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**The World Bank**  
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Report No: PAD2597

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT PAPER

ON A

PROPOSED ADDITIONAL LOAN

IN THE AMOUNT OF US\$200 MILLION

TO THE

REPUBLIC OF UZBEKISTAN

FOR AN

ENERGY EFFICIENCY FACILITY FOR INDUSTRIAL ENTERPRISES PROJECT

January 8, 2018

Energy and Extractives Global Practice  
Europe And Central Asia Region

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## CURRENCY EQUIVALENTS

(Exchange Rate Effective January 2, 2018)

Currency Unit = Uzbek Som (UZS)

UZS 8140 = US\$1

## FISCAL YEAR

January 1 – December 31

Regional Vice President:	Cyril E. Muller
Country Director:	Lilia Burunciuc
Senior Global Practice Director:	Riccardo Puliti
Practice Manager:	Sameer Shukla
Task Team Leader(s):	Feng Liu, Pedzisayi Makumbe

## ABBREVIATIONS AND ACRONYMS

AF	Additional Financing
CPF	Country Partnership Framework
E&S	Environmental and Social
EA	Environmental Assessment
EE	Energy Efficiency
EEFIE	Energy Efficiency Facility for Industrial Enterprises
ESMF	Environmental and Social Management Framework
FM	Financial Management
ICB	International Competitive Bidding
IE	Industrial Enterprise
IRR	Internal Rate of Return
ISR	Implementation Status and Results Report
IUFR	Interim Unaudited Financial Report
JSC	Joint Stock Company
MoE	Ministry of Economy
NPMA	National Project Management Agency
OM	Operations Manual
PB	Participating Bank
PCU	Project Coordination Unit
PDO	Project Development Objective
SCD	Systematic Country Diagnostic
SMEs	Small and Medium Enterprises
SOE	State-owned Enterprise
SORT	Systematic Operations Risk-rating Tool
TA	Technical Assistance

## BASIC INFORMATION – PARENT (Energy Efficiency Facility for Industrial Enterprises - P118737)

Country Uzbekistan	Product Line IBRD/IDA	Team Leader(s) Feng Liu		
Project ID P118737	Financing Instrument Investment Project Financing	Resp CC GEE03 (9261)	Req CC ECCCA (1608)	Practice Area (Lead) Energy & Extractives

Implementing Agency: Ministry of Economy, ASAKA Bank, Hamkorbank, Uzpromstroybank, Invest Finance Bank, Asia Alliance Bank, National Bank of Uzbekistan

Is this a regionally tagged project?  No				
<input type="checkbox"/> Situations of Urgent Need or Capacity Constraints <input type="checkbox"/> Financial Intermediaries <input type="checkbox"/> Series of Projects	Bank/IFC Collaboration  No			
Approval Date 17-Jun-2010	Closing Date 31-Jan-2023	Original Environmental Assessment Category Financial Intermediary Assessment (F)	Current EA Category Financial Intermediary Assessment (F)	

### Development Objective(s)

The project objective is to improve energy efficiency in Industrial Enterprises (IEs) by designing and establishing a financing mechanism for energy saving investments.

### Ratings (from Parent ISR)

	<b>Implementation</b>	<b>Latest ISR</b>
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	08-Apr-2015	15-Dec-2015	30-Jun-2016	03-Jan-2017	31-Aug-2017	24-Jan-2018
Progress towards achievement of PDO	S	S	S	S	S	S
Overall Implementation Progress (IP)	S	MS	MS	MS	MS	MS
Overall Safeguards Rating	S	S	S	S	S	S
Overall Risk	M	M	M	M	M	M




#### BASIC INFORMATION – ADDITIONAL FINANCING (Energy Efficiency Facility for Industrial Enterprises, Phase 3 - P165054)

Project ID P165054	Project Name Energy Efficiency Facility for Industrial Enterprises, Phase 3	Additional Financing Type Scale Up	Urgent Need or Capacity Constraints No
Financing instrument Investment Project Financing	Product line IBRD/IDA	Approval Date 30-Jan-2018	
Projected Date of Full Disbursement 31-Jan-2023	Bank/IFC Collaboration No		
Is this a regionally tagged project? No			

- Situations of Urgent Need or Capacity Constraints
- Financial Intermediaries
- Series of Projects

#### PROJECT FINANCING DATA – PARENT (Energy Efficiency Facility for Industrial Enterprises - P118737)

### Disbursement Summary (from Parent ISR)

Source of Funds	Net Commitments	Total Disbursed	Remaining Balance	Disbursed	
IBRD	200.00		200.00		0 %
IDA	124.20	108.70	8.86		92 %
Grants					%

### PROJECT FINANCING DATA – ADDITIONAL FINANCING (Energy Efficiency Facility for Industrial Enterprises, Phase 3 - P165054)

#### FINANCING DATA (US\$, Millions)

##### SUMMARY

<b>Total Project Cost</b>	332.50
<b>Total Financing</b>	332.50
<b>Financing Gap</b>	0.00

##### DETAILS

<b>Total Equity</b>	132.50
Government Contribution	0.50
Government Resources	0.50
Private Sector Equity	132.00
<b>Total Debt</b>	200.00
IFI Debt	200.00
International Bank for Reconstruction and Development (IBRD)	200.00

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## COMPLIANCE

### Policy

Does the project depart from the CPF in content or in other significant respects?

Yes  No

Does the project require any other Policy waiver(s)?

Yes  No

## INSTITUTIONAL DATA

### Practice Area (Lead)

Energy & Extractives

### Contributing Practice Areas

### Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

### Gender Tag

Does the project plan to undertake any of the following?

a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF

No

b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment

No

c. Include Indicators in results framework to monitor outcomes from actions identified in (b)

No

**PROJECT TEAM****Bank Staff**

Name	Role	Specialization	Unit
Feng Liu	Team Leader (ADM Responsible)	Energy Specialist	GEE03
Pedzisayi Makumbe	Team Leader	Energy Efficiency	GEE03
Fasliddin Rakhimov	Procurement Specialist (ADM Responsible)	Procurement	GGOPC
Djamshid Iriskulov	Financial Management Specialist	Financial Management	GGOEE
Daria Goldstein	Counsel	Counsel	LEGLE
Dung Kim Le	Team Member	Senior Program Assistant	GEE03
Ekaterina Grigoryeva	Environmental Safeguards Specialist	Environment	GEN03
Elena Klementyeva	Team Member	Program Assistant	ECCUZ
Hiwote Tadesse	Team Member	Operations Officer	GEE03
Jasna Mestnik	Team Member	Finance Officer	WFACS
Maksudjon Safarov	Team Member	Energy Specialist	GEE03
Odil Akbarov	Social Safeguards Specialist	Social Specialist	GSU03

