Report and Recommendation of the President to the Board of Directors

Project Number: 54269-001
September 2020

Proposed Programmatic Approach and Policy-Based Loan for Subprogram 1
Republic of Uzbekistan: Power Sector Reform Program

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Asian Development Bank
CURRENCY EQUIVALENTS
(as of 17 August 2020)

Currency unit – sum (SUM)
SUM1.00 = $0.0000977316
$1.00 = SUM10,232.11

ABBREVIATIONS

ADB – Asian Development Bank
AFD – Agence Française de Développement
BCE – Bureau of Compulsory Enforcement
COM – Cabinet of Ministers
COVID-19 – coronavirus disease
EBRD – European Bank for Reconstruction and Development
GDP – gross domestic product
GHG – greenhouse gas
IFRS – International Financial Reporting Standards
IMF – International Monetary Fund
IPP – independent power producer
JSC – joint-stock company
MOE – Ministry of Energy
MOF – Ministry of Finance
MW – megawatt
NEGU – National Electric Grid of Uzbekistan
PBL – policy-based loan
PPP – public–private partnership
REN – Regional Electric Power Networks
SOE – state-owned enterprise
TA – technical assistance
TPP – thermal power plant

NOTES

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

(ii) In this report, “$” refers to United States dollars unless otherwise stated.
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<sup>a</sup> Outposted to the Uzbekistan Resident Mission.

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**PROGRAM AT A GLANCE**

1. **Basic Data**
   - **Project Name**: Power Sector Reform Program (Subprogram 1)
   - **Country**: Uzbekistan
   - **Borrower**: Republic of Uzbekistan
   - **Country Economic Indicators**: [Link](https://www.adb.org/Documents/LinkedDocs/?id=54269-001-CEI)
   - **Portfolio at a Glance**: [Link](https://www.adb.org/Documents/LinkedDocs/?id=54269-001-PortAtaGlance)

2. **Sector**
   - **Subsector(s)**: Energy
     - **Energy**: Energy sector development and institutional reform
     - **ADB Financing ($ million)**: 200.00

3. **Operational Priorities**
   - Accelerating progress in gender equality
   - Tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability
   - Strengthening governance and institutional capacity

4. **Risk Categorization**: Complex

5. **Safeguard Categorization**
   - **Environment**: C
   - **Involuntary Resettlement**: C
   - **Indigenous Peoples**: C

6. **Financing**

<table>
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<td>Cofinancing</td>
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<tr>
<td><strong>Cofinancing</strong></td>
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<tr>
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<td>0.00</td>
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<tr>
<td><strong>Total</strong></td>
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**Currency of ADB Financing**: US Dollar
I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on (i) a proposed programmatic approach for the Power Sector Reform Program, and (ii) a proposed policy-based loan (PBL) to the Republic of Uzbekistan for subprogram 1 of the Power Sector Reform Program.

2. The proposed program will provide critical budget support and targeted policy actions aimed at restructuring the power sector to enable competition and creating a conducive environment for private investment. These measures will improve the sector’s financial sustainability and ensure adequate investment in critical infrastructure, which will help reboot economic growth and bring new employment opportunities when recovering from the pandemic crisis. Placing the clean energy transition at the center of reforms, the program will accelerate modern, reliable, and clean energy infrastructure to put greenhouse gas (GHG) emissions into structural decline. The program will support the government’s ultimate objectives of improving quality of life and creating jobs by developing a robust private sector, fully aligned with the country partnership strategy for Uzbekistan, 2019–2023 of the Asian Development Bank (ADB).1

II. PROGRAM AND RATIONALE

A. Background and Development Constraints

3. Macroeconomic context. Benefiting from high commodity prices, Uzbekistan experienced robust economic growth averaging more than 7% in the first part of the 2010s. However, since 2015, unfavorable external environment conditions, such as declining commodity prices and subdued growth of trading partner countries, slowed economic growth from 6.1% in 2016 to 4.5% in 2017. In response, in 2017, the country initiated comprehensive economic reforms to stimulate demand, foster foreign investment, and develop the private sector. Uzbekistan has made good progress on economic reforms while entrenching macroeconomic stability. Major structural reforms to date include implementing foreign exchange and tax reforms, improving macro fiscal management, and restructuring state-owned enterprises (SOEs). The government remains committed to structural reforms to sustain the economic development.

4. As a result, Uzbekistan maintained sound macroeconomic management leading up to the coronavirus disease (COVID-19) pandemic, achieving gross domestic product (GDP) growth of 5.4% in 2018 and 5.6% in 2019. The government has pursued a prudent debt policy, with low public and external debt, and large foreign exchange reserves. In 2019, public debt was sustainable, at 29.2% of GDP; and external debt was 43.5% of GDP, with strong foreign exchange reserves equivalent to 14 months of imports. The national poverty rate declined from 12.8% in 2015 to 11.4% in 2018. The fiscal deficit widened from 1.9% of GDP in 2017 to 3.9% of GDP in 2019 because of social spending to mitigate the impact of structural reforms. A currency devaluation of 48% in 2017, price liberalization, and bank credit growth increased inflation from 8.8% in 2016 to 17.5% in 2018. Under the inflation-targeting regime, inflation is expected to decrease from 14.5% in 2019 to 12.9% in 2020, with target inflation less than 10% by 2021 and 5% by 2023.

5. COVID-19 and the economic shock it has triggered are dramatically changing the short-term economic outlook. Wide-ranging social distancing and containment measures have negatively affected the economy, with GDP growth dropping to 1.5% in 2020, while lower exports and remittances widened the fiscal deficit. The fiscal deficit is projected to increase to 5.6% of

GDP in 2020 against an earlier estimate of 2.7%. Support from multilateral institutions with concessional loans will help cover fiscal needs and mitigate the impact on foreign exchange reserves. A temporary increase in the fiscal deficit to accommodate emergency spending on health care and social support is appropriate. The macroeconomic policies are expected to maintain Uzbekistan’s fiscal and external sustainability. The International Monetary Fund (IMF) Assessment Letter corroborates this.\(^2\) The direction of macroeconomic policies is well aligned with ADB’s requirements for the PBL.

6. **Sector context.** Reliable and affordable electricity supply is fundamental for driving economic growth and socioeconomic development. Joint-Stock Company (JSC) Uzbekenergo, as a state-owned power utility, was tasked with providing electricity for Uzbekistan with a legally endowed monopoly and a vertically integrated supply chain covering generation, transmission, and distribution. Without a designated oversight body for the sector, Uzbekenergo undertook the combined functions of planning, investment, day-to-day system operations, and regulation. This integrated monopoly structure faced the challenge of meeting fast-growing power demand against a backdrop of inadequate investment in the power sector, which has resulted in unreliable service and slow increases in generation capacity. In March 2019, to address this challenge, the government embarked on comprehensive reforms—starting from the creation of the Ministry of Energy (MOE) as the lead agency for the sector, and unbundling Uzbekenergo to facilitate competition and unlock private investment. This reform is a complex process and should be guided by a multistep implementation plan, supported by legislation reforms, while working to change the policies designed to address specific development constraints.

7. **COVID-19 impact on sector.** COVID-19 has visibly affected Uzbekistan’s power sector. Electricity consumption declined 2.1% from the previous year in April 2020 and 5.7% in May 2020. In addition, the government decided to withhold the scheduled tariff increase in April 2020 and not to disconnect consumers for reasons of nonpayment during the pandemic. These measures, combined with the decline in electricity consumption, led to an immediate drop in sector revenue. In June 2020, the government urgently provided liquidity support of SUM750 billion ($73.3 million) for the power sector from its Anti-Crisis Fund to mitigate the impact. While this support helped relieve the financial straits temporarily, the sector is expected to face pressure to maintain financial liquidity because of the decreased revenue and cash flow. The sector reforms have reached a critical juncture, where more financing and targeted policy support are needed to maintain the momentum.

