



Sovereign-backed Financing

Approval Project Document

**P000910 Republic of Türkiye: Istanbul Seismic Risk Mitigation and Emergency
Preparedness (ISMEP) - 2 Project**

Currency Equivalents
(As of September 19, 2024)

Currency Unit – Turkish Lira (TRY)

USD 1.00 = TRY 33.977

TRY 1.00 = USD 0.029

EUR 1.00 = TRY 37.918

TRY 1.00 = EUR 0.026

Fiscal year

January 1 – December 31

Abbreviations

AIIB	Asian Infrastructure Investment Bank
DA	Designated Account
EIB	European Investment Bank
EIRR	Economic Internal Rate of Return
EMP	Environmental Management Plan
ENPV	Economic Net Present Value
ES	Environmental and Social
ESP	Environmental and Social Policy
ESS	Environment and Social Standards
EUR	Euro
FM	Financial Management
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GRM	Grievance Redress Mechanism
IFI	International Finance Institution
IPCU	Istanbul Project Coordination Unit
IsDB	Islamic Development Bank
ISMEP	Istanbul Seismic Risk Mitigation and Emergency Preparedness
ISMEP-AF	ISMEP Additional Financing
ISMEP-2	ISMEP Repeat Financing
MDB	Multilateral Development Bank
MoTF	Ministry of Treasury and Finance
NCT	National Competitive Tendering
NDC	Nationally Determined Contribution
PIU	Project Implementation Unit
PP	Procurement Plan
PPM	Project-affected Peoples Mechanism
SDR	Social Discount Rate
USD	US Dollar

Table of Contents

1. Summary Sheet	2
2. Context	5
3. Rationale	7
4. Project Description	12
5. Project Assessment	16
A. Technical	16
B. Economic and Financial Analysis	16
C. Fiduciary and Governance	18
D. Environmental and Social	20
E. Climate Change	22
F. Gender Aspects	22
G. Risks and Mitigants	22
Annex 1: Results Monitoring Framework	26
Annex 2: Türkiye Credit Fact Sheet	27
Annex 3: Economic and Financial Analysis	30

1. Summary Sheet

Project No.	P000910
Project Name	Istanbul Seismic Risk Mitigation and Emergency Preparedness - 2
AiIB Member	Türkiye
Borrower	Republic of Türkiye
Project Implementation Entity	Istanbul Project Coordination Unit
Sector	Urban
Subsector	Urban resilience
Alignment with AiIB's thematic priorities	Green infrastructure
Project Objective	The objectives of the Project are to improve the disaster resilience of critical public facilities and to enhance emergency preparedness and resilience of the City of Istanbul.
Project Description	<p>Building on the highly successful program initiated and implemented by the World Bank after the devastated Marmara earthquake in 1999, the program has since received support from many International Finance Institutions (IFIs) including AiIB which has financed two projects, Istanbul Seismic Risk Mitigation and Emergency Preparedness (ISMEP) and ISMEP-Additional Financing (ISMEP-AF) with the total amount of USD465 million since 2020. The proposed Project will finance structural retrofitting and reconstruction of recently identified high priority public buildings, found to be vulnerable to seismic risks.</p> <p><u>Rationales for Repeat Financing:</u></p> <p>The Istanbul Education Directorate in collaboration with Istanbul Project Coordination Unit (IPCU) has further identified 40 public schools that were found to be unsafe and not in compliance with the seismic resilient building code. These buildings were either demolished or closed for safety reasons after the 2023 earthquake. This has resulted in reallocating students and teachers from these schools to continue their studies at nearby schools resulting in two-shifts due to limited space. Therefore, returning these affected students to safe and normal learning environment as soon as possible is one of the highest priorities of the government.</p> <p>In addition, the preliminary assessment recently conducted shows that only 16 out of the 40 schools are suitable for retrofitting while the other 24 schools require reconstruction which requires substantially higher level of investment. As most of the resources provided by the ISMEP and ISMEP-AF projects have already been committed, the government needs additional funding to complete the reconstruction and retrofitting of these 40 public schools as soon as possible. The government has first turned to AiIB for continued support of the program due mainly to the fact that AiIB has been able to provide timely support with value addition including implementation support and advice on nature-based solutions and climate resilience. Since the financing gaps to support other priority public buildings is substantial, the government has also been in discussion with other multilateral development banks including</p>

	<p>European Investment Bank (EIB), Council of Europe Development Bank (CEB), and Islamic Development Bank (IsDB), to secure potential support to bridge any financing gap. Feasibility study reports for these additional buildings are being carried out and funded by the ISMEP-AF project.</p> <p><u>Component A: Enhancing Emergency Preparedness.</u> This component aims to enhance the emergency preparedness of the City of Istanbul by strengthening the capacity of Istanbul's Provincial Directorate of Disaster and Emergency and other first responders. Specifically, the component will support: (i) the provision of emergency equipment such as IT and emergency communications equipment, medical rescue and search and rescue equipment, and specialized emergency vehicles, etc.; (ii) public awareness and training; and (iii) any technical assistance to enhance emergency preparedness and responses.</p> <p><u>Component B: Seismic Risk Mitigation for Public Facilities.</u> This component aims to reduce the risk of future earthquake damages to critical public facilities in order to save lives and ensure their continued functioning operation in the event of an earthquake. The component will mainly consist of retrofitting and reconstruction of the existing priority public facilities. IPCU has already identified 40 public schools to be included in the Project based on the ISMEP program's established rules. The component will also support feasibility studies, detailed designs, and construction supervision.</p> <p><u>Component C: Project Management Support.</u> This component will support IPCU to implement the Project in an efficient and transparent manner and continue to build the institutional capacity to sustain the implementation of the Seismic Risk Mitigation and Preparedness program beyond the life of the Project. Specifically, the component will comprise IPCU's operational costs and project management support, including support to monitoring and evaluation, environmental and social safeguards, procurement and financial management aspects.</p>
Implementation Period	01/01/25 06/30/30
Expected Loan Closing Date	06/30/30
Proposed Amount of AIB Financing (USDm)	USD335.00 The currency of the loan is EUR in the amount of EUR300 million based on the foreign exchange rate of USD1.115 per EUR1.00.
Financing Plan	<ul style="list-style-type: none"> - <u>Component A:</u> Enhancing Emergency Preparedness, EUR5 million (USD5.6 million) - <u>Component B:</u> Seismic Risk Mitigation for Public Facilities, EUR290 million (USD323.8 million) - <u>Component C:</u> Project Management Support, EUR5 million (USD5.6 million)
ES Category (or AIB equivalent, if using another MDB's ES Policy)	B
Risk (Low/Medium/High)	Medium

Key Covenants	Maintaining the Project Implementation Agency and the Project steering committee throughout the Project, each with adequate budgetary and staffing allocations.
Retroactive Financing (Loan % and dates)	None
Policy Waivers Requested	No
Policy Assurance	The Vice President, Policy and Strategy, confirms an overall assurance that the proposed project complies with AIIB's applicable operational policies (Granted on November 4, 2024).
Economic Capital (ECap) Consumption	30.91% or USD83.01 million

