

Environmental and Social Data Sheet

Overview

Project Name:	CCCFL II – SHANDONG HEAT AND COLD GENERATION
Project Number:	2013-0427
Country:	China
Project Description:	The operation consists of the construction of heat and cold supply systems from renewable energy sources to serve public, commercial and residential buildings in Changyi City and Kuiwen District both under Weifang Municipality in Shandong Province, China. The Project consists of two subprojects proposed by two unrelated Promoters located in two different cities. In total 29 geothermal energy centres will be built to serve a total heating/cooling area of approximately 2.7 million m ² . To mobilise the geothermal resources some 25,000 wells will be drilled with a depth of around 100m. The geothermal installations are supplemented by solar thermal systems at selected buildings. Some relatively aged buildings will be upgraded through building envelope insulation. The operation is an allocation under the CCCFL II.

EIA required: yes

Project included in Carbon Footprint Exercise¹: yes

(Details for projects included are provided in section: "EIB Carbon Footprint Exercise")

Summary of Environmental and Social Assessment, including key issues and overall conclusion and recommendation

The operation will support subprojects that provide heat and cold supply from renewable (geothermal, wastewater and solar) sources to serve public, commercial and residential buildings.

The project will contribute to the development of renewable energy and energy efficiency and avoid/reduce the consumption of fossil fuel from the current production mix in China mainly based on coal, and will help increase the share of renewable energy in the Chinese economy. As a result, it will help reduce greenhouse gas emissions and other air pollution (SO₂, NO_x and particulates) related to the production of heat and electricity by coal.

The project is subject to an ESIA process, and an approval of the submitted ESIA has been granted by the competent local authorities. Two major gaps have been identified: lack of public consultations and, in particular, the environmental risks linked to the drilling of approximately 25,000 geothermal wells to a depth of approximately 100m. The main potential environmental risk of the operation is the introduction of potential contamination from the ground surface activities and/or shallow soil to the groundwater aquifer(s) or between aquifers. The risk can be mitigated by state of the art drilling process and properly installed seals on the boreholes. The identified gaps regarding the potential environmental impacts need to be addressed by the promoters prior to disbursement through an update of the ESIA including approval by the competent local authorities. Furthermore a set of undertakings is foreseen in order to implement close monitoring during the well drilling phase.

The promoters have substantial experience in the implementation and operation of energy supply systems. Also the promoters are deemed to have adequate environmental and social management capacities.

With the appropriate conditions in place, the project is considered acceptable for Bank financing from a social and environmental point of view.

¹ Only projects that meet the scope of the Pilot Exercise, as defined in the EIB draft Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: above 100,000 tons CO₂e/year absolute (gross) or 20,000 tons CO₂e/year relative (net) – both increases and savings.

Environmental and Social Assessment

Environmental Assessment

Given the scale, location and nature of the sub-projects in built-up urban areas an ESIA, as defined under the EIA Directive 2011/92/EU, would require a full EIA. According to national legislation an ESIA has to be carried out. The promoters have performed an ESIA for the subprojects, however these are not fully up to EU nor the EIB's standards. The environmental approvals have been granted by the local administration, with limited environmental impacts expected.

Given the environmental risks related to the drilling, a regional hydrogeological review was completed during the project appraisal. The identified gaps will have to be addressed in an updated ESIA (including approval by the competent local authorities) which needs to be carried out prior to any disbursement of funds. The well drilling phase will be closely monitored.

Temporary nuisance due to the excavation, drilling and construction works (dust, noise, traffic disruption and underground utility clearance) are mitigated through appropriate site organisation and construction management. Due to the nature of the investment no significant negative environmental impacts are expected.

EIB Carbon Footprint Exercise

The estimated emissions savings are around 71,600 t CO₂ equivalent per year. This emission reduction has been calculated based on the expected annual replacement of thermal energy supply for heating after the implementation of the project. The electricity consumption will increase as a result of the use of heat pumps for supplying both heating and cooling. For the heat generation before the project implementation, coal boilers and distribution with an overall efficiency of 70% is applied. For the electricity generation the CO₂ emission factor of the national fuel mix for power generation including also distribution losses is used.

For the annual accounting purposes of the EIB Carbon Footprint, the project emissions will be prorated according to the EIB lending amount signed in that year, as a proportion of project cost.

Social Assessment

The energy centres will be situated in urban areas and be constructed on the plots of the buildings to be supplied with heat and cold. Occupational and community health and safety issues are deemed appropriately addressed in the authorisation process. The promoters have a comprehensive health and safety policy in place. The implementation of the project is not expected to raise significant social issues.

The promoters have a human resource policy that complies with local regulatory requirements and is applied consistently to all employees and where applicable to subcontractors. As required by law, the policy is included in employment contracts and addresses working conditions, terms of employment, and wages and benefits. As is common practice in China, although not explicitly stated, employment relationships recognise the principals of non-discrimination and equal opportunity.

Under PRC law, employees have the right to freedom of association and have the opportunity to collectively represent to the management any issues or grievances that they may have.

There are no forced labour practices and the promoter companies do not hire workers below the age of 18 years.

Public Consultation and Stakeholder Engagement

Consultation of the public and relevant authorities is an integral part of the ESIA process. This has not been undertaken during the SIA process. The promoters are requested to fill this gap by carrying out additional meaningful public consultation and engagement as part of the update of the ESIA prior to loan disbursement.