

# The Best Performing Projects in 2012

2012年度  
最佳表现贷款项目

Asian Development Bank



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最佳表现贷款项目**

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# Introduction of Loan Project Award Program

## 亚行贷款项目评奖活动介绍

### A. Brief Introduction

To better recognize the efforts made by project executing agencies and implementing agencies in implementation of ADB-financed projects in the People's Republic of China (PRC), the Ministry of Finance and the Asian Development Bank (ADB) initiate a loan project award program for the PRC. To begin with, award for best performing projects is introduced. This award is to recognize projects with an effective institutional set up, timely start-up of implementation, smooth disbursement and procurement, strict compliance with loan covenants, and effective delivery of intended project outputs. Awards for other categories, such as best project teams and effective innovations, may be introduced as appropriate.

To ensure transparency of selection, a self-evaluation approach is applied. The project management offices (PMOs) are requested to evaluate performance for their own projects following the specific selection criteria and evaluation methodology. It is expected that, through this process, the PMOs are able to identify strengths and weakness in project

implementation and devise actions to improve project performance.

### B. Implementation of the Award Program

All active loan projects that have been effective for one year including loan projects that are closed but for which the project completion reports has not been circulated are eligible to participate in the award program. Awards are given to approximately 15% of all eligible projects. The award program was launched in the 2012 Country Portfolio Review Mission in Guangzhou and started implementation every two years from 2013.

To supervise implementation of the award program, a selection panel was established. The selection panel comprised Portfolio Management Unit (PMU) Head from each sector division of East Asia Department (EARD), PMU Head of PRCM, and one project officer from ADB Resident Mission in the PRC (PRCM).

To acknowledge sector characteristics in project implementation, each sector (Agriculture and Nature Resources, Energy, Urban and Social Development, and Transport and Communications) has at least one project be awarded. Sector(s) with comparatively stronger performance are allocated two or more slots. The selection process is as follows:

- step 1: Each PMO uses the self-evaluation form (Attachment 1) to conduct self-evaluation for its own project based on the selection criteria and evaluation methodology (Attachments 2 and 3) and then submits the evaluation results to the respective project team leader of ADB;
- step 2: The ADB project teams validate the self-evaluation results and submit their endorsed or revised evaluation results to the selection panel;
- step 3: The selection panel will rank the candidate projects by sector following the evaluation results submitted by ADB project team leaders;
- step 4: The selection panel will check the evaluation results of the top three projects from each sector and confirm the ranking;
- step 5: The selection panel determines the projects to be awarded for each sector based on the confirmed evaluation results and inform ADB project team leaders of the selected projects.

As the award program will be implemented every two years, most projects will have opportunity to participate in the program for two or three times, but each project will only be eligible to with one award, unless the other categories of award will be introduced in the future.

In 2013 award program, 67 projects were eligible and 40 PMOs submitted self-evaluation results for their own projects. Nine projects were determined as the Best Performing Project in 2012.

## A. 简介

为了更好地对项目执行机构和实施机构在执行和实施亚洲开发银行（亚行）在中华人民共和国（中国）贷款项目所付出的努力给予认可，中国财政部和亚行共同发起了一项亚行在中国贷款项目的评奖活动。作为活动的开始，评奖活动仅设最佳项目表现奖一项。该奖项的设立是为了表彰一些项目有着有效的项目管理机构、项目实施启动及时、支出和采购进展顺利、严格遵守贷款协议，并能切实实现项目的预期产出。随着评奖活动的进一步实施，诸如最佳项目团队和有效创新等其他类别奖项，也将适时推出。

为了确保评选的公正和透明，评奖活动采取自评方式进行。项目管理办公室按照给定评选标准和评价方法对自己的项目绩效进行评估。通过这一过程，期望项目管理办公室能够认识到其项目执行情况的优缺点，找出提高项目绩效的办法，从而争取在下一轮的评选中获奖。

## B. 评奖活动的实施

所有已实施一年以上（自贷款生效之日起）的在建贷款项目，包括虽已完工但亚行尚未完成项目完工报告的项目，均有资格参与评奖。获奖比例约为合格参选项目的15%。这次评奖活动在广州召开的2012国别项目检查会议上启动，并从2013年开始每两年评选一次。

为了对评奖活动的实施加以监督，成立了一个评选小组。该评选小组由亚行东亚局四个项目处的项目管理部主任，驻中国代表处的项目管理部主任，和驻中国代表处的一名项目官员组成。

由于不同行业的项目在项目实施中具有不同特点，因此每个行业（农业和自然资源、能源、城市和社会发展、以及交通和通信）至少有一个获奖名额。绩效相对突出的行业将获得两个或更多的获奖名额。评选过程如下：

第一步：每个项目办根据评选标准和评价方法（附件2和3）来对自己的项目进行自评，填写自评表（附件1），并向各自的亚行项目组组长提交评估结果；

第二步：亚行项目组对自评结果进行确认，并将其核定或修订的评估结果提交给评选小组；

第三步：评选小组按照亚行项目组组长提交的评估结果，分行业对候选项目进行排序；

第四步：评选小组对每个行业前三名项目的评估结果进行复核，并对排名进行确认；

第五步：评选小组根据经过确认的评估结果决定每个部门的获奖项目，并通知获奖项目的亚行项目组组长。

由于评奖活动将每两年举办一次，因此大部分项目都有机会参加两次或三次评选，但每个项目只能获一次最佳项目表现奖，除非将来会推出其他类别的奖项。

2013年的评奖活动中，符合参选资格的项目有67个，有40个项目办提交项目自评结果。其中9个项目被评为2012年度最佳表现项目。



## The Best Performing Projects in 2012

### 2012年度最佳表现贷款项目

No. 序号	Loan No. 贷款号	Project Name 项目名称
<b>Agriculture and Nature Resources</b> 农业和自然资源		
1	Loan 2436-PRC	Ningxia Integrated Ecosystem and Agriculture Development Project 宁夏生态与农业综合开发项目
2	Loan 2700-PRC	Risk Mitigation and Strengthening of Endangered Reservoirs in Shandong Province Project 山东省病险水库除险加固项目
<b>Energy</b> 能源		
1	Loan 2408-PRC	Gansu Heihe Rural Hydropower Development Investment Program—Dagushan Hydropower Project 甘肃黑河水电开发多批次投资项目——大孤山水电站
2	Loan 2611-PRC	Guangdong Energy Efficiency and Environment Improvement Investment Program – MFF Tranche 2 广东节能减排促进项目第二批次
3	Loan 2616-PRC	Tianjin Integrated Gasification Combined Cycle Power Plant Project 天津整体煤气化联合循环电站项目
<b>Transport and Communications</b> 交通和通信		
1	Loan 2181-PRC	Central Sichuan Roads Development Project 川中道路发展项目
2	Loan 2631-PRC	Second Heilongjiang Road Network Development Project 黑龙江路网发展二期项目
<b>Urban and Social Development</b> 城市和社会发展		
1	Loan 2420-PRC	Xinjiang Municipal Infrastructure and Environmental Improvement Project 新疆城市基础设施和环境改善项目
2	Loan 2491-PRC	Guangxi Wuzhou Urban Development Project 广西梧州城市发展项目

# **Agriculture and Nature Resources**

## **农业和自然资源**

# Loan 2436-PRC: Ningxia Integrated Ecosystem and Agriculture Development Project

## 宁夏生态与农业综合开发项目

### A. Project Overview

#### 项目简介

The Ningxia Integrated Ecosystem and Agriculture Development Project is the first large investment project to demonstrate an Integrated Ecosystem Management (IEM) approach in the PRC. The project's main success has been in introducing IEM to restore eco-environments, to promote protective follow-up industries to form a virtuous cycle, and to provide sustainable livelihoods for the population of the project area.

Over a 6-year period, the project encompassed 35,000 ha of agricultural conservation, the implementation of water-efficient irrigation over 2,400 ha, the establishment of 115,000 ha of protected habitat for flora and fauna, the conservation of 8,800 ha of wetlands, and livelihood improvements for 140,000 farmers.

宁夏生态与农业综合开发项目是中国第一个示范综合生态系统管理（IEM）方式的大型投资项目。项目主要成果是引进IEM，通过改善环境管理来恢复生态系统，促进保护性后续产业与生态体系形成良性循环，为项目区人口提供可持续生计。

项目主要活动包括用6年时间，实施保护性农业3.5万公顷，实行节水灌溉2,400公顷，建立野生动植物保护区11.5万公顷，保护湿地8,800公顷，改善项目区近14万农民的生计。

## B. Special Features

### 项目亮点

#### 1. IEM, a guiding concept throughout the project

##### 综合生态管理理念贯穿于项目

The project took into account factors including agricultural production, conservation of biodiversity, mitigation of land degradation, while also implementing features aimed climate protection into its design. The concept of IEM was at the forefront throughout the entire process of the project in a multisector, cross-industry cooperation bringing together law, policy and management.

Overall, the project featured integrated wetland management, embodying a management concept that makes it a domestic model in terms of legislation, management, and research. The Ningxia provincial authorities have promulgated the Ningxia Wetland

Protection Regulations, which were reevaluated in 2010. Meanwhile, the design and construction of an IEM demonstration center embodies awareness of low-carbon energy conservation and environmental protection, biodiversity rehabilitation, water-saving irrigation and cultivation, and restoration of degraded land in the demonstration area.

项目综合考虑了农业生产活动、生物多样性保护、减少土地退化等因素，并把实施气候保护等因素纳入其设计。IEM理念贯穿于项目实施和管理全过程，从法律、政策和管理上促进实行多部门、跨行业的合作。

项目以湿地综合管理方面进行了全方位的实践，体现了综合生态管理理念，在立法、管理、研究等方面成为国内的范例。在湿地立法上，宁夏人大施行了《宁夏湿地保护条例》，并于2010年对《条例》进行了后评估。IEM示范中心的设计和建设体现了林业、水资源、土地等内容的结合。



A part of an IEM demonstration center

IEM示范中心一角

## 2. Cooperating with business and farmers

### 坚持与企业、农户的合作

The project participants included businesses and individual farmers. Project implementation explored new mechanisms, with agencies using loans to provide farmers with seeds, technology, and infrastructure support to carry out sustainable agriculture. Farmers generated incomes through land management, retaining what was left of their harvests after paying land-contract fees—again forming a virtuous cycle of cooperative relations that both supported and promoted smooth implementation of the project, and making breakthrough results. This has inspired nearby farmers to come and learn, spreading the new ideas and technologies province-wide.

宁夏农垦项目的参与方有企业，也有农户个体。在项目实施中探讨新机制，项目实施机构利用贷款给农场职工提供种子、技术、基础设施建设的支持，推广可持续发展农业的理念和技术。农场职工通过土地管理获得收入，上缴土地承包费后剩余的收成归己所有，形成了良性循环的合作关系，支持和促进了项目的顺利实施，取得了新的成果。项目的成功带动了周边农民前来学习，新的生产理念和技术得以在全省推广。

## 3. Focusing on the sustainability through capacity building

### 注重能力建设的可持续性

Another aspect of the project was the Training of Trainers (ToT) Program, which invited international and domestic experts in related fields to draw up training courses that combined various local conditions and levels of expertise, with the aim of not only improving technical and management skills,

but also to turn them into trainers, leaving a training force after the project was completed so as to ensure that sustainable of production technologies and market concepts remained in place.

Field training was a completely new concept for all involved. Aimed at farmers, as well as technical and management personnel, it adopted participatory, interactive, heuristic methods, with the intention of improving the quality and ability of the trainers. Field training sessions included water-saving vine irrigation and planting, tilling and land conservation, demonstrations of dairy surgery, manure and water integrated fertilizer production, and wetland biodiversity. Two fixed field schools were established to ensure the field training sessions continued—a school for vineyard cultivation, and another for milk dairy breeding.

项目设计并实施了培训者培训（ToT）计划，邀请国际国内相关领域的专家结合当地实际和人员素质制定不同的培训课程，对项目实施单位技术骨干和主要管理人员进行培训，不仅要提高这些人员的技术和管理技能，同时也使他们成为培训者，项目结束后，留下一支培训力量，保证生产技术、市场理念的持续性。

田间培训是一种全新的培训方式，其对象包括农民和有关技术及管理人员，采取参与式、互动式、启发式培训，旨在提高被培训者的素质和能力。项目开展了葡萄节水灌溉种植、保护性耕作、奶牛手术示范、水肥一体化、湿地生物多样性等田间培训。为使农民田间学校培训可持续发展，在农垦建立了两个固定的农民田间学校，一个培训酿酒葡萄种植，另一个培训奶牛养殖。





Farmer field school in action  
农民田间学校培训

### C. Effective Project Management System Established 建立有效的项目管理体系

A Comprehensive Project Management Office (CPMO) was established by the Ningxia Government External Debt Office to ensure project implementation, clarifying responsibilities of organization, coordination, guidance, and supervision. The office scored perfectly in terms of personnel, organization, and management, combining local know-how enriched by foreign expertise, which overall improved the efficiency of management.

The project involved two project implementation agencies—the Ningxia Agricultural Reclamation

Bureau and the Yinchuan Municipal Government—with eight project implementation units. In view of this number of units, and the complexity involved in implementing the content of the project, NARB and YMG established special offices for external debt and foreign funds in accordance with the principle of stratified-management. Meanwhile, all eight project implementation units established implementation offices comprising leaders and professionals, which guaranteed the institutions, personnel, resources and funds for smooth implementation of the project.

为保障项目实施，在宁夏政府外债办成立了综合项目管理办公室（简称“综合项目办”），明确了对项目进行“组织、协调、指导、监督”的职责；项目管理机构的人员、制

度、管理等方面得到健全；结合项目内容和特点，充实了既懂外债项目管理，又熟悉项目内容的专业人员，提高了管理效率。

项目涉及两个项目实施机构，即宁夏农垦局和银川市政府，实施机构下面还有八个项目实施单位。针对项目实施单位多，项目实施内容复杂等特点，按照层级管理原则建立项目实施组织，宁夏农垦局和银川市政府专门设立了外债办和外资办，负责项目实施及管理；八个项目实施单位都建立了由主要负责人和专业人员组成的项目实施小组，机构、人员、物资、资金等方面得到保证，保持相对稳定，保障了项目的顺利实施。

#### **D. Strengthening Coordination among Key Stakeholders**

##### **加强项目主要利害相关方的协调**

Distinctive features of the project were wide coverage of a variety of ecological systems, a number of implementing agencies, and complex project components. Considering these characteristics, the CPMO responded with a mode of management that embraced comprehensive coordination, communication of information, multi-party participation, and resource sharing. "Comprehensive coordination" refers to strengthening the coordination of project implementing agencies, and integrating closely related or similar project components of various departments to carry out integrated management in the project design and implementation. "Communication of information" refers to timely communication of information about project implementation agencies, adopting periodic meetings, research undertaken at project sites, project information reports, and feedback. "Multi-party participation" refers to the establishment of a participatory, cooperative relationship,

including relevant personnel participating in important activities and issues, establishing an expert, cross-industry and multi-field database, with more than 30 experts in foreign-investment project management, water conservancy, agriculture, animal husbandry, forestry, ecology, environment, and social issues, to counsel and guide the project. "Resource sharing" refers to establishing information-sharing systems, involving 13 departments and universities sharing their resources.

项目的显著特点是覆盖范围广，包含了多种生态系统；涉及的实施机构多，实施内容错综复杂。综合项目办针对这些特点，采取了“综合协调、信息沟通、多方参与、资源共享”的管理模式。“综合协调”即注重加强项目实施机构的协调，在项目设计和实施中，把不同部门的相近或相似项目内容进行整合，实行综合管理；“信息沟通”即及时沟通各项目实施机构信息，定期开展会议研讨，到项目实施点调研，项目信息报告及反馈等；“多方参与”即建立参与式合作关系，重要活动及事项邀请有关部门人员参与；建立跨行业、多领域的项目专家库，包括外资项目管理、水利、农业、畜牧、林业、生态、环境、社会等30多名专家，为项目提供咨询和指导；“资源共享”即建立包括13个有关部门和大学在内的信息共享系统，使部门的有关资源得到共享。

#### **E. Policies for Guaranteeing Effective Implementation**

##### **有效实施保障政策**

The project put in place an environmental monitoring report system, which involves the eight project implementation agencies submitting information to the CPMO via monitoring forms.

After four years, the project is gradually showing certain environmental benefits, such as obvious rehabilitation of the ecosystem that has improved regional environmental quality, efficient use of water resources, an improving aquatic environment, the implementation of conservation tillage, which has increased production and improved the environment through soil and water protection and proper fertilizer usage. Decreased per unit use of agricultural fertilizer and increased of organic fertilizer in project area, meanwhile, has improved the soil environment, while the building and operation of treatment facilities for waste water and waste under the project has reduced the quantity of pollutants discharged, offering protection to the environment.

The focus on alternative livelihood projects, which includes planting and breeding programs, has led to economic development in the project area, significantly raising the incomes of workers and farmers in project

area. Altogether, 62,945 people have been benefited in the project area, including 2,634 of the Muslim Hui minority.

As the project continues to improve the infrastructure and environment of the project site, the number of tourists visiting the area in 2012 increased to 1.4 million people, or 85.1% improvement on 2008.