8. **Poor financial sustainability.** Uzbekistan’s power sector has grappled to fund new investments because of its poor financial performance. Uzbekenergo’s financial situation was weakened by significant technical losses, ad hoc tariff adjustments and unstructured pricing policy, and poor collection rates. This was compounded by the adverse impact of the currency devaluation in 2017 on its foreign currency debt exposure. Uzbekenergo recorded losses of $840 million in 2017, which the government absorbed. While the government has continuously rationalized the electricity tariff, with an average adjustment rate of 5.9% during 2007–2018, the average electricity tariff remained at 70% of the cost recovery level in 2018 and 81% in 2019. Without adequate tariff adjustments, combined with measures to reduce technical losses and improve collection rates, the fiscal gap in the sector is estimated at $270 million in 2020 and would reach $1.05 billion by 2023 (pre-COVID-19 estimate). The lack of creditworthiness limits financing options for the sector, making it completely reliant on limited sovereign financing for major investments. This, in turn, exacerbates underinvestment in the sector, reinforcing a vicious cycle.

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\(^2\) The IMF confirmed the sound macroeconomic management and fiscal and debt position of Uzbekistan in the International Monetary Fund Assessment Letter (accessible from the list of linked documents in Appendix 2).
9. **Lack of medium-term tariff policy.** With ADB assistance, in April 2019, the government adopted a new tariff methodology that establishes pricing principles—aimed at full cost recovery and adjustment of costs incurred through foreign exchange and other costs beyond the control of the sector companies. Based on this, the government needs to announce a medium-term tariff increase program to remove uncertainties and allow consumers to plan for a reduction in consumption. In addition, the authority to determine tariffs held by the Ministry of Finance (MOF) should be transferred to an independent regulatory agency, combining technical and economic regulatory responsibilities over the sector, and insulated from political interference. Potential tariff increases should be coupled with (i) tariff structure improvements to promote the efficient use of electricity, and (ii) social assistance mechanisms to mitigate the impact on vulnerable groups.

10. **Inadequate revenue collection.** The metering and billing systems are inadequate, outdated, and susceptible to tampering and potential manipulation of charges by consumers and tariff collection officers. The revenue collection rate was less than 80% in 2014. The government took a dual approach of (i) introducing modern smart-metering infrastructure, and (ii) enforcing payment discipline through the Bureau of Compulsory Enforcement (BCE) since 2017. These combined efforts improved the collection rate to 95% in 2019. However, the BCE charges a 5% fee for the collected revenue by BCE, which flows out of the sector and worsens the sector’s financial health. In 2019, the revenue loss by BCE charges totaled about $90 million. Nationwide smart-metering infrastructure will address unnecessary cash outflows from the sector while ensuring the utilities meter, bill, and collect the revenue. This is high on the priority reform agenda.

11. **Unreliable electricity service.** Uzbekistan is fully electrified, but the quality of the electricity service is poor and unreliable because of transmission bottlenecks, aging power generation and distribution assets. In addition, power outages and the quality of service are not appropriately monitored, and the sector lacks incentive and/or penalty mechanisms to maintain high-quality service and protect consumer rights. Unreliable power supply has negatively affected people’s livelihoods and businesses’ profitability. More than 32% of firms in Uzbekistan identify the lack of reliable electricity as a major constraint to doing business and a cause of losses, as outages total 3.0% of enterprises’ annual sales, which is worse than the average for Eastern Europe and Central Asia. Small enterprises suffer more because of the lack of expensive diesel back-up generators. This issue is more pronounced in rural and remote areas during winter when electricity demand surges and blackouts are common, lasting 2–6 hours a day. Women, as the primary users of electricity in households, are disproportionately affected by the unstable and low quality of electricity supply. Reliable power supply could enable women to operate small enterprises and participate in income-generating and community activities.

12. **Lack of integrated planning.** Some 56,500 gigawatt-hours or 88.8% of the electricity generated in 2019 was from burning fossil fuels, while the rest was from hydropower. The country’s reliance on natural gas for electricity generation has increased from its share of 82% in 2010. The energy sector is the predominant source of GHG emissions in Uzbekistan. Power sector projects have been identified and implemented in an ad hoc manner—lacking coordination with gas subsector planning, as no single oversight body integrated the power and gas segments. The absence of an integrated energy sector plan often leads to inefficient use of natural gas and underinvestment in critical energy infrastructure. At current natural gas production levels, the existing proven gas reserves would last for only 20 years, making it imperative to shift to a more sustainable energy system. Despite rich solar and wind resources across the country, Uzbekistan

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4 Women spend almost 63% of their time on housekeeping activities, such as cooking, cleaning, laundering, ironing, and repairing clothing, compared with 12% spent by men on such activities.
lacks a coordinated policy to incentivize increased solar and wind deployment. The country could also benefit from increasing electricity trade with hydro-rich neighboring countries.

13. **Prevalent energy inefficiencies.** Uzbekistan is the second most energy-intensive economy in Europe and Central Asia, as measured by energy intensity per unit of GDP. The average efficiency of thermal power plants is only 33%, well below the 53%–56% average efficiency of modern combined cycle gas turbines. A significant part of the distribution lines was built during the Soviet era from the 1950s to 1970s, and more than 80% of the distribution lines and about one-third of substation transformers are in urgent need of replacement. Losses in the transmission and distribution system in 2019 averaged 17.4%, which is threefold those in the Organisation for Economic Co-operation and Development countries. District heating is one of the most inefficient segments of the industry. The efficiency of heat generation equipment is 65%–70% (the international benchmark is more than 90%) and losses in the heat network reach 40%–50% in extreme cases (the international benchmark is less than 15%).

14. Inefficiencies emanate from the use of outdated equipment and technologies across the economy. Agriculture and irrigation, which account for 21% of electricity consumption in Uzbekistan, rely heavily on old pumping infrastructure—more than 65% of 5,000 pumping stations have exceeded their useful life. The metallurgy, cement, and chemicals industries still operate the most electricity-intensive technologies. The integration of improved energy efficiency in the sector’s policy direction will help mainstreaming energy efficiency measures, energy audits, energy-efficient buildings, and upgraded labeling appliances. Implementing policies to improve energy efficiency will be necessary to manage fast-growing electricity demand and meet the country’s commitments under the United Nations Framework Convention on Climate Change.

15. **Constrained private sector participation.** Given the sector’s heavy reliance on limited sovereign financing, unlocking private participation is inevitable to ensure adequate investment in infrastructure. The government expects electricity demand to double by 2030, and $26 billion is required to add 17 gigawatts of generation capacity to meet this. However, the unfavorable regulatory framework and nascent investment environment have discouraged private sector participation. The government enacted the Law on Public–Private Partnership (PPP) in 2019 to provide government support and protect investors with supplementary legislation. These regulatory frameworks and supporting programs need to be tested with model projects. Monopolistic regulations, such as prohibiting private generators from accessing the national grid and selling electricity, need to be deregulated. Utilities’ lack of experience of private projects, and potential political interference in dealing with state-owned off-takers, remain risks.

16. **Weak governance.** The MOF and multiple state committees and commissions shared the regulatory responsibility for the sector until 2019, and the role of each entity was not clearly defined. The Cabinet of Ministers (COM) made policy decisions (e.g., industry structure, regulation, and the corporate structure of operational entities) at the highest level because of the sector’s importance, while the MOF undertook administrative regulation of many operational or commercial decisions. The government’s policy formation and execution roles need to be reoriented and streamlined, with a dedicated independent regulatory unit for sector regulation. Despite attempts to corporatize Uzbekenergo, corporate governance has remained weak. The resulting lack of creditworthiness has limited financing options and made Uzbekenergo primarily reliant on sovereign financing for capital projects. Reliance on sovereign financing also led to

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6 The United Nations Development Programme estimates Uzbekistan to have the following renewable energy potential: biomass (800 megawatts [MW]), solar (593,000 MW), wind (1,600 MW), and small hydro (1,800 MW). United Nations Development Program. 2014. *Renewable Energy Snapshot: Uzbekistan*. New York.

heavy public sector influence in its governance structure, and Uzbekenergo-affiliated personnel hold board and management positions at various affiliates and subsidiaries of Uzbekenergo. Little information on Uzbekenergo’s performance has been disclosed to the public, key performance indicators were not monitored closely, and associated incentives and/or penalty mechanisms were absent.

