



Annual Environmental and Social Monitoring Report

Project Number: LN2960
April 2015

PRC: Dynagreen Waste-to-Energy Project

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Prepared by Dynagreen Environmental Protection Group Company Limited for the Asian Development Bank

Asian Development Bank

Environmental and Social Management System

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**2014 Annual Report on Environmental and Social
Management System**

Dynagreen Environmental Protection Group Company

Prepared by Dynagreen Group for the Asian Development Bank (ADB)

The Environmental and Social Responsibility Management System (ESMS)

1. Establishment and Objective of the ESMS

The ESMS for Dynagreen was established on September 26, 2013, Dynagreen is committed to ensure that the operations of its project will not create adverse environmental and social impacts. Proposed subprojects to be developed by Dynagreen will strictly comply with the relevant environmental protection and social laws and regulations of the People's Republic of China and ADB's Safeguard Policy Statement (2009). In this regard, Dynagreen will establish and effectively operate an appropriate Environmental and Social Management System (ESMS) at both the holding company and Project Company levels.

The objectives of the environmental and social management system are:

1. To avoid, and when avoidance is not possible, to minimize and mitigate adverse impacts of investments on the environment and affected people; and
2. To maximize opportunities for environmental and social benefits.

2. Responsibilities

Dynagreen continually endeavors to ensure and enhance effective environmental and social management practices in all its activities, products, and services with a special focus on the following:

1. Ensuring that applicable environmental and social safeguards requirements, as defined in Section II (B) are met for all proposed subprojects;¹
2. Financing subproject companies only when the proposed subprojects are expected to be designed, constructed, operated, and maintained in a manner consistent with applicable environmental and social safeguards requirements, as defined in Section II (B);
3. Integrating environmental and social risk into its internal risk management analysis;
4. Ensuring appropriate consultation and transparency in its subproject company's activities;
5. Working together with each subproject company's management to put into practice applicable environmental and social safeguards requirements; and
6. Promoting proposed subprojects with environmental and social benefits.
7. All proposed subprojects are screened against the Prohibited Investment Activities List (PIAL) of the ADB Safeguard Policy Statement (2009);

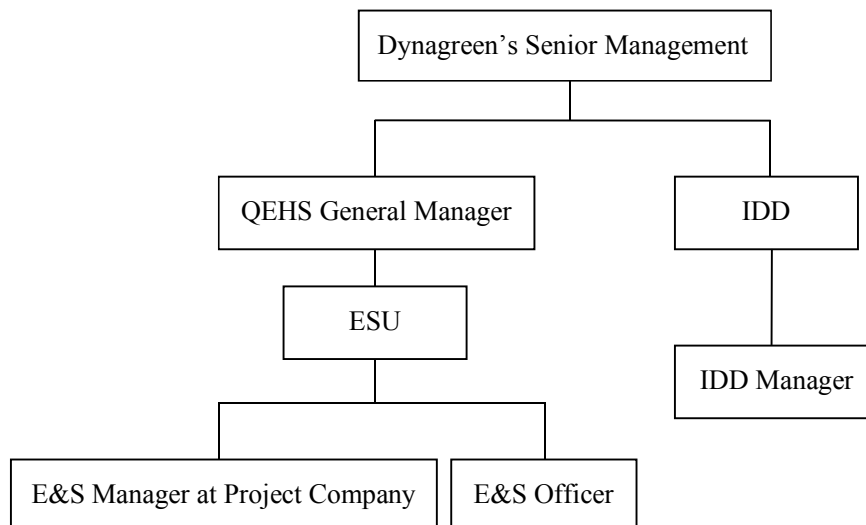
¹ The term "subproject" is used in the document to mean business activities financed in part or in full by Dynagreen using ADB funds.

8. All proposed subprojects with potential environmental and/or social impacts are reviewed and evaluated against Safeguards Requirements 1-3 of the ADB's Safeguard Policy Statement (2009);
9. All proposed subprojects are reviewed and evaluated against international good practice and the applicable national laws, regulations, and standards on environment, health, safety, involuntary resettlement and land acquisition, indigenous peoples, and physical cultural resources.
10. Gender issues will be identified and women's needs and concerns addressed. Specifically, (i) gender analysis will be included as part of the environmental and social impact assessment, (ii) women will be involved during consultations, (iii) mitigating measures will be developed to address impacts on women, and (iv) opportunities to assist and benefit women will be explored;
11. Ensuring that the subproject's contracts with civil works contractors, subcontractors, and other providers of goods and services include provisions to employ local labor whenever possible and ensure compliance with the national labor laws and ADB's social protection requirements; and
12. The following subprojects are excluded from ADB financing: (a) those with significant environment and involuntary resettlement impact; and (b) those that directly or indirectly affect the dignity, human rights, livelihood systems, or culture of Indigenous Peoples or affect the territories or natural or cultural resources that Indigenous Peoples own, use, occupy, or claim as an ancestral domain or asset.