项目实行了环境监测报告制度，报告包含八个项目实施机构通过填写监测表格提交至综合项目办的监测信息。

四年来，项目逐步显现出一定的环境效益，主要表现在：生态系统得到恢复与保护，明显改善了区域环境质量；项目区水资源得到有效利用，水环境不断改善；实施保护性耕作，因其保水保土保肥而具有增产作用，且改善了生态环境；项目区内农用化肥单位使用量减少，有机肥使用量增加，改善了土壤环境；项目建立并运行了废水、废弃物处理设施，减少了污染物排放量，保护了环境。

由于重点实施了种植、养殖等替代生计项目，项目区经济得到发展，项目区职工和农民收入明显提高。项目区累计有62,945人受益，其中回族有2,634人受益。

由于项目建设改善了项目点的基础设施和环境，2012年来项目点的游客人数比2008年相增加了85.1%，达到136.4万人。



Improve wetland ecosystem and biodiversity  
改善的湿地生态系统和生物多样性



# **Loan 2700-PRC: Risk Mitigation and Strengthening of Endangered Reservoirs in Shandong Province**

## **山东省病险水库除险加固项目**



### **A. Background**

#### **项目背景**

The PRC has a total of more than 87,000 reservoirs. Most—around 90%—were constructed in the period spanning the 1950s to 1970s to out-dated, low technical standards, with inadequate planning, and poor construction. Decades on, many of these reservoirs have developed serious issues, such as dam-wall seepage, inadequate spillway capacity, and stability concerns. In other words, they do not meet modern safety standards, making them inefficient in terms of flood control, irrigation, domestic water supply, and power generation. Worse still, they represent a very real threat to lives and property in the reservoir area, and downstream.

Shandong Province, in the northeast of the PRC, has 5,820 reservoirs, of which 4,114—71% of the total—were at risk. To deal with this issue, the Shandong Provincial Government applied for an ADB loan to establish sustainable reservoir rehabilitation using the integrated water resources management (IWRM) model. ADB's assistance has made it possible for the government to access international expertise and experience in reservoir rehabilitation and management. Shandong is establishing a model that can be replicated throughout the PRC.

The Risk Mitigation and Strengthening of Endangered Reservoirs in Shandong Province project comprises three components: (i) rehabilitation of model reservoirs, (ii) establishment of sustainable reservoir rehabilitation and management models, and (iii) project management support.



Dam after rehabilitation of Renhe reservoir  
加固后仁河水库大坝

全国已建成各类水库有8.7万多座，近90%的水库修建于20世纪50–70年代，设计和施工标准普遍落后，大部分水库已使用了30~50年，许多水库存在坝基渗漏、坝体不稳固以及泄洪能力不足等问题，成为病险水库，达不到现代安全标准和正常蓄水位，防洪、灌溉、生活用水和发电等效益降低，对库区周边及下游地区居民生命财产安全存在安全威胁。

山东省共有5,820座水库，其中4,114座为极不安全的三类水库，约占71%。为加快推进病险水库加固工作，山东省政府向亚行申请贷款，对部分典型的病险水库进行除险加固，同时引进国际先进的水库加固技术与管理经验，建立可持续水库加固和管理模型，以有效利用水库实施水资源综合管理，并将成功经验在山东乃至全国进行推广。

项目计划实施有三个组成部分：(a)对九座病险水库进行除险加固；(b)建立可持续水库加固和管理样板；以及(c)项目能力建设。

## B. Innovation Features 项目创新

The aim of the project is to introduce advanced and innovative international experience for the sustainable management of reservoirs. While structural measures have been implemented under the project, research is also being carried out into innovative technologies and more efficient management.

The primary innovation is to establish a sustainable rehabilitation and management model, including technical guidelines for reservoir rehabilitation, a methodology for risk assessment of dam failure due to hydrological overloading, a risk-based methodology for reservoir rehabilitation planning, and a provincial reservoir portfolio database that will serve as a reference for similar reservoirs elsewhere.

The second innovation is an IWRM basin reservoir model, including a master plan for IWR utilization, a master plan for flood control, and promotion of downstream environmental protection, again serving as a model for endangered reservoirs elsewhere in the PRC.

引进国际先进经验，创新水库可持续管理模式。在实施水库除险加固工程措施的同时，还进行了技术和管理方面的创新研究，用于指导项目以实施更加有效的管理。

创新之一：建立可持续水库修复和管理模型。包括：制订水库加固技术指南、建立水库溃坝风险评估方法、水库安全管理模式、省级水库数据库等，为同类水库除险加固、防洪调



Experience Sharing of Risk Mitigation and Strengthening of Endangered Reservoir  
 病险水库除险加固经验介绍

度和运行管理提供示范。

创新之二：建立样板流域水资源综合管理模型。包括：研究开发水资源综合利用规划、洪水综合管理规划及水库下游地区环境改善计划等，为类似水库流域的水资源综合配置、洪水风险图开发、洪水管理及防洪安全、洪水资源化利用、水库优化运行、水库下游环境改善等提供示范。

### C. Project Management Highlights

#### 项目管理亮点介绍

A project management office was established. At the provincial level, the Project Leading Group (PLG) was established for overall coordination, with the deputy governor as team leader, and representatives of the Provincial Development and Reform Commission (PDRC), the Finance Department, and the Water Resources Department serving as members. Under the PLG, a joint project management office (PMO) was established, comprising PDRC, the Finance Department and the Water Resources Department. The office is responsible for management and routine implementation project undertakings. PMO entities each have their own responsibilities, but they cooperate closely as a team. At municipal and city level, all relevant cities and counties have established coordinated teams and PMOs. The Water Resources Department includes an expert team with experience of managing foreign capital, which will play an important role in civil works and project management.

After becoming effective in April 2011, the PMO immediately set about establishing the terms

of reference for recruiting a consultant team. By September 2011, individual consultants for project management, resettlement and the environment, and an external resettlement monitoring agency and dam-safety team had been recruited, and consultants had set to work. In December 2011, the two international consultant teams started working on model reservoir research and effective reservoir IWRM. The PMO provided coordination, office-space, and transportation support to the consultants.

In order to overcome the inexperience of implementation agencies at the township and county level, the provincial-level PMO organized sector training that focused on project management, finance management, procurement and bidding, construction procedures, and administrative documentation. Documents promulgated included the Loan Agreement, the Project Agreement, the Project Administration Manual, ADB Procurement Guidelines, and the Management of Loans by International Finance Organizations, as well as withdraw application samples. These training sessions were successful in facilitating smooth implementation of the project.

According to the loan agreement, retroactive financing applied to expenditures incurred up to 12 months before loan effectiveness. Most procurement had been completed during the retroactive period by June 2011, allowing civil works to be carried out in advance.

及时组建强有力的项目办。健全的机构是项目顺利实施的保障。山东省政府成立了以分管副省长为组长，发改、财政、水利等部门为成员的项目领导小组，负责项目总体协调，领导小组下设由发改、财政、水利等部门组成的联合项目办公室，具体负责项目的实施管理工作。部门之间

既各有分工，又相互配合，形成整体合力。各项目市县也相应成立了协调机构和项目办。省水利厅具有一支既熟悉水利专业，又具有外资项目管理经验的技术队伍，在推进开展工程建设与管理方面具有较强的优势。

及早选聘高水平的专业咨询团队。咨询专家介入工作越早，对项目顺利实施越有利。2011年4月底协议生效后，省项目办立即制订了咨询工作大纲，启动了咨询团队的选聘工作。并在较短的时间内，全面完成了咨询专家和机构的选聘工作。至2011年9月，先后选聘的项目管理、移民和环境方面的国际专家、外部移民监测咨询单位、大坝安全小组正式投入工作；12月，两家国际咨询机构正式开始模板建设与水资源综合利用的工作。同时，省项目办为保证专家顺利开展工作，及时为专家提供办公、交通等便利条件及协调服务。

加强项目管理培训，提高项目执行能力。针对基层项目实施单位执行亚行项目经验不足，省项目办及时下发贷款协议、项目协议、项目管理手册、亚行采购指南、国际金融组织贷款管理及提款报账范本等文件，组织项目管理、财务管理、招标采购、建设程序、档案管理等相关业务培训，使基层项目实施单位熟悉亚行和国内的项目实施要求，保证了项目的顺利实施。

按照贷款协议，贷款协议生效的12个月为贷款追溯期。至2011年6月，在追溯期内完成了大部分项目的采购工作，为提前完成工程建设任务奠定了基础。

## **D. Social, Economic, and Environmental Benefits**

### **项目的社会、经济、环境效益**

With the completion of the project, hidden risks at the reservoirs are eliminated,





Spillway after reconstruction in Muyu Reservoir  
重建后沐浴水库溢洪闸

reservoir operation and maintenance capacity have been improved, and the service life of the reservoirs has been extended. All sub-projects now meet Category I reservoir standards, with flood-control functions recovered or improved. Meanwhile, the environment surrounding the reservoirs is improved, ensuring the safety of the water, as well as downstream life and property. In other words, the project has proved to have significant social, economic, and environment benefits.

These benefits include increasing the irrigation area to 649,100 *mu* (about 43,273 ha) from 310,200 *mu* (20,680 ha), and increasing power generation to 2.975 million kWh from 1.841 million kWh. Urban water supply is also increased to 30.583 million m<sup>3</sup>/year from 13 million m<sup>3</sup>/year. The aquaculture area increased to 33,660 *mu* (2,244 ha) from 31,270 *mu* (2,085 ha).

The flow of water in downstream rivers is now guaranteed, and the forestation in the vicinity

of the reservoirs been increased by 2,369 *mu* (158 ha). This represents a significant improvement to the environments around the reservoirs, and up- and downstream.

水库除险加固后，消除了各种安全隐患，运行维护能力提高，使用寿命延长。各子项目水库均达到了一类安全水库标准，恢复或提高了水库设计防洪功能，改善了水库周边环境，保证了上下游两岸人民生命财产和用水安全，社会、经济及环境效益显著。

水库除险加固后，有效灌溉面积由31.02万亩（2.068万公顷）增加到64.91万亩（约4.3273公顷）；实际发电量由184.1万kWh提高到297.5万kWh；城市供水由1,300万m<sup>3</sup>/年增至3,058.3万m<sup>3</sup>/年；水产养殖面积由3.127万亩（2,085公顷）增加到3.366万亩（2,244公顷）。

水库除险加固后，下游河道环境流量得到保证，库区周边直接增加绿化面积2,369亩（158公顷），水库周边及其上下游河道水生态环境将得到逐步改善。

# Energy 能源

# **Loan 2408-PRC: Gansu Heihe Rural Hydropower Development Investment Program—Dagushan Hydropower Project**

## **甘肃黑河水电开发多批次投资 项目——大孤山水电站**



### **A. Background**

#### **背景介绍**

Gansu Heihe Hydropower Development Company was established in 2000 as the project implementing agency for three ADB-financed hydropower plants in Gansu: Xiaogushan, Erlongshan, and Dagushan. The three medium-sized hydropower plants were built on the Heihe River, the PRC's second largest inland river. Total installed capacity was 217.5 MW, with annual average power generation at 800 million KWh. All three power plants are operating smoothly.

Total ADB financing for the three power plants was \$85 million. The Xiaogushan plant was ADB's first loan project in Gansu Province, with loan amount at \$35 million. The loan took effective in July 2002 and closed in April 2008. The Erlongshan and Dagushan plants were ADB's first multitranche financing facility (MFF) projects in the PRC. ADB loans totaled \$50 million. Total installed capacity of the Dagushan Hydropower project was 65 MW, with designed annual power generation of 220 million KWh. Construction of the Dagushan Hydropower plant began in September 2007, and it has been in operation since July 2009. By year end 2012, actual average power generation was 260 million KWh. All three hydropower plant projects have been evaluated as "very successful project" by ADB.



The Dagushan Plant  
大孤山水电站

甘肃黑河水电开发公司成立于2000年，是由亚行贷款在甘肃修建的小孤山、二龙山和大孤山三座中型水电站的项目实施机构。这三座中型水电站是在我国第二大内陆河黑河干流上连续建设的。三个项目设计总装机容量217.5MW，年平均发电量约8亿KWh。三座电站已全部投产发电，运行良好。

这三座水电站共利用亚行贷款8,500万美元。小孤山水电站项目为甘肃省首个利用亚行贷款的项目，利用亚行贷款3,500万美元。项目开始于2002年7月，于2008年4月关账。二龙山水电站与大孤山水电站是首批亚行在中国的多批次融资机制（MFF）项目，共利用亚行贷款5,000万美元。大孤山水电站总装机容量65MW，设计年发电量2.2亿KWH。电站于2007年9月开工建设，2009年7月提前投产发电，截至2012年底，水电站实际年均发电量达2.6亿KWH。小孤山、二龙山、和大孤山三座水电站项目均被亚行评为“非常成功项目”。

## B. Project Impact 项目影响

### 1. Clean Development Mechanism 清洁发展机制

The Xiaogushan, Erlongshan, and Dagushan plants have been registered as Clean Development Mechanism: Executive Board (CDM: EB) projects. Xiaogushan is one of the earliest CDM-developed—as well as batch hydropower—projects registered with the EB. The three plants produce 0.63 million temporary certified emission reductions (tCERs) annually. The buyers are World Bank, ADB and Eco Securities. As of today, a total of 2.96 million tCERs had been issued, or a credit of CNY138 million (\$22.6 million). These funds have greatly optimized the investment structure of the projects, making it possible to make positive contributions to



promoting social progress and protecting the environment.

小孤山、二龙山、大孤山水电站都已在联合国执行理事会注册为CDM项目，小孤山水电站是中国最早进行CDM开发的项目之一，也是我国首批在联合国执行理事会注册的水电项目。三个项目每年共产生临时核证减排量63万吨，买家分别为世界银行、亚洲开发银行和爱尔兰益可环境国际金融集团。截至目前，共签发减排量296万吨，到账碳减排收益1.38亿元人民币（2,260万美元）。这些资金的注入较大地优化了项目投资结构，为促进项目所在地的社会进步、保护生态环境做出了积极的贡献。

## 2. Social, Environmental and Economic Benefits

### 社会、环境和经济效益

The three hydropower plants were built amid farming and herding settlements in mountainous central Gansu Province. Before

their arrival, local education, healthcare, and infrastructure were relatively backward. But the CDM projects have seen the construction of multimedia classrooms, the establishment of scholarships for local schools, and medical clinics equipped with pharmaceuticals, as well as trained doctors for the local hospital. With the arrival of transmission lines, communication towers, and paved roads, farmers and herdsman now enjoy reliable power supply, and ease communications and transportation with the outside world. In short, the projects have greatly improved local education, health, and infrastructure, while also bringing enriched cultural life.

The project site has a dry climate and sparse vegetation. But after nearly a decade of efforts aimed at improving the environment while the project was being implemented, vegetation coverage in the project area has greatly increased, and soil erosion has been brought under control, resulting in an overall improved environment.



Power Transmitted to the Rural Area  
电力输送到了农村地区



Plantation Surrounding the Plant  
电站周边的绿化

Along with completion of Xiaogushan, Erlongshan and Dagushan hydropower plants, the installed capacity of Gansu Heihe Hydropower Development has increased to 250,000KW, with annual power generation of a billion KWh, making the company's business more sustainable.

三个水电项目建在甘肃省山区的农牧民居住区。项目未建之前，当地的教育、医疗卫生和基础设施都较为落后，居民生产生活条件较差。随着这几个清洁能源项目的实施，公司帮学校建起了电教室，设立了奖学金；为卫生院修建了医疗室，添置药品，培训医生。尤其是架设了输电线路和通讯塔，完成了道路铺设后，农民享受到了更稳定的供电，交通通信也更便捷。这些项目的实施使当地教育、医疗、基础设施、文化生活等方面都有了较大改观，面貌焕然一新。

项目所在地气候干燥，植被覆盖率较低。通过项目建设中对环境保护的投入，项目区的植被覆盖率大大提高了，水土流失减少了，环境得到了改善。

随着小孤山、二龙山和大孤山三座中型水电站相继建成，甘肃黑河水电开发的水电装机容量达到25万千瓦，年发电量达到10亿千瓦时，保证了公司业务的可持续发展。

## C. Lessons Learned in Project Implementation

### 项目实施的经验总结

#### 1. Strictly Compliance with the Project Agreement

##### 严格遵守项目协议

Compared to domestic bank loans, the requirements of ADB-funded projects are more complicated. The complexity is in controlling risk, calculating every factor for each step of the process. It is necessary to take the initiative to comprehensively learn ADB's requirements and regulations so as to guide implementation. These tried and trusted methods make it possible to avoid unnecessary steps, shorten the period of project implementation, and ensure the quality of the project.

相对于国内银行贷款，亚行贷款项目要求更为复杂。复杂的程序是为了更好地控制风险，使之每个阶段彼此之间都能充分地更全面地考虑各种因素。因此，要主动认真地学习好亚行的各种要求和指南，严格按照规则实施项目，这样反而能够避免走弯路，缩短项目实施时间，保证项目执行的质量。

#### 2. The PMO at the Helm

##### 项目管理办公室职责明确

In implementing ADB loan project, a Project Management Office (PMO) was established, which was in a leading role, in cooperation with the Finance Office and the Engineering Construction Headquarters. This proved to be an efficient management structure that played a significant role in the successful implementation of the project.

