Report and Recommendation of the President to the Board of Directors

Project Number: 47296-001
August 2015

Proposed Loan
Republic of Uzbekistan: Northwest Region Power Transmission Line Project

This is the version of the document approved by ADB's Board of Directors that excludes information that is subject to exceptions to disclosure set forth in ADB's Public Communications Policy 2011.

Asian Development Bank

CURRENCY EQUIVALENTS
(as of 4 August 2015)

Currency unit	–	sum (SUM)
SUM1.00	=	$ 0.0003876
$1.00	=	SUM2,579.89

ABBREVIATIONS

ADB	–	Asian Development Bank
CCGT	–	combined-cycle gas turbine
EMP	–	environmental management plan
LARP	–	land acquisition and resettlement plan
LIBOR	–	London interbank offered rate
PMU	–	project management unit
TPP	–	thermal power plant

WEIGHTS AND MEASURES

GWh	–	gigawatt-hour
km	–	kilometer
kV	–	kilovolt
MW	–	megawatt

NOTES

(i) The fiscal year (FY) of the Government of Uzbekistan ends on 31 December.

(ii) In this report, “$” refers to US dollars.

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CONTENTS

PROJECT AT A GLANCE

1. Basic Data — **Project Number:** 47296-001

Project Name	Northwest Region Power Transmission Line Project	**Department /Division**	CWRD/CWEN
Country	Uzbekistan	**Executing Agency**	UzbekEnergo
Borrower	Government of Uzbekistan		

2. Sector

	Subsector(s)	ADB Financing ($ million)
✓ **Energy**	Electricity transmission and distribution	150.00
	Total	**150.00**

3. Strategic Agenda

	Subcomponents
Inclusive economic growth (IEG)	Pillar 1: Economic opportunities, including jobs, created and expanded

Climate Change Information

Climate Change impact on the Project	Medium

4. Drivers of Change

	Components
Governance and capacity development (GCD)	Institutional development Public financial governance

