

Ex-Ante Evaluation (for Japanese ODA Loan)

Central Asia and the Caucasus Division
East and Central Asia and the Caucasus Department
Japan International Cooperation Agency

1. Name of the Project

- (1) Country : The Republic of Uzbekistan
- (2) Project: Project for Promotion of Energy Efficiency in Public Buildings
- (3) Project Site / Target Area : All areas of Uzbekistan
- (4) Loan Agreement: June 18, 2026

2. Background and Necessity of the Project

(1) Current State and Issues of the Energy Sector and the Priority of the Project in Uzbekistan

In the Republic of Uzbekistan (hereinafter referred to as “Uzbekistan”), the population growth rate is projected to be approximately 2.0% and real GDP growth approximately 5.8% from 2025 to 2030, with robust growth expected against a backdrop of expanding investment and strong domestic demand (IMF, 2025). With energy demand expected to nearly double by 2035 compared to 2023, the country’s energy supply relies on fossil fuels for approximately 99% of which natural gas accounts for about 79% of the supply; however, natural gas production has been on a downward trend, falling to 98.7% (2019) and 83.1% (2020) of 2018 levels, and some projections suggest it will be depleted in about 20 years (IEA, 2022).

In the country, the building sector—including public facilities, commercial buildings, and residential homes—accounts for 50% of total energy consumption (World Bank, 2022). Average temperatures during the winter (December to February) fall below 0° C, resulting in particularly high energy consumption for heating. As energy demand is set to rise further due to increasing winter heating needs and economic growth, while the country’s domestic energy supply is declining, reducing energy consumption is a critical challenge for energy security.

At the same time, the country’s energy intensity—a metric indicating energy consumption per unit of GDP—stands at approximately 120 toe per million dollars, significantly exceeding the global average of about 80 toe per million dollars (IEA, 2022), highlighting low energy efficiency as a key challenge. Of the 46,000 government-owned buildings, schools, kindergartens, hospitals, and clinics account for approximately 20,000. In these public facilities, more than 70% of

energy consumption is concentrated on thermal uses such as heating and hot water supply. Many of these buildings were constructed during the Soviet era and suffer from low energy efficiency due to the use of outdated boilers and insufficient insulation (JICA, 2025). Furthermore, energy audits have not been conducted in most buildings, including public facilities, resulting in a lack of data on energy consumption. Additionally, staff responsible for operating and managing these facilities have low awareness of energy conservation. Furthermore, although GHG emissions per unit of GDP in the country is on a downward trend due to technological innovations and other factors, the country's reliance on fossil fuels means that its GHG emissions per unit of GDP stand at 0.46 kg/dollar, which is extremely high compared to the global average of 0.26 kg/dollar (IEA, 2022). Furthermore, GHG emissions from buildings, including public facilities, account for 25% of the country's total emissions due to the use of coal and gas boilers (World Bank, 2022).

In light of these circumstances, the Uzbek government has incorporated the green economy transition (GX) into its national development plan, "Uzbekistan Strategy 2030," with the goal of reducing GHG emissions per unit of GDP by 30% compared to 2010 levels. In 2023, the government established "Standards for a Green Economy" and promoted energy efficiency measures based on energy audits. Furthermore, in March 2025, it issued Presidential Decree No. 100, "On Strengthening Thermal Energy Supply and Energy Conservation in Housing and Buildings," thereby reinforcing energy conservation measures centered on reducing thermal energy consumption in buildings. Furthermore, in May 2025, the country established the National Agency for Energy Efficiency, among other measures, to advance the institutional framework for energy efficiency policies and strengthen the implementation structure.

This Project aims to reduce energy consumption and GHG emissions by promoting the introduction of energy-efficient equipment, such as heat pumps and insulation in public facilities, and is a high policy priority for the country.

(2) Japan's and JICA's Cooperation Policy and Operations in the Energy Sector

Japan's Country Assistance Policy for the Republic of Uzbekistan (2022) establishes "Promotion of sustainable economic growth and the elimination of disparities" as its basic policy and states that it will provide support to address global challenges such as climate change with the aim of "building a fair and sustainable society. The Tokyo Declaration, adopted at the first summit of the

“Central Asia + Japan” Dialogue (CA+JAD) in December 2025, identifies “Green and Resilience” as a priority area, stating that it aims “to simultaneously achieve economic growth, energy security, and decarbonization, and to implement an energy transition toward net-zero/carbon neutrality through diverse pathways.”

