



Project Data Sheet

Project 34339-023

Project Name	Renewable Energy Development Sector Investment Program - Project I
Project Number	34339-023
Country / Economy	Pakistan
Project Status	Closed
Project Type / Modality of Assistance	Loan

Loan 2286-PAK: Renewable Energy Development Sector Investment Program - Project I

Source of Funding / Amount	Ordinary capital resources	US\$ 105.00 million
	Loan 2287-PAK: Renewable Energy Development Sector Investment Program - Project I	
	Asian Development Fund	US\$ 10.00 million

Strategic Agendas	Environmentally sustainable growth Inclusive economic growth
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Drivers of Change

Sector / Subsector	Energy / Energy sector development and institutional reform - Large hydropower generation - Renewable energy generation - biomass and waste - Renewable energy generation - small hydro - Renewable energy generation - solar - Renewable energy generation - wind
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Gender	No gender elements
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Description	<p>To develop indigenous, nonpolluting, and renewable sources of energy to help meet Pakistan's power shortage and diversify the power sources. It will also improve the quality of the power system, specially in rural areas. Scope: Under the first set of subprojects North-West Frontier Porvince (NWFP) will develop a cluster of small hydropower from perennial high-head rivers that are abundant in the province. Punjab province will also develop a cluster of low-head, high-volume small hydropower stations that can be installed in the existing irrigation canal system with perennial water flows. The scope may get expanded to cover other renewable sources as well as other provinces in the future. An effort will also be made for capacity development of renewable energy sector related agencies.</p>
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Pakistan's Medium Term Development Framework sets out a strategic vision and investment program for the sector for the period 2005-2010. The main objective of this program is to support a projected 6-8% growth in gross domestic product. Energy is essential to high and inclusive growth. The poverty reduction agenda depends on it.

The vision for the sector has four main components: (i) increased private sector investment in the entire production chain; (ii) reduced technical, non-technical and financial losses; (iii) improved sustainability and reduced level of government subsidies; and (iv) improved service delivery, efficiency, and governance in the energy utilities. The strategy will deliver various key outcomes: (i) basic sector reforms to create an enabling environment for private sector participation; (ii) better sector analysis and stronger capacity among the relevant sector organizations, including in such areas as financial management, governance, operational efficiency, clean development mechanisms, and project management; and (iii) promotion of infrastructure development projects in generation, distribution, and transmission, while including renewable energy development. The latter will target industry, as well as urban and rural communities.

Project Rationale and Linkage to Country/Regional Strategy

Annual electricity demand growth is forecast to average 8.3% during 2005-2015. To cope with this demand growth, Pakistan needs annually an additional 2,000 megawatts (MW) of newly installed capacity. The estimated annual investment cost to deliver this capacity is about \$6 billion. This additional generated power would need to be evacuated through the formal transmission network to consumers through the distribution system. The transmission system requires a major investment package. The National Transmission and Dispatch Company has developed a nationwide transmission development program for 2005-2012, out of which several priority schemes have already been approved by the Government. ADB will support this program.

Pakistan has considerable potential for developing a broad range of renewable energy resources (RE), principally wind, solar, biomass and small to medium-sized hydropower plants. RE resources can contribute to energy supply and security while helping change the mix. It also can contribute to both off-grid and grid-connected power supply. RE supports rural development and economic activity in remote areas while yielding positive environmental and social impacts. Pakistan has a total identified hydropower potential of more than 45,000 MW. The total installed capacity of hydropower generation in the country is 6,595 MW. Hydropower resources are located mainly in the north, northwest, and central parts of the country. Wind and solar resource potential is highest in the southern provinces of Sind and Balochistan, respectively.

Impact

Reduction in CO2 emission.

Project Outcome

Description of Outcome	Increased production and use of clean energy.
Progress Toward Outcome	Most of the indicators achieved.

Implementation Progress

Description of Project Outputs	Part A. Clean Energy Development Small to medium-size hydropower stations are operational in KP and Punjab.
	Part B. Due Diligence Feasibility studies and other due diligence work on new RE schemes completed.
Status of Implementation Progress (Outputs, Activities, and Issues)	Part C. Capacity Development Training needs assessment at the provincial and project levels conducted.
	40MW added to new generating capacity by 2017. Not met due to pending Power Purchase Agreement. All 8 Feasibility Studies are completed. Construction of PEDO (formerly SHYDO) building is complete. Contract for consulting services for capacity building/development of PEDO and related entities is completed. The project completion report was already prepared. 23 trainings (international/national) were conducted; 8 courses were implemented; and 57 officials attended the national and international trainings. The procurement of goods for PEDO building (capacity building) is complete. In Punjab, the contract between PPDCL and the Clean Energy Development Mechanism (CDM) individual consultant has been signed and under implementation. PPDCL staff are envisaged to receive hands-on training with regards to registration and validation procedure related to CDM.
Geographical Location	Chianwali, Kohistan, Kohistan, Machai, Mardan, Pakpattan, Ranolia, Shekhupura, Shekhupura Bedad, Sialkot