Gender Equity and Mainstreaming

No gender elements (NGE)	✓

5. Poverty Targeting

Project directly targets poverty	No

Location Impact

Rural	Medium
Urban	Medium
Nation-wide	High

6. Risk Categorization: Low

7. Safeguard Categorization **Environment:** B **Involuntary Resettlement:** B **Indigenous Peoples:** C

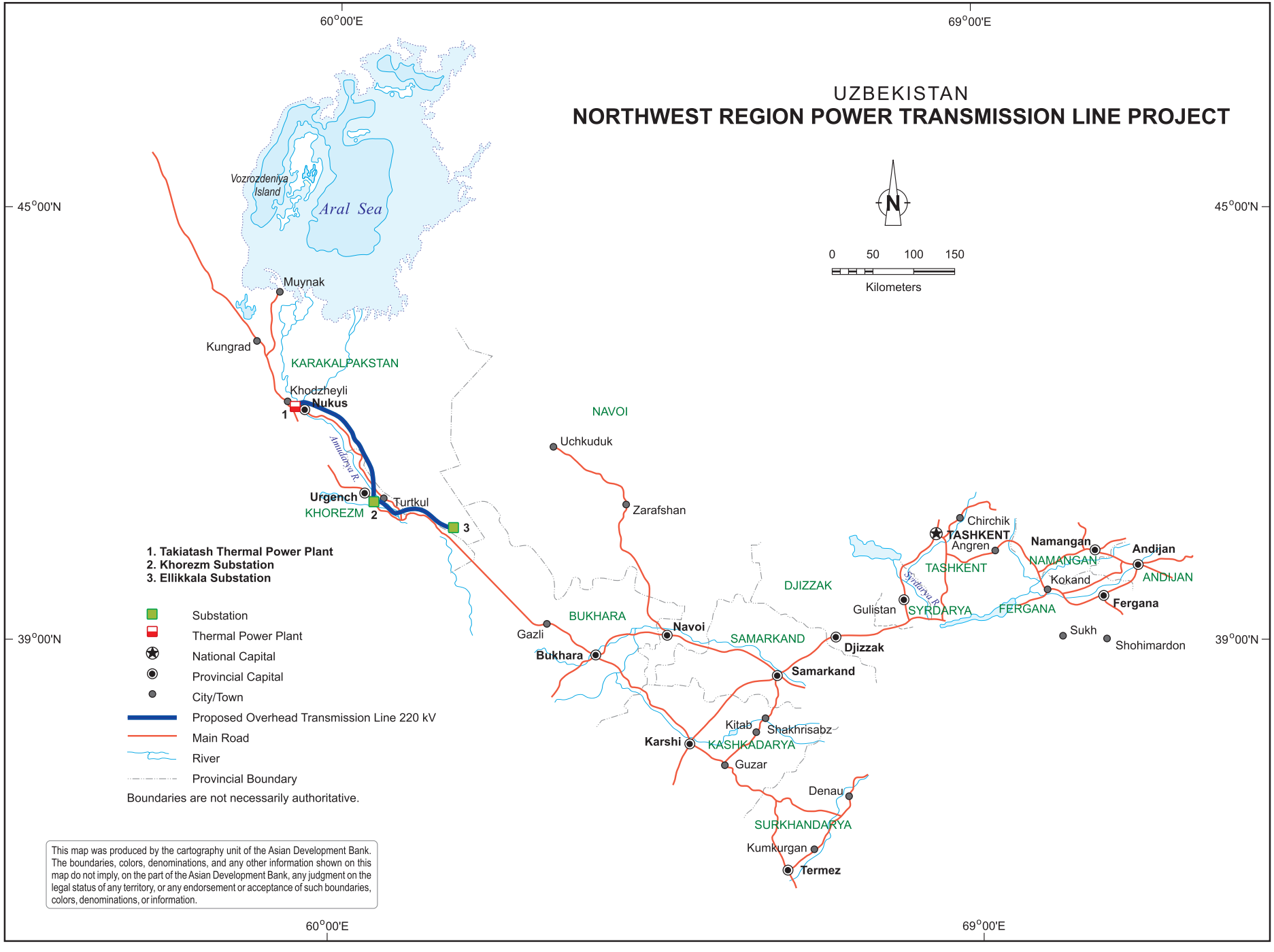
8. Financing

Modality and Sources	Amount ($ million)
ADB	**150.00**
Sovereign Project loan: Ordinary capital resources	150.00
Cofinancing	**0.00**
None	0.00
Counterpart	**105.00**
Project Sponsor	80.00
Government	25.00
Total	**255.00**

9. Effective Development Cooperation

Use of country procurement systems	No
Use of country public financial management systems	No

Source: Asian Development Bank


UZBEKISTAN
NORTHWEST REGION POWER TRANSMISSION LINE PROJECT
60°00'E
69°00'E
45°00'N
39°00'N
N
0 50 100 150
Kilometers
Aral Sea
Vozrozdeniya Island
Muynak
Kungrad
KARAKALPAKSTAN
Khodzheyli
Nukus
1
Amudarya R.
Urgench
KHOREZM
2
Turtkul
3
NAVOI
Uchkuduk
Zarafshan
BUKHARA
Gazli
Bukhara
Navoi
DJIZZAK
SAMARKAND
Djizzak
Samarkand
Kitab
Shakhrisabz
Karshi
KASHIKADARYA
Guzar
Denau
SURKHANDARYA
Kumkurgan
Termez
Chirchik
TASHKENT
Angren
TASHKENT
Syrdarya R.
Gulistan
SYRDARYA
Namangan
NAMANGAN
Andijan
ANDIJAN
Kokand
Fergana
FERGANA
Sukh
Shohimardon
1. Takiatash Thermal Power Plant
2. Khorezm Substation
3. Ellikkala Substation
Substation
Thermal Power Plant
National Capital
Provincial Capital
City/Town
Proposed Overhead Transmission Line 220 kV
Main Road
River
Provincial Boundary
Boundaries are not necessarily authoritative.
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I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to the Republic of Uzbekistan for the Northwest Region Power Transmission Line Project.[1]

2. The project aims to (i) improve power transmission network capacity and reliability in the Karakalpakstan and Khorezm regions of northwestern Uzbekistan, (ii) reduce transmission losses, and (iii) improve the operational efficiency of the power sector. The project components include (i) the construction of a 220-kilovolt (kV) single-circuit overhead transmission line approximately 364 kilometers (km) in length; (ii) the expansion, rehabilitation, and construction of three substations, and (iii) institutional development, capacity building, and project management.[2]

II. THE PROJECT

A. Rationale

3. Uzbekistan has one of the fastest-growing economies in Central Asia (the growth rate averaged 8% for 2010–2014), and aspires to become an upper middle-income country by 2020. Generally stable macroeconomic conditions and robust growth are expected to continue, with Uzbekistan seeking to build a highly developed and diversified industrial and export base. The Karakalpakstan and Khorezm regions are located in the western part of Uzbekistan, with 3.3 million residents (or 12% of the total population), and will continue to attract large-scale industrial investment projects.[3] A reliable power supply is critical to support industrial development in this area. Power demand in the region is forecast to grow at 3%, double the expected national average rate of 1.5% over the medium term.

4. The country has ample primary energy resources.[4] The total installed capacity for power generation in the country is about 13,500 megawatts (MW) including thermal power (86%) and hydropower (14%). In 2014, the country generated about 54,400 gigawatt-hours (GWh) of electric power and exported 1,400 GWh (2.6%). Uzbekistan's power transmission system consists of 1,850 km of 500 kV lines, 6,200 km of 220 kV lines, and 15,300 km of 110 kV lines. The government owns and manages the energy sector in Uzbekistan. The Joint-Stock Company Uzbekenergo is a vertically integrated and a 100% state-owned monopoly in charge of electricity generation, transmission, and distribution; it operates under the supervision and regulation of the Cabinet of Ministers. The sector is corporatized with separate business units, and further commercialization of Uzbekenergo is planned.

