

Environmental and Social Management System Implementation Report

The first Semi-annual Report for June – December 2012
April 2013

People's Republic of China: Hebei Energy Efficiency Improvement and Emission Reduction Project

Prepared by the Hebei provincial government of the PRC for the Asian Development Bank.

CURRENCY EQUIVALENTS

(as of 10 April 2013)

Currency unit	–	Yuan (CNY)
CNY1.00	=	\$0.1599
\$1.00	=	CNY 6.2548

ABBREVIATIONS

ADB	–	Asian Development Bank
CSC	–	construction supervision company
EIA	–	environmental impact assessment
EMD	–	environmental monitoring division
EMP	–	environmental management plan
EMS	–	environmental monitoring station
EMU	–	environment management unit
EPB	–	environmental protection bureau
PRC	–	People's Republic of China
GRM	–	Grievance Redress Mechanism
EE	–	Energy Efficiency
HFB	–	Hebei Provincial Finance Bureau
ESCO	–	energy service company
HDRC	–	Hebei Provincial Development & Reform Committee
NDRC	–	National Development & Reform Committee
HPG	–	Hebei Provincial Government
CDQ	–	coke dry quenching
PMO	–	Project Management Office
ESMS	–	Environmental and Social Management System
PIAL	–	Prohibited Investment Activities List
SPS	–	sanitary and phytosanitary standards
ESSM	–	environmental and social safeguards manager

WEIGHTS AND MEASURES

MW	–	Megawatt
t/a	–	Ton per annum
t/h	–	Ton per hour
m ²	--	Square meter
°C	--	Celsius

NOTE

- (i) In this report, "\$" refers to US dollars.

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BASIC PROJECT INFORMATION

ADB Loan No.	Loan 2835-PRC
Project Title	Hebei Energy Efficiency Improvement and Emission Reduction Project
Borrower	People's Republic of China
Executing Agency	Hebei Provincial Government
Financial Intermediary	Huaxia Bank
Total Estimated Cost	\$ 176.4million
ADB Loan	\$100 million from ADB's ordinary capital resources through financial intermediary. The subprojects are expected to have a loan repayment period of 5 years including the grace period. The repayment of subloans, from these subprojects, will be revolved by relending to future batches of energy efficiency subprojects. It is expected that ADB loan proceeds will be revolved two times before it is repaid.
Counterpart Financing	Equity of \$ 63.5 million; domestic loan of \$ 2.9million; and ESCP/Host company of \$10 Million.
Loan Approval Date	8 February 2012
Loan Agreement Signed Date	6 March 2012
ADB Loan Effectiveness Date	20 June 2012
Project Complete Date	30 June 2012 (Loan)
Original Loan Closing Date	31 December 2012
Total Number of Months for Implementation	3 years (36 months) starting from 2009 to 2012
Elapsed Months from Loan Effectiveness Date	18 months
Exchange Rate	CNY 1 = \$0.1464 \$1.00 = CNY6.83
Date of Latest ADB Loan Review Mission	September 2012
Type of This Report	The first Environmental Social Management System (ESMS) Monitoring Report
Period Covered by This Report	June 2012–December 2012

I. BACKGROUND

A. Introduction

1. This is the first semi-annual environmental and social management implementation monitoring report of the Hebei Energy Efficiency Improvement and Emission Reduction Project, prepared by the project management office, to cover the period of June to December 2012. The Hebei Energy Efficiency Improvement and Emission Reduction Project (hereinafter referred to as ADB Loan Project) aims to provide a suitable financing mechanism to finance energy efficiency (EE) projects in selected energy-intensive industries and energy service companies (ESCOs). These EE projects introduce and adopt internationally advanced technologies and management so as to promote EE projects in Hebei Province.

2. The aggregate project investment is RMB 1.17 billion, of which \$100 million (equal to RMB630 million) is financed by ADB loan. The ADB loan proceeds are provided to eligible EE projects through the Hebei Provincial Finance Bureau (HFB) and the selected financial intermediary, Huaxia Bank. The subprojects are expected to have a loan repayment period of 5 years including the grace period. The repayment of subloans, from these subprojects, will be revolved by relending to future batches of EE subprojects. It is expected that ADB loan proceeds will be revolved two times before it is repaid.

3. The selection of subsequent subprojects, and the allocation and utilization of the loan will be managed in compliance with the Project Management Regulation (an official document by HDRC) and the Fund Management Regulation (an official document by HFB). Hebei Provincial Development & Reform Committee (HDRC) is responsible for the subproject selection, approval and management, and semi-annual report is made to National Development & Reform Committee (NDRC) for filing purpose. The executing agency of the project is the Hebei Provincial Government (HPG) and the implementing agencies are sub-borrowers.