President	Liqun Jin
Vice President	Konstantin Limitovskiy
Acting Director General	Konstantin Limitovskiy
Team Leader	Nat Pinnoi, Senior Investment Officer
Team Members	Yi Geng, Senior Financial Management Specialist Yunlong Liu, Senior Procurement Specialist Ercan Ozbulut, Social Development Specialist Mark Barnard, Senior Environment Specialist Wenchao Cao, Investment Solutions Associate Marcin Sasin, Senior Economist Liu Yang, Counsel Mengmeng He, Finance Officer Jiaming Yu, Project Assistant

2. Context

- 2.1 **Country and Macroeconomic Overview:** Türkiye is an upper-middle-income country with an income per capita of around USD13,000 (or around USD44,000 in purchasing power parity) and a population of around 87 million. Despite the adverse impact of the COVID-19 Pandemic, the average annual Gross Domestic Product (GDP) of Türkiye during 2011-2020 was 5.2 percent, 1.1 and 1.5 percent higher than in the previous two decades. The latest GDP growth registered an impressive 11.4 percent in 2021 during the peak of the COVID-19 pandemic. However, GDP growth has been achieved through the stimulation of credit and monetary measures, which has resulted in a rapid increase in inflation and deterioration of the value of domestic currency Turkish lira. Furthermore, the food and commodity supply shocks due to geopolitical tensions in early 2022 still affect the price level escalation and further depreciation of the lira.
- 2.2 More recently, the monetary policy has been accommodative despite high and accelerating inflation, which has led to capital outflows and a sharp depreciation. The currency lost two-thirds of its value, while inflation reached 85.5 percent at its peak. Complex macro-prudential measures were put in place to stem depreciation, guide credit, and sustain high growth. Additionally, Türkiye was hit by several shocks, including high global energy prices, which led to a doubling of the energy import bill, and a devastating earthquake. While growth was still high (5.5 percent in 2022), the economy has accumulated significant imbalances. On that account, all major rating agencies downgraded Türkiye's sovereign credit in 2022.
- 2.3 Following the 2023 elections, a policy normalization is taking place under a new economic team, reputed to be supportive of more orthodox policies. Since June 2023, the central bank has increased interest rates to 50 percent and has been gradually dismantling the many distorting macroprudential regulations. This is the first time in over a decade that all three major sovereign rating agencies have upgraded Türkiye's credit rating. In March and September 2024, S&P and Fitch each issued an upgrade raising the sovereign credit rating to B+ positive and BB- stable, respectively. Moody's issued the most recent two-notch upgrade in July 2024 to B1 with a positive outlook.
- 2.4 **Sector Overview:** The 2023 earthquakes measuring 7.8 and 7.5 in magnitude in the eleven southern provinces and the 2021 catastrophic flood in the Black Sea region have again highlighted how much Türkiye is vulnerable to seismic and climate risks. The overall impact of the recent earthquake is estimated to be around USD103.6 billion, equivalent to 9 percent of the projected GDP for 2023. The Government of Türkiye (GOT) has been working with international development partners including AIIB to mobilize support for the required recovery works. The 2023 earthquake prompted the GOT to accelerate the country-wide retrofitting and reconstruction of the remaining unsafe public buildings built before 1999 to meet current seismic resilient standards. The Governorate of Istanbul has identified 40 public schools (16 schools will be retrofitted and the other 24 schools will be reconstructed) built before 1999, requiring immediate retrofitting or reconstruction in compliance with the Türkiye Building Earthquake Standard 2018 as early as possible to reduce their vulnerability against future seismic activities in Istanbul. These schools were either closed in a retrofitting case or demolished in a reconstruction case per the order of the Governorate. Students and staff were relocated to nearby

schools where two shifts of classes were deployed. Within the Istanbul Governorate, a few prioritized public hospitals have been identified that retrofitting and reconstruction would be needed. Necessary resources are being mobilized from international development partners by the GOT. AIIB has also been involved in this discussion.

- 2.5 **Addressing Key Development Challenges – Project Contributions:** The Project addresses the government’s urgent need (i) to ensure the safety of students and staff whose learning was delivered at the public schools built before 1999 by financing the retrofitting and reconstruction of these schools. These schools’ structures were found to be unsafe and did not comply with the latest building code. Additionally, the retrofitting and reconstruction design will include climate mitigation and resilient measures such as energy and resources efficiency, flood, and drought management and (ii) to strengthen the city’s emergency preparedness capacity to cope with various types of disasters including seismic and climate-induced events by financing required equipment for Istanbul Disaster and Emergency Management Authority (Istanbul-AFAD).

3. Rationale

- 3.1 **Project Objective.** The objectives of the Project are to improve the disaster resilience of critical public facilities and to enhance emergency preparedness and resilience of the City of Istanbul. These objectives are similar to the ongoing AIIB-financed Istanbul Seismic Mitigation and Emergency Preparedness (ISMEP) Project approved in 2019 and ISMEP-Additional Financing (ISMEP-AF) Project approved in 2023.
- 3.2 **Project Description.** Building on the highly successful program initiated and implemented by the World Bank after the devastated Marmara earthquake in 1999, the program has since received support from many International Finance Institutions (IFIs) including AIIB which has financed two projects, ISMEP and ISMEP-AF with the total amount of USD465 million since 2020. The proposed Project will finance structural retrofitting and reconstruction of recently identified high-priority public schools vulnerable to seismic risks. These schools were either closed (in a retrofitting case) or demolished (in a reconstruction case). Therefore, returning these affected students to a safe and normal learning environment as soon as possible is one of the government's highest priorities.

Table 1: Financier of ISMEP, as of May 1, 2024

Financier	Loan Amount (EUR)	Disbursement	Implementation Period
Closed Projects			
World Bank	310,000,000	305,463,096	Oct 18, 2005- Dec 31, 2012
European Investment Bank	300,000,000	300,000,000	Mar 12, 2008- May 31, 2016
Council of Europe Development Bank	250,000,000	250,000,000	Sep 16, 2010- Jun 30, 2015
World Bank-Additional Finance	109,800,000	109,800,000	Aug 04, 2011- Dec 31, 2015
Islamic Development Bank (Okmeydani)	158,930,000	157,545,111	Apr 04, 2012- Mar 30 2020
Islamic Development Bank (Schools)	87,182,597	82,602,044	Apr 04, 2012- Jan 31, 2019
Islamic Development Bank (Tech.Services)	1,867,445	1,377,253	Apr 04, 2012- Jan 31, 2019
European Investment Bank-Additional Finance	300,000,000	300,000,000	Oct 29, 2013 – Dec 31, 2021
Council of Europe Development Bank- 2	250,000,000	250,000	Mar 12, 2015- Dec 31, 2022
Sub-Total (Closed Projects)	1,767,780,042	1,507,037,504	
Active and Forthcoming Projects			
KfW Development Bank	250,000,000	241,512,048	Jun 01, 2016- Jun 30, 2023
Asian Infrastructure Investment Bank	268,817,204	160,664,982	Jan 07, 2020-Dec 31, 2025
ECO Trade and Development Bank	40,000,000	22,604,184	Jun 23, 2020-Jun 23, 2024
Council of Europe Development Bank- 3	100,000,000	21,000,000	Sep 09, 2021-Dec 31, 2024
Asian Infrastructure Investment Bank-Additional Financing	150,000,000	N/A	Oct 01, 2023-Dec 31, 2027
Saudi Fund for Development (SFD)	55,000,000	N/A	Loan Signed on Feb. 16, 2024
Sub-total (Active and Forthcoming Projects)	863,817,204	445,781,214	
Total	2,631,597,246	1,952,818,718	