17. **Previous reform efforts supported by ADB.** ADB sector reform support has focused on improving the internal management system and institutional strengthening of Uzbekenergo. Achievements include the adoption of the International Financial Reporting Standards (IFRS), the creation of the center for financial management, and asset revaluation. 8 Policy reform support became necessary to respond to the emerging needs for comprehensive and substantial sector reforms. 9 Since 2018, ADB support has shifted to the policy reform agenda, including a new tariff methodology, a sector master plan, transaction advisory support for PPP projects, and policy advisory on the power market design. In addition, ADB’s Economic Management Improvement Program, aimed at improving the governance and financial viability of SOEs, helped design and implement the sector reforms, benefiting from ADB’s strong presence in policy dialogue. 10

18. **Lessons.** The program draws on lessons from power sector reform initiatives across the globe. Strong government commitment and adequate support from all stakeholders, including key development partners, are critical prerequisites for a successful policy-based reform program. 11 In addition to the MOE, the MOF and the Ministry of Investment and Foreign Trade monitor and balance the reforms, while the progress of reforms is regularly reported to the President’s office and the COM. In the energy sector, the Ministry of Investment and Foreign Trade has been effectively leading monthly coordination meetings with ADB, the European Bank for Reconstruction and Development (EBRD), and the World Bank. This will provide a strong monitoring and evaluation platform for effective continuation of the reform initiatives. Technical assistance (TA) support and policy advice, coordinated across development partners and provided in parallel with budget support programs, can help push the reform agenda and build capacity. 12 The program will be supported by ongoing TA and new TA to be provided by Agence Française de Développement (AFD) including the tariff affordability study. 13

**B. Policy Reform and ADB’s Value Addition**

19. The government has a strong reform agenda in the power sector, with the overarching reform objectives of restructuring the industry to enable competition and creating a conducive environment for private investment in the sector. 14 In developing the reform program, the government undertook high-level policy dialogue, monthly development partners coordination meetings, and multiple diagnostic and analytical studies supported by key development partners, including a sector master plan and new tariff methodology (ADB), an impact study of tariff increases and a power market design study (World Bank), and a power sector decarbonization

8 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.
plan (EBRD). The program’s four pillars are (i) power sector restructured and regulation strengthened, (ii) sector financial sustainability improved, (iii) power sector carbon intensity reduced, and (iv) demand-side energy efficiency increased.

20. **Reform area 1: Power sector restructured and regulation strengthened.** Policy actions focus on strengthening the sector regulation and paving the way for competition. Subprogram 1 will ensure that the MOE provides overall oversight of the sector entities, harmonizes the sector investment program, and charts the reform direction. In April 2020, the MOE adopted a power sector development program, 2020–2030, setting a reform road map toward a wholesale market where electricity is traded between generators and resellers. As a result of the sector reform (para. 6), Uzbekenergo was vertically unbundled into three successor companies: (i) JSC Thermal Power Plants (TPP) for generation, (ii) JSC National Electric Grid of Uzbekistan (NEGU) for transmission, and (iii) JSC Regional Electric Power Networks (REN) for distribution. Horizontal unbundling was completed, with 10 JSC thermal generation plants under JSC TPP, and 14 JSC provincial distribution companies under JSC REN. Vertical unbundling will allow each unit to focus on its core mandate without the distraction of balancing its interest against other parts of the business, and facilitate greater transparency in financial management and accounting for costs. The horizontal unbundling will allow for the entry of new players and create an environment where companies compete to provide lower prices. To promote gender equality in the energy sector, the MOE adopted a sector policy for promoting gender equality, including gender-responsive human resources policies and women-friendly infrastructure in the workplace.

21. Shares of the unbundled companies were transferred to the Agency for Management of State Asset, a state property management unit responsible for performance monitoring and privatization of SOEs. The unbundled companies approved independent supervisory boards and new company charters in line with the corporate governance guidelines of the Organisation for Economic Co-operation and Development. ADB is leading the commercialization of distribution subsector, and assisted JSC REN to prepare opening balance and financial statements compliant with the IFRS and to adopt key performance indicators. The World Bank is supporting JSC NEGU and the EBRD is supporting JSC TPP. These measures will facilitate the improvement of the financial management system and corporate governance of unbundled companies.

22. In subprogram 2, the government plans to amend the Law on Electricity (2009) to approve a new power market structure, incorporate the sector unbundling, ensure commercial and corporate principles governing the sector, promote the attraction of private investment, and create the conditions for full deregulation of electricity industry. Subprogram 2 will focus on commercializing the sector SOEs and improving financial management, including adopting the IFRS and strengthening corporate governance. The gender policy will be cascaded down to the sector SOEs to mainstream gender equality in the sector.

23. **Reform area 2: Sector financial sustainability improved.** The objective of this reform is to improve the sector’s financial sustainability. The government transferred the responsibility for tariff determination from the MOF to the autonomous tariff commission under the COM to strengthen the independence and transparency of tariff determination (para. 9). To improve collection rates and payment discipline, the government approved a time-bound action plan to roll out the smart metering system throughout the country (para. 10). Based on the promising outcome of the smart metering projects, the government abolished bill collection by the BCE. The government has implemented a program of measures to attract independent power producers (IPPs) through (i) a credit enhancement mechanism to mitigate initial off-taker risks; (ii) establishing procedures for the public procurement of IPPs and standardizing bankable transaction structures, and (iii) nondiscriminatory access to the national grid. The transmission
company, NEGU, is the single buyer of electricity from generators and executes power purchase agreements with generators. Considering the nascent domestic capital market and weak creditworthiness of NEGU, the credit enhancement mechanism and government support program for IPPs will build private sector confidence in Uzbekistan’s power market. Gender equality provisions were extended to private sector projects, with a 5% women employment target in line with the sector gender policy, which will create job opportunities for women.

24. Subprogram 2 will establish an independent energy regulator for the sector, with the key functions of tariff determination, licensing, market regulation, and consumer protection. The regulator’s independence will preserve stability and continuity in rule setting and avoid political interference in business decisions and regulatory risks. Further analytical studies will be conducted through the AFD TA to reform the retail tariff mechanism to reduce cross-subsidies and protect the vulnerable in 2020–2021. Subprogram 2 will focus on implementing renewable energy IPPs to reach at the financial close of 1,000 megawatts (MW) solar and 500 MW wind projects. To allow NEGU to generate enough revenue to pay for the electricity it purchases, the government will develop further measures to improve NEGU’s financial viability and de-merge the transmission system operations and the single buyer function.

25. **Reform area 3: Power sector carbon intensity reduced.** The objective of this reform is to reduce GHG emissions in the electricity supply chain. To this end, the government adopted a broad program to transition to a green economy and decrease the carbon intensity of the economy by 10% of the 2010 level by 2030. Policy measures in subprogram 1 comprehensively covered power generation, transmission, and distribution. In power generation, the government approved a national policy to (i) develop solar and wind energy sources to cover more than 15% of electricity generation by 2030, (ii) retire old and inefficient 5.9-gigawatt thermal power plants, and (iii) increase regional trade with hydro-rich countries. In transmission and distribution, policy actions focused on reducing losses and expanding the grid system to accommodate the increasing renewable energy integration. Digitalization of transmission and distribution operations will improve the efficiency and service quality. In distribution, the government approved programs to green the distribution networks while improving service quality and reducing losses to 9%: small-scale distributed renewables and a distribution modernization and loss reduction program.

