PROJECT INFORMATION DOCUMENT (PID)
CONCEPT STAGE

Report No.: AB3686

Project Name	CENTRAL ASIA SOUTH ASIA REGIONAL ELECTRICITY AND TRADE (CASA 1000) PROJECT
Region	EUROPE & CENTRAL ASIA AND SOUTH ASIA
Sector	Power (100%)
Project ID	P110729
Borrower(s)	Islamic Republic of Afghanistan; Government of the Republic of Kyrgyzstan; Government of Pakistan; Government of Tajikistan
Implementing Agencies	A Special Purpose Company (SPC) with private sector participation on behalf of Governments of Afghanistan; Kyrgyz Republic; Pakistan and Tajikistan
Environment Category	[X] A [] B [ ] C [ ] FI [ ] TBD (to be determined)
Date PID Prepared	December 2,2009
Estimated Date of Appraisal Authorization	09/15/2010
Estimated Date of Board Approval	02/15/2011

1. Key development issues and rationale for Bank involvement

The Central Asian Republics (CARs), with large energy resource potential relative to their domestic needs, have been pursuing energy export-led growth strategies since their independence in 1991. Kazakhstan, with its significant oil & gas resources, has been the most successful, followed by Turkmenistan and Uzbekistan with their gas resources. However, the hydro-rich countries of Kyrgyz Republic and Tajikistan have not been able to realize their potential, in part because of (a) significant resources needed to develop the hydropower plants and associated transmission lines; (b) limited regional cooperation; and (c) the lack of clarity about the main electricity export market. The neighboring South Asia Region, on the other hand, is energy deficient and its energy import needs are increasing, fueled by robust economic growth and consequent increase in energy demand. The growing deficit between the energy demand and the available domestic supply could potentially be covered, in part, by imports of electricity and gas from the Central Asia region.

Tajikistan and the Kyrgyz Republic in Central Asia and, Afghanistan and Pakistan in South Asia have been pursuing the development of a Central Asia South Asia Regional Electricity Market (CASAREM). These four countries have intensified their cooperation since 2005 among themselves and with the International Financial Institutions (IFIs) comprising the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the International Finance Corporation (IFC), the Islamic Development Bank (IsDB) and the World Bank (WB). The IFIs have been providing assistance to help realize these potential trading opportunities and will continue assisting in this process. It is also noted that private investors have shown some interest in the generation and transmission projects required to enable such trade. Bilateral donors, especially the US, are also fully involved in the cooperation and provision of technical assistance.

CASAREM – "Central Asia - South Asia Regional Electricity Market" – is a concept for developing electricity trade among the countries of the two regions through a set of projects and concomitant investments, underpinned by the relevant institutional arrangements and legal agreements. The four countries which have agreed to pursue the idea of CASAREM include Kyrgyz Republic and Tajikistan in

Central Asia (intended exporters), and Afghanistan and Pakistan in South Asia (intended importers). However, it is envisaged that other countries could join the initiative as the trade expands. The development of the first phase of CASAREM, which is to establish the necessary transmission and trading infrastructure and systems to enable a trade of about 1300 MW of electricity between Central Asia and South Asia, is referred to as "CASA-1000".

The proposed project has several characteristics that make it a good candidate for support by the World Bank group: The Project would assist some of the poorest countries in the world and some of them coming out of civil war (Afghanistan and also Tajikistan). It would enhance trade and regional cooperation in a region where it is sorely needed, underpin economic growth, and have a demonstration effect for similar cooperation in other sectors (e.g., transport). It would encourage private sector participation, if not in CASA 1000 initially, in the generation projects that are being developed for export.

Given the low level of regional cooperation in the CASA region, the Bank's convening and facilitation capacity – in conjunction with its financial instruments, policy advice, and knowledge -- could be invaluable in brokering the cooperation between the two regions (and within them) in these initial stages. The Bank's leverage and signaling effect can help mobilize assistance from other IFIs and bilateral donors, as well as help bring in private sector, whether as equity participants or lenders. Other benefits from working with the Bank – governance arrangements, fiduciary standards, safeguard policies, analytical work, etc., would also be seen as beneficial to helping this – admittedly high-risk but potentially high-benefits – effort to take off the ground. While the initiative has a strong ownership by all countries involved, the Bank's and the other IFIs' role in supplementing the limited institutional capacity of the countries involved to coordinate their effort is critical, as the institutional arrangements are being strengthened and capacity built.

*Benefits of CASA 1000***.** The pre-feasibility assessment carried out in Phase 1 of the consultants' work estimates that the initial level of exportable surpluses (after meeting domestic demand) from existing facilities plus Sangtuda 1 HEP would amount to 4.5 to 5 TWh from the two Central Asian countries. About 4 TWh would be delivered to Pakistan after the roughly 500 GWh are supplied to Afghanistan. Such power supply would be only in the summer months, and in the event no new generation comes on stream would begin to dwindle from around 2015 as the demand in the exporting countries increases. Even with the exports from existing assets plus Sangtuda 1 (i.e., with no new projects, summer only and dwindling from about 2015) the proposed project is estimated to have an EIRR of about 20%. While all participating countries are likely to have positive benefits at the country level, special focus would need to be placed on ensuring Afghanistan would generate benefits that justify its large share of the financing burden.