Source: IPCU

- 3.3 The preliminary assessment shows that 16 public schools are suitable for retrofitting while reconstruction is required for the other 24 schools. The reconstruction cost of the schools is about nine-fold higher than the retrofitting cost. As most of the resources provided by the ISMEP and ISMEP-AF projects have already been committed, the government urgently needs additional funding to complete the retrofitting and reconstruction of these public schools as soon as possible. The government has first turned to AIIB for continued support of the program due mainly to the fact that AIIB has been able to provide timely support with value addition including implementation support and advice on nature-based solutions and climate resilience as well as the knowledge sharing program in partnership with the World Bank. Since the financing gap to support other public facilities such as hospitals is substantial, the government has also been in discussion with other multilateral development banks including the European Investment Bank (EIB), Council of Europe Development Bank (CEB), and Islamic Development

Bank (IsDB), to secure potential support to bridge any financing gap. Feasibility study reports for these additional buildings are being carried out and funded by the ISMEP-AF project and other development partners.

- 3.4 **Expected Beneficiaries.** Most earthquake-related fatalities are due to building collapse or damage. Therefore, the primary beneficiaries will be the occupants of the target public buildings (students and teachers at schools, patients and service providers at hospitals and clinics, and surrounding communities). The secondary beneficiaries will be ordinary citizens in Istanbul who can use strengthened schools as emergency shelters and have continuous access to medical services at safer hospitals even after a disaster. Public entities responsible for emergency preparedness and response in Istanbul will also benefit through capacity-building activities.
- 3.5 **Expected Results.** The Project has significant potential benefits in protecting human lives and public assets, reducing injuries, and increasing access to health services following a disaster. Indirectly, the Project also contributes to sustaining crucial economic activities in the commercial and industrial center of Türkiye, consequently making the country more resilient to crises caused by disasters. Furthermore, based on the recent findings from the previous ISMEP project, the completed retrofitted and reconstructed buildings have led to an increase in usable space and greater resource efficiency in terms of energy and water efficiency. Recycled material has been introduced and adopted as construction material when possible.
- 3.6 **Strategic Fit for AIIB.** The Project aligns with the Green Infrastructure thematic priority by (i) supporting the strengthening of the City of Istanbul’s resilience against natural disasters which are likely to be exacerbated by the impacts of climate change, (ii) supporting the City’s broader development goal of protecting the delivery of critical public services including education and public health, and (iii) incorporating climate mitigation and adaptation measures in the reconstruction and retrofit designs.
- 3.7 AIIB's Sustainable Cities Strategy outlines five aspirational attributes for cities to attain: Green, Resilient, Efficient, Accessible, and Thriving. The proposed Project meets the green and resilient objectives by making Istanbul's critical public buildings greener and more resilient towards natural disasters including earthquakes, landslides, and floods. The Strategy also states further that “where health and education facilities are part of a more comprehensive/multi-sectoral integrated development that AIIB is considering to finance, AIIB will support the building of such facilities under this strategy as part of the broader integrated development.” The proposed Project is also part of a broad, multi-sectoral urban investment program aimed at increasing Istanbul’s resilience to seismic shocks and thus aligned with AIIB's Sustainable Cities Strategy.
- 3.8 **Paris Agreement Alignment (PAA) and Climate Finance.** Türkiye ratified the Paris Agreement in October 2021 and updated its first Nationally Determined Contribution¹ (NDC) in April 2023. Through this updated NDC communication, Türkiye has confirmed its commitment to reduce Greenhouse Gas (GHG) Emissions by 41 percent by 2030 compared to the business-as-usual scenario in 2012. Türkiye also intends to peak its GHG emissions by 2038 and achieve a net zero target by 2053. Türkiye,² particularly

¹ Republic of Türkiye, 2023, Updated First Nationally Determined Contribution.

² World Bank Group, 2022, Country Climate and Development Report.

Istanbul,³ is highly vulnerable to the impacts of climate change and other natural hazards, such as seismic risks, due mainly to its geographical location and socioeconomic conditions.

- 3.9 This Project is aligned with the updated NDC⁴ and the Paris Agreement's climate goals on mitigation (BB1) and adaptation (BB2). According to the Joint Multilateral Development Bank (MDB) Assessment Framework for Paris Alignment for Direct Investment Operations, the Project's main activity, Component B, can be classified as buildings and public installations that meet the green building standard. This is one of the Activities Considered Universally Aligned on climate mitigation goals under BB1. The green building standard referred to is the Excellence in Design for Greater Efficiencies (Edge) system⁵ developed by the IFC for green building evaluation for emerging markets. The Project also contributes 96.5 percent toward climate mitigation finance according to the Joint Methodology for Tracking Climate Change Mitigation Finance under the subcategory 3.2 Energy efficiency improvement in existing commercial, public, and residential buildings.⁶ The Project's building design incorporates energy-efficient lighting and appliances such as automatic on/off switches based on movement, insulation, energy-efficient heating and cooling systems, and resource-efficient equipment. The Project contributes 3.5 percent toward climate adaptation finance to enhance emergency preparedness capacity and build climate resilience by incorporating rainwater harvesting, wastewater treatment and utilization of treated wastewater, and rainwater drainage in the building design when appropriate.
- 3.10 Although the Project's main design is to enhance the seismic resilience of public buildings, the design principle also includes climate resilient measures such as proper sizing of rainwater drainage systems during flooding events that could be further exacerbated by climate change. Water stress⁷ is another key risk anticipated to be heightened due to climate change. Therefore, water conservation through various measures is part of the Project design, including automatic on/off water tap, rainwater harvesting, and reclaimed wastewater for irrigation purposes. These are some of the leading climate risks facing the city of Istanbul identified by the Istanbul Climate Change Action Plan⁸. Finally, none of the target buildings are located close to the coastline; therefore, the risk of impact from sea level rise is low. Therefore, the Project is aligned with the adaptation and climate resilience operations (BB2) according to three criteria of the Joint MDB Assessment Framework for Paris Alignment for Direct Investment Operations: Criteria 1 – climate risk and vulnerability of Istanbul have been identified; Criteria 2 – Climate resilient measures have been included in the Project design; and Criteria 3 – the Project is consistent with the country Updated NDC as well as the Istanbul Climate Change Action Plan and the recently announced National Climate Change Mitigation and Adaptation Action Plans 2024-2030.
- 3.11 **Alignment with Country's Strategy.** After the Marmara earthquake in 1999, the Government of Türkiye enhanced its efforts to develop and implement a comprehensive

³ Istanbul Directorate of Environmental Protection, 2018, Istanbul Climate Change Action Plan.

⁴ For mitigation and adaptation, please see Updated NDC p. 15 and p. 25, respectively.

⁵ More information on the Edge system can be found at <https://edgebuildings.com/>.

⁶ Joint Report of the Multilateral Development Banks' Climate Finance, 2020.

⁷ Aygun, A. and T. Baycan, 2020, "Risk Assessment of Urban Sectors to Climate Change in Istanbul," Economic and Social Changes: Facts, Trends, and Forecast, Vol. 13, No. 3, 2020.