5. Uzbekistan's development priorities stress structural change and increased productivity. Energy efficiency is a key part of the energy sector strategy. The government adopted policy and legal frameworks with clear goals to reduce energy intensity and losses; and action plans covering investments and institutional change. In March 2015, the government approved a 5-year rolling *Program of Measures to Promote Structural Reforms, Modernization and Diversification of Production in 2015–2019.* The program aims to ensure an adequate and

[1] The design and monitoring framework is in Appendix 1.
[2] The Asian Development Bank (ADB) provided project preparatory technical assistance for the Northwest Region Power Transmission Line Project (TA 8618) in February 2014.
[3] Karakalpakstan covers about 37% of the land area of Uzbekistan and has a population of 1.7 million and rich in natural resources, while Khorezm, an agro-industrial region, has a population of 1.6 million.
[4] Including 1.8 trillion cubic meters of proven natural gas reserves, 590 million barrels of proven oil reserves, and about 3 billion tons of recoverable coal reserves.

reliable power system; and improved management, operations, and performance of utilities based on commercial principles. To improve energy efficiency, one combined-cycle gas turbine (CCGT) unit was commissioned in Navoi thermal power plant (TPP) and four more CCGT units are under preparation with confirmed funding from Asian Development Bank (ADB) for replacement of old and inefficient gas-fired steam turbine generation units.[5] A loss-reduction program was initiated that uses advanced meters to increase collections and reduce losses.[6] Electricity tariffs have been raised steadily since 2004 to ensure financial sustainability. Financial transparency has improved since Uzbekenergo (with ADB assistance), adopted external audits based on the International Standards on Auditing starting with fiscal year (FY) 2011.

6. Key challenges in the sector are deteriorating infrastructure and unreliable power supply. The existing Takhiatash TPP is the only power station located in the northwest region. ADB has approved a loan[7] to finance construction of two CCGT units (230–280 MW each) in Takhiatash TPP for replacement of old and inefficient gas-fired steam turbine generation units. However, because of inadequate investment, the existing power transmission network has limited capacity to transmit additional power. The power transmission system was designed during the Soviet era with the objective of leveraging the diversified energy and water resources in the region. Substation locations and line routings did not take country borders into consideration, as these were then irrelevant with the result that the existing transmission line from Takhiatash to Navoi passes through Turkmenistan. Although the transmission assets belong to Uzbekistan, difficulties in maintaining these causes frequent and prolonged outages which reduces production rate and hampers socioeconomic development, leading to dissatisfaction among the population. Transmission capacity limitations mean the excess production from TPP is difficult to evacuate, and Takhiatash TPP must adjust its production to the highly variable local demand, result in wear and aging of generation blocks, and rendering its operations economically inefficient.

7. In addition, most of the transmission facilities are aging and require rehabilitation and modernization (the Khorezm substation was commissioned more than 40 years ago, in 1969). The poor condition of these assets results in a higher risk of system outages, poor energy services,[8] higher maintenance costs, and increased transmission losses.[9] A strong transmission system is an essential component of efficient, reliable, and flexible infrastructure that meets the growing demand for electricity.

8. The project supports ADB's current intervention in the power sector and contributes to the improvement of energy efficiency. The project is an outcome of the least-cost power system expansion plan and is included in the government investment plan for 2015–2019. This project

[5] ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loans and Administration of Loan to the Republic of Uzbekistan for the Talimarjan Power Project*. Manila; ADB. 2014. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Republic of Uzbekistan for Takhiatash Power Plant Efficiency Improvement Project*. Manila.

[6] ADB. 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Republic of Uzbekistan for the Advanced Electricity Metering Project*. Manila. Phase 2 is financed by the World Bank and covers Tashkent City, Tashkent region, and Syrdarya region. Phase 3 is financed by Islamic Development Bank and covers Karakapakstan, Khorezm, and Navoi regions. Proposed Loan to the Republic of Uzbekistan: Advanced Electricity Metering Phase 4 Project will be circulated to the ADB Board in August 2015.

[7] ADB. 2014. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Republic of Uzbekistan for the Takhiatash Power Plant Efficiency Improvement Project*. Manila.

[8] The energy not served because of system outages in the region was estimated at 158.4 GWH in 2013, or 6.4% of annual demand.

[9] Uzbekenergo estimates overall system losses at 20% (transmission losses of 5% and distribution losses of 15%).

will remove bottlenecks and ensure that adequate electricity generated by Takhiatash TPP is evacuated to meet increased demand and enable economically efficient operation of the power plant. The improved power supply will stimulate new economic activities, alleviate regional disparities, and support inclusive and sustainable economic development.