**Extended Team**

Name	Title	Organization	Location
Rokhila Yuldasheva	Consultant		



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REPUBLIC OF UZBEKISTAN  
ENERGY EFFICIENCY FACILITY FOR INDUSTRIAL ENTERPRISES PROJECT

**TABLE OF CONTENTS**

<b>I. BACKGROUND AND RATIONALE FOR ADDITIONAL FINANCING .....</b>	<b>7</b>
<b>II. DESCRIPTION OF ADDITIONAL FINANCING .....</b>	<b>10</b>
<b>III. KEY RISKS .....</b>	<b>12</b>
<b>IV. APPRAISAL SUMMARY .....</b>	<b>14</b>
<b>V. WORLD BANK GRIEVANCE REDRESS .....</b>	<b>19</b>
<b>VI. SUMMARY TABLE OF CHANGES .....</b>	<b>ERROR! BOOKMARK NOT DEFINED.</b>
<b>VII. DETAILED CHANGE(S).....</b>	<b>ERROR! BOOKMARK NOT DEFINED.</b>
<b>VIII. RESULTS FRAMEWORK AND MONITORING .....</b>	<b>25</b>

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## I. BACKGROUND AND RATIONALE FOR ADDITIONAL FINANCING

1. This Project Paper seeks the approval of the Executive Directors to provide additional financing (AF) in the amount of US\$200 million through an IBRD loan for the Energy Efficiency Facility for Industrial Enterprises (EEFIE) Project (P118737). The proposed AF will support the scaling up of energy efficiency (EE) lending to industrial enterprises (IEs) under Component B: Credit Line to Participating Banks, as well as technical assistance (TA) to stakeholders through Component A: Development of Energy Efficiency Capacity. The overall project design and institutional arrangements will remain the same. The AF does not trigger any new safeguard policies and its environmental category will remain 'FI'. The Results Monitoring Framework has been revised to reflect the additional loan, introduce new intermediate results indicators, and revise some end target values.
2. The Project Development Objective (PDO) of the project is to improve EE in IEs by designing and establishing a financing mechanism for energy-saving investments. The original IDA credit of SDR 16.5 million (US\$25 million equivalent), approved on June 17, 2010 and effective on December 15, 2011, introduced a dedicated EE financing business concept to the Uzbek banking sector and supported the establishment of EE lending business in three participating banks (PBs)—Asaka Bank, Hamkorbank, and Uzpromstroybank. Building on the success of the pilot phase, an additional IDA credit of SDR 66.1 million (US\$100 million equivalent), approved on April 26, 2013 and effective on December 6, 2013, expanded the reach of the credit line to more IEs and strengthened the PBs' EE lending capacity. The EE credit line targeted primarily large IEs, all state-owned enterprises (SOEs). The original IDA credit was closed on January 31, 2016. The closing date of the additional IDA credit originally scheduled for January 31, 2018, will be extended to January 31, 2023 in alignment with the closing date of the proposed additional loan.
3. **Current project performance.** The project's overall performance has been satisfactory. Progress toward achievement of the PDO has been rated Satisfactory since effectiveness of the original IDA credit. The overall implementation progress has been rated Satisfactory or Moderately Satisfactory since effectiveness of the AF. The slow disbursement of the TA component was the main reason for the Moderately Satisfactory rating in the last four Implementation Status and Results Reports (ISRs). As of December 31, 2017, about 93 percent of the IDA credits (including the original and additional IDA credits) had been disbursed. Sub-projects to be financed by the remaining IDA funds are being tendered or under appraisal by PBs. Due to the recent Government reorganization, two International Competitive Bidding (ICB) tenders, which obtained World Bank's 'no-objection' in June 2017, were not officially approved to proceed until November 2017.
4. The credit line component, which allocated equal amounts of IDA credit to the three PBs (US\$41 million equivalent total for each PB under two IDA credits), has so far resulted in US\$188 million of total investments (including leveraged financing) for industrial EE through 74 sub-projects among 31 IEs. The project generated an equivalent of 360 GWh of annual energy savings, and 583,000 metric tons of avoided annual CO<sub>2</sub> emissions. These results exceeded their respective end target values. The main types of sub-projects financed by the credit lines included modernization of electrical equipment and controls (e.g. motors, capacitors, and frequency convertors), thermal equipment (boilers and furnaces), and other industrial equipment (compressors and cooling towers), as well as waste-to-electricity generation (utilization of waste heat and previously flared natural gas). The sub-loan sizes ranged from less than US\$0.5 million to over US\$5 million and averaged about US\$2 million. There were no defaults or late payments reported so far.
5. The capacity building component, with US\$1 million allocated under each IDA credit, informed the Government's industrial EE policy and program design; developed IEs' capacity to identify, prepare, and

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implement EE projects; and supported project coordination and implementation. The Government opted to use its own budgetary resources, instead of IDA funds, for several institutional capacity-strengthening activities under the component. For example, the planned activity for improving the system of statistical reporting of industrial energy consumption and efficiency was cancelled because the Government eventually completed or had a firm plan to complete most of the tasks using its own resources. This led to low disbursement of the TA component.

6. Overall, the project made a significant impact on improving EE in IEs in Uzbekistan by providing an increase in access to dedicated commercial bank EE financing; raising the capacity of large industrial energy users to undertake EE projects; and establishing and demonstrating a viable business model for local banks to lend for a variety of industrial EE projects based on project-specific and corporate-level criteria and following good safeguards practices. The three PBs, which represented 29 percent of Uzbekistan's total banking assets in 2014, pioneered EE lending to IEs. Each bank has established a dedicated implementation unit for preparing and closing EE investment sub-loans and developing and maintaining EE business knowledge. Due to the success of the project, the Government formally recognized EE credit lines as a key mechanism for scaling up industrial EE investments and included it in the Action Program for Further Development of Renewable Energy, Improvement of Energy Efficiency in Sectors of Economy and Social Sector during 2017–2021 (Presidential Resolution No. PP-3012). In addition to the continued engagement with the World Bank, the Government is also in discussion with the Asian Development Bank to open another EE credit line to support its ambitious EE investment program.