B. Progress of the Project

4. The first batch of subprojects under this loan project contains eight selected enterprises that are located in different parts of Hebei province. These are:

- (i) coke dry quenching (CDQ) power generation in Tangshan;
- (ii) coke dry quenching (CDQ) power generation in Fengmei;
- (iii) waste heat utilization in Xinglong;
- (iv) waste re-utilization power generation in Yufeng;
- (v) heating equipment upgrading in Lianguan;
- (vi) waste heat and pressure utilization of circulating water in Cangzhou;
- (vii) energy management center in Qianjin;

(viii)high and medium temperature solar energy heating water service in Guangyuan

4. Table 1 summarizes the project progress during the first monitoring report period.

Table 1. Progress summary of eight subprojects

County/ City	Implementing Plant	Subproject	Implementation Status (construction period)
Ningjin	Hebei Yufeng Enterprises Group Company Limited (Hebei Yufeng) Sector/subsector: Energy/Grain Processing and Biomedical	Hebei Yufeng: installation of a cogeneration system comprising a high temperature/high pressure boiler of 220 t/h capacity and high temperature back-pressure power generation unit of 25 MW capacity. These will replace four existing boilers and three power generation units currently operating at substandard efficiency.	Bidding and tendering process has started May 2012. Preliminary design is approved by Hebei DRC. Construction is expected to commence on April 2013. Installation of major equipment is scheduled to be completed by the end of 2013.
Fengfeng District	Hebei Fengmei Coking Company Limited (Hebei Fengmei) Sector/subsector: Energy/Coking	Installation of two CDQ installations of 140 t/h total capacity, to recover the currently wasted heat from red-hot coke (around 1,000°C) from the Phase II coking to produce steam, which will drive a turbine generator.	Bidding and tendering process has started March 2012. Civil work has been completed in December 2012. Major equipment installation will begin on December 2013.
Jizhou	Hebei Lianguan Carbon Electrode Company Limited (Hebei Lianguan) Sector/subsector: Energy/Carbon Electrode	Hebei Lianguan subproject comprises of four components: (i) Installation of 30,000 t/a continuous flow roasting furnace with intelligent fire gas control to replace the old-style roasting furnace system; (ii) Installation of two 1,800 kW gas-fired heat oil boilers to replace the old-style coal-fire heat oil boilers; (iii) Addition of an electric tar filter and an electrostatic dust scrubber to intercept tar emissions for raw materials recovery, and retrofitting of the blower and duct piping system for the roasting furnace to improve power efficiency; and (iv) installation of back-blow filters, to recover the dusts intercepted from material handling and production processes for reuse.	Bidding and tendering process has started September 2012. Procurement for the ADB loan is completed. Stove foundation work started on March 2013 and will be completed by December 2013.
Quzhou	Hebei Xinglong Grain Biochemical Company Limited (Hebei Xinglong) Sector/subsector: Energy/Grain Processing	Installation of: (i) two 3 MW back-pressure steam turbines are proposed in place of the current pressure/temperature reducers to generate 10.5 kilovolt power directly connecting to the current 10.5 kilovolt high voltage grid feeding to the plant; and (ii) biogas recovery and power generation units. 0.5 MW	Bidding and tendering process has started October 2012. Construction is expected to start on April 2013.

		biogas turbine generator to generate 400 volts of power which can be incorporated into the internal low-voltage power grid.	
Langfang	Hebei Qianjin Iron and Steel Group Company Limited (Hebei Qianjin) Sector/subsector: Energy/Iron and Steel	Establishment of an energy management center at the main iron and steel complex for comprehensive management and optimization of the energy production, transmission, dispatching, operation, and information analysis. Energy savings will result from reduced blast furnace gas release and increased LDG recovery through process optimization.	Bidding and tendering process for software started on September 2011. All contracts have been completed. Currently it is in the commissioning stage to test.
Cangzhou	China Resources Cangzhou Cogeneration Company Limited (Cangzhou Co-gen) Sector/subsector: Energy/power	Installation of a heat pump system to recover waste heat from the cooling water of the existing power generation units to feed into the existing municipal heat supply main loop.	Bidding and tendering process was started on May 2012. The first phase civil work started on the third quarter of 2012 and completed on November 2012. The preparation of the second phase of civil work started recently. The second phase civil work will start early April 2013.
Tangshan	Tangshan Jianlong Jianzhou Iron and Steel Co. Ltd. (Tangshan Jianlong) Sector/subsector: Energy/Iron and Steel	Installation of a CDQ system to recover the sensible heat of red-hot coke discharged from a coke oven	By the end of 2012, this company was preparing bidding documents and preliminary design.
Xingtai	Hebei Guangyuan Solar Energy Technology Company Limited (Hebei Guangyuan Solar) Sector/subsector: Energy/Renewable Energy	The subproject is a lease-to-own energy saving company (energy service company) which proposes to install mid-high temperature solar thermal hot water systems at the site of institutional users, with a total installation capacity of approximately 200,000 m ² in 2012.	By March 2013, 53 contracts are in operation, covering 130,000 m ² .