3. Management Structure

The following chart summarizes the organizational structure for the ESMS implementation.

Table 6: Organizational Chart



The quality environment health and safety (QEHS) general manager reports to Dynagreen's senior management. The QEHS General Manager has oversight for environmental and social issues, ensures that resources are made available for environmental and social management, and should sign and submit the annual environmental and social performance report to ADB. S/he should ensure that ADB is notified if and when there is a material environmental or social safeguards non-compliance. S/he should ensure that ADB is notified if and when the responsible staff has been changed or replaced with new staff. Dynagreen has established an environment and social unit (ESU) and appointed staff to guide, oversee and monitor social safeguards planning and implementation. The responsibilities of ESU and Investment Development Department (IDD) have been defined clearly. During the subprojects identification period, ESU will work with IDD to do the initial impact assessment to check if the candidate subprojects are comply with ADB's SPS 2009 and national laws and regulations. During subprojects preparation and implementation period, ESU will be responsible for the social issues. The QEHS General Manager will prepare IEE, IPP, and RP, supervise the effective implementation of the EMP; coordinate periodic environmental and social impact monitoring according to the approved monitoring plan; coordinate the project level GRM; prepare annual environment progress reports and submit them to ADB; conduct public consultation and inspect implementation of mitigation measures. Implement the ESMS system at both the holding company and Project Company levels. The E&S Officer will assist the QEHS General Manager with all the ESU work. In each project company an E&S manager is appointed to implement the EMP at subproject company and prepare and submit the annual environment and social impact monitoring report to the QEHS General Manager.

4. Projects in the Construction Stage

(1) Environmental management

The environmental management system is formulated in accordance with The Plan for Environmental Management during the Construction Stage of water to energy(WTE) Plant Projects of Dynagreen and The Environmental Management Scheme for Environmental Protection Projects of Dynagreen. The monthly environmental management reporting system is established so that environmental and social protection for projects in the construction stage is monitored on a monthly basis. At the beginning of each year, all environmental protection and new-energy project companies develop an environmental monitoring plan and perform examinations of the environment on a regular basis. Methods of monitoring include internal and external monitoring, in addition commissioning third party organizations for monitoring. As for the environmental and new energy projects under construction, the civilized construction management plan and the incentives and disincentives for management of project construction safety are established, and the letter of responsibility for safety

and the liability statement for building civilized construction sites are signed. Environmental protection measures are developed for possible environmental factors at the construction stage, and the undertaker and supervisor for inspection of these measures are identified. Regular inspections are made to avoid potential accidents and minimize impact of production on the surrounding environment and the lives of local residents.

(2) Work safety

Safety culture and workplace safety inspections are carried out regularly; contingency plans are formulated and at least one emergency exercise is organized each year; appropriate safety protection equipment is provided; and training on work safety is provided on a regularly basis to ensure the safety of employees.

(3) Social security

Local governments are engaged in the proper handling of land acquisition and demolition work in the early stages of projects. The Department assists the government in compiling and implementing the demolition plan and after the demolition, assists in preparation of social responsibility reports and demotion plans in addition to conducting external monitoring on resettlement. The Department actively carries out publicity and educational programs, establishes strong relations with local residents and provides them the necessary employment opportunities. At least one physical examination for employees is organized every year.

5. Project Operation

(1) Environmental management

The environment management system is established in accordance with The Environmental and Social Management Rules of Dynagreen and The Environmental Management Scheme for Environmental Protection Projects of Dynagreen to formulate the environmental and social management system annual operations plan. An environmental monitoring system is established for the surveillance of monthly pollutant discharge to ensure compliance with emissions standards and continuously improves environmental performance. An environmental protection and clean energy meeting is held every month with the participation of all the energy companies. Issues in the energy companies' operations for the month are raised and solutions are discussed. Additionally, the meeting helps ensure that emissions are in accordance with the design standard as well as the national laws and regulations, that the project is

free of safety risks, and that all projects are proceeding smoothly according to the annual work plan and targets. Project companies progress together through discussions during the meeting.