The JICA Country Analysis Paper on the Republic of Uzbekistan (March 2023) identifies “Energy Conservation and Low-Carbon Programs” as one of its priority areas, and this Project aligns with these policies and analyses. Furthermore, under JICA’s Global Agenda, Area 3 “Energy and Mining” aims to balance decarbonization and the stable supply of affordable energy. Additionally, Area 16 “Climate Change” seeks to promote the introduction and widespread adoption of low-carbon facilities and equipment to improve energy efficiency across society; this Project aligns with these policies and analyses.

(3) Other Donors’ Activities

The World Bank has been implementing the “Public Building Energy Efficiency Improvement Project” since 2022 and is planning to renovate 200 public facilities (USD 143 million). The Asian Development Bank (ADB) and the European Investment Bank (EIB) are also developing projects to introduce energy-saving equipment in public facilities.

3. Project Description

(1) Project Description

① Project Objective

The objective of the Project is to promote energy efficiency by introducing energy efficient equipment and works in schools, preschools and health facilities, thereby contributing to the transition towards a green economy, strengthening its energy security, and mitigating climate change.

② Project Components

Component 1: Energy Efficiency Improvement Works in Public Buildings

Component 2: Consulting Service for Implementation of the Project

③ Project Beneficiaries (Target Group)

Final Beneficiaries: The people of Uzbekistan (approx. 37 million)

(2) Estimated Project Cost

Total Project Cost : 27,335 mill. yen (Japanese ODA loan: 21,788 mill. yen)

(3) Schedule

June 2026 - October 2032 (77 months). The project will be considered

complete upon the commencement of operations at all target facilities (October 2032).

(4) Project Implementation Structure

- 1) Borrower: The Republic of Uzbekistan
- 2) Executing Agency: National Agency for Energy Efficiency (NAEE)
- 3) Operation and Maintenance: Ministry of Preschool and School Education, Ministry of Health

(5) Collaboration and Sharing of Roles with Other Donors

1) Japan's Activity

In recent years, JICA has provided support to Uzbekistan through the “Energy Efficiency Promotion Advisor” (FY2021–2023), the Thematic Training Program “Promotion of Energy Efficiency and Conservation” (FY2022–2024), and the Technical Cooperation Project “Project for Strengthening Energy Conservation Capacity through the Establishment of an Energy Manager Scheme and Zero-Energy Building (ZEB) Demonstration Pilot Project” (FY2024-2027).

This Project aims to bolster the implementation and establishment of the energy conservation law and related systems supported by Japan, including support for conducting energy audits as part of consulting services. Furthermore, technical specifications are planned to be formulated by referencing the energy-efficient equipment used in the ZEB demonstration experiments conducted under the technical cooperation. Furthermore, in conjunction with the “Project to Promotion of Energy Efficiency in Industries”, which targets the industrial and commercial sector, this Project will contribute to the promotion of energy efficiency in the country.

2) Other Donors' Activity

The Project shall avoid overlap with the activities of other Donors' mentioned in 2.(3).

(6) Environmental and Social Consideration

- ① Category: B
- ② Reason for Categorization: Under the “JICA Guidelines for Environmental and Social Considerations” (January 2022), this Project is judged to have no significant adverse environmental impacts, taking into account sectoral, project, and regional characteristics.
- ③ Environmental Permit : Prior to the decision to implement each subproject, NAEE will confirm whether an Environmental Impact Assessment (EIA) report is required. If preparation is mandated under the country's domestic

laws, environmental permits and approvals will be obtained prior to the decision to implement the subproject.

