

SECTOR REPORT UPDATE ON

ENERGY

Projects and Studies Supported by IFIs

**Senior Officials' Meeting on Central Asia Regional Economic Cooperation
26-27 April 2005
Manila, Philippines**

**CAREC Member Country
Projects and Studies Supported by IFIs**

ABBREVIATIONS

ADB	– Asian Development Bank
CoP	– Conference of Parties of the UN Framework on Climate Change
DANIDA	– Danish International Development Agency
DFID	– Department for International Development (United Kingdom)
DGIS	– Directorate General for International Cooperation (the Netherlands)
EBRD	– European Bank for Reconstruction and Development
EIB	– European Investment Bank
ESMAP	– Energy Sector Management Assistance Program (World Bank)
GEF	– Global Environment Facility
IBRD	– International Bank for Reconstruction and Development (World Bank)
IDA	– International Development Agency (World Bank)
IDB	– Islamic Development Bank
IFC	– International Finance Corporation (World Bank)
IS	– Installment Sale (Mode of financing used by IDB whereby the client purchases a project at a markup from IDB, paying for it over time without interest)
JBIC	– Japan Bank for International Cooperation
KFW	– Kreditanstalt für Wiederaufbau (Germany)
NDF	– Nordic Development Fund (Denmark, Finland, Iceland, Norway, and Sweden)
PPIAF	– Public Private Infrastructure Advisory Facility (World Bank)
SECO	– Secretariat für Wirtschaft (Swiss)
UNDP	– United Nations Development Programme
USAID	– United States Agency for International Development
USTDA	– United States Trade and Development Agency
WB	– World Bank

I. Central Asia and Mongolia

Table IA: Recently Completed¹

	Agency	Grant Amount (US\$ M)	Date Completed	Description
1. Studies				
AZE Energy Sector Study	JBIC	0.1	2004	Overall review of power sector.
AZE Energy Sector, prioritization of investment	USTDA /EBRD	0.4	2004	Overall review of the sector investment requirements; least cost analysis was not permitted due to the limited data made available.
AZE Support to the Ministry of Fuel and Energy in designing the Country Energy Balance and developing the most effective tools to analyse energy networks	UNDP	0.1	2003	Redesign of the Energy Balance according to the international IEA rules, to allow a more direct and clear analysis of the energy components in the economy and a comparison of the Azeri data to those of other countries
AZE Country study & national report FCCC Azerbaijan	UNDP/ GEF	0.43	2001	Preparation of the first national communication of the country to the Conference of Parties (CoP) of the UN Framework Convention on Climate Change
KAZ Removing barriers to wind power production in Kazakhstan (preparatory phase)	UNDP/ GEF	0,35	2003	Overview of wind power perspective in Kazakhstan and preparatory of full-scale project for wind power development.
TAJ Improving Barki Tajik's Billing and Collection Systems	ADB	0.5	2004	Seek ways to improve bill transparency and collection.
TAJ Introducing international Accounting Standards at Baki Tajik	ADB	0.5	2003	Introduction of modern accounting standards, training, and computerization of accounting.
TAJ Enabling the Republic of Tajikistan to Prepare its First National Communication in Response to its Commitments to the UNFCCC	UNDP/ GEF	0.43	2003	Preparation of the first national communication of the country to the Conference of Parties (CoP) of the UN Framework Convention on Climate Change
UZB Energy Sector Study	JBIC	0.1	2004	Overall review of power sector.
UZB Climate Change Enabling Activity	UNDP/ GEF	0.43	2002	Preparation the first national communication of Uzbekistan to the CoP, building in-country capacity to fulfill its commitments to the Convention on a continual basis and building capacity to establish a basis for additional obligations.
UZB Removing Barriers to Energy Efficiency in Municipal Heat and Hot Water Supply	UNDP/ GEF	0.2	2003	To prioritize technologies and measures that have potential to improve efficiency and to reduce the greenhouse gas emissions of the municipal heat and hot water supply.

¹ Projects or Technical Assistance for which completion report is available.

	Agency	Grant Amount (US\$ M)	Date Completed	Description
				Conduct detailed technical, economic, social and environmental feasibility study of the selected technologies, and identify main barriers energy efficiency measures and elaborate a strategy and a plan for their removal.
Regional: Central Asia Water Energy Nexus – Regional Cooperation in the Syr Darya Basin	IBRD	Own Funds	2003	Provides analysis of the existing water sharing agreement on the Syr Darya and recommends modifications and a new methodology to make the arrangement transparent, objective and functional
Regional: Assistance in Revising the 1998 Agreement on the Use of Water and Energy of Syr Darya River	ADB/ USAID	0.1	2004	Advisory service to revise the 1998 Agreement (in cooperation with USAID)