The quality management system and environmental management system are established by company and departmental management policies and objectives are identified. The quality control and work flow of waste incineration power generation and services and the procedures of all works are established; environmental factors at all stages are recognized and evaluated and important factors are identified; the said procedures are managed according to the requirements set by established standards; heads of various processes are appointed, in addition to the criterion and methods necessary to the effective operation and control of various processes. Corresponding management systems, operating standards, environment management plans and operating control procedures are formulated. Major environmental control procedures include procedures for controlling air pollution, water body pollution, solid waste pollution and noise pollution.

(2) Work safety

Safety inspections are conducted every day and work safety meetings are held regularly. Various companies launch major work safety inspections in the spring and winter, and rectify according to the inspection outcomes. They develop contingency plans respectively, organize emergency exercises each year, and provide safety protection equipment and work to ensure the safety of employees. Establishment of a safety management system and the effective operation of the system to eliminate or reduce the possible occupational health and safety hazards employees and other parties are exposed to I production and operation activities, ensure that the occupational health and safety policies declared by the company are upheld and allow constant evaluation to improve the performance of occupational health and safety of the Company. Major safety management procedures include the hazard recognition and risk assessment system, fire control management system, labor protection and protective equipment management system, accident management and control system, and dangerous chemical management system.

(3) Social security

Protective measures shall be ensured through strict implementation of a safety helmet supervision system, an occupational health management system, a safety facility management standard, and a safety tools and utensil management. Major management procedures cover female employee protection management system, and industrial injury and occupational disease management system. At least one physical

examination is organized every year. The companies participate in promoting local environmental protection, education, culture, science, sanitation, community construction, poverty support, and provide employment for local residents.

6. Projects in Construction:

Anshun Waste to Energy Project:

The project company was founded on 18 May, 2012.

Construction progress:

1. Constructing schedule : Accumulative total of 92.23%

- a. The construction of the main plant building has completed by 100%;
- b. The construction of the chimney has completed by 88.18%;
- c. The construction of the main office building has completed by 98.04%;
- d. The construction of the roads in the plants area has completed by 37.83%.

2. Installation schedule : Accumulative total of 64.81%

- a. The installation of the incinerators has completed by 72.63%;
- b. The installation of the steam turbine has completed by 80.77%
- c. The installation of the electric system has completed by 48.31%;
- d. The installation of the thermal control system has completed by 60.33%.

3. Supporting projects

- a. Access system: obtained the approval of the 35KV line project, the transformation equipment and power plant side cable are in store, the 35KV line project has completed by 98%;
- b. Supply and drainage system
- c. Road outside the plant: completed;
- d. Leachate BOT project: the installation has completed by 10%.

Jixian Waste to Energy Project:

The project company was founded on 6 June, 2013.

Construction progress:

1. Constructing schedule : Accumulative total of 78.93

- a. The construction of the main plant building has completed by 80.01%;
- b. The construction of the main office building has completed by 90.79%;
- c. The construction of the chimney has completed by 42.17%;

- d. The construction of trestle has completed by 82.10%;
- e. The construction of external projects has completed by 64.14%.

2. Installation schedule : Accumulative total of 55.87%

- a. The installation of the engineering project has completed by 67.87%.
- b. The installation of the auxiliary facilities has completed by 56.84%;
- c. The installation of the electric system and the thermal control system has completed by 26.00%.

3. Supporting projects

- a. The access system: the final plan is confirmed, it will be submit to Jixian planning bureau when the Tianjin design institute issues the official plan; the investment plan of the power company, the constructing design work is prepared by the fundamental construction department;
- b. The road outside the plant: the line is determined, wait for the approval of the government.

Huizhou Waste to Energy Project:

The project company was founded on 6 June, 2013.

Construction progress:

1. Constructing schedule : Accumulative total of 18.82%

- a. The construction of the main plant building has completed by 26.13%;
- b. The construction of the chimney has completed by 8.81%;
- d. The construction of the trestle has completed by 4.49%;
- e. The construction of the main office and ancient-style building at the leachate area has completed by 13.07%.