⁸ *Op. cit.* Istanbul Directorate of Environmental Protection, 2018.

hazard risk management strategy for the country. At the local level in Istanbul, both the municipality and the provincial governorship demonstrated commitment to seismic risk mitigation by implementing risk assessment and planning activities leading to the Earthquake Master Plan for Istanbul. This has been internationally recognized as a strategic instrument for addressing seismic risk in a highly vulnerable mega-city. In addition, the Government invested in revising and updating the building code in 2000, 2007, and 2018. Furthermore, this Project is well aligned with the country's 12th National Development Plan, which is currently being prepared for the 2024-2028 period, an updated NDC 2023, and Istanbul's Climate Change Action Plan 2018 on mitigation and adaptation as described above.

- 3.12 **Value Addition by AIIB.** AIIB's financing will contribute to resource mobilization for making Istanbul more resilient and safer. It will help meet the urgent financing needs of strengthening critical public buildings against earthquake risks in Istanbul. Most importantly, the Project will accelerate the return of students who have been studying in nearby schools in two-shift back to their original schools which will enhance the learning outcomes. The Project will replicate and expand the successful model supported by other IFIs. Furthermore, AIIB has been sharing experience in the area nature-based solution and how it could become a critical part of the overall sustainable solutions to address disaster risk mitigation. As a result, the nature-based solution has been incorporated in the building designed as well as specific measures to support climate change mitigation and adaptation.
- 3.13 **Value Addition to AIIB.** Joining international efforts continuously to make Istanbul more resilient, which will save human lives and prevent damage to public assets, will enhance AIIB's credibility to provide timely support to the government's request to further invest in the recovery of the 2023 earthquake in the southern part of the country. The Project further expands AIIB's partnership with the World Bank and other development partners in the area of urban resilience in Türkiye. Finally, it leads to increased technical knowledge of staff in the field of urban resilience and disaster risk mitigation, recovery planning and management, as well as green and resilient buildings.
- 3.14 **Lessons Learned.** Key lessons learned from the World Bank's ISMEP project and the AIIB's ISMEP and ISMEP-AF project, which have been incorporated into the design of the proposed Project, are as follows.
- 3.15 Support continuously to a semi-autonomous professional project coordination unit (PCU) is critical as it needs to further demonstrate effectiveness and efficiency in extensive project implementation. Reporting to the Istanbul Governorate, the PCU has been established outside the government's standard budget procedures. PCU has been able to attract, develop, and retain significant technical expertise and project management experience, resulting in high-quality outputs in a timely and cost-effective manner. Furthermore, the flexibility introduced by the ISMEP's framework approach has proven to be very effective in managing the portfolio of buildings to be retrofitted or reconstructed. A qualified building could be added to the pipeline if there are sufficient savings.
- 3.16 The building design that includes functional upgrades (to modern service provision standards) makes disaster risk reduction investments for public facilities more effective and sustainable as well as provides many co-benefits, e.g., technology-enabled

classroom, sustainable construction material (e.g., recycled material), resource efficiency, added usable space to enhance learning and sporting experience, and shelter during a disaster. The concept of nature-based solutions was introduced and will be considered in the building design when suitable. The ISMEP program has supported extensive coordination with the Provincial Directorates of Health and Education and administrators of individual facilities to ensure that the design and retrofitting plans (and the associated budget allocations) consider service quality and required functionalities. This generated strong support for the primary investments in risk reduction.

- 3.17 Early involvement of project beneficiaries and multiple stakeholders in the planning and execution of the retrofitting/reconstruction was crucial to successful project implementation. Most of the schools are located in active communities, which could easily lead to complaints from disruption of daily lives during construction. Furthermore, school principals, teachers, students, and parents were initially concerned about the adjustment required to move from schools selected for retrofitting or reconstruction to other schools during construction. However, the transparency of the processes and engagement with the beneficiaries contributed to a positive outcome through consultation with school principals and hospital directors throughout the facility selection, design, and tendering processes. This allowed arrangements to be in place well before relocating the students to host schools. Finally, early engagement with relevant authorities to obtain necessary permits will ensure timely delivery.

4. Project Description

4.1 **Components.** Similar to the AIIB ISMEP project and the Additional Financing project, this repeat financing comprises three components, as shown below.

4.1.1 **Component A:** Enhancing Emergency Preparedness. This component aims to enhance the emergency preparedness of the City of Istanbul by strengthening the capacity of Istanbul's Provincial Directorate of Disaster and Emergency and other first responders. Specifically, the component will support (i) the provision of emergency equipment such as IT and emergency communications equipment, medical rescue and equipment, search and rescue equipment, and specialized emergency vehicles, etc.; (ii) public awareness and training; and (iii) any technical assistance to enhance emergency preparedness and responses.

4.1.2 **Component B:** Seismic Risk Mitigation for Public Facilities. This component reduces the risk of future earthquake damages to critical public facilities to save lives and ensure their continued operation in the event of an earthquake. The component mainly consists of retrofitting and reconstructing priority public facilities. IPCU has already identified 40 schools to be included in the Project based on the original ISMEP project's established rules. Out of the 40 schools, 16 schools are suitable for retrofitting while reconstruction is required for the other 24 schools. The component will also support feasibility studies, detailed designs, and construction supervision.

4.1.3 **Component C:** Project Management Support. This component will support the IPCU in implementing the Project efficiently and transparently and continue to build the institutional capacity to sustain the implementation of the Seismic Risk Mitigation and Preparedness program beyond the life of the Project. Specifically, the component will comprise the IPCU's operational costs and project management support, including monitoring and evaluation, environmental and social safeguards, procurement, and financial management.

4.2 Cost and Financing Plan

Project Component	AIIB Amount (USD million)	AIIB Amount in the Currency of the Loan (EUR)
Component A: Enhancing Emergency Preparedness	5.6	5.0
Component B: Seismic Risk Mitigation for Public Facilities	323.8	290.0
Component C: Project Management Support	5.6	5.0
Grand Total	335.0	300.0

4.3 Implementation Arrangements and Readiness

4.3.1 Implementation arrangements.

- (i) **Project Implementation Unit (PIU):** The Project will adopt the existing implementation arrangements established under the ISMEP program used

by the other IFIs in their own ISMEP projects. The PIU is the IPCU, established under the Istanbul Governorship. IPCU is headed by a Project Director who reports directly to the Governor of Istanbul or his deputy. IPCU is currently composed of 41 staff, of which 34 are professionals from the fields of procurement, financial management, civil engineering, mechanical engineering, electrical engineering, architecture, urban planning, communication, monitoring and evaluation, and legal expertise, and seven support staff. Consulting firms and individual consultants provide the required specific technical support for the preparation of feasibility studies, technical specifications, retrofitting and reconstruction designs, construction supervision, and ES inspection and reporting.