	Agency	Loan Amount (US\$ M)	Date Completed	Description
2. Projects				
AZE Mingechar Power Project	IDB/ EBRD	34.17 (part IS)	2003	Replacement of four generators, reconstruction of a 120 km (330 kV) line, and installation of a substation at Agcabedi with 110 kV connection to Barda region.
AZE Severnaya Gas Combined Cycle Power Plant Project I	JBIC	181	2003	Building of a 400 MW gas combined-cycle power plant.
AZE Severnaya Gas Combined Cycle Power Plant Project II	JBIC	163	2003	Building of a 400 MW gas combined-cycle power plant and gas pipeline to feed it.
KYR Oremi Transformers And Substations Manufacturing Facility Project	IDB	8 (IS)	Completed	To produce electric distribution transformers and substations to enable the Kyrgyz Republic use more effectively its basic asset of locally available cheap source of hydro-electric power.
KYR Power and District Heating Rehabilitation	IDA /ADB/ DANIDA /NDF/ SECO	62.7	2004	Rehabilitation of Bishkek heat generation and distribution system, improvement of electricity transmission lines and metering.
MON: Rehabilitation Choibalsan Power Plant	KfW	13.3	2003	Rehabilitation of boilers, one turbine and of the feedwater and live steam piping system.
UZB: Clean Energy for Rural Communities in Karakalpakstan	UNDP	0.09 ²	2003	Installation of photo-voltaic systems (solar panels) to generate electricity for water-pumping and household purposes in remote isolated rural settlements of Karakalpakstan without connection to the National Electric Grid.

² The funds for the project implementation were provided in form of a grant

Table I.B: On-going³

	Agency	Grant Amount (US\$ M)	Date Completed	Description
1. Studies				
AZE Second National Communication to UNFCCC	UNDP/GEF	0.45	Starting soon (end of 2004)	Preparation of the Second National Communication (SNC) of Azerbaijan under the United Nations Framework Convention for Climate Change (UNFCCC)
KAZ Gas Transmission and Distribution Study	IBRD	Own/GOK Funds	2003/4	Review of gas transmission and distribution network rehab requirements, impact of such investments on delivery costs, and review of institutional structure of newly created KAZMUNAIGAZ
KAZ Energy Sector TA	IBRD	Own Funds	2003/4	Assist Agency for Regulation of Natural Monopolies on energy regulatory framework, focus on transmission pricing and distribution tariff methodology. Assist Ministry of Energy in organizing short-term electricity market and improved Electricity Grid Code.
KAZ Second National Communication to UNFCCC	UNDP/GEF	0.4	On-going	Preparation of the Second National Communication (SNC) of the Republic of Kazakhstan under the United Nations Framework Convention for Climate Change (UNFCCC)
KAZ Removing Barriers to Energy Efficiency in Municipal Heat and Hot Water Supply	UNDP/GEF	0,24	2005	Overview of heating sector of Kazakhstan and preparatory of full-scale project for energy efficiency improvement in heating sector
KYR Tariff Policy and Utility Reform Project	DFID	2.8	2004	To advise on an energy tariff policy that ensures long-term financial viability and is consistent with the Kyrgyz Government's social, environmental and commercial objectives
KYR Improvement Of Production Capacity Of Oremi Transformers And Substations Manufacturing Facility Project	IDB	0.262	On-going	Study is to enhance and improve the product quality of the OREMI project through quality development and international certification of products. This will open new markets for Oremi products in the neighborhood countries
KYR Second National Communication to UNFCCC	UNDP/GEF	0.4	On-going	Preparation of the Second National Communication (SNC) of the Republic of Kyrgyzstan under the United Nations Framework Convention for Climate Change (UNFCCC)
KYR Enabling the Kyrgyz Republic to Prepare its First National Communication in Response to its Commitments to the UNFCCC	UNDP/GEF	0.43	2001/4 (two phases)	Preparation of the first national communication of the country to the Conference of Parties (CoP) of the UN Framework Convention on Climate Change
MON Renewable Energy Development in Small Towns and Rural Areas	ADB financed by Denmark	0.4	On-going	Assess possibilities and develop strategy for providing off-grid renewable energy to isolated areas.

³ Projects or Technical Assistance which have been approved by the IFI.