26. Subprogram 2 will adopt the revised Nationally Determined Contributions, with improved adaptation measures covering the power and gas industries and a climate-resilient hydropower development program for 2020–2030. It targets adopting a policy for enhancing climate change management for hydropower and increasing regional trade with hydro-rich neighboring countries. For distribution, ADB will assist the government to develop further regulatory frameworks and commercial incentives, such as renewable energy auctions, which will facilitate the penetration of distributed renewable energy for productive use.

27. **Reform area 4: Demand-side energy efficiency increased.** Energy efficiency and conservation are at the forefront of the government’s energy policy. The objective of this reform is to manage the fast-growing electricity demand and defer investment in the power system by reducing wasteful electricity consumption in the industry, residential segment, and public buildings. In subprogram 1, the government approved an energy efficiency road map, focusing on upgrading regulatory standards to international level, and setting energy-saving targets for energy-intensive enterprises in the oil and gas, metallurgy, chemical, textile, and manufacturing industries. The government also adopted a district heating efficiency improvement program for 2019–2022, focusing on Tashkent City, with a share of 70% of the country’s district heating services. An improved district heating system will help reduce the electricity consumption for space heating in the winter.
28. **Energy efficiency requires multisector engagement and broader coordination with different sectors of the economy, such as agriculture and industry, and with local government.** Subprogram 2 will focus on the amendment to the Law on the Rational Use of Energy (1997) and the introduction of an energy conservation data management system to trace energy consumption by sector. The adoption of a new energy-labeling system will be followed up on, as this requires broader consultation with other ministries, industries, and consumers.

29. **Choice of programmatic approach.** International experience indicates that the design of reforms can be sequenced as follows: (i) develop a policy that provides broad reform guidelines, (ii) enact legislation to implement the policy, (iii) develop a transparent regulatory framework, (iv) unbundle the integrated structure and establish a market, and (v) divest state ownership in generation and distribution.\(^{15}\) Consistent with international good practice, the reforms are sequenced over two subprograms. Subprogram 1 will focus on the formulation of the sector policy and guidelines, and changing institutional and human resources structures. Subprogram 2 will focus on the regulatory and legal framework, a functioning power market model, and implementation of the private investment projects. A programmatic approach is appropriate for chronologically sequencing the reforms in a multiyear framework and allowing time to yield results.

30. **ADB’s value addition.** ADB is uniquely positioned to advise the government on the power sector reform from its extensive experience in designing and implementing the power sector reforms and PBLs. ADB has helped the government identify key reform actions based on international power sector reform practices. The program builds on ADB’s strong presence in the sector and policy dialogue built under the Economic Management Improvement Program (footnote 10). The PBL, as the first of its kind in Uzbekistan’s energy sector, is critical to support complex reforms and deepen private investment at a time of high uncertainty and risks. Strong coordination with other development partners provided a unified reform package to the government. ADB will continue to provide support to implement complex reforms, with the help of ongoing TA (footnote 13) and programmed TA such as a distributed solar promotion program and a dedicated TA program for subprogram 2.

31. **Alignment with Strategy 2030.** The program is fully aligned with ADB’s Strategy 2030, particularly the operational priorities on (i) accelerating progress in gender equality; (ii) tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability; and (iii) strengthening governance and institutional capacity.\(^{16}\) The proportion of subprogram 1 attributable to climate mitigation and adaptation is estimated at $125 million, as the program supports policy and institutional actions for the clean energy transition.\(^{17}\)

32. **Development partner coordination.** The program benefited from the close donor coordination and harmonized TA support from ADB, the EBRD, and the World Bank (para. 18). The program was jointly developed with AFD, and AFD helped reorient the policy direction toward decarbonization and climate co-benefits. Following subprogram 1, AFD intends to cofinance subprogram 2. Under the broader programmatic and coordinated approach, the Japan International Cooperation Agency is processing a development policy lending of $200 million for 2020, targeting energy efficiency and capacity building, which complements the program. The World Bank is considering an energy sector development policy operation in 2021 to build on this program and expand the reforms to the hydrocarbon segment. ADB consulted with the IMF regarding this program (footnote 2), and ADB has maintained close coordination and consultation

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\(^{17}\) Climate Change Assessment (accessible from the list of linked documents in Appendix 2).
on macroeconomic monitoring and surveillance with the World Bank and the IMF. The government coordinated with the IMF, the World Bank, and ADB on the macroeconomic outlook and policy responses.

C. Impacts of the Reform

33. The program is aligned with the government’s overarching sector development objective: sustainable, inclusive, and market-led power sector development facilitated (footnote 14). The program will have the following effect of the reform: environment conducive to private investment and sector sustainability improved. The reform measures will improve the sector sustainability through four channels: (i) rationalization of tariffs to the cost recovery level; (ii) improved revenue collection rates; (iii) reduced losses in the transmission and distribution; and (iv) increased private investment, which will leave additional fiscal space for public investment in priority areas.

34. The potential economic gains from the program outputs are expected to lead to additional fiscal space estimated at $1.74 billion. These benefits accrue from estimated public budget savings from avoided equity investment in the power generation assets required by 2030 ($1.4 billion), and an additional $344 million of avoided revenue support for the sector from loss reduction. Additionally, scaled up renewable generation will help avoid the use of natural gas and reduce GHG emissions and the associated social costs of carbon dioxide emissions. The economic value of the saved natural gas is estimated at $1.3 billion, and net carbon dioxide reductions valued at the social cost of carbon are estimated at $383 million for the next 10 years.

D. Development Financing Needs and Budget Support

35. Compared with the pre-COVID-19 estimates for 2020, the government financing requirements (overall fiscal deficit) are expected to increase from $1.86 billion (2.7% of GDP) to $3.26 billion (5.3% of GDP). Of that amount, $1 billion will be used for the Anti-Crisis Fund. The government will increase its external borrowing from $1.7 billion to $2.6 billion in 2020, mainly from international financial institutions including ADB’s COVID-19 Active Response and Expenditure Support Program ($500 million), the proposed program ($200 million), budget support programs of the World Bank ($795 million), the IMF ($375 million), and other development partners’ loans (Table 1). The remainder will be borrowed through the domestic government bond market.

<table>
<thead>
<tr>
<th>Table 1: Financing Needs and Support for 2020</th>
<th>Before COVID-19</th>
<th>Adjusted for COVID-19</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>2020</td>
<td>2020</td>
<td></td>
</tr>
<tr>
<td>Gross financing requirement</td>
<td>1,855.5</td>
<td>3,258.2</td>
<td>75.6</td>
</tr>
<tr>
<td>Gross domestic financing</td>
<td>156.2</td>
<td>672.2</td>
<td>330.3</td>
</tr>
<tr>
<td>Gross foreign financing^</td>
<td>1,699.3</td>
<td>2,586.0</td>
<td>52.2</td>
</tr>
<tr>
<td>ADB’s COVID-19 response</td>
<td>600.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CARES Program</td>
<td>500.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVID-19 Emergency Response Project (EAL)^</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADB’s originally programmed and new PBLs</td>
<td>250.0</td>
<td>200.0</td>
<td></td>
</tr>
<tr>
<td>Financial Markets Development Program (subprogram 1)^</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


19 The design and monitoring framework is in Appendix 1.

20 Program Economic Assessment (accessible from the list of linked documents in Appendix 2).
<table>
<thead>
<tr>
<th>Item</th>
<th>Before COVID-19 2020</th>
<th>Adjusted for COVID-19 2020</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed Small Business Finance and Rural Financial Inclusion Program (subprogram 1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Sector Reform Program</td>
<td>150.0</td>
<td>200.0</td>
<td></td>
</tr>
<tr>
<td>World Bank&lt;sup&gt;d&lt;/sup&gt;</td>
<td>500.0</td>
<td>795.0</td>
<td></td>
</tr>
<tr>
<td>IMF&lt;sup&gt;e&lt;/sup&gt;</td>
<td>0.0</td>
<td>375.0</td>
<td></td>
</tr>
<tr>
<td>Other (Eurobond,&lt;sup&gt;f&lt;/sup&gt; AFD,&lt;sup&gt;g&lt;/sup&gt; AIIB,&lt;sup&gt;g&lt;/sup&gt; EIB,&lt;sup&gt;g&lt;/sup&gt; JICA&lt;sup&gt;g&lt;/sup&gt;)</td>
<td>949.3</td>
<td>616.0</td>
<td></td>
</tr>
</tbody>
</table>


<sup>a</sup> The amount includes only policy-based lending operations and health sector project support.