- (ii) **Procurement Arrangements:** The procurement of goods, works, and consulting services contracts funded partially or in whole by AIIB under the Project shall be conducted following AIIB's Procurement Policy (updated June 26, 2024), and its Directive on Procurement Instructions for Recipients (PIR) dated July 26, 2024. IPCU, as an existing and experienced government public entity, will be responsible for the procurement and contract management of the Project with the support of externally hired technical and supervision consulting firms and individual experts.
- (iii) For the implementation of the Project, the IPCU prepared and submitted a draft Project Delivery Strategy together with a Procurement Plan (PP) for AIIB's review and comments. The Project Delivery Strategy and PP have been further revised and finalized as per AIIB's comment during Project preparation and are acceptable to AIIB. Specific procurement arrangements, including contract packaging, cost estimates, procurement methods, procurement timelines, and prior review requirements, etc., have been detailed in the PP. The PP will be updated regularly or as needed for AIIB's review and no objection during Project implementation. The Bank's review may include objections or no objections with certain conditions. IPCU will carry out the Project procurement under the specific procurement arrangements of the PP.
- (iv) When the procurement method of a contract is International Open Competitive Tendering or International Open Competitive Selection, the Bank's Standard Procurement Documents for goods, works and services disclosed at the AIIB website shall be adopted as a mandatory requirement. For any contract to be procured through National Competitive Tendering (NCT), the IPCU Model Bidding Documents in the Turkish language, respectively for Goods and Works contracts, which have been accepted and used for the World Bank-funded and other IFI-funded projects, will be used for the procurement of NCT Works and NCT-Goods contracts. These Model Bidding Documents have been modified to reflect AIIB's policy requirements in the AIIB-financed ongoing project.
- (v) Advance procurement may be carried out before the planned loan agreement signing date. Retroactive financing under the Project is not anticipated as the IPCU has no working capital to finance such contracts in advance.

- (vi) AIIB will conduct regular supervision of the Project's procurement performance and reviews before and after procurement following the updated PP agreed upon by the Bank.
- (vii) **Financial Management (FM) Arrangements:** The financial management system maintained by the IPCU has been continuously managing IFI-financed ISMEP projects since 2005. The financial management unit is responsible for financial planning, reporting, budget preparation, payments, accounting, internal control, and compliance with legislation. The Project will continue to provide interim financial statements for each quarter (within 45 days after the ending period), and the annual project audit report issued by auditors acceptable to the Bank will also be provided within six months after the end of each year of the implementation period. The legal covenants are well complied with for the Project under implementation, and no major issues were noted during the recent implementation supervision mission.
- (viii) **Environmental and Social (ES) arrangements:** The Project will adopt the existing implementation arrangements concerning the Environmental and Social Management Planning Framework (ESMPF) established under the ISMEP project and adopted by the other IFIs in the ISMEP program. The implementing agency is the IPCU, established under the Istanbul Governorship.
- (ix) Based on the past implementation experience during the ISMEP and ISMEP-AF projects, the project implementation plans and manual are not required.

4.3.2 **Implementation Period.** The implementation period will be from January 1, 2025 to June 30, 2030.

4.3.3 **Implementation Readiness.**

- (i) Status of feasibility studies, procurement, and land acquisition: Necessary feasibility studies were made available by the ISMEP-AF project as well as the projects supported by other development partners. Each feasibility study also includes aspects required by the EMP. PP and Project Delivery Strategy were received and found to be acceptable. This Project does not require additional land area as all reconstruction will be carried out on the existing premises of the existing schools. Based on experiences from the implementation of the ISMEP and ISMEP-AF projects, all required permits including ES-related permits, were obtained before the start of work.
- (ii) Required clearances/approvals for project implementation: No additional permits are required.

4.3.4 **Monitoring and Evaluation.** IPCU will be responsible for the overall coordination, supervision, and monitoring of the Project's environmental and social aspects to ensure compliance with Bank ESP requirements. IPCU has established an

environmental and social specialist team to oversee the Project's implementation and monitor environmental and social aspects. Within 45 days of the ending period, the IPCU will provide AIIB with a semi-annual progress report including environmental and social monitoring notes during the Project period. In addition, AIIB will conduct supervision missions in line with the Bank's implementation support missions and strengthen the IPCU's environmental and social management efforts.

- 4.3.5 **AIIB's Implementation Support.** During project implementation, AIIB plans to field a mission twice a year to support and monitor project activities. If necessary, AIIB may hire a short-term structural engineering consultant experienced in seismic risk reduction and another consultant in procurement post-review. These consultants should be part of the implementation support missions.

5. Project Assessment

A. Technical

- 5.1 **Project Design.** IPCU has identified 40 schools to be included in the Project. Among the 40 schools, retrofitting is planned for 16 schools while reconstruction is required for the other 24 schools. These are priority public buildings not on the list of those already committed by other IFIs based on the established criteria. More than half of these selected buildings, feasibility studies, and building designs are either completed or underway.
- 5.2 The technical approach to the seismic strengthening of public buildings is two-fold: retrofitting structures where technically feasible and building reconstruction where the existing inferior quality does not allow for a reasonable retrofit. The criteria for (demolishing and) reconstructing existing vulnerable buildings include minimal remaining economic life and estimated retrofitting costs higher than 40 percent of the cost of a new building of the same size.
- 5.3 Construction measures for retrofitting follow conventional engineering methods well-known in Türkiye and internationally, such as adding reinforced concrete shear walls, jacketing inadequate columns, and expanding building foundations. Advanced technologies, such as base isolation, will be introduced where appropriate. Seismic retrofitting increases strength such that a building can reach a minimum level of structural performance at the expected earthquake intensity level. This results in three distinct but related benefit streams: (i) avoided fatalities, (ii) avoided direct structural damage and (iii) service continuity for public facilities.
- 5.4 **Operational Sustainability.** The maintenance of the seismically strengthened structures after the Project implementation period will follow standard building procedures. Line ministries are responsible for allocating funds for any cost needed for the operations and maintenance of these buildings. The building designs include better and more durable materials including suitable recycled material, factors that reduce maintenance, and enhance insulation for building exteriors and interiors. Designs emphasize climate mitigation in terms of resource efficiency regarding water, energy, and gas consumption and resilience such as rainwater harvesting and reclaimable wastewater used for irrigation purposes. These design measures positively contribute to lowering operations and maintenance costs. Furthermore, nature-based solutions will be considered when suitable.
- 5.5 The implementation of the ISMEP and ISMEP-AF projects are found to be highly satisfactory. The disbursement rates are on track and no extension of the closing dates are anticipated. No non-compliance issues have been raised with respect to the Bank's applicable policies and legal covenants. Achievement of the Project Objective Indicators and Intermediate Result Indicators are well on track at each milestone.

B. Economic and Financial Analysis

- 5.6 **Economic Analysis.** The economic analysis for the Project is based on a similar model used in the ISMEP project, which is a cost-benefit methodology to calculate the

Economic Internal Rate of Return (EIRR) and Economic Net Present Value (ENPV) of the Project. The economic benefits focus on protecting human lives, increasing earthquake resilience of public buildings, and energy savings and the subsequent reduction in Greenhouse Gas emissions.⁹ Moreover, the Project will generate many other traditional economic benefits for the users of infrastructure, including (i) improved sustainability of infrastructure, (ii) improved quality of services provided in retrofitted/reconstructed schools and the childcare center and (iii) better usage of green technologies, etc. However, these additional benefits are not calculated due to their complexity and the absence of data and resources required to undertake such an analysis. The Project's total cost mainly includes capital expenditures and related expenses to retrofit and reconstruct the target buildings and operation and maintenance expenses to be covered by the Istanbul Directorate of Education.

