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Report No: PAD5378

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED GRANT

IN THE AMOUNT OF US\$46.25 MILLION

TO

THE REPUBLIC OF UZBEKISTAN

FOR THE

INNOVATIVE CARBON RESOURCE APPLICATION FOR ENERGY TRANSITION PROJECT

JUNE 26, 2023

Energy and Extractives Global Practice  
Europe and Central Asia Region

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## CURRENCY EQUIVALENTS

(Exchange Rate Effective May 30, 2023)

Currency Unit = Uzbekistan Sum (UZS)

UZS 11,420.20 = US\$1

## FISCAL YEAR

January 1 - December 31

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## ABBREVIATIONS AND ACRONYMS

AFD	Agence Française de Développement
ASR	Agency for Strategic Reforms
BAU	Business-as-Usual
CAs	Contribution Agreements
CATS	Carbon Asset Tracking System
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
COP	Conference of Parties
CPF	Country Partnership Framework
DFIL	Disbursement and Financial Information Letter
DPO	Development Policy Operation
EBRD	European Bank for Reconstruction and Development
ER	Emission Reduction
ERCs	Emission Reduction Credits
ERPA	Emission Reductions Payment Agreement
ESCP	Environmental and Social Commitment Plan
ESMAP	Energy Sector Management Assistance Program
ESS	Environmental and Social Standards
FGRM	Feedback and Grievance Redress Mechanism
FM	Financial Management
GCRF	Global Crisis Response Framework
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GoU	Government of Uzbekistan
GRID	Green, Resilient, and Inclusive Development
GRS	Grievance Redress Service
GW	Gigawatt
HCA	Host Country Agreement
IBT	Increasing Block Tariff
iCRAFT	Innovative Carbon Resource Application For Energy Transition
IEA	International Energy Agency
IPF	Investment Project Financing
ITMOs	Internationally Transferred Mitigation Outcomes
JSC	Joint Stock Company
kWh	Kilowatt hour
L2CU	Listening to Citizens of Uzbekistan Program
M&E	Monitoring and Evaluation
MIIT	Ministry of Investment, Industry and Trade
MOE	Ministry of Energy
MoEF	Ministry of Economy and Finance
MOPA	Mitigation Outcome Purchase Agreement
MRV	Monitoring, Reporting and Verification
MtCO <sub>2</sub> e	Metric Tons of Carbon Dioxide Equivalent
NDC	Nationally Determined Contribution
OMGE	Overall Mitigation of Global Emissions

PASA	Programmatic Advisory Services and Analytics
PE	Program Entity
PISP	Policy Implementation Support Plan
PIU	Project Implementation Unit
PPP	Purchasing Power Parity
RBCF	Results-Based Climate Finance
RE	Renewable Energy
REMT	Roadmap for Electricity Market Transition in Uzbekistan
SCALE	Scaling Climate Action by Lowering Emissions
SEP	Stakeholder Engagement Plan
SOE	State Owned Enterprise
SOPA	Share of Proceeds for Adaptation
SP	Social Protection
SR	Single Registry
SSPS	Strengthening Social Protection Systems Project
TA	Technical Assistance
TCAF	Transformative Carbon Asset Facility
TFC	Total Final Consumption of Electricity
UHM	Agency for Hydrometeorological Service of the Republic of Uzbekistan (Uzhydromet)
UNFCCC	United Nations Framework Convention on Climate Change
US\$	United States Dollar
US¢	United States Cent
UZS	Uzbekistan Sum
VER	Verified Emission Reduction
WBG	World Bank Group

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DATASHEET

**BASIC INFORMATION**

Country(ies)	Project Name	
Uzbekistan	Innovative Carbon Resource Application For Energy Transition	
Project ID	Financing Instrument	Environmental and Social Risk Classification
P180432	Investment Project Financing	Moderate

**Financing & Implementation Modalities**

<input type="checkbox"/> Multiphase Programmatic Approach (MPA)	<input type="checkbox"/> Contingent Emergency Response Component (CERC)
<input type="checkbox"/> Series of Projects (SOP)	<input type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Performance-Based Conditions (PBCs)	<input type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input type="checkbox"/> Responding to Natural or Man-made Disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	<input type="checkbox"/> Hands-on Enhanced Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
27-Jun-2023	31-Dec-2028

Bank/IFC Collaboration

No

**Proposed Development Objective(s)**

The project development objective is to reduce carbon emissions through subsidy reforms and leveraging policy-based climate and carbon funds.



**Components**

Component Name	Cost (US\$, millions)
Component 1: Payments for measured, reported and verified emission reductions (ERs) – Climate Finance	20.00
Component 2: Payments for measured, reported, and verified Internationally Transferred Mitigation Outcomes (ITMOs) – Carbon Finance	26.25

**Organizations**

Borrower:	The Republic of Uzbekistan
Implementing Agency:	Agency for Strategic Reforms Ministry of Economy and Finance Ministry of Energy Ministry of Investment, Industry and Trade UzHydromet Agency under the Ministry of Ecology, Environmental Protection and Climate Change

**PROJECT FINANCING DATA (US\$, Millions)**

**SUMMARY**

<b>Total Project Cost</b>	106.25
<b>Total Financing</b>	100.00
<b>of which IBRD/IDA</b>	0.00
<b>Financing Gap</b>	6.25

**DETAILS**

**Non-World Bank Group Financing**

Trust Funds	46.25
Transformative Carbon Asset Facility Tranche A	46.25

**Expected Disbursements (in US\$, Millions)**

WB Fiscal Year	2023	2024	2025	2026	2027	2028



<b>Annual</b>	7.50	7.50	13.75	8.75	8.75	0.00
<b>Cumulative</b>	7.50	15.00	28.75	37.50	46.25	46.25

**INSTITUTIONAL DATA**

<b>Practice Area (Lead)</b>	<b>Contributing Practice Areas</b>
Energy & Extractives	Climate Change

**SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)**

Risk Category	Rating
1. Political and Governance	● Moderate
2. Macroeconomic	● Moderate
3. Sector Strategies and Policies	● Substantial
4. Technical Design of Project or Program	● Substantial
5. Institutional Capacity for Implementation and Sustainability	● Substantial
6. Fiduciary	● Moderate
7. Environment and Social	● Moderate
8. Stakeholders	● Substantial
9. Other	● Moderate
10. Overall	● Substantial

**COMPLIANCE**

**Policy**  
 Does the project depart from the CPF in content or in other significant respects?  
 Yes    No





Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

**Environmental and Social Standards Relevance Given its Context at the Time of Appraisal**

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Not Currently Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Not Currently Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Not Currently Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
Cultural Heritage	Not Currently Relevant
Financial Intermediaries	Not Currently Relevant

**NOTE:** For further information regarding the World Bank’s due diligence assessment of the Project’s potential environmental and social risks and impacts, please refer to the Project’s Appraisal Environmental and Social Review Summary (ESRS).

**Legal Covenants**

**Sections and Description**

Under the ERPA and MOPA, the Republic of Uzbekistan has to observe, implement and meet all requirements contained notably under the Environmental and Social Commitment Plan (ESCP), which includes various obligations, including but not limited to establishing and maintaining a Project Implementing Unit (PIU) under MoEF with qualified staff and resources to support the Project implementation, management of environmental, social and health risks, including through hiring a social specialist within six (6) months from the date of the execution of the ERPA and, where applicable, the MOPA.



**1. ERPA**

The obligations to Transfer and pay for Contract VERs under the ERPA will not take effect until certain Conditions to Transfer and Payment have been fulfilled, in form and substance satisfactory to the Trustee, and within twelve (12) months from the date of the execution of the ERPA, including the followings:

- a) Execution by the Host Country of a Host Country Agreement with the Trustee;
- b) Submission of a Letter of Approval, in form and substance satisfactory to the Trustee;
- c) Submission of an explanatory document, describing how the Program Entity intends to use the Annual Payment, in form and substance satisfactory to the Trustee.

**2. MOPA**

The obligations to sell, Transfer and purchase ITMO-VERs under the MOPA will not take effect until additional Conditions to Sale and Purchase have been fulfilled, in form and substance satisfactory to the Trustee, and within twelve (12) months from the date of the execution of the MOPA, including the followings:

- a) Execution by the Host Country of a Host Country Agreement between the Trustee and the Host Country;
- b) Issuance of a Letter of Authorization by the Host Country for the Transfer of ITMO-VERs, in form and substance satisfactory to the Trustee;
- c) Submission of evidence demonstrating the PE's ability to Transfer Title to ITMO-VERs, free of any interest, Encumbrance or claim of a Third Party, in form and substance satisfactory to the Trustee; and
- d) Submission of an explanatory document, describing how the Program Entity intends to use the Annual Payment, in form and substance satisfactory to the Trustee.

**Conditions**



## I. STRATEGIC CONTEXT

1. The Innovative Carbon Resource Application for Energy Transition Project (hereinafter – “iCRAFT”, “the Project”) is a landmark initiative that aims to support Uzbekistan’s clean energy transition and energy (electricity and natural gas) subsidy reforms<sup>1</sup>. The Project, designed as a policy credit program, essentially rewards energy tariff reform actions that leads to follow-up impacts with respect to reduction in energy consumption and greenhouse gas emissions thereby creating carbon emission reduction credits (ERCs). Uzbekistan’s reformist Government has embraced substantive measures on subsidy reforms, intertwining with social protection measures to cover the impacts of price hikes on most vulnerable consumers as well as awareness campaigns to highlight the need for cost recovery tariffs, harmful impacts of subsidies, as well as environmental consequences of excessive energy consumption. As a pilot effort, the proposed Project is designed to support the GoU’s objectives through financing the carbon ERCs in the form of policy-based climate and carbon finance. The Project will be the GoU’s first step towards accessing international carbon markets, thereby building the necessary institutional infrastructure, systems and human capacity to further roll out such initiatives with support from development partners and the private sector. The proposed Project will also be the first climate and carbon finance operation in Central Asia under the Paris Agreement, the first policy crediting program by the World Bank globally, and the first project to be supported by the World Bank’s Transformative Carbon Asset Facility (TCAF).

### A. Country Context

2. **Uzbekistan is a lower middle-income, mineral-rich, double-landlocked country that since 2017 has embarked on an ambitious economic modernization program to reinvigorate economic growth.** With more than 36 million people as of January 2023, it is the most populous of the Central Asian countries. It has maintained high and stable economic growth at 5.8 percent on average over the past decade. World Bank projections suggest that the national poverty rate fell from 22.8 percent in 2019 to 14.2 percent in 2022. The Government announced the Reform Roadmap for 2017–2021, a plan to radically open and transform Uzbekistan’s economy, society, and public institutions. This Reform Roadmap outlined the Government’s economic reform priorities, which are to: (a) maintain macroeconomic stability, (b) accelerate the market transition, (c) strengthen social protection and citizen services, (d) strengthen the Government’s role in a market economy, and (e) preserve environmental sustainability. The reform priorities within each pillar draw on lessons learned from the market transitions of other countries but are also firmly based on Uzbekistan’s unique context. Following the reelection of the President in late 2021, the Government announced a new Strategy for the Development of New Uzbekistan for 2022–2026, which aims to reduce the poverty rate by half by 2026 and enable the country to reach an upper-middle-income level by 2030.
3. **Despite global uncertainties and challenges, structural reforms and effective economic management thus far have helped maintain macroeconomic stability and an environment to further accelerate market transition through the next phase of structural reforms.** Reforms to liberalize trade, exchange rate, domestic prices and the tax system have supported Uzbekistan’s continued economic growth and the reduction of resource misallocations in the economy. As a result, notwithstanding the COVID-19 pandemic, Uzbekistan has maintained an economic growth of 2.0 percent in 2020 and a further growth rebound of 7.4 percent in 2021. Economic growth in 2022 moderated to 5.7 percent led by strong remittances, consumption, and exports. Growth is

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<sup>1</sup> Subsidy reform envisages gradual tariff reforms with the protection of the vulnerable segment of the population.



expected to moderate to 5.1 percent in 2023 and accelerate gradually in the medium term. Private investment and trade are expected to grow, and the current account deficit to widen, with remittances to Uzbekistan expected to moderate from their peak in 2022.

4. **The reform path in addition to navigating a difficult economic transition, must also successfully manage the growing need to tackle climate change for the country to achieve a sustainable development path.** Uzbekistan has demonstrated increased commitment to climate initiatives by presenting its intended Nationally Determined Contribution (NDC) on April 19, 2017, which became the country's first NDC upon ratifying the Paris Agreement. To stimulate 'green' economic growth in the country, rationalize the use of energy and natural resources, attract 'green' investments, and mitigate the negative impact of the environmental crisis, the Presidential Resolution dated October 5, 2019 approved the Strategy for Uzbekistan's transition to a 'green' economy in the period of 2019–2030. Furthermore, at the 26th session of the Conference of the Parties (COP26) of the United Nations Framework Convention on Climate Change (UNFCCC) in November 2021, Uzbekistan presented its updated NDC with a much higher target to reduce greenhouse gas (GHG) emissions per unit of Gross Domestic Product (GDP) by 35 percent by 2030 compared to the 2010 levels (against the previous target of 10 percent). Over the life of the Project, around 60 MtCO<sub>2e</sub> of emission reductions (ERs) are forecasted, assuming the proposed subsidy reforms are implemented, significantly contributing to Uzbekistan's NDC. Additionally, in May 2022, it joined the Global Methane Pledge initiative to achieve a collective goal of reducing methane emissions by at least 30 percent by 2030 compared to the 2020 level.
5. **A new set of reforms will present more complex institutional challenges and require a greater focus on converting high level policy agendas into tangible change for people, including in the face of climate change.** At present, Uzbekistan's economy is characterized by its reliance on natural resource use and minerals extraction, and its export basket mostly consists of primary sector products such as natural gas and metals (gold and copper), with these three commodities making up about half of the total merchandise exports. Yet these products offer limited scope for productivity growth and even more limited scope for job creation that is needed to reach higher income levels and poverty reduction. Some commodities, such as natural gas, are projected to be depleted in about 20 years. Massive natural gas and power outages during the severe winter in December 2022 and January 2023 were felt not only in the remote regions of the country, but also in the capital city of Tashkent, caused by gas resource shortages (4 percent year-on-year [yoy]) and increasing energy demand. A range of key reforms, including in the energy sector and state-owned enterprises (SOEs), will be essential to support economic growth in a low carbon way, providing a sustainable transition path going forward.

## B. Sectoral and Institutional Context

*Uzbekistan is one of the most energy- and emission-intensive countries in the world seeking to transition to a greener economy.*

6. **Uzbekistan remains one of the most energy-intensive economies in the world, as the energy sector is overwhelmingly dependent on natural gas, and significant space remains for energy efficiency improvement.** Energy use in Uzbekistan is high and largely based on fossil fuels, although the country has significant renewable energy (RE) potential in solar and wind. Natural gas makes up to 83 percent of total primary energy consumption and more than 80 percent of the electricity mix. There are significant opportunities to enhance energy efficiency primarily in large energy-intensive sectors, and the International Energy Agency (IEA) estimates that more efficient use of energy resources has the potential to reduce the country's required generation by around 10 percent by 2040. These characteristics have contributed to Uzbekistan's energy-intensive economy, where GDP



energy intensity is about 50 percent higher than that of neighboring Kazakhstan and around three times higher than that of Türkiye. While the country accounts for 0.3 percent of global emissions, its energy sector accounts for three-quarters of the country’s total GHG emissions. Natural gas is a major source of commodity exports but is getting depleted (at the current rate of production, the existing proven gas reserves would be depleted within the next around 20 years<sup>2</sup>). The system is therefore vulnerable, and the country is taking actions toward sustainable energy transition pathways and improved economic competitiveness.

Figure 1. Energy Intensity in Selected Countries, 2019 (TFC/GDP, Mtoe/US\$, millions PPP)

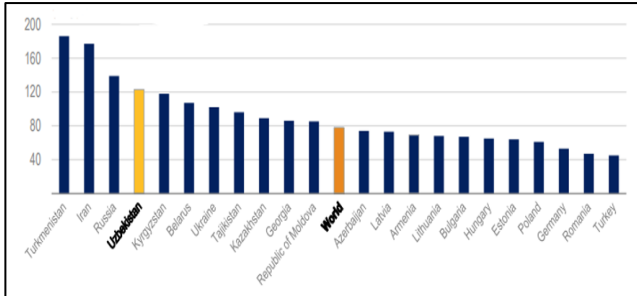
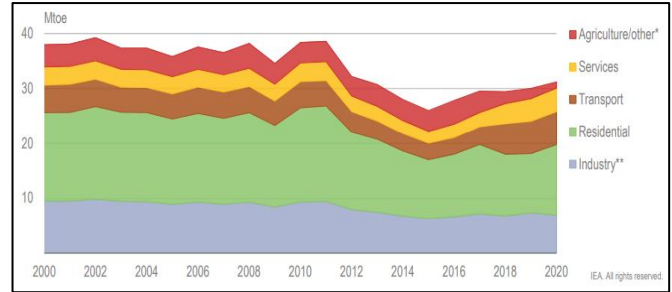


Figure 2. Final Energy Consumption by Sectors in Uzbekistan, 2019 (Mtoe)



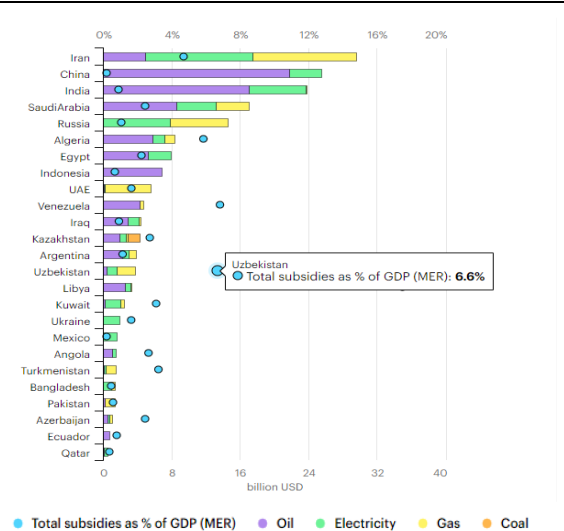
Source: IEA, Uzbekistan 2022 Energy Policy Review

Note: Mtoe = Million tons of oil equivalent; PPP = Purchasing power parity; Total Final Consumption of Electricity = Total final consumption of electricity.

**High energy-intensity of Uzbekistan’s economy is primarily driven by below cost-recovery tariffs and consequent energy subsidies, leading to wasteful use of energy resources.**

7. Uzbekistan is one of the top 25 countries in the world with the largest energy subsidies, which accounted for 6.6 percent of GDP in 2020 (Figure 3<sup>3</sup>). Electricity and natural gas prices are among the lowest in the world, with average electricity tariffs standing at around US\$4.5 per kWh, which is around 70 percent of its cost, placing the country among the top 10 countries with the cheapest prices out of 230 countries. Only Tajikistan, the Kyrgyz Republic<sup>4</sup> with hydro resources and some African countries offer lower tariffs. Similarly, natural gas tariffs are among the lowest in the world, with the average tariff of around US\$72 per m<sup>3</sup> which stands at about half of its prevailing cost and at around 40 percent of its opportunity cost.