Firstly, the PMO played an important role as the core organization of implementation. It was responsible for communication between ADB and national, provincial, and municipal governments. Communication and transmission of information in a timely fashion was very important for all parties to keep up with each other and overcome any barriers. Finance department officials also provided useful experience and help on matters major and trivial, providing advice, and comments, and promoting implementation progress of the project. Meanwhile, it was essential to have a reliable working relationship—built on positive but frank communication—with the ADB project manager. Secondly, the PMO played an important role as the general coordinating department, using foresight and careful deployment, ensuring continuity, and consistency. Thirdly, the PMO was responsible for ensuring stable staffing from the beginning to the end of project implementation. Fourthly, the PMO oversaw each step of the bidding process through a specially designated expert, making it possible to choose the best contractors in accordance with the procedures, laws and regulations, and within the prescribed time.

在实施亚行贷款项目的过程中，成立了以项目管理办公室（简称“项目办”）为中枢、财务办公室和工程建设指挥部协同执行的工作模式。实践证明，这种高效项目管理架构对项目的顺利实施至关重要。

项目办扮演着重要角色。第一，作为项目实施的中枢机构，承担着亚行与国家、省市各级政府部门的沟通工作，要协调各方步调一致，无障碍地开展各项工作，信息的及时沟通与传递十分重要。在这当中，国家各级财政部门给予了大力的支持，积极传经验想办法，事无巨细悉心指教，大大促进了项目的实施进

度。同时，与亚行项目经理建立稳固可靠的工作关系，积极坦率地沟通也十分重要。第二，作为主要协调部门，项目办要高瞻远瞩，缜密部署，保证项目实施的连贯性和一致性。第三，从项目实施开始至结束，项目办要负责确保人员的稳定。第四，项目办要积极做好招投标工作。安排专人对招投标的各个环节进行管理，在规定的时间内依法按程序选择出合格的施工单位。

### 3. Effective Use of Consultants 有效利用咨询专家

Consultant experts were essential to each step of project—and choosing the right ones, and ensuring they coordinated with each other was also crucial. Besides designated ADB experts, domestic experts were generally required. Professional qualifications were considered in hiring domestic experts, but so was familiarity with local conditions and the project in question. With good coordination between domestic and foreign experts, it was possible to understand the actual situation of the project, ensuring optimized design, and savings on expenditures of time and money.

咨询专家是项目各阶段的重要力量，选择合适的咨询专家、确保专家之间的配合至关重要。除了亚行委任的专家外，一般都需要在国内聘请专家，国内专家的选聘除了注重专业水准外，更应考虑那些熟悉本地区及项目情况的专业人员，这样内外专家配合起来，才能更加贴近项目实际，优化设计，节省经费，缩短周期。

### 4. Counterpart Funds Provided in a Timely Manner 及时提供配套资金

Timely provision of counterpart funds ensured smooth implementation of the project. In

the early stages, domestic loans and self-raised funds were used to start construction of the project. After the loan took effective, the loan was disbursed through direct payment and retroactive procedures. During implementation, it was possible to adjust the financing plan according to the status of bidding for the project. This effectively reduced the possibility of a loan surplus emerging, construction was not affected by payment, and reasonable arrangements saved management fee and investment of the project.

及时提供配套资金是项目顺利实施的重要保障。先期利用国内银行贷款和自筹资金支付开工的标段。亚行贷款到位后，要充分利用其灵活性，通过直接支付、追溯报账等方式，统筹处理好国内外贷款的使用。实施期间还可根据工程招标情况，适时进行贷款计划调整，可以有效地减少贷款沉淀，不因资金的支付影响工程建设，合理的安排还可节省工程管理费及投资。

## 5. Enhancing Capacity of Implementing Agency

### 加强实施机构能力建设

Borrowing from international financial organizations not only relieves funding constraints for construction projects, but also provides an opportunity for project management team to learn more advanced management practices. Collaborating with ADB made it possible for Gansu Heihe Hydropower Development Company to gain invaluable experience, which was finally applied to the project implementation, resulting in improvement of its management skills.

Gansu Heihe Hydropower Development Company has positively leveraged ADB's technical advantages, resulting in management innovations and changes to the management model. Meanwhile, the hydropower projects that the company and ADB have collaborated on have become innovation flagships for the company.

利用国际金融组织贷款不仅仅是解决项目建设的资金问题，更多地是获得学习更先进的项目管理理念的机会。通过与亚行合作，甘肃黑河水电开发能够获得宝贵经验，并将其应用于项目实施中，提高了公司的管理水平。

甘肃黑河水电开发公司积极利用亚行的技术优势，实现管理创新和管理模式的变革。与此同时，亚行与甘肃黑河水电开发合作的三个水电项目也成为了公司创新的旗舰。

# Loan 2611-PRC: Guangdong Energy Efficiency and Environment Improvement Investment Program—MFF Tranche 2

## 广东节能减排促进项目第二批次

### A. The Concept of EPP

#### “能效电厂”概念

An efficiency power plant (EPP) is a virtual power plant, or a function of demand-side management (DSM), achieving a basket of electricity- and energy-saving actions on the demand side—industry sectors or businesses—and reducing load, and improving efficiency. It employs energy-saving retrofits to electrical-supply equipment and encourages customers to use new energy-saving equipment and technologies. As a result, EPP achieves the same goal as building or expanding a new power plant.

“能效电厂”（Efficiency Power Plant，简称 EPP）是一种虚拟电厂，属于需求侧管理的一项具体措施，即采用投资项目的形式，形成某个地区、行业或企业电力、能源需求节约的一揽子行动方案，对用电设备进行节电改造，鼓励用户采用节能新设备、新技术，达到降低用电负荷、提高能源的使用效率，从而达到与新建电厂和扩建电力系统异曲同工的效果。



## B. Project Introduction 项目简介

The Guangdong Energy Efficiency and Environment Improvement Investment Program (EPP Program) has extended the concept of EPP from electricity saving to energy saving, aiming to achieve energy efficiency (EE) and emissions reductions through retrofits and renewable energy technologies. The subprojects included retrofits of motors and motor drive systems, optimal power transmission, transformers and reactive power compensators, and green lighting, air conditioning, ventilation, refrigeration and heating systems, air compressors and pumping systems, recovery of industrial waste energy, among other EE-improvement projects.

The EPP Program is the first EE sector cooperation between the PRC and ADB, and also one of just two ADB multitranche financing facilities (MFFs) financed in the PRC. The ADB MFFs for the program amounted to \$100 million, with a term of 15 years for each tranche at a LIBOR-based interest rate.

The program and tranche 1 were approved by ADB in June 2008. With a loan of \$35 million, tranche 1 went into effect in January 2009, and was closed in February 2012. Tranche 2—with a loan of \$22.06 million—became effective in May 2010, and was closed in December 2012. Tranche 3 has a loan of \$42.94 million. It went into effect in February 2012, and will be closed at the end of December 2013 as scheduled.



Integrated Photovoltaic System  
太阳能光伏发电系统

Tranche 2 involves six subprojects, covering power grid efficiency, green lighting, motor-system efficiency, and solar power, with a total investment of CNY415.80 million (\$61.15 million), of which CNY150 million (\$22.06 million) was financed by ADB. Its benefits, in energy savings and emission reduction, have largely exceeded the estimates.

广东省亚行贷款节能减排促进项目（能效电厂项目）扩充了“能效电厂”的概念，不仅针对节电，而是拓宽到广义的节能，通过采用各种提高能效及可再生能源的开发利用技术来实现节能减排。技术范围包括但不限于：电机及电机拖动系统的优化控制；电力输配和调度的优化，如变压器及无功补偿；绿色照明；暖通空调系统等能源系统优化工程；空气压缩系统及泵系统节能；工业废弃能源回收利用以及其他相关的符合国家和广东省节能规划的项目等。

该项目是中国政府与亚行在节能领域的首次合作，也是亚行在中国开展的两个多批次融资模式（MFF）项目之一，贷款总额为一亿美元，分三批次实施。在各批贷款的15年贷款期内，贷款资金可供广东省循环使用。

广东能效电厂项目及第一批次项目在2008年6月得到亚行的批准。第一批项目利用亚行贷款3500万美元，于2009年1月生效，2012年2月关账；第二批项目利用亚行贷款2,206万美元，于2010年5月28日生效，2012年12月底关账；第三批项目利用亚行贷款4,294万美元，于2012年2月生效，将于2013年12月底关账。

第二批项目包含六个子项目，涵盖电网节能、绿色照明、电机节能及太阳能利用等技术，总投资为4.158亿元（合美元6,115万美元），利用亚行贷款约1.5亿元（合2,206万美元）。第二批项目实施后，经测评，其节能减排效果已远超出其预期值。

## C. Innovative Project Management

### 项目管理创新

#### 1. Project Management Structure 项目管理架构

The EPP Steering Committee consists of the Guangdong Economic and Information Technology Commission, the Guangdong Development and Reform Commission, the Guangdong Finance Department (GFD), and the Guangdong State Assets Supervision and Administration Commission. Beneath the steering committee is the EPP-Project Management Office (EPP-PMO), which includes technical engineers and other professionals from the Guangdong Energy Conservation Center.

To manage finances and meet the needs of managing a revolving fund over the loan term of 15 years, after competitive bidding, the GFD appointed the Guangdong Finance Trust Corporation (GFTC) as financial intermediary. The trust corporation was responsible for assessing the financial viability of sub-borrowers, sub-loan collaterals and guarantees, and administering the sub-loan portfolio.

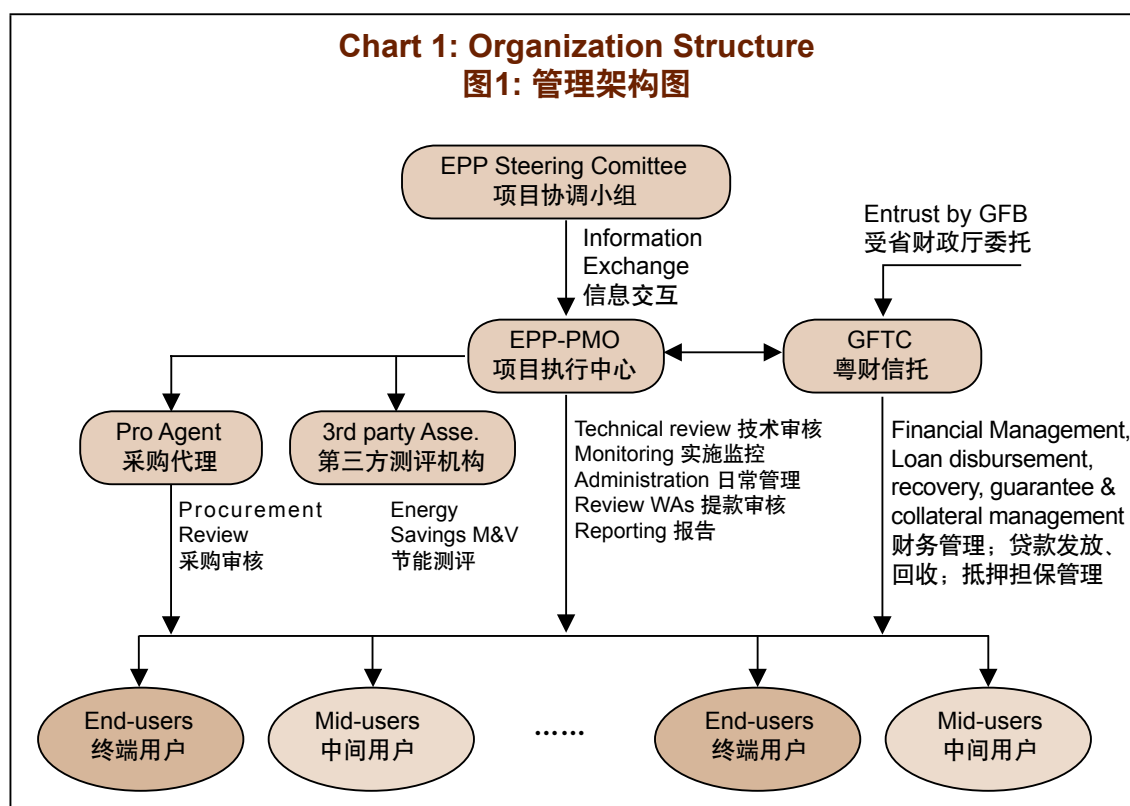
专门成立了项目协调小组。成员单位包括广东省经济和信息化委、省发展改革委、省财政厅、省国资委，负责项目的总体决策及政策指引。项目协调小组下设广东省亚行贷款能效电厂项目执行中心（简称“项目执行中心”），其技术力量来自广东省节能中心。

引入中间金融服务机构。通过公开招标，确定广东粤财信托公司（简称“粤财信托”）作为项目的专职财务管理机构，受广东省财政厅的委托，负责项目财务评估、抵押担保管理及贷款资金管理等工作。

**Table 1: Subproject of Tranche 2**  
**表1 第二批项目列表**

Sub-borrower 子借款人	Subproject 子项目内容	Total Investment 总投资额	ADB Loan 贷款额度		Progress 实施情况
		/ CNY' 000	/ CNY' 000	/ \$' 000	
Zhuhai Singyes Green Building 珠海兴业绿色建筑科技	Built integrated photovoltaic systems 建设太阳能光伏发电系统	68,000	35,000	5,147	Installed 7 BIPV system 建设七个太阳能发电系统
Jiangmen Daguangming Transformer 江门市大光明变压器	Promoted efficiency transformers 推广高效节能型变压器	30,000	10,000	1,471	Installed 481 sets of efficient transformers 推广高效变压器481台
Foshan Younger Furnace Industry 佛山市扬戈炉业	Promoted high- efficiency furnace in aluminum industry 推广蓄热式高效节能熔铝炉	40,000	20,000	2,941	Installed 48 sets of efficient furnaces 推广高效节能熔铝炉48台/套
Guangdong Zhongyu Technology 广东中钰科技	Digitalized converting station retrofit, and digitalized monitoring system of converting station 数字化变电站改造工程/配变监测管理系统	127,800	20,000	2,941	Promoted 14,750 sets of digital monitoring terminals for local power grid 在多个地市电网推广了 配电管理系统14,750台/套
Guangdong Real Faith Lighting 广东昭信灯具	Promoted LED lighting 推广LED路灯推广项目	100,000	50,000	7,353	Promoted LED lights totaling 1,836.83KW 推广LED灯具总功率为 1,836.83kW
Guangzhou Borch Machinery 博创机械	Promoted EE BS- series injection molding machines 高速节能全自动塑料成型机技术的推广	50,000	15,000	2,206	Promoted 92 sets of EE BS-series injection molding machines 推广伺服型高效节能注塑成型机92台
<b>Total合计</b>		<b>415,800</b>	<b>150,000</b>	<b>22,060</b>	





## 2. Financial Management Model 财务管理模式

The MFF model made for flexible financing, and reduced waiting time, which resulted in lower investment costs. An innovative financial management model was adopted, with a financial intermediary allowing the use of revolving funds, while also buttressing the independence and professionalism of management. Meanwhile, by appointing a trust company as the financial intermediary, risks were minimized and transparency was assured for the safe and effective use of ADB funds.

亚行的多批次融资（MFF）模式实现了更为灵活的融资安排，减少了子项目之间的等待时间，从而降低了融资成本。采用了创新的财

务管理模式，其中间金融机构贷款模式具有资金可循环使用的优势，也强化了项目财务管理的独立性和专业。项目还采用了信托运作模式管理贷款资金，具有有效的风险隔离、严格的评审流程等优势，保证了贷款资金的安全高效运作。

## 3. Putting the Experts in Control 有效利用专业机构

The EPP-PMO is affiliated with the Guangdong Energy Conservation Center, Guangdong Province's authority on EE project management, and one of 26 energy savings measurement and verification (M&V) agencies certified by the national government. The conservation center boasts expertise in EE technologies and policies, and has rich experience in energy supervision.

Judged by a third-party energy-savings M&V agency, as stipulated by the Energy Savings Measurement and Verification Handbook, The EPP Program was the only program of seven ADB-funded EE interventions that have made significant progress.