<sup>b</sup> Health sector regular loan of $200 million is cofinanced by ADB ($100 million) and AIIB ($100 million).

<sup>c</sup> These PBLs will be moved to 2021 pipeline because of resource availability and project readiness.

<sup>d</sup> The World Bank is providing two DPOs of $200 million and $500 million and a $95 million health and social sector loan.

<sup>e</sup> The IMF loan is under the IMF’s Rapid Credit Facility and Rapid Financing Instrument.

<sup>f</sup> The 2020 foreign financing plan before COVID-19 included a proposed Eurobond issuance of up to $1 billion.

<sup>g</sup> AFD’s cofinancing for the program (€150 million); JICA’s cofinancing ($100 million) for the World Bank’s $500 million DPO and additional PBL ($200 million); and EIB’s health sector loan ($54 million) are under discussion.

Sources: International Monetary Fund and Asian Development Bank calculations.

36. The government has requested a regular loan of $200 million from ADB’s ordinary capital resources to help finance the program. The loan will have a 15-year term, including a grace period of 3 years; 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 agreement. Based on the straight-line method, the average maturity is 9.25 years, and there is no maturity premium payable to ADB. AFD will provide collaborative cofinancing for subprogram 1 through a loan of €150 million.

37. Debt sustainability analysis. ADB’s public debt sustainability analysis indicates sustainable public debt and a low risk of debt stress, even in the post-COVID-19 scenario. ADB’s analysis suggests that loans for COVID-19 and this program will increase the outstanding public debt by 13.7% (6.1% from ADB and 7.6% from the IMF and the World Bank). The public debt–GDP ratio (excluding public guarantees) is projected to increase from 23.3% in 2019 to 33.3% by 2021 and to decline steadily to 31.2% by 2024, which will remain below the threshold of 70% for low debt stress. Debt sustainability will not be impaired because the public debt remains low. Long-term and highly concessional loans total more than 70% of total debt and keep borrowing costs low. Uzbekistan’s foreign exchange reserves position is strong, with more than 50% held as gold. The external debt is projected to increase from 43.5% in 2019 to 47.6% in 2021, below the threshold of 55%.<sup>21</sup>

E. Implementation Arrangements

38. The MOF will be the executing agency of the program, responsible for overall program monitoring and reporting. The MOE will be the implementing agency. Ongoing TA will continue to provide support for the policy actions (footnote 13). The programmatic approach will be implemented from 1 July 2019 to 31 December 2022. Subprogram 1, implemented from 1 July 2019 to 31 July 2020, will be disbursed in a single tranche, and the loan closing date is 26 February 2021. Subprogram 2 will be implemented from 1 August 2020 to 31 December 2022.

<sup>21</sup> The MOF pursues its debt policy in line with the IMF and World Bank recommended threshold of less than 70% for the public debt–GDP ratio and less than 55% for the external debt–GDP ratio.
The proceeds of the PBL will be withdrawn in accordance with ADB’s Loan Disbursement Handbook (2017, as amended from time to time).

### III. DUE DILIGENCE

39. **Governance.** The government is fully committed to improving the quality of governance and mitigating governance risks by strengthening the rule of law and anticorruption measures. The 2019 Public Expenditure and Financial Accountability assessment showed that the overall public financial management systems are good, with credible budget planning and execution. No major fiduciary risks and/or mismanagement of public resources have been identified. ADB has supported the implementation of the International Public Sector Accounting Standards based on a road map developed in 2019. To strengthen risk management and fraud prevention, the MOF adopted a risk-based internal audit manual in 2019; and several ministries and/or agencies have strengthened their internal audit units. The Law on Public Procurement, adopted in 2018, is being improved in line with international good practice. ADB has been supporting corporate governance improvements based on a road map approved in 2019 and the implementation of the IFRS for the unbundled companies. ADB’s Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government.

40. **Poverty and social considerations.** Although Uzbekistan has a 100% electrification ratio, power supply is unreliable and interruptions are frequent. The program will improve the quality of electricity services and lower losses. Encouraging private sector investment in the energy sector will increase job opportunities directly and indirectly. Sufficient and stable electricity will expand livelihood options and businesses, boost local economic development, and reduce poverty and inequity. As the average household spending is mainly on food products (47.3%) and utility services (20.4%), the utility service price increase would have an impact on households. The poverty rate would rise by almost 2% point if the gas and electricity tariff is increased by 20%. The program will assess the affordability of the potential tariff increase and develop social protection measures, such as targeted subsidies and/or a tariff structure to limit the impact on the vulnerable groups in consideration of the government’s pilot program for the block tariff. The adoption of social protection measures will be carefully assessed before subprogram 2.

41. **Gender.** The program is categorized some gender elements. It has two key policy actions with strong gender impacts: the MOE has adopted (i) a sector gender policy to promote gender equality in the power sector and (ii) gender equality targets for PPP projects. The MOE’s gender policy features (i) a gender assessment for the sector utilities to set baseline for monitoring; (ii) anti-sexual harassment, non-discrimination, and equal opportunity policies for the sector; (iii) the introduction of a gender management system; (iv) the provision of professional, technical, and vocational training for women; and (v) a 5% women employment target for the power sector PPP projects. These measures will lead to gender-sensitive decisions and empower women through new opportunities in the sector.

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24 Parliament’s approval of the Budget Law, 2020—setting the fiscal parameters, including public debt and extra budgetary funds—strengthened the credibility and transparency of the fiscal and fiduciary arrangements. Fiscal risk management, including contingent liabilities, is strengthened under the PFM Reform Strategy, 2018–2028.

25 The government pilot tested a block tariff in the Yunusabad district of Tashkent City in 2019–2020 to assess the impact of the block tariff. However, the pilot test is suspended due to COVID-19 impact.
42. **Safeguards.** Following ADB’s Safeguard Policy Statement (2009), the program is classified *category C* for the environment, involuntary resettlement, and indigenous peoples. Program activities will be confined to policy and institutional reforms. The prior policy actions have been assessed and are not expected to result in or lead to involuntary resettlement or negatively affect indigenous peoples or the environment.

43. **Risk mitigating measures.** Major risks and mitigating measures are summarized in Table 2 and described in detail in the risk assessment and risk management plan.²⁶

<table>
<thead>
<tr>
<th>Risks</th>
<th>Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prolonged coronavirus disease (COVID-19) pandemic and global economic slowdown impede private sector interest in the power sector.</td>
<td>The government continues the international procurement of multiple power sector public–private partnership projects without significant delays. Continued support by the Asian Development Bank (ADB) and development partners with a strong reputation and creditworthiness will help retain the interest of private investors.</td>
</tr>
<tr>
<td>Unanticipated resistance by stakeholders impedes the implementation.</td>
<td>The program is based on the government’s policy and reform initiatives, and is backed by strong political will and commitment. Key development partners strongly support the program, and technical assistance (TA) has been provided to the government by development partners.</td>
</tr>
<tr>
<td>Adverse public opinion on the use of more expensive energy-efficient technology and opposition from industry.</td>
<td>Broad public consultations with relevant stakeholders, including consumers and manufacturers, will continue. The incentive mechanism to offset the cost increase and effects of energy savings will be promoted through public awareness campaigns.</td>
</tr>
<tr>
<td>Weak capacity of Ministry of Energy and financial management of sector state-owned enterprises delay reform implementation.</td>
<td>ADB and development partners will undertake continuous engagement with the government through regular consultations and monitoring to assess capacity development requirements. Support will be provided under the TA.</td>
</tr>
</tbody>
</table>


### IV. ASSURANCES

44. The government has assured ADB that implementation of the program 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 loan agreement.