Figure 3. Countries with largest energy subsidies, 2020



Source: IEA

8. **The below-cost recovery tariffs have created continued disincentive to efficiently consume energy aside from being a drain on government finances.** First, the low tariff resulting from subsidies creates a lack of incentive for households and businesses to conserve energy or invest

<sup>2</sup> BP, Statistical Review of World Energy, 2021 | 70<sup>th</sup> edition.

<sup>3</sup> IEA, Value of fossil-fuel subsidies by fuel in the top 25 countries, 2020.

<sup>4</sup> Tajikistan and Kyrgyz Republic have 80-90% of hydro resources in their generation mix.

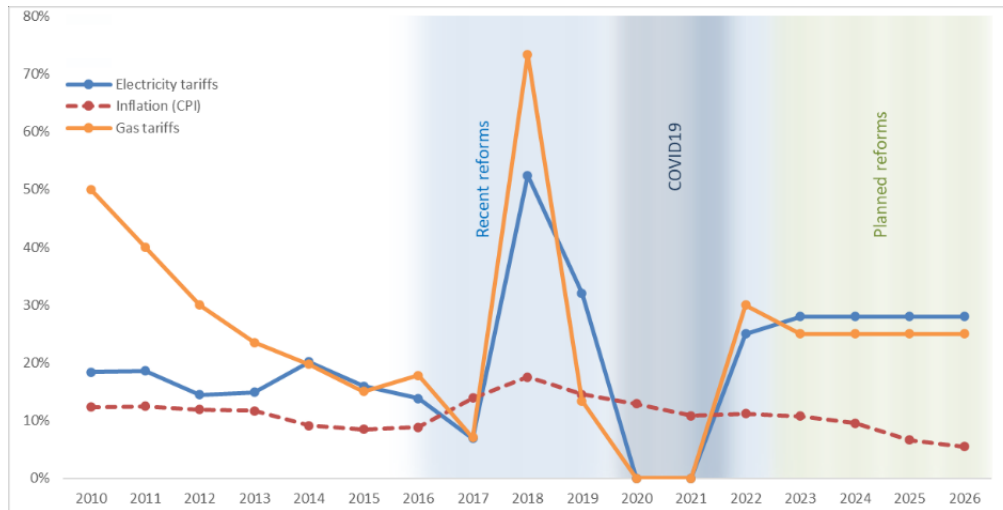


in energy efficiency measures, thereby hindering efforts to optimize energy consumption. Moreover, these subsidies are limiting the GoU's fiscal capacity for other pressing priorities like education and health, as the GoU has been allocating direct budget transfers of around US\$1.0-1.5 billion annually towards the energy sector over recent years.

9. **Energy services are affordable in Uzbekistan by international comparison.** Households spend small shares of their budget on electricity (100 percent electrified) and gas (around 60 percent of households connected to piped gas). In 2021, the poorest quintile (by per capita income per month) spent about 5 percent of household income on electricity, on average, and a similar amount on natural gas. The national average for electricity expenditure was only about 2.2 percent of the household budget, with modest variation at the regional level (from 1.9 percent on average in Fergana to 3.8 percent on average in the region of Tashkent). Regional natural gas expenditure shares varied more remarkably, ranging from 0.7 percent in Namangan to 6.7 percent in the region of Tashkent. However, universal subsidies are a costly inequitable way to address energy affordability if not designed correctly.
10. **The GoU has committed to continue pursuing energy subsidy reforms with a target to reach cost recovery in both electricity and gas sectors by 2026.** In April 2019, the GoU adopted a new electricity tariff setting methodology, defining a path for tariffs to be systematically adjusted in the future. Similarly, a new natural gas tariff methodology has been prepared with support from the World Bank that is being finalized by the GoU. The GoU also established a separate tariff commission under the Cabinet of Ministers to set out a path for tariffs to be adjusted towards full cost recovery levels. Supported by the World Bank's series of Development Policy Operations (DPOs, P166019, P168280, P171751) and Energy Sector Strategy Programmatic Advisory Services and Analytics (Energy PASA, P168487), the GoU also implemented three tariff adjustments in 2018-2019 that collectively doubled the weighted-average tariff of electricity and gas. Although tariff reforms were paused in 2020-2021 due to the impacts of COVID-19, the GoU further adjusted electricity and gas tariffs for selected non-residential customers in May 2022. However, despite the recent tariff reforms, the current level of retail electricity and gas tariffs are not sufficient to recover the cost of supply. The Figure 5 below illustrates the historical tariff adjustment and planned tariff cost recovery trajectory.



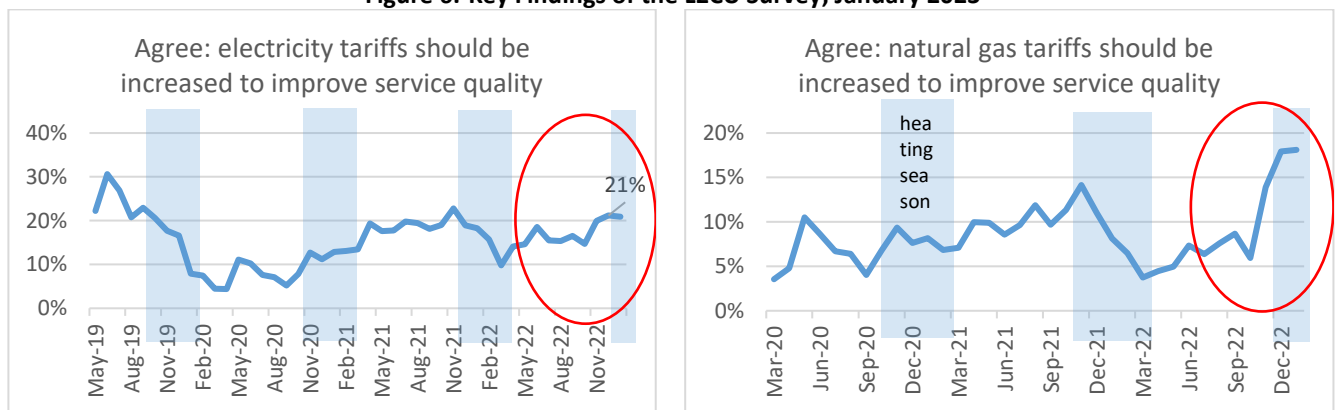
Figure 5. Energy Tariffs Historical Adjustment and Cost Recovery Trajectory, 2010–2026, % yoy



Source: WB team based on the GoU data.

- Results from the monthly World Bank survey ‘Listening to Citizens of Uzbekistan’ (L2CU)<sup>5</sup> have suggested that implementing energy tariff increases is challenging as reform is unpopular, but willingness to pay higher tariffs in exchange for reliable energy supply is increasing, especially following the recent severe weather conditions in the 2022–2023 winter with frequent gas shortages and electricity outages. Residential consumers, in particular, are usually sensitive to tariff changes, and this is also true for Uzbekistan, where authorities have historically aimed to ease the burden of energy expenses for households. As a result, from independence until today, households have paid energy tariffs well below the cost recovery level. The persistence of subsidy schemes creates a stable economic environment to which customers become accustomed, thereby presenting socio-political challenges for subsidy reforms. The World Bank monthly survey results under the L2CU program suggests that the public is more ready to tolerate gradual tariff adjustments to conserve energy and improve its reliability, compared to large one-off changes (Figure 6).

Figure 6. Key Findings of the L2CU Survey, January 2023



Source: L2CU.

<sup>5</sup> The L2CU survey uses a monthly panel design with 1500 households interviewed over the phone. The results have been presented to public through regular public events (<https://www.worldbank.org/en/country/uzbekistan/brief/l2cu>).





12. **The Government has prioritized social protection measures and communication campaigns** to accompany tariff reforms. The authorities reviewed several mitigation options to address negative impacts, including (a) phasing tariff increases to allow adaptation among users, (b) adjusting social transfer amounts and coverage to offset the budgetary impact of tariff increases, (c) adjusting the tariff design itself, and (d) potential lifeline tariffs. Phased tariff increases are standard in reform policies that may have particularly adverse effects on vulnerable groups rather than increasing tariffs to full cost recovery levels in a single large step. This has been the principal approach to mitigate the impact of tariff reform the Government has taken over the past decade. The approach allows consumers to prepare for increases, for instance by adapting their energy use or more quickly retiring inefficient appliances. Under plausible assumptions of adaptive behavior on the part of energy consumers, a more gradual approach is expected to moderate welfare losses and the resulting increase in poverty.
13. **Adjustments to social benefits are another common method to reduce the impact of tariff increases on poverty and have regularly been used in Uzbekistan to compensate vulnerable groups.** Policy makers in Uzbekistan often adjust the value of transfers to coincide with the introduction of new energy tariffs. For future tariff increases, this approach can be enhanced by directly estimating the budgetary impact for poor households and adjusting social programs such that transfer amounts at least offset either the net increase in poverty or the increase in the average ‘poverty gap’ resulting from tariff reform. However, this approach relies heavily on the targeting efficiency of the social assistance system. The coverage of the main anti-poverty targeted programs has increased substantially in the past several years, reaching around 2.2 million households every month, which approximately corresponds to 25 percent of population. Though coverage has substantially improved, targeting efficiency remains low between 70 and 75 percent of the poorest quintile were not enrolled in social assistance programs in 2021 (referred to as the exclusion error of these programs). As the social protection system in the country matures, and digital development of the sector accelerates, the government is working on decreasing substantially such targeting errors.
14. **Current impact mitigation proposals provide significant protection but lack efficiency.** An assessment of the poverty and distributional impact of introducing cost-recovery electricity tariff rates conducted by the World Bank in 2023 suggested that using the Government’s package of mitigation measures considered will have protective effects, but not prevent a rise in poverty. In addition, some especially vulnerable social groups are disproportionately affected by tariff increases. Thus, while increased tariffs would be expected to increase poverty rates, reversing subsidies would also have distributionally progressive impacts. Considering such potential implications, the GoU is reconsidering its tariff design towards more protection of vulnerable households through the above-mentioned available social mitigation options (paragraph 12).

***Uzbekistan has committed to accessing climate and carbon funds to support its green growth agenda.***

15. **In 2021, Uzbekistan increased its climate ambitions through the new NDC target of reducing specific GHG emissions per unit of GDP by 35 percent by 2030 from the 2010 levels.** Furthermore, in 2019 the GoU adopted a National Strategy on Green Economy Transition for 2019–2030 (Green Economy Strategy). In December 2022, it approved a State Program on Green Economy Transition setting the stage to participate in international carbon markets through Article 6.2 of the Paris Agreement. The Ministry of Economy and Finance (MoEF) is assigned as a coordinating entity particularly regarding international carbon transactions; the Agency for Strategic Reforms (ASR) and the Ministry of Energy (MOE) are assigned responsibility for energy sector reforms, renewables development, energy efficiency, and energy tariffs; and Uzhydromet (UHM) is responsible for all reporting requirements related to the Paris Agreement.





**Box 1: Paris Agreement, Carbon Markets, and Climate Finance**

**What is the Paris Agreement?**

It is a legally binding treaty adopted by 196 countries at the climate change conference in Paris in 2015 (known as COP 21). The main goal of the agreement is to cut global GHG in order to limit global temperature increases as close as possible to 1.5 degrees Celsius.

**How will countries do this?**

Countries have submitted carbon reduction targets known as NDCs which outline how each country will cut its carbon emissions. There is no one-size-fits-all approach for the NDCs, and different countries are taking climate action in different ways, from investing in RE to introducing carbon taxes. The NDCs are to be updated every five years by the Parties to the Paris Agreement, and each new iteration is expected to be more ambitious than the previous one.

**What is Article 6 (carbon finance)?**

Article 6 of the Paris Agreement allows countries to voluntarily cooperate with each other to achieve ER targets set out in their NDCs. This means that, under Article 6 of the Paris Agreement, a country (or countries) will be able to transfer/trade carbon credits earned from the reduction of GHG emissions to help one or more countries meet climate targets. Article 6.2 of the Paris Agreement creates the basis for trading in GHG ERs (or mitigation outcomes) across countries. Article 6.4 of the Paris Agreement is expected to be similar to the Clean Development Mechanism of the Kyoto Protocol. It establishes a mechanism for trading GHG ERs between countries under the supervision of the Conference of Parties – the decision-making body of the UNFCCC. When these mitigation outcomes are transferred (that is, traded), they become known as internationally transferred mitigation outcomes (ITMOs) and represent carbon finance (markets) transactions. These ITMOs will be traded under the Mitigation Outcomes Purchase Agreement (MOPA), further detailed in Section II C.

**How will Article 6 support carbon markets?**

Article 6 of the Paris Agreement notably pertains to the establishment of international carbon markets governed by the rules of the Paris Agreement where countries can voluntarily engage in cooperative approaches to achieving their GHG ER targets and trade carbon credits. As part of the Paris Agreement and the NDCs, each country will need to create an inventory of their GHG emissions, a national inventory or GHG balance sheet, which is tracked and reported to the UNFCCC. Under Article 6 of the Paris Agreement, ERs that have been authorized for transfer (ITMOs) by the selling country's government may be sold to another country, but only one country may count the ER toward its NDC. It is critical to avoid double counting so that global ERs are not overestimated. The agreement on Article 6 Paris Agreement established an accounting mechanism known as 'corresponding adjustment', to ensure that double counting does not occur—every ITMO that is transferred must be added (that is, the country's GHG balance increases) to the seller's national inventory and will be deducted from the buyer's national inventory.

**Article 9 (climate finance):**

Article 9 of the Paris Agreement stipulates that developed country Parties shall provide financial resources, known as climate finance, to assist developing country Parties with respect to both mitigation and adaptation in continuation of their existing obligations under the Convention. Other Parties are encouraged to provide or continue to provide such support voluntarily.

Furthermore, as part of a global effort, developed country Parties should continue to take the lead in mobilizing climate finance from a wide variety of sources, instruments and channels, noting the significant role of public funds, through a variety of actions, including supporting country-driven strategies, and taking into account the needs and priorities of developing country Parties. Such mobilization of climate finance should represent a progression beyond previous efforts.

The results and finance provided under the Emission Reductions Payment Agreement (ERPA) will be accounted and



reported as results-based climate finance (RBCF) under Article 9. The ownership of the ERs paid for under the ERPA will remain with Uzbekistan. Further detail on the ERPA can be found in Section II C.

### Box 2. Brief Description of the World Bank Support to Energy Subsidy Reforms in Uzbekistan

The World Bank has been assisting the GoU with a comprehensive subsidy reform package through the Energy PASA (funded by the Energy Sector Management Assistance Program [ESMAP]) and series of DPOs. Specific tasks include the following:

**Design and implementation of tariff cost recovery trajectory.** Support was provided to the GoU to conduct cost of service and new tariff design scenarios study for the electricity and gas sectors. With support from the World Bank, the GoU has prepared new electricity and gas tariff methodologies in line with best practices. The GoU plans to further estimate the total fiscal cost of subsidies and quasi fiscal deficit in the energy sector; update the analysis based on the newly applied tariff increase in August 2022 and extend the analysis until 2030; and prepare short-, medium-, and long-term tariff cost recovery trajectories.

**Sector financial assessment.** World Bank support was also provided to undertake a sector financial analysis to assess the potential impact of COVID-19 on the sector and the transmission company. Going forward, an in-depth financial assessment, including its debt sustainability, will be conducted based on the different tariff cost recovery trajectories as indicated above.

**Distributional impact assessment and social mitigation measures.** Based on the newly developed tariff design options, distributional impact assessments were conducted together with recommendations on social mitigation measures to protect the vulnerable households. Similar assessments will be conducted for the proposed tariff cost recovery trajectories.

**Communication.** The World Bank Technical Assistance (TA) supported the GoU with a high-level social survey to understand the public's perception of energy services, their concerns, and willingness to pay. Going forward, based on the survey, a communication campaign will be designed to accompany the proposed subsidy reforms.

**Institutional reforms.** The GoU requested the World Bank to support the establishment and operationalization of an energy sector regulator, which is expected to consolidate all the regulatory functions in the sector. As part of the support package, the World Bank will be a lead partner to assist in those reform initiatives.

***The proposed project aims to support the GoU in reducing the energy use as a consequence of electricity subsidy reforms – thereby reducing emissions and generating carbon credits – preparing Uzbekistan to harness climate finance and access international carbon markets.***

- 16. The proposed Project will be the first policy crediting program by the World Bank globally.** Climate and carbon finance projects supported by the World Bank have historically focused on specific investments or site-specific projects. The concept of 'policy crediting' seeks to quantify and attribute ERs to the implementation and/or enforcement of policies. The Project will support critical policy actions (tariff reforms) to create foundations and an enabling environment to promote a more rational use of energy in this case, ultimately leading to the Project's broader development impact. ERs under the Project will be measured and attributed to the change in the amount of energy consumption due to subsidy reforms (during the life of the Project) based on measured, reported, and verified actual results using a dedicated Measurement, Reporting, and Verification (MRV) methodology (outlined in the next chapter and annex). Once proven successful, such operations has the potential to be rolled out by the World Bank, including through the Scaling Climate Action by Lowering Emissions (SCALE) umbrella trust fund.
- 17. The Project will utilize results-based climate and carbon finance (RBCF) to enable the subsidy reforms.** As noted, in a forthcoming WB report on RBCF for policies, the result-based nature of the financing supports the



impact-driven policy implementation. It will essentially (i) incentivize the targeted policy implementation; (ii) create accountability and support on climate results and related benefits by incentivizing actions, with no impact if the actions are not implemented, and encouraging ownership, flexibility, and innovation; and (iii) improve capacity to participate in carbon markets. In this sense, RBCF is well-suited for subsidy reforms. Subsidy reforms are a sensitive topic with several barriers unless designed carefully. In this regard, RBCF can be used to pay for the costs associated to address these barriers such as communication campaigns and associated compensation, and also become a guarding against policy reversal since payments are made only when reform is implemented, and emission reductions are achieved and verified.

18. **The Project will also be the first carbon finance transaction in Uzbekistan and Central Asia under the Paris Agreement.** In line with its NDC, Uzbekistan has prioritized mobilizing carbon finance resources to achieve its climate goals and fund the clean energy transition program. In this regard, the authorities jointly with development partners have been exploring opportunities to access international carbon markets and resources. The proposed Project, once implemented successfully, will pilot a carbon trade transaction (box 1) for Uzbekistan in an international arena under the Paris Agreement with its demonstrational effect in the Central Asia region and beyond.
19. **The Project aims to set up the infrastructure, systems, and processes necessary for carbon finance (Article 6) transactions.** Currently, there is a lack of systems and processes in place in Uzbekistan, which are necessary to be compliant with the requirements of Paris Agreement. The proposed Project along with its associated technical assistance will help the GoU to develop and establish robust regulatory framework, institutional setup, decision-making process, carbon registries, and MRV systems, transparent ownership tracking mechanisms, carbon transfer processes as well as standard technical and legal documents. The Project will then test all of this through the proposed pilot international carbon market transaction under Component 2 Mitigation Outcomes Purchase Agreement. This creates a solid foundation for Uzbekistan to access international carbon markets and engage in carbon trades in future, as part of its clean energy transition pathway.
20. **The Project will also be the first operation of the World Bank-administered TCAF<sup>6</sup> and will lay the foundation for subsequent programs.** As part of the Project implementation the whole infrastructure, systems, and processes for accessing international carbon markets, including technical design, standard legal agreements, and validation and verification processes and protocols will be prepared, established and tested, which will ultimately be used for subsequent programs by the World Bank globally.