CDQ = coke dry quenching, LDG = Linz Donawitz gases (from LD convertor), MW = megawatt, t/a = ton per annum, t/h = ton per hour.

II. INSTITUTIONAL SETUP AND RESPONSIBILITIES FOR EMP IMPLEMENTATION AND SUPERVISION

2. HPG, the executing agency, takes overall responsibility to execute the project. A project leading group, consisting of Hebei Development and Reform Commission and Hebei Provincial Finance Department, will provide policy direction and operating guidance for new subloans.

3. HPG is responsible for ensuring and enhancing effective environmental and social management practices in all of its activities, products and services with a special focus on the following:

- (i) ensuring that applicable safeguard requirements are met for all subprojects,
- (ii) ensuring appropriate consultation and transparency in its selection and managing of subproject activities,
- (iii) working together with the subproject management to put into practice applicable safeguard requirements, and
- (iv) promoting subprojects with environmental and social benefits.

4. HPG has established the Project Management Office (PMO) to implement the project. The PMO will, among other things, be responsible for ensuring safeguard compliance through the implementation of the Environmental and Social Management System (ESMS) for the duration of the ADB loan (2012–2027). The PMO will also ensure during the selection of subsequent projects that:

- (i) at an initial stage of project identification, all subprojects using ADB funds are screened against the Prohibited Investment Activities List (PIAL) of the ADB’s sanitary and phytosanitary standards (SPS) (2009) (Appendix 3);
- (ii) all PIAL compliant subprojects will proceed to the next stage screening process involving assessment under subproject selection criteria for the project, which should exclude all subprojects belonging to category A or B for involuntary resettlement and ethnic minorities (i.e., there should be no impacts) and environment category A as per ADB SPS requirements;
- (iii) the PMO will ensure that the selected subprojects comply with the subproject selection criteria pertaining to environment and social criteria as mentioned in ESMS Annex 1; and
- (iv) HPG will ensure that the selected subprojects are reviewed and evaluated against ADB’s safeguard requirements pertaining to environment issues and the national environment, health, safety laws and regulations.

5. An environmental and social safeguards manager (ESSM), Ms. Wang Lei, was appointed at PMO, who reports directly to the director of the PMO and is responsible for day-to-day implementation of the ESMS. The manager (i) oversees environmental and social issues, (ii) ensures that resources are made available for environmental and social management, and (iii) signs and submits the annual ESMS implementation report to ADB. The manager also ensures that ADB is notified if and when the current staff organization has been changed or responsible staff is replaced with new staff. An assistant to ESSM, Ms Wang Siyu was also appointed. Table 2 shows their contact information in details.

Table 2. Contact information of Environmental and Social Safeguards Staff at the PMO

Name	Title	Contact	Email
Wang Lei	Environmental and social safeguards	+86-311-87187951	hbpmoicy@126.com

	manager		
Wang Siyu	Assistant to ESSM	+86-311-87187951	hbpmowsy@126.com

61. The PMO is also responsible for ensuring that designated facility managers are subject to proper training in order to facilitate the implementation of ESMS at the subproject level (including ESMS reporting). In January, 2012, the ADB consultants organized a training session on the implementation of ESMS to the sub-borrowers.

72. The environmental manager and his assistant at the PMO have been coordinating with subproject IAs on a weekly base to check the progress of environmental management implementation by collecting all the information regarding their implementation and tangible results and to ensure their compliance with the environmental management scheme. During the preparation of all EE subprojects, they were required to conduct environmental assessment, develop the Environmental Management Plan, and incorporate it to project contract as a **compulsory clause**, which makes the support for supervision and management of environmental and social safeguards system during the project implementation. All the subproject contracts contain the following clause as below:

“During the implementation of the first batch of subprojects, ADB TA experts formulate the environment management plan in accordance with the actual situation of sub-borrowers. Based on the environment management plan, sub-borrowers shall evaluate social and environmental impacts every year, and submit social and environmental safeguard supervision reports including the implementation status of the environment management plan to PMO. PMO will review and evaluate the social safeguard supervision report and the implementation of environment management plan.”