Safeguard Categories

Environment	B
Involuntary Resettlement	B
Indigenous Peoples	B

Summary of Environmental and Social Aspects

Environmental Aspects	The subprojects will have very little adverse environmental impacts. The adverse impacts will be adequately mitigated as described in the environmental management plan (EMP) where the implementing agencies (IAs) are committed to implement. However, IAs will obtain maximum benefits from the capacity development component of the investment program. The IAs will improve their capacities to implement and monitor the measures in the EMP. Based on the review, ADB environment category B is appropriate and a full environmental impact assessment is not necessary.
Involuntary Resettlement	Land acquisition and resettlement impacts of proposed subprojects under the first tranche have been examined. Part A: Clean Energy Development will require permanent acquisition of 11.78 hectares (ha) in KP, and temporary acquisition of 0.85 ha of 0.45 in KP, and 3.2 in Punjab. Part B: Feasibility Studies and Part C: Capacity Development will not require any acquisition of land or other property and therefore will not have any resettlement impacts. Land acquisition for Part A subprojects will affect 61 households, and 2 residential structures.

Indigenous Peoples	Indigenous peoples (IP) are defined as those having a distinct social, cultural, economic, and political traditions and institutions compared with the mainstream or dominant society. In KP, all the affected people, apart from the Machai subproject, belong to sub-tribes. In fact, the great majority of KP population falls under ADB's definition of IP. Traditional decision making mechanisms were taken into account during consultation. In Punjab, none of the affected people (AP) fall under ADB's IP policy.
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Stakeholder Communication, Participation, and Consultation

During Project Design	Stakeholder analysis has been undertaken. All stakeholders have been actively involved to reduce the likelihood of grievances and to ensure that benefits are distributed fairly. In addition, for the selection of unskilled labor in the project area, the contracts will consult with local township labor officials, local village leaders and jirgas and will also ensure that labor is hired on a nondiscriminatory basis. Resource persons in different Government departments and representatives of the local communities were interviewed.
During Project Implementation	Consultation with relevant Government departments and representatives of the local communities are conducted during implementation.

Business Opportunities

Consulting Services	QCBS (80/20)
Procurement	<p>International competitive bidding (ICB) will be used for turnkey contracts targeting the construction of hydropower plants and supply contracts estimated to cost \$1 million or more.</p> <p>Limited international bidding will be used for supply contracts estimated at \$100,000 to \$1 million.</p> <p>National competitive bidding (NCB) will be used for contracts estimated to cost less than \$100,000.</p> <p>Civil works contracts estimated at less than \$1.5 million also will be procured following NCB procedures.</p>
Responsible ADB Officer	Khattak, Ehtesham Zafar
Responsible ADB Department	Central and West Asia Department
Responsible ADB Division	Pakistan Resident Mission

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Timetable

Concept Clearance	-
Fact Finding	-
MRM	16 May 2006
Approval	13 Dec 2006
Last Review Mission	-
PDS Creation Date	03 Aug 2008
Last PDS Update	28 Mar 2018

Loan 2286-PAK

Milestones

Approval	Signing Date	Effectivity Date	Closing		
			Original	Revised	Actual
13 Dec 2006	05 Oct 2007	29 Nov 2007	30 Jun 2012	31 Dec 2017	07 Jun 2018

Financing Plan

Loan Utilization

Total (Amount in US\$ million)		Date	ADB	Others	Net Percentage
Project Cost	135.00	Cumulative Contract Awards			
ADB	105.00	17 Jun 2022	99.53	0.00	100%
Counterpart	30.00	Cumulative Disbursements			
Cofinancing	0.00	17 Jun 2022	99.53	0.00	100%

Loan 2287-PAK

Milestones

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			Original	Revised	Actual
13 Dec 2006	05 Oct 2007	29 Nov 2007	30 Jun 2012	31 Dec 2017	07 Jun 2018

Financing Plan		Loan Utilization			
	Total (Amount in US\$ million)	Date	ADB	Others	Net Percentage
Project Cost	10.00	Cumulative Contract Awards			
ADB	10.00	17 Jun 2022	3.00	0.00	100%
Counterpart	0.00	Cumulative Disbursements			
Cofinancing	0.00	17 Jun 2022	3.00	0.00	100%

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