



Project Data Sheet

Project 46472-001

Project Name	Strengthening Capacity for Implementing the New Energy City Program in Gansu Province	
Project Number	46472-001	
Country / Economy	China, People's Republic of	
Project Status	Closed	
Project Type / Modality of Assistance	Technical Assistance	
Source of Funding / Amount	TA 8246-PRC: Strengthening Capacity for Implementing the New Energy City Program in Gansu Province	
	Technical Assistance Special Fund	US\$ 750,000.00
Strategic Agendas	Environmentally sustainable growth Inclusive economic growth	
Drivers of Change	Governance and capacity development	
Sector / Subsector	Energy / Energy sector development and institutional reform - Energy utility services - Renewable energy generation - solar	
Gender		
Description	<p>The proposed TA is a timely response to the government's request for ADB's assistance for the implementation of the NECP in the PRC. The proposed TA is aligned with NEA's priorities for developing a comprehensive New Energy City Framework and establishing appropriate support mechanisms to deploy distributed renewable energy applications. The TA will provide a best practice model in planning, appraising, implementing distributed renewable energy development in second-tier cities of Gansu and other provinces. A successful demonstration in the two cities of Dunhuang and Wuwei how to address critical capacity barriers for the effective implementation of the NECP will facilitate its replication. The lessons learned from this TA will be shared and discussed with NEA, other relevant cities and provinces, and other relevant stakeholders.</p> <p>The TA concept fits very well with the government's priority of fostering green and low-carbon development, and is fully consistent with ADB's country partnership strategy (2011-2015) for the PRC with emphasis on promoting resource efficiency, environmentally sustainable growth, and addressing climate change.</p> <p>The TA is expected to deliver the following outputs:</p> <ul style="list-style-type: none">(i) Priority projects of Dunhuang and Wuwei cities are appraised and prepared for implementation.(ii) Capacity strengthened in planning and implementing the NECP.(iii) Pilot projects implemented for demonstration in both cities.(iv) Best practices in the NECP implementation developed and disseminated.	

Over the Twelfth Five-Year Plan (2011-2015) period, the Government of the PRC intends to further add significant renewable energy capacity to achieve a more diversified energy mix. By 2015, the annual renewable energy consumption is expected to reach more than 9.5% in the overall energy mix replacing 100 million ton of coal equivalent of fossil energy to satisfy heating and fuel demand. Given (i) the important share of centralized, coal-fired power generation in urban areas and associated emissions and local air quality issues of these power plants; (ii) increasing difficulties of integrating large-scale, intermittent renewable power into the power grid; (iii) a relatively slow development of distributed renewable energy applications; and (iv) the potential of distributed renewable energy applications for local green growth and the expansion of local job opportunities, the government targets experimenting the roll-out of distributed energy applications in 100 demonstration cities. The concept of rolling out distributed renewable energy in cities has been successfully implemented in Europe. In the European Union, local authorities play a key role in the achievement of the European Union's energy and climate objectives. The Covenant of Mayors is a European initiative by which towns, cities, and regions voluntarily commit to reducing their CO₂ emissions beyond mandatory 20% target. This is achieved through the implementation of Sustainable Energy Action Plans which are elaborated by participating cities and which summarize the cities' planned local actions and policy measures to increase energy efficiency and increase the share of renewable energy sources. By the end of 2011, 759 cities ranging from small towns to large metropolitan agglomerations, submitted their Sustainable Energy Action Plans. One key lesson learnt from this rich experience is that each city will need to adapt its planned actions and policy measures to the specific local socioeconomic environment and particularly energy demand and supply characteristics.

Encouraged by the success of the European Union program, NEA announced the NECP on 25 May 2012 to stimulate distributed renewable energy development across 100 second-tier cities within the 12th plan. The announcement includes relevant guidelines defining (i) ambitious targets for distributed energy, (ii) criteria for selecting the demonstration cities, and (iii) implementation procedures for the program. The NECP targets a representative set of second-tier cities with varying economic structures, load characteristics and renewable energy resource endowment. By 2015, each of the selected demonstration cities shall make full use of its locally available renewable energy sources and would have doubled its existing share of renewable energy in its overall energy mix to a minimum threshold level of 6% in 2010. Furthermore, by 2015, each city shall install (i) solar thermal plants covering an area of at least 1.0 square kilometer, (ii) solar photovoltaic panels of 20.0 megawatt, (iii) distributed wind power of at least 100 megawatt, and (iv) shallow-geothermal installations and heat pumps covering an area of 3.0 square kilometers and biomass utilization shall reach 0.1 million ton of coal equivalent per year.