83. Table 3 summarizes the implementation status according to the institutional responsibilities and tasks.

Table 3. Institutional Setup and Responsibilities

Institution	Roles and Responsibilities	Status
Hebei Provincial Government (EA)	HPG is responsible for overall project implementation. HPG is responsible to set up a PMO of the project HPG is responsible for selecting the future subprojects....	HPG set up PMO
PMO	PMO is responsible for coordinating all the subprojects and their progress PMO needs to designate staff for environmental management and social issues. PMO is responsible for assuring the implementation of EMP at all subprojects.	PMO hired two designated environmental and social safeguards staff. PMO has been coordinated with all subprojects in a regular base (weekly telecommunication and monthly through written

		reports) PMO prepared the first environmental and social management implementation report and submitted to ADB on April 2013.
Huaxia Bank (financial intermediary)	Commercial Bank is responsible for assisting PMO in transferring the loan proceeds to the sub-borrowers	Huaxia Bank is in close cooperation with the HPG and the PMO.
Subproject companies (IAs)	Each subprojects are required to have a contract, including the establishment of environmental management plan	All the contracts included environmental management plan to be implemented.

III. IMPLEMENTATION OF ENVIRONMENTAL MANAGEMENT AND MONITORING SCHEME

A. Implementation Progress on Environmental Management Plan (EMP)

93. All the subprojects have carried out mitigation measures indicated in the environmental management plan (EMP), except for Hebei Guangyuan Solar Energy Technology Co., Ltd and Hebei Qianjin Iron and Steel Group Co., Ltd. Due to the nature of these two subprojects - establishment of energy management center in Qianjin and high and medium temperature solar energy heating water service in Guangyuan, they are not applicable for the EMP implementation. Table 4 summarized the implementation status of all subprojects during the first reporting period.

Table 4. Environmental Management Plan and the Implementation Status of Applicable EE Subprojects during the First Reporting Period

Environmental Issues	Activity or Impact Area	Mitigation measures	Responsibilities		Implementation status and compliance with EMP (NEW COLUMN)
			Implementation	Supervision	
A. Preconstruction and design phase		Applicable subprojects are (i) Hebei Lianguan Carbon Electrode Co., Ltd; (ii) Hebei Fengmei Coking Co., Ltd; (iii) Hebei Xinglong Grain Biochemical Co., Ltd; (iv) Hebei Yufeng Enterprise Group Co., Ltd; (v) Tangshan Jianlong Jianzhou Iron and Steel Co., Ltd; (vi) China Resources Cangzhou Co-generation Co., Ltd;			
1. EIA preparation		Identification of environmental issues and mitigation measures	Plant managers, and EIA Institutes	PMO Local EPB	All six EE subprojects completed environmental impact assessment, including identification of mitigation measures.
2. EMP preparation		Assigning mitigation measures to subprojects, a timescale and organizational responsibilities	Plant managers, and EIA Institutes	PMO, and Local EPB	All six EE subprojects designated environmental managers, who are responsible for ensuring the implementation of EMP mitigation measures and for reporting their implementation to the PMO.
3. Incorporation of EMP into project contract and facility development plans and contracts		Environmental protection facilities and mitigation measures should be designed simultaneously at the early stage with the subject facility development. The construction/engineering manager of each plant will ensure the implementation of the mitigation measures by including environmental specifications in the bidding documents to suppliers and installers; and referencing the EMP mitigation provisions and monitoring plans in the construction contracts.	PMO and plant managers	–	All six subprojects developed EMP and relevant mitigation measures. Environmental clause is incorporated in their project contracts so to ensure the proper and diligent implementation of the EMP.
B. Project construction phase		Applicable subprojects are (i) Hebei Lianguan Carbon Electrode Co., Ltd; (ii) Hebei Fengmei Coking Co., Ltd; and (iii) China Resources Cangzhou Cogeneration Company Limited. Other subprojects have not started construction during the first reporting period.			
4. Noise	Construction and haulage noise impacts	At all subcomponents, haulage routes will be selected to avoid villages.	Supplier/installer of equipment and plant	Local EPB PMO	All companies have followed this requirement during the construction.

Environmental Issues	Activity or Impact Area	Mitigation measures	Responsibilities		Implementation status and compliance with EMP (NEW COLUMN)
			Implementation	Supervision	
			managers		
5. Water	Domestic wastewater and construction wastewater	<p>Construction wastewater will not be discharged unto the surrounding soil or into surface water systems, but will be directed to sedimentation traps before discharge to the plant's drainage system.</p> <p>Oil-containing wastewater will require the installation of oil-water separators before the water enters the plant drainage system.</p> <p>During project construction, the small amount of domestic wastewater from workers living onsite can be discharged directly to the municipal sewer system.</p>	Supplier/installer of equipment and plant managers	Local EPB PMO	All companies have followed this requirement during the construction.
6. Air	Dust from transport and construction activities	<p>Proper mitigation measures will be taken to reduce dust emission, such as sealing of building material, covered transportation of materials, and flushing of vehicle wheels.</p> <p>Haulage routes will be selected to avoid village roads.</p>	Supplier/installer of equipment and plant managers	Local EPB PMO	All companies have followed this requirement during the construction.
7. Traffic	Impacts on local roads by construction traffic	Transport and haulage routes will be selected to reduce disturbance to regular traffic.	Supplier/installer of equipment and plant managers	Local EPB PMO	All companies have followed this requirement during the construction.
8. Solid waste	Construction activities and living activities	<p>After separation of any hazardous material, general construction debris and other solid wastes generated from construction and demolition activities will be stored in one designated area, cleaned and salvaged for reuse, cut and sold for scrap metal or collected by local sanitation department for proper landfill disposal.</p> <p>Domestic garbage will be collected and transported on regular basis, and treated by local sanitation department.</p>	Supplier/installer of equipment and plant managers	Local EPB PMO	All companies have followed this requirement during the construction.