7. **Lessons learned from the current project.** The interim Implementation Completion and Results Report identified a few key lessons learned, which were considered in modifying the design of the project for the proposed AF:

- (a) Policy support and Government commitment from the highest level are critical for developing the industrial EE market. The fact that EE investments have high rates of return itself is not sufficient to attract commercial financing. At the beginning of the project, it was difficult for the PBs to identify customers and prepare a sub-project pipeline. This was partly due to a lack of awareness of the potential gains from improved EE among the PBs and IEs. The early TA activities under the project focused a great deal on internal capacity building for the PBs and IEs, which were broadly supported by the Presidential Resolution No. 4058 - Program of Measures to Support Enterprises. Going forward, the overarching support to the industrial EE program provided by the Presidential Resolution No. PP-3012 will again provide the necessary impetus for IEs and PBs to pursue EE opportunities.
- (b) The PBs' capacity in marketing and pipeline development needs to be strengthened and sustained. During the first two phases of the project, the PBs have relied on the Project Coordination Unit (PCU) of the Ministry of Economy (MoE) for leads to and proposal of sub-projects and have not developed strong sub-project origination capability. The PBs need to become self-motivated in developing EE sub-projects for their EE lending business to continue in the long run. Future TA will need to help PBs engage in EE business development, market their EE lending products, and build an internal system that can generate and sustain the EE lending business.
- (c) Dissemination of knowledge on EE technologies is important. Knowledge on the new and advanced technologies helped IEs identify new EE sub-projects and informed the PBs' decision to finance them. For example, the credit lines have financed sub-projects in recovery of waste heat using organic Rankine cycle technology for generation of electric power, and utilization of associated gas

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to generate power in oil and gas fields. Training programs supported by the project helped the production engineers to expand their understanding about EE opportunities in different industries, learn about modern technologies, and deepen their technical knowledge. Such training on the state-of-the-art EE technologies in industries should continue to be supported by the proposed AF.

- (d) Customized capacity-building approaches for large enterprises and small and medium sized enterprises (SMEs) are needed. Maintaining the EE drive at the enterprise level is critical to maximizing cost-effective EE improvement potential. Beyond basic economic rationales, this often requires corporate-level commitment and deployment of tools for quantitatively monitoring and managing energy use. The Energy Management System Pilot Program, supported by the Korean Green Growth Trust Fund and implemented in conjunction with the additional IDA credit, demonstrated an effective approach to enable large industrial energy users in Uzbekistan to manage energy use and improve EE with a systematic and sustained effort. For many of the SMEs where energy costs are a relatively small portion of input costs, the approach would be different, relying more on facilitation and support through their industrial associations and a network of peers and external support. This customization is reflected in the design of the TA under the proposed AF.

8. **Rationale for AF.** Uzbekistan's energy intensity is 35 percent higher than that of Kazakhstan and 3 times that of Germany. The Government has called for reducing the country's 2015 energy intensity level by at least 50 percent by 2030, and initiated concrete programs to establish policy interventions and mobilize investments toward achieving that goal. The industrial sector, especially large enterprises, represents the largest short- to medium-term energy-saving opportunities viable for commercial financing, thus showing potential for rapidly scaling up EE investments and achieving energy savings goals. The Government's current EE Action Plan (Presidential Resolution No. PP-3012) explicitly identified three key sectors for Government funding or facilitation for EE financing: (a) budget-funded institutions (space heating) (b) agriculture – irrigation; and (c) energy-intensive industries, setting specific energy savings targets for each sector for the period from 2017 to 2021. The Government also supports increased access to EE financing by SMEs in the industrial sector due to their rapidly increasing importance in manufacturing.

9. The industrial EE market in Uzbekistan is still underserved and underdeveloped due to high demand for EE investments and competing use of capital for new industrial developments, and the fact that the current credit line has primarily benefited the largest industrial energy users. The PCU and PBs conducted a survey among the project's current sub-borrowers and prospective sub-borrowers on potential EE subprojects. The 33 proposals received amounted to a total investment cost of US\$323 million for EE investments planned for the next two years. In the meantime, the industrial SMEs sector is fast expanding and has become a key driver of manufacturing growth. The share of small business and private entrepreneurship in industrial output value increased from 12.9 percent in 2000 to 45.3 percent in 2016. While the SMEs are generally unburdened by old production facilities common among large enterprises, those in relatively energy intensive subsectors, such as construction materials, textile and food processing, nevertheless need to upgrade energy-consuming equipment to become more competitive. Their needs are currently unaddressed. The proposed AF will support the Maximizing Finance for Development agenda by deliberate efforts to: (a) involve private banks in developing EE lending business; and (b) target SMEs for EE investment financing.

10. The business model for commercial bank financing for industrial EE investments through a dedicated EE credit line has been successfully implemented through the current project. But the sustainability of the model requires greater institutional changes in the banking sector which goes beyond the involvement of the current

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three PBs. The capacity building of the current project has focused primarily on helping the PBs to become efficient and successful in preparing and closing the EE investment financing while meeting fiduciary responsibilities, as well as on training of IEs in EE assessment, management, and investment identification. Broader banking sector capacity development was not adequately supported. So, the dedicated EE lending business model remains a novelty limited to the three PBs. The focus on large corporate clients and particularly SOEs also neglected the growing non-SOE industrial base, especially the SMEs. While the Government has endorsed the validity of the EE credit line instrument, there is no initiative yet to enshrine such practice through more deliberate banking sector policy to encourage financing for resource efficiency as seen in more mature development markets such as China. With a greater number of PBs and broader spectrum of IEs benefiting, the proposed AF will be able to build a critical mass of knowledge and market participants to potentially pave the way for introducing banking sector policies that institutionalize pro-resource-efficient lending practices.

11. Continued World Bank support both in capital and in knowledge is still needed for increasing and sustaining the development impact and strengthening the sustainability aspects of the project discussed above. The Government has clearly indicated through a presidential resolution that: (a) significant scale up of commercial financing is essential for achieving its short- to medium-term industrial energy savings target; and (b) continued Government facilitation by infusing public financing through the credit line business model is needed to leverage increased use of commercial banks' own resources. The proposed AF will significantly expand the engagement with the banking sector to solidify and mainstream the EE lending and broaden the market reach of the credit line by involving three additional banks, including the largest bank in Uzbekistan and two private banks.

12. The AF is also consistent with the 2016-2020 Country Partnership Framework (CPF) dated May 2016 (Report No. 105771), and the Systematic Country Diagnostic (SCD) dated May 2016 (Report No. 106454). The public service delivery pillar of the CPF identifies 'promoting energy security and efficiency and reducing the economy's energy intensity' as a priority. The SCD identified 'promoting efficient and sustainable use and management of energy and natural resources' as a priority to eliminate poverty, boost shared prosperity, and enable Uzbekistan to reach upper-middle-income status.