项目执行中心与广东省节能中心合署办公。广东省节能中心在节能项目管理方面是广东省的权威机构，是国家26家节能量审核机构之一，熟悉各项节能技术及节能政策，又有节能监管经验。这对于项目有效运行提供了稳定支撑，是该项目管理中重要的创新之一。

引入第三方节能测评机构，按照《项目节能量测量及确认手册》的要求对项目的节能效果进行测量及确认。因此，广东能效电厂项目被评为亚行所支持的七个能效项目中唯一进行了节能测评并取得重大进展的项目。

## D. Project Benefits

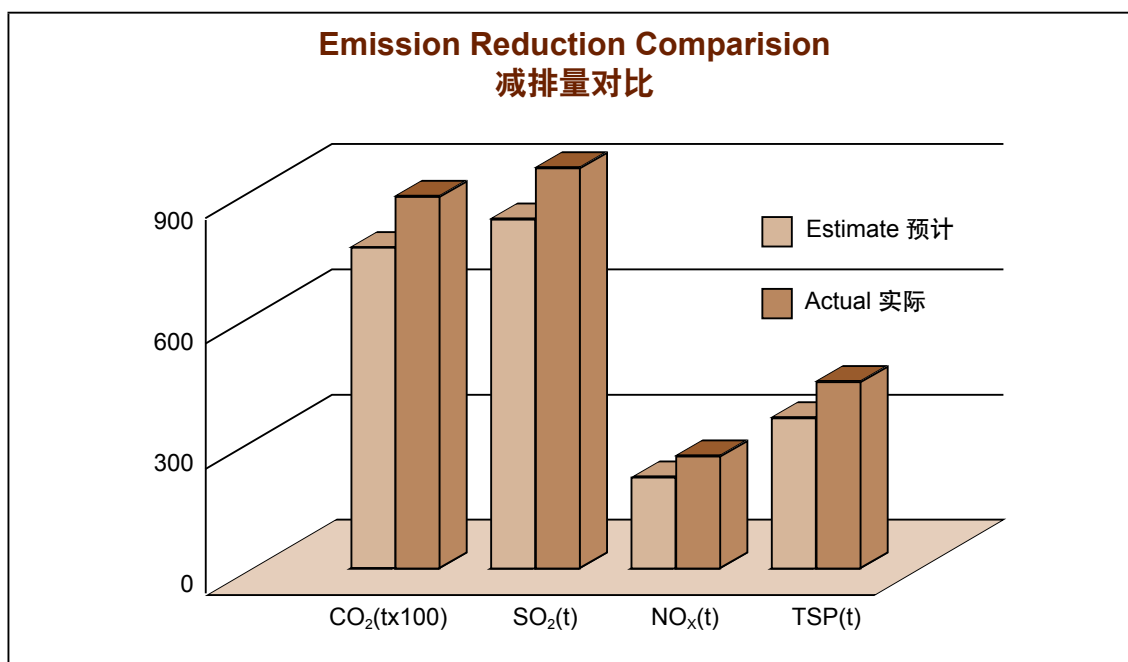
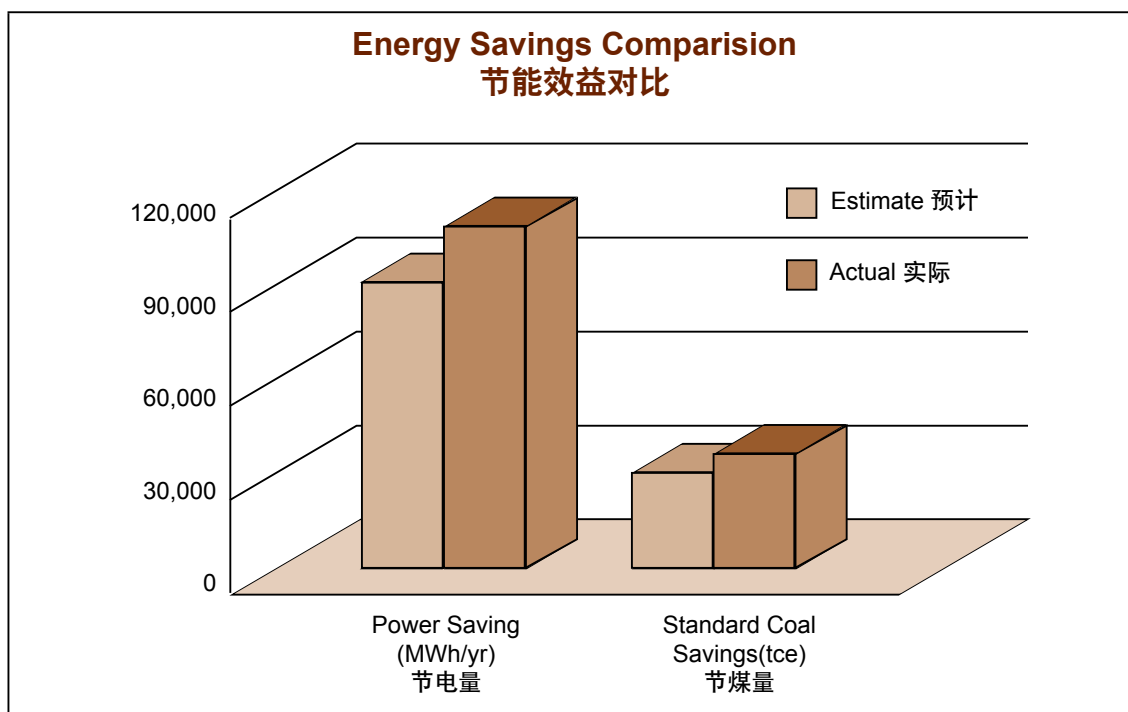
### 项目效益

By the end of Q2 2013, M&V energy savings from the EPP Program reached 936GWh/yr—equivalent to an installed generation unit with a capacity of 187MW—achieving about twice the energy savings and emissions reductions that were estimated. Tranche 2 is expected to be similarly successful. See the Chart below for a detailed comparison.

Some sub-loans in the first three tranches have been repaid to form a revolving fund for more sub-borrowers. So far, seven subprojects have taken advantage of the revolving fund, and further seven subprojects are under review. The energy-saving benefits of such subprojects are eventually estimated to be three to five times greater than those resulting from the first three tranches of investment. Overall, the project is expected to effectively solve energy shortfalls and improve the living environment in Guangdong, while also enhancing provincial energy security.

截至2013年二季度，已实施并经测评的项目年节电量已经达到9.3亿kWh,相当于一个装机容量为18.7万kW的发电机组的年发电量，已接近预期节能减排目标的2倍。其中第二批项目同样有望获得成功。节能减排量预计与实际对比见下图：

前期三批贷款项目中，一些子项目已经陆续到期并如约归还本息，形成了亚行贷款的循环资金。目前已经推进了七个循环资金项目，另有七个在报批中。预计循环贷款项目的节能减排效益可达到前三批项目的3~5倍。该项目有利于缓解广东省的能源紧缺局面和改善当地的居住环境，巩固了广东省的能源安全。



# Loan 2616-PRC: Tianjin Integrated Gasification Combined Cycle Power Plant Project

## 天津IGCC电站项目



### A. Introduction 简介

After more than three years of hard work by the project team, the 250-megawatt (MW) Huaneng Tianjin Integrated Gasification Combined Cycle (IGCC) power plant was issued a "License for Electricity Generation Business" on 7 December 2012. The PRC's first IGCC power plant, the project's launch marked the successful and timely completion of a highly complex and innovative energy project. In the launch ceremony, the Vice-Minister of the Ministry of Science and Technology declared the Tianjin IGCC power plant as a "National IGCC Green Coal Research, Development and Demonstration Base" under the National 863 Science and Technology Program. ADB supported the project with \$135 million project loan from its ordinary capital resources, and \$5 million grant from its Climate Change Fund.

经项目团队三年多坚持不懈的努力，中国第一座整体煤气化联合循环（IGCC）发电装置——250兆瓦（MW）的华能天津IGCC电站于2012年12月7日获得“发电业务许可证”。这不仅标志着该装置商业运营的开始，同时也显示了该高度复杂和颇具创新的能源项目的圆满和及时竣工。在开通仪式上，科学技术部副部长宣布天津IGCC电站为“基于IGCC的国家绿色煤电研究开发示范基地”，属于国家863计划重大课题。对于此项目，亚行从普通资金来源贷款1.35亿美元并且从“气候变化基金”给予了500万美元的赠款支持。



Tianjin IGCC power plant – panoramic view  
天津IGCC电站全景

## **B. IGCC—Power-Sector Milestone for an Environmentally Sustainable Future**

### **IGCC—中国电力行业未来环境 可持续发展的重要里程碑**

Coal-fired power plants are a major source of air pollutants and heavy-metal emissions, accounting for about 50% of the PRC's total carbon dioxide (CO<sub>2</sub>) emissions. IGCC technology is one of the most promising low-emission coal-power generation technologies. Through the gasification of coal into a synthesized gas (syngas), and the removal of impurities, such as sulfur, nitrogen oxides, mercury, and particulates, from the syngas before its combustion in a highly efficient combined cycle gas turbine, desulfurization

efficiency can reach 99%; the discharge of nitrogen oxides, moreover, is only 15%–20% that of a conventional power plant. The technology also achieves 4%–5% higher efficiency than supercritical plants, leading to a reduction in CO<sub>2</sub> emissions. International studies have found that IGCC technology, with carbon capture and storage is the most cost-effective option for cutting CO<sub>2</sub> emissions from coal-fired power plants, achieving reductions of up to 90%.

燃煤电站是中国空气污染物和重金属排放的主要来源，并占全国二氧化碳（CO<sub>2</sub>）总排放量的约50%。IGCC技术是当前最具发展前景的低碳煤电技术之一。可将煤气化为合成气（合成气），接着除去合成气中的硫、氮氧化物、汞、颗粒物等杂质，之后便可在高效的联合循环燃气轮机中燃烧；如此一来，脱硫效

率可达99%，氮氧化物排放只有传统发电站的15%~20%；同超临界电站相比，其效率高出4%~5%，从而可减少二氧化碳的排放。国际研究表明，IGCC电站是碳捕获和封存成本最低的技术，同燃煤电站相比，二氧化碳排放量最多可降低90%。

### C. Innovative Features 项目的创新特点

The Tianjin IGCC power plant is not only the first of its kind in the PRC, but also the first in the entire Asia-Pacific. The technology combines coal-based power generation technology with technologies from the coal-chemical industry. It comprises a two-section, dry-pulverized coal gasifier entirely that was designed and constructed by the China Huaneng Group (CHNG), as well as a first-of-its-kind, low-calorific syngas gas turbine combined cycle set. A milestone in the field of clean-coal technology in China, the project has far-reaching impact in terms of development of IGCC, and of related technologies in the PRC and Asia-Pacific. Moreover, the IGCC technology is a polygeneration technology, which could replace the use of natural gas in the production of gasoline, methanol, urea, sulfur and ash-building materials through cooperation between the power and chemical industries—a step forward in the future development of a hydrogen economy.

天津IGCC电站在中国乃至亚太地区都首屈一指。该技术将煤基发电技术和煤化工产业技术结合在一起，其包括首座完全由华能集团设计和施工的两段式干燥粉气化炉，和同类中首套低热值合成气燃气轮机联合循环机组。作为中国洁净煤技术领域的里程碑，该项目在IGCC和相关技术在中国及亚太地区的发展方

面具有深远的影响。此外，IGCC技术为多联产技术，通过发电和化工联产，可替代天然气生产汽油、甲醇、尿素、硫和灰分建材，实现氢经济的未来发展。

### D. Institutional Arrangements Ensure Successful Project Implementation

#### 有效的机构安排确保了项目的 成功实施

Coordination and management of the project team for the Tianjin project was complex, as the chart below shows (Figure 1).

A key success factor in the on-schedule success of the project was the incorporation of a project-implementation agency, Huaneng Tianjin IGCC (HTICL) as a separate project entity. This created transparency, improved accountability and corporate governance, and established a dedicated implementation and management task force.

Another factor in the project's success was the establishment of Greengen by CHNG and other key energy sector companies. Greengen provided management support and oversight to HTICL—particularly in relation to procurement, financial management, financial control, and accounting, ensuring good governance of the project.

CHNG also selected the project implementation staff with extreme care, both at the level of Greengen, and at the level of the project implementation authority, bringing in all necessary expertise required given the unique challenges of this new technology.



In order to ensure that the final phase of the project's implementation went smoothly, HTICL urged all staff to work together for a common objective. To make that possible, HTICL refined the division of labor, and allocated responsibilities for the implementation schedule, stressing the seriousness and inflexibility of the plan. Monthly and weekly work plans were put in place to ensure the overall goal of commissioning the plant by year end was achieved. Meanwhile, an early warning system was established for the plan, and daily inspections were carried out to maintain oversight of plan and to ensure swift identification of defects and immediate intervention to correct faults.

In addition, a technical research team was set up to ensure timely identification of systemic problems during the start-up and synchronization of equipment.

By the end of 2012, 130 sub-projects, and innumerable other subprojects and items were cleared by the company, with a pass-rate of 100%. No major construction reworks or returns of purchased materials affected project implementation. Meanwhile, the huge efforts that went into the elimination of defects in the final construction stage paid off, with 2,890 defects identified and rectified, achieving an up-to-standard pass rate of 100%.

Due to a lack of necessary IGCC power plant standards, HTICL developed an "Engineering Quality Administration System" that complies with both power industry and chemical industry standards. This system has established a quality-assurance model for

IGCC power plants in the PRC, and can serve as a model for future IGCC power plants.

天津IGCC电站项目实施团队的协调和管理较为复杂。下面的组织结构图（图一）显示了项目小组的复杂和协调的困难。

项目及时并成功实施的关键因素之一是该项目的实施机构HTICL作为一个单独的项目实体的成立。它创建了透明的制度，完善了问责制和企业治理，为项目实施建立了专项队伍，保证了对项目强有力的管理。

该项目成功实施的另一个因素是华能集团和其他大型能源公司成立了“绿色煤电有限公司”，为HTICL提供管理支持和监督，特别是涉及采购、财务管理、财务控制和会计事项，确保了该项目的良好治理。

另外，华能集团还认识到该项新技术独特的挑战性，所以无论对“绿色煤电”还是项目实施机构（PIA）的人员配备选择都用心良苦，力求把所有相关专业知识都带入项目。

为了确保项目实施的最后阶段的顺利进行实施，华能天津IGCC要求全体员工以最佳的方式合作要求全体员工通力合作，以实现共同的目标。对此，HTICL细化了实施时间表的分工和责任分配，强调计划的严肃性和不可变更刚性；建立每月和每周工作计划，以保证电站年底试车总体目标的实现；对计划建立了早期预警系统；每天检查，保持对计划实施的监督，确保迅速识别缺陷并立即采取干预措施纠正错误。

此外，通过聘请技术顾问成立技术研发团队，以确保在开工和设备联机阶段及时发现系统的问题。

到2012年底，130个子项目和无数个单项目和组件已经通过公司的验收检查；通过率为100%。没有严重影响实施过程的施工返工或材料退货。最后施工阶段的琐碎工作中，工作人员投入大量工作消除小的缺陷：共发现2,890项缺陷并进行了纠正；相关检查证明100%达标。

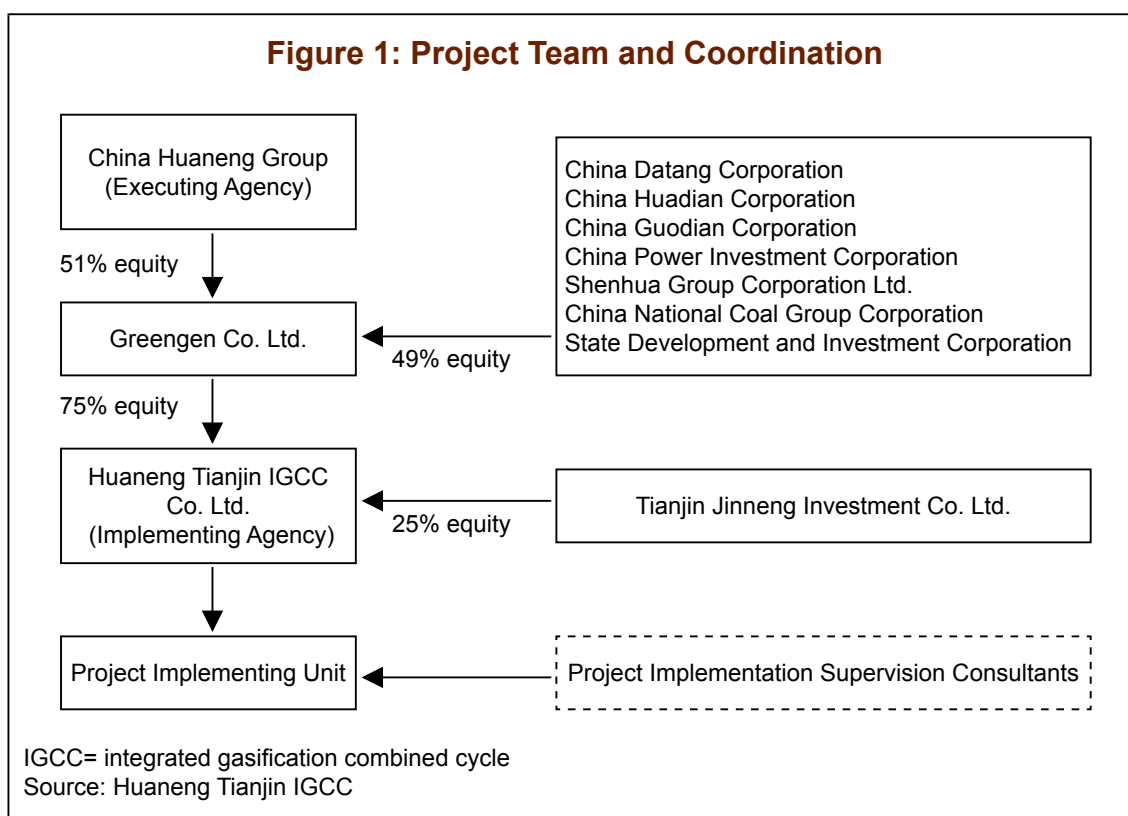
鉴于缺乏必要的IGCC电站标准，华能天津IGCC制定了一套“工程质量管理体系”，以符合电力行业和化工行业的双重标准。该制度为中国的IGCC电站建立了质量保证模式，为未来同类电站建立了可效仿的模式。在整体生产工艺开始运作前，该新模式已通过华能集团质量监测中心进行的所有质量检验。