- 5.7 The cost-benefit analysis applied with costs and benefits defined based on “with” and “without” scenarios. Baseline scenarios are defined and calculated as a scenario where 40 buildings would not be reconstructed. Without the Project, the proposed 40 schools would continue education under poor conditions with high seismic risk. With the Project, these facilities will not only withstand the destructive effects of a potential earthquake but also provide better educational services and associated social services such as public meetings and sheltering during a disaster. To maintain consistency with the ISMEP Project, most assumptions used in the ISMEP Project have also been used in this Project except the following data that were updated to reflect the current context: GDP per capita, number of average students per school, average life expectancy, average area of school and number of building projected.
- 5.8 Energy savings, which include electricity (USD0.09 per square meter) and natural gas (USD0.12 per square meter), have been included in the analysis along with their GHG emission reduction (7.7 kilograms of Carbon Dioxide equivalent, kgCO_{2e} per square meter) based on the IPCU study¹⁰ of 25 completed school buildings. The average annual savings are around USD60,000 and USD122,000, respectively. GHG emission reduction has been monetized by the ‘low’ shadow prices, according to the Policy and Strategy Note 2018 No. 1, Shadow Carbon Pricing in the Economic Evaluation of AIIB Projects.
- 5.9 Based on available data and the assumptions adopted, the estimated EIRR for the Project is 15 percent per annum and an ENPV of USD70.5 million, comparable to the original ISMEP project estimates of 17.8 percent and USD55 million, respectively. A Social Discount Rate (SDR) of 10 percent per year used in the ISMEP Project analysis is also adopted here. However, it should be noted that a long-term growth rate of GDP per capita or its proxy, such as an annual average growth of real GDP per capita, can also be used as the SDR. According to the World Bank data portal, the annual average real GDP per capita growth of Türkiye from 1961-2021 was 2.9 percent. Therefore, using the SDR of 10 percent is a very conservative assumption. A sensitivity analysis has been carried out for a 20 percent increase in construction costs, resulting in an EIRR of 12 percent, which is still higher than SDR, and a positive ENPV of about USD24 million.

⁹ The energy savings and GHG emission reduction figures were provided by the IPCU as a part of the Energy Efficiency Analysis (2022) of 25 completed school buildings.

¹⁰ Ibid.

Based on the OECD Education at a Glance 2022 report, the average annual increase in teacher salaries in Türkiye during 2010–2021 was around 1.05 percent. Since salaries account for 95 percent of the total operating expenses, the sensitivity analysis is based on tripling the historical annual salary growth to 3.15 percent, yielding an EIRR of 15 percent and ENPV of about USD67 million.

- 5.10 **Financial Analysis.** Because K–12 public education in Türkiye is free, a financial analysis for the Project is not applicable. However, the lessons from the ISMEP project show significant operational cost savings from incorporating energy and resource efficiency into the Project's technical design. Instead, the financial analysis focused on savings in operational costs based on analyzing 25 completed school buildings. For reconstructed and retrofitted schools, the data showed a reduction in total operational costs, consisting of electricity, natural gas, and water bills, of 30.5 percent and 24 percent, respectively. Replacement and maintenance of materials over the life of the structures were not considered. The schools achieved an average annual total operational cost per square meter of USD0.26 after reconstruction. Applying the same assumptions to the Project's targeted facilities results in the summary of expected combined operational cost savings of around USD137,000 per year under the Project.

C. Fiduciary and Governance

- 5.11 **Procurement:** During the appraisal mission, the Bank conducted further procurement capacity and risk assessment of the IPCU and the Project. According to AIIB's Procurement Policy, the IPCU has sufficient capacity to undertake Project procurement and contract management of the Project.
- 5.12 IPCU Procurement staff are well versed in national and international procurement methods with long implementation experience with the World Bank and other IFIs that financed projects in the last 18 years of the ISMEP project's implementation. They are also familiar with AIIB's Procurement Policy through implementing the ISMEP project in 2019 when the procurement process began. Several contracts have been launched, awarded, signed, and implemented. The procurement team has demonstrated trustworthy and efficient performance on procurement processes, including procurement planning, publications, bidding, evaluation and timeliness of procurement, and contract management.
- 5.13 Based on the above procurement assessment, it can be concluded that the IPCU has sufficient institutional and procurement capacity and is experienced to ensure the successful implementation of project procurement. Therefore, the Project procurement capacity and risk assessment are rated as Low.
- 5.14 **Financial Management (FM).** IPCU's financial management system was established under the World Bank-financed project in 2005, then continuously improved and maintained to manage various IFI-financed projects. The Project financial team led by the IPCU's Deputy demonstrated a high level of competence and extensive experience in effectively managing operations financed by MDBs, boasting over 10 years of experience.
- 5.15 The Project has continuously used the computerized accounting system (Logo) to keep accounting records on a cash basis with multiple currencies (for foreign currency

transactions) and generate project financial statements electronically. Such a system has been widely used in Türkiye and was updated regularly and enables the IPCU to produce financial reports in a timely manner to reflect the sources and usage of project funds in the format required by the Bank.

- 5.16 Sound internal controls are in place, and each payment request has been processed with necessary reviews by the technical team, field engineers, supervising engineers, senior engineer/architect, deputy directors, etc. Then, the IPCU Director and Deputy Director in charge of finance will review and sign the payment release. The Financial Management Manual has been updated to standardize project financial management work. Unmodified (clean) opinions audit reports were issued for prior years and no significant control weaknesses or compliance issues were noted in the Management Letters. Following the government system of IFI-financed operations in Türkiye, the Board of Treasury Controllers in the Ministry of Treasury and Finance (MOTF) will conduct the annual project audit. The overall project financial management system will ensure that AIIB loan proceeds are used efficiently and effectively.
- 5.17 **Disbursements:** The proceeds of the loan will be disbursed mainly through the advance method. Project Designated Account (DA) in the loan currency EUR will be opened in the Central Bank and managed by the IPCU. A Project Account in TRY was opened in Vakıfbank. For each due payment, the IPCU makes an exchange from the DA and transfers the required amount to the Project Account in Vakıfbank, then pays contractors after deducting the taxes. The following month, such taxes will be filed and turned over to the tax authority. The ceiling of the DA will be a fixed EUR30 million amounts according to government financial regulations. All withdrawal applications will be prepared by the IPCU and approved by the IPCU Director and Deputy Director. The approved withdrawal application will be submitted to the MOTF for final approval, signature, and onward submission to AIIB. The disbursement arrangements, including applicable ceilings and limits, will be documented in the disbursement letter and finalized before loan negotiations.
- 5.18 **Financial Crime and Integrity (FCI) and Counterparty Due Diligence/Know Your Counterparty (CDD/KYC):** Under applicable AIIB's policies and guidelines, KYC/FCIDD has been carried out to assess Financial Crime (FC) risks, including Money Laundering and Financing of Terrorism (ML/FT) risks, Sanction risks, and risks deriving from Integrity Unsoundness when dealing with its Counterparties and Connected Parties in the financing. Integrity screenings have been performed on the state representatives of the Government of the Republic of Türkiye and senior management of the MoTF and the IPCU. The overall risk rating is low. The potential authorized person to sign financing agreements with AIIB was not found to be identified by Word-Check One as a politically exposed person (PEP).
- 5.19 **Governance and Anti-corruption:** A high-level multi-stakeholder steering committee chaired by the governorship made overall decisions on prioritizing different sectors for investment. This will help balance competing priorities across stakeholders and help to ensure the loan funds are transparently and properly allocated to disaster mitigation efforts. In addition, the Project will select investment priorities within sectors using a transparent points system based on risk and utility, drawing on technical data about buildings, capacity, accessibility, proximity to the fault lines, and other factors. This will help to avoid subjective decision-making and disputes between beneficiaries and stakeholders. The Bank's Policy on Prohibited Practices applies to the Project.