	Agency	Grant Amount (US\$ M)	Date Completed	Description
MON Energy Sector Market Structure Review and Tariff Design	PPIAF	.15	On-going	To Review current Market structure and propose a new Tariff System.
MON Social Impact of Energy Sector Reforms	WB/ESMAP	0.1	On-going	To assess the distributional impact of sector reforms and proposed mitigation mechanisms.
MON Infrastructure Strategy	WB	0.2	On-going	To assess Infrastructure requirements and delivery mechanism to sustain Mongolia's Economic Growth and Poverty reduction plans.
MON Energy Efficiency Program	WB/ESMAP/U SAID	0.1	On-going	To assess priority energy efficiency market and use of GEF and CDM mechanisms.
MON Commercialization of Super –Insulated Buildings in Mongolia	UNDP/GEF/Norway	1.2	2001-2005	To protect the environment through reducing GHG emissions that result from burning coal and wood for heating in Mongolia. This will be achieved through removing technical and financial barriers and promoting the widespread adoption of energy-efficient technologies in the housing sector in Mongolia.
TAJ Development of an Energy Conservation Program	ADB	0.12	Near Completion	Investigation of causes of energy wastage, and development of an action plan for promoting energy conservation by users.
TAJ Improvement of the Accounting & Financial Management of Barki Tajik Subsidiaries	ADB	0.4	On-going	Provide hands-on assistance for improving procedures in line with International Financial Reporting Standards. Improve Computer and Accounting skills.
TAJ Hydropower Development Strategy	ADB	0.6	Near Completion	Identify export markets, design least cost infrastructure development strategy, coordinate donor assistance towards optimal hydropower development.
TAJ Utility Reform Study	IBRD	Own Funds	2003	Formulation of medium term reforms required in the domestic utility services – electricity, gas and water
TAJ Reconstruction of 220/500 kV switching station Hydropower plant Nurek	KfW	1.1	Under tender	Feasibility study on various options and technical/economic/ecological optimization for reconstruction of the 200/500 kV switching station and 500 kV evacuation line of Nurek hydropower station (in cooperation with ADB and Islamic Development Bank)
TAJ Development of Local Rural Renewable Energy Sources for Productive Use	UNDP	1	Beginning planned for 2005-06	The goal of the project is to improve the living conditions of the rural population by promoting the environmentally and financially sustainable use of local renewable energy resources that provide opportunities for income generation and essential social services.
TAJ Second National Communication to UNFCCC	UNDP/GEF	tbd	On-going	Preparation of the Second National Communication (SNC) of Tajikistan under the United Nations Framework Convention for Climate Change (UNFCCC)
TAJ, UZB Social protection under energy sector reforms	WB/ESMAP	0.35	2003/2004	Design of Effective social protection schemes under energy sector reforms in Tajikistan and Uzbekistan.
UZB Energy Sector Study	IBRD	Own Funds	2004	Design of medium term reforms required in the domestic utility services – electricity, gas and water

	Agency	Grant Amount (US\$ M)	Date Completed	Description
UZB Energy Needs Assessment	ADB	0.6	On-going	Review govt. energy saving plan for power, gas and district heating sectors and produce a comprehensive energy saving plan for the period until 2010.
UZB Off-grid Renewable Energy Development	ADB financed by Denmark.	0.35	On-going	Assessment of potential and development of pilot schemes for off-grid generation using renewables in villages and small towns.
Regional: Improved Management of Critical Natural Resources	USAID	2.78	2004	Regional study to provide technological and structural solutions to the system changes needed to meet the water and energy needs of the region
Regional: TAR: 34206	ADB co-financed by Netherlands	4.2	2000-2005	Promotion of renewable energy, energy efficiency, and greenhouse gas abatement
Regional Gas Transmission Improvement Project in CARs	ADB	0.8	On-going	Provide necessary technical and institutional support to continue the enhancement of regional gas trade
Regional: Export Potential of Electricity from CARs	IBRD	Own Funds	2003/2004	The study analyzes the possibilities to significantly enhance electricity trade, both within the Central Asian Republics (CARs) and with external electricity markets. The study outlines trading and investment opportunities in this regard and highlights relevant risks.
Regional Water energy consortium.	WB	0.055	2004	Design of a Technical assistance Program for setting up a Water Energy Consortium
Regional Water Energy Dialogue	IBRD	Own Funds		Advisory services and facilitation of dialogue among the CA countries on water-energy issues, mobilization and coordination of donor funded assistance. Continuation of the work under the Regional Electricity Exports Potential Study
Regional Feasibility Study on Interconnection of ECO (Economic Cooperation Organization) Countries Power System	IDB	0.406	On-going	Study of the feasibility of interconnecting the existing power networks of ten ECO countries, in order to promote trade of electrical energy between ECO member countries and promote technical cooperation among the IDB member countries for the mutual benefit and development.

	Agency	Loan Amount (US\$ M)	Date Completed	Description
2. Projects				
AZE Khachmaz Electric Sub-station and Transmission Line	IDB	13.508 (IS)	Recently approved. On-going	The objective of the project is to provide quality and reliable power supply to the northeastern region of Azerbaijan. The project scope includes the expansion of existing substation at Khachmaz to the higher (330 KV) voltage level, a 330 KV spur to connect the substation with the existing 330 KV transmission line, and a new 24 km, 110 KV transmission line to deliver the electricity to the load center in the region.
KAZ Electricity Transmission	IBRD/EBRD	140	On-going	Restructuring of KEGOC into financially viable grid company; refurbishment of