### C. Relevance to Higher Level Objectives

21. **The Project is in line with the overarching goal of Uzbekistan's Country Partnership Framework (CPF) FY2022–2026 (Report No. 170931-UZ, discussed at the Board on May 24, 2022) to support the implementation of the next phase of reforms in the transition toward an inclusive and sustainable market economy in the country.** Specifically, the Project would contribute to the following objectives of the Uzbekistan CPF FY2022–2026: (a) Objective 1.4: Improve the infrastructure for competitiveness and connectivity; (b) Objective 3.1: Decarbonization and the greener development of industry and the economy; and (c) Objective 3.2: More efficient use of natural resources.

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<sup>6</sup> <https://tcafwb.org>



22. **The Project will contribute to the World Bank Climate Action Plan commitment and the GoU's updated NDC 2021.** This Project is also well-aligned with the associated World Bank Europe and Central Asia Climate Roadmap 2021-2025. Incentives to enhance energy efficiency and efficient use of energy resources in the economy, through proposed subsidy reforms to be supported by the Project, would contribute to climate change mitigation targets. A more cost-reflective electricity and gas tariff will not only incentivize energy conservation behaviors from end users but will also create a level playing field for renewables scale-up, further adding to GHG ERs. The Project is also closely aligned with the World Bank's Green, Resilient, and Inclusive Development (GRID) approach and the **World Bank Group (WBG) Global Crisis Response Framework (GCRF)**.
23. **The Project will be supported by the TCAF<sup>7</sup>, a World Bank-managed climate trust fund that seeks to help developing countries implement their NDCs under the Paris Agreement by providing results-based payments for the achievement of ERs.** TCAF has a hybrid funding structure that allows it to disburse both climate finance and carbon finance. The climate finance payments for verified emission reductions (VERs) require that VERs are to remain in the Host Country for use towards the achievement of a Host Country's NDC under Article 9 of the Paris Agreement. The carbon finance payments are to be provided within the context of Article 6.2 of the Paris Agreement, whereby the ITMO-VERs are to be transferred out of Uzbekistan to TCAF carbon finance contributors and thus cannot be used towards the Host Country's NDC.

## II. PROJECT DESCRIPTION

### A. Project Development Objective

#### PDO Statement

24. The project development objective is to reduce carbon emissions through subsidy reforms and leveraging policy-based climate and carbon funds.

#### PDO Level Indicators

25. Progress toward PDO will be monitored using the following indicators:

- (a) GHG emission reductions generated by the Project (MtCO<sub>2</sub>e).
- (b) Amount of payments made for CO<sub>2</sub>e emissions reductions generated by the Project (US\$).

26. The following intermediate indicators will also be monitored against the project progress.

- (a) Cost recovery tariff trajectory established and implemented over time (Text).
- (b) Measurement, Reporting and Verification (MRV) system established and operationalized (Text).
- (c) Citizen views and feedback on tariff reform collected and utilized for decision-making (Yes/No).

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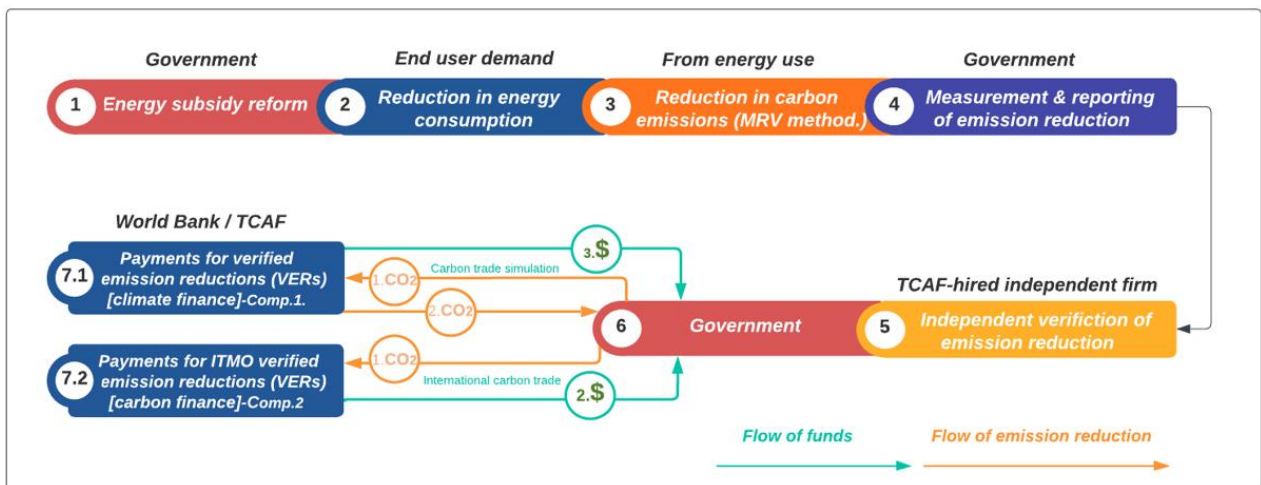
<sup>7</sup> <https://tcafwb.org/>.



B. Project Design and Instrument

- 27. The Project is designed as a pilot initiative to establish a results-based climate and carbon finance system and payments that supports the GoU’s initiative to reform energy subsidies and promote rational energy use in Uzbekistan. The ultimate outcome would be the reduction in carbon emissions, which will be credited and paid for through the Project funds<sup>8</sup>. To this end, the GoU will annually measure and report underlying ERs using a dedicated MRV methodology developed as part of the Project. A third-party independent firm, to be hired by the World Bank -administered TCAF, will verify these ERs. Once ERs are verified, result-based payments will be made to the GoU. A flowchart depicting the logical sequence of activities and instruments deployed under the Project is illustrated in the Figure 7.
- 28. Investment Project Financing (IPF) is confirmed as the appropriate instrument provided the design of the Project, following the World Bank Guidance on ‘Emission Reduction Crediting Projects under Investment Project Financing’ (June 2020), similar ER crediting IPF projects and precedents, and a series of consultations during the identification and preparation of the Project.
- 29. Under the proposed RBCF Project, the main outcome to be credited is a reduction in GHG emissions resulting from a decrease in end-use energy consumption to be incentivized by the implementation of energy subsidy reforms. In this regard, as far as above-mentioned outcomes achieved, the Project funds will not be earmarked and monitored during the project implementation.

Figure 7. Flowchart of the Logical Sequence of Activities and Instrument Proposed under the Project



- 30. The Project supports the GoU’s first steps towards accessing international carbon markets to leverage carbon funds for financing its clean energy transition. As one of its central mission, the proposed Project will help prepare, establish, test and operationalize the necessary systems, infrastructure, processes, institutional and human capacity for designing and implementation of such operations, which will be further rolled out by the GoU over time. Furthermore, the proposed Project technical design and legal documents will serve as standard

<sup>8</sup> Timeline between subsidy policy action and corresponding payments under the Project could be up to a year, while it depends on the capacity and timing of the GoU to undertake the required measurement and reporting of ERs as well as their consequent verification.



documents, which would be used in future transactions. In addition, the allocation of carbon and climate grant funds proposed under the Project would be both timely and crucial in deploying such systems and facilitating the first carbon trade transaction of Uzbekistan in the international carbon market. As such, the combination of concessional resources, the planned establishment and testing of systems, infrastructure, institutional capacity and standard documents is an effective set of instruments to enable the GoU to pursue energy subsidy reforms and promote the rational energy use in the country.

31. As abovementioned, this Project will comprise two transactions based on verified ERs mainly a climate finance component under ERPA and as per Article 9 of the Paris Agreement and a carbon finance component under the MOPA) pursuant to Article 6.2 of the Paris Agreement. ERs resulting from changes in electricity and gas tariffs will be quantified through the Energy Policy MRV Methodology. On an annual basis, an independent third party to be hired by World Bank / TCAF will verify such ERs to ensure that they have been generated according to the agreed reforms and methodology.
  - a) Climate finance (ERPA, Component 1): Based on the aforementioned verifications, annual
  - b) payments will be made to the GoU under the ERPA. These VERs will be compensated (credited) with climate finance, meaning they will not be subject to corresponding adjustment and the GoU will retain ownership of them for meeting its NDC targets.
  - c) Carbon finance (MOPA, Component 2): This will be an international carbon trade under Article 6.2 of the Paris Agreement. As with the ERPA (climate finance), the ERs will be quantified and verified, annually. The GoU will have to authorize the international transfer of these VERs as ITMO-VERs. The transfers will then be recorded in Uzbekistan's national GHG accounting registry, and the transaction will be reported to the UNFCCC (see box 1 above on the Paris Agreement and carbon markets for additional detail). Upon the transfer of the ITMOs, payment(s) will be made to the GoU. The result is that Uzbekistan's GHG inventory will increase by the transferred amount and the buyers' GHG inventories will decrease by the transferred amount.
32. Noteworthy, this is a results-based climate/carbon finance transaction and therefore, TCAF shall make payment annually only for transferred VERs generated under the Project resulting from subsidy reforms, in line with underlying legal agreements. This is well integrated in the MRV methodology. Consequently, if there is no subsidy reform, VERs cannot be generated under the Project and paid for by the Trustee under the ERPA or the MOPA.
33. This pilot Project will undergo a regular review process, with the primary goal of extracting valuable lessons concerning the overall project performance, its design, instruments, implementation arrangements, and outcomes. These captured lessons learned will play a critical role in enhancing the project's adaptability and facilitating knowledge transfer for similar projects globally in the future.

### C. Project Components

34. **The Project has two interrelated components:** (a) payments for ERs - climate finance (US\$20 million) and (b) payments for ITMOs - carbon finance (US\$26.25 million). Results-based payments would be made against the ERs measured, reported, and verified, which would result from more efficient energy use incentivized by energy subsidy reforms. The results-based nature of the project means that payments will be made based on ex-post verified emission reductions. Although Uzbekistan is currently planning to reach cost-recovery levels by 2026, subsidy reforms will need to continue even after 2026, driven by changing cost structures (opex, capex) as well





as several cost components that are beyond the sector's control (fuel price, inflation, FX rate, etc.). Furthermore, on top of annual/regular tariff reforms, historical subsidy reforms will continue generating ERs in subsequent years, which will be verified and credited. Any additional tariff increases would serve to increase the reductions. The description of specific components is outlined in the following paragraphs.

35. **Component 1: Payments for measured, reported and verified emission reductions (ERs) - Climate Finance (US\$20 million).** This component encompasses the results-based payments under the ERPA. ERs will be generated due to the change in end-user energy demand resulting from the gradual adjustment of electricity and natural gas tariffs. Annual payments will be made based on the amount of ERs generated and contracted in the preceding year. The payments will reflect the volume and price outlined in the ERPA to be agreed between the GoU and TCAF contributors. The generated ERs under this component will remain in Uzbekistan and will be used for the country's NDC goals.
36. This component directly supports Uzbekistan's plans in both its NDC and Green Economy Strategy with respect to engaging international cooperation and mobilizing climate finance<sup>9</sup>. In addition, the VERs and respective payments under this component would serve as a simulation of carbon trading. The experience gained during the simulation will be put into practice and will pave the way for a pilot international carbon transaction under Component 2, as outlined below.
37. Based on a series of negotiations between the GoU and TCAF contributors, the unit carbon price for Component 1 (ERPA) is set at US\$15 per ton of ER. Based on the estimated funding envelope of US\$20 million, US\$15 per ton will result in payment for 1.33 MtCO<sub>2</sub> of ERs over the Project implementation period. Once this allocated financing envelope is reached, the ERPA will terminate. The price was agreed between the Government and TCAF Contributors and set based on Uzbekistan's need to pursue the proposed policy actions, need for putting in place adequate systems and infrastructure for carbon and climate finance transactions as well as to strengthen the institutional and human capacity in the country on this important area.
38. These VERs will be transferred to the World Bank (TCAF) and then transferred back to the GoU, as a simulation and testing of a carbon trade transaction.
39. **Component 2: Payments for measured, reported, and verified Internationally Transferred Mitigation Outcomes (ITMOs) – Carbon Finance (US\$26.25 million).** Similar to Component 1, under Component 2 payments would be made for measured, reported, and verified ERs resulting from energy tariff reforms. The key difference from Component 1 is that the ERs under Component 2 will be transferred out of Uzbekistan and become ITMOs, that is, Uzbekistan will sell ERs and TCAF<sup>10</sup> donor(s) (contributors) will buy the same.
40. The underlying activity, measurement, reporting, and verification of ERs and payments schedule will be outlined in the MOPA to be signed between the GoU and the World Bank following the Project approval. The underlying activity—the change in end-user energy demand and energy intensity resulting from gradual adjustment in electricity and natural gas tariffs—for this agreement is the same as for Component 1. The basis for payments under the MOPA is the authorization and international transfer of verified ERs by the GoU, and payments will be made annually to the GoU. Accordingly, under this Component, the GoU will need to authorize and transfer a portion of the ERs to TCAF Contributors. This will require the GoU to undertake the necessary tracking, measuring

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<sup>9</sup> [https://unfccc.int/sites/default/files/NDC/2022-06/Uzbekistan\\_Updated%20NDC\\_2021\\_EN.pdf](https://unfccc.int/sites/default/files/NDC/2022-06/Uzbekistan_Updated%20NDC_2021_EN.pdf)

<sup>10</sup> TCAF will use the in-house Carbon Asset Tracking System (CATS) to record the transfers and subsequently allocate the ITMOs to the different carbon market contributors.



and reporting as required by the Paris Agreement and the transferred portion of ERs will become ITMOs, which will not be used by Uzbekistan for its NDC.

41. Component 2 will therefore pilot an international carbon market transaction of Uzbekistan under Article 6.2 of the Paris Agreement. This will require that Uzbekistan comply with the accounting and reporting requirements of the Paris Agreement. Some progress has been made by the GoU in this regard, such as designating the primary Ministry (MoEF) responsible for international carbon trades. Additionally, the Law "On the Reduction of Greenhouse Gas Emissions", is underway which envisages, among other things, the establishment of a registry, a critical element, is being drafted. The proposed technical assistance (see below) will help Uzbekistan continue these efforts to establish the national registry and implement the authorization process for the international transfers of ITMOs. Broadly, the associated TA (see the next section for details) will support Uzbekistan's Article 6 readiness efforts in line with its NDC commitments and relevant state programs outlined in the background section above.
42. Based on Uzbekistan's NDC, the proposed structure of the Project, and the Article 6 Rulebook, Uzbekistan can sell the VERs generated from the Project as ITMOs. Notably, the proposed Project (and its baseline setting methodology) would enable Uzbekistan to generate significant carbon ERs (around 60 MtCO<sub>2</sub>) well above its current NDC targets and the amount to be credited through this Project (around 2-2.5 MtCO<sub>2</sub>). Accordingly, Uzbekistan can sell the remaining ERs in the international carbon markets using the systems and processes to be established and tested by the Project. This Project ambition would also play as a risk mitigation tool for the project, reducing the risk of non-performance in terms of GHG ER. Uzbekistan is in the process of establishing a national registry to track its GHG inventory and account for all carbon transactions.
43. The Project's legal agreements stipulate that the VERs under the ERPA shall be used only by the GoU solely towards meeting its NDC commitments under the Paris Agreement and cannot be traded again to any third party and the GoU is prohibited from using them for any other purposes. On the other hand, ITMOs-VERs under the MOPA will be subject to corresponding adjustments and reporting requirements under the Paris Agreement. The registry and the legal agreements will ensure that there is no double-counting or claiming under this transaction. Because no other international financing is being received in connection with this specific transaction, TCAF's attribution methodology<sup>11</sup> will not apply.
44. Similar to the ERPA (Component 1), the price for the MOPA (Component 2) was also reached through a series of negotiations between the GoU and TCAF contributors. According to the established process, the GoU proposed an initial price range with a justification for the proposal. This was then communicated to the TCAF Contributors, who responded with their proposal and justification. This process continued until an agreement was reached for US\$30 per ton of ER. The amount of ERs will be derived based on the corresponding financing under this Component of US\$25 million. The ERs for this Component will be authorized and transferred (sold) to TCAF contributors and will be the basis for annual payments<sup>12</sup>. Refer to the Project Appraisal section for the proposed MRV methodology under the Project.
45. To use best practices and support the development of carbon markets and equity between Articles 6.2 and 6.4, the TCAF Contributors are proposing that Share of Proceeds for Adaptation (SOPA) and Overall Mitigation of Global Emissions (OMGE) be applied in this Article 6.2 transaction (Component 2). While SOPA and OMGE are

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<sup>11</sup> TCAF will only purchase ERs going beyond host countries' NDC targets and mitigation efforts funded by international climate finance. The latter requires proportional attribution of ERs achieved by a concrete TCAF program to the TCAF ERPA and the international funding received and to exclude the later part from the TCAF purchase.

<sup>12</sup> with applying the agreed carbon (ITMO) price to be applied throughout the Project implementation period.





mandatory under Article 6.4, they are only “strongly encouraged” under Article 6.2. However, for this project, the TCAF Contributors have agreed to pay and bear the cost of the SOPA bearing in mind the piloting nature of the Project and to ensure that the full \$25 million flows to the GoU. Additionally, the 2 percent cancellation will be done after the GoU transfers the ERs, meaning that the Contributors will bear the cancellation.

- a) Share of Proceeds for Adaptation (SOPA): This fee requires all projects to transfer an equivalent of five (5) percent of the “share of proceeds” from carbon markets transactions. This 5 percent will be transferred to the *Global Adaptation Fund* to help developing countries finance their efforts to adapt to the impacts of climate change. This was the practice under the Clean Development Mechanism (CDM), where Share of Proceed was 2 percent of issued Certified Emission Reductions (CERs) and continues with Article 6.4.
- b) Overall Mitigation of Global Emissions (OMGE): This is a mandatory cancellation of 2 percent of the volume of ITMOs from each carbon market transaction. This is intended to help deliver an overall mitigation in global emissions.

- 46. Following the discussion with the GoU, TCAF Contributors agreed to increase the financing envelope of Component 2 from US\$25 million to US\$26.25 million (increase of US\$1.25 million, by 5 percent) to be directly transferred by the World Bank /TCAF to the Adaptation Fund. This monetary contribution will be made jointly by World Bank / TCAF upon the request from the Republic of Uzbekistan. World Bank / TCAF will transfer the funds to the designated receiving account of the Adaptation Fund. In addition, TCAF Contributors will cancel 2 percent of the ITMOs (under Component 2), which are transferred to TCAF to provide OMGE.
- 47. **Technical Assistance (TA).** The Project will be accompanied by a TA with an estimated amount of up to US\$2 million to be funded by TCAF and administered by the World Bank (BETF). The TA will play a critical role in developing the institutional capacity, systems, and infrastructure to help the GoU meet its NDC goals and those outlined in relevant state programs toward the development of a state system of inventory, reporting, and control of GHG emissions. The TA also aims to support the GoU in developing a robust MRV framework in compliance with Article 6 of the Paris Agreement. A draft Policy Implementation Support Plan (PISP) has been prepared by the GoU towards that goal, which provides stepwise actions to prepare for Article 6 collaboration. It is structured around two main sections: (a) strategizing for Article 6 engagement, which explores high-level opportunities, risks, and conditions for such engagements and identifies key areas to be explored for an engagement strategy and (b) governing Article 6 collaboration, which explores the necessary governance and institutional frameworks that need to be developed to guide and implement Article 6 collaboration.
- 48. To comply with the requirements of the Paris Agreement, the GoU will need to account for and report on all aspects of ER activity in Uzbekistan. To do this, the GoU will have to build a national registry to track the generation, issuance, and transfers of all ERs in and out of the country. The GoU will need to report on this annually. While the TA will focus on the TCAF ITMO transaction, the systems, infrastructure, processes and capacity that will be put in place through this Project can be used by the GoU for subsequent climate and/or carbon finance transactions. In addition, the legal agreements will provide templates for the reporting aspects of Article 6 of the Paris Agreement based on international good practices. All this will allow Uzbekistan to participate in additional climate finance (Article 9) and/or carbon market (Article 6.2 or 6.4) transactions in the future, providing a significant source of revenue for the country, which can be further utilized towards its green growth



and net zero commitments. The World Bank, through this Project and broader country engagement, is well-placed to act as a trusted advisor for the GoU in this pathway.