5.20 **Cybersecurity:** The infrastructure financed is not considered as Critical Infrastructure.

D. Environmental and Social

5.21 **Environmental and Social Policy and Categorization:** AIIB's Environmental and Social Framework (ESF) (2022) applies to the Project. The Project has been prepared consistent with the Environmental and Social Policy (ESP), including the Environment and Social Standards (ESSs) and the Environmental and Social Exclusion List. ESS 1 (Environmental and Social Assessment and Management) applies to the Project. ESS 2 (Land Acquisition and Involuntary Resettlement) and ESS 3 (Indigenous Peoples) are not triggered. Project activities will not cause involuntary resettlement, and no Indigenous Peoples are present in or have a collective attachment to the Project area. The Project is assigned Category B under the ESP due to the limited potentially significant adverse environmental and social (ES) impacts of the construction activities and the availability of common mitigations to manage the risks and impacts that are expected.

5.22 **Environmental and Social Instruments:** An Environmental and Social Management Plan Framework (ESMPF) was developed in 2005 for the initial World Bank ISMEP project and has been utilized by a number of International Finance Institutions (IFIs) involved in subsequent financing. The ESMPF was updated in 2010, and an AIIB-specific version was prepared for the Bank's first round of funding in 2019. The ESMPF for AIIB ISMEP projects was updated in 2022 and again in the first half of 2024. An ESMPF has been selected as the primary ES instrument for the projects as detailed information on the subprojects that will be undertaken is not available at the time of financing. The ESMPF establishes the minimum standards that will be adopted for each subproject to support conformance with AIIB's ESP. Construction Environmental and Social Management Plans (CESMPs) are required to be developed by each subproject contractor, aligned with the ESMPF. The ESMPF has been revised for the current Project to take account of updates in AIIB's ESF 2024 and in Türkiye ES laws and regulations.

5.23 **Environment Aspects:** The Project is not expected to have any significant adverse impact on any sensitive environmental receptors. Construction activities will temporarily result in localized noise, dust and combustion emissions, construction waste generation, and potentially sedimentation of the sewage system on and near project sites. Off-site impacts will be induced by the production of construction material, including but not limited to the use of natural resources such as water and energy consumption, their transportation to the site, and the disposal of debris and other waste. The Environmental Management Plan (EMP) will have special provisions or management plan for hazardous waste materials such as asbestos and medical waste as well as sensitive impacts such as noise and dust management. In addition, none of the targeted buildings are located within registered cultural heritage areas. However, due to the historical nature of Istanbul, activities to be conducted as part of the Project may occur adjacent to or near important cultural resources. A chance-finds procedure will be implemented to protect cultural resources.

5.24 **Social and Gender Aspects:** The Project will not induce any physical or economic resettlement. Social impacts will comprise construction-induced nuisances such as noise, dust emissions, access restriction, and risks to community health and safety for adjacent residents and structures and concurrent users of facilities or buildings being renovated while potentially in partial use, such as schools or hospitals. Public buildings

targeted for reconstruction will adopt universal design principles. During the construction, students and teachers will be reallocated to nearby facilities to minimize learning disruption. Transition plan and actions to mitigate any significant adverse impact on the students and teachers' access to educational buildings, preceding the assessment and temporary relocation of the facilities. Additionally, all schools and hospitals will be designed using accessibility facilities such as ramps and elevators and have adequate facilities for women, such as separate bathrooms. As part of the enhancement of the Project, IPCU will deliver Gender-Based Violence (GBV) training sessions and identify opportunities to promote equal access to employment. In addition, the Project will use universal design features for people with disabilities.

- 5.25 The reconstructed and retrofitted schools will also be built with added sustainability aspects, promoting additional benefits to the students, teachers, parents, and neighboring communities. This will include more usable space, accessibility, technology-ready features (Wi-Fi and LAN networks, graphic and visual networks, and an uninterrupted power supply), noise protection, energy and resource efficiency, recycled materials, renewable energy and water resources, fire management, disaster protection, and emergency shelter. Nature-based solutions will also be considered when suitable.
- 5.26 **Cultural Resources:** None of the targeted buildings are located within registered cultural heritage areas. However, due to the historical nature of Istanbul, activities to be conducted as part of the Project may occur adjacent to or near important cultural resources. CESMPs will include a Chance-Find Procedure. In the 'Chance of Finds' case, the Regional Preservation Council will assign an expert to supervise excavation under an approved plan.
- 5.27 **Occupational Health and Safety, Labor and Employment Conditions:** Project activities will involve construction risks such as earthworks, excavations, work at height, noise, underground activities, and electrical hazards during construction. The Contractors will develop and implement the CESMPs in accordance with the ESMPF. CESMPs will include procedures for work-related accident prevention and emergency preparedness and response. IPCU will be responsible for monitoring the implementation of mitigation measures. The Contractors will also implement Human Resource policies aligned with AIIB's requirements, especially for preventing Labor and Working Conditions issues across their operations and those of subcontractors.
- 5.28 **Stakeholder Engagement, Consultation, and Information Disclosure:** All construction projects are subject to public consultations under Turkish regulations. The engagement process includes public hearings, focus group discussions, interviews, surveys, and communication materials. Particular attention will be paid to the inclusion of men and women in all consultations to ensure that their respective priorities and concerns are considered, particularly in the planning and execution of the sub-projects. The ESMPF in English and its executive summary in Turkish have been disclosed on the [AIIB's](#) and [Project's](#) websites.
- 5.29 **Project Grievance Redress Mechanism (GRM):** A Project-level GRM has been developed and implemented, which includes multiple channels for stakeholders to raise grievances to the IPCU and a process for investigating and responding to grievances. AIIB has confirmed that the established GRM for stakeholders and workers separately has been functioning appropriately on the projects implemented as part of the previous funding.

- 5.30 **Bank's Project-Affected People's Mechanism (PPM):** AIIB's Policy on the PPM applies to this Project. The PPM has been established by AIIB to provide an opportunity for an independent and impartial review of submissions from Project-affected people who believe they have been or are likely to be adversely affected by AIIB's failure to implement the ESP in situations when their concerns cannot be addressed satisfactorily through the GRM or the processes of AIIB's Management. Information on AIIB's PPM is available at: <https://www.aiib.org/en/about-aiib/who-we-are/project-affected-peoples-mechanism/how-we-assist-you/index.html>.
- 5.31 **Proposed Follow-Up / Monitoring and Supervision Arrangements:** IPCU will be responsible for the overall coordination, supervision, and monitoring of the Project's environmental and social aspects to ensure compliance with Bank ESP requirements. IPCU has established an environmental and social specialist team to oversee Project implementation and monitor environmental and social aspects. IPCU will provide AIIB with annual environmental and social monitoring reports during the Project period. In addition, AIIB will conduct supervision missions in line with the Bank's implementation support missions and strengthen the IPCU's environmental and social management efforts.