### V. RECOMMENDATION

45. I am satisfied that the proposed programmatic approach and policy-based loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve (i) the programmatic approach for the Power Sector Reform Program, and (ii) the loan of $200,000,000 to the Republic of Uzbekistan for subprogram 1 of the Power Sector Reform Program, from ADB’s ordinary capital resources, in regular terms, with interest to be determined in accordance with ADB’s London interbank offered rate (LIBOR)-based lending facility; for a term of 15 years, including a grace period of 3 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan agreement presented to the Board.

Masatsugu Asakawa  
President

4 September 2020

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²⁶ Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).
## DESIGN AND MONITORING FRAMEWORK

### Country’s Overarching Development Objective

Sustainable, inclusive, and market-led power sector development facilitated

### Results Chain

<table>
<thead>
<tr>
<th>Effect of the Reform</th>
<th>Performance Indicators with Targets and Baselines</th>
<th>Data Sources and Reporting Mechanisms</th>
<th>Risks</th>
</tr>
</thead>
</table>
| Environment conducive to private investment and sector sustainability improved | To be accomplished by 2023:  
  
a. Share of private sector participation in power generation in capacity terms increased to at least 15% (2019 baseline: 0%)  
b. Ratio of operating revenue to operating cost of unbundled state-owned electricity utilities increased to 1 or higher (2019 baseline: 0.93 JSC REN, 1.03 JSC NEGU, not available for JSC TPP)  
c. Revenue collection rates improved to 99.0% (2019 baseline: 95.0%) | a. Annual report of MOE  
b.–c. Annual audited financial statements of REN, NEGU, and TPP | Prolonged COVID-19 pandemic impedes investment demand from the private sector |

### Reform Areas under Subprogram 1

1. Power sector restructured and regulation strengthened

| Key Policy Actions | To be accomplished by 2020:  
  
1.1 Long-term power sector development and reform program approved (2019 baseline: no integrated sector development policy)  
1.2 Uzbekenergo unbundled and the newly created companies (JSC TPP and 10 generation companies, JSC NEGU, and JSC REN) operationalized; and accounting, functional, and legal separation completed (2019 baseline: Uzbekenergo not unbundled)  
1.3 Policy for promoting gender equality in the energy sector, including gender-responsive human resources policies and women-friendly infrastructure in the workplace, adopted (2019 baseline: none) | 1.1. MOE’s power sector development program, 2020–2030  
1.2 Approval of power sector reform implementation plan; company registrations; opening IFRS financial statements for NEGU and REN  
1.3. MOE adopted sector gender policy | Unanticipated resistance by stakeholders slow implementation |
<table>
<thead>
<tr>
<th>Results Chain</th>
<th>Performance Indicators with Targets and Baselines</th>
<th>Data Sources and Reporting Mechanisms</th>
<th>Risks</th>
</tr>
</thead>
</table>
| 2. Sector financial sustainability improved | 2.1 Autonomous tariff commission established as an interim independent regulator to set and enforce cost recovery tariffs across the electricity value chain (2019 baseline: no regulator)  
2.2 A single-buyer market structure and the new collection system adopted by (i) mandating NEGU to be the single buyer, and (ii) rolling out a time-bound countrywide advanced electricity metering system (2019 baseline: no single buyer market and related system)  
2.3 Policies to attract private investment implemented covering (i) a credit enhancement mechanism to mitigate off-taker risks, (ii) incentivizing renewable energy generation using a model public–private partnership structure, and (iii) a grid interconnection code for nondiscriminatory access to the national grid (2019 baseline: no private sector investments)  
2.4 Gender-inclusive provision introduced in procuring public–private partnership projects to promote gender equality, with a view to reaching a 5% target of total women employment (2019 baseline: no sector-specific gender policy) | 2.1. COM resolution  
2.2 Presidential decree for (i); presidential decree and COM resolution for (ii)  
2.3. Presidential decree for (i) and (ii); COM resolution on grid interconnection code for (iii)  
2.4. MOE adopted sector gender policy |  |
| 3. Power sector carbon intensity reduced | 3.1 National policy to strengthen NDC to reduce carbon intensity by 10% of the 2010 level by 2030 adopted (2019 baseline: no national strategy for NDC)  
3.2 In power generation, (i) long-term renewable energy integration target; (ii) time-bound decommissioning of old and inefficient gas-based power plants; and (iii) increase of hydropower imports from neighboring countries, adopted (2019 baseline: no integrated sector development plan)  
3.3 In transmission and distribution, (i) grid expansion and loss reduction plan study in support of renewables; (ii) digitalization and introduction of nationwide transmission SCADA system; (iii) action plan for distributed household or community-based renewable system; and (iv) distribution | 3.1. Presidential decree  
3.2 Sector development policy for (i); approved power sector reform implementation plan for (ii); tender documents for (iii)  
3.3. MOE letter confirming (i) and (ii); presidential decree for (iii); approved government |  |
### Results Chain

<table>
<thead>
<tr>
<th>Performance Indicators with Targets and Baselines</th>
<th>Data Sources and Reporting Mechanisms</th>
<th>Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>network modernization and loss reduction program, commenced (2019 baseline: No integrated sector development plan)</td>
<td>feasibility study for (iv)</td>
<td></td>
</tr>
<tr>
<td>4. Demand-side energy efficiency increased</td>
<td>4.1 Integrated national energy efficiency program approved covering (i) improving regulatory standards for energy efficiency, (ii) energy balance data management, and (iii) setting energy saving target by 2022 for high energy-intensive enterprises in the oil and gas, metallurgy, chemical, textile, and manufacturing industry. (2019 baseline: outdated energy efficiency program)</td>
<td>4.1. Presidential decree</td>
</tr>
<tr>
<td></td>
<td>4.2 Tashkent city district heating energy efficiency improvement program, 2019–2022 approved (2019 baseline: no integrated program)</td>
<td>4.2. Presidential decree</td>
</tr>
</tbody>
</table>

#### Budget Support

<table>
<thead>
<tr>
<th>Subprogram</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADB: Subprogram 1</td>
<td>$200.0 million (regular OCR loan)</td>
</tr>
<tr>
<td>AFD: Subprogram 1</td>
<td>$168.8 million (loan)</td>
</tr>
<tr>
<td><strong>Total for subprogram 2</strong></td>
<td><strong>$312.6 million</strong> (ADB $200.0 million and AFD $112.6 million)</td>
</tr>
</tbody>
</table>


LIST OF LINKED DOCUMENTS

http://www.adb.org/Documents/RRPs/?id=54269-001-3

1. Loan Agreement
2. Sector Assessment (Summary): Energy Sector (Power)
3. Contribution to the ADB Results Framework
4. Development Coordination
5. Country Economic Indicators
6. International Monetary Fund Assessment Letter\(^1\)
7. Summary Poverty Reduction and Social Strategy
8. Risk Assessment and Risk Management Plan
9. List of Ineligible Items
10. Program Economic Assessment

Supplementary Documents

11. Fiduciary Risks Assessment
12. Safeguards Assessment Policy Matrix
13. Gender Assessment
14. Climate Change Assessment

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\(^1\) The International Monetary Fund (IMF) confirmed on 25 July 2020 that the attached executive summary from its report for Uzbekistan’s request for a Rapid Credit Facility dated 18 May 2020 may serve as the IMF assessment letter.
DEVELOPMENT POLICY LETTER

Mr. Masatsugu Asakawa
President
Asian Development Bank (ADB)

DEVELOPMENT POLICY LETTER

Dear Mr. Asakawa,

On behalf of the Government of Republic of Uzbekistan (GOU), let me express our gratitude to the Asian Development Bank (ADB) for the strong and continued support to our country’s efforts to reform the economy to a sustainable, inclusive, and market-led one. Reliable and affordable electricity supply is fundamental for driving economic growth and socioeconomic development.