## II. DESCRIPTION OF ADDITIONAL FINANCING

13. **Proposed changes.** As the third in a series of World Bank financing, the proposed AF is consistent with the other phases of the project. A key change is in the source of financing. The proposed AF will be financed by a US\$200 million IBRD loan. Several specific changes in project design are proposed to: (a) reflect the progress already made in achieving the PDO and strengthening efforts to maximize development impact; (b) incorporate the lessons learned from the IDA credits; and (c) address new needs in market development, especially in catalyzing private sector solutions. The Operations Manual (OM) will include detailed project implementation arrangements and on-lending terms. The specific changes are described below. The expected implementation period for the proposed AF will be five years and the closing date will be January 31, 2023. There are no new safeguard policies triggered. There are no changes to the existing implementation arrangements, other than the proposed addition of three new PBs.

14. **Modification of the target values of PDO results indicators and addition of new intermediate results indicators.** The PDO of the project is to 'improve energy efficiency in industrial enterprises (IEs) by designing and establishing a financing mechanism for energy saving investments'. The broadened scope of the AF in terms of inclusion of additional PBs and provision of EE financing for industrial SMEs will be captured by additional intermediate results indicators. The PDO-level indicators are not changed, but the end target values have been

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increased commensurate to the AF. Four new intermediate results indicators are included to capture the effects of the broadened project scope, including: (a) amount of co-financing by PBs, (b) amount of sub-loans to SMEs, (c) number of IEs adopting an energy management system; and (d) a beneficiary feedback indicator.

15. **Inclusion of SMEs.** The IDA credits have primarily financed EE sub-projects of large enterprises and all sub-borrowers were SOEs. The proposed AF will provide access to EE financing for SMEs, which are mostly private enterprises.

16. **Three additional PBs.** The Government recommended three new banks for consideration, including the National Bank for Foreign Economic Activity of the Republic of Uzbekistan; Invest Finance (InFin) Bank; and Asia Alliance Bank. Due diligence review of the three new banks was completed and all three banks were assessed as eligible for participation in the AF. Reconfirmation of eligibility of the three existing banks was also conducted concurrently. All three—Asaka Bank, Uzpromstroybank, and HamkorBank—were reconfirmed as eligible.

17. **PBs' cofinancing increased to 25 percent of sub-loan amount per sub-project.** This is compared to the PB cofinancing requirement of 20 percent of sub-loan amount per sub-project under the IDA credits. The Government requested fixing the cofinancing ratio at the sub-project level for more precise monitoring and tracking purposes, instead of a portfolio level cofinancing ratio.

18. **Components of the proposed AF.** The name and general content of the components of the proposed AF remain the same as in the original and additional credits. The underlying activities for Component A described in the following section also reflect the evolved needs for TA. Table 1 summarizes the costs of all three Phases of the Project.

#### **Component A. Development of Energy Efficiency Capacity (US\$1 million)**

19. This component will support:

- (a) Development of the energy efficiency strategy for industrial enterprises in Uzbekistan, through the provision of consulting services.<sup>1</sup>
- (b) Development and implementation of an EE communication strategy and outreach programs, through the provision of consulting services. The focus will be on supporting information campaigns and outreach efforts to the beneficiary sectors and general public. This will ensure that information is provided and feedback is obtained from target beneficiaries on the effectiveness of the sub-loans for EE subprojects.
- (c) Enhancing the EE capacity of selected industries, banks, industry banks, and energy professionals, through the provision of consulting services and Training. The focus will be on: (i) strengthening EE lending capacity of the PBs and the banking sector; (ii) scaling up implementation of energy management systems in large IEs; and (iii) developing EE support capacity for industrial SMEs.
- (d) Strengthening the capacity of the MoE and the PCU for project management, coordination, and monitoring and evaluation, through the provision of goods, consulting services and Training.

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<sup>1</sup> This sub-component has been completed and will not be financed by the proposed additional loan. It is listed here in order to present the full scale of technical assistance activities supported under the project.

## Component B. Credit Line to Participating Banks (US\$199 million)

20. This component will support establishment and operation of a credit facility for the PBs for the provision of sub-loans to beneficiaries, enabling such beneficiaries to finance the costs related to the carrying out of industrial EE sub-projects.

**Table 1. Summary of Project Costs for the Three Phases of the Project (US\$, millions equivalent)**

	Phase 1	Phase 2	Phase 3	Total
<b>Component A (IDA or IBRD)</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>
IDA	1	1	—	2
IBRD	—	—	1	1
<b>Component B (IDA or IBRD)</b>	<b>24</b>	<b>99</b>	<b>199</b>	<b>322</b>
IDA	24	99		123
IBRD	—	—	199	199
<b>Component B Cofinancing (PBs and IEs)</b>	<b>13</b>	<b>56</b>	<b>132</b>	<b>201</b>
<b>Total</b>	<b>38</b>	<b>156</b>	<b>332</b>	<b>526</b>

21. The TA component remains critical in the proposed AF. The Government has indicated the need for continued TA support due to the significant new elements introduced by the proposed AF. In addition, parallel TA funding will be sought to supplement the earmarked IBRD TA financing by World Bank trust funds and potential bilateral grant funds. These parallel activities are expected to be jointly developed and implemented with the International Finance Corporation, which has extensive experience in banking sector capacity building and knowledge of specific industries. These activities are expected to focus on South-South knowledge exchange, as well as targeted training for business development and for addressing SME-specific issues.

22. The Results Framework (see Section VII and section VIII) has been revised. Table 2 compares the PDO-level indicators of the original and additional IDA credits (Phases 1 and 2), and the proposed additional loan (Phase 3).

**Table 2. Summary of Project Outcome Indicators**

	Phases 1 and 2 End Target Values	Incremental Effect of AF (Phase 3)	Revised End Target Values
1. Leveraged EE investment (US\$, millions)	83	132	201
2. Energy savings (GWh)	227	386	613
3. CO <sub>2</sub> emissions reduction (metric tons)	470,000	799,000	1,269,000

Note: The target value of leveraged EE investment for Phases 1 and 2 was over-estimated by about US\$14 million. The revised end target value of the leverage EE investment reflected the adjustment in the baseline target value from US\$83 to 69 million.