- 49. The primary focus of the TA is to support the implementation of necessary building blocks for the pilot carbon finance transaction. The TA, however, will have sufficient flexibility in the scope such that other emerging priorities of the GoU in these areas (establishment of a domestic or regional emission trading system, net-zero targets, and/or increased NDC ambition, priority energy reforms, among others) could also be supported. Detailed scope of the TA will be identified jointly with the GoU during the Project implementation.

#### D. Project Cost and Financing

- 50. **The total Project financing is US\$46.25 million (US\$20 million climate finance, and US\$26.25 million carbon finance).** Table 1 illustrates the total financing under the Project.

**Table 1. Project Components and Financing (including Uzbekistan contribution to SOPA and OMGE)**

Components	Amount (US \$, millions)
Component 1: Payments for measured, reported and verified emission reductions (ERs) - Climate Finance	20.00
Component 2: Payments for measured, reported, and verified Internationally Transferred Mitigation Outcomes – Carbon Finance	26.25
<i>Payments for measured, reported, and verified ITMOs</i>	<i>25.00</i>
<i>Uzbekistan’s contribution to SOPA and OMGE<sup>13</sup></i>	<i>1.25</i>
<b>Total financing</b>	<b>46.25</b>
<i>Associated World Bank-executed TA</i>	<i>2.00</i>

- 51. **Climate co-benefit.** The Project is expected to yield significant climate co-benefits. The proposed subsidy reforms, as an underlying activity, are expected to generate around 11 million tons of GHG ERs at the end of the Project implementation period, which will be measured, reported, verified and credited through the Project. Furthermore, by setting a proper pricing signal, further deployment of RE sources would be facilitated. The Project will also support the GoU in establishing and operationalizing a modern MRV system to contribute to its NDC commitments and further upscale carbon trade operations.

#### E. Project Beneficiaries

- 52. The main project beneficiaries are (a) the GoU, (b) the MoEF, MOE, Ministry of Investment, Industry and Trade (MIIT) and Uzhydromet Agency,<sup>14</sup> (c) energy companies.

<sup>13</sup> Since SOPA is not explicitly listed as an eligible expenditure in the TCAF donors’ Contribution Agreements (“CAs”), for now, the Mitigation Outcome Purchase Agreement (MOPA) will have only one expenditure category, i.e. payment for verified emission reductions (including the SOPA amount). CAs will be amended and once executed by TCAF Donors, the SOPA will be specified in the expenditure table as a separate category under the MOPA.

<sup>14</sup> JSC = Joint stock company.



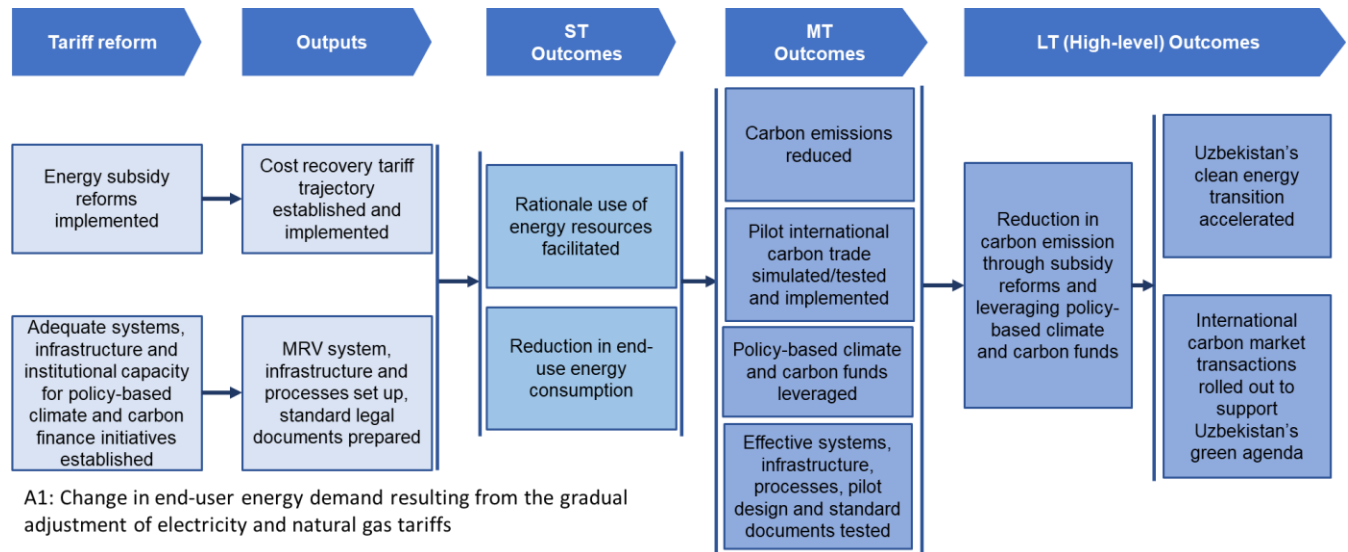
53. Government of Uzbekistan's (GoU) implementation of tariff reforms under this Project can help reduce energy intensity of its economy, bolster energy efficiency efforts, reduce fiscal burden for other priorities, incentivize the deployment of utility-scale and distributed RE sources, establish an effective MRV system, build pilot, and roll out carbon trade transactions.
54. Ministry of Economy and Finance, Ministry of Energy, and Uzhydromet Agency, as the main bodies in charge of green growth, clean energy transition and the Paris Agreement, would pursue the energy reforms, establish and operationalize an MRV system compliant with Article 6 of the Paris Agreement, pilot the first climate and carbon finance transaction, and further roll it out, thereby contributing to Uzbekistan's NDC target and clean energy transition initiatives.
55. *Energy companies* would benefit from gradual tariff adjustments contributing to their financial recovery and better creditworthiness as well as more cash inflow to meet current and capital needs. The energy sector would also benefit from reduced energy load / demand as a result of more rational use of energy.

#### **F. Results Chain**

56. The main goal of the Project is to reduce carbon emissions in Uzbekistan's energy sector as well as to establish and test adequate infrastructure, systems, processes, institutional framework and standard documents on international carbon market transactions under the Paris Agreement. The targeted ERs will be achieved through expected more rational use of energy resources in the country, as a result of a proper pricing signal and gradual removal of inefficient energy subsidies. Climate and carbon funds will be mobilized through the proposed pilot climate and carbon transactions with policy crediting approach. Through the Project, comprehensive system, infrastructure, institutional setup, and standard legal documents will be drafted and tested, thereby laying a solid foundation to further replicate such operations by Uzbekistan and World Bank in future. Ultimately, the Project will contribute to Uzbekistan's clean energy transition and decarbonization agenda in the long run. The Project envisages an implementation period of five years. The Theory of Change underpinning the proposed Project is illustrated in the Figure 8.



Figure 8. Theory of Change



### G. Rationale for the Bank Involvement and Role of Partners

57. **This Project is underpinned by the World Bank’s extensive policy dialogue and analytical work in supporting energy reforms in Uzbekistan.** Specifically, over the years the World Bank has been selected as the lead and only partner for the GoU in the designing and implementation of energy subsidy reforms, which informed the identification of the Project and evolved as its underlying activity. Leveraging climate and carbon finance to pursue sustainable subsidy reform and promote efficient use of energy resources, as part of the country’s decarbonization pathway, is also a novel concept both for the Uzbekistan and the World Bank. Piloting Uzbekistan’s first carbon transaction through the Project and thereby Uzbekistan’s accessing international carbon markets further adds to the innovative nature of the Project.
58. **The Project supports the WBG Evolution Roadmap and climate initiatives.** The Project supports the proposals on exploring new and innovative sources of financing and using results-based funds to support both country-level engagement with global public goods and regional benefits. The project would act as a strong proof-of-concept for the policy crediting model (as compared to investment-specific approach so far), which could be further replicated by the World Bank globally, with the potential to unlock significant climate and carbon finance resources in client countries. The Project also supports the Paris Alignment efforts by helping Uzbekistan implement and achieve its NDC goals. Leveraging the World Bank’s extensive knowledge in supporting countries with the preparation for carbon transactions would be beneficial to the GoU.
59. **The World Bank has over 20 years of experience in the climate and carbon finance space.** The World Bank’s Climate Change Fund Management Unit has more than US\$5 billion in capital and is home to climate finance initiatives that deliver innovative and scalable climate and environmental action. The World Bank’s carbon finance initiatives have supported activities in 65 countries and have made US\$2 billion in ER payments since the first carbon fund (Prototype Carbon Fund) was launched in 1999. The model was used by many market players as part of the development of the carbon markets (CDM and so on). TCAF is doing the same within the context



of the Paris Agreement: seeking to pilot the World Bank’s first Article 6 transaction and one of the first globally. In addition, TCAF will pilot the first ever policy crediting program, a model that has the potential to have a transformative impact on the climate and carbon finance sector.

60. **The proposed Project will be a starting point for further collaboration and coordination among development partners on climate and carbon financing in Uzbekistan.** Engagements with the European Bank for Reconstruction and Development (EBRD) and French Development Agency (*Agence Française de Développement*, AFD) have been identified as also being relevant to the World Bank’s work in this area. The EBRD has provided TA to the GoU to assess various carbon pricing instruments, while AFD is considering providing support regarding a national MRV system. The GoU has established a donor coordination platform designated for the coordination of efforts and supports the green growth (including carbon finance) area. In addition, the recently established Uzbekistan Country Platform (Platform)—a World Bank initiative launched in October 2019 during the Annual Meetings of the WBG and the International Monetary Fund—aims to (a) ensure the prompt mobilization and use of external assistance to address a wide range of socioeconomic issues; (b) use a consistent and systematic approach for the development, preparation, and implementation of significant socioeconomic projects with the involvement of financial and experience of international development partners; and (c) attract the financing necessary for sustainable development of strategic sectors of the economy. In 2023, the GoU, assigned the World Bank as the secretariat of the Platform. The World Bank will ensure further coordination of climate and carbon financing as well as on the broader energy sector reform activities through the country Platform.

#### H. Lessons Learned and Reflected in the Project Design

61. **Aligning climate and carbon finance operations with the country’s priorities ensures a more successful operation.** Historically, carbon finance operations were quite small, and not necessarily aligned with the priorities in the country(ies). The proposed Project comes at a timely moment, as Uzbekistan has recently scaled up its climate ambitions (NDC) and prioritized access to carbon markets.
62. **For policy crediting programs, it is paramount to select the most impactful and environment-friendly policy reforms, where the World Bank has close engagement and support programs in client countries.** The Project prioritizes a more efficient use of energy through subsidy reforms, given that Uzbekistan is among the top energy-intensive countries in the world. Through its country program, the World Bank has been selected as a key partner to the GoU for designing and implementation of subsidy reforms and energy efficiency measures. The Project proceeds are planned to fund the next wave of broader energy reforms, strengthening of the social safety net system to protect the vulnerable households from energy tariff reforms, and accompanying communication campaigns.
63. **Supporting the readiness of the country for carbon transactions under the Paris Agreement is critical for the Project sustainability.** Other climate and carbon funds have provided up-front support for readiness efforts to the implementing entities. Building on this lesson, the proposed Project has an associated TA aimed at supporting the capacity building and preparation of systems, transparent measurement, reporting and verification processes, infrastructure and standard documents in Uzbekistan for future roll-out of carbon transactions.
64. **Building adequate institutional arrangements is crucial for the successful implementation of Article 6 of the Paris Agreement, as governments play a significant role in its implementation.** Effective institutional setup and capacity are necessary to develop and implement policies and programs related to ERs, carbon markets, and



climate finance. The institutional arrangements established as part of the Project will serve as a foundation for enhancing capacities and governance also for future projects.

65. **As a pioneering engagement, this Project will provide many lessons**, some of which have already been and will be included in future World Bank climate and carbon finance initiatives. Specifically, the legal agreements will be the templates used by future TCAF projects and also the upcoming SCALE umbrella trust fund. Similarly, the validation and verification protocols will be used by TCAF and SCALE in the future.

### III. IMPLEMENTATION ARRANGEMENTS

#### A. Institutional and Implementation Arrangements

66. The MoEF has been leading the preparation of the proposed Project and will also lead the Project implementation along with the MOE. Based on Presidential Decree #436, dated December 2, 2022, the MoEF is the authorized state body in charge of coordinating the green growth agenda and will facilitate the efforts in preparation for the establishment of a national legal framework for carbon trade and accessing carbon markets and piloting the first carbon transaction under this proposed Project as part of Article 6 of the Paris Agreement. A PIU will be established under the MoEF for the overall coordination and day-to-day implementation of the Project.
67. The MOE will be responsible for implementation of the Project along with the MoEF. The MoEF and MOE have been involved directly in all aspects of implementation with other projects and have gained extensive experience with the World Bank's projects in general, including environmental and social policies and operating procedures. Capacity development for the MoEF and UHM will be needed in the area of carbon transactions, as iCRAFT will be the first of its kind in the country, which will be supported through the accompanying TA.
68. The MoEF and MOE will be signatories of the ERPA and MOPA, representing the Republic of Uzbekistan. The Host Country Agreement (HCA) will be executed between the Trustee and the Republic of Uzbekistan, represented by the MoEF.
69. The ASR, main shareholder of power and gas companies, is a lead state body responsible for the design and implementation of energy sector reforms. ASR will be involved as a coordinating body of the energy sector and energy reforms in the country.
70. The Ministry of Investment Industry and Trade (MIIT) is a central coordinating state body responsible for coordinating activities of international financial institutions and foreign government financial organizations as well as the implementation of the state investment policy programs.
71. The UHM (Agency for Hydrometeorological Service of the Republic of Uzbekistan) is a state governing body specially authorized for the solution of tasks in the field of hydrometeorology in the Republic of Uzbekistan and the state focal point for NDC and Paris Agreement. The UHM will lead the activities on assessing, quantifying, verifying, and reporting the expected results of the operation, including potential GHG reductions according to Article 6 of the Paris Agreement. The accompanying TA on development of institutional capacity, systems, and infrastructure for MRV of carbon transactions will be provided to the UHM.

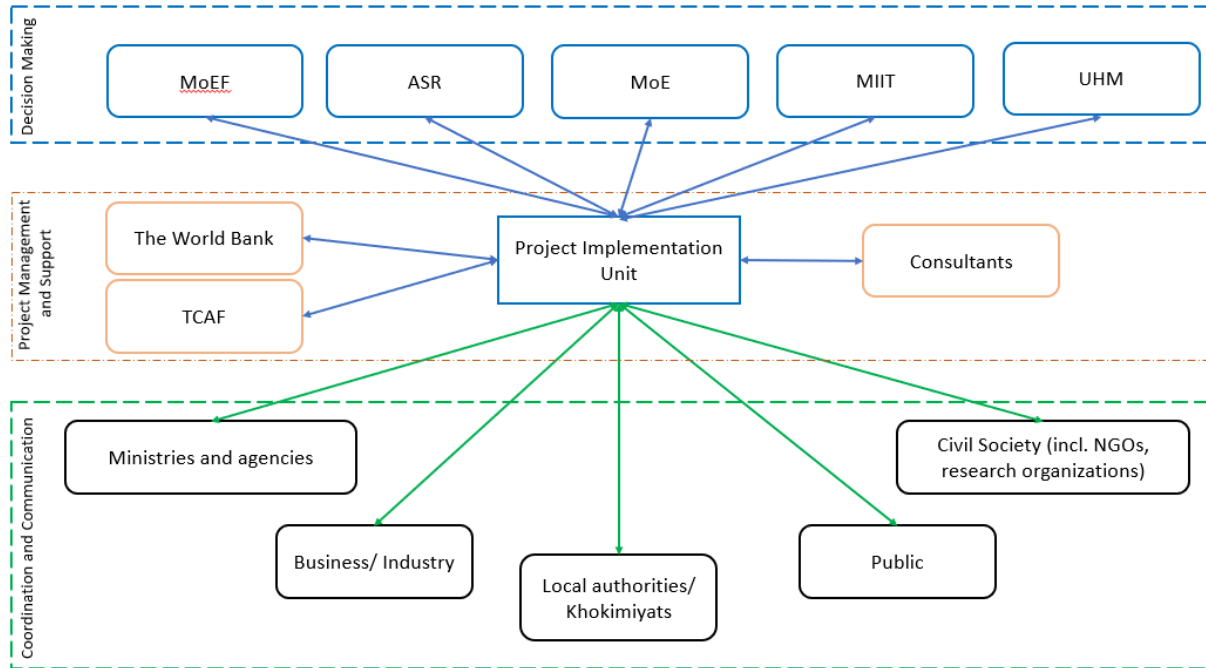


72. A governmental working group was established in 2022 specifically to prepare the proposed Project jointly with the World Bank. The working group led by the MoEF and comprising representatives from the MIIT, MOE, and UHM has been providing overall strategic and policy guidance as well as facilitating coordination among different ministries and agencies. Following the recent administrative reforms in Uzbekistan, the GoU will reestablish the working group as a Steering Committee to coordinate the efforts of different agencies involved during the Project implementation.
73. The Project will require monitoring and annual reporting of indicators for measuring progress made and verifying the ERs achieved as a basis for payment(s). A dedicated Energy Policy MRV Methodology designed to examine the effects of energy-pricing policies on end user energy demand has been developed for the Project, based on the Uzbekistan context and plans, with inputs and assumptions provided by the GoU. This methodology will be validated by an independent third party and the ER results will be verified on an annual basis.
74. The PIU will be responsible for monitoring and evaluating results achieved under the Project, to track implementation progress of the Project activities and key results indicators. During the Project implementation, the World Bank team will provide close implementation support to assist the PIU in refining its MRV system and to familiarize the GoU with international carbon trading under Article 6 requirements. The PIU will submit annual verification reports to the World Bank for review and payment for the VERs. The World Bank team will provide timely and effective implementation support through regular implementation support missions (that is, within six months from the Project effectiveness date and then at appropriate intervals) as well as recurrent Monitoring and Evaluation (M&E) of project results, environmental and social aspects, operations, and technical aspects to support the Project implementation. A midterm review will be performed to assess the overall Project progress, identify critical implementation problems, and make any necessary adjustments to the Project design or its components or implementation schedule. Apart from the Project's day-to-day activities, the PIU will also monitor the progress in the development of key associated policy and regulations in the sector.