- ④ Anti-Pollution Measures : Prior to the decision to implement each subproject, NAEE will formulate an environmental management plan covering water quality and waste management during construction, including pre-construction surveys and treatment and record-keeping by licensed contractors, and plans to comply with the country's domestic emission standards and environmental standards.
- ⑤ Natural Environment : It has been agreed with NAEE that this project will not be implemented in vulnerable areas.
- ⑥ Social Environment : If the movement of students and patients using public facilities is required during the construction period, mitigation measures will be established in accordance with domestic procedures and the "JICA Environmental and Social Consideration Guidelines," and implementation will proceed only after obtaining prior social consensus through stakeholder consultations and other means.
- ⑦ Other/Monitoring : For this project, NAEE with the support of consultants hired for the project, will classify each subproject based on Uzbekistan's domestic legal framework and the "JICA Environmental and Social Consideration Guidelines," and necessary measures corresponding to each category will be taken. It has been agreed with NAEE that no Category A projects will be included in the subprojects.

(7) Cross-Sectoral Issues

In its "Nationally Determined Contribution (NDC)" under the Paris Agreement, the country has set a target of "reducing GHG emissions by 50% per unit of GDP by 2035 compared to 2010 levels". Since the country has identified the introduction of energy-efficient technologies in various sectors as a climate change mitigation measure to achieve this target, this Project contributes to the NDC.

(8) Gender Category: ■ GI (S) (Gender Integrated Project)

<Details of Activities/Reason for Categorization> In Uzbekistan, A gender-related issue exists in which laws and strategies regarding gender equality do not institutionalize the consideration of a gender perspective in public works projects. In response, this Project implements a series of processes in which NAEE, with the support of consultants, create a gender-responsive checklist and guidelines for its use, apply it at construction sites, and refine the checklist as necessary.

Additionally, the Project sets the number of subprojects (132) where the checklist shall be used for verification as an indicator to promote the institutionalization of construction supervision that incorporates a gender perspective.

(9) Other Important Issues: None.

4 . Targeted Outcomes

(1) Quantitative Effects

1) Outcomes (Operation and Effect Indicators)

Indicator	Baseline (Actual value in 2026)	Target (2034) [2 years after project completion]
Energy efficiency improvement achieved (GJ/yr)	0	690,000
CO ₂ emission reduced (against as usual) (T-CO ₂ /yr)	0	48,172
The number of facilities covered by the project measures	0	132
The number of energy audit conducted / instructed	0	132
The number of Energy Efficiency Seminars at renovated schools and pre-schools	0	110
The number of sub projects in which a gender checklist is used	0	132

(2) Qualitative Effects

Capacity building for stakeholders regarding energy-saving technologies (NAEE, relevant government ministries, public facility users, and local contractors); raising public awareness of energy conservation; and stabilizing energy supply and demand.

(3) Internal Rate of Return

The IRR has not been calculated because the subprojects cannot be identified in advance.

5 . External Factors and Risk Control

(1) Preconditions: None

(2) External Factors: None

6 . Lessons Learned from Past Projects

In the evaluation of the “Industrial Energy Conservation Project” for the Republic of Argentina (evaluation year: 2003), the absence of energy conservation policies failed to stimulate interest in adopting energy-saving technologies, resulting in limited progress in the implementation of private-sector energy conservation programs. In this project, the project plan incorporates support for energy conservation policies by providing training to raise energy conservation awareness among government officials through consulting services, while coordinating with the training of energy management specialists supported by technical cooperation projects and policy recommendations derived from the ZEB demonstration project.

Furthermore, the evaluation of the “Small-Scale Pro Poor Infrastructure Development Project” for the Socialist Republic of Vietnam (evaluation year: 2011) revealed that, during the implementation of multiple subprojects, data on project effectiveness was not collected, and monitoring of indicators was not carried out. In this Project, because the subprojects cover a wide area, the project plan incorporates a strategy to package them by district to facilitate data collection and prevent issues with data collection regarding project indicators.

7 . Evaluation Results

This Project aligns with the government’s development policies and guidelines, as well as the cooperation policies and analysis of Japan and JICA. It promotes energy efficiency in public buildings and advances climate change countermeasures; therefore, there is a strong need to support the implementation of this project to contribute to SDG Goal 13 (Climate Action).

8 . Plan for Future Evaluation

(1) Indicators to be Used

As indicated in Section 4.

(2) Future Evaluation Schedule

Ex-post evaluation: 2 years after project completion

END

Annex: Map of Project for Promotion of Energy Efficiency in Public Buildings

Map of Project for Promotion of Energy Efficiency in Public Buildings



Source: United Nation (<https://www.un.org/geospatial/content/uzbekistan>)