I. Project Context

Country Context

China’s double-digit economic development has spurred huge consumption of total primary energy (TPEC) and electricity: TPEC increased by 8.8 percent during 2000-2011, more than threefold the World growth rate. Electricity consumption grew by 12 percent, fourfold of the World growth. Such rapid growth is expected to continue for coming years. According to the latest International Energy Agency (IEA) New Policies Scenario forecast, China’s primary energy demand is expected to grow by 2 percent annually up to 2035, 0.7 percent higher than World growth rate and 1.7 percent higher than OECD growth rate. China Electricity Council predicts that the power generation capacity will reach 1950 GW by 2020. Currently, coal dominates China’s energy mix, contributing 68.5 percent of the primary energy consumption, and fueling around 50 percent of power generation in 2011. According to the IEA forecast, coal will remain the dominant fuel and would account for more than 50% of the primary energy up to 2035.

The Government of China (GoC) has come to recognize that such tremendous primary energy and power growth cannot be met by fossil fuels. Coal combustion has already led to deteriorating local environment and China became the largest CO2 emitter in the World. The past growth trends are unsustainable and the government plans momentous reduction in energy and carbon intensive industries.
Sectoral and institutional Context
To meet fast growing energy demand in a sustainable and environmentally responsible manner, GoC committed to increase the use of renewable energy (RE) to limit coal growth. China’s Renewable Energy Law (REL) was enacted in 2005 and became effective in 2006. The REL set up an ambitious RE target and mandated grid access for RE-based electricity. It also provided financial incentives to promote RE-based electricity. Later in 2009, the GoC updated RE targets in the RE Medium and Long Term Development Plan and committed to increase the share of none fossil fuel to 15 percent of primary energy consumption by 2020. The legislation and enabling policy framework provided the necessary incentive mechanisms to scale up RE development to meet the surging electricity demand.

As a result, RE development boomed during the 11th Five Year Plan (FYP, 2006-10). China’s installed wind capacity doubled in three consecutive years 2007-08-09. In 2010, the installed capacity reached 44.7 GW. In the same period, installed biomass capacity grew remarkably to reach 5 GW in 2010. Solar photovoltaic (PV) also made considerable progress. The installed capacity reached about 1 GW, but remained a marginal share due to its high cost. In 2011, the growth lessened for biomass and wind; biomass stayed at 5GW and wind capacity increased slightly to 45.1 GW. Only PV sustained a healthy growth and installed capacity more than doubled to reach 2.14 GW.

II. Proposed Development Objectives
The development objective of the proposed project is to demonstrate the technical viability of Concentrate Solar Power development in cold, dry, and high latitude conditions.

III. Project Description
Component Name
Plant Design, Supply and Installation of Solar Field, Heat Storage and Exchange System and Control System
Comments (optional)

Component Name
Technical Assistance
Comments (optional)

Component Name
Front End Fee
Comments (optional)

IV. Financing (in USD Million)

<table>
<thead>
<tr>
<th>Total Project Cost:</th>
<th>156.40</th>
<th>Total Bank Financing:</th>
<th>80.00</th>
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<tbody>
<tr>
<td>Total Cofinancing:</td>
<td></td>
<td>Financing Gap:</td>
<td>0.00</td>
</tr>
</tbody>
</table>

For Loans/Credits/Others | Amount |
Borrower                  | 76.40  |
V. Implementation
A. Institutional and Implementation Arrangements

The proposed project will be implemented by Datang RE Ordos, a subsidiary company established by Datang RE, itself a subsidiary of China Datang Corporation. As of June 30, 2012, Datang RE has developed 5,382 MW of renewable electricity generation capacity, with wind power accounting for 98 percent (5,295 MW) and other renewable resources making up the remaining 2 percent (87.5 MW).

China Datang Corporation, as the shareholder of Datang RE, oversees all activities of its subsidiary companies, including the review, approval, and oversight of their investment plans. Datang Corporation also provides support such as funds or guarantee loans to carry out investment activities, training, or technical support to operate plants, and can provide qualified staff on secondment.