Figure 9: Project Implementation Arrangement



## B. Results Monitoring and Evaluation Arrangements

75. **Monitoring and evaluation (M&E) arrangements.** The MoEF will be responsible for M&E of results achieved under the Project, establishing a national legal framework for carbon trade, accessing carbon markets, and piloting the first carbon transaction. The working group, to be reestablished as a steering committee, comprising the representatives of the MoEF, MOE, ASR, MIIT, and UHM will serve as a platform to review the Project progress and streamline the decision-making process. Close implementation support will be provided by the World Bank team to assist the steering committee. An annual ER report will be submitted to the World Bank. This report will contain the ERs generated for the prior year, based on updates to the MRV methodology and model. The report will be verified by an independent third party on an annual basis and be used for the annual ERs payments. Apart from the Project’s day-to-day activities, the proposed M&E framework will also monitor the progress in development of key associated policy and regulations in the sector. A midterm review will be carried out to assess the overall Project progress; identify critical implementation issues; and make necessary adjustments to the Project design, its components, or implementation schedule, as needed.

## C. Sustainability

76. The proposed Project serves as a foundation for Uzbekistan’s future participation in the global carbon market while assisting the planned and ongoing energy sector reform through climate and carbon funds. The GoU is committed to energy sector reform, and payments received through the Project will provide support to the next wave of reforms, strengthening of the social safety net system to protect the vulnerable households from energy tariff reforms, and accompanying communication campaigns. Sustainability of the Project will be enhanced





through the results-based payment structure, where the payment amount will be based on the ERs measured and verified annually.

77. The associated TA will support capacity development for the GoU to comply with the requirements of Article 6 under the Paris Agreement, which includes establishing and testing an MRV system in compliance with international standards; building a registry to track the generation, issuance, and transfer flow of all ERs in and out of the country; annual reporting; and so on. The systems, processes, technical design, and project documents that will be put in place under this Project would be used by the GoU for the rollout of subsequent carbon trade transactions under Article 6 of the Paris Agreement in the future, thereby ensuring the long-term sustainability of the Project outcomes.

#### IV. PROJECT APPRAISAL SUMMARY

##### A. Technical

78. **Energy subsidy reforms.** To increase the efficiency of energy supply and energy use, the GoU has prioritized energy tariff reforms since 2017 and aims to bring the prices to cost recovery level by 2026. With support from the World Bank, the Government commissioned a comprehensive review of energy subsidy reform, including social protection measures and a comprehensive communication campaign. The authorities considered several mitigation options to address potential negative impacts, including (a) phasing tariff increases to allow adaptation among users, (b) adjusting social transfer amounts and coverage to offset the budgetary impact of tariff increases, (c) adjusting the tariff design itself, and finally (d) potential introduction of lifeline tariffs. Phased tariff increases are standard in reform policies that may have particularly adverse effects on vulnerable groups, rather than increasing tariffs to full cost recovery levels in a single large step. This has been the principal approach to mitigate the impact of tariff reform the Government has taken over the past decade. The approach allows consumers to prepare for increases, for instance, by adapting their energy use or more quickly retiring inefficient appliances. Under plausible assumptions of adaptive behavior on the part of energy consumers, a more gradual approach is expected to moderate welfare losses and the resulting increase in poverty. The GoU has committed to deploying the above-mentioned set of available social mitigation instruments to protect the vulnerable households based on specific parameters of individual tariff designs on an annual basis.
79. **Brief description of the MRV methodology.** The ERs resulting from changes in end user demand driven by electricity and gas tariffs adjustments will be quantified through an Energy Policy MRV Methodology, which is designed to examine the effects of energy pricing policies on energy consumption. The methodology will quantify the ERs through the adoption of energy pricing policies by comparing emissions from the observed scenario ('with policy' scenario—the GoU's recent and planned tariff reforms) with the counterfactual baseline scenario ('without policy' scenario—historical average trend of energy tariff adjustments, that is, before the launch of reforms). The 'without policy' scenario is generated to simulate what would have happened in the absence of the planned energy subsidy reforms. The methodology has been developed based on Uzbekistan's context and reform plans with inputs and assumptions provided by the GoU. The resulting ERs will be quantified ex-post based on reporting by the GoU regarding tariff adjustments and will serve as a basis for payments to the GoU. The methodology forecasts potential ERs ex ante, while the actual results are monitored, reported, and verified, with ERs being credited based on actual tariff reforms ex-post. Annual payments will be made based on the amount of ERs generated and contracted in the preceding year.



80. Uzbekistan energy consumption profiles have been analyzed in detail, and the price elasticity of demand has been estimated based on actual data provided by the MoEF and MOE. The analysis aimed at assessing the Uzbekistan-specific energy price elasticity of demand—the responsiveness of consumers to energy prices changes. Precise measures of electricity consumption elasticity are important for both energy providers and policy makers. By understanding how consumers respond to changes in price, regulators can make informed decisions about pricing strategies. Policy makers can use this information to design effective policy measures aimed at reducing inefficient and excessive consumption of energy and distributional impacts and promoting sustainability. Annual and monthly aggregate price and consumption data shared by the GoU covered 2012–2021. The results of the World Bank analysis suggest the demand elasticity to a tariff increase is  $-0.33$  for electricity and  $-0.17$  for natural gas in Uzbekistan.

**Table 2: Aggregate Price Elasticities of Demand for Electricity and Natural Gas**

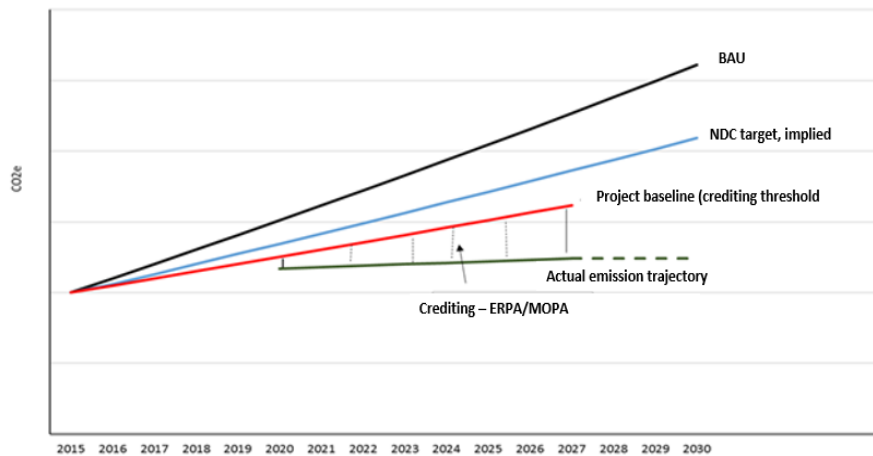
	Electricity		Natural Gas	
	(1)	(2)	(3)	(4)
Log(Tariff)	-0.355*** (0.078)	<b>-0.326***</b> (0.076)	-0.181*** (0.069)	<b>-0.167***</b> (0.064)
Consumer FE	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes
Measure	Point	Mov. Average	Point	Mov. Average
Constant	9.651*** (0.468)	9.487*** (0.456)	9.287*** (0.432)	9.232*** (0.406)
N	479	479	539.000	540.000
r2	0.961	0.961	0.943	0.956

*Notes: World Bank estimates based on the data from the GoU.*

81. The Project technical design, including above-mentioned MRV methodology, will be validated by an independent third party. A positive validation statement will be a prerequisite for the signing of legal agreements. After the signature of the agreements and once implementation begins, the results (ERs) will also be verified by an independent third party annually based on the GoU reports. The validation and verifications will be arranged and paid for by TCAF. A detailed framework for measurement, reporting, and verification of ERs under the proposed Project will be designed during the Project implementation jointly with the GoU.
82. Based on the actual data to be submitted by the GoU during the Project implementation, the MRV methodology, through application of baseline and actual energy tariffs, will capture ex-post the reduction in energy use and consequently the resulting ERs. The resulting ERs will be reported by the GoU, verified by an independent third party, and thereafter credited through the Project funds. This is a novel result-based policy crediting program to incentivize reduction in energy consumption and to credit the resulting ERs. Detailed information on the proposed MRV methodology is included in the annex. Figure 10 illustrates the different carbon emission scenarios and the ERs to be captured and credited under the Project.



Figure 10. Emission Reduction: BAU, Baseline and Crediting Threshold



Note: BAU = Business as usual

83. The MRV methodology and model enable the impacts of various policy changes to be simulated without the use of more complex models. The methodology provides key steps to be repeated annually to develop an ex-post trajectory of the emission impact of the policies:
- (a) *For policies influencing end user energy prices.* Collect energy sales and pricing data for end users, differentiated as necessary by energy type (electricity and natural gas), by final consumption user group (residential, nonresidential, commercial, industrial, and others), and for each tariff layer within each group.
  - (b) *Develop the counterfactual 'without' policy 'reference' conditions* of what could be expected to have happened without the proposed policy (subsidy reforms) by running the methodological procedures through all impact channels.
  - (c) *Calculate CO<sub>2</sub>e emission modeled impact* as the difference between the emission levels obtained from the 'with policy' and 'without policy' scenarios.
84. GHG covered. This includes CO<sub>2</sub> emissions from reduction in end-user electricity and natural gas consumption.
85. Boundary. The boundary of the program will include all end-users of electricity and natural gas in Uzbekistan.
86. Project Crediting Baseline. A baseline is set by considering the BAU scenario, historical trends, and the expected trajectory of emissions in the scenario where the policies would have not been implemented and selecting the one that represents the country's own efforts to achieve the NDC. The difference between the 'with policy' and baseline scenario ('without policy') determines the impact of the policy on ERs.
87. Several baseline options were explored to examine the expected emission trajectory, that is, under the BAU scenario and under the NDC-implied scenario. The baseline options were then compared with the 'with policy scenario' and the differences in ERs were calculated.



88. Based on assessing several options, as well as in consultation with the GoU, a conservative option with the tariff following historical trend based on a five-year average increase rate is selected as the Project crediting baseline.
89. Source of key data. Official economic and energy data published by government agencies have been used, where available. The model uses data provided by the MoEF, specifically, energy balance data, that is, generation and consumption, from 2012 to 2021. Energy prices are officially published based on final energy price by year in local currency (Uzbekistan sum). Historical electricity tariffs and natural gas tariffs are based on the GoU data.
90. Key economic indicators (up to 2021) such as GDP, GDP growth, and inflation rate are based on the World Bank database and International Monetary Fund World Economic Outlook. The historical currency exchange rate is based on public online sources. Specific data at the power plant level are based on the Platts database, World Bank Least Cost Planning Model, and so on. The data have been cross-checked where multiple resources were available.
91. Environmental integrity. According to the methodology and model, additionality of ERs as a result of policy reform is assessed by developing two scenarios—an ex-post, results-based ‘with policy’ calculated scenario and a ‘without policy’ counterfactual scenario based on historical data —where the only difference between the two is the change in energy prices and subsidies due to implementation of the tariff reforms. Thus, all the other activities that change the emissions are outside the impact of the tariff reforms are not captured under the Project.
92. Double counting. As required by Article 6 of the Paris Agreement, the GoU will create and maintain a national registry for tracking and shall ensure that such registry records, including through unique identifiers, as applicable; authorization, first transfer, transfer, acquisition, and use towards NDCs; authorization for use toward other international mitigation purposes; and voluntary cancellation (including for overall mitigation in global emissions, if applicable), and shall have accounts as necessary.

## **B. Economic and Financial Analysis**

93. Since the underlying activity is a policy action (subsidy reform) that has no associated cost and given that the proposed Project provides result-based payments for VERs on an ex-post basis, a traditional economic and financial analysis is not applicable.

## **C. Fiduciary**

94. **Financial management (FM).** The FM arrangements for the Project were assessed as required by the IPF policies and procedures as well as the World Bank Guidance for Emission Reduction Crediting Projects<sup>15</sup> to the extent relevant and based on the nature and circumstances of the Project. The conclusion was made that since the Project will only disburse funds against VERs and annual Uzbekistan contributions to SOPA to be made directly by the World Bank upon the request of Uzbekistan with records evidencing eligible expenditures as a supporting document; with no other dedicated payments envisaged under the Project, further due diligence, including supervision of FM arrangements, as well as FM reporting requirements will not be required. The Project will rely on the country public FM systems for the flow of funds, which will be specified in the Disbursement and Financial

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<sup>15</sup> <https://worldbankgroup.sharepoint.com/sites/ppfonline/PPFDocuments/b347b37d609e4d2c8ccfbb72d8d2e9c9.pdf>



Information Letter (DFIL). The DFIL will not include the standard section on financial reports and audits.

The overall residual FM risk rating is assessed as Moderate.

- 95. **Procurement.** The World Bank’s Procurement Regulations do not apply under the proposed Project. According to World Bank Guidance for Emission Reduction Crediting Transactions, the inputs financed by the World Bank are the purchase of ERs and there is no scope in the procurement policy for further application to second-tier utilization of these funds.

**D. Legal Operational Policies**

	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

**E. Environmental and Social**

- 96. The following Environmental and Social Standards (ESSs) are considered relevant: ESS1 Assessment and Management of Environmental and Social Risks and Impacts; ESS2 Labor and Working Condition, ESS4 Community Health and Safety; and ESS10 Stakeholder Engagement.

97. The overall risk environmental and social risk is classified as moderate. The Project is supporting policy-level intervention to generate emission reductions and will not finance any physical investments and/or any technical assistance for such investments in the future. The Project will have a beneficial impact by reducing emissions of GHGs. The environmental risk is rated low. The social risk is classified as moderate. The potential social risks and impacts mainly relate to impacts of changes to tariffs. Whilst the increase in tariffs will be differentiated for residential vs other end users even marginal and gradual increases will likely disproportionately impact vulnerable and poor households, if not managed well. Some of these will be relying on existing social safety nets whilst others may potentially require support from social safety nets because of the raise in tariffs. The Project will co-ordinate and co-operate with agencies providing social safety nets and which is expected to be facilitated through the Bank’s ongoing subsidy reform dialogue, this proposed Project and the Strengthening Social Protection Systems Project (SSPS), that specifically rolls out the Single Registry (SR) of social protection and works on strengthening the social assistance delivery systems. Finally, whilst a communication campaign is planned, such efforts need to go beyond raising awareness of the reforms. If the need to raise tariffs, and how the raise is differentiated for different groups with associated social mitigation measures, is not well communicated, there may be increasing tension and increase in complaints when impacts are felt. Lack of inclusive engagement and participation of affected stakeholders, including end users and particularly amongst those who may stand to lose out or adversely impacted, may add to the risk level. It will be key to ensure targeted communication campaigns, and that those groups that will be disproportionately impacted are meaningfully engaged and informed of what measures are in place as outlined in the section above including through social safety nets. The proposed operation would lead to positive environmental benefits through reduced energy intensity and promoted clean energy deployment.

- 98. The impacts will be managed by ensuring qualified staff and resources are retained to support management of



the social and environmental risks and impacts of the Project, including a social specialist for managing the planned communication campaign, broader stakeholder engagement including a feedback mechanism and grievance redress mechanism (FGRM). An ESCP and Stakeholder Engagement Plan (SEP) including FGRM have been prepared by MoEF and disclosed on their website on May 15, 2023. The SEP will be regularly revised to include updated information on the communications strategy and details of the campaigns as well as messaging on social safety nets and who would be legible for any benefits. There will be ongoing consultations including with representatives of end users and sample of end users. As agreed in the ESCP, the project SEP will be revised, redisclosed and adopted by the MoEF.

99. **Citizen Engagement.** Understanding the views of the public about the energy reforms in the country will be key in building support for those reforms and managing expectations. The Project, through the implementation of the SEP, will ensure continuous and effective participation of stakeholders throughout implementation. The Project will be utilizing perception survey which collects the public's views on energy tariffs adjustments and on the options provided by the GoU to support vulnerable people from the set of available instruments mentioned in the section above. This survey will be used to measure the perceptions of the public, how they evolve over the time, and assess the level of satisfaction with the reforms. The results will help to determine options for level of tariffs for vulnerable people, inform social protection measures, and inform the outreach and communication activities under the Project and to be captured in a revised SEP. The GoU has confirmed financing a communication campaign to inform the public and address stakeholders' views on proposed reforms. The campaign forms a key part of the SEP and the SEP will be regularly revised to capture information from the surveys and details on the campaign. The SEP also outlines mechanisms and actions to foster a two-way dialogue with beneficiaries and ensures their participation, and response to feedback, throughout the Project's life cycle including through operationalizing the FGRM.

## V. GRIEVANCE REDRESS SERVICES

100. **Grievance Redress.** Communities and individuals who believe that they are adversely affected by a project supported by the World Bank may submit complaints to existing project-level grievance mechanisms or the Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the Bank's independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, as a result of Bank non-compliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with the opportunity to address complaints through dispute resolution. Complaints may be submitted to the AM at any time after concerns have been brought directly to the attention of Bank Management and after Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the Bank's Accountability Mechanism, please visit <https://accountability.worldbank.org>.

## VI. KEY RISKS



101. **The overall residual risk of the proposed Project is Substantial given the innovative nature of the Project.** The proposed Project will be the first carbon transaction effort in Uzbekistan with the first policy-based carbon crediting methodology applied. The institutional capacity and necessary systems of GoU will need to be developed, established, and operationalized. Uzbekistan's energy reform program is now entering the next phase, and the GoU has prepared and is committed to apply certain mitigation measures to ensure sustainability of the sector reform agenda and successful implementation of the proposed Project. The Government has also issued a letter of development confirming its commitment towards the climate agenda, pursuing subsidy reforms, protecting vulnerable customers, and the accompanying communications campaigns. The overall risk rating is therefore assessed as Substantial.
102. **Sector strategies and policies risk to the operation is Substantial.** Although the GoU and sector stakeholders' support for the sector reforms continues to be strong, the targeted measures such as subsidy reforms are complex and may generate public discussion and debate. Subsidy reforms are usually a sensitive topic with several barriers including potential impact on the poor that may need to be mitigated. Such reforms—if poorly implemented—can create certain risks and threaten sustainability of the reform agenda. The GoU has demonstrated commitment to further pursue the energy sector initiatives including gradual tariff increase towards cost recovery levels, while protecting the energy poor. Authorities are aware of the above-mentioned risks and have taken a number of initial measures to mitigate them. A set of mitigation options are made available, including (a) phasing tariff increases to allow adaptation among users, (b) adjusting social transfer amounts and coverage to offset the budgetary impact of tariff increases, (c) adjusting the tariff design itself, and (d) potential lifeline tariffs. They have also started communication campaigns to explain the need for the proposed reforms and collect citizens' feedback. Putting in place a social protection package to protect vulnerable households is also planned by the GoU. Subsidy reforms are usually very sensitive with a potential risk of policy reversal. The project is well designed as a result-based operation to mitigate such risks, where the funds will be transferred to the GoU ex-post only after the reforms are implemented and results (ERs) are achieved over the Project implementation period. The proposed RBCF can also be used to pay for the costs associated to address these barriers such as communication campaigns and associated compensation. The GoU is also taking measures to enhance energy efficiency across the economy, which is expected to help also offset the hit in energy bills and increase international competitiveness. As part of the ongoing dialogue, the World Bank will continue to support the GoU in broader electricity sector reforms, including on cost recovery initiatives, through supporting the GoU in the development of new methodologies and undertaking tariff adjustments on a regular basis to be accompanied by social mitigation measures to protect the vulnerable people as well as communication campaigns. In this regard, the proposed Project will benefit from the ongoing comprehensive reform program and the World Bank support to the GoU.
103. **The Project technical design risk is Substantial,** given the innovative nature of the Project and the lack of institutional capacity and adequate systems in the country for such operations. This risk will be mitigated through the Project itself and associated TA, which collectively aim to build the necessary infrastructure, systems, processes, capacity, standard design and document as well as to test them through the proposed pilot operation.
104. **Institutional risks remain Substantial due to the innovative nature of the proposed Project and lack of systems, limited knowledge and experience of stakeholders.** The proposed climate and carbon finance transactions are the first of their kind in Uzbekistan, and there are no systems, infrastructure and processes in the country for such transactions. Additionally, key Project stakeholders have limited knowledge on such operations and are expected to gain experience during the proposed Project implementation period. The Project





and associated TA aim to help the GoU develop such capacity, systems and infrastructure not only for the implementation of the Project but also for further rollout of such initiatives in international carbon markets.