Gansu Province is located in the central-west region of the PRC. Measured by a per capita gross domestic product standard, Gansu Province is ranked 27 among the 31 provinces in the PRC. It relies on tourism and industries for its economic growth. Dunhuang city, as a world cultural heritage site, and Wuwei city, with its long-standing history, are at the heart of the tourism development strategy of the province. While tourism infrastructure has been built up over the past decades, the greening of the cities' energy sector is important to improve the local air quality to ensure its attractiveness to tourists. Wuwei city's central location makes it an important business and transportation hub; many major railroads and national highways pass through Wuwei. Both Dunhuang and Wuwei cities are endowed with significant renewable energy resources, in particular rich solar resources characterized by (i) high solar irradiation with more than 3,000 sunshine hours per year, (ii) a cool continental climate with an annual average temperature of about 9 degrees Celsius, and (iii) broad and flat deserted areas adjacent to urban agglomerations of the cities. These characteristics make the cities ideal for both distributed as well as large-scale development of solar power generation.

Dunhuang city has been at the forefront to demonstrate solar photovoltaic (PV) applications in urban areas. Dunhuang's new energy city masterplan to double its existing share of renewable in its energy mix to more than 27% by 2015 was approved by NEA and it was selected as the demonstration city under the NECP. Dunhuang's masterplan involves investment of CNY26.8 billion by 2015 mainly in the areas of solar photovoltaic and solar thermal installations, micro-grid establishment to connect distributed renewable energy sources within the city, and supporting infrastructure to facilitate the use of electric vehicles. Wuwei is a major transport hub and tourist city in Gansu Province. Unlike Dunhuang, its existing share of renewable in the energy mix is only 3.25% by 2011, which it aims to increase to 8.38% by 2015. Wuwei city's masterplan was submitted to NEA in August 2012 and it was evaluated in October 2012 for formal inclusion in the new energy city program in December 2012. The Wuwei masterplan aims for investments of CNY837 million by 2015 for more than 200,000 solar heating applications, more than 30 MW solar PV capacity addition, more than 30 MW biomass power and 72 MW small hydropower projects.

Both Dunhuang and Wuwei municipal governments face multiple technological, institutional, administrative, and financial challenges in scaled-up investments in developing and integrating distributed renewable energy in the local energy supply mix. The NECP implementation will pose significant challenges for cities to (i) translate the concepts for identified priority projects into financially and technologically viable projects; (ii) institute effective planning and implementation mechanisms to swiftly adjust the city's action and investment plan in view of NECP commitments; (iii) establish appropriate fiscal and financial support mechanisms to facilitate public, private, and public-private investments; (iv) begin data collection, monitoring and verification to effectively supervise the implementation of the plan; (v) establish and ascertain a close cooperation both between different departments within the municipal government as well as between the administration, private sector, and civil society throughout the plan's implementation; and (vi) supplement the plan with smart policy actions and measures to enhance energy conservation and energy efficiency effectively reducing the new renewable energy capacity required to achieve the target share in final energy consumption.

The capacity of relevant staff of the city governments needs to be strengthened to effectively overcome these challenges and to ensure the timely implementation of the NECP in each city. To field test the readiness of each city and applicability of the recommended implementation measures, a pilot project will also be implemented in both Dunhuang and Wuwei. The pilot projects will test at small-scale a key priority project of each of the cities. Pilot projects will help to demonstrate the best practices in (i) project selection, (ii) technical design, (iii) economic and financial viability appraisal, (iv) permitting and agreement of fiscal support by the government, (v) procurement and installation of distributed energy applications, and (vi) project licensing to both municipal governments as well as potential investors.

Project Rationale and
Linkage to
Country/Regional Strategy

Impact

Expanded renewable energy use in second-tier cities in Gansu Province

Project Outcome

Description of Outcome	Enhanced capacity of provincial and city governments in planning, implementing, and monitoring the CNEDP
Progress Toward Outcome	The international study tour was successfully concluded in May 2014. The countries visited by the delegates from the EA and IA were Denmark, Germany, and Switzerland. The delegation met with the experts from the Danish Energy Agency, and the Technical University of Denmark (Denmark); GFA Consulting Group, Wuppertal Institute for Climate, Environment and Energy in Germany; and European Energy Award, ENCO (energie-Consulting AG (Switzerland), and Energy 360 AG in Switzerland. The delegation learned from the experiences and best practices of these institutions on national renewable energy city.

Implementation Progress

Description of Project Outputs	<p>Priority projects of Dunhuang and Wuwei cities appraised and prepared for implementation</p> <p>Capacity strengthened in planning and implementing the CNEDP</p> <p>Pilot project(s) in each city implemented for demonstration</p> <p>Best practices in program implementation developed and disseminated as a knowledge product</p>
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The final workshop was held in May 2014.

The second interim reports was submitted in Feb 2014, the draft final report in April 2014, and the final reports in November 2014 (disclosed in Dec 2014).

Completion of the following reports:

Implementation of two pilot projects for key programs in Dunhuang and Wuwei cities' NECDPs.

(i) Installed solar photovoltaic modules on solar model houses to improve the lives of rural farmers in a rural area outside of Dunhuang city with no access to the electricity grid. The modules on the houses are used for heating, cooling, lightning, and warm water. In addition, solar PV modules were installed on individual greenhouses to improve the households' incomes. The street along which these model houses were built was equipped with solar-based road lighting. The pilot project was partially funded by ADB, Dunhuang City and the rural households. The pilot was completed in November 2013.