	Agency	Loan Amount (US\$ M)	Date Completed	Description
Rehabilitation				transmission substations and modernize dispatch control systems and development competition through power pool and access to transmission network
KAZ KEGOC North South Power Transmission Project	EBRD	60	On-going	The project finances the construction of the new North-South 500kv electricity transmission line to address energy and peak supply deficit in southern Kazakhstan
KAZ Development Credit Authority for Energy Efficiency Projects	USAID	0.7	2005	Loan guarantees for investments through a commercial bank for energy projects.
KAZ Kazakhstan- wind power market development initiative	UNDP/ GEF/ Kaz Govt	7.27 (of which 2.55 in grant)	On-going	The project will facilitate a construction of pilot 5 MW wind farm in South of Kazakhstan and support the national wind power program elaboration
KYR Naryn III Electricity Losses Reduction Project / Power and District Heating Rehabilitation	IDA/ KfW/ Swiss	20.9, of which 9.6 in grant	On-going	Technical losses reduction measures in Naryn area; re-metering in pilots areas and billing and accounting systems in four distribution companies
KYR Consolidated Structural Adjustment Credit	IDA/ Swiss/ DGIS	35	On-going	Supports the Government's effort to strengthen its fiscal position and improve the business environment through utility, tax and de-regulation reforms. For the energy sector, it supports the unbundling of the giant power company into four power distribution companies, and separation of generation and transmission companies and increase in tariffs closer to cost recovery levels
KYR Consolidated TA	IDA	5	On-going	Supports CSAC in the regulatory reform of the gas and power sector, as well as restructuring and privatization.
KYR Alai-Batken transmission line	IDB	10.08	On-going till end of 2004	Construction of a double circuit 220 kV transmission line from Alai to Batken.
KYR Advanced measures for the distribution system of Severelektro	KfW	12.5	On-going till 2008	Electronic metering of Alamendin district and surrounding areas and selective rehabilitation of the distribution system in advance of a concession (in cooperation with Worldbank and Seco financed accounting system)
KYR Energy Loss Reduction Program	USAID	0.3	2005	Installation of equipment and associated TA needed to reduce energy losses.
MON Ulaanbaatar Heat Efficiency	ADB	41.6	On-going till 2005.	Rehabilitation and modernization of district heating network and steam system.
MON Promoting Energy Efficiency in Industry	DGIS	2.5	1/10/2000 – 1/10/2005	Pilot project to set up Energy saving companies to stimulate energy efficiency measures, in co-operation with the Mongolian Chamber of Commerce.
MON Sector Program Energy	KfW	15.9	On-going	Establishment of new Load Dispatch Center in the Central Energy System (CES), Implementation of new communication system and implementation of metering data collection and processing system in Ulaanbaatar; Rehabilitation of 110kV switchyards in several power Plants connected to CES
MON Energy Project	WB	30	On-going	Commercialization of electricity distribution

	Agency	Loan Amount (US\$ M)	Date Completed	Description
				business, loss reduction and improved cash collection. Preparation of PSP in distribution business.
TAJ Pamir Project	IDA / IFC/ AKF/ Swiss	31.4 of which 5m grant	On-going	Improve supply of electricity in the Borno Badakshan Oblast through private sector involvement and investments
TAJ Power Rehabilitation	ADB/ IDB/ Swiss	64 of which 8m grant	On-going	Proposed project to rehabilitate and reinforce war damaged power transmission and distribution facilities, and rehabilitate Nurek and Central Hydropower plants.
TAJ Power Rehabilitation Project	IDB	9	2007	Augmentation of Novaya and Jangal Sub-stations in Dushanbe area to improve the power supply system.
TAJ Financing for Mini Hydropower Plants in Rural Areas	IDB	9.178	On-going	The project aims at reducing the overall energy shortage in the rural areas of Tajikistan through building 8 mini hydropower schemes.
UZB Syrdarya Power Plant Rehabilitation Project	EBRD	27.8	On-going	This sovereign loan was signed in 1997 to finance the rehabilitation and modernization of the Syrdarya Power Plant, improve the generation efficiency and introduce modern turbine design. The project is close to full disbursement.
UZB Syrdarya- Sogdiana Transmission Line	IDB	29.3 (combined lease, loan, IS)	Agreement signed. To be declared effective.	Single circuit 500 kV overhead transmission line from existing 3,000 MW Syrdarya thermal power station to the under construction 500/200 kV Sogdiana sub-station. Includes facilities for control, communication and necessary interconnection equipment at both ends of transmission line. Transmission line design capacity is 800 MW.
UZB Tashkent Thermal Power Plant Modernization Project	JBIC	226	On-going	Building of a new 370 MW combined cycle gas generator and retirement of existing generator.
UZB Technology Transfer for Local Production of Solar (water pre-heating) panels	UNDP	0.28 ⁴	On-going	Technology for production of solar panels for pre-heating water is transferred to 2 local producers. 200 sq.m of solar panels are expected to be installed at one of the utility boiler station (Vodnik) in Tashkent municipality.