105. **The overall environmental and social risk is classified as Moderate.** The following ESSs are considered relevant: ESS1 Assessment and Management of Environmental and Social Risks and Impacts; ESS2 Labor and Working Condition, ESS4 Community Health and Safety; and ESS10 Stakeholder Engagement. The environmental risk is low and the Project would lead to positive environmental benefits through reduced energy intensity and promoted clean energy deployment. The social risk is classified as Moderate, with potential risks of disproportionate impact to of subsidy reforms on vulnerable households. The Project will monitor such risks and help the GoU with distributional impact assessments and design of necessary mitigation measures.
106. **Stakeholders risk to the operation is Substantial,** given the innovative nature of the Project and the involvement of multiple stakeholders (as outlined in the Implementation Arrangements section above). To mitigate such risks, in 2022, the GoU established an inter-ministerial working group to work with the World Bank team in the preparation of this Project. The working group will be reestablished by the GoU as a project steering committee to coordinate the efforts of different agencies involved. Going forward, the World Bank team will conduct regular multi-stakeholder discussions to ensure timely mitigation of risks that may arise and successful implementation of the Project to achieve the targeted outcomes.
107. **Due to the nature of the Project, there are other risks which have been identified with residual risk as Moderate.** In the case of the MOPA, there is another risk that the GoU might decide to sell the carbon emissions (ITMOs) to another buyer if it can obtain a higher price. The legal agreements require the GoU to transfer the ITMOs from this Project to the World Bank (TCAF).





**VII. RESULTS FRAMEWORK AND MONITORING**

**Results Framework**

**COUNTRY: Uzbekistan**

**Innovative Carbon Resource Application For Energy Transition**

**Project Development Objectives(s)**

The project development objective is to reduce carbon emissions through subsidy reforms and leveraging policy-based climate and carbon funds.

**Project Development Objective Indicators**

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
<b>GHG emission reductions generated by the Project</b>							
GHG emission reductions generated by the Project (cumulative) (Text)		0 MtCO2e	12 MtCO2e	25 MtCO2e	37 MtCO2e	48 MtCO2e	59 MtCO2e
<b>Amount of payments made for CO2e emissions reductions generated by the Project</b>							
Amount of payments made for CO2e emissions reductions generated by the Project (Amount(USD))		0.00	9.00	10.00	9.00	8.00	9.00



**Intermediate Results Indicators by Components**

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
<b>Component 1: Payments for measured, reported and verified emission reductions - Climate Finance</b>							
Cost recovery tariff trajectory established and implemented over time (Text)		No cost recovery trajectory and ad-hoc based tariff setting practice	Energy cost recovery trajectory developed	Energy cost recovery trajectory adopted	Cost recovery tariff trajectory implemented	Cost recovery tariff trajectory implemented	Cost recovery tariff trajectory established and implemented
Citizen views and feedback on tariff reform collected and utilized for decision-making (Yes/No)		No	No	Yes	Yes	Yes	Yes
<b>Component 2: Payments for measured, reported, and verified ITMOs - Carbon Finance</b>							
Measurement, Reporting and Verification (MRV) system established and operationalized (Text)		No MRV system in place in Uzbekistan	No MRV system in place in Uzbekistan	An MRV system established	An effective MRV system established and piloted through the project	An effective MRV system established and piloted through the project	An effective MRV system established and piloted through the project

**Monitoring & Evaluation Plan: PDO Indicators**

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
GHG emission reductions generated by the Project (cumulative)	Cumulative amount of GHG emission reduced as a result of subsidy reforms, and by where the energy consumption would reduce and result in reduced GHG	Annually	Annual Verification Report	As per Monitoring Plan	MOEF, UHM



	emissions from electricity and gas consumption.				
Amount of payments made for CO2e emissions reductions generated by the Project	Component 1 of the project provides climate funds against VERs resulting from more efficient use of energy resources enabled by energy subsidy reforms. Component 2 of the project provides carbon funds against ITMO-VERs resulting from more efficient use of energy resources enabled by energy subsidy reforms.	Annually	Annual Verification Report	As per Monitoring Plan	MOEF, MOE

**Monitoring & Evaluation Plan: Intermediate Results Indicators**

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Cost recovery tariff trajectory established and implemented over time	Gradual and systematic adjustment of energy tariffs toward cost recovery over time	Annually	MOE, MOEF	Desk review	MOE
Citizen views and feedback on tariff reform collected and utilized for decision-making	Perception survey collecting beneficiary views and feedback on energy tariffs adjustments and citizens' views on the options provided by the GoU to support vulnerable people	Annual	Survey	As per monitoring plan	MOEF, MOE



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Measurement, Reporting and Verification (MRV) system established and operationalized	Establishment and piloting of an effective MRV system	Annually	MOEF, UHM	MOEF and UHM report and actual piloting through the project	MOEF, UHM
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**ANNEX 1: Implementation Support Plan**

**Uzbekistan: Innovative Carbon Resource Application For Energy Transition**

**Strategy and Approach for Implementation Support**

1. The Implementation Support Plan described in the Table A4 below explains how the World Bank team will supervise and monitor the proposed Project, the Project risks, and the Project indicators. It is also linked to the results identified in the Results Framework. Supervision arrangements will ensure adequate monitoring, evaluation of risks, and escalation to manage the risk of any call on the guarantees.

**Implementation Support Plan and Resource Requirements**

2. The level of technical support needed includes staff with the energy sector as well as climate and carbon finance knowledge and expertise, specialized project-specific expertise (including legal counsel), environment and social specialists, as well as M&E expertise. The responsibility for this support lies with the energy sector task team leaders and climate-carbon finance co-task team leader with support from other experts. The main focus in terms of support during implementation is summarized in Table A4.

**Table A4. Main Focus of World Bank Support to Implementation**

<b>Time</b>	<b>Focus</b>	<b>Skills Needed</b>
First 12 months	<ul style="list-style-type: none"> <li>• Supervision and technical review of ER data MRV</li> <li>• Implementation of environmental and social safeguards.</li> </ul>	Technical, emissions accounting, and environmental and social
12 – 48 months	<ul style="list-style-type: none"> <li>• Implementation monitoring of the Project</li> <li>• Supervision and technical review of transactions of ITMOs</li> <li>• Technical advice to support project implementation</li> <li>• Implementation of environmental and social safeguards</li> <li>• Monitoring and support for capacity-building needs.</li> </ul>	Technical, emissions trading, and environmental and social
Midterm review	<ul style="list-style-type: none"> <li>• Implementation progress review and identification of necessary midcourse adjustment need.</li> </ul>	Technical, environmental, social, and operational
36 – 60 months	<ul style="list-style-type: none"> <li>• Implementation monitoring</li> <li>• Technical advice to support program implementation</li> </ul>	Technical, environmental, social, and operational

**Table A5. Skills Mix Required**

<b>Skills Needed</b>	<b>Staff Weeks per Year</b>	<b>Trips per Year</b>
Overall supervision	4	2
Task team leaders	4	2
Energy Expert	8	2
Carbon finance expert	4	2
Financial management	4	2



Environmental specialist	4	2
Social specialist	4	2



**ANNEX 2. Indicative Terms of Legal Agreements (ERPA, HCA, MOPA)**

**Uzbekistan: Innovative Carbon Resource Application For Energy Transition**

1. The TCAF transaction structure, approved by TCAF Contributors in 2021, entails three (3) types of legal documents. The Program Entity (“PE”) is to negotiate and enter into an ERPA with IBRD, as Trustee of TCAF (“Trustee”), for the results-based climate finance payment for verified emission reductions (“VERs”). The VERs are to remain in the Host Country to be used to meet its NDC commitments under the Paris Agreement. At or about the same time of ERPA signature, the PE is to negotiate and enter into a MOPA with the Trustee for the results-based carbon finance payment for transferred ITMO-VERs under Article 6.2 of the Paris Agreement. The ITMO-VERs under the MOPA are transferred to the Trustee, on behalf of TCAF carbon market Contributors, in accordance with Article 6.2 of the Paris Agreement and are not to remain in the Host Country. Therefore, ITMO-VERs (as well as its underlying VERs) cannot be used by the Host Country to achieve its NDC commitments under the Paris Agreement. At or about the same time of MOPA signature, the Host Country is to negotiate and enter into a HCA with the Trustee to provide for a process to enable the ITMO transaction under the MOPA and to properly account for the ITMO transaction under Article 6.2 of the Paris Agreement.

**Key ERPA Terms**

2. **Objectives of ERPA:** The ERPA is a result-based climate finance payment agreement, to be concluded between the PE and the Trustee, to cover VERs generated under the Program and to be financed by TCAF Contributors. Under the ERPA, the possession of VERs is to be transferred from the PE to the Trustee and re-transferred from the Trustee to the PE. The purpose of the ERPA is to set out terms and conditions regarding the transfer and re-transfer of the possession of VERs as well as the payment for VERs that remain in the Host Country for use against its NDC commitments.

Terms	Description												
Transferee	IBRD, as Trustee of TCAF, on behalf of TCAF Contributors												
Transferor	Republic of Uzbekistan, represented by MOE and MoEF												
Host Country	Republic of Uzbekistan												
Parties	PE and Trustee												
Type of Emission Reductions	VERs												
Contract VER Volume	The 1,333,333 Contract VERs first generated annually from January 1, 2022 to December 31, 2024												
	<table border="1"> <thead> <tr> <th>Reporting Year</th> <th>Period</th> <th>Annual Amount of Contract VERs</th> <th>Cumulative Amount of Contract VERs</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>January 1, 2022 – December 31, 2022</td> <td>500,000</td> <td>500,000</td> </tr> <tr> <td>2</td> <td>January 1, 2023 – December 31, 2023</td> <td>500,000</td> <td>1,000,000</td> </tr> </tbody> </table>	Reporting Year	Period	Annual Amount of Contract VERs	Cumulative Amount of Contract VERs	1	January 1, 2022 – December 31, 2022	500,000	500,000	2	January 1, 2023 – December 31, 2023	500,000	1,000,000
	Reporting Year	Period	Annual Amount of Contract VERs	Cumulative Amount of Contract VERs									
	1	January 1, 2022 – December 31, 2022	500,000	500,000									
2	January 1, 2023 – December 31, 2023	500,000	1,000,000										



Terms	Description				
	<table border="1"> <tr> <td>3</td> <td>January 1, 2024 – December 31, 2024</td> <td>333,333</td> <td>1,333,333</td> </tr> </table>	3	January 1, 2024 – December 31, 2024	333,333	1,333,333
3	January 1, 2024 – December 31, 2024	333,333	1,333,333		
<b>Maximum Contract Value (US\$)</b>	US\$ 20,000,000.00				
<b>Unit Payment per Transferred Contract VER</b>	US\$ 15.00				
<b>Conditions to Transfer and Payment</b>	<ol style="list-style-type: none"> <li>1. Execution by the Host Country of a Host Country Agreement with the Trustee;</li> <li>2. Submission of a Letter of Approval, in form and substance satisfactory to the Trustee;</li> <li>3. Submission of an explanatory document, describing how the Program Entity intends to use the Annual Payment, in form and substance satisfactory to the Trustee.</li> </ol>				
<b>(Results-based climate finance) Payment</b>	<ol style="list-style-type: none"> <li>1. The Trustee will pay for Contract VERs until all Contract VERs are generated and Verified;</li> <li>2. Contract VERs, and any underlying tons of GHG Reduction may only be used or claimed once for the purpose of receiving TCAF payment and supporting Uzbekistan NDC.</li> <li>3. Within sixty (60) calendar days of the end of each Reporting Year, the PE shall provide the Trustee with an Annual ER Report for that Reporting Year, in form and substance satisfactory to the Trustee;</li> <li>4. Within sixty (60) calendar days following the date of the 'Application for Payment', the Trustee shall make the Annual Payment to the PE;</li> <li>5. Possession to any Contract VERs will be Transferred from the PE to the Trustee and Re-Transferred from the Trustee to the PE.</li> </ol>				
<b>Designated Registry for Transfer and Re-Transfer of VERs</b>	Carbon Asset Tracking System (CATS)				
<b>Term of ERPA</b>	The ERPA will become effective on the date of execution by both Parties. Unless terminated earlier, the ERPA will terminate upon payment for all Contract VERs, but in any case, by no later than December 31, 2028.				

**Key MOPA Terms**

3. **Objectives of the MOPA:** As opposed to the ERPA, the MOPA is a results-based carbon finance payment agreement that requires a transfer of ITMO-VERs to the Trustee, on behalf of TCAF Carbon Market Contributors. Therefore, payment is not only made against VERs, but against the transfer of the legal title of ITMO-VERs under Article 6.2 of the Paris Agreement and is notably subject to reporting requirements as set out under Paris





Agreement Rules and the HCA. Some TCAF Contributors are interested in having these ITMOs to use towards their own NDC commitments or for other purposes.

Terms	Description																
<b>Buyer</b>	IBRD, as Trustee of TCAF, on behalf of TCAF Participants (Buyer)																
<b>Seller</b>	Republic of Uzbekistan, represented by MoEF and MOE																
<b>Host Country</b>	Republic of Uzbekistan																
<b>Parties</b>	Trustee and PE																
<b>Type of Emission Reductions</b>	ITMO-VERs to be internationally transferred to Trustee, on behalf of TCAF Contributors, for potential use towards TCAF Contributors own NDC commitments or other purposes.																
<b>Contract ITMO-VER Volume</b>	833,332 ITMO-VERs generated annually from 2024 to 2026																
	<table border="1"> <thead> <tr> <th>Reporting Year</th> <th>Period</th> <th>Annual Amount of ITMOs</th> <th>Cumulative Amount of ITMOs</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>January 1, 2024 – December 31, 2024</td> <td>277,777</td> <td>277,777</td> </tr> <tr> <td>2</td> <td>January 1, 2025 – December 31, 2025</td> <td>277,777</td> <td>555,554</td> </tr> <tr> <td>3</td> <td>January 1, 2026 – December 31, 2026</td> <td>277,778</td> <td>833,332</td> </tr> </tbody> </table>	Reporting Year	Period	Annual Amount of ITMOs	Cumulative Amount of ITMOs	1	January 1, 2024 – December 31, 2024	277,777	277,777	2	January 1, 2025 – December 31, 2025	277,777	555,554	3	January 1, 2026 – December 31, 2026	277,778	833,332
	Reporting Year	Period	Annual Amount of ITMOs	Cumulative Amount of ITMOs													
	1	January 1, 2024 – December 31, 2024	277,777	277,777													
2	January 1, 2025 – December 31, 2025	277,777	555,554														
3	January 1, 2026 – December 31, 2026	277,778	833,332														
<b>Maximum Contract Value (US\$)</b>	US\$ 25,000,000.00																
<b>Maximum SOPA Value</b>	US\$ 1,250,000.00 (5% of the maximum value of ITMO-VER Volume)																
<b>Overall Mitigation in Global Emissions (OMGE)</b>	A voluntary cancellation will be applied by the Trustee of two per cent (2%) of any amount of ITMO-VERs transferred and paid for under the MOPA, that are not counted towards any Party’s NDC or for other international mitigation purposes, to deliver overall mitigation in global emissions.																
<b>Unit Price per Transferred ITMO-VER</b>	US\$ 30.00																
<b>Conditions to Sale and Purchase</b>	<ol style="list-style-type: none"> <li>1. Execution by the Host Country of a Host Country Agreement between the Trustee and the Host Country;</li> <li>2. Issuance of a Letter of Authorization by the Host Country for the Transfer of ITMO-VERs, in form and substance satisfactory to the Trustee;</li> <li>3. Submission of evidence demonstrating the PE’s ability to Transfer Title to ITMO-VERs, free of any interest, Encumbrance or claim of a Third Party, in form and substance satisfactory to the Trustee; and</li> </ol>																



Terms	Description
	<p>4. Submission of an explanatory document, describing how the Program Entity intends to use the Annual Payment, in form and substance satisfactory to the Trustee.</p> <p>5.</p>
<b>(Results-based carbon finance) Payment</b>	<p>Payment will be made by the Trustee for the Transferred ITMO-VERs under Article 6.2 of the Paris Agreement. Such Transfer of ITMO-VERs shall be deemed complete upon receipt, by the Trustee of all of the following documents which must be submitted to the Trustee by the PE within sixty (60) days of the receipt of a final Verification Report:</p> <ul style="list-style-type: none"> <li>a) a copy of the Letter of Authorization for the relevant ITMO-VER Transfer, if still relevant;</li> <li>b) A signed Transfer Form specifying the number of ITMO-VERs Transferred and the crediting of same into the Registry Account;</li> <li>c) Evidence that the Host Country has initiated Corresponding Adjustments through reporting and recording in its national registry system with regard to the Transfer of ITMO-VERs, in accordance with International Rules.</li> </ul>
<b>Registry for the Transfer of ITMO-VERs</b>	The Parties will agree on the designated Registry for the Transfer of ITMO-VERs before any Transfer under the MOPA can be completed.
<b>Term of MOPA</b>	Unless terminated earlier, the MOPA will terminate upon transfer of all ITMO-VERs and the payment in respect thereof, but in any case, by no later than December 31, 2028.

**Key HCA Terms**

4. **Objectives of the HCA:** The main purpose of the HCA to be concluded between the Trustee and the Host Country, is to set out the terms and conditions regarding the Approval of the Program, the Authorization by the Host Country so that ITMO-VERs generated under the Program can be transferred, used and correspondingly adjusted as ITMOs-VERs under International Rules, in particular as they relate to article 6.2 of the Paris Agreement.