## III. KEY RISKS

**Table 3. Risk Description and Proposed Mitigation Measures according to Systematic Operations Risk-rating Tool**



(SORT)

<b>SORT Risk Category</b>	<b>Risk Rating</b>	<b>Risk Description</b>	<b>Proposed Mitigation Measures</b>
Political and governance	Moderate	Potential reorganization of Government, or Government approval process (for example, for ICB contracts) may delay implementation.	Keep communications channel with Government open and identify potential issues and hindrances on time.
Macroeconomic	Substantial	<p>Potential slowdown in economic growth may affect demand for industrial EE investments.</p> <p>Further devaluation of the local currency which could negatively impact the PBs capital adequacy and financial performance.</p>	<p>Support development of diversified sub-project pipeline to allow more flexibility in the selection of investments.</p> <p>Strengthen monitoring and evaluation of participating banks. The eligibility of the banks will be assessment on an annual basis throughout the implementation period.</p>
Sector Strategies and Policies	Moderate	EE in general and industrial EE in particular are Government priorities and are backed by concrete programs and deliberate policy support. Inability to deliver strong results could potentially weaken commitment to the current EE agenda.	Strengthen EE capacity of market participants and build a robust foundation to support industrial EE scale up through the TA component and additional support activities for South-South knowledge exchange.
Technical Design of Project or Program	Moderate	This mainly relates to the inclusion of SMEs, which brings in increased complexity in market development and risk mitigation.	Extensive consultation with industrial associations and PBs to better understand the SME market characteristics, special needs, and specific risks and develop appropriate TA activities.
Institutional Capacity for Implementation and Sustainability	Substantial	<p>New PBs may need some time to gain experience, thus potentially slowing down project implementation.</p> <p>Lending to SMEs is new and may pose a steep learning curve. SMEs are also inherently riskier for sub-borrowers than large SOEs.</p>	The risks are mitigated by target TA support to: (a) bring the new PBs up to speed; the experiences gained by the current PBs are also readily available through peer-to-peer knowledge sharing; and (b) rely on PBs which already have high SME exposure to develop additional EE lending products for their SME clients.
Fiduciary	Moderate	New PBs and new sub-borrowers may take some time to become familiar with	Early and continuous training has proven to be effective in the



<b>SORT Risk Category</b>	<b>Risk Rating</b>	<b>Risk Description</b>	<b>Proposed Mitigation Measures</b>
		the project's fiduciary requirements, potentially slowing down project implementation.	current project to resolve similar problems.
Environment and Social	Moderate	The risk that sub-project investments may lead to adverse environmental and social (E&S) impacts. The addition of SME finance increases the risk due to comparatively lower capacity of SMEs; and more PBs will be added and their capacity will also need to be developed/enhanced.	This risk is controlled through strictly applying sub-project eligibility criteria (including the List of Excluded Activities). Only Category B (medium) or C (low) sub-projects may be financed by the credit line.  Training for E&S safeguards compliance will be provided to new PBs and new sub-borrowers.
Stakeholders	Moderate	While the SOE sector has demonstrated an understanding of the benefits of EE, there is a risk that the SME sector may not appreciate the full benefits of EE. This would impact full achievement of the PDO.	The risk will be mitigated by TA to develop EE support in the SME sector.
Overall Risk	Moderate		

#### **IV. APPRAISAL SUMMARY**

##### **A. Eligibility of Participating Banks**

23. On September 5, 2017, the Central Bank of Uzbekistan announced changes in the currency regime from a controlled peg regime to a free-floating regime. The Uzbek Som was devalued from UZS 4,210 for US\$1 to UZS 8,066 for US\$1 which is a 48 percent devaluation against the U.S. dollar, in one day. In addition, companies and citizens are now free to buy foreign currency for international transactions. Some restrictions are maintained with regard to foreign exchange operations to buy hard currency in cash.

24. Due diligence review of the three new banks recommended by the Government was conducted per the guidance and requirements of Bank Policy on Investment Project Financing regarding Financial Intermediary Financing. Reconfirmation of the eligibility of the three existing PBs was also carried out following the same guidelines. The report on eligibility evaluation of all six banks is available in project files. The due diligence review concluded that all three new banks are eligible to participate in the EE credit line of the AF. The eligibility of all three existing PBs was also reconfirmed.

25. To mitigate potential implementation risks as a result of the large devaluation of the local currency, all six PBs are subject to: (a) a disbursement limit of up to 5 percent of each bank's allocated IBRD capital until the bank's audited full 2017 financial statements are reviewed and found satisfactory by the World Bank; and (b) reconfirmation of their eligibility one year from the effectiveness of the proposed AF. Thereafter, their eligibility will be reassessed on an annual basis.

## B. Economic and Financial Analysis

26. The current sub-project pipeline consists of 33 sub-projects for a total investment cost of US\$323 million. The main types of sub-projects include waste heat recovery power generation and replacement of inefficient thermal or electrical equipment (boilers, compressors, motors, and frequency convertors). The technologies are generally similar to those currently being implemented; hence the economic and financial analysis results are expected to be similar. However, the recent currency devaluation due to liberalization of the foreign exchange regime does have a significant impact on these results. This is elaborated in more detail below.

27. Waste heat recovery installation, replacement of compressors, and replacement of boilers systems represent about 50 percent of the sub-project pipeline. Table 4 summarizes the economic and financial analysis results (post currency devaluation) of one sub-project from each of the three categories. The main benefits from the investments are reduced energy costs and reduced greenhouse gas emissions. The main costs are equipment, installation, and operation and maintenance costs. As can be seen from Table 34 the investments are both economically and financially viable. The economic internal rate of return (IRR) ranges from 17 to 18 percent and the financial IRR ranges from 12 to 18 percent. The simple payback periods range from 4.7 years to 6.1 years.

28. The devaluation of the local currency substantially increased the cost of EE equipment, which is denominated in foreign currency. The price of gas and electricity savings, which is denominated in local currency, did not change significantly. Under the exchange rate just before the devaluation, the financial IRR of the same sub-projects would range from 22 to 44 percent, compared with 12 to 18 percent post devaluation.

29. The impact of the foreign exchange rate liberalization on the financial attractiveness of industrial EE investments is a potential risk in the short to medium term. As indicated above, while the selected investments remain financially viable, their financial appeal is significantly reduced, which in turn could affect IEs' decision to pursue such investments. Based on discussions with several sub-borrowers of the project, including a cement plant, a chemical plant, and a beverage plant, it is noted that non-energy savings gains, such as productivity, maintenance cost, work environment, and occupational health, are often cited as important decision factors, sometimes more important than energy savings. This means that while the financial benefit of energy cost savings is highly valued, the decision to invest in process or equipment modernization are also driven by other benefits which are not quantified for the purpose of this EE credit line. Similar investments are likely to be made even if the financial benefit of energy savings may be temporarily affected by the currency devaluation. In addition, neither the PBs nor the sub-borrowers interviewed by the World Bank team are overly concerned by the negative impact of the currency devaluation and maintained that EE investments are still good business. One key benefit of the foreign exchange liberalization is the level playing field. Now enterprises and business are no longer subjected to limitations on currency exchange, enabling them to access foreign-currency-denominated financing which was previously restricted. This could potentially open up new EE investment opportunities.