E. Climate Change

- 5.32 **Climate Change:** The Project contributes to Türkiye's Updated NDC and Paris Agreement by improving energy efficiency through retrofitting and reconstructing existing buildings. The Project will improve energy and water efficiency and structural resilience to seismic events in the targeted buildings. These buildings will be designed and certified to the Turkish Energy Identify Certificate (Rank B) or international green building standards. Since Türkiye is highly vulnerable to climate change, especially extreme precipitation and prolonged drought, flood protection and water conservation measures are also included in the design criteria.

F. Gender Aspects

- 5.33 **Gender Aspects:** All schools and hospitals are designed using accessibility facilities such as ramps and elevators and have adequate facilities for women, such as separate bathrooms. As part of the Project's enhancement, the IPCU will include Gender-Based Violence training sessions in the EMP and opportunities for equal access to employment will also be identified. In addition, the Project will use universal design features for people with disabilities.

G. Risks and Mitigants

- 5.34 The Project's overall risk is medium because the ISMEP program is well-established and highly satisfactory. IPCU is a semi-autonomous, competent professional implementing agency. Many stakeholders identified the performance of the IPCU as a significant driver of the success of the World Bank-financed ISMEP project (World Bank's IEG 2018). The overall implementation of the ISMEP project is satisfactory, with tangible results on the ground. A summary of the risks is presented in Table 2 below.

Table 2: Summary of Risks and Mitigating Measures

Risk Description	Assessment (H/M/L)	Mitigation Measures
Program/Project Preparation Risks		
Technical designs		
	Low	<ul style="list-style-type: none"> ▪ The Project is prepared based on the long successful project structure and design and managed by the IPCU, with a proven track record of implementing the ISMEP program since 2005. IPCU has several experienced technical staff supported by competence technical consultant teams. AIIB may also hire a short-term consultant (structural engineer experienced in seismic risk reduction) to ensure international standards for reconstruction.
Program/Project Implementation Risks		
Implementation capacity		
<ul style="list-style-type: none"> ▪ Institutional Risk. Institutional sustainability of the IPCU is uncertain after the Project closes. Also, changes in Director and other experienced IPCU staff for whatever reasons may adversely affect project implementation. 	Medium	<ul style="list-style-type: none"> ▪ AIIB will continue to dialogue on institutional sustainability and monitor the performance of the IPCU and support its capacity building. A recent change of the IPCU's Director did not create any challenges as the new Director was the Deputy Director in charge of the technical aspects of the Project implementation. The Deputy Director in charge of financial matter is still with IPCU.
Land acquisition and resettlement		
		<ul style="list-style-type: none"> ▪ Not Applicable as all reconstruction works will be carried on the existing land.
Fiduciary		
	Low	<ul style="list-style-type: none"> ▪ IPCU has demonstrated a solid track record of managing procurement and financial management aspects during the implementation of the ISMEP projects. AIIB will continue to provide necessary fiduciary support and advice to the IPCU and monitor its performance and potential fiduciary risks, if any, during its implementation.
Time and cost overrun		

Risk Description	Assessment (H/M/L)	Mitigation Measures
<ul style="list-style-type: none"> Foreign Exchange and Price Level Risks. During the implementation of the ISMEP project, Türkiye experienced significant depreciation of the local currency against the USD and EUR and rapid price level increases leading to contract adjustment and/or termination according to the new laws issued in 2022. 		<ul style="list-style-type: none"> IPCU has been adapting to the volatility in both foreign exchange and price levels by periodically reevaluating the market price for construction work and material. The contracts have been awarded in the local currency and the loan is in EUR, providing a reasonable hedging outcome.
ES risks and impacts during construction and operation		
<ul style="list-style-type: none"> The Project's physical component targets only the existing buildings. No land acquisition or resettlement will be required. The environmental and social impacts are expected to be localized and temporary during the construction. 	Low	<ul style="list-style-type: none"> An ESMPF has been prepared to mitigate these minor impacts. IPCU has extensive experience managing projects per MDB's requirements, such as the World Bank and the EIB. IPCU ES's performance during the ISMEP project has been satisfactory.
Stakeholders Risk		
<ul style="list-style-type: none"> Stakeholder support for the Project is critical. Such stakeholders involve line ministries and medical service providers in the case of hospitals and teachers/parents/students in the case of schools. 	Low	<ul style="list-style-type: none"> The Project will ensure stakeholder consultations at the building design stage. IPCU has adequate mechanisms and experience in managing various stakeholders, as evidenced during the implementation of the ongoing ISMEP and ISMEP-AF projects.
Foreign Exchange and Price Level Risks		
<ul style="list-style-type: none"> During the implementation of the ISMEP project, Türkiye experienced significant depreciation of the local currency against the USD and EUR and rapid price level increases leading to contract adjustment and/or termination according to the new laws issued in 2022. 	Medium	<ul style="list-style-type: none"> During the implementation of the ISMEP project, some contracts were terminated and some price adjustments were made according to the new law and regulation. However, there was no significant impacts on project completion timelines and budget. IPCU has been adapting to the volatility in both foreign exchange and price levels by periodically reevaluating the market price for construction work and material. The contracts have been awarded in the local currency and the

Risk Description	Assessment (H/M/L)	Mitigation Measures
		loan is in EUR, providing a reasonable hedging outcome.

Annex 1: Results Monitoring Framework

Project Objective (PO):		To improve the disaster resilience of critical public facilities and to enhance emergency preparedness and resilience of the City of Istanbul.									
Indicator Name	Unit of measure	Base-line Data 2024	Cumulative Target Values						End Target 2030	Data source / Methodology	Responsibility
			2025	2026	2027	2028	2029	2030			
Project Objective Indicators: <i>(Outcome indicators measure each aspect of the PO statement and are to track progress toward the achievement of the PO)</i>											
1. Number of beneficiaries (students, teachers, etc.) having access to disaster-resilient public facilities.	Number of Persons	0	7,000	15,000	19,500	24,500	29,000	38,000	38,000	Annual	IPCU
2. Number of key public facilities retrofitted or reconstructed under the Project to resist a major earthquake.	Number of buildings	0	8	16	21	26	31	40	40	Bi-annual	IPCU
Intermediate Results Indicators: <i>(To measure key intermediate results under each component that are necessary for showing progress toward achieving PO. They can capture outputs or short-term outcomes.)</i>											
1. Percentage of buildings with improved energy efficiency under the Project.	Percent	0	20	40	60	80	100	100	100	Annual	IPCU
2. Number of school communities reached out to via consultation meetings and awareness programs.	Number of communities	0	40	40	40	40	40	40	40	Annual	IPCU

Annex 2: Türkiye Credit Fact Sheet

1. **Background.** Türkiye is an upper-middle-income country with income per capita of around USD 13,000 (or around USD44,000 in purchasing power parity) and a population of around 87 million. Türkiye is a large, diversified, dynamic and business-oriented economy. Since the early 2000s, it enjoyed robust growth, around 5.5 percent per year on average, underpinned initially by a strong focus on development, macroeconomic stability, strong fiscal frameworks, trade openness and institutional reform. During this time, income per capita has tripled, while poverty fell significantly.

2. However, since 2016, Türkiye's sovereign credit rating has deteriorated, due to reliance on short-term stimulus to boost growth, unpredictable and often unorthodox policies, declining fiscal and FX buffers, high dependence on external finance, perceived erosion of institutional checks and balances, as well as rising