⁴ The project is implemented in cooperation and financial assistance from DANIDA.

Table I.C: Pipeline⁵

	Agency	Grant Amount (US\$ M)	Timing	Description
1. Studies				
KAZ Network Infrastructure Regulatory Development	EBRD	1.0	2005	Review and improvement of existing tariff methodologies incl. power sector against international practice. Implementation of revised methodologies
KYR Energy efficiency measures in Kyrgyz Republic: a cost-benefit assessment	Swiss	0.05	2005	Provides the basis for a later decision by SECO to conduct energy-efficiency measures at the demand side
TAJ Community Based Micro-Hydropower Development in Remote Rural Areas	ADB	0.8	2004	Studies and pilot projects for establishing community management and development of small-scale hydropower facilities for off-grid areas.
TAJ Energy Loss Reduction Project	IDA	15	2005	Proposed project has the objective to assist in reducing the commercial losses in the electricity and gas systems, and lay the foundation for the improvement of the financial viability of the electricity and gas utilities, in a socially responsible manner
UZB Construction of Tashkent Underground Gas Storage	IDB	0.42	2005	TA will prepare technical, environmental and economic studies on the use of gas in cold seasons by Tashkent Municipality. Study is related to the construction of an underground gas storage facility.
UZB Energy Loss Reduction Project	IDA	To be determined	2006	Proposed project has the objective to assist in reducing the commercial losses in the electricity and gas systems, and lay the foundation for the improvement of the financial viability of the electricity and gas utilities, in a socially responsible manner.
UZB PDF-A Promotion of Renewable Energy Sector in Uzbekistan	UNDP/GEF	0.05	2005	This PDF-A project aims to prepare a Project Brief for a Medium-Size GEF project to elaborate National Renewable Energy Strategy for Uzbekistan.
Regional Power Transmission Modernization in CARs (Phase II)	ADB	0.8	2005	Second phase study on enhancing power trade among the CARs, and establishing an integrated Central Asia regional wholesale power market
Regional Gas Transmission Improvement Project in CARs (Phase II)	ADB	0.8	2005	Provide necessary technical and institutional support to continue the enhancement of regional gas trade
Regional Joint Economic Research Program between the World Bank and the Kazakh Government.	WB/ Govt. of Kazakhstan	Own Funds Co-financed by GoKZ	2004/05	Design of a Framework Agreement and Structure of the Water Energy Consortium, review of relevant legislation in the countries involved and design of a workshop on sharing benefits from joint river basin management.

⁵ Pipeline project and TA dates reflect the anticipated date of approval.

	Agency	Loan Amount (US\$ M)	Timing	Description
2. Projects				
AZE AzDRES TPP	EBRD	80	2005	Mid-life rehabilitation of AzDRES TPP (2400 MW) heavy fuel oil and gas fired plant.
AZE WB Power Transmission Project	IBRD	50	2005	Supply and installation of a energy management system for the country
AZE Derbend-Yashma Transmission Line	IDB	20 (IS)	2005	Installation of a 330 kV transmission line.
AZE Wind energy development	UNDP/ GEF	3	2008	Not developed yet
KAZ Removing Barriers to Energy Efficiency improvement in Municipal Heat and Hot Water Supply	UNDP/ GEF/ Kaz Govt	10.47 (of which 3.29 in grant)	2005	Support revising regulatory framework and tariff policy in heating sector to promote energy efficiency and introduce new financing and institutional mechanisms for investment, rehabilitation of district heating in Kokshetau and demand side measures in Almaty
KYR Energy Sector Reform Project	IDA	15	2006	Support implementation of Private Sector Participation in the whole energy distribution sector. Likely cofinancing by other IFIs.
KYR Aigul-Tash to Karabulak Transmission Line and Sub-stations Project	IDB	9.4	Board approval expected by Dec. 31, 2004	Single Circuit 110 kV overhead Transmission Line from existing 220/110 kVAigul Tash Sub-station to Karabulak and Samat Sub-stations, Construction of 110 / 35/10 kV Karabulak sub-station and renovation of existing 110 /35/10 kV Samat sub-station.
KYR Improving energy conservation of heat and hot water supply in the municipal district heating in Bishkek.	UNDP/ GEF	0.6	2007	Not developed yet
KYR Reducing GHG Emissions through Support for Renewable Energy in Kyrgyzstan	UNDP/ GEF	1	tbd	To set up a leasing revolving ecological credit Fund of development and support of wide application of renewable energy
MON Energy Efficiency Program	KfW	9.9	2005	Rehabilitation of turbines in the Darkhan Power Plant
TAJ Power Rehabilitation, Phase II	ADB	20	2006	Proposed project continues the work started in the Phase I (2006) project.
TAJ Renewable energy	UNDP/ GEF	1.5	2007	Constructing a small HPP will supply people with hydropower, improve social conditions, and promote the economic development.
TAJ Gas counters	UNDP/ GEF	2	2007	To provide a reliable control of gas consumption by the population,
UZB Removing Barriers to Energy Efficiency in Municipal Heat and Hot Water Supply	UNDP/ GEF	To be determined	2005	The project aims to address existing issues to improve energy efficiency of Tashkent municipality heat and hot water supply and distribution system through development of a set of interventions and piloting it at two Tashkent district utility stations.
UZB Clean Energy for Rural Communities in Karakalpakstan – Phase II	UNDP	0.09	2005	The project is continuation of the Phase 1 and plans to achieve sustainability for future procurement and maintenance of solar panels by means of local population and improve the capacity of local authorities/population in utilization of renewable energy for the needs of remote settlements.
Regional Transmission Modernization Project (UZB/TAJ)	ADB/EB RD	50	2004	Proposed joint ADB-EBRD project to enhance regional energy systems to promote cross border electricity trade and cooperation