Environmental Issues	Activity or Impact Area	Mitigation measures	Responsibilities		Implementation status and compliance with EMP (NEW COLUMN)
			Implementation	Supervision	
9. Hazardous material	Hazardous and polluting materials from demolition of boilers	At Hebei Lianguan Carbon Electrode Co., the cleaned-out heat oil will be handled as hazardous wastes for proper disposal. Measures for the prevention of oil spill/leakage will be taken in the hauling-offsite and disposal activities of old coal-fired heat oil boilers' decommissioning.	Supplier/installer of equipment and plant managers	Local EPB PMO	Hebei Lianguan Carbon Electrode Co., Ltd has collected waste oil and treated it as hazardous wastes. all the hazardous wastes are handled by Shijiazhuang Longteng Environmental Protection Service Co., Ltd. Not applicable to other companies.
10. Social impacts	Environmental, Health, and Safety	During the construction phase, each plant will ensure the safety and health of employees through safe working practices and provision of a safe working environment.	Supplier/installer of equipment and plant managers	Local EPB PMO	All companies have followed this requirement during the construction.
11. Grievance and Complaints	Complaints of all nature relevant to the project	Grievance redress mechanism will be established on the site during the implementation of subproject. Any complaints which concern aspects of the project construction will be recorded by the PMO (which will set up a complaints reception unit or officer) and investigated in conjunction with plant management. Responses and corrective actions will be timely and will be reported to the ADB.	PMO and plant managers	EPB	All companies have followed this requirement during the construction.
C. Project operation phase		All the subprojects are not applicable.			
D. Restoration of site landscape and sediment retention					
17. Soil loss	Excavation, backfilling, construction solid waste	No soil erosion measures are required as the subproject sites are located in level, developed areas within existing industrial plant boundaries. During the project construction, any soil excavation and fill imports will be balanced to minimize the imported amount of fills and prevent the generation of construction wastes (including surplus soil excavated) on the site.	Plant operators and managers	Local EPB PMO	Applicable subprojects are (i) Hebei Lianguan Carbon Electrode Co., Ltd; (ii) Hebei Fengmei Coking Co., Ltd; and (iii) China Resources Cangzhou Cogeneration Company Limited. All companies have followed the water and soil conservation requirements during the construction.

Environmental Issues	Activity or Impact Area	Mitigation measures	Responsibilities		<i>Implementation status and compliance with EMP (NEW COLUMN)</i>
			Implementation	Supervision	
		Green belts will be restored and maintained not only for noise attenuation but also for landscape restoration after site construction.			The project construction has not been completed.

ADB = Asian Development Bank; BOH = Bureau of Health; CDQ = coke dry quenching; EHS = environmental, health, and safety; EIA = environmental impact assessment; EMC = environmental monitoring center, EMP = environmental management plan; EPB = environmental protection bureau; m = meter; PMO = project management office; PRC = People's Republic of China; WWTP = wastewater treatment plant.

Source Asian Development Bank staff estimates.

B. Compliance Status with National Laws and Regulations

104. The construction of the project is in full compliance with national laws and regulations without any violation reported.

C. Grievance Redress Mechanism (GRM) and Information Disclosure

115. A Grievance Redress Mechanism (GRM) and a public consultation program have been established. The project information has been posted on the website (<http://www.hbdsm.com/>). All the sub-projects also post the project information on the construction site. All the subprojects designated responsible staff for GRM in charge. The GRM designated staff at all the subprojects is responsible to report any compliant or incident to the PMO immediately.

126. The ESSM and her assistant at the PMO are responsible to work closely with the GRM focal points of subprojects and to facilitate public consultation if any compliant/grievance cannot be resolved at the subproject level, so that corrective actions could be carried out immediately. All the complaints including the information of complainer and his/her contact will be recorded and also will be notified to HPG and environmental protection bureau. During the first reporting period, no complaint or incident was reported.