Realization of CASA 1000 would – in addition to the direct economic benefits to the countries involved -- usher in a new era of regional cooperation, with its attendant benefits and demonstration effects for other projects. It would enable further development of Central Asian energy resources (hydropower, gas, coal) at a scale that would not otherwise be feasible, and thereby ensure that the export levels increase with the new generation assets coming on stream. Importantly, the linking of Kyrgyz Republic with Tajik system through high voltage lines could help break the 'Water-Energy Nexus' that exists in the Syr Darya basin. Since Pakistan would buy the summer electricity, Kyrgyz could use the waters in summer from Toktogul reservoir both to generate electricity and to meet the irrigation needs of Kazakhstan and Uzbekistan; in absence of the electricity exports, such water releases are less economic to Kyrgyz Republic. The transmission links and access to export markets would enable Kyrgyz Republic to develop its own resources (hydro and coal).

The realization of CASA 1000 and the underlying Inter-Governmental Framework Agreements would also have a demonstration effect on other countries in the region, such as Kazakhstan, Turkmenistan and

Uzbekistan. Transmission links between Afghanistan and Uzbekistan, and Afghanistan and Tajikistan, are being strengthened. Since the new government took over in Turkmenistan, there have been bilateral discussions between Afghanistan/Turkmenistan and Turkmenistan/Tajikistan on Turkmenistan supplying electricity (as well as gas), especially in the winter, both to Afghanistan and Tajikistan; Turkmenistan joining exports to South Asia may also be of interest. With Afghanistan's bilateral transmission links to its Central Asian neighbors being strengthened, CASA 1000 line would firmly integrate Afghanistan into the regional electricity systems, bridging the two regions and making regional integration of power systems a reality.

*Risks and Risk Mitigation***.** In view of the multi-country nature of the Project, and especially, the location of the Project in perceived high risk areas, the task of risk mitigation is one of the most crucial to the successful realization of the Project. The project faces the following risks: supply (generation) risks; market risks; counterparty risks (especially payment risks); completion risks; operational risks; price and tariff risks; political risks; legal risks; fiscal/macroeconomic risks; regulatory risks; environmental risks; and force majeure risks. International experience of independent power projects and cross border energy corridor projects shows that measures to mitigate these risks can be and would be devised for this project.

In addition, the Project faces the specific risks of war and civil disturbance in the Project areas, in Afghanistan and northwestern Pakistan. Further project preparation would involve identifying and quantifying the risk and developing the risk mitigation mechanisms for this security risk as well. Solutions are likely to include a combination of social measures (supply electricity to populations along the transmission route and make them stakeholders); technical/operational measures (e.g., dedicated repair crews and security personnel); and financial measures (e.g., a special fund to be established to compensate for loss of revenue possibly bolstered by third party guarantees).

2. Proposed objective(s)

The objective of the project is to promote electricity exports from Tajikistan and Kyrgyz Republic to Afghanistan and Pakistan. The project outcome will be measured by the amount of electricity (in kilo Watt hours) exported through the transmission system to be constructed under the project.

3. Preliminary description

The CASA 1000 Project would comprise: (a) around 750 km High Voltage Direct Current (DC) transmission system between Tajikistan and Pakistan via Afghanistan; (b) a DC to Alternate Current (AC) converter station in Kabul to supply Kabul area; (c) an AC transmission link between Kyrgyz Republic and Tajikistan to supply Kyrgyz electricity to South Asia via Tajikistan; and (d) the concomitant institutional and legal framework to enable such electricity trade.

4. Safeguard policies that might apply

The Environmental Assessment Safeguard policy (OP4.01) is applicable, and the proposed project is determined to be a Category A project for the purposes of OP4.01[1]. Policies on Involuntary Resettlement (OP4.12) and on Physical and Cultural Resources (OP4.11) will also be triggered in view of the land acquisition needs of the Project and the rich cultural history of the areas through which the transmission

[1] Electricity Transmission Projects are normally Category B projects for the purposes of OP4.01. However, since: Afghanistan may not have an environmental assessment policy of its own, it was decided to make this a Category A project and undertake full environmental assessment.

line will pass. Policies on Natural Habitats (OP 4.04) and Forests (OP4.36) are to be assessed for their applicability during preparation of the Project.

5. Tentative financing

Source:	**(US$m.)**
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT	50
INTERNATIONAL DEVELOPMENT ASSOCIATION	200
ISLAMIC DEVELOPMENT BANK (to be confirmed)	125
Other International Financial Institutions (to be confirmed)	325
Total	**700**

6. Contact point

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