9. The project is in line with ADB's country partnership strategy for Uzbekistan, which includes a focus on energy efficiency and the reliable supply of power.[10] It is also consistent with ADB's Midterm Review of Strategy 2020 and ADB's Energy Policy.[11]

10. ADB is actively involved in a dialogue with the government to promote energy sector reform and development, capacity building, and good governance. In 2012, the power sector regional master plan was prepared under the Central Asia Regional Economic Cooperation program, which identifies investment priorities and a development plan. Knowledge solutions and capacity development of energy enterprises such as planning, procurement, asset management, financial management, and project management, are ongoing with satisfactory progress. This project will be the sixth ADB project loan to Uzbekistan's power sector, and will complement ongoing ADB interventions.[12]

B. Impact and Outcome

11. The project's impact will be adequate and reliable power supply in Uzbekistan by 2023. The outcome will be an expanded and modernized high-voltage transmission grid in Karakalpakstan and Khorezm regions.

C. Outputs

12. The project outputs consist of the following components:

(i) **Strengthening of the northwest region power transmission network.** Construction of 220 kV single-circuit overhead transmission line between Takhiatash TPP and Khorezm substation (197.4 km), and between Khorezm substation and Ellikkala substation (166.1 km) totaling 364 km.

(ii) **Expansion, rehabilitation and/or construction of three substations**. Comprising (a) rehabilitation and expansion of 220/110 kV open switchyards at Takhiatash TPP, (b) rehabilitation and expansion of 220/110 kV Khorezm substation; and (c) construction of a 500/220 kV Ellikkala substation.

(iii) **Support for institutional development and capacity building**. Comprising of (a) upgrading of Uzbekenergo transmission system planning and dispatch automation, (b) strengthening of the Uzbekenergo transmission assets management system, (c) external auditing of project accounts, and (d) strengthening of Uzbekenergo operational and maintenance capacity for transmission assets.

D. Investment and Financing Plans

13. The project is estimated to cost $255 million (Table 1).

[10] ADB. 2012. *Country Partnership Strategy: Uzbekistan, 2012–2016*. Manila.
[11] ADB. 2004. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific.* Manila; ADB. 2009. *Energy Policy*. Manila.
[12] The previous loans were focused on power generation, renewable energy, distribution, and advanced metering.

Table 1: Project Investment Plan

($ million)

Item		Amount[a]
A.	**Base Cost**[b]	
	1. 220-kilovolt transmission lines	149.0
	2. Substations and switching stations	62.0
	3. Institutional development[c]	10.0
	Subtotal (A)	**221.0**
B.	**Contingencies**[d]	**26.0**
C.	**Financial Charges During Implementation**[e]	**8.0**
	Total (A+B+C)	**255.0**

[a] Includes taxes and duties of $25 million to be exempted by the government.
[b] In mid-2015 prices.
[c] Includes project implementation consultant, transmission system planning, asset management, and external audit.
[d] Physical contingencies computed at 10.0% for base cost. Price contingencies computed at 1.5% on foreign exchange costs and 10.0% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.
[e] Includes interest and commitment charges. Interest during construction for the Asian Development Bank loan(s) has been computed at the 5-year forward London interbank offered rate plus a spread of 0.5% and a maturity premium of 0.1%. Commitment charges for an Asian Development Bank loan are 0.15% per year to be charged on the undisbursed loan amount.
Source: Asian Development Bank estimates.

14. The government has requested a loan of $150 million from ADB's ordinary capital resources to help finance the project. The loan will have a 25-year term, including a grace period of 5 years, straight line repayment method, an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility, a commitment charge of 0.15% per year, and such other terms and conditions set forth in the draft loan and project agreements. Based on the repayment method, the average loan maturity is 15.25 years and the maturity premium payable to ADB is 0.10% per annum. The government has provided ADB with (i) the reasons for its decision to borrow under ADB's LIBOR-based lending facility based on these terms and conditions and (ii) an undertaking that these choices were its own decision and not made in reliance on a communication from ADB. The loan proceeds will be relent from the borrower to Uzbekenergo pursuant to a subsidiary loan agreement at the same interest rate as that applicable to the loan. Uzbekenergo will assume the foreign exchange risk which will be incorporated in the tariff.

15. The government will arrange counterpart financing as follows: (i) coverage of taxes and duties amounting to $25 million; and (ii) Uzbekenergo's internal resources to cover the remaining balance of the project cost amounting to $80 million including for all civil works, ancillary infrastructure, land acquisition and resettlement, recurrent costs, and interest during construction. The financing plan is in Table 2.

Table 2: Financing Plan

Source	Amount ($ million)	Share of Total (%)
Asian Development Bank	150.0	58.8
Uzbekenergo	80.0	31.4
Government	25.0	9.8
Total	**255.0**	**100.0**

Source: Asian Development Bank estimates.