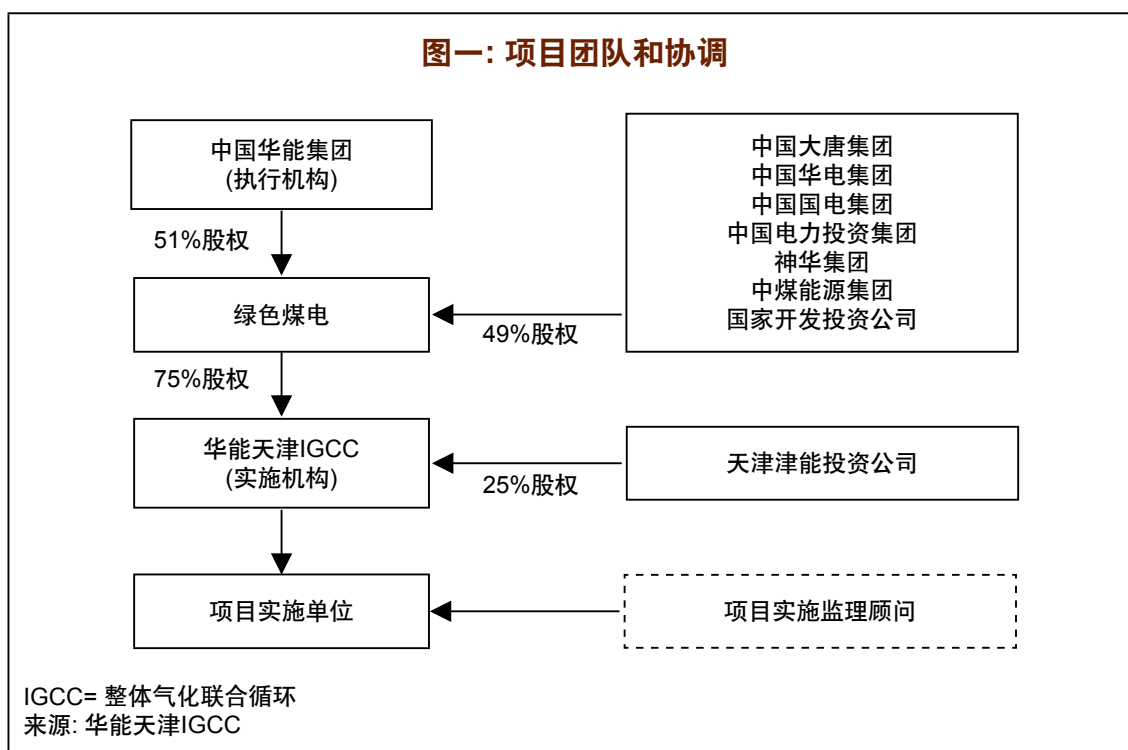
Air separation unit and gasifier  
两段式干煤粉气化炉



Figure 1: Project Team and Coordination



图一：项目团队和协调



# **Transport and Communications 交通和通信**

# Loan 2181-PRC: Central Sichuan Roads Development Project 川中道路发展项目

## A. Project Introduction

### 项目概况

The Central Sichuan Roads Development Project commenced in 2007. The first 90-km section of expressway (Yaan–Yingjing and Yihai–Lugu) was completed and opened to traffic in December 2010 and the remaining 150 km between Yijing and Yihai was opened to public on 28 April 2012. The full opening of the expressway marked the completion of the Sichuan Section of Beijing–Kunming Expressway. The Sichuan Provincial Transportation Department (SPTD) was the project executing agency and Sichuan Yaxi Company Ltd. Expressway (SYECL) was the project implementing agency responsible for managing the project implementation.

The expressway route climbs from the edge of Sichuan Basin up to the high mountains and deep valleys of the Hengduan Mountains. Following the Southern Silk Road, it features dangerous topographic conditions, a harsh terrain, changeable climate, and a fragile ecological environment, with extremely challenging engineering and safety conditions. It passes through three different climates, three water systems, three major fault zones, and traverses two mountains more than 3,000m above sea level. It was designated as a "Model Exploratory Engineering Project" and a "Model Scientific and Technical Project" by the Ministry of Transport (MOT), with reference to highway construction at home and abroad.

川中道路发展项目于2007年开工建设，其中雅安至荣经段、彝海至泸沽段共90公里于2010年12月底先期建成通车，2012年4月28日，荣经至彝海段150公里也正式完工。至此，雅西高速公路全线建成通车，实现了京昆高速公路四川段的全线贯通。四川省交通运输厅是项目的执行机构，四川雅西高速公路有限责任公司为项目实施机构，负责项目实施。

项目由四川盆地边缘向横断山脉的高山峡谷地区爬升，沿南丝绸之路，沿线地形条件极其险峻，地质结构极其复杂，气候条件极其多变，生态环境极其脆弱，建设条件极其艰苦，安全运营难度极大。路线途经三个气候区、通过三大水系、穿越三个大型断裂带、翻过两座海拔3,000米以上大山。该项目是交通运输部确定的“勘察设计典型工程”和“科技示范工程”双示范项目，在全国乃至全世界都具有特殊性和典型性。



The Yaxi Expressway passing by Pear Mountain  
穿越汉源梨花山的雅西高速

## B. Project Management Innovations

### 项目管理创新

The project involved working in a very difficult geological terrain, complex social environments, and challenging construction objectives and conditions, demanding creative management modes for the expressway project.

In order to strengthen the management of the project, ensure the quality of the engineering, while controlling safety, progress schedules, costs, and integrity, the SYECL was established in September 2005. It comprised six departments—the General Administration Office, the Engineering Department, the Technical Management Department, the

Safety Management Department, the Financing Department, and the Land Requisition & Resettlement Department. With four branch offices in Yingjing, Hanyuan, Shimian, and Mianning in charge of day-to-day construction, 78 contractors and consulting firms were recruited for project implementation and consultation.

To incentivize progress, contests were held among civil-works contractors, including progress contests, and technology competitions—all held in a spirit of positive interaction so as to speed up the progress of construction and improve the quality of engineering, nurturing excellent teams of engineers that were technically qualified, were hardworking and had rich experience of highway construction in mountainous terrains. In order to deepen understanding, promote friendly relations, and improve management coordination between the project clients and contractors, SYECL organized technological exchanges, cultural sport activities, and promoted teamwork in the areas of technology, economy, and management.

The result was a complete engineering management system with more than 10 components, including engineering quality, safety, progress, and cost control. Clear hierarchies and divisions of responsibility made for efficient and orderly progress. When it came to the issue of standardizing the road construction, six guidelines were promulgated and issued to contractors, governing areas that commonly see defects. These included a "A Guide to Concrete and Bridges," a "Guide to Working Safely at Heights," and a "Guide to Controlled Explosives in Construction."

Construction safety education was conducted regularly. SYECL carried out frequent safety promotions through media such as its website and onsite posters. Meanwhile, international health experts and domestic experts from local governmental safety departments visited the project on several occasions, conducting onsite training and technical guidance, effectively eliminating major accidents, and achieving the miracle of "zero accidents" during the construction of Daxianglin Nibashan Tunnel—bored through an extremely complex geological terrain that was subject to sudden flooding and explosions of rock.

针对该项目所面临的特殊性——极其复杂的地理地质因素、极其复杂的社会环境、极其艰巨的施工任务和极其艰苦的施工条件，呼唤富有创造性的高速公路建设管理模式。

为切实加强项目建设管理,确保项目实施的质量、安全、进度、造价、廉政可控,项目实施机构,四川雅西高速公路有限责任公司于2005年9月成立。公司下设综合办公室、工程部、技术部、安全部、财务部、综合协调部等六个部门。另外,分别又在雅安市的荥经、汉源、石棉县和凉山州的冕宁县设立了四个业主代表处,负责对项目施工现场的管理。总共78家施工单位和咨询机构参与了项目的建设工

劳动竞赛活动贯穿项目建设的全过程。以业主为主导,建立了专门的劳动竞赛奖励机制,在承包单位之间、班组之间广泛开展劳动竞赛、技能比赛活动,使各参建单位形成了良性互动,促进了工程进度、提高了工程质量,造就了一批技术过硬、作风优良、善打硬仗的山区高速公路建设队伍。由项目业主组织,通过在参建各方之间经常开展现场技术交流学习会、文体联谊会等活动,使各项目经理部之间相互加深了了解、增进了友谊、提高了管理水平,建立起了唇齿相依的技术、经济、管理等紧密的协作关系。

建立了一套完善的工程管理体系。制定了工程质量、安全、进度、造价等十几项管理制度,分工明确,责任到人,工程建设管理体系高效、有序运转。推行标准化施工。针对高速公路容易出现的一些质量通病,制定了六项指南,指导和规范施工行为如《桥面混凝土施工指南》、《高墩大跨挂篮施工安全指南》和《岩爆防治施工指南》。

安全生产教育常抓不懈。项目公司通过网站、各项目经理部宣传栏等各种平面媒介,大力宣传安全生产教育。多次邀请国际健康咨询专家、地方政府安全生产监督部门专家亲临施工现场培训指导,强化现场技术交底管理,杜绝了项目重、特大安全责任事故的发生;创造了地质构造复杂、涌水量大、岩爆、突泥频发,西南第一长隧、埋深全国第一的泥巴山隧道施工零伤亡的奇迹。

## **C. Applied Scientific Research Results to Engineering Practice**

### **寓科学研究于工程实践之中**

The Yaxi Expressway, with its steep terrains, complex geological features, erratic weather conditions, fragile ecological environment, and difficult construction conditions would make it a special challenge anywhere in the world. To deal with these challenges, SYECL implemented a total 32 of scientific research projects, with seven broad areas of application.

- (1) Key technologies for the long, deep Daxiangling Nibashan Tunnel, which required the selection of wind-speed optimization technology for the ventilation shafts. Use of creatively designed, natural wind-energy air-



ducts saved more than CNY2.0 million (\$328,000) in energy costs annually. Meanwhile, risks associated with the adverse geological environment, such as flooding and explosions, were overcome through field research.

- (2) Research was undertaken into highway construction technology in active fault zones. Research was undertaken into technologies that enhance safety in highly seismically active areas, including tunnel and bridge anti-seismic isolation and debris-flow prevention, and these have been widely applied in the project construction.

- (3) Research was undertaken into safety-control techniques for expressway spiral-curve tunnels: A complete set of safety control technologies for the curved tunnels were implemented. The technical bottleneck of actually building a spiral-curve tunnel in such a harsh mountain terrain and difficult geological conditions was overcome.

- (4) Research was undertaken into a complete set of technologies for medium-span-steel apiped-concrete truss-beam bridges. One such—the Gan Haizi Extra-Large Bridge—was innovatively designed, reducing the weight of the structure by 55%, reducing the number of pile foundations by half, and shortening the duration of construction by about 3-12 months.

- (5) Research was carried out into the safety of driving down the long and continuous sloped expressway in the mountainous areas: The study arrived

at a special traffic safety design for a mountainous expressway with a long and continuous longitudinal grade, an extra-long tunnel and a spiral tunnel, icy and foggy road sections, and an operational management system was also established.

- (6) Research was carried out into steel and concrete composite bridges. The Labajin Bridge was the first time that a steel-tube, concrete composite bridge was employed, and the structural weight was reduced by about 28% and the construction period was also shortened.

- (7) Research was undertaken into standardized highway construction management in mountainous areas to put in place high-performance concrete bridge technology, as well as the technology for concrete paved bridges.

雅西高速具有“路线高海拔、高烈度、高落差”的特点。项目的地形条件险峻、地质结构复杂、气候条件多变、生态环境脆弱、建设条件困难，在国内乃至世界范围内都是一项特殊挑战。项目公司针对性地开展了六项西部交通建设科技项目，五项四川省交通建设科技项目，共32项科研项目，其中含七项推广应用项目。



Entrance of Nibashan Tunnel  
泥巴山隧道洞口

- (1) 大相岭泥巴山深埋特长隧道关键技术研究：建立了通风井智能比选、风速优化方法；创造性地设计了自然风节能风道，每年降低通风能耗200万元（合32.8万美元）以上；成功解决了岩爆、大变形和涌突水等隧道不良地质问题。
- (2) 活动断裂区高速公路修筑技术研究：通过研究形成了一套高烈度地震区高速公路边坡防治、隧道及桥梁综合减隔震、泥石流综合防治技术，在项目上得到广泛应用。
- (3) 高速公路螺旋型曲线隧道营运安全控制技术研究：形成了一套完善的高速公路螺旋型曲线隧道营运安全控制技术，突破了山区复杂地形、地质条件下采用螺旋型曲线隧道进行展线的技术瓶颈。
- (4) 中等跨度钢管混凝土桁架梁桥成套技术研究：创新设计了钢管混凝土桁架梁桥——干海子特大桥，减轻结构自重55%，减少桩基数量近一半，缩短工期3—12个月。



Gan Haizi Extra-Large Bridge  
干海子特大桥

- (5) 山区高速公路超长连续纵坡行车安全关键技术研究：通过研究，对山区高速公路超长连续纵坡、超长隧道与螺旋隧

道、冰雪雨雾路段进行了专项交通安全设计，以及营运管理体系研究。

- (6) 钢管混凝土组合桥墩研究：腊八经大桥首创了“钢管混凝土组合桥墩”结构形式，减轻结构自重约28%、缩短施工工期也大大缩短。
- (7) 山区高速公路建设规范化、标准化施工管理技术：开展了“桥梁高性能混凝土制备与应用技术”以及“山区桥梁水泥混凝土桥面铺装成套技术研究”。



Steel tube concrete composite bridge pier  
钢管混凝土组合桥墩

# Loan 2631-PRC: Second Heilongjiang Road Network Development Project 黑龙江路网发展二期项目



## A. Project Introduction 项目介绍

The Second Heilongjiang Road Network Development Project (Qiannen Highway Yichun–Nenjiang section) is a major corridor connecting eastern and western parts of Heilongjiang Province, forming the backbone of the Heilongjiang provincial road network. The project has contributed to development in Heilongjiang Province through: (i) improving Heilongjiang's transport infrastructure; (ii) strengthening connectivity between the inner and outer regions of the province; (iii) effectively and efficiently transferring goods and passengers; and (iv) accelerating social and economic development.

The total length of the project road is 347.1 km, including four sections, (i) a 163-km expressway between Yichun and Bei'an East, (ii) a 42-km expressway between Bei'an West and Wudalianchi, (iii) a 128-km gravel road between Longzhen and Nenjiang updated to a Class II highway, (iv) and a 13-km Class I road between Nenjiang and the provincial border with Inner Mongolia. Altogether, 23 civil works were procured through international competitive bidding, and construction commenced in May 2010.

ADB provided \$200 million from ordinary capital resources in financing for the project. The loan became effective on 5 November 2011 and will close on 30 June 2015. As of the end of 2012, cumulative contract awards achieved 91%, while cumulative disbursement amounted to 91%. The Heilongjiang Provincial Transport Department (HPTD) is the executing agency and the implementing agencies are the project management office (PMO), overseen by the HPTD, and the Heilongjiang Provincial Highway Bureau (HPHB).

黑龙江路网发展项目二期（前嫩公路伊春至嫩江段）是黑龙江省重要的东西向公路大通道，是黑龙江省骨架公路网“两环、七射、六纵、三横”中横二线的重要组成部分。本项目对黑龙江省的发展意义重大，主要体现在以下几方面：(i)改善黑龙江基础设施；(ii)加强省内省外连通性；(iii) 高效安全运输货物及乘客；(iv)促进社会经济发展。

项目建设里程347.1公里，共分为四段，其中：(i) 伊春至北安段高速公路穿越小兴安岭山脉，长163.4公里；(ii) 北安至五大连池景区段高速公路42.48公里；(iii) 五大连池龙镇至嫩江段长128.2公里，为改扩建二级公路；(iv) 嫩江至省界段为13.1公里一级公路。土建工程分为23个合同包，分三批按照ICB程序进行采购，于2010年5月开始陆续开工建设。

项目使用亚行普通业务贷款2亿美元，贷款于2011年11月5日生效，贷款关账日期为2015年6月30日。截至到目前，累计合同授予91%，累计支付完成91%。黑龙江省交通运输厅为项目执行机构。项目实施机构是黑龙江省交通运输厅下设的项目指挥部和黑龙江省公路局。

## B. Project Management 项目管理工作

For civil works, the PMO established a work breakdown structure before construction got underway, highlighting key tasks and strategies, and assessing risks on every level, such as factors that could affect the progress of the project, while also assessing quality issues. An integrated administration plan made it possible for the PMO to rapidly respond to issues as they unfolded during construction, increasing human resources and hardware, and optimizing work arrangements to ensure implementation went to schedule.



Laying crushed stone base  
摊铺机轧碎石基层

From start to finish, the project adhered to the values, "quality is the life of project, and zero harmsits guarantee." The PMO assigned delegates to work on project sites with contractors, and a comprehensive supervisory system was established that included government oversight, PMO monitoring, social supervision, and self-assessment by contractors.

In addition, the PMO, the central laboratory, supervisory engineers, and the managers of contractors worked together to formulate a concrete, comprehensive quality control system for the project. Project resettlement, environmental management, and social development action plans were all implemented during construction, mitigating impact on people and the environment in the project area.

After four years of preparation and construction, the Bei'an–Wudalianchi section of the highway was opened to traffic in October of 2011, while the Yichun–Bei'an, Wudalianchi Longzhen–Nenjiang, and Nenjiang–Boundary sections were opened to traffic in October 2012.