IV. COMPLIANCE WITH ADB LOAN CONTRACT REQUIREMENTS AND LOCAL LAWS AND REGULATIONS

137. Table 5 present environmental loan covenants and their compliance status.

Table 5. Environmental Agreement Clauses Defined in the Loan and Their Compliance Status

Environmental Agreement	Compliance Status (if possible, any actions taken)
<p>ARTICLE IV- Particular Covenants: Section 4.01. (a) The Borrower shall cause HPG, through HFB, to ensure that HXB carries out the Project with due diligence and efficiency and in conformity with sound banking, administrative, financial, engineering, <u>environment protection</u> and business practices.</p>	<p>In accordance with the Loan Agreement, Financial Management Service Agreement, Fund Management Regulation and other regulations, Huaxia Bank has assisted Hebei Finance Bureau (HFB) in disbursing \$30.25million to Fengmei, Guangyuan, Yufeng, Qianjin, Xinglong and Lianguan.</p>
<p>For the Subprojects of the First Batch</p> <p>(i) HPG shall ensure that the preparation, design, construction, implementation, operation and decommissioning of the Subproject and all Project facilities comply with (i) the Borrower's all applicable laws and regulations relating to environment, health and safety; (ii) the Environmental Safeguards; and (iii) all measures and requirements set forth in the Project IEE, EMP, ESMS and any additional measures set forth in the annual Safeguards Monitoring Report.</p> <p>(ii) HPG shall make available and cause Subborrowers and the PMO to make available, necessary budgetary and human resources to fully implement the EMP.</p>	<p>(1) It is assured that in Hebei Province all subprojects and their preparation, design, construction, implementation and operation comply with various laws and regulations. Environmental protective measures are performed as indicated in the environmental and social management system.</p> <p>(2) PMO has designated twostafffor environmental and social protection position. All sub-borrowers have designated the responsible person for environmental and social safeguard. The budget and staffs are all in place for the implementation of environmental and social management plan.</p>

<ul style="list-style-type: none"> (iii) HPG shall ensure, or cause to be ensured, that all bidding documents and contracts for Works contain provisions that require contractors to (i) comply with the measures relevant to the contractor set forth in the Project IEE, EMP, ESMS, and any additional measures set forth in the annual Safeguards Monitoring Report; (ii) make available a budget for all such environmental measures; and (iii) provide HPG with a written notice of any unanticipated environmental risks or impacts that arise during construction, implementation or operation of the project that were not considered in the Project IEE, EMP and ESMS. (iv) submit annual safeguards monitoring reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission; (v) if any unanticipated environmental risks and impacts arise during construction, implementation or operation of the project that were not considered in the Project IEE, EMP and ESMS, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed additional measures; and (vi) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP and ESMS promptly after becoming aware of the breach. 	<ul style="list-style-type: none"> (3) The subcontractor/bidding winners for civil work of subprojects have followed the measures and requirements proposed in IEE, EMP, and environmental and social management system. (4) Environmental and social manager and her assistant at the PMO is responsible for preparing the annual environmental and social management monitoring report and have prepared the first monitoring report and submitted to the ADB. (5) No unexpected environmental issues and impacts occurred so far. (6) No violation of IEE, EMP, and environmental and social management system is reported.
<p>For Subprojects of the Subsequent Batches HPG shall ensure and cause the PMO to ensure that Subprojects are selected and approved in accordance with the ESMS and selection criteria as provided in the PAM,</p> <ul style="list-style-type: none"> (i) the Subproject is designed, constructed, and operated in accordance with the Borrower’s environmental laws and regulations, the Environmental Safeguards and ESMS; (ii) the institutional arrangements for effective implementation of environmental safeguards as described in the ESMS are in place before commencement of Works and selection of Subprojects; (iii) procedures as specified in the ESMS are fully implemented in a timely manner; (iv) mitigation measures included in the Subprojects’ EMPs are updated at the detailed engineering design stage and incorporated into the bidding documents and Works contracts; (v) any adverse impact on the environment that may arise from Subproject implementation activities is promptly mitigated or minimized and reported to ADB in accordance with the ESMS and EMPs; 	<p>The first batch of subprojects is not yet finished, and the subsequent batches have not begun.</p>

<p>(vi) the ESMS and EMPs are implemented in full to address the environmental aspects during the construction of the subprojects, including actions to be taken for auditing, measuring, and monitoring the environment and safety conditions of the Works, and responding to breaches in environmental or safety requirements; and</p> <p>(vii) environmental and safety aspects, and issues are reported on an annual basis to ADB in accordance with the PAM.</p>	
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V. RESULTS OF ENVIRONMENTAL MONITORING

A. Monitoring approach and staff obligations

148. The ESSM and her assistant at the PMO have carried out environmental and social safeguards assurance through weekly telecommunication with, and monthly reporting from all the subprojects on the project implementation progress and the implementation status of environmental management plan (EMP). The ESSM reports the results to the managing director of the PMO in a timely manner so as to address problems upon arising and to undertake supervision on the project implementation.