E. Implementation Arrangements

16. The implementation arrangements are summarized in Table 3 and described in detail in the project administration manual.[13]

Table 3: Implementation Arrangements

Aspects	Arrangements		
Implementation period	January 2016–December 2019		
Estimated completion date Loan account closing date	31 December 2019 30 June 2020		
Management			
(i) Executing agency	Uzbekenergo		
(ii) Project management unit	Project management unit will be established within Uzbekenergo with a minimum of 8 full-time staff.		
Procurement[a]			
Equipment and materials[b]	ICB (single stage two envelopes)	Two goods contract packages (one for transmission lines and one for substations), each with multiple lots	$122.6 million
Assets management system	ICB (single stage two envelopes)	1 contract for IT product and services	$4.8 million
Upgrading transmission system planning and dispatch automation	ICB (single stage two envelopes)	1 contract for IT product and services	$0.5 million
Consulting services[c]			
Project supervision and management	QCBS (90:10)	60 person-months (international) 32 person-months (national)	$2.5 million
External auditing firm	CQS	30 person-months (national)	$0.5 million
Advance contracting[d]	The government requested ADB's approval, subject to its policies and procedures, for advance contracting.		
Disbursement	The loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2015, as amended from time to time) and detailed arrangements agreed upon between the government and ADB.		

ADB = Asian Development Bank, CQS = consultants qualification selection, ICB = international competitive bidding, IT = information technology, QCBS = quality- and cost-based selection.
[a] In accordance with ADB's Procurement Guidelines (2015, as amended from time to time).
[b] Construction and installation will be carried out by contractors to be selected and engaged by Uzbekenergo under the applicable Uzbek laws.
[c] In accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time).
[d] The government has been advised that approval of advance contracting will not commit ADB to subsequently approve financing for the project; and ADB will not finance expenditures paid by the borrower prior to loan effectiveness even if advance contracting has been approved.
Sources: Asian Development Bank and consultants estimates.

17. The project management unit (PMU), funded by Uzbekenergo's internal sources, will administer all consulting and procurement contracts, and prepare project plans, bidding documents, bid evaluation reports, progress reports, applications for withdrawal of funds, and any other reports required by ADB. The PMU will be supported by a project management and supervision consultant financed through the ADB loan.

18. The equipment and materials for the project will be financed by ADB (excluding taxes and duties) and procured through international competitive bidding, in accordance with ADB's

[13] Project Administration Manual (accessible from the list of linked documents in Appendix 2).

Procurement Guidelines (2015, as amended from time to time). To expedite project implementation, advance contracting will be used for project supervision and management consultants. Construction activities will be entirely financed by Uzbekenergo and carried out by contractors to be selected and engaged by Uzbekenergo under the applicable Uzbek laws and regulations relating to procurement and contract management. Project supervision and management will be contracted to a consulting firm, which will support Uzbekenergo in carrying out procurement, implementation, management, quality control, and project supervision and monitoring. The project supervision consulting firm will be selected in accordance with ADB's *Guidelines on the Use of Consultants* (2013, as amended from time to time), and advance action for recruitment of consulting firm is underway. The consultancy service for the external auditing firm will be selected using consultants' qualification selection method because (i) the auditing is a small assignment, (ii) the auditing is a highly specialized service and the number of qualified auditors is limited, and (iii) the assignment is a short-term and on an intermittent basis.

III. DUE DILIGENCE

A. Technical

19. Technical design is aligned with international practices and complies with Uzbekistan's currently applicable standards and state technical design code. According to best international practice, galvanized tower structures will be used as this treatment significantly prolongs the useful life of the structures; galvanized steel structures are especially desirable in areas with major industrial pollution, salt or elevated moisture. Along the entire length of the transmission, optic 24-fiber ground wire will be installed. The solutions are technically sound and cost-effective compared to the alternatives. Uzbekenergo has necessary technical capacity and experienced staff to operate and maintain the transmission network with the support from external consultants. Criteria and methodology are similar to the international practice and are strictly implemented under the established internal procedures and technical standards.

20. The current analytical programs and tools for transmission system planning and analysis used by Uzbekenergo are obsolete and inefficient, and not formally supported by the original designers. Uzbekenergo also lacks computerized systems for managing work, maintenance, and assets. Substation and line maintenance has been organized in a fairly traditional and same manner for decades. Information on transmission assets is kept in a variety of different formats and is in very poor condition. A modern transmission planning system (including software and training) and computerized asset management system (including software, database, application servers, and training) will be established in Uzbekenergo. These systems represent major technological changes to improve the operational efficiency of the company.[14]

B. Economic and Financial

21. The project is financially and economically viable. The financial internal rate of return is 5.5%, which compares favorably with the weighted average cost of capital of 0.4%. The project will generate financial revenues to Uzbekenergo from the additional sale of electricity, reduced technical losses, and reduced maintenance costs.