**Table 4. Summary of Economic and Financial Analysis of Sampled Sub-projects**

		Economic		Financial	
		IRR (%)	Payback Period (years)	IRR (%)	Payback Period (years)
Enterprise	Sub-project technology				
JSC 'Uztransgaz'	Installation of Waste Heat Recovery Unit	18.1	6.1	17.8	6.1

JSC 'Ferghanaazot'	Modernization of Compressor Stations	17.7	4.7	13.2	4.7
JSC 'Ferghanaazot'	Replacement of Boilers	17.1	5.0	12.0	5.0

Note: JSC = Joint Stock Company.

### C. Technical

30. The sub-project pipeline represents investments which are technically similar to those made under the IDA credits. While the proposed AF may finance sub-projects which use new technologies, these must be commercialized and mature technologies. The sub-projects' engineering designs are either off-the-shelf (simple replacement of equipment), or will be carried out by experienced National Design Institutes, assisted by the technical experts from the IEs. The selection of design parameters, technologies, construction materials, and equipment will be based on international best practices, considering national and international experience in specific industries and conditions in Uzbekistan. Thus, there is sufficient technical capacity and experience to successfully implement the sub-projects.

31. TA to the new PBs, IEs, and other stakeholders (e.g. universities and design institutes) will be provided through training, knowledge exchange, and peer-to-peer learning, including lessons learned from similar World Bank credit line projects in Ukraine, Turkey, Vietnam, and China.

### D. Financial Management

32. As in the ongoing EEFIE Phase II, the PCU and six PBs will continue to be responsible for implementation of the financial management (FM) function of the proposed AF. The PCU and PBs will be responsible for the flow of funds, budgeting, accounting, reporting, and auditing. The PCU and all PBs except for JSCB Asia Alliance Bank and Invest Finance Bank have solid experience in the implementation of ongoing and already closed World Bank-financed sub-projects. The PCU and PBs do meet minimum World Bank requirements with respect to staffing, planning, budgeting, accounting, financial reporting, funds flow, internal controls, and auditing. No additional mitigation measures are required except for initial training to new PBs. Training on World Bank requirements with respect to FM and disbursement requirements will be provided to the new PBs.

33. FM and disbursement arrangements for this AF will be identical to arrangements that are in place for the ongoing EEFIE: (a) project audit will be conducted by independent private auditors and on terms of reference acceptable to the World Bank and procured by the PCU, and the cost of the audit will be financed from the proceeds of the loan; and (b) PBs will be responsible for selection of the auditor for audit of their annual financial statements prepared in accordance with interim unaudited financial reports (IUFRS). The annual audited project and entity financial statements will be submitted to the World Bank within six months of the end of each fiscal year. Entities' audited financial statements will be used for financial monitoring purposes.

34. The PCU will produce a full set of consolidated bi-annual IUFRs throughout the life of this AF and will submit them to the World Bank no later than 45 days after the end of each calendar semester.

35. FM arrangements in the ongoing EEFIE Phase II were confirmed to be 'Satisfactory' based on the most recent monitoring visit completed in December 2017. All key FM and disbursement arrangements were in place, and the project is in compliance with key fiduciary requirements.

### E. Procurement

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36. The project is governed by the Procurement Regulations for IPF Borrowers except Component B. The PCU of MOE and the project implementation units (PIUs) of three continuing PBs have experienced Managers, Procurement Specialists, and FM Specialists. They demonstrated significant progress in implementation of the on-going project and have the capacity to implement the Additional Financing. The PIUs of the three new PBs will be established and fully staffed before project effectiveness and will be trained. During the project the Bank provided hands-on training and advice on the Bank's procurement based on supply contracts. This training will continue to cover the Procurement Regulations for IPF Borrowers, specifically, for the PIUs.

37. For Component B (Credit Line to PBs) the Procurement Regulations for IPF Borrowers are not applicable. In line with the exemption under the Procurement Regulations, the goods, services and works to be financed via financial intermediaries under the project will be procured under national commercial practices. The OM will include the procurement arrangements for the project, including a sufficient level of details on the terms of the national commercial practices that will be used by the financial intermediaries under Component B of the project. The OM shall also specify the due diligence arrangements that would be applicable under Component B.

#### **F. Social (including Safeguards)**

38. While no specific social safeguard policies are triggered, limited social risks exist and would be mitigated through applying sub-project eligibility criteria. The project will ensure that positive social development impacts are enhanced. Sub-projects that involve any land acquisition resulting in physical or economic displacement will not be eligible for financing.

39. Further, the screening and monitoring process will ensure that all Uzbek laws concerning labor (such as equal opportunity and fairness in employment) will be complied with. A beneficiary survey will be conducted toward the end of the project, and results will be disaggregated by gender to evaluate any gender-differentiated impacts of EE in the IEs and SMEs. The project will also ensure that the consultation process enables enterprises, the primary beneficiaries, to be engaged in the selection of the subprojects through a participatory decision-making process. An enhanced process for SMEs will be clearly defined in the Operations Manual. A grievance redress mechanism (GRM) is in place and will be expanded to enable any enterprise or individual to make a complaint or provide feedback on project activities. Given that SMEs will be supported by the AF, an indicator has been included in the results framework to measure the level of satisfaction of SMEs to the process by which they were engaged in the identification and preparation of the EE subprojects for financing through the credit line. This AF will therefore bring the project into compliance with the citizen engagement corporate requirements.

40. Since FI category projects require an integrated system for E&S risk management, further details are provided in Section G.

#### **G. Environment (including Safeguards)**

41. The on-going project has been classified as Category FI and will remain the same for the proposed AF (Phase 3). As the nature of the works proposed under the project will not significantly change, the existing Environmental and Social Management Framework (ESMF) (disclosed 'in-country' on March 9, 2010, and submitted to the World Bank on April 9, 2010) for the on-going project has been updated and will be applied for the AF. The updated ESMF was approved and disclosed on December 1, 2017.

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42. The proposed project is in compliance with the Government of Uzbekistan's and World Bank's regulations, policies, and procedures for environmental assessment (EA). The anticipated adverse environmental impacts may occur mainly during the construction stage and are likely to be site-specific and manageable. The project will not involve conversion or degradation of natural habitats, or have a negative impact on forest ecosystems (to make sure such impacts do not occur, this will be stipulated in the List of Excluded Activities). Most of the sub-projects in previous phases—43 in total for Phase 2—were related to the purchase and installation of new and more energy-efficient equipment (replacement of boilers and purchase and installation of small-scale equipment to utilize low pressure flare gases). Phase 3 is expected to finance similar activities.