Uzbekistan’s power sector has been developed under the monopoly structure. While this structured served its purpose at the early stage of the sector development, the power sector increasingly confronts development problems including (i) weak financial performance of the sector; (ii) heavy reliance on the sovereign financing for investments; (iii) poor and unreliable energy service; (iv) high losses and prevailing inefficiencies; (v) heavy reliance on fossil fuels; and (vi) limited private sector participation. With policy dialogues and analytical studies supported the key development partners including ADB and AFD, we embarked on a significant and comprehensive power sector reform in 2019 aiming at demonopolizing the sector, reducing the state regulations, and promoting competition and private investment.

The objectives of the overall sector reform are set to restructure the power supply chain to enable competition and create conducive environment for private investment. The four reform pillars are: (i) power sector restructured and regulation strengthened; (ii) financial sustainability improved; (iii) power sector decarbonization; and (iv) increased demand side energy efficiency. Let me brief ADB on the decisive policy actions our government has taken and achieved to tackle the development constraints:
1. **Reform Area 1: Power Sector Restructured and Regulation Strengthened.** Policy actions focus on strengthening the sector’s regulatory framework and paving the way for competition in the sector through unbundling. We established and mandated the Ministry of Energy as an autonomous entity with responsibility for overseeing the sector entities, harmonizing the sector investment program, and charting the sector’s reform direction. The MOE adopted a power sector development program 2020–2030 in April 2020 encompassing the generation, transmission, and distribution investment masterplan, setting the long-term renewable energy targets, and detailed time-bound reform action plans. Unbundling of the monopoly state-owned utility, JSC Uzbekenergo, was initiated in July 2019 under the comprehensive reform action plans for 2019–2022. Unbundling is completed as of March 2020 with dissolution of Uzbekenergo. The shares of the unbundled companies were transferred to the State Asset Management Agency (SAMA) and supervised by this agency. Unbundled transmission and distribution companies approved an independent supervisory board and new company charter in line with corporate governance structure compliant OECD guidelines. Those companies approved opening balance and financial statements compliant IFRS. The unbundling of monopoly state-owned company will improve the operational efficiency and pave the way for the competition. MOE also adopted a sector gender equality policy, which will lead to gender sensitive decisions related to energy policies and empowering women through new opportunities in the sector.

2. **Reform Area 2: Financial Sustainability Improved.** The objective of this reform is to improve the financial sustainability and formulate conducive environment for the private investment. To ensure financial sustainability, the government adopted a new tariff methodology, and transferred the responsibility of tariff determination from the Ministry of Finance to the tariff council under the Cabinet of Ministers. We approved a time-bound action plan to roll out the advanced electricity metering system throughout the country and expect the full installation by 2022. Based on the promising results of the initial smart-metering projects, the Compulsory Enforcement Bureau is no longer responsible for collecting money on electricity bills from the people and businesses. With assistance of the development partners including ADB, the government has implemented a program of measures to attract the private investors in the power sector: (i) credit enhancement mechanism to mitigate the initial off-taker risks; (ii) established procedures for the public procurement of IPPs; (iii) standardized power purchase agreement with cost-recovery tariffs for IPPs; and (iv) non-discriminative access to the national grid. The transmission company, JSC National Electric Grid of Uzbekistan (NEGU), acts as the single buyer of electricity from generating companies and IPP.

3. **Reform Area 3: Power Sector Decarbonization.** The objective of this reform is to reduce greenhouse gas emissions in the supply chain of electricity. Under the broader program of measures to decrease carbon intensity of the economy by 10% of the 2010 level by 2030, policy actions comprehensively cover the power generation, transmission, and distribution subsector as the one of the main contributors of GHG emissions in the country. In the power generation, the government approved a national policy:
(i) to develop renewable energy sources to account for more than 25% of the total volume of electricity generation; (ii) to decommission old and inefficient thermal power plants; (iii) to increase the regional trade with hydro rich countries. Policy actions for the transmission subsector focus on reducing losses in the transmission system and expanding the grid system to accommodate the increasing renewable energy integration. Digitalization of grid system by introducing modern supervisory control and data acquisition (SCADA) will help improve the operational efficiency and service quality. In the distribution subsector, the government approved program of measures to green the distribution networks while improving service quality and reducing losses: (i) village solarization program targeting 150,000 households; (ii) distribution modernization and loss reduction program to invest critical infrastructure; and (iii) quality energy access enhancement policy to provide better services in remote rural areas.

4. **Reform Area 4: Increased demand side energy efficiency.** Energy efficiency and conservation has been at the forefront of the government energy policy. The government is in the process of amending the Law on Rational Use of Energy to incorporate the institutional changes and technology development. The objective of this reform is to manage the fast-growing electricity consumption through: (i) measures on reducing electricity demand for domestic, residential, and industrial consumption; (ii) upgrading the national energy leveling system for appliances; (iii) measures to promote energy efficiency standard for buildings; (iv) deployment of energy efficiency measures for the urban heat networks. Measures to improve the energy efficiency of the district heating system in Tashkent City are under implementation including the installation of unified billing and meters and energy audit on the heat supply system. With ADB’s support, the government is exploring PPP modality in the district heating sector.

Let me assure that we remain committed to the implementation of the power sector reforms. We also confirm that the policy actions proposed under this program are reflective and fully in line with the reform agenda of the government. On behalf of the Government of Uzbekistan, we would like to thank ADB for working closely with the government in developing this program and would like to reiterate our full support for it. We hope to continue our cooperation with ADB to initiate other reforms to provide a favorable legal and institutional infrastructure for improved energy market development, leading to higher growth and regional power trade.

Yours sincerely,

Timur Ishmetov

Minister of Finance
of the Republic of Uzbekistan
### POLICY MATRIX

<table>
<thead>
<tr>
<th>Reform area 1: Power sector restructured and regulation strengthened</th>
<th>Reform area 2: Sector financial sustainability improved</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Subprogram:</strong> 1 July 2019–31 July 2020</td>
<td><strong>Second Subprogram:</strong> August 2020–December 2022</td>
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<td>1. The government of Uzbekistan (the government) adopted the power sector development program for 2020–2030 developed by the Ministry of Energy as the new sector regulatory and policy-making entity which contains (i) long-term investment program to decarbonize the sector; (ii) diversification of energy resources; and (iii) time-bound plan for deregulation and competitive power market. ([Document required: MOE order on Concept Note for Ensuring Electricity Supply in Uzbekistan in 2020–2030]).</td>
<td>1. The government will adopt the Amendment to Electricity Law to establish rules regarding the sector restructuring, ensure a transparent and non-discriminatory functioning of the sector and sector entities, create the conditions for a full deregulation of the power market, and promote the attraction of the private investments and renewable energy. ([Document required: Electricity Law Amendment]).</td>
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<td>2. The government (i) approved a power sector reform implementation plan for 2019–2022, (ii) unbundled Uzbekenergo; and operationalized the newly created JSC TPP and 10 generation companies, JSC NEGU, and JSC REN with accounting, functional and legal separation completed, and (iii) JSC TPP, JSC NEGU, and JSC REN approved KPIs to establish separate operational targets for the unbundled entities. ([Document required: (i) the approved minutes of the Cabinet of Minister’s Power Sector Reform Commission, (ii) company registrations, and (iii) opening IFRS financial statements of JSC NEGU and JSC REN for FY2019]).</td>
<td>2. The newly created 10 JSC thermal power plants, and 14 JSC distribution subsidiary companies will generate IFRS based audited financial statements starting from FY2020 for full consolidation with JSC TPP and JSC REN respectively; and MOE will conduct a public sector expenditure tracking survey to identify PFM weakness and service delivery weakness for energy companies. ([Document required: (i) audited IFRS financial statements 10 thermal power plants fully consolidated into JSC TPP, and 14 distribution subsidiaries fully consolidated into JSC REN and (ii) evidence that a public sector expenditure tracking survey for JSC REN was conducted]).</td>
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<td>3. To promote gender equality in the power sector, MOE adopted a policy for promoting gender equality, including gender responsive HR policies and women-friendly infrastructure at workplace ([Document Required: MOE order on adoption of the sector gender policy]).</td>
<td>3. JSC TPP, JSC NEGU, and JSC REN will adopt a gender equality policy and gender action plan in line with the energy sector gender policy. ([Document required: Approved gender HR policy and gender action plan of JSC TPP, JSC NEGU, JSC REN]).</td>
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<td>4. The government established and operationalized an autonomous tariff commission under the Cabinet of Ministers to set and enforce cost recovery tariffs. ([Document Required: (i) Resolution of Cabinet of Ministers on establishment of tariff commission and (ii) announced tariff adjustment for 2019]).</td>
<td>4. The government will (i) establish an independent energy regulator governing the sector with key functions of tariff determination, licensing, and market regulation and draft necessary legislations, and (ii) adopt a new tariff scheme and social protection measures for the vulnerable. ([Document required: (i) Order of the President of Uzbekistan on the establishment of independent energy regulator and any other relevant documents setting out the regulator’s powers, functions, operations, governance, finances, staffing, and copies of approved legislation and implementing regulations on the establishment of the energy regulator and (ii) new tariff scheme for retail consumer)).</td>
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<td>5. The government implemented a single-buyer market structure for power sector mandating JSC NEGU to be the single buyer and an action plan to roll out country-wide advance electricity metering system.</td>
<td>5. The government will de-couple the function of the single buyer from JSC NEGU and transfer it to a newly established guaranteed buyer and fully roll out country-wide advanced electricity metering system.</td>
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First Subprogram: 1 July 2019–31 July 2020