22. The economic benefits consist of a reduction in energy not served in the region, a reduction in transmission losses, and a reduction in maintenance costs. In addition, some non-

[14] Details of the transmission system planning system and computerized asset management systems are in the Technical Due Diligence Report (accessible from the list of linked documents in Appendix 2).

incremental benefits arise from reduced reliance on back-up generation sources. The sensitivity analysis suggests sufficient robustness of the project under all tested assumptions. The economic internal rate of return is 18.1%, which is greater than the economic opportunity cost of capital of 12%.

23. Uzbekenergo has operated profitably since 2008.[15] The gross profit margin has been above 10% throughout the period, but decreased from 35.1% in 2007 to 16.9% in 2013, largely due to the increasing cost of maintaining aging facilities. However, low fuel costs[16] and semiannual tariff adjustments to reflect inflation have contributed to the profitability of Uzbekenergo.

24. Financial projections for 2014–2025 indicate that the financial base remains stable if tariff adjustments continue to be synchronized with inflation and gas prices. The ongoing capacity development program under previous projects and this project will support Uzbekenergo to sustain its profitability.

C. Governance

25. **Sector governance**. The power sector is under the direct supervision of the Cabinet of Ministers, which prepares the energy policy and long-term investment plan in coordination with other relevant ministries and government agencies. The power sector investment plan for 2015–2019 was adopted on 4 March 2015. The Ministry of Finance sets the tariff; the government adjusted the tariff semi-annually to reflect the cost of services. Licenses are issued by the State Inspection of Control in Power Industry under the Cabinet of Ministers. Capacity development of Uzbekenergo including strengthening safeguards assessment capacity, bringing in modern and transparent performance assessment, and upgrading the management information system is underway with ADB support under ongoing projects.[17]

26. **Financial management**. Uzbekenergo's financial management risk is considered high, and it needs to strengthen its financial management capacity. Uzbekenergo's accounting policies, procedures, and financial reporting have followed the National Accounting Standards of Uzbekistan and National Standards on Auditing. However, Uzbekenergo has not fully consolidated the financial statements that cover revenues and costs of the core electricity operations. To enhance its financial management, since FY2011 Uzbekenergo has adopted external audit of its financial statements based on International Standards on Auditing issued by the International Assurance Auditing Standards Board. The external audit found areas for further improvements (e.g., in the classification methods and impairment provisions on account receivables, the scope of account consolidation and the accounting system).

27. Uzbekenergo has started converting to International Financial Reporting Standards in FY2012 and plans to complete full conversion to cover all subsidiaries for FY2015. Capacity development activities planned under other ADB loan and World Bank projects will address the training of the International Financial Reporting Standards specialists as well as the strengthening of Uzbekenergo's information systems with the objective of improving its financial management capability.

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[15] This is based on Uzbekenergo's unconsolidated financial statements; consolidation of the financial account is expected to be completed for FY 2015.

[16] Uzbekenergo's gas price is currently 30% below the export price.

[17] ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loans and Administration of Loan to the Republic of Uzbekistan for the Talimarjan Power Project*. Manila; ADB. 2014. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Republic of Uzbekistan for Takhiatash Power Plant Efficiency Improvement Project*. Manila.

28. **Procurement capacity**. The procurement capacity was assessed as high risk. Uzbekenergo has experience with projects financed by bilateral and multilateral financiers, including ADB. Despite improvements, the PMU capacity is still weak. An international firm will be recruited as project management and supervision consultant to assist with the bidding process and contract management.[18] ADB (from both headquarters and the Uzbekistan Resident Mission) will provide the executing agency with specific procurement advice and recommendations during project implementation.

29. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government and Uzbekenergo. The specific policy requirements and supplementary measures are described in the PAM (footnote 13).

D. Poverty and Social

30. The increased efficiency and reliability of power supply resulting from the project will have a positive impact on economic growth, poverty reduction, and social services such as schools, health care facilities, and shops, which will ultimately improve well-being and community welfare. The improved energy supply will have a positive effect on business development and support new job creation. No gender issues are envisaged during project construction and implementation—electricity delivery will equally benefit households and businesses run by women and men.