43. The main changes expected that would have some impact on the project's E&S risk profile are: (a) inclusion of new PBs, with approximately three new PBs to be added to the existing three, necessitating measures to build their capacity for E&S risk management; PBs have developed internal capacity for E&S risk management and record-keeping with regard to sub-projects financed by the on-going project; (b) inclusion of SMEs into the project in addition to IEs; SMEs are expected to be in sectors such as textile and food processing and have the need to upgrade energy-consuming equipment to become more competitive; while E&S risks associated with SMEs may be comparatively lower due to their size, their capacity to manage the risks is also expected to be lower.

44. Given the E&S risk profile described above, the main updates to the current ESMF focused on: (a) more clearly identifying high-risk situations that would make sub-projects ineligible for financing; and (b) considering the new element of SME finance in Phase 3 as SMEs would more often not have sufficient capacity to manage certain risks. Training in the E&S requirements and procedures, including sharing of lessons learned between current and new PBs, will be provided.

45. The World Bank mission conducted in September 2017 concluded that the overall project E&S management performance is satisfactory. The PBs have adequate knowledge of the EA process. All sub-projects will be assessed from an E&S risk management point of view and assigned a risk category (medium [B] or low [C]). Under the ESMF, the PBs are required to fill out E&S checklists and collect and verify copies of necessary documents specified in the ESMF: environmental permits and approvals, monitoring reports, results of environmental auditing, along with decisions issued by the State Ecological Expertise, regarding the proposed investments. The IEs visited PBs and discussions between the PBs and enterprises' management and environmental specialists show that IEs do not have outstanding environmental issues and operate based on required environmental authorizations, licenses, and permits.

46. The project will also bring positive impacts on the environment and human health, from decreased amount of fossil fuels burned resulting from enhanced EE and from reduced air pollution at the local level.

47. **Climate and disaster risks.** The project was screened for climate and disaster risks. The geophysical risk of earthquakes and landslides was found to be high in the key industrial regions of Tashkent and Samarkand. This means that there is a 20 percent chance of potentially damaging earthquakes in the next 50 years and that vulnerable industrial facilities are at risk of damage. The risk of river or urban flooding is rated as high as well. This means that potentially damaging and life-threatening urban floods are expected to occur at least once in the next 10 years in most of the country. The project will encourage the IEs to further evaluate the risks during design and construction and incorporate appropriate measures where applicable. There could be opportunities where the sub-projects involve significant construction. There will be limited opportunities where the

investments are simple replacements of aged industrial equipment (Assessment of disaster and climate risk from Global Facility for Disaster Reduction and Recovery, [www.thinkhazard.org](http://www.thinkhazard.org))

#### H. Other Safeguard Policies (if applicable)

48. OP 7.50 (Projects on International Waterways) and OP 7.60 (Projects in Disputed Areas) will not apply as no activities are expected to take place in disputed territories or affect international waterways.

#### V. WORLD BANK GRIEVANCE REDRESS

49. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB'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 WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service>. For information on how to submit complaints to the World Bank Inspection Panel, please visit [www.inspectionpanel.org](http://www.inspectionpanel.org)

#### VI. SUMMARY TABLE OF CHANGES

	Changed	Not Changed
Change in Implementing Agency	✓	
Change in Results Framework	✓	
Change in Components and Cost	✓	
Change in Loan Closing Date(s)	✓	
Change in Disbursements Arrangements	✓	
Change in Procurement	✓	
Change in Project's Development Objectives		✓
Cancellations Proposed		✓
Reallocation between Disbursement Categories		✓
Change in Safeguard Policies Triggered		✓

Change of EA category		✓
Change in Legal Covenants		✓
Change in Financial Management		✓
Change in APA Reliance		✓

## VII. DETAILED CHANGE(S)

### IMPLEMENTING AGENCY

Implementing Agency Name	Type	Action
Ministry of Economy	Line Ministry/Ministerial Department	No Change
ASAKA Bank	Private Sector	No Change
Hamkorbank	Private Sector	No Change
Uzpromstroybank	Private Sector	No Change
Invest Finance Bank	Private Sector	New
Asia Alliance Bank	Private Sector	New
National Bank of Uzbekistan	Private Sector	New

## RESULTS FRAMEWORK

### Project Development Objective Indicators

Leveraged amount of EE Investments Unit of Measure: Amount(USD) Indicator Type: Custom				
	Baseline	Actual (Current)	End Target	Action
Value	0.00	83,000,000.00	201,000,000.00	Revised
Date	30-Dec-2011	31-Jan-2018	31-Jan-2023	
Energy savings Unit of Measure: Megawatt hour(MWh) Indicator Type: Custom				

	Baseline	Actual (Current)	End Target	Action
Value	0.00	227,000.00	613,000.00	Revised
Date	30-Dec-2011	31-Jan-2018	31-Jan-2023	
<b>CO2 emission reduction</b> Unit of Measure: Metric ton Indicator Type: Custom				
	Baseline	Actual (Current)	End Target	Action
Value	0.00	470,000.00	1,269,000.00	Revised
Date	30-Dec-2011	31-Jan-2018	31-Jan-2023	

### Intermediate Indicators

<b>Number of beneficiary industrial enterprises</b> Unit of Measure: Number Indicator Type: Custom				
	Baseline	Actual (Current)	End Target	Action
Value	12.00	31.00	70.00	Revised
Date	30-Jun-2012	30-Jun-2017	31-Jan-2023	
<b>Co-financing amount by participating banks</b> Unit of Measure: Amount(USD) Indicator Type: Custom				
	Baseline	Actual (Current)	End Target	Action
Value	0.00	27,000,000.00	96,000,000.00	New
Date	15-Dec-2011	30-Sep-2017	31-Jan-2023	
<b>Amount of subloans to SMEs</b> Unit of Measure: Amount(USD) Indicator Type: Custom				
	Baseline	Actual (Current)	End Target	Action
Value	0.00		30,000,000.00	New
Date	30-Jun-2018		31-Jan-2023	
<b>SMEs' satisfaction with their engagement in the development of subprojects</b> Unit of Measure: Percentage Indicator Type: Custom Supplement				



	Baseline	Actual (Current)	End Target	Action
Value	0.00	0.00	80.00	New
Number of IEs which adopted Energy Management System Unit of Measure: Amount(USD) Indicator Type: Custom				
	Baseline	Actual (Current)	End Target	Action
Value	22.00	22.00	50.00	New
Date	31-Dec-2017	31-Dec-2017	31-Jan-2023	