	Agency	Loan Amount (US\$ M)	Timing	Description
				between UZB and TAJ.
Regional Gas Transmission Improvement Project in the CARs	ADB	100	2004	Proposed project to rehabilitate sections of regional gas transmission lines and promote institutional reform.
Regional Power Transmission Modernization in CARs, Phase II	ADB	70	2006	Proposed project to improve operation and efficiency of the regional power transmission system and create basis for future wholesale regional power market
Regional Gas Transmission Improvement Project in CARs, Phase II	ADB	80	2006	Proposed project continues the work started in the Phase I (2004) project. Includes rehabilitation of Nurek switchgear and transmission lines.

II. Peoples Republic of China

Table II.A: Recently Completed

	Agency	Grant Amount (US\$ M)	Timing	Description
1. Studies				
Interregional Power Transmission Network Development Strategy	ADB	0.8	2003	Evaluate how to optimize power generation through strengthening of regional transmission systems and accompanying human resource development.
Power Sector Restructuring	ADB	0.8	2004	Provide PRC with a plan to restructure the power sector, introducing competitive markets.
Sound Safety and Environmental Practices for Offshore Oil and Gas Production	ADB	0.58	2004	Ensure development and adoption of sound practices for use on offshore oil platform, pipelines, oil terminal and gas processing plant.
Strengthening the Accounting and Financial Management Systems in Shanghai Petroleum Corporation	ADB	0.31	2004	Improve financial reporting and prepare for partial privatization of SHPC.
Wind Resources Concessions for sustainable Development of Renewable energy	UNDP/ UNDES A	0.175	2003	Analysis of China's wind energy development, and potential development strategies and policy recommendations.
Modernized Biomass in China : Jilin	UNF/ UNDP	1.279	2004	A rural village/township CHP demonstration project based on the modernized use of biomass in Jilin Province in order to provide a model for replication in rural areas in other parts of the country.

	Agency	Loan Amount (US\$ M)	Timing	Description
2. Projects				
Ping Hu Oil and Gas Development	ADB/ JBIC/ EIB	253.76	2004	Construction of off-shore platform, oil and gas pipelines, gas processing plant, and liquefied natural gas storage facility. Development of data management capacity.
Qitaihe Thermal energy and Environmental Improvement	ADB	120.96	2003	Building of 700 MW coal power cogeneration plant with accompanying heating network for 1.8M sq. meters of floor space.

Table II.B. On-going

	Agency	Grant Amount (US\$ M)	Timing	Description
1. Studies				
TA Cluster to PRC for the Promotion of Clean Energy	ADB	3.5	On-going	Assistance to design a comprehensive program for clean energy policy.
Shaanxi Air Quality Improvement	ADB	0.7	On-going	Development of a system of tradable air pollution permits, and improvement of the sustainability of environmental protection measures.