158. The construction subcontractors of applicable subprojects have conducted environmental monitoring during the construction and report to the designated environmental staff of subprojects. The subproject environmental staff has submitted the monitoring results to the PMO.

B. EMP monitoring framework and its implementation status

168. All the subprojects have implemented EMP monitoring in accordance with the agreed EMP monitoring framework. Table 6 presents EMP monitoring framework and summarizes the compliance status of subprojects. During the first reporting period, all applicable subprojects submitted the summary of environmental monitoring results to the PMO in line with the EMP and local environmental protection standards and criteria. Appendix 1 contains the summary of EMP monitoring results that the PMO received from subprojects.

Table 3: Environmental Monitoring Framework and Compliance Status

Monitoring parameter		Monitoring location	Monitoring Frequency	Undertaken by	Compliance Status
A. Construction		Applicable subprojects are (i) Hebei Lianguan Carbon Electrode Co., Ltd; (ii) Hebei Fengmei Coking Co., Ltd; and (iii) China Resources Cangzhou Cogeneration Company Limited			
Air	Fugitive dusts	At the site boundary	Once during construction	Contractor /Local EMC	All applicable subprojects met the requirement
	TSP/dusts	Boilers/bag filters installed in workshop	At commissioning	Contractor /Local EMC	All applicable subprojects met the requirement
	SO ₂ , NO _x	Boilers, biogas generator			Hebei Xinglong meet the requirement

Water	pH, SS, COD, TN, grease/oil	Domestic wastewater	Once during construction	Contractor /Local EMC	All applicable subprojects met the requirement
		Process wastewater	At commissioning		All applicable subprojects met the requirement
Noise		At the site boundary	Once during construction and at commissioning	Contractor /Local EMC	All applicable subprojects met the requirement
B. Operation					
Air	NO ₂ , SO ₂ , TSP /dusts	Boilers, biogas generator and bag-filters installed in workshop	Annually	Plant operator /Local EMC	No subproject is applicable
Water	pH, SS, COD, TN, grease/oil	WWTP	Annually	Plant operator /Local EMC	No subproject is applicable
Noise		At the site boundary	Upon formal operation	Plant operator /Local EMC	No subproject is applicable
		At the nearest residences	For 3 months after commissioning	Contractor /Local EMC	No subproject is applicable

COD = chemical oxygen demand, EMC = environmental monitoring center, NO₂ = nitrogen dioxide, NO_x = nitrogen oxide, SO₂ = sulfur dioxide, SS = suspension solid, TN = total nitrogen, TSP = total suspended particulate, WWTP = wastewater treatment plant.

Source: The PMO of the Hebei Hebei Energy Efficiency Improvement and Emission Reduction Project

VI. SUMMARY/CONCLUSION

179. During the first reporting period, no environmental and social related issues or incident were reported. The implementation of the 1st batch of EE subprojects have fully complied with the EMP, environmental covenants, and the national laws & regulations. All applicable subprojects conducted EMP monitoring according to the EMP monitoring framework. Monitoring results show that all subprojects met the requirement of EMP and local standards.

APPENDIX 1. SUMMARY OF EMP MONITORING RESULTS AND COMPLIANCE STATUS.

1. Hebei Lianguan Carbon Electrode Co., Ltd

Environmental Monitoring Framework and Compliance Status

Monitoring parameter		Monitoring location	Monitoring Frequency	Undertaken by	Monitored by	Compliance Status
A. Construction						
Air	Fugitive dusts	At the site boundary	Once during construction.	Contractor /Local EMC	Environmental monitoring station of Jizhou HeBei	GB/T15432-1995 execution value ≤ 1.0 , Monitoring value: 0.286 mg/m ³ , Up to standard
Water	pH, SS, COD, TN, grease/oil	Domestic wastewater	Once during construction	Contractor /Local EMC	Environmental monitoring station of Jizhou HeBei	GB5084-2005 Monitoring value: COD 98.2 mg/L PH: 7.12; SS: 34.6, Up to standard
Noise		At the site boundary	Once during construction and at commissioning	Contractor /Local EMC	Environmental monitoring station of Jizhou HeBei	GB12348-2008 environmental functional area standard for noise of second type Monitoring value: north area of factory :59.4dB (A) east area: 58.2dB (A) west area:57.1 dB (A) south area:56.2 dB (A), Up to standard