E. Safeguards

31. **Environmental assessment.** The project is classified as category B for the environment under ADB's Safeguard Policy Statement (2009). An initial environmental examination report, including an environmental management plan (EMP), has been developed and was disclosed on the ADB website on 19 June 2015. The environmental impacts of the project are expected to be insignificant, site-specific, and manageable through mitigation and monitoring measures. Most of the environmental impacts of the project take place during the construction of the transmission lines, and expansion and rehabilitation of related substations and switchyards. Potential environmental impacts during the construction activities include limited impacts on (i) land, hydrology, and soil erosion at river crossing; (ii) forest ecology due to tree cutting in a forested area; (iii) air quality; (iv) noise near the Low Amu Darya Biosphere Reserve; (v) waste generation and disposal; (vi) transformer oil and battery management; (vii) traffic; and (viii) health and safety of workers and local communities. Impacts during the operational phase are related to the electromagnetic field and the health and safety of operators at substations. The EMP specifies adequate mitigation measures and monitoring plans to cover these impacts. These measures include detailed planning of the structures and routes, timing of the construction works, careful planning and execution of works, selection of low-emission equipment, controlled tree cutting, health and safety training of the personnel and informing local residents, and application of waste and oil management practices in compliance with national regulations. The project supervision and management consultants will assist Uzbekenergo in supervising the implementation of the EMP and further enhancing the environmental management capacity of Uzbekenergo, which has a Department for Environmental and Social Safeguards.

32. **Involuntary resettlement.** The project is classified as category B for involuntary resettlement under ADB's Safeguard Policy Statement. A land acquisition and resettlement plan

[18] The consulting firm will be engaged prior to the procurement of goods and works.

(LARP) was prepared and disclosed on the ADB website on 4 May 2015. Nine consultations were carried out with affected households during project preparation, and Uzberkenergo will continue to engage the affected households until the LARP is finalized and implemented. The LARP includes an entitlements matrix summarizing all compensation and assistance provided under the project, a resettlement budget and financing plan, and an implementation schedule for land acquisition and resettlement activities. The project will require permanent and temporary land acquisition for construction of transmission lines and substations. The impact on affected households will not be significant, because no household has more than 8.4% of their land affected. Compensation and other assistances will be scheduled and paid to affected households prior to commencement of civil works. The project supervision and management consultants will assist Uzbekenergo in supervising the implementation of land acquisition and resettlement activities.

33. **Indigenous peoples.** The project is classified as category C for indigenous peoples. The project is not expected to affect indigenous peoples as defined under ADB's Safeguard Policy Statement (2009).

F. Risks and Mitigating Measures

34. The overall assessment of the project is medium risk for procurement, project management, and financial management. The integrated benefits from and impacts of the project are expected to outweigh the cost. Major risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.[19]

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
Procurement Delayed procurement and implementation of civil works and goods contracts due to weak procurement capacity of Uzbekenergo PMU staff and prolonged contract approval and registration by the government.	Advance contracting is adopted to recruit the project implementation consultant to assist procurement. An international consulting firm will be recruited to assist Uzbekenergo in project implementation and strengthen procurement transparency. Uzbekenergo will recruit experienced procurement specialists for the PMU before the bidding process. ADB's staff consultant and procurement specialist will provide procurement and contract management training and advice throughout project implementation. Lessons from previous projects will be analyzed and will be incorporated with the PMU and project implementation consultant. The institutions responsible for contract registration assessment will be involved in procurement and consultant recruitment to avoid delays in the contract registration required for contract effectiveness.
Project implementation Limited project management capacity of Uzbekenergo PMU staff and lacking experience with contract management	Experienced project supervision consultants will be engaged to assist the PMU on project implementation and management.

[19] Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

Risks	Mitigating Measures
Associated generation project that has direct effects on the Project is delayed[a]	The government has established an Interagency Council at the Cabinet of Ministers to oversee and coordinate all investment projects. Project coordination department has been established in Uzbekenergo to efficiently coordinate and supervise all investment projects. ADB will closely monitor implementation progress of other investment projects and identify the cause of delay and actions required through regular portfolio review meetings.
Financial management Limited financial management capacity and capacity to prevent corrupt practices	No imprest account will be established. An international consulting firm will support the PMU. Experiences and lessons from ongoing projects will be shared with the PMU. Training on ADB procedures will be provided. Uzbekenergo will recruit staff and undertake training on International Financial Reporting Standards with the help of the international consulting firm. Uzbekenergo will hire capacity development consultants financed under other projects by ADB and other development partners to assist Uzbekenergo in achieving full consolidation of its accounts, International Financial Reporting Standards implementation, and upgrade of accounting and reporting systems. Uzbekenergo has established and staffed its internal audit and the project will be subject to review by the internal audit. Uzbekenergo will engage a reputable independent audit firm to undertake external audit based on the International Standards on Auditing.

[a] ADB. 2014. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Republic of Uzbekistan for the Takhiatash Power Plant Efficiency Improvement Project*. Manila.
Source: Asian Development Bank.

IV. ASSURANCES AND CONDITIONS

35. The government and Uzbekenergo have assured ADB that implementation of the project shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the PAM and loan documents. The government and Uzbekenergo have agreed with ADB on certain covenants for the project, which are set forth in the loan and project agreements.

36. As a condition for loan effectiveness, a subsidiary loan agreement for the relending of the ADB loan to Uzbekenergo, in form and substance satisfactory to ADB, shall have been signed and become effective in accordance with the terms.