对土建工程，指挥部根据工程进度计划要求，合理划分施工阶段，并对各施工阶段进行



分解，突出关键、突出控制节点；同时施工前对可能影响项目进度、质量的因素进行分析和采取预案。指挥部不断加强日常施工管理，及时解决施工中出现的問題，加大人员、机械的投入，做好生产调配及协调工作，确保计划的完成。

项目始终坚持“质量是公路建设的生命，安全是公路建设的保障”的思想，在健全完善“政府监督、业主监控、社会监理、企业自检”的四级保证体系基础上，项目办采用了业主代表派驻制的管理方式。

同时建立了由指挥部、中心试验室、监理办、项目经理部构建的全方位、立体、综合的工程质量保证体系；严格把好材料关、工艺关、检测关、程序关，推行首件工程认可制，坚持用数据说话，有效控制工程质量。项目施工中，项目移民安置计划，环境保护计划，和社会发展行动计划得到了较好的实施。这些工作减轻了项目对受影响人群和环境的影响。

经过4年的准备和建设，项目北安至五大连池景区段高速公路于2011年10月交工通车，伊春至北安段、五大连池龙镇至嫩江段、嫩江至省界段于2012年10月交工通车。



Bridge construction  
架设桥梁



Expressway opened to public  
通车后的高速公路

### C. Project Special Features 项目特点

In addition to construction, the project also includes a road maintenance component guided by a road asset management system (RAMS) that will support road maintenance planning and budgeting in Heilongjiang Province, and serving as a pilot for road-maintenance, performance-based contracts. The project engaged international consultant services for RAMS, and international consultant services for the pilot of performance-based contracts. This resulted in professional suggestions on the RAMS, the system of overseeing finances, contract formats, and institutional development in late 2012.

By the end of 2012, the RAMS was procured, database has been set up, provincial road condition data has been collected, and the assessment results were applied for 2013 annual road management plan and budget.

Another special feature of the project is the effects made in improving rural village bus services, which include (i) piloting a bus route licensing reform to introduce user needs-



based bus services in the 3 villages of Bei'an County; and (ii) constructing 16 new bus stations and rehabilitating four bus stations in four counties and three prefectures. A Pilot Project Secretariat was set up in Bei'an on 10 June 2011. Zhaoguang Town was selected as the pilot township, whilst Qianjin, Beihe and Beile villages were selected as the pilot villages as agreed among HPTAB, Bei'an municipal communications bureau, and concerned villages and towns' government. Combined with actual demands of local community and overall provincial plan, the bus station locations were adjusted compared with those determined at appraisal, which were selected and finalized by HPHB. The civil works were completed at the end of 2012 and the stations were operated since January 2013. The rural bus services were significantly improved with the new bus stations with which local residents benefit for more comfortable and safer facilities.

Following the HPTD's strategy to speed up the technology development in transportation sector, the PMO carried out research studies and applied research results to construction works. The project completed about 10 research topics, such as *the Study on Design and Construction Technology of High-latitude Island Shape Highway Subgrade in Permafrost Regions; Research on Highway Construction Method Applied to Cold Ecologically Sensitive Areas, Operation Period of Water Environmental Protection, the Typical Demonstration Project Applied to Yichun to Wudalianchi Scenic Section of Eco-tourism Highway Construction, and Methodology of Combo Highway Network and Tourism Resources, etc..*

除了公路建设，项目还包括了道路养护内容。其目的是引进公路资产养护（RAMS）系统，帮助制定道路养护计划和预算，并开展绩效合同制道路养护的试点。项目雇佣2个人月RAMS国际咨询服务，和6.25人月国际专家提供绩效养护合同咨询服务。截至2012年底，咨询专家在RAMS，养护财务体系，合同模板，以及制度建设方面提出了专业建议。

截至2012年年底，黑龙江省已经完成RAMS系统采购，路网数据库的建立，并常规更新省内路况数据，根据评估结果制定2013年的道路管理计划及预算。

项目的另外一个特点是在改善农村客运服务方面的工作。其包括（1）在北安的三个行政村，通过实施客运线路执照改革试点项目，倡导“满足用户需求”的客运服务模式。（2）同时还在四县和三区，新建16个客运站，维修4个客运站。试点项目秘书处在2011年6月10日于北安设立。在黑龙江省交通运输局，北安市交通局，地方政府的配合同意下，赵光镇作为试点实施镇，同时，前进，北河及北乐村作为试点村。结合当地社区及全省规划的需要，对客运站点的设定进行了调整，最终由黑龙江省公路局选定。客运站的土建工作在2012年年底完成，并在2013年1月开始运营。随着客运站点的建成，农村客运服务水平有了较大提高。当地居民有了更安全舒适的客运服务。

按照黑龙江省交通厅提出加快实施科教兴交通的战略目标，健全创新机制，项目部有针对性的设立科研课题，以科技创新为先导，增加筑路科技含量，提高工程质量。项目共立项了高纬度岛状多年冻土区高速公路路基设计与施工技术研究、寒地生态敏感区公路施工及运营期水环境保护应用技术研究、典型示范工程在伊春至五大连池景区段生态旅游高速公路建设中的应用、高等级公路网络与旅游资源整合技术研究等10余项科研课题。

# **Urban and Social Development 城市和社会发展**

# **Loan 2420-PRC: Xinjiang Municipal Infrastructure and Environmental Improvement Project**

## **新疆城市基础设施和环境 改善项目**



### **A. Project Introduction** **项目概况**

The Xinjiang Uygur Autonomous, in northwest China, has eight land borders with Russia and central Asian nations, and a population of over 20 million comprising a number of minority groups. It also has rich natural resources and ecological diversities, and it is an important energy base for the PRC. However, due to Xinjiang's remote location, economic development is lagging compared to the coastal PRC, and the environment is fragile.

The Xinjiang Municipal Infrastructure and Environmental Improvement Project aims to bring about sustainable socioeconomic growth, to improve the ecological environment and to improve living standards in the border areas of northern Xinjiang. Total project investment is \$200 million, including an ADB loan of \$105 million from ordinary capital resources. The project is largely focused on three border cities and areas of northern Xinjiang—Yining City, the Alashankou border crossing, and the Kanas Scenic Region. The three components are (i) Yining City roads and municipal services, (ii) Alashankou land port municipal infrastructure and environmental protection, and (iii) Kanas scenic region infrastructure and environmental protection.



Panoramic view of Alashankou land port  
阿拉山口口岸全景

The loan agreement was signed in July 2008 and it became effective in November 2008. Project implementation has been smooth and the loan will close by the end of 2013 as planned.

新疆维吾尔自治区位于中国西部，是中国重要的对外开放地区，对中亚国家主要的对外贸易口岸都集中在这里。新疆有两千多万人口，为多民族聚集区，自然资源丰富，具有多样化生态，是中国重要的能源基地。由于新疆特殊的地理位置和条件，近年来经济发展相对滞后，生态环境相对敏感脆弱。

项目旨在通过项目实施，促进北疆边境地区的社会经济持续增长及可持续发展，改善生态环境，提高城镇居民的生活水平。项目总投资约2亿美元，其中亚行贷款1.05 亿美元。项目分布在新疆北部的部分地区，主要集中在伊宁市、阿拉山口口岸和喀纳斯风景区。三个子项目分别是(i) 伊宁城市道路和市政设施；(ii) 阿拉山口口岸城市基础设施及环境保护；(iii) 喀纳景区基础设施和环境保护。

新疆城市基础设施建设和环境改善项目与2008年7月签定贷款协议，并于当年11月生效，项目实施期5年，2011年完成中期调整，整体进展比较顺利，将在2013年底按计划年如期关帐。

## B. Project Management Innovations 项目管理创新

The project was ADB's first loan for urban development in Xinjiang, a significant move in terms of the development of Xinjiang. A project leadership group (PLG) headed by the Vice Governor of Xinjiang was established, while the ADB Project Management Office (XPMO) was established by the Housing and Urban-rural Construction Bureau, the Xinjiang Finance Bureau and the Development and Reform Committee. The XPMO is overseen by the Housing and Urban-rural Development Department, and each project component has its own PMO and PLG, with staff that have undergone training sessions and been on study trips to other, similar projects in the PRC, assisting in on-time implementation.

When project management involves multiple departments, a common problem is the division of responsibilities between departments, and an overdue emphasis on administrative power. For this reason, the XPMO focused on reaching a consensus between its various departments on common goals. Even more critical was the issue of policy transparency, procedural rigor,

and standardized management, making the project a model for domestic project management. The XPMO has incorporated good management standards into its daily routines, while the Yining PMO received direct management guidance from the ADB, which was of great assistance in project construction, resettlement, and many other aspects.

The project combined the management modes of planning, scheduling, and reimbursements, and on-site verification of large withdrawals and reimbursements. Any reimbursements that do not match the plan show up and the problem can be resolved. On-site verification of large withdrawals and reimbursements requires that all transactions be checked by county financial departments, half by district departments, while random checks are carried out by the Xinjiang Financial Bureau. These initiatives were successful in improving project management, and also incentivized staff.

Meanwhile, every component of the PMO was set up according to various local conditions. For example, the Yining component involved the construction of a large amount of municipal and sanitation facilities, acquisitions of land, and resettlement of residents. The fact that the PMO was under the Housing and Urban Construction Bureau was conducive to project construction management and later operations. Alashankou is a border city that lacks an independent, mature municipal management system, and there the PMO operated under a state-owned border construction company that guaranteed the project brought about public benefits, rolling out water and heating supplies in a market mode in, with follow-up operations that provided refuse and sewage treatment equipment.

In addition, PMO capacity building has also been an important part of the project management. The XPMO and each component PMO have differing responsibilities but collaborate on project management. The XPMO is more focused on project macro-management and coordination with ADB, and XPMO have rich experience of managing construction projects, and have English-language skills. The XPMO is also responsible for implementing specific subprojects, and its personnel have proven experience in project management. Management staff has organized seven training sessions to strengthen procurement and contract management skills, improving implementation of ADB's social security policies, making improvements in terms of both theory and execution, and enhancing the use of international loans by subproject offices and the local government.

新疆城市基础设施和环境改善项目是新疆实施的第一个亚行贷款城市基础设施建设项目，具有示范和引领新疆大发展大建设的意义。为保证项目顺利实施，成立了以自治区常务副主任组长的项目领导小组，下设由自治区住房和城乡建设厅、自治区财政厅和自治区发改委组成的管理办公室。项目管理办公室（XPMO）设在住房和城乡建设厅。按自治区的要求和管理模式，各子项目区也分别成立了领导小组和项目管理办公室。执行过程中项目办日常工作人员相对固定，自治区项目办通过参加各类培训以及考察学习提高项目管理人员的管理知识、能力和经验，保证了项目的顺利实施及各项工作的有序性和及时性。

项目的多部门参与管理经常出现的情况是权责不清，注重权力而忽略责任。新疆项目办各职能参与部门经过最初的磨合很快形成了共识。虽然出自各自部门职责要求也会发生有不同意见的情况，大家的共同目标是全力推进项



目的进程。还有一个更关键的因素，就是亚行项目政策透明、程序严格、管理规范，计划性强，杜绝项目管理中的随意性，对于国内项目管理有很好的借鉴意义。新疆项目办不仅认识到这些特点，还在日常管理中自觉实行，并指导各子项目管理单位认真落实。伊宁市项目办在执行亚行项目中，不仅学到了亚行项目的管理经验，并落实到实施过程中，在项目建设、移民安置、少数民族发展方面取得了很大的实效。

项目执行中我们实行“计划-进度-报账”与“大额提款报账实地核查”相结合的管理模式，加强提款报账工作。对大额提款报账进行实地核查，要求地区财政部门核查面达50%，县级达100%，自治区随机抽查。通过实施按计划提款报账和大额提款实地核查相结合的模式，增加和丰富了自治区的管理手段和工作的主动性。

为保证项目管理效率和质量，新疆城市基础设施和环境改善项目健全了自治区和各子项目办组织管理机构，机构根据项目不同情况设置。伊宁市项目主要是市政和环卫设施建设，征地拆迁量比较大，与此相关的政府管理职能大多在建设主管部门，项目办就设在住房和城乡建设局，这有利于项目建设管理和后期运营的衔接；阿拉山口口岸城市，没有独立成熟的市政管理体制，项目办设在国有陆港建设公司，在保证项目公益性的前提下，有利在供水供热和垃圾污水处理设施后续运营方面建立市场运作模式。

除此之外，项目办的能力建设也是项目管理的重要因素。自治区项目办和各子项目办在管理上有合作也有责任区别，因此在能力建设上也各有重点。自治区项目办侧重对项目的宏观管理以及与亚行的协调，项目办负责人具有项目



Improved environment of community in Yining  
伊宁市改善的小区环境

建设管理经验，在项目办和财政厅中亚处、发改委外资处都指定有项目专职联系人，且具备必要的英语读写能力。各子项目办负责项目的具体实施，其人员都具备实际工程管理经验，为提高项目办管理人员的能力，自治区项目办到目前为止已组织7次培训，加强他们在采购和合同管理、执行亚行社会保障政策的理论水平 and 执行能力，增强了各子项目办和当地政府利用国际贷款的积极性和信心。

### C. New Philosophy of Urban Development 城市发展新理念

The project has changed perceptions on several levels. Firstly, government emphasis has shifted from administrative achievements to social benefits the project has brought. Secondly, project implementation has been people oriented, with an emphasis on resettlement, restoration and development. Thirdly, the project has brought about a greater emphasis on environmental impact and environment protection. Fourthly, assessment of project performance has shifted from simply the amount invested and the number of projects to social and economic outcomes, improvements to the environment and standard of living, as well as the health and personal development of everyone involved. Lastly, the project has brought about more emphasis on public participation, democratic decision-making, and ensuring the legitimate rights and interests of everyone involved.

All the three components of the project are located in minority regions. In the early stages of project implementation, little thought was given to promoting the development of

ethnic minorities and minority women. But as the project progressed, officials and staff gradually got a better understand of the ADB's rigorous requirements on environmental and social safeguard policies and how they were to be applied to the entire implementation process. Meanwhile, implementing institutions also have a deeper understanding of ADB policies on sustainable development and environmental protection, also emphasizing public consultations and surveys with the aim of protecting people's interests, and taking vulnerable groups and women's development into account, earning the support of local residents.

In the Kanas Scenic Region, 300 jobs have been provided to local residents, including ethnic minorities and women—78% of the region's cleaners are local minority women. Meanwhile, in 2010, the Kanas Scenic Region Management Committee organized 45-day training sessions to female herders in the provincial capital of Urumqi, providing lessons in basic Putonghua, tourism marketing, and tourism etiquette, among other skills. And in 2012, 330 local residents from 330 households received diverse training in skills ranging from mushroom cultivation, to the provision of tourist accommodation and epidemic prevention. Training sessions of this kind have improved opportunities for ethnic minority women and vulnerable households. In Tuvas and Kazakh villages, ADB funding was used for building four "women's homes," where ethnic minority women can gather together and engage in training sessions. Most have seen increases in their incomes, which has enhanced their confidence and improved their social status.

项目的准备和实施融入城市如下城市发展新的理念：一是从以工程业绩为主导的政绩观到注重项目带来的社会发展；二是项目实施以人为本：重视征地移民的安置、恢复和发展；重视少数民族发展；三是更加重视环境影响和环境保护；四是项目绩效观从狭隘的完成投资额和工程量扩展到注重项目对社会经济发展、环境改善、受影响人群生计、出行、健康、发展等指标；五是重视公众参与，民主决策，保证受影响人群合法权益。

新疆城市基础设施和环境改善项目三个子项目都在西部和西北部边境地区，地处偏远，多为少数民族聚住地区。如何促进少数民族和妇女的共同发展，在项目初期管理机构 and 人员并没有自觉地意识，更多的是被动的为满足亚行的要求不得不做。随着项目进展，大家逐步发现了亚行保障政策对项目区可持续发展的影响和意义。项目实施中，由于重视对公众咨询调查，保证受影响人群的合法权益，重视弱势群体和妇女发展，项目得到了居民的理解和支持。

在喀纳斯景区，政府除了在工程施工中为少数民族提供工作岗位，还利用景区特殊需求，为当地居民提供了300多个就业岗位，主要安置妇女就业。在景区清洁工中有78%的工作人员为当地少数民族妇女。2010年喀纳斯景区管委会组织景区各村120名农牧民妇女，

在乌鲁木齐市做基础汉语、旅游营销和旅游礼仪等方面的培训，培训期为45天。2012年景区为当地330人进行技术培训，培训受益户330户，每户参加培训1人。培训内容包括蘑菇栽培、旅游接待、手工艺制作、餐饮和卫生防疫等。培训提高了少数民族妇女和弱势贫困家庭的知识水平和就业能力，增加了发展机会。在当地特有族群图瓦人和哈萨克村庄，利用亚行赠款建立了4个妇女之家，少数民族妇女在此聚会交流或开展培训活动。由于少数民族发展计划和妇女发展赠款计划的实施，少数民族妇女通过语言、技能培训，借助政府的就业安排，已经开始走出家庭融入社会，除了获得收入，个体发展能力的提高，同时也增强了她们的自信，提高了社会地位。



Training minority women for handicraft works  
培训少数民族妇女制作手工艺品

# Loan 2491-PRC: Guangxi Wuzhou Urban Development Project 广西梧州城市发展项目

## A. Project Background 项目背景

Wuzhou is a city in Guangxi Province, situated at the confluence of the Xijiang and Guijiang rivers and surrounded by mountains and hills to the north, south, and east. Due to the limited availability of flatlands, many houses and other buildings crowd around the foothills and on unstable slopes that are at high risk of mud- and rockslides, and even collapse. The growing frequency and scale of geohazards caused increasing damage to people's lives and properties and to socioeconomic development. About 53,000 residents in 14,000 households and 30 enterprises and public institutions inhabited in the geohazard-prone hillside zones in the built-up urban districts.