	Agency	Grant Amount (US\$ M)	Timing	Description
Rural Electricity Supply Study	ADB	0.7	On-going	Recommend rural power sector reforms to improve reliability, increase efficiency, and reduce prices.
Pro-poor Urban Heating Tariff Reforms	ADB	0.85	On-going	Promote urban heating sector reform by formulating nationwide pro-poor heating tariff guidelines, and establishing an effective heating tariff collection mechanism.
Heating supply for urban poor in Liaoning Province	ADB, financed by DFID	0.5	2005	Analysis of key issues for improvement of heating supply for urban poor, including reform of the heating sector.
Opportunities of the Clean Development Mechanism in the Energy Sector	ADB financed by Canada	0.775	On-going	Provision of guidelines for CDM utilization in PRC, identification of CDM eligible projects.
Establishing the National Electricity Regulatory Commission	ADB	0.5	On-going	Help to establish a unified national electricity regulatory board to promote efficiency, encourage investment and ensure gains reach consumers.
Power Pricing Strategy: Tariff Setting and Regulation	ADB	0.5	On-going	Help the State Electricity Regulatory Commission to develop a power pricing strategy reform plan.
Waste Coal Utilization Study	ADB	0.4	2005	Examine ways to convert waste coal in Shanxi (supplier of 1/3 of PRC's coal) into environmentally friendly fuel.
Renewable Energy for Poverty Reduction	ADB/Denmark	0.6	On-going	Assess least cost options for supplying energy to underserved areas in Zhangye, assess willingness to pay by rural poor, and develop a business plan to optimize gains to rural poor from renewable energy development.
Capacity Building for the Rapid Commercialization of Renewable Energy in China	UNDP/GEF/AusAID/Netherlands	13.678	on-going	Promotion of the widespread adoption of renewable energy technologies in China by removing a range of barriers to increased market penetration of the technologies. Strengthening the capacity of China to shift from the supply-orientated technology deployment to demand-driven, investor- and consumer-friendly approaches.
Barrier Removal for Efficient Lighting Products and Systems	UNDP/GEF	8.135	on-going	Addressing identified market barriers to widespread use of energy efficient lighting in China by upgrading of Chinese lighting products, increased consumer awareness of, and comfort with, efficient lighting products and an established vibrant, self-sustaining market in efficient lighting products and services.
Barrier Removal for the Widespread Commercialization of Energy Efficient CFC Free Refrigerator in China	UNDP/GEF	9.617	On-going	Promotion of the widespread commercialization of energy efficient refrigerators by removing technical, market, commercial, information and other barriers to increased market penetration of the technologies and products.
Building Capacity for the Clean Development Mechanism in China	UNDP/UNF/NORAD/IMET	1.183	2003-2006	Strengthen government institutions' ability, provide stakeholders the skills and knowledge, develop real CDM projects, and disseminate information on the CDM development both internationally and domestically.
Capacity development to manage the reform process	UNDP	0.7	1999-2004	Separation of power generation from power transmission and distribution, and

	Agency	Grant Amount (US\$ M)	Timing	Description
of the electric power sector.				establishment of power market in pilot provinces in China.
Developing Interconnection of Nation-wide Electricity Network and Improving Energy Efficiency in China	UNDP	0.8	2004-2007	Policy, regulatory, and technology studies in realizing the strategy of "Western Electricity Sent to the East", "Mutual Supply of North and South", and the development of the national grid interconnection.
Energy Conservation and GHG Emissions Reduction in Chinese TVEs	UNDP/ GEF	7.99	2001-2005	Reduce GHG emissions in China from the TVE sector by increasing the utilization of energy efficient technologies and products in the brick, cement, metal casting and coking sectors. Remove key market, policy, technological, and financial barriers to the production, marketing and utilization of energy efficient technologies and products in these industries.
Adoption of Clean Energy Technologies/ Sources to Reduce Air Pollution in Chinese Cities	UNDP/ Govt.	3.19	2001-2005	Assist 18 Chinese cities to improve air quality through development of capacities in clean energy action planning and policy formulation in order to promote the adoption of clean energy sources and clean energy technologies in main energy supply and consumption sectors.
Promoting Methane Recovery and Utilization from Mixed Municipal Refuse	UNDP/ GEF	5.285	1997-2004	Promote widespread adoption of landfill gas recovery and utilization in China based on the technical and organizational experiences from the three pilot landfills in China
Demonstration for Fuel Cell Bus Commercialization in China	UNDP/ GEF	5.815	2002-2005	Catalyze the cost-reduction of fuel-cell buses (FCBs) for public transit application in Beijing and Shanghai, and stimulate technology transfer activities by supporting demonstration of FCBs and their fueling infrastructures

	Agency	Loan Amount (US\$ M)	Timing	Description
2. Projects				
Beijing Environmental Improvement	ADB	157	Near completion	Replacement of coal plants with gas, improved capture and cleaning of water resources, toxic waste disposal.
Acid Rain Control and Environmental Improvement	ADB	147	On-going	Improve energy efficiency and reduce emissions at six industrial facilities, restore ecological areas damaged by acid rain, institutional strengthening for acid rain control.
Heibei Zhanghewan pumped storage power station	ADB	144	Ongoing	Building of pumped storage power station and connecting transmission lines to retire old coal powered peaking plants.
Anhui Environmental Improvement Project for Industrial Pollution Abatement.	ADB	112	Near completion	Improve wastewater treatment and replace polluting industrial technologies for the protection of Lake
Yunnan Dachaoshan power transmission	ADB	54	Near completion	Building of transmission line, expansion of regional transmission network, decommissioning of old coal plants, rural electrification, sector reform.
Shanxi Environment Improvement	ADB	102	Ongoing	Pollution reduction through retirement of coal boilers and stoves, introduction of gas heating network and coalbed methane utilization.