2. installation schedule : Not start yet

3. Supporting projects: Not start yet

7. Mitigation Measures on Construction Period:

(1) Air quality

Frequent watering of unpaved areas, backfill areas and haul roads; Erect hoarding around dusty activities; Strengthen the management of stockpile areas with frequent watering or covering with tarpaulin; Minimize the storage time of construction and demolition wastes on site by regularly removing them off site; Do not overload trucks for transporting earth materials to avoid spilling dusty materials onto public roads; Equip trucks for transporting earth materials with covers or tarpaulin to cover up the earthy materials during transport; Install wheel washing equipment or conduct wheel washing manually at each exit of the works area to prevent trucks from carrying muddy or dusty substance onto public roads; Immediately cleanup all muddy or dusty materials on public roads outside the exits of the works areas; Sensibly plan the transport routes and time to avoid busy traffic and heavily populated areas when transporting earthy materials; Immediately plan vegetation in all temporary land take areas upon completion of construction to prevent dust and soil erosion.

(2) Noise

Sensibly schedule construction activities, avoid noisy equipment working concurrently; Select advanced quiet equipment and construction method, and tightly control the use of self-provided generators; Comply with local requirements in areas with sensitive receptors very close by. If night time work is needed, set up temporary noise barrier, minimize use of noisy equipment, and consult and notify local communities beforehand; Control speed of bulldozer, excavator, crusher and other transport vehicles travelling on site, adopt noise reduction measures on equipment, strengthen equipment repair and maintenance to keep them in good working condition; Limit the speed of vehicles travelling (less than 20 km/hr), forbid the use of horns unless absolutely necessary, minimize the use of whistles; Maintain continual communication with nearby schools to avoid noisy activities near the schools during examination periods.

(3) Water quality

Domestic and cafeteria wastewater will go through biochemical treatment and grease trap prior to discharge; The cafeteria will be designed and construct for employment and provide breakfast, lunch and dinner. Timely cleanup scattered materials on site, stockpiles must adopt measures to prevent being washed into water bodies by rain water; Reuse equipment and wheel wash WW for dust suppression;

(4) Solid waste

Transport construction waste in enclosed containers; Establish enclosed waste collection points on site, with separation of domestic waste and construction waste; Set up centralized domestic waste collection point and transport offsite for disposal

regularly by sanitation department; Dispose spoil at designated disposal site. Backfilled area if not being used must be planted with vegetation to prevent soil erosion.

(5) Physical cultural resources

Contractor must comply with PRC's Cultural Relics Protection Law and Cultural Relics Protection Law Implementation Regulations if such relics are discovered, stop work immediately and notify the relevant authorities, adopt protection measures and notify the Security Bureau to protect the site.

(6) Occupational health and safety

Effectively clean and disinfect the site. Disinfect toilets and refuse piles and timely remove solid waste; Minimise the risk of fly- or mosquito-borne diseases by maintaining well-drained and hygienic project sites; Remove standing water bodies and cover drums and other containers to avoid formation of stagnant water; Ensure personnel are aware of potential disease risks; Enforce on-site hygiene regulations to prevent litter; Provide public toilets in accordance with the requirements of labor management and sanitation departments in the living areas on construction site, and appoint designated staff responsible for cleaning and disinfection. Provide safety hats and shoes to all construction workers and enforce their use by the workers; Provide ear plugs to workers working near noisy PME. Construction workers must have physical examination before start working on site. If infectious disease is found, the patient must be isolated for treatment to prevent the disease from spreading. From the 2nd year onwards, conduct physical examination on 20% of the workers every year. Establish health clinic at location where workers are concentrated, which should be equipped with common medical supplies and medication for simple treatment and emergency treatment for accidents. Specify the persons responsible for health and epidemic prevention, education on food hygiene, and disease prevention, to raise the awareness of workers.

(7) Community health and safety

A traffic control and operation plan will be prepared together with the local traffic management authority prior to any construction. The plan shall include provisions for diverting or scheduling construction traffic to avoid morning and afternoon peak traffic hours, regulating traffic at road crossings with an emphasis on ensuring public safety through clear signs, controls and planning in advance. Residents and businesses will be informed in advance through media of the construction activities, given the dates and duration of expected disruption. Clear signs will be placed at construction sites in view of the public, warning people of potential dangers such as moving vehicles, hazardous materials, excavations, . and raising awareness on safety issues. All sites will be made secure, discouraging access by members of the public through appropriate fencing whenever appropriate. Assess construction locations in advance for potential disruption to services and identify risks before starting construction. If temporary disruption is unavoidable, develop a plan to minimize disruption with

relevant authorities e.g. power company, water supply company, communication company, and communicate dates and duration in advance to all affected people.