2. Hebei Fengmei Coking Co., Ltd.

Environmental Monitoring Framework and Compliance Status

Monitoring parameter		Monitoring location	Monitoring Frequency	Undertaken by	Monitored by	Compliance Status
A. Construction						
Air	Fugitive dusts	At the site boundary	Once during construction	Contractor /Local EMC	Environmental monitoring station of handan HeBei	GB/16297-1996 execution value ≤ 1.0 , Monitoring value: 0.647 mg/m ³ , Up to standard
Water	pH, SS, COD, TN, grease/oil	Domestic wastewater	Once during construction	Contractor /Local EMC	Environmental monitoring station of handan HeBei	GB5084-2005 Monitoring value: COD 53 mg/L PH: 7.62; SS: 27, Up to standard
Noise		At the site boundary	Once during construction and at commissioning	Contractor /Local EMC	Environmental monitoring station of handan HeBei	GB12348-2008 environmental functional area standard for noise of second type Monitoring value: north area of factory :54.9dB (A) east area: 56.7dB (A) west area:54.6 dB (A) south area:55.9 dB (A), Up to standard

3. Hebei Xinglong Grain Biochemical Co.,Ltd.

Environmental Monitoring Framework and Compliance Status of Hebei Xinglong Grain Biochemical Co., Ltd

Monitoring parameter		Monitoring location	Monitoring Frequency	Undertaken by	Monitored by	Compliance Status
A. Construction						
Air	Fugitive dusts	At the site boundary	Once during construction	Contractor /Local EMC	Environmental monitoring station of Handan, HeBei	GB/T15432-1995 execution value ≤ 1.0, Monitoring value: 0.252 mg/m ³ , Up to standard
Water	pH, SS, COD, TN, grease/oil	Domestic wastewater	Once during construction	Contractor /Local EMC	Environmental monitoring station of Handan, HeBei	GB5084-2005 Monitoring value: COD 89.6 mg/L PH: 7.06; SS: 30.1, Up to standard
Noise		At the site boundary	Once during construction and at commissioning	Contractor /Local EMC	Environmental monitoring station of Handan, HeBei	GB12348-2008 environmental functional area standard for noise of second type Monitoring value: north area of factory: 35.8dB (A) east area: 38.6dB (A) west area: 45.2 dB (A) south area: 46.8 dB (A), Up to standard

4. Hebei Yufeng Enterprise Group Co., Ltd

Environmental Monitoring Framework and Compliance Status

Monitoring parameter		Monitoring location	Monitoring Frequency	Undertaken by	Monitored by	Compliance Status
A. Construction						
Air	Fugitive dusts	At the site boundary	Once during construction	Contractor /Local EMC	Ningjin Environmental protection Bureau	Complies
Water	pH, SS, COD, TN, grease/oil	Domestic wastewater	Once during construction	Contractor /Local EMC	Ningjin Environmental protection Bureau	Complies
Noise		At the site boundary	Once during construction and at commissioning	Contractor /Local EMC	Ningjin Environmental protection Bureau	Complies

5. Tangshan Jianlong Jianzhou Iron and Steel Co., Ltd

Environmental Monitoring Framework and Compliance Status

Monitoring parameter		Monitoring location	Monitoring Frequency	Undertaken by	Monitored by	Compliance Status
A. Construction						
Air	Fugitive dusts	At the site boundary	Once during construction	Contractor /Local EMC	Environmental Protection Bureau of zunhua city	GB/T15432-1995 execution value ≤1.0, Monitoring value: 0.8mg/m ³ . Up to standard
Water	pH, SS, COD, TN, grease/oil	Domestic wastewater	Once during construction	Contractor /Local EMC	Environmental Protection Bureau of zunhua city	GB5084-2005 Monitoring value: COD: 87mg/L; PH: 7.1; SS: 53; TN: 23; grease/oil : 3.7. Up to standard
Noise		At the site boundary	Once during construction and at commissioning	Contractor /Local EMC	Environmental Protection Bureau of zunhua city	GB12348-2008 environmental functional area standard for noise of second type Monitoring value: Daytime 51.3dB, night 46.8dB. Up to standard

6. China Resources (Cangzhou) Co-generation Co., L td

Environmental Monitoring Framework and Compliance Status of China Resources (Cangzhou) Co-generation Co., Ltd

Monitoring parameter		Monitoring location	Monitoring Frequency	Undertaken by	Monitored by	Compliance Status
A. Construction						
Air	Fugitive dusts	At the site boundary	Once during construction	Contractor /Local EMC	China Resources Cangzhou Co-generation Co., Ltd	≤0.1mg/m ³
Water	pH, SS, COD, TN, grease/oil	Domestic wastewater	Once during construction	Contractor /Local EMC	Hebei Environmental Monitoring Station	PH=8.62 COD=54.9mg/l SS=9.0mg/l Petroleum=0.05mk/l COD ≤ 150mg/l SS ≤ 150mg/l Petroleum ≤ 10mk/l
Noise		At the site boundary	Once during construction and at commissioning	Contractor /Local EMC	China Resources Cangzhou Co-generation Co., Ltd	48.7 ~ 59.4dB (standard 55 ~ 65dB)