V. RECOMMENDATION

37. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan of $150,000,000 to the Republic of Uzbekistan for the Northwest Region Power Transmission Line Project, from ADB's ordinary capital resources, with interest to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; for a term of 25 years, including a grace period of 5 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements presented to the Board.

Takehiko Nakao
President

26 August 2015

DESIGN AND MONITORING FRAMEWORK

Impacts the Project is aligned with: Adequate and reliable power supply in Uzbekistan by 2023 (Program of Measures to Promote Structural Reforms, Modernization and Diversification of Production in 2015–2019)[a]			
Results Chain	**Performance Indicators with Targets and Baselines**	**Data Sources and Reporting Mechanisms**	**Risks**
Outcome An expanded and modernized high-voltage transmission grid in Karakalpakstan and Khorezm regions.	By 2020: a. Power transmission capacity in Karakalpakstan and Khorezm regions increased to 813 MW (2014 baseline: 513 MW) b. Losses in power transmission network reduced to below 4%. (2014 baseline: 5%) c. Energy not supplied to consumers due to outages is reduced to less than 80 GWh (2014 baseline: 120 GWh).	a.–c. Uzbekenergo's annual report	Associated generation project that has direct effects on the project is delayed.
Outputs 1. 220 kV transmission line between Takhiatash thermal power plant – Khorezm substation – Ellikkala substation commissioned.	364 kilometers of new 220 kV transmission line commissioned and operational by 2020. (2014 baselines: 0)	Commissioning certificates by Uzbekenergo	Weak institutional capacity delays approval of procurement contracts and registration. Weak financial management and accounting policies, procedures and systems.
2. Substations rehabilitated and new switching station constructed.	Two substations at Takhiatash thermal power plant and Khorezm rehabilitated and expanded and one new 500/220 kV switching station at Ellikkala constructed and operational by 2020. (2014 baselines: 0)	Commissioning certificates by Uzbekenergo	
3. Support for institutional development and capacity building	a. Modern transmission system planning programs and computerized assets management system established and operational by 2019. (2014 baselines: 0) b. At least 50 staff (at least 20% women) are trained in key aspects of transmission network operation and maintenance by 2019. (2014 baselines: 0). c. At least 10 staff from Uzbekenergo project management unit are trained in procurement, contract management, financial management, safeguards, and overall project management by 2019 (2014 baselines: 0).	a.–c. Uzbekenergo's project completion report	

Key Activities with Milestones

1. 220 kV transmission line between Takhiatash thermal power plant, Khorezm substation, and Ellikkala substation commissioned

1.1 Finalize tender documents by September 2015.
1.2 Completed land acquisition and compensation by March 2016.
1.3 Procure equipment and materials, and civil works contracts by June 2016.
1.4 Complete construction and installation by June 2019.
1.5 Complete commissioning and final test by December 2019.

2. Substations rehabilitated and new switching station constructed

2.1 Finalize tender documents by September 2015.
2.2 Complete land acquisition and compensation by March 2016.
2.3 Procure equipment and materials, and civil works contracts by June 2016.
2.4 Complete construction and installation by June 2019.
2.5 Complete commissioning and final test by December 2019.

3. Uzbekenergo's capacities for project supervision and management enhanced and operational efficiency improved

3.1 Engage project supervision and management consultants by December 2015
3.2 Award contracts for transmission planning system and asset management systems by December 2016.
3.3 Establish operational transmission planning system and asset management systems by December 2017.
3.4 Train staff in key aspects of transmission network operation and maintenance by December 2019.
3.5 Project supervision and management consultants train staff from the project management unit in procurement, contract management, financial management, safeguards, and overall project management by December 2019.

Inputs

Loan

Asian Development Bank (ordinary capital resources)	$150 million
Government of Uzbekistan	$25 million
Joint-Stock Company Uzbekenergo	$80 million
Total:	$255 million

GWh = gigawatt-hour, kV = kilovolt, MW = megawatt.
[a] Government of Uzbekistan. 2015. *Program of Measures to Promote Structural Reforms, Modernization and Diversification of Production in 2015–2019. Tashkent.*
Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

http://www.adb.org/Documents/RRPs/?id=47296-001-3

1. Loan Agreement
2. Project Agreement
3. Sector Assessment (Summary): Energy
4. Project Administration Manual
5. Contribution to the ADB Results Framework
6. Development Coordination
7. Financial Analysis
8. Economic Analysis
9. Country Economic Indicators
10. Summary Poverty Reduction and Social Strategy
11. Initial Environmental Examination
12. Resettlement Plan
13. Risk Assessment and Risk Management Plan

Supplementary Documents

14. Technical Due Diligence Report
15. Financial Management Assessment Report
16. Procurement Capacity Assessment Report
17. Poverty and Socioeconomic Assessment Report