## COMPONENTS

Current Component Name	Current Cost (US\$, millions)	Action	Proposed Component Name	Proposed Cost (US\$, millions)
Component A - Development of Energy Efficiency Capacity	2.00	Revised	Component A - Development of Energy Efficiency Capacity	1.00
Component B - Credit Line to Participating Banks (PBs)	123.00	Revised	Component B - Credit Line to Participating Banks (PBs)	199.00
<b>TOTAL</b>	<b>125.00</b>			<b>200.00</b>

## LOAN CLOSING DATE(S)

Ln/Cr/Tf	Status	Original Closing	Current Closing(s)	Proposed Closing	Proposed Deadline for Withdrawal Applications
IBRD-88260	Not Effective	31-Jan-2023	31-Jan-2023		
IDA-47450	Closed	31-Jan-2016	31-Jan-2016		
IDA-52410	Effective	31-Jan-2018	31-Jan-2023	31-Jan-2023	31-May-2023

## DISBURSEMENT ARRANGEMENTS

Change in Disbursement Arrangements

Yes

### Expected Disbursements (in US\$, millions)

Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Annual	0.00	2.70	7.57	10.99	12.33	17.73	21.48	20.83	23.80	20.72
Cumulative	0.00	2.70	10.27	21.26	33.59	51.32	72.80	93.63	117.43	138.15

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

Risk Category	Latest ISR Rating	Current Rating
Political and Governance	● Moderate	● Moderate
Macroeconomic	● Substantial	● Substantial
Sector Strategies and Policies	● Moderate	● Moderate
Technical Design of Project or Program	● Substantial	● Moderate
Institutional Capacity for Implementation and Sustainability	● Moderate	● Substantial
Fiduciary	● Moderate	● Moderate
Environment and Social	● Moderate	● Moderate
Stakeholders	● Low	● Moderate
Other		● Low
Overall	● Moderate	● Moderate

### LEGAL COVENANTS – Energy Efficiency Facility for Industrial Enterprises, Phase 3 (P165054)

#### Sections and Description

#### Conditions of Effectiveness:

- (a) The Subsidiary Agreements have been executed on behalf of the Borrower and the respective Participating Bank.
- (b) The Operations Manual satisfactory to the Bank has been updated and adopted by the Ministry of Economy and the Participating Banks in its revised form.
- (c) An opinion or opinions satisfactory to the Bank of counsel acceptable to the Bank have been furnished to the Bank showing:
  - (i) on behalf of each Participating Bank, that the respective Project Agreement has been duly authorized or ratified, and executed and delivered on its behalf and is legally binding upon it in accordance with its terms and all necessary governmental and corporate action; and

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(ii) that each respective Subsidiary Agreement has been duly authorized or ratified by the Borrower and the respective Participating Bank and is legally binding upon the Borrower and each Participating Bank in accordance with its respective terms.

**Conditions**



**VIII. RESULTS FRAMEWORK AND MONITORING**

**Results Framework**

COUNTRY : Uzbekistan

Energy Efficiency Facility for Industrial Enterprises, Phase 3

**Project Development Objectives**

The project objective is to improve energy efficiency in Industrial Enterprises (IEs) by designing and establishing a financing mechanism for energy saving investments.

**Project Development Objective Indicators**

Action	Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source / Methodology	Responsibility for Data Collection
Revised	<b>Name:</b> Leveraged amount of EE Investments		Amount(USD)	0.00	201,000,000.00	Annual	Participating banks	Participating banks and PCU
Description: Leverage amount of EE investments are contributions by participating banks through co-financing of sub-loans and by sub-borrowers through equity.								
Revised	<b>Name:</b> Energy savings		Megawatt hour(MWh)	0.00	613,000.00	Annual	Participating	Participating

							banks	banks and PCU
Description: Cumulative energy saving capacity (MWh/year) achieved, including electricity and natural gas savings. Natural gas savings are converted to MWh using the heating value of Uzbek gas.								
Revised	<b>Name:</b> CO2 emission reduction		Metric ton	0.00	1,269,000.00	Annual	Participating banks.	Participating banks and PCU
Description: CO2 are estimated based on (1) electricity savings using the average CO2 emission factor per kWh for the entire grid of Uzbekistan; and (2) and natural gas savings using CO2 emission factors associated with the specific thermal processes of the subprojects.								

### Intermediate Results Indicators

Action	Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source / Methodology	Responsibility for Data Collection
No Change	<b>Name:</b> EE Strategy for IEs		Text	Not developed	Completed	PCU	PCU	Annually
Description: Energy Efficiency Strategy for Industrial Enterprises.								
No Change	<b>Name:</b> Establishment and Operation of PCU		Text	Not established	Established	PCU	PCU	Once
Description:								
No Change	<b>Name:</b> EE Communication Strategy		Text	Not developed	Completed	PCU	PCU	Annually

Description: Energy Efficiency Communications Strategy								
Revised	<b>Name:</b> Number of beneficiary industrial enterprises		Number	12.00	70.00	Annual	Participating banks.	Participating banks and PCU
Description: Cumulative number of industrial enterprises which received subloans.								
New	<b>Name:</b> Co-financing amount by participating banks		Amount(US D)	0.00	96,000,00 0.00	Annual	Participating banks	Participating banks and PCU
Description: Cumulative co-financing amount in sub-loans by participating banks using their own capital.								
New	<b>Name:</b> Amount of subloans to SMEs		Amount(US D)	0.00	30,000,00 0.00	Annual	Participating banks	Participating banks and PCU
New	SMEs' satisfaction with their engagement in the development of subprojects		Percentage	0.00	80.00	At mid-term review and completion of project, respectively.	Survey report	PCU and participating banks
Description: Cumulative amount of subloans to SMEs								
New	<b>Name:</b> Number of IEs which adopted Energy Management		Amount(US D)	22.00	50.00	Annual	PCU	PCU

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	System							
Description: Cumulative number of IEs which adopted Energy Management System								

**Target Values**

**Project Development Objective Indicators**

Action	Indicator Name	End Target
Revised	Leveraged amount of EE Investments	201,000,000.00
Revised	Energy savings	613,000.00
Revised	CO2 emission reduction	1,269,000.00

**Intermediate Results Indicators**

Action	Indicator Name	Baseline	YR1	YR2	End Target
No Change	EE Strategy for IEs	Not developed			Completed
No Change	Establishment and Operation of PCU	Not established			Established
No Change	EE Communication Strategy	Not developed			Completed
Revised	Number of beneficiary industrial enterprises	12.00	24.00	32.00	70.00
New	Co-financing amount by participating banks	0.00			96,000,000.00
New	Amount of subloans to SMEs	0.00			30,000,000.00
New	SMEs' satisfaction with their engagement in the development of subprojects	0.00			80.00
New	Number of IEs which adopted Energy Management System	22.00			50.00



