to be prepared in compliance with the policy.
Projects on International Waterways OP/BP 7.50	No	Not applicable.
Projects in Disputed Areas OP/BP 7.60	No	Not applicable.

### III. SAFEGUARD PREPARATION PLAN

**A. Tentative target date for preparing the PAD Stage ISDS:** 31-Mar-2015

**B. Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing<sup>1</sup> should be specified in the PAD-stage ISDS:**

For social safeguard document preparation, a TOR had been prepared in the middle of July 2014 for both social assessment and resettlement preparation for all four subprojects. Following TOR, four project cities or counties have engage two qualified consulting teams in September 2014 for SA and RAP preparation. It was agreed that a draft resettlement plan or a resettlement policy framework as well as due diligence review will be prepared for each subproject, which will be completed and submitted to the Bank for review by end of November 2014.

### IV. APPROVALS

<sup>1</sup> Reminder: The Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.

Task Team Leader(s):	Name: Gailius J. Draugelis	
<b><i>Approved By:</i></b>		
Regional Safeguards Coordinator:	Name: Peter Leonard (RSA)	Date: 15-Jan-2015
Practice Manager/ Manager:	Name: Julia M. Fraser (PMGR)	Date: 16-Jan-2015