Terms	Description
<b>Host Country</b>	Republic of Uzbekistan, represented by MoEF
<b>Parties</b>	Host Country and Trustee
<b>ITMO-VERs</b>	ITMO-VERs cannot be used by the Host Country to meet its NDC commitments.
<b>Policy Implementation Support Plan (PISP)</b>	The Host Country will implement the Policy Implementation Support Plan (PISP), through the total grant funding of US\$2 million provided by TCAF, in order to build its institutional capacity regarding the decision-making process on Authorization and Transfer of ITMOs and as regards reporting requirements under the Paris Agreement.
<b>Approval/Authorization/Corresponding Adjustment</b>	Pursuant to the HCA, the Host Country shall grant Approval of the Program to be implemented, through a Letter of Approval, substantially in the form provided under Schedule 2 of the HCA. The Letter of Approval shall be issued within thirty (30) calendar



Terms	Description
	<p>days of the execution of the HCA.</p> <p>The Host Country shall authorize the ITMO Transfer within 1 year of the execution of the MOPA for the international Transfer of ITMO-VERs as specified in the MOPA. The Host Country will comply with all reporting obligations under the Paris Agreement and will conduct Corresponding Adjustment for transferred ITMO-VERs, to avoid double-counting.</p> <p>For the period following December 31, 2028, the Trustee will assign, to relevant TCAF Contributors, its respective right to request Corresponding Adjustments and cooperate with the Trustee to facilitate such Corresponding Adjustments so that relevant TCAF Participants can be allowed to enforce such rights towards the Host Country.</p>
<b>Priority for Authorization</b>	<p>The relationship between the Parties under the HCA is exclusive with respect to the Program, the MOPA, and the ERPA. The Host Country shall not engage with any Third Party in the context of an intended transaction under Article 6 of the Paris Agreement for any ITMO-VERs generated under the Program, without giving a priority to the Trustee and the Facility Contributors for any Authorization to be given under this Agreement for the Transfer of ITMO-VERs generated under the Program.</p>
<b>Term of HCA</b>	<p>The HCA will become effective on the date of its execution by both Parties.</p> <p>Unless terminated earlier, the HCA will terminate upon transfer of all ITMO-VERs and the payment in respect thereof under the MOPA, but in any case, by no later than December 31, 2028.</p>



### ANNEX 3. Overview of Uzbekistan’s Energy Sector

#### Uzbekistan: Innovative Carbon Resource Application For Energy Transition

##### Governance and Institutional Structure

1. The GoU has taken measures to streamline the institutional and decision-making framework of the sector. Sector oversight functions have been consolidated under the MOE that was established in February 2019, which assumed the responsibility for policy-making functions in relation to gas, coal, nuclear power, and electricity, while day-to-day operations have been delegated to the energy sector entities. The MOE has assumed overall responsibility for policy-making and regulatory functions of the integrated energy sector. Furthermore, in March 2019, the GoU unbundled the vertically integrated power company—Uzbekenego JSC<sup>16</sup>—into three separate companies (generation, transmission and single buyer, and distribution). A similar decision was made in July 2019 on unbundling of Uzbekneftegaz JSC, a state-owned oil and gas company.

Figure A4. Electricity Sector Structure (as of April 2023)

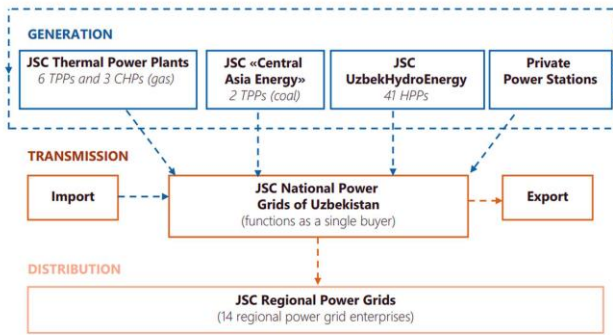
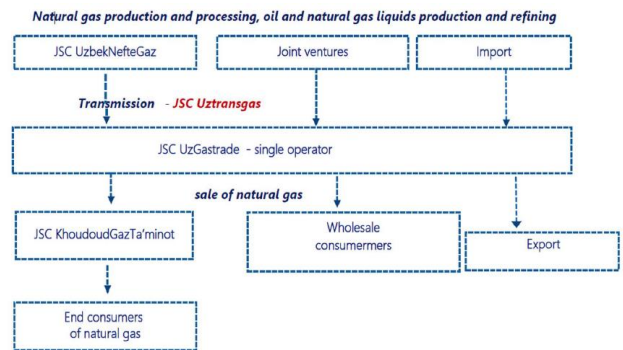


Figure A5. Gas Sector Structure (as of April 2023)



Source: The MOE of the Republic of Uzbekistan

##### Energy Mix

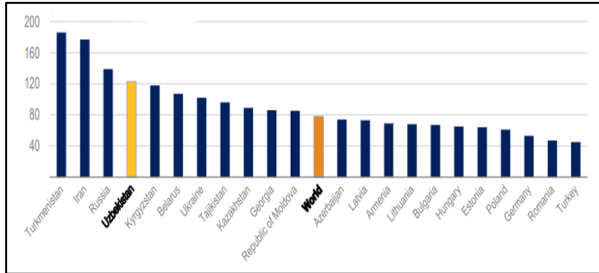
2. Uzbekistan remains one of the most energy-intensive economies in the world, as the energy sector is overwhelmingly dependent on natural gas, and significant space remains for energy efficiency improvement. Energy use in Uzbekistan is high and largely based on fossil fuels, even though the country has significant RE potential in solar and wind. Natural gas makes up to 83 percent of the total primary energy consumption and more than 80 percent of the electricity mix. There are significant opportunities to enhance energy efficiency primarily in large energy-intensive sectors, as IEA estimates that more efficient use of energy resources has the potential to reduce the country’s required generation by around 10 percent by 2040. These characteristics have contributed to Uzbekistan’s energy-intensive economy, where GDP energy intensity is about 50 percent higher than that of neighboring Kazakhstan and around three times higher than that of Türkiye. While the country accounts for 0.3 percent of global emissions, its energy sector accounts for three-quarters of the country’s total GHG emissions. Natural gas is a major source of commodity exports but is getting depleted (at the current pace of consumption, the existing proven gas reserves would be depleted within the next 20 years). The system is

<sup>16</sup> JSC = Joint stock company.



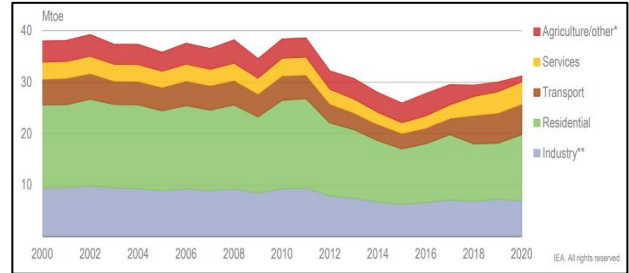
therefore vulnerable, and the country is taking actions toward sustainable energy transition pathways and improving economic competitiveness.

Figure A6. Energy Intensity in Selected Countries, 2019 (TFC/GDP, Mtoe/US\$, millions PPP)



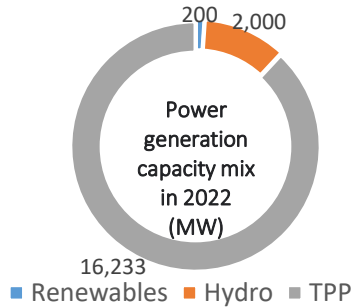
Source: IEA

Figure A7. Final Energy Consumption by Sectors in Uzbekistan, 2019 (Mtoe)



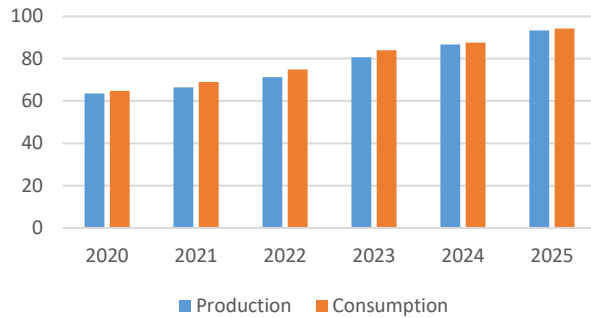
3. Demand for energy is expected to continue growing steadily in conjunction with the economic growth, development trends, and changes in the structure of the national economy. The demand for electricity in Uzbekistan is primarily driven by industrial and residential customers, and the supply-demand balance is generally tight. The demand for electricity is expected to almost double to above 130 TWh in 2030, according to the World Bank-supported Least-Cost Generation Expansion Plan. Power generation growth rates from 2012 to 2019 were recorded at 2.6 percent per year on average. However, the demand for electricity was not fully satisfied in full, with shortages averaging at about 9.4 percent of demand.

Figure A8. Electricity Generation by Source in 2020



Source: Government of Uzbekistan

Figure A9. Electricity Production and Consumption in TWh



4. If no further progress is made in terms of exploration and discovery of additional reserves, Uzbekistan will reach its peak gas production, followed by significant reduction in the coming years. This further creates a risk for the GoU to consider the expansion of coal reserves and coal-based power supply to fill the gap and meet the growing demand. Instead, given the decarbonization plans and NDC targets, the GoU has been ramping up clean RE sources. It has announced a target of deploying 12 GW of solar and wind power through private sector participation by 2030 (starting from an installed capacity of 0.2 GW in 2022), thereby increasing the share of renewables in the capacity mix from around 1 percent in 2022 to 30 percent in 2030.

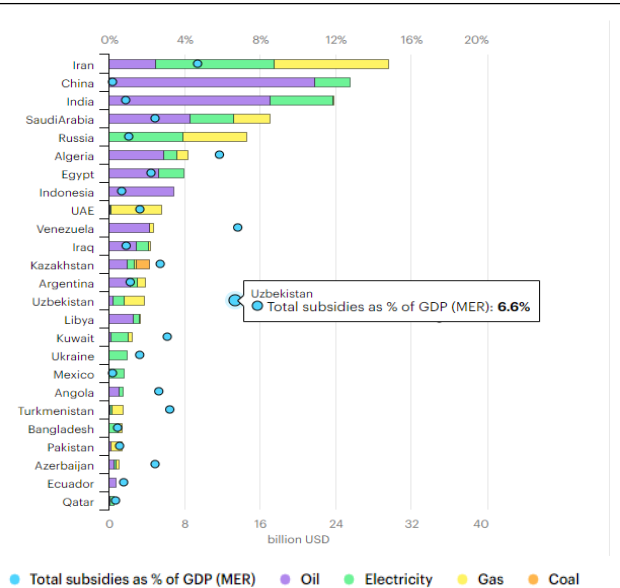


5. Uzbekistan is one of the top 25 countries in the world with the largest energy subsidies, which accounted for 6.6 percent of GDP in 2020. Electricity and natural gas prices are among the lowest in the world, with average electricity tariffs standing at around US\$4.5 per kWh, which is around 70 percent of its cost, placing the country among the top 10 countries with the cheapest prices out of 230 countries. Only Tajikistan, the Kyrgyz Republic with hydro resources and some African countries offer lower tariffs. Similarly, natural gas tariffs are among the lowest in the world, with the average tariff of around US\$72 per m<sup>3</sup> which stands at about half of its prevailing cost and at around 40 percent of its opportunity cost.

6. The below-cost recovery tariffs have created continued disincentive to efficiently consume energy aside from being a drain on government finances. First, the low tariff resulting from subsidies creates a lack of incentive for households and businesses to conserve energy or invest in energy efficiency measures, thereby hindering efforts to optimize energy consumption. Moreover, these subsidies are limiting the GoU's fiscal capacity for other pressing priorities like education and health, as the GoU has been allocating direct budget transfers of around US\$1.0-1.5 billion annually towards them energy sector over recent years.

7. The adverse impact of energy subsidies has also greatly weakened the financial situation of the sector over the years. Historical below-cost tariffs associated with sector inefficiencies have resulted in financial deficits, underinvestment, and increasing debt, predominantly in foreign currencies, thereby exposing the energy sector to external shocks and undermining its long-term financial sustainability. According to the 2022 preliminary financial statements based on local generally accepted accounting principles, the electricity sector suffered a financial loss of around UZS 800 billion, while the gas sector suffered a loss of around UZS 3,500 billion. The actual total revenue shortfall of the sector due to the cost-tariff gap is potentially higher, given that usually this gap is partially compensated by the energy companies through underinvestment (capex and operation and maintenance), expanding arrears, and direct budget subsidies. Furthermore, as of January 1, 2023, the energy sector's cumulative debt stood at US\$9 billion equivalent or above 11 percent of GDP, which places a heavy fiscal burden on the country.

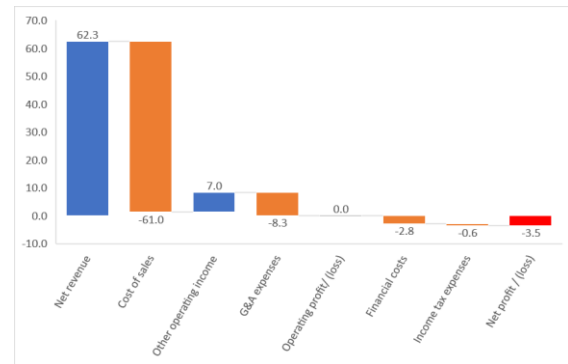
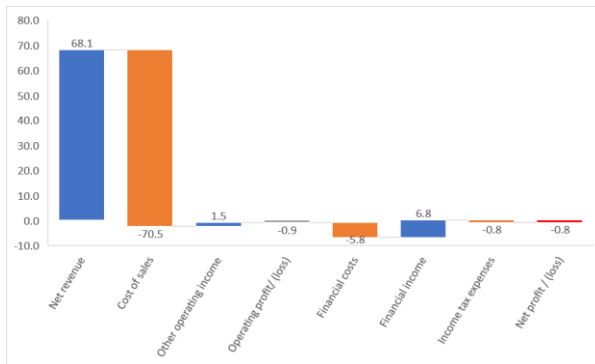
Figure 3. Countries with largest energy subsidies, 2020



Source: IEA

Figure A10. Power Sector - Profit and Loss, 2022 (UZS, trillions)

Figure A11. Gas Sector - Profit and Loss, 2022 (UZS trillions)



Source: Based on the GoU data.

8. Subsidized below-cost tariff has also affected the operational performance of the sector, which is also now compromised by aged infrastructure with high losses due to below-cost tariff and chronic underinvestment. In the electricity sector, the estimated losses were about 20 percent of net generation in 2021, while in the natural gas sector, losses were estimated at around 30 percent. Almost two-thirds of the energy infrastructure have been in service beyond their useful lifetime. The sector fiscal account has been left with no extra capacity nor pressing need for investments to its assets. Therefore, there is a pressing need to upgrade the aging assets through targeted investments to lower losses and improve the sector operational efficiency for the benefit of households and businesses. This would also ultimately support the country’s economic growth and create more employment opportunities.

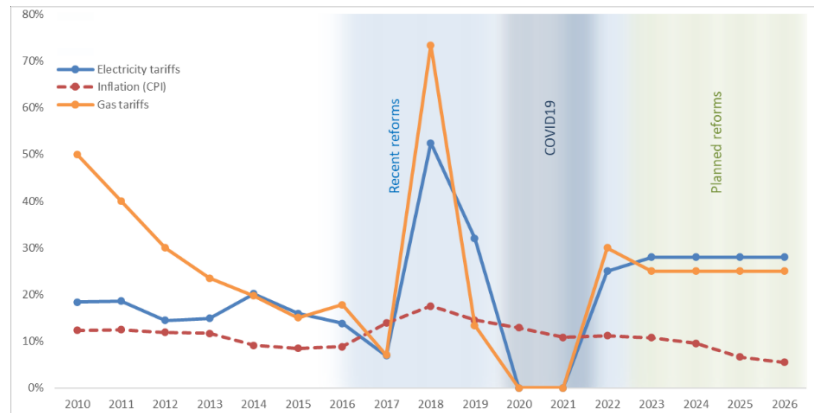
9. The GoU has launched the next wave of energy reforms in line with its clean energy transition agenda. The proposed reforms will be centered around the following five pillars: (a) pursuing the energy subsidy reforms toward cost recovery by 2026 while protecting the poor; (b) carrying out market and institutional reforms aimed at transitioning to a competitive wholesale electricity market structure, (c) enhancing energy efficiency and deployment of renewable energy, (d) ensuring supply security and operational efficiency, and (e) enhancing regional connectivity and trade.

10. Energy subsidy reforms have commenced and remain a top priority, as part of the broader sector reforms. In April 2019, the GoU adopted a new electricity tariff-setting methodology, defining a path for tariffs to be systematically adjusted in the future. Similarly, a new natural gas tariff methodology has been prepared with support from the World Bank that is being finalized by the GoU. The GoU also established a separate tariff commission under the Cabinet of Ministers to set out a path for tariffs to be adjusted toward full cost recovery levels. Supported by the World Bank’s series of DPOs and Energy PASA, the GoU also implemented three tariff adjustments in 2018–2019 that collectively doubled the weighted average tariff of electricity and gas. Although tariff reforms were paused in 2020–2021 due to the impacts of COVID-19, the GoU further adjusted electricity and gas tariffs for selected nonresidential customers in May 2022. However, despite the recent tariff reforms, the current levels of retail electricity and gas tariffs are not sufficient to recover the cost of supply. The GoU has committed to further pursue energy subsidy reforms with a target to reach cost recovery in both electricity and gas sectors by 2026. The World Bank will continue supporting the GoU in designing energy subsidy reforms, conducting social impact assessments, and implementing communication campaigns through the Project, programmatic TA, series of DPOs, and investment projects. The Figure below illustrates the historical tariff adjustment and planned tariff cost recovery trajectory.





Figure A12. Energy Tariffs Historical Adjustment and Cost Recovery Trajectory, 2010–2026, % yoy



Source: WB team based on the GoU data.

### Affordability and Social Protection

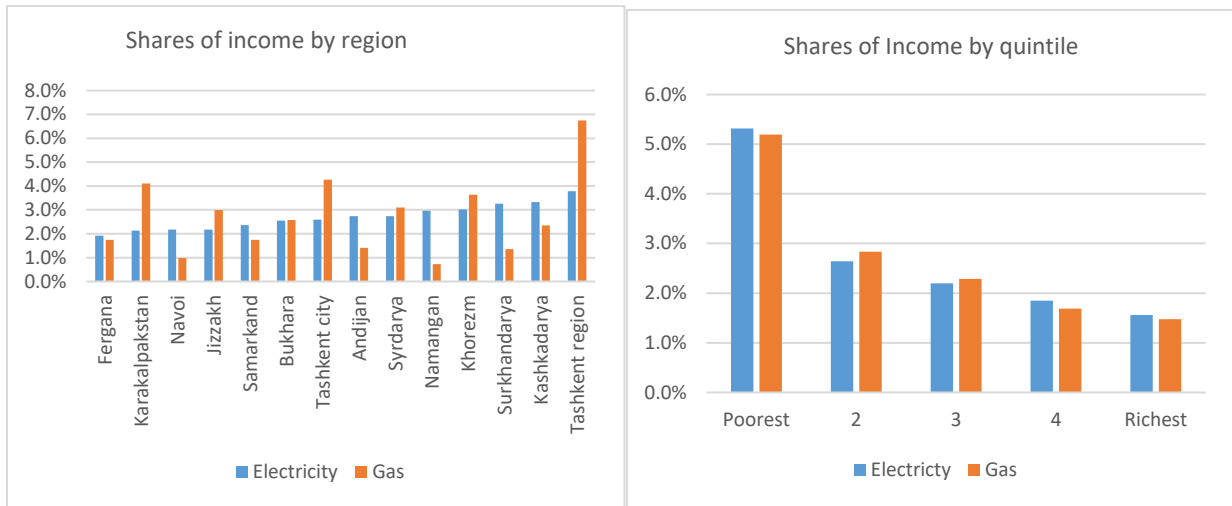
11. Reforms in the sphere of social protection since 2017 have strengthened the administration of the social protection system and helped define priorities more clearly. Presidential Resolution dated July 2022 #UP-175 promulgated a new social protection strategy for Uzbekistan which codifies the system of basic social protection for all citizens through 2030. The new policy defined the universe of social assistance programs through 2030 and the targeting principles to be used. It also designates the SR as the core administrative mechanism to implement all social assistance programs as a transparent and efficient system for social assistance programs. The coverage of poverty-targeted benefits more than quadrupled since 2017 (including in response to the COVID-19 pandemic shock) and in 2022 reached around 2.2 million households on average monthly, or around 25 percent of the population which is above the poverty line estimated in 2021 of 17 percent (falling to 14 percent in 2022). The adoption of the official national poverty line led to the reform of social benefit amounts (pensions and allowances) and eligibility rules for the low-income allowances adjusted to the new official definition of poverty.