	Agency	Loan Amount (US\$ M)	Timing	Description
Shen-Da Power Transmission and Grid Rehabilitation	ADB	100	On-going.	Build North-South transmission line in Liaoning province, retire old coal plants, support provincial power sector reform.
Gansu clean energy development	ADB	35	On-going	Building of 98 MW run-of-river hydro plant, and improvement of transmission capacity and management of supply to nearby towns.
More Efficient Greenhouses	DGIS	0.6	On-going	Activity Implemented Jointly of the Shougang Municipal Agricultural Committee and the Netherlands Energy Research Foundation to raise productivity and energy-efficiency of typical Chinese greenhouses.
Promotion of rural renewable Energy in Western China.	DGIS	6.4	01/2003 – 12/2007	Promotes the development and utilization of rural renewable energy improving rural living conditions, protecting the environment and promoting local economy development. Through 14 demonstration villages different models of RE will be demonstrated (spread over 7 counties). Special focus on wind energy, biogas electricity generation and solar systems. Project partners are the Ministry of Agriculture, Ministry of Commerce, China Association of Rural Energy Industry (Carei).
Anhui Environmental Improvement Project	JBIC	173.35	2007	Development of natural gas supply to eight cities, to replace coal for air quality improvement.
Beijing Environmental Improvement Project	JBIC	83.72	2007	Replace small coal boilers with natural gas cogeneration equipment for air quality improvement and CO2 reductions.
Gansu Small-Sized Hydropower Project	JBIC	61.12	2005	Development of 7 small dams with total hydropower capacity of 112 MW
Harbin Electric Network Construction Project	JBIC	56.70	2004	set up and augment a 66kV substation facility, transformers, power transmission lines, 10kV power transmission lines, and 380V power distribution facilities in Harbin, in an attempt to improve the reliability of the power supply in the electrical networks
Henan Environmental Improvement Project	JBIC	180.24	2008	Development of natural gas supply to five cities, to replace coal, for air quality improvement.
Hubei Small-Sized Hydropower Project	JBIC	85.49	2006	Development of 8 small dams with total hydropower capacity of 126 MW
Shandong Tai'an Pumped Storage Power Station Project	JBIC	168.15	2007	Building of a 1000 MW pumped storage power plant to replace coal peaking plants, for enhanced grid reliability, efficiency improvements, and environmental improvements.
Shanxi Xilongchi Pumped Storage Power Station Project	JBIC	217.1	2010	Building of a pumped storage power plant to replace coal peaking plants, for enhanced grid reliability, efficiency improvements, and environmental improvements.
Solar Energy Program	KfW	34.9 (Grant)	On-going	Rural Electrification through PV Hybrid Systems in four Provinces (Gansu, Qinghai, Xinjiang, Yunnan)

Table II.C: Pipeline

	Agency	Grant Amount (US\$ M)	Timing	Description
1. Studies				
Impact of Closure of Coal Mines in Poverty Areas and Options for Job Creation.	ADB, financed by DFID	0.3	2006	Collection of data on coal reserves across PRC. Analysis of impacts of coal plants on local economies and of strategies for alternative employment generation.
Beijing clean energy development study and demonstration	ADB	0.5	2005	Study of potential energy efficiency improvements, pollution abatement strategies and preparation of a demonstration project to improve air quality by 2008 Olympics.
Alternative energy supply for rural poor in remote areas	ADB, financed by DFID	0.5	2005	Study of how to utilize rural biomass energy sources more efficiently, reduce associated health risks, and create incentives for the use of more modern fuels.
Study on inter-provincial acid rain control	ADB	0.6	2006	Exploration of emissions trading as a means of reducing interprovincial acid rain.
Power sector restructuring III	ADB, Source TBD	0.6	2006	Development of PRCs electricity regulatory framework.
China End-Use Energy Efficiency Project (EUEEP)	UNDP/GEF	17	2004-2007	Support a 12-year strategic plan developed by the Chinese government to dramatically improve the efficiency of its major end-use sectors: buildings and industry. Foster a strategic approach to developing, implementing and enforcing a comprehensive and effective energy conservation policy and regulatory system consistent with the objectives of the Energy Conservation Law of 1998.

	Agency	Loan Amount (US\$ M)	Timing	Description
2. Projects				
Coalbed Methane – GHG abatement (Shanxi)	ADB	150	2005	Capture of coalbed methane for urban heating in Jianxi, and for GHG reduction
Liaoning Environment Improvement Project	ADB	100	2005	Capture of coalbed methane for urban heating in Liaoning and for GHG reduction.
Jaingsu Urban Environment Improvement	ADB	100	2006	Building and optimization of gas infrastructure to reduce reliance on coal, thereby reducing acid rain.
Renewable Energy in Rural Areas	ADB	100	2006	Rural electrification and improvement of policy environment for promotion of renewables in Inner Mongolia, Sichuan, Shaanxi.
Rural energy sector development project	ADB	80	2006	Expansion of service to off-grid areas using cleaner alternative fuels. Promotion of small-scale hydro through adjustment of market incentives.
Energy Efficiency Program I	KfW	53	2005	EE-measures in district heating systems