(Document required: (i) approved government policy adopting a single-buyer market structure and signed power-purchase agreement; and (ii) Order of the President of Uzbekistan on Advanced Metering – PP# 5761/ COM resolution 260).

6. The government has approved the use of the following structures for selected energy projects in order to encourage private investments: (i) credit enhancement mechanism to mitigate off-taker risks as interim measure to build market confidence; (ii) seeking private investments in renewable generation using model PPP structure; and (iii) has approved a grid interconnection code for non-discriminative access to the grid. (Document required: (i) Government Decree mandating the use of partial credit guarantee for the Navoi solar, (ii) approved concept note for ensuring electricity supply in Uzbekistan 2020–2030 to attract private investments in the renewables; (ii) issued EOI for PPP structure and Presidential Decree on approved PPP project (Sherabad/Navoi Solar); and (iii) approved grid interconnection code).

7. MOE approved a gender sector policy for the power sector PPP projects to promote gender equality with a view to reaching a 5% target of total female employment. (Document required: (i) approved gender provisions for Sherabad PPP solar project).

Reform area 3: Power sector carbon intensity reduced

8. The government adopted an implementation plan to strengthen NDC ambition to reduce carbon intensity of the economy by 10% of the 2010 level by 2030 by cascading the objective to the power sector and adding climate adaptation dimension to energy strategy. (Document required: Order of President of Uzbekistan on approval of the strategy and implementation plan of the Republic of Uzbekistan on transition to a green economy, PD4477).

9. The government approved a policy to reduce carbon intensity of electricity generation covering the following: (i) national renewable energy target to add 5GW solar and 3GW wind by 2030 (renewable shares: 15% of total generation); (ii) retirement of old and inefficient fossil-fuel power plants of 5.9GW by 2030; (iii) increase hydro power imports from neighboring countries during summer months. (Document required: (i) and (ii) MOE order on Reducing Carbon Intensity of Electricity Generation, and (iii) issued tender document for reinstatement of 500kV Uzbekistan and Tajikistan interconnection).

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(Document required: (i) Order of the President of Uzbekistan on the transfer of the single buyer function from JSC NEGU to a guaranteed buyer and (ii) evidence of installation completion of 7 million meters).

6. The government will (i) achieve financial close of the power sector PPP projects comprising 1,000MW solar, 500MW wind, and (ii) adopt a market model for the distribution sector and PPP; and (iii) adopt a grid code. (Document required: (i) signed financing agreements and (ii) approved market model for distribution and distribution PPP; and (iii) approved grid code).

7. MOE will (i) adopt revised NDC for electricity and gas sector including adaptation; and (ii) adopt a climate resilient hydropower development program and climate change and environmental management policy for hydropower. (Document required: (i) MOE Order on approval of the sector NDC strategy and (ii) approved hydropower masterplan and climate change environmental management policy).

8. MOE will (i) adopt a policy to promote bioenergy resources to replace fossil fuel; (ii) adopt decommissioning guidelines and procedures incorporating lessons learned from the decommissioning of Takhiatash thermal power plant; (iii) sign a power purchase and sales agreement with Tajikistan government or Barqi Tojik. (Document required: (i) bioenergy development policy, (ii) approved detailed decommissioning guidelines and procedures, (iii) signed power purchase and sale agreement).
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<td>10. The government approved a program to reduce carbon intensity in the transmission and distribution subsector covering the following: (i) launch of grid expansion and loss reduction plan study in support of renewables; (ii) digitalization and introduction of nation-wide SCADA system; (iii) program for distributed household or small community-based renewable system closer to consumers; and (iv) distribution network modernization and loss reduction program. (Document required: (i) MOE confirmation letter for commencement of the study with TOR, (ii) MOE confirmation letter with tender announcement for study, (iii) Order of President of Uzbekistan on the renewable energy auction; (iv) approved government feasibility study for distribution modernization for pilot regions).</td>
<td>9. MOE will (i) implement a national grid expansion and loss reduction program for 2020–2030; (ii) commence procurement and installation of SCADA system; (iii) approve renewable energy auction and incentive mechanism for the distribution solar system; and (iv) approve a 5 year rolling out nation-wide distribution modernization program. (Document required: (i) grid expansion and loss reduction plan 2020–2030, (ii) tender documents for SCADA (iii) pilot program under ADB TA and completed renewable energy auction; (iv) approved 5 year distribution modernization and loss reduction program).</td>
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<td><strong>Reform area 4: Demand side energy efficiency increased</strong></td>
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<td>11. The government approved an energy efficiency roadmap to reduce the energy demand across the economy covering the following: (i) improving regulatory standards for energy efficiency, (ii) energy balance data management, (iii) energy savings targets by 2022 for high energy consuming enterprises. (Document required: Order of President of Uzbekistan on acceleration of measures to improve energy efficiency of economic sectors and social spheres PD#4422 and PD#4779).</td>
<td>10. The government will adopt the Amendment to the Law on the Rational Use of Energy designating MOE as the integrated policy-maker for energy efficiency, promoting the use of energy saving high technologies, introducing energy audit and monitoring mechanism for energy consumers. (Document required: Amendment to the Law on the Rational Use of Energy).</td>
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<td>12. To reduce power consumption for space heating in urban areas and to improve the efficiency of heat networks, the government approved an action plan for the improvement of energy efficiency in the heat supply system for Tashkent city, covering the following: (i) introduction of billing and advanced metering system for individual households; (ii) conducting energy audit on heat supply system; and (iii) exploring the suitability of the PPP modality. (Document required: Order of President of Uzbekistan on measures for further improvement of heat supply system of Tashkent city).</td>
<td>11. MOE will (i) introduce a data management system for energy conservation for the district heating sector to trace energy consumption, and (ii) approve a program on the development of district heating system post 2022. (Document required: (i) published statistics on energy conservation and (ii) approved district heating development program).</td>
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<td>12. The government will approve a revised energy labelling for appliances based on the new international standards and conducted public campaigns. (Document required: new energy labelling standard based on international standards, and evidence of public campaigns conducted).</td>
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a As articulated in the MOE order on adoption of the sector gender policy.

b As articulated in the Concept Note for Ensuring Electricity Supply in Uzbekistan in 2020–2030. Source: Asian Development Bank.