(ii) Constructed Modern Solar PV-based Greenhouse Project in Wuwei city in November 2014.

Strategic planning support and capacity strengthening to Dunhuang and Wuwei cities for the implementation of their New Energy City Development Plans (NECDPs).

(i) An international study tour was participated in by a delegation from the EA and IA where they learned from the industry experts from the academe and industrial institutes in Denmark, Germany and Switzerland on national renewable energy city.

(ii) A knowledge sharing local study tour was undertaken to learn from the industry best practices of Yangzhou city as a successful new energy demonstration city.

(iii) Several workshops and other forms of technical support were provided CECEP Consulting Co., Ltd., the consulting firm engaged to help implement the TA, to enhance the knowledge/understanding and make the EA, IAs, and other stakeholders equipped on new energy city program. The firm also provided advice on micro grid, solar thermal utilization, and CSP. Priority projects in Dunhuang and Wuwei cities were evaluated and identified. The priority project identified for Dunhuang is the Concentrated Solar Power and Heat Cogeneration (CSHP-CHP) project. The experts from the consulting firm conducted due diligence and identified the technical, institutional, and financial gaps. The local government has shown great interest on CSP development. Wuwei is rich in solar and wind energy resources. The city prioritizes the large-scale solar PV power projects and large-scale wind power projects. The financial and technical aspects of the project were assessed.

Status of
Implementation
Progress (Outputs,
Activities, and Issues)

Geographical Location

Summary of Environmental and Social Aspects

Environmental Aspects

Involuntary Resettlement

Indigenous Peoples

Stakeholder Communication, Participation, and Consultation

During Project Design	In September 2012, NEA and Asian Development Bank (ADB) organized a workshop targeting all provinces in the PRC to present, elucidate, and discuss the NECP. During the workshop, Gansu Province showed strong interest in the timely implementation of the program in its selected cities of Dunhuang and Wuwei but highlighted capacity gaps in implementing the program. NEA requested ADB's urgent help to prioritize Gansu and its selected cities in addressing capacity issues in the implementation of the program.
During Project Implementation	The Gansu Provincial Finance Department is the executing agency for the proposed TA. The municipal governments of Dunhuang and Wuwei cities will each establish a project management office to act as the implementing agencies for the proposed TA. The implementing agencies will closely cooperate with the team of consultants in establishing the action and investment plan, support consultants in obtaining information, consulting with stakeholders and implementing the pilot project.

Business Opportunities

Consulting Services	<p>The TA will be carried out by a team of consultants with extensive knowledge and expertise in (i) renewable energy and new energy city development strategy, (ii) energy economics, (iii) renewable energy technology, and (iv) energy-related environmental and social safeguards. ADB will select and engage consultants through a consulting firm in accordance with its Guidelines on the Use of Consultants (2010, as amended from time to time) using the quality- and cost-based selection method (with a quality-cost ratio of 80:20). The consulting firm will be required to submit a simplified technical proposal covering team composition, task assignments, work and personnel schedules, and curriculum vitae of the proposed consultants. TA funds will be disbursed in accordance with ADB's Technical Assistance Disbursement Handbook (2010, as amended from time to time).</p> <p>The consultants are required to provide capacity building materials, and summarize and report important topics highlighted at seminars and workshops to the executing and implementing agencies and ADB. The consultants will be responsible for supervising the implementation and providing guidance.</p>
Procurement	All procurement will be carried out in accordance with ADB's Procurement Guidelines (2010, as amended from time to time). All equipment purchased under the TA will be turned over to the implementing agency after TA completion.
Responsible ADB Officer	Seiler, Annika
Responsible ADB Department	East Asia Department
Responsible ADB Division	Energy Division, EARD
Executing Agencies	<p><i>Gansu Provincial Finance Department</i> <i>Ms. Mei Zhou, Project Officer</i> <i>gpfdidyh@126.com</i> <i>No. 696 Donggang West Rd, Chengguan District, Lanzhou, Gansu</i> <i>The People's Republic of China 730000</i></p>

Timetable

Concept Clearance	06 Nov 2012
Fact Finding	06 Nov 2012 to 09 Nov 2012
MRM	-

Approval 10 Dec 2012

Last Review Mission -

Last PDS Update 31 Mar 2015

TA 8246-PRC

Milestones

Approval	Signing Date	Effectivity Date	Closing		
			Original	Revised	Actual
10 Dec 2012	24 Dec 2012	24 Dec 2012	15 May 2014	14 Jul 2015	10 Aug 2015

Financing Plan/TA Utilization							Cumulative Disbursements	
ADB	Cofinancing	Counterpart		Project Sponsor	Others	Total	Date	Amount
		Gov	Beneficiaries					
750,000.00	0.00	0.00	0.00	0.00	0.00	750,000.00	17 Jun 2022	606,943.98

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