Several dozens of mudslides and collapses occurred every year. Between 2000 and 2005, many districts experienced mudslides and collapses. For example, on 8 June 2006, an extra strong rainstorm triggered 181 mudslides, 48 collapses and 64 mud-rock flows that threatened the lives of 21,673 people, and brought about extensive damage, including 12 dead, 26 wounded, 825 residential buildings destroyed with close to CNY 650 million of economic loss. In recent years, the number of mudslide attacks has increased by 30%.

The \$100 million ADB loan is to introduce innovative approaches to address geohazards and to ensure sustainable urban development, which has three major components: (i) Pingminchong geohazard prevention; (ii) Hongling road network; and (iii) Capacity development and institutional building in geohazard forecasting and early warning system and project management.



梧州是一座沿着西江和桂江流域发展起来的山城。北面、南面和东面三面环山。由于缺少可用的平地，许多房屋和建筑建在山丘和斜坡上。此外，这些边坡被一层厚厚的风化松散岩土覆盖，容易引发地质灾害，特别是山体滑坡、泥石流和山体崩塌等灾害。随着地质灾害发生的频率和范围增大，给人们生命财产和社会经济发展造成的危害也愈加严重。大约30个企事业单位和14,000户53,000名居民，分布或居住在市区中易发地质灾害的山坡地带。

梧州市每年都会发生数十起山体崩塌滑坡事故。据统计，2000－2005年间，梧州多地发生了滑坡和山体崩塌事故。2006年6月8日，一场强降雨引发了181处山体滑坡、48处崩塌和64处泥石流，直接威胁到21,673人的生命，并造成12人死亡、26人受伤、825处住宅被毁的大范围破坏，经济损失接近人民币6.5亿元。近年来，梧州山体滑坡次数增加了30%。

亚行一亿美元贷款目的是引进解决地质灾害和实现城市可持续发展的创新方法。该项目由三个子项目组成：（1）平民冲地质灾害防治；（2）红岭路网；和（3）地质灾害预报和早期预警系统以及项目管理等方面的能力发展和机构建设。



Residences threatened by landslide  
受滑坡威胁的居民楼

## B. Challenges in Resettlement 移民安置上的挑战

Land acquisition and resettlement is the main challenge to the project in both processing and implementation. Resettlement affects as many as 2,307 families, including 1,721 in Pingminchong valley. The implementation of resettlement for the project has proven to be a model of success in implementing the PRC and ADB regulatory and policy requirements, especially meaningful participation, adequacy compensation and livelihood restoration. Intensive public consultations were undertaken during the project preparation, through questionnaire surveys, interviews, community meetings and focus group discussions, to identify issues of concerns and to understand their needs, views and expectations of the project, which were incorporated into the resettlement and social development programs. During the actual execution of the resettlement plan, various information dissemination tools, including the mass media, bulletin boards, brochures and community meetings, were used to ensure public awareness and involvement. The Wuzhou Municipal Government (WMG) identified other housing options, for example commercial housing and rental housing besides the Zaochong resettlement housing and provided the information to the relocated households. People's choices of places of resettlement and compensation modalities were respected.

Special attention was paid to such vulnerable households as the poor, elderly, disabled and women-headed families. Some of these households were resettled in subsidized rental housing. Of the 1,721 households evacuated from the Pingminchong valley, 558



households moved to Zaochong resettlement community, 389 into subsidized commercial housing, 85 moved into economic housing, 370 moved to low-income rental housing, 68 to commercial housing and 251 to second hand housing (either apartments or individual houses bought from previous occupants).

In addition, as a livelihood rehabilitation measure, a comprehensive employment training program and a microcredit program were designed and delivered to the resettled households.

The efficient institutional coordination ensured the smooth implementation of resettlement activities. The WMG led all relevant agencies, including the office of the WMG, the development and reform commission, the finance bureau, the housing and urban-rural development commission, the land resources bureau, the water resources bureau, the environmental protection bureau and district governments to support the project implementation. The coordination the WMG were particularly critical to the successful execution of the large-scale 1,721-family resettlement program at the Pingminchong valley. Task forces on information dissemination, fund disbursement,

mobilization, evacuation and post-resettlement assistance, were established. On-site offices in the Pingminchong valley and the Zaochong resettlement community were set up to receive and answer questions from the local residents and to redress complaints.

移民安置是项目准备和实施的一大挑战。项目拆迁涉及2,307个家庭（包括平民冲搬迁的1,721个家庭）。本项目移民安置的实施证实，这是一种成功执行中国和亚行政策规定的模式，尤其是在受影响人积极参与、补偿充分和生计恢复方面。在项目准备阶段，通过问卷调查、采访、社区会议和关注群体讨论，进行全面的公众咨询，确定移民关心的问题，了解其需求、对项目的看法和期望，并将其纳入移民和社会发展计划。在移民计划实际实施过程中，采取媒体宣传、公告栏公布、发放宣传册和召开社区会议等多种宣传手段确保公众参与。除枣冲安置房外，梧州市政府还确定了商品房、公租房等其他房源选择，向搬迁户公布有关信息，尊重人们对安置地点和补偿方式的选择。

梧州市政府对贫困家庭、老年人家庭、残疾人家庭和妇女为主的家庭等弱势群体给予了特别关注。部分弱势群体家庭安置到政府补助的公租房。从平民冲撤离的1,721户住户中，558户搬迁到枣冲移民小区，389户搬迁到政府补助的商品房，85户搬迁到经适房，370户



Zaochong Resettlement Community  
枣冲安置小区

搬迁到廉租房，68户搬迁到商品房，251户购买二手房（二手公寓或私人房屋）。

此外，作为一种生计恢复措施，梧州市政府为安置户制定和提供全面的就业培训方案和小额贷款方案。

有效的机构协调保证了移民安置工程的顺利进行。梧州市政府带领着市政府办公室、发改委、财政局、住建委、国土局、水利局、环保局、城区政府等各相关部门力量，为项目提供支持。平民冲1,721户受影响家庭大规模移民安置的成功实施，充分展现了梧州市政府出色的管理和协调能力。同时梧州市政府还成立信息宣传、资金拨付、动迁、撤离和移民后援助等小组；在平民冲和枣冲移民小区设立项目现场办公室，答复当地居民的疑问并受理投诉。

### C. Project Innovations 项目创新

**Innovative Approach to Geohazard Control:** Conventional approaches for geohazard management rely entirely on budget support from the central and local governments. The approaches lacked self-financing capability. The long lasting financial constraint of the governments has limited the public interventions to emergency response and post-disaster rehabilitation through providing assistance for disaster relief and rehabilitation of the damaged retaining walls. The level of rehabilitation and protection is determined and constrained by the budgetary resources available. A new mechanism is introduced to shift the focus of geohazard management from disaster rehabilitation to disaster avoidance and prevention, and to introduce self-financing element into geohazard management through integrated urban planning and well-coordinated urban development.

Under the Pingminchong valley geohazard resettlement and prevention component, people living in this geohazard-prone valley was evacuated and relocated into a newly constructed resettlement community in a geohazard-free urban area, thus getting rid of the geohazard threat for good. Engineering measures were then be conducted in the evacuated Pingminchong valley by (i) cutting the mountain slopes to a safe and landslide-free degree, (ii) filling up the valley into carefully designed terraces, and (iii) installing an effective drainage system to divert the storm water and protect the treated terraces from erosion. These engineering measures have converted the geohazard-prone Pingminchong valley into a piece of geohazard-free prime land.

This innovative approach also incorporates geohazard prevention into overall urban development through holistic urban planning and integrated public investments. It is expected to achieve a combined goal of disaster prevention, human settlement improvement, and urban redevelopment. This innovative approach would not be possible without a sizeable lending support from ADB to complement the WMG's initial investment to build a well-serviced resettlement community to receive the relocated households from the geohazard-threatened Pingminchong valley. In fact, the success with the ADB-financed Pingminchong component has led the WMG to have started the adjacent Baihuachong and Shiguchong valleys with the use of the same approach.

**Geohazard Forecasting and Early Warning System:** Based on an existing computerized GIS for land resources management in Wuzhou, taking into account international best practice, the project is helping the

WMG: (i) use information and communication technology to establish a centralized GIS compatible real-time monitoring and reporting network to supplement the existing community-based manual observation mechanism for the geohazard-prone zones of the city; (ii) develop a computer-based dynamic geohazard simulation and forecasting model, based on meteorological data and geohazard monitoring data, to provide technical support for early warning service against geohazard attacks; and (iii) provide an integrated decision-making system for geohazard monitoring, early warning, and emergency response to enhance the efficiency and effectiveness of the geohazard management system of the city. The system is now in trial operation. This is one of the first such systems to be introduced for strengthening of urban geohazard management in the PRC.

地质灾害控制的创新方法。传统的地灾管理完全依赖于中央和地方的投入，缺乏自我融资能力。由于政府长期受财力制约，地灾管理局限于对灾害的紧急求助以及通过灾害援助和重建受损挡土墙进行灾后恢复。这种恢复和保护取决并受限于预算投入。该项目将引进一种新的机制，将地灾管理的重点从灾后重建转移到为灾害避免和防治，并通过一体化的城市规划和城市协调发展引进自我融资的元素。

在平民冲地质灾害防治子项目下，生活在地灾易发区平民冲的居民搬迁至新建的无地灾移民小区，摆脱地灾威胁。然后在迁移后的平民冲进行地灾控制措施：(1) 削坡，达到无滑坡的安全程度；(2) 填埋谷地以形成周密设计的阶地；(3) 建设有效的排水系统以导流雨水，保护坡地使其不受雨水侵蚀和浸泡。这些工程措施将把平民冲开发成没有地灾的优质城市用地。

通过城市总体规划和政府整体投资，这种创新的方法将地灾防治融入城市总体发展中，以期达到灾害防治、改善人居和城市再开发的多重目标。如果没有亚行大量贷款资金支持梧州市政府启动投资，建设一个设施齐全的移民小区容纳从受地灾威胁的平民冲搬迁居民，这种创新方法将难以成为现实。事实上，亚行贷款建设的平民冲子项目成功做法使梧州市政府能够用同样的方法启动毗邻的冰泉冲和石鼓冲改造项目。

地质灾害预报和早期预警系统。在梧州市现有的GIS系统的基础上，参考国际先进做法，项目正帮助梧州市政府：(1) 通过信息和通讯技术，为梧州市地质灾害易发区建立基于GIS的地质灾害实时自动监测和报告系统，完善现有的基于社区基础的人工监测机制；(2) 根据气象数据和地质灾害监测数据，开发地质灾害计算机动态模拟和预报模型，为地质灾害袭击的预警提供技术支持；(3) 提供地质灾害监测、预警和应急的综合决策系统，以提高梧州地质灾害管理的效率和效果。目前该系统正在测试运行，这是中国首批引入的加强城市地灾管理系统之一。



GIS-based geohazard monitoring equipment  
基于GIS的地质灾害实时监测设备

# Attachments

## 附件

## Attachment 1

## Self-evaluation Form

Project Name: \_\_\_\_\_

For year of: 2012

Items	Gained Points
<b>1. Institutional Set Up</b>	
• Specific PMO set up	
• PMO staffing	
• Grievance redress mechanism	
<b>Subtotal Points</b>	
<b>2. Implementation Start-up Performance</b>	
• Loan approval to first disbursement	
• Supervision consultant Mobilization	
<b>Subtotal Points</b>	
<b>3. Project Management</b>	
• Progress report submission	
• Safeguards reports submission	
• Project performance monitoring report or socioeconomic impacts monitoring report submission	
<b>Subtotal Points</b>	
<b>4. Contract Award and Disbursement</b>	
• Contract Award Achievement	
• Disbursement Achievement	
• Gap between time elapsed versus percentage of cumulative disbursements	
<b>Subtotal Points</b>	
<b>5. Safeguards Compliance</b>	
• Compliance with resettlement covenants	
• Compliance with environment and indigenous people covenants	
<b>Subtotal Points</b>	
<b>6. Financial Management</b>	
• Financial management system	
• Audited project accounts and financial statements Submitted	
<b>Subtotal Points</b>	
<b>(1) Total Points</b>	



**Additional Bonus/Penalty:**

**1. Loan Extension:**

Bonus Points \_\_\_\_\_

(Detailed explanation for the bonus: \_\_\_\_\_  
\_\_\_\_\_)

Penalty Points \_\_\_\_\_

(Details for the penalty: \_\_\_\_\_  
\_\_\_\_\_)

**2. Total Project Cost Increase (in terms of CNY):**

Penalty Points \_\_\_\_\_

(Details for the penalty: \_\_\_\_\_  
\_\_\_\_\_)

**3. Change of Project Outputs: Penalty Points \_\_\_\_\_**

(Details for the penalty: \_\_\_\_\_  
\_\_\_\_\_)

**4. Counterpart Funds: Penalty Points \_\_\_\_\_**

(Details for the penalty: \_\_\_\_\_  
\_\_\_\_\_)

**(2) Subtotal of Bonus Points: \_\_\_\_\_**

**(3) Subtotal of Penalty Points: \_\_\_\_\_**

**Grant Total [(1)+(2) -(3)]: \_\_\_\_\_**

*I hereby certified that the results of our self-evaluation for the project performance in 2012 are true and complete.*

Signature: \_\_\_\_\_

PMO Director: \_\_\_\_\_

Date: \_\_\_\_\_

## Appendix 1: Details of Self-evaluation

Details of Self-evaluation	
<b>1. Institutional Set Up:</b>	
1.1 Specific PMO Set UP	Gained Points _____
A PMO is set up specifically for the project _____	
(Detailed explanation: _____)	
A PMO Director or deputy director designated for the project _____	
(Detailed explanation: _____)	
1.2 PMO Staffing	Gained Points _____
Designated procurement/contract management staff _____	
(Detailed explanation: _____)	
Designated disbursement staff _____	
(Detailed explanation: _____)	
Designated coordinator/interpreter _____	
(Detailed explanation: _____)	
1.3 Grievance redress mechanism	Gained Points _____
(Detailed explanation: _____)	
_____	
_____	
<b>2. Project Start-up:</b>	
2.1 Loan approval to first disbursement	Gained Points _____
(Detailed explanation: _____)	
_____	
2.2 Fielding construction supervision consultants (firm or individual; ADB loan or domestic funded)	Gained Points _____
(Detailed explanation: _____)	
_____	
<b>3. Project Management:</b>	
3.1 Submission of progress report	Gained Points _____
Reports timely submitted _____	

(Detailed explanation: \_\_\_\_\_  
\_\_\_\_\_)

Reports submitted with adequate information \_\_\_\_\_

(Detailed explanation: \_\_\_\_\_  
\_\_\_\_\_)

3.2 Submission of monitoring reports, including environmental, resettlement, and ethnic minority \_\_\_\_\_ Gained Points \_\_\_\_\_

Reports timely submitted \_\_\_\_\_

(Detailed explanation: \_\_\_\_\_  
\_\_\_\_\_)

Reports submitted with adequate information \_\_\_\_\_

(Detailed explanation: \_\_\_\_\_  
\_\_\_\_\_)

3.3 Submission of project performance monitoring or socioeconomic impacts monitoring report \_\_\_\_\_ Gained Points \_\_\_\_\_

Reports timely submitted \_\_\_\_\_

(Detailed explanation: \_\_\_\_\_  
\_\_\_\_\_)

Reports submitted with adequate information \_\_\_\_\_

(Detailed explanation: \_\_\_\_\_  
\_\_\_\_\_)

#### 4. Contract Award and Disbursement

4.1 Contract Award Achievement (Cumulative, as of the end of last year)

Gained Points \_\_\_\_\_

(Detailed explanation: \_\_\_\_\_  
\_\_\_\_\_)

4.2 Disbursement Achievement (Cumulative, as of the end of last year)

Gained Points \_\_\_\_\_

(Detailed explanation: \_\_\_\_\_  
\_\_\_\_\_)

4.3 Gap between time elapsed (from loan approval) versus percentage of cumulative disbursement (as of the end of last year) \_\_\_\_\_ Gained Points \_\_\_\_\_

(Detailed explanation: \_\_\_\_\_  
\_\_\_\_\_)

**5. Safeguards Compliance**

5.1 Compliance with resettlement covenants Gained Points \_\_\_\_\_

 (Detailed explanation: \_\_\_\_\_  
 \_\_\_\_\_)

5.2 Compliance with environment and indigenous people covenants

Gained Points \_\_\_\_\_

 (Detailed explanation: \_\_\_\_\_  
 \_\_\_\_\_)

**6. Financial Management**

6.1 Financial management system Gained Points \_\_\_\_\_

Financial management system in use \_\_\_\_\_

 (Detailed explanation: \_\_\_\_\_  
 \_\_\_\_\_)

Separate project account maintained \_\_\_\_\_

 (Detailed explanation: \_\_\_\_\_  
 \_\_\_\_\_)

Designated disbursement staff \_\_\_\_\_

 (Detailed explanation: \_\_\_\_\_  
 \_\_\_\_\_)

6.2 Submission of audited project accounts and financial statements

Gained Points \_\_\_\_\_

 (Detailed explanation: \_\_\_\_\_  
 \_\_\_\_\_)