12. Energy services are affordable in Uzbekistan. Households spend small shares of their budget on electricity (100 percent electrified) and gas (47 percent of the poorest quintile, 60 percent of highest quintile connected to piped gas) and spent about 5 percent of household income on electricity, on average, and a similar amount on natural gas. The national average for electricity expenditure was only about 2.2 percent of the household budget, with modest variation at the regional level (from 1.9 percent on average in Fergana to 3.8 percent on average in the region of Tashkent). Regional natural gas expenditure shares varied more remarkably, ranging from 0.7 percent in Namangan to 6.7 percent in the region of Tashkent. Tariffs have been a sensitive issue for residential consumers, for whom the authorities have traditionally taken special care to moderate the burden of energy expenditures. As a result, from independence until today, households have paid energy tariffs well below the cost recovery level. However, universal subsidies are a costly way to address energy affordability.





Figure A13: Expenditure on Electricity and Gas as a Share of Household Income



Source: Household Budget Survey of Uzbekistan, 2021

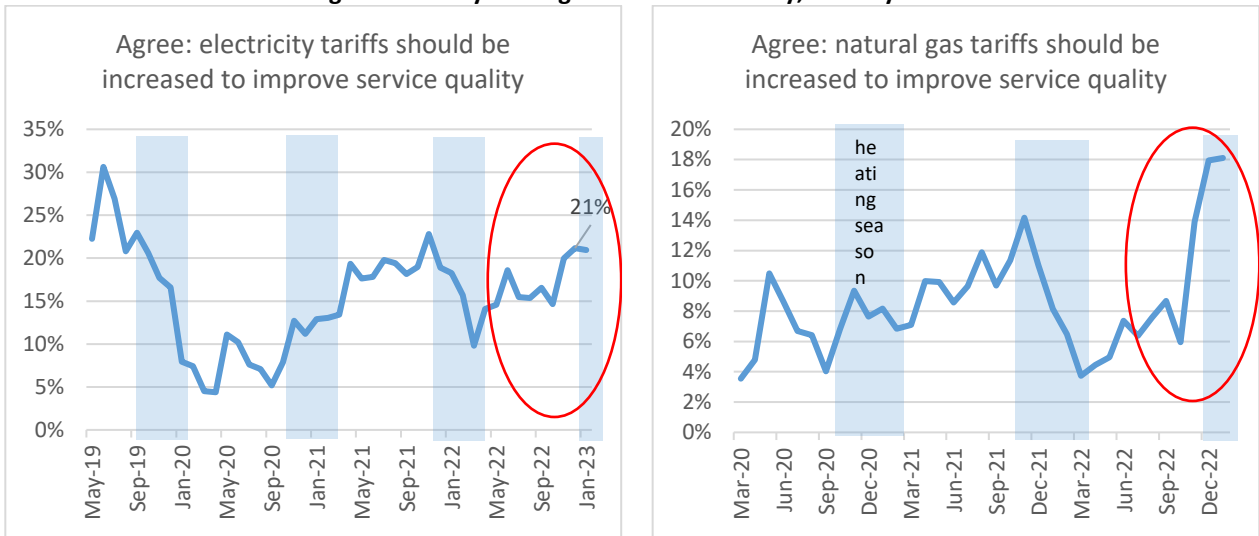
13. Adjustments to social transfers are another common method to reduce the impact of tariff increases on poverty and have regularly been used in Uzbekistan to compensate vulnerable groups. Policy makers in Uzbekistan often adjust the value of transfers to coincide with the introduction of new energy tariffs. For future tariff increases, this approach can be enhanced by directly estimating the budgetary impact for poor households and adjusting social programs such that transfer amounts at least offset either the net increase in poverty or the increase in the average ‘poverty gap’ resulting from tariff reform. However, this approach relies heavily on the targeting efficiency of the safety net, and particularly the social assistance system. Though coverage has substantially improved with the increase in the number of beneficiaries in subsequent years, between 70 and 75 percent of the poorest quintile were not enrolled in social assistance programs in 2021 (referred to as the exclusion error of these programs). Thus, transfers alone would likely miss many affected vulnerable people in Uzbekistan. As the national rollout of a SR for social protection matures, and as all social assistance programs are fully integrated, such targeting errors are expected to be minimized.

14. In contexts where social transfer programs struggle with notable exclusion errors, the GoU is now considering as complementary approach to use lifeline tariff [increasing block tariff (IBT)] structures. The social rationale of standard IBT structures is based on the positive correlation between energy consumption and income or wealth. In Uzbekistan, higher-income households that can afford such appliances consume much more energy than do the poor. Thus, higher tariffs charged to heavy users can be used to progressively offset the impact on low-income users, who typically consume less electricity and thus face lower electricity costs overall. Government tariff reform projections assume the inclusion of IBT approaches alongside reform aimed at cost recovery.

15. Results from L2CU surveys have suggested that implementing energy tariff increases is challenging as reform is unpopular, but willingness to pay higher tariffs in exchange for secure and reliable energy supply is increasing, especially following the recent severe weather conditions in the 2022–2023 winter that led to increasing gas shortages and electricity outages for people and businesses. The World Bank monthly survey results under the L2CU program reveals public readiness for gradual tariff adjustments to conserve energy and improve its reliability (see the figure A9 below).



Figure A14. Key Findings of the L2CU Survey, January 2023



Source: L2CU.

### Energy efficiency

16. The GoU has also identified energy efficiency among its top priorities. It further set targets to increase energy efficiency of the economy by 20 percent by 2026 and decrease the GDP energy intensity by 30 percent by 2030 (with 2010 as the baseline year) in key documents such as the Green Economy Strategy (October 2019), related Program on Green Economy Transition and Green Growth by 2030 (December 2022), and Low Carbon Energy Strategy (May 2020) reinforced by other laws and resolutions. The 2021 updated NDC focuses on prioritizing the efficient use of energy with the following related actions: (a) enhancing efficient use of energy including through removal of inefficient subsidies and greater use of energy-efficient technologies in energy-intensive sectors, civil construction, and buildings; (b) deploying large-scale RE sources (solar, wind, small and micro hydro, biogas, and others); (c) eliminating natural gas leaks and flaring in the oil and gas sector; and (d) reducing losses in transmission and distribution networks. The GoU has been promoting the energy efficiency measures in the industrial, residential, public, social, and transport sectors to reduce energy consumption and GHG emissions to contribute toward the decarbonization of the economy. Setting the appropriate tariff also improves the financial viability of energy efficiency investments; therefore, it is important to implement subsidy reform in parallel. In this context, the World Bank has been playing a lead role through three major energy efficiency investments in the industrial, public buildings, and district heating sectors with a total amount of US\$483 million, accompanied by planned support for the development of national energy efficiency programs and sustainable heating strategies.

### Leveraging carbon finance resources

17. Uzbekistan has committed to accessing climate and carbon funds to support its green growth agenda. In 2021, Uzbekistan increased its climate ambitions through the new NDC target of reducing specific GHG emissions per unit of GDP by 35 percent by 2030 from 2010 levels. commitments under the Paris Agreement on climate change and updated its NDC, according to which it intends to reduce specific GHG emissions per unit of GDP by 35 percent by 2030 from 2010 levels (instead of 10 percent stipulated in the first NDC of 2017).



18. Furthermore, in 2019, the GoU adopted a National Strategy on Green Economy Transition for 2019–2030. In December 2022, it approved a State Program on Green Economy Transition setting the stage to participate in international carbon markets through Article 6.2 of the Paris Agreement. The strategy highlights the need for integrating the principles of green economy in ongoing structural reforms to achieve sustainable economic progress that promotes social development and lowers GHG emissions. Among others, the strategy highlights the following priorities: (a) increase of energy efficiency of the economy and rational use of energy resources including through priority reforms and technology innovation; (b) incorporation of ‘green criteria’ in public investment and expenditure priorities; (c) implementation of pilot projects supporting transition to a green economy through the development of state incentive mechanisms; (d) establishment of an MRV system on GHG emissions, considering national circumstances, for continuous monitoring of a country’s obligations under the Paris Agreement; and (e) strengthening of international cooperation in accelerating green transition.

19. In December 2022, Presidential Decree #436 adopted a State Program on Green Economy Transition and also set the stage for Uzbekistan to participate in international carbon markets through Article 6.2 of the Paris Agreement. The decree assigns the key roles and responsibilities to various ministries for the establishment and management of the critical elements to access international carbon markets. It also specifies the following targets relevant for the program to be achieved by 2030: (a) reducing specific GHG emissions per unit of GDP by 35 percent from the 2010 level; (b) increasing the production capacity of RE sources up to 15 GW and bringing their share in the total volume of electricity production to more than 30 percent; (c) increasing energy efficiency in industry by at least 20 percent; and (d) reducing energy intensity per unit of GDP by 30 percent, including through the expansion of the use of RE sources. The MoEF is assigned as a coordinating entity particularly with regard to international carbon transactions; and together with the ASR and MOE are assigned responsibility for energy sector reforms, renewables development, energy efficiency, and energy tariffs; and the UHM is responsible for all reporting related to the Paris Agreement.

**What is the Paris Agreement?**

It is a legally binding treaty adopted by 196 countries at the climate change conference in Paris in 2015 (known as COP21). The main goal of the agreement is to cut global GHGs to limit global temperature increases as close as possible to 1.5°C.

**How will countries do this?**

Countries have submitted carbon reduction targets known as Nationally Determined Contributions, or NDCs, which outline how each country will cut its carbon emissions. There is no one-size-fits-all approach for the NDCs, and different countries are taking climate action in different ways, from investing in RE to introducing carbon taxes. The NDCs are to be updated every five years by the Parties to the Agreement, and each new iteration is expected to be more ambitious than the previous one.

**What is Article 6 (carbon finance)?**

Article 6 of the Paris Agreement allows countries to voluntarily cooperate with each other to achieve ER targets set out in their NDCs. This means that, under Article 6, a country (or countries) will be able to transfer/trade carbon credits earned from the reduction of GHG emissions to help one or more countries meet climate targets. Within Article 6, Article 6.2 creates the basis for trading in GHG ERs (or mitigation outcomes) across countries. Article 6.4 is expected to be similar to the Clean Development Mechanism of the Kyoto Protocol. It establishes a mechanism for trading GHG ERs between countries under the supervision of the Conference of Parties—the decision-making body of the UNFCCC. When these mitigation outcomes are transferred (that is, traded), they become known as ITMOs and represent carbon finance/markets transactions. These ITMOs will be traded under the Mitigation Outcomes Purchase Agreement (MOPA), further detailed in Section II C.



**How will Article 6 support carbon markets?**

Article 6 pertains to the establishment of international compliance carbon markets governed by the rules of the Paris Agreement where countries can trade carbon credits. As part of the Paris Agreement and the NDCs, each country will need to create an inventory of their GHG emissions, a national inventory or GHG balance sheet, which is tracked and reported to the UNFCCC. Under Article 6, ERs that have been authorized for transfer (ITMOs) by the selling country's government may be sold to another country, but only one country may count the ER toward its NDC. It is critical to avoid double counting so that global ERs are not overestimated. The agreement on Article 6 established an accounting mechanism known as 'corresponding adjustment', to ensure that double counting does not occur—every ITMO that is transferred must be added (that is, the country's GHG balance increases) to the seller's national inventory and will be deducted from the buyer's national inventory.

**Article 9 (climate finance):**

Article 9 of the Paris Agreement stipulates that developed country Parties shall provide financial resources, known as climate finance, to assist developing country Parties with respect to both mitigation and adaptation in continuation of their existing obligations under the Convention. Other Parties are encouraged to provide or continue to provide such support voluntarily.

Furthermore, as part of a global effort, developed country Parties should continue to take the lead in mobilizing climate finance from a wide variety of sources, instruments and channels, noting the significant role of public funds, through a variety of actions, including supporting country-driven strategies, and taking into account the needs and priorities of developing country Parties. Such mobilization of climate finance should represent a progression beyond previous efforts.

The results and finance provided under the Emission Reductions Payment Agreement (ERPA) will be accounted and reported as RBCF under Article 9. The ownership of the ERs paid for under the ERPA will remain with Uzbekistan. Further detail on the ERPA can be found in Section II C.

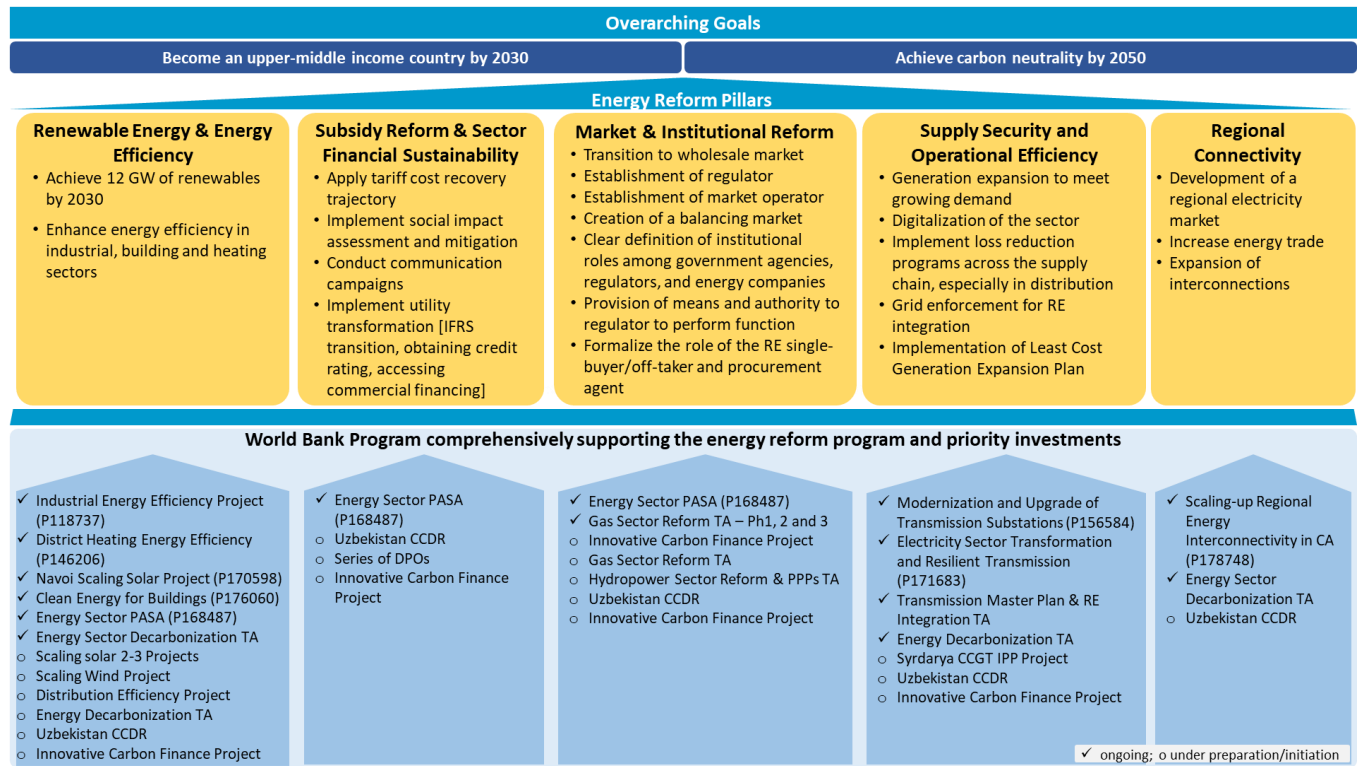
**Next wave of energy reforms**

20. The GoU has launched the next wave of energy reforms in line with its clean energy transition agenda. The proposed reforms will be centered around the following five pillars: (a) pursuing the energy subsidy reforms toward tariff cost recovery by 2026 while protecting the poor, (b) carrying out market and institutional reforms aimed at transitioning to a competitive wholesale electricity market structure, (c) enhancing energy efficiency and deployment of renewable energy; (d) ensuring supply security and operational efficiency, and (e) enhancing regional connectivity and trade.

21. The GoU has prepared a Roadmap for Electricity Market Transition in Uzbekistan (REMT), with support from the World Bank. REMT suggests a four-phased action plan for the GoU to gradually transit from the current 'single buyer' structure to a 'competitive electricity market' over five to seven years, consistent with the reform objectives of the GoU and in line with international best practices. The market transition will have some lead time until an adequate competitive market is in place and operational. Accordingly, REMT aims to fix all the current sector fundamentals and put in place an enabling environment to sustain the proposed next phase of energy reforms. Among others, the REMT envisages the consolidation of all regulatory functions under a sector regulator to be established, a step toward transparent and independent regulation and decision-making practice; gradual implementation of cost recovery initiatives; establishment of a market operator, trading platform, settlement system, and balancing mechanism; preparation of necessary technical, regulatory, market, and commercial rules; and introduction of an open (third-party) access to the grid.



Figure A15: Energy Sector Reform Program in Uzbekistan



The World Bank has been assisting the GoU in implementing comprehensive energy reforms program, including subsidy reforms. Support includes such areas as implementation of cost recovery trajectories and tariff design, distributional impact assessment and social mitigation measures, design of communication campaigns (please refer to the box below for details). The World Bank support has been provided through the Energy PASA (funded by ESMAP) and series of DPOs. As illustrated in the Figure 5 above, other WB-supported key reform areas include institutional and market reforms, regulatory reforms, energy efficiency, renewable energy deployment, and regional connectivity, while investments have been focused on grid expansion and renewable energy integration; efficient and clean power generation through PPPs; and industrial, heating, and building energy efficiency.

**Design and implementation of tariff cost recovery trajectory.** Support was provided to the GoU to conduct cost of service and new tariff design scenarios study for the electricity and gas sectors. With support from the World Bank, the GoU has prepared new electricity and gas tariff methodologies in line with best practices. The GoU plans to further estimate the total fiscal cost of subsidies and quasi fiscal deficit in the energy sector; update the analysis based on the newly applied tariff increase in August 2022 and extend the analysis until 2030; and prepare short-, medium-, and long-term tariff cost recovery trajectories.

**Sector financial assessment.** World Bank support was also provided to undertake a sector financial analysis to assess the potential impact of COVID-19 on the sector and the transmission company. Going forward, an in-depth financial assessment, including its debt sustainability, will be conducted based on the different tariff cost recovery trajectories as indicated above.



**Distributional impact assessment and social mitigation measures.** Based on the newly developed tariff design options, distributional impact assessments were conducted together with recommendations on social mitigation measures to protect the vulnerable households. Similar assessments will be conducted for the proposed tariff cost recovery trajectories.

**Communication.** The World Bank TA supported the GoU with a high-level social survey to understand the public's perception of energy services, their concerns, and willingness to pay. Going forward, based on the survey, a communication campaign will be designed to accompany the proposed subsidy reforms.

**Institutional reforms.** The GoU requested the World Bank to support the establishment and operationalization of an energy sector regulator, which is expected to consolidate all the regulatory functions in the sector. As part of the support package, the World Bank will be a lead partner to assist in those reform initiatives.