Datang RE has well established institutional functions designed specifically to develop renewable resources. Institutional oversight and corporate governance are the responsibility of its Board of Directors (BoD), composed of representatives from Datang Corporation and other branch companies. Key technical and managerial positions are staffed with qualified personnel. New projects in Datang RE are normally undertaken by the project development department and then executed by the engineering department. Within the latter, dedicated project managers are appointed for each renewable energy project with the responsibility of overseeing all aspects of its development. The project managers are supported by specialists from other functional departments to oversee financial planning, management, procurement of goods and services, and construction of the projects. In case a subsidiary company is established to construct and operate the generation facility, these functions are relinquished to the subsidiary.

Datang RE Ordos was established to specifically coordinate and implement all activities related to the preparation work and construction of the power plant (including procurement, monitoring and evaluation, quality assurance, and safeguards) and operate it after commissioning. The core staff comprises of key representatives from the Datang RE central departments, including the departments of finance, procurement, and safeguards, and technical managers from its solar department. Datang RE Ordos is led by a senior manager from the Datang RE Solar Energy Department, who reports directly to the General Manager to ensure that any issues related to the proposed project are elevated quickly to senior management attention and can be resolved in a timely manner.

During the construction of the proposed project, Datang RE Ordos will be supported by the Inner Mongolia Power Survey and Design Institute (Design Institute).

The Datang RE Ordos General Manager is responsible for the overall project preparation, construction, and operation after commissioning, and will report directly to the General Manager of Datang RE. He will oversee five departments: Planning, Administration, Engineering, Finance, and Safeguards, supported by specialists from Datang RE and local qualified personnel. A centralized procurement agency will be designated to handle all procurement activities for the project; This
agency reports to the Datang RE Ordos General Manager.

B. Results Monitoring and Evaluation

Datang RE Ordos will be responsible for the overall M&E system, including regular data collection to assess progress towards achieving results against the performance indicators defined in the PAD. It will furnish to the Bank semi-annual progress reports on project implementation by February 15 and August 15 of each year, starting with February 15, 2014. In addition, it will prepare a mid-term review report by February 15, 2015. Based on the recommendations of these reports and the Bank’s reviews and comments thereon, Datang RE Ordos will take actions, satisfactory to the Bank, to address any emerging issues in order to meet the targets set in the results framework.

C. Sustainability

Sustainability at project level. The sustainability of the project is ensured by the establishment of a dedicated project company staffed with professionals experienced in RE-based power generation development. The hiring of a technically capable engineering consulting firm as the Owner’s Engineer will greatly help in addressing the key technical challenges facing the project, including anti-freeze protection measures against extreme weather conditions. This collaboration will ensure that the plant will be designed, constructed, operated and maintained according to industry standards.

The Government of China set ambitious national targets for CSP development. It is paying particular attention to the proposed project before approval of subsequent demonstration projects. In addition, Datang RE is a leading company in conventional and RE-based electricity generation and, as part of its growth strategy, committed to CSP scale up. The successful implementation and operation of the proposed project is critical to subsequent deployment of its CSP business and considered one of the highest priorities of Datang RE’s 12th corporate FYP. Datang Corporation, the parent company of Datang RE, one of the five major power generation companies in China, is also highly supportive of the project. Both are publicly listed companies with strong financial positions and increasing awareness about their environmental image. Therefore, the central government, Datang Corporation, and Datang RE will provide sufficient support to the proposed project to ensure its satisfactory completion and sustainable operation.

Appropriate measures to mitigate the social and environmental impacts associated with the project have been developed by Datang RE and agreed with the World Bank. These will ensure the social and environmental sustainability of the project as summarized in the safeguards framework and related environmental management plans.

Sustainability at country level. The knowledge and experience associated with developing the proposed project will not only benefit Datang RE, but also various key stakeholder groups in China’s CSP industry. Disseminating these valuable experiences and lessons at the country level will effectively stimulate subsequent CSP deployments in China as China plans to develop 3 GW of CSP by 2020. China Renewable Energy Scale-Up Project (CRESP) I has provided funds to hire international consultancy support to improve the feasibility study of the proposed project and upgrade it to industry and international standards. Support from CRESP II is envisaged to widely disseminate the knowledge gained during project preparation and construction and eventually
support efforts to replicate the project and explore ways to reduce implementation costs and scale up China’s CSP program.

VI. Safeguard Policies (including public consultation)

<table>
<thead>
<tr>
<th>Safeguard Policies Triggered by the Project</th>
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<tbody>
<tr>
<td>Environmental Assessment OP/BP 4.01</td>
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<td>Projects in Disputed Areas OP/BP 7.60</td>
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Comments (optional)

VII. Contact point

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