## 附件1

## 自评表

项目名称: \_\_\_\_\_

评估年度: 2012

自评内容	得分
<b>1. 机构建设</b>	
• 成立专门的项目管理办公室	
• 项目管理办公室的人员设置	
• 对项目受影响人抱怨的申诉机制	
小计	
<b>2. 项目实施启动情况</b>	
• 自贷款批准到第一笔支付之间的时间跨度	
• 咨询专家和监理的动员	
小计	
<b>3. 项目管理</b>	
• 进度报告的提交	
• 保障政策相关报告的提交	
• 项目绩效监测报告或社会经济影响监测报告的提交	
小计	
<b>4. 合同授予和支付</b>	
• 已签订的合同额	
• 已完成的支付额	
• 已过去时间百分比与累计支付百比例之间的差距	
小计	
<b>5. 保障政策的遵守</b>	
• 关于移民安置协定的遵守情况	
• 关于环境和少数民族协定的遵守情况	
小计	
<b>6. 财务管理</b>	
• 财务管理体系	
• 经审计的项目账目和财务报表的提交	
小计	
(1) 合计	



**额外加分/扣分：****5. 贷款延期：**

额外加分 \_\_\_\_\_

(加分说明： \_\_\_\_\_ )

额外扣分 \_\_\_\_\_

(扣分说明： \_\_\_\_\_ )

**6. 项目总成本增加（以人民币为单位）： 扣分 \_\_\_\_\_**

(扣分说明： \_\_\_\_\_ )

**7. 项目产出变更：**

扣分 \_\_\_\_\_

(扣分说明： \_\_\_\_\_ )

**8. 配套资金：**

扣分 \_\_\_\_\_

(扣分说明： \_\_\_\_\_ )

**(2) 加分合计：** \_\_\_\_\_**(3) 扣分合计：** \_\_\_\_\_**最终得分 [(1)+(2)-(3)]：** \_\_\_\_\_

我在此保证我们对项目2012年绩效的自评结果真实且全面。

签名： \_\_\_\_\_

项目管理办公室主任： \_\_\_\_\_

日期： \_\_\_\_\_

## 附录1：自评说明

自评说明	
<b>1. 机构建设：</b>	
1.1 成立专门的项目管理办公室	得分 _____
专门为项目设立了项目管理办公室 _____	
(详细说明： _____ )	
项目有指定的项目管理办公室主任或副主任 _____	
(详细说明： _____ )	
1.2 项目管理办公室的人员设置	得分 _____
指定采购/合同管理人员 _____	
(详细说明： _____ )	
指定支付人员 _____	
(详细说明： _____ )	
指定协调员/翻译 _____	
(详细说明： _____ )	
1.3 对项目受影响人抱怨的申诉机制	得分 _____
(详细说明 _____ )	
_____ )	
_____ )	
<b>2. 项目实施启动：</b>	
2.1 自贷款批准到第一笔支付之间的时间跨度	得分 _____
(详细说明： _____ )	
_____ )	
2.2 咨询专家和监理的到场时间（包括公司或个人；亚行贷款或国内出资）	得分 _____
(详细说明： _____ )	
_____ )	

**3. 项目管理：****3.1 进度报告的提交**

得分 \_\_\_\_\_

及时提交报告 \_\_\_\_\_

(详细说明: \_\_\_\_\_)

提交的报告内容翔实 \_\_\_\_\_

(详细说明: \_\_\_\_\_)

**3.2 监测报告的提交，包括环境、移民安置和少数民族等**

得分 \_\_\_\_\_

及时提交报告 \_\_\_\_\_

(详细说明: \_\_\_\_\_)

提交的报告内容翔实 \_\_\_\_\_

(详细说明: \_\_\_\_\_)

**3.3 项目绩效监测报告或社会经济影响监测报告的提交**

得分 \_\_\_\_\_

及时提交报告 \_\_\_\_\_

(详细说明: \_\_\_\_\_)

提交的报告内容翔实 \_\_\_\_\_

(详细说明: \_\_\_\_\_)

**4. 合同授予和支付****4.1 已签订的合同额（截至上年末的累计数）**

得分 \_\_\_\_\_

(详细说明: \_\_\_\_\_)

**4.2 已完成的支付额（截至上年末的累计数）**

得分 \_\_\_\_\_

(详细说明: \_\_\_\_\_)

**4.3 已过去的时间百分比（自贷款批准之日起）与累计支付百分比（截至上年末）之间的差距**

得分 \_\_\_\_\_

(详细说明: \_\_\_\_\_)

**5. 保障政策的执行**

5.1 关于移民安置协定的遵守情况

得分 \_\_\_\_\_

(详细说明: \_\_\_\_\_  
\_\_\_\_\_)

5.2 关于环境和少数民族协定的遵守情况

得分 \_\_\_\_\_

(详细说明: \_\_\_\_\_  
\_\_\_\_\_)

**6. 财务管理**

6.1 财务管理体系

得分 \_\_\_\_\_

财务管理体系的建立 \_\_\_\_\_

(详细说明: \_\_\_\_\_  
\_\_\_\_\_)

项目单独核算 \_\_\_\_\_

(详细说明: \_\_\_\_\_  
\_\_\_\_\_)

专设提款报账人员 \_\_\_\_\_

(详细说明: \_\_\_\_\_  
\_\_\_\_\_)

6.2 经审计的项目账目和财务报表的提交

得分 \_\_\_\_\_

(详细说明: \_\_\_\_\_  
\_\_\_\_\_)

## Attachment 2

### Selection Criteria for Best Performing Projects

This is to recognize projects with an effective institutional set up, timely start-up of implementation, smooth disbursement and procurement, strict compliance with loan covenants, and effective delivery of scheduled outputs.

#### Prescreening Criteria:

A project is ineligible to participate in the award if:

1. ADB has declared any misprocurement
2. ADB's Special Project Facilitator has registered any complaints against the project
3. National media have reported any serious construction quality or construction safety issues
4. A major loan covenant has not been complied with

#### Selection Criteria:

The following criteria will be used to evaluate project implementation performance. Narrative evaluation methodology provides details for the evaluation (Attachment 2). Scores will be based on these criteria and bonus and penalty points according to the list below. Nominated projects will be ranked according to their total score by sector.

Criteria	Proposed Allocated Points
<b>1. Institutional Set Up</b>	<b>15</b>
• Specific PMO set up	5
• PMO staffing	5
• Grievance redress mechanism	5
<b>2. Implementation Start-up Performance</b>	<b>20</b>
• Loan approval to first disbursement	10
• Supervision consultant Mobilization	10
<b>3. Project Management</b>	<b>15</b>
• Progress report submission	5
• Safeguards reports submission	5
• Project performance monitoring report or socioeconomic impacts monitoring report submission	5
<b>4. Contract Award and Disbursement</b>	<b>20</b>
• Contract Award Achievement	5
• Disbursement Achievement	5
• Gap between time elapsed versus percentage of cumulative disbursements	10
<b>5. Safeguards Compliance</b>	<b>20</b>
• Compliance with resettlement covenants	10
• Compliance with environment and indigenous people covenants	10
<b>6. Financial Management</b>	<b>10</b>
• Financial management system	5
• Audited project accounts and financial statements Submitted	5
<b>Total</b>	<b>100</b>



**Additional Bonus/Penalty:**

**1. Loan Extension:**

- 10 (for extension  $\geq$  24 months)
- 5 (for extension  $\geq$  12, but  $<$ 24 months)
- + 0 (for extension  $<$  12 months)
- + 5 (within original closing date)

**2. Total Project Cost Increase (in terms of CNY):**

- 10 (over 40% of total project cost at appraisal)
- 5(over 20% of total project cost at appraisal)

**3. Change of Project Outputs:**

- 10 each (cancelling any main project outputs listed in the RRP)

**4. Counterpart Funds:**

- 10(inadequate or late counterpart funding)

## 附件2

## 最佳表现项目的评选标准

最佳表现项目是指建立了有效的项目管理机构、项目实施启动及时、支出和采购进展顺利、严格遵守贷款协议，并能切实实现项目的预期产出的项目。

## 筛选标准：

出现以下情况的项目无参评此奖项资格：

1. 被亚行宣布过错误采购的项目
2. 在亚行特别项目协调人处有对项目投诉的登记的项目
3. 被国家媒体报道过发生任何严重建筑质量或建筑安全问题
4. 存在贷款协议主要条款没有遵守的项目

## 评选标准：

项目实施绩效将按照以下标准进行评估。评价方法说明将对评价内容加以详细说明（附件2）。评估小组将根据这些标准，以及下表中的加分和扣分来确定项目得分，并分行业对候选项目按总得分进行排序。

标准	计划分值
<b>1. 机构建设</b>	<b>15</b>
• 成立专门的项目管理办公室	5
• 项目管理办公室的人员设置	5
• 对项目受影响人抱怨的申诉机制	5
<b>2. 项目实施启动情况</b>	<b>20</b>
• 自贷款批准到第一笔支付之间的时间跨度	10
• 咨询专家和监理的动员	10
<b>3. 项目管理</b>	<b>15</b>
• 进度报告的提交	5
• 保障政策相关报告的提交	5
• 项目绩效监测报告或社会经济影响监测报告的提交	5
<b>4. 合同授予和支付</b>	<b>20</b>
• 已签订的合同额	5
• 已完成的支付额	5
• 已过去时间百分比与累计支付百分比之间的差距	10
<b>5. 保障政策的遵守</b>	<b>20</b>
• 关于移民安置协定的遵守情况	10
• 关于环境和少数民族协定的遵守情况	10
<b>6. 财务管理</b>	<b>10</b>
• 财务管理体系	5
• 经审计的项目账目和财务报表的提交	5
<b>总分</b>	<b>100</b>

**额外加分/扣分：**

- 1. 贷款延期：**
  - 10 （延期≥ 24个月）
  - 5 （延期 ≥ 12个月， 但<24 个月）
  - + 0 （延期< 12个月）
  - + 5 （未超出原截止时间）
- 2. 项目总成本增加（以人民币为单位）：**
  - 10 （比预期项目总成本增加40%以上）
  - 5 （比预期项目总成本增加20% 以上）
- 3. 项目产出变更：**
  - 10 每项（取消任何一项行长报告和建议中的主要项目产出）
- 4. 配套资金：**
  - 10 （配套资金不足或到位晚）

## Attachment 3

Narrative Evaluation Methodology	
<b>1. Institutional Set up:</b>	
1.1 Specific PMO Set Up	<u>Allotted Point</u>
A PMO is set up specifically for the project	2
A PMO director or deputy director designated for the project	(full-time- 3; part-time- 1)
1.2 PMO Staffing	<u>Allotted Point</u>
Designated procurement/contract management staf	(full-time- 2; part-time- 1)
Designated disbursement staff	(full-time- 2; part-time- 1)
Designated coordinator/interpreter	(full-time- 1; part-time- 0)
1.3 Grievance redress mechanism (narrative justification needed)	<u>Allotted Point</u>
Available	5
Not available	0
<b>2. Project Start-up:</b>	
2.1 Loan approval to first disbursement	<u>% of Allotted Point</u>
< 10 months	100
≥ 10, but < 14 months	75
≥ 14 months, but < 24 months	50
≥ 24 months	0
2.2 Fielding construction supervision consultants (firm or individual; ADB loan or domestic funded)	<u>% of Allotted Point</u>
Within 6 months after loan effectiveness	100
≥ 6 months, but < 10 months	50
≥ 10 months	0
<b>3. Project Management:</b>	
3.1 Submission of progress reports	<u>Allotted Point</u>
Reports timely submitted	Yes: 2; No: 0
Adequacy of reports	Very good: 3; Good: 2; Acceptable: 1
3.2 Submission of monitoring reports, including environmental, resettlement, and ethnic minority	<u>% of Allotted Point</u>
Timely submitted all monitoring reports with adequate information	100%
One monitoring report submitted with delay or with inadequate information	50%
Two monitoring reports submitted with delay or with inadequate information	0%
3.3 Submission of project performance monitoring or socioeconomic impacts monitoring report	<u>Allotted Point</u>
Reports timely submitted	Yes: 2; No: 0
Adequacy of reports	Very good: 3; Good: 2; Acceptable: 1

**4. Contract Award and Disbursement**

4.1 Contract Award Achievement (Cumulative, as of the end of last year)	<u>% of Allotted Point</u>
Actual/Projection $\geq$ 90%	100
Actual/Projection $\geq$ 75%	50
Actual/Projection $<$ 75%	0
4.2 Disbursement Achievement (Cumulative, as of the end of last year)	<u>% of Allotted Point</u>
Actual/Projection $\geq$ 90%	100
Actual/Projection $\geq$ 75%	50
Actual/Projection $<$ 75%	0
4.3 Gap between time elapsed (from loan approval) versus percentage of cumulative disbursement (as of the end of last year)	<u>% of Allotted Point</u>
$<10\%$	100
$\geq 10\%$ and $< 20\%$	80
$\geq 20\%$ and $<30\%$	50
$\geq 30\%$	0

**5. Safeguards Compliance**

5.1 Compliance with resettlement covenants	<u>% of Allotted Point</u>
Full complied	100
One noncompliance	50
More than one noncompliance	0
5.2 Compliance with environment and indigenous people covenants	<u>% of Allotted Point</u>
Fully complied	100
One noncompliance	50
More than one noncompliance	0

**6. Financial Management**

6.1 Financial management system	<u>Allotted Point</u>
Financial management system in use	1
Separate project account maintained	2
Designated disbursement staff	2
6.2 Submission of audited project accounts and financial statements	<u>% of Allotted Point</u>
Timely submission and acceptable	100
Timely submission but unacceptable	50
Delay in submission but acceptable	50
Delay in submission and unacceptable	0

## 附件3

评价方法说明	
<b>1. 机制建设:</b>	
1.1 成立专门的项目管理办公室	分值
专门为项目设立了项目管理办公室	2
项目有指定的项目管理办公室主任或副主任	(全职- 3; 兼职- 1)
1.2 项目管理办公室的人员设置	分值
指定采购/合同管理人员	(全职- 2; 兼职- 1)
指定支付人员	(全职- 2; 兼职- 1)
指定协调员/翻译	(全职- 1; 兼职- 0)
1.3 对项目受影响人抱怨的申诉机制 (需要详细叙述)	分值
有	5
没有	0
<b>2. 项目实施启动:</b>	
2.1 自贷款批准到第一笔支付之间的时间跨度	占分值%
< 10个月	100
≥ 10个月, 但< 14个月	75
≥ 14个月, 但< 24个月	50
≥ 24个月	0
2.2 咨询专家和监理的到场时间 (包括公司或个人; 亚行贷款或国内出资)	占分值%
贷款生效后6个月内	100
≥ 6个月, 但< 10 months	50
≥ 10个月	0
<b>3. 项目管理:</b>	
3.1 进度报告的提交	分值
及时提交报告	是: 2; 否: 0
提交的报告内容翔实	非常好: 3; 良好: 2; 可接受: 1
3.2 监测报告的提交, 包括环境、移民安置和少数民族等	占分值%
及时提交所有监测报告且内容翔实	100%
一份监测报告延期提交或内容不充分	50%
两份监测报告延期提交或内容不充分	0%
3.3 项目绩效监测报告或社会经济影响监测报告的提交	分值
及时提交报告	是: 2; 否: 0
报告内容翔实	非常好: 3; 良好: 2; 可接受: 1



**4. 合同授予和支付**

4.1 已签订的合同额（截至上年末的累计数）	<u>占分值%</u>
实际数/计划数≥ 90%	100
实际数/计划数≥ 75%	50
实际数/计划数< 75%	0
4.2 已完成的支付额（截至上年末的累计数）	<u>占分值%</u>
实际数/计划数≥ 90%	100
实际数/计划数≥ 75%	50
实际数/计划数< 75%	0
4.3 已过去的时间百分比（自贷款批准之日起）与累计支付百分比（截至上年末）之间的差距	<u>占分值%</u>
<10%	100
≥ 10%且< 20%	80
≥ 20%且<30%	50
≥ 30%	0

**5. 保障规定的执行**

5.1 关于移民安置协定的遵守情况	<u>占分值%</u>
完全遵守	100
一个相关协定没遵守	50
超过一个相关协定没遵守	0
5.2 关于环境和少数民族协定的遵守情况	<u>占分值%</u>
完全遵守	100
一个相关协定没遵守	50
超过一个相关协定没遵守	0

**6. 财务管理**

6.1 财务管理体系	<u>分值</u>
财务管理体系的建立	1
项目单独核算	2
专设提款报账人员	2
6.2 提交经审计的项目账目和财务报表	<u>占分值%</u>
及时提交且合格	100
及时提交但不合格	50
延迟提交但合格	50
延迟提交且不合格	0

## About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two-thirds of the world's poor: 1.7 billion people who live on less than \$2 a day, with 828 million struggling on less than \$1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

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亚洲开发银行（亚行）的远景目标是实现没有贫困的亚洲和太平洋地区。亚行的工作旨在帮助其发展中成员体减少贫困，改善人民生活质量。尽管亚太地区发展迅速，但该地区的贫困人口仍然占全世界贫困人口总数的三分之二：17亿人口日均生活费用低于2美元，8.28亿人口挣扎在日均生活费1.25美元的贫困线以下。亚行致力于通过共享式经济增长、环境可持续发展和区域一体化减少亚太地区的贫困。

亚行是一家多边开发金融机构，总部设在菲律宾首都马尼拉，现有67个成员体，其中亚太地区成员48个。它主要通过政策对话、贷款、股本投资、担保、赠款以及技术援助等工具向成员体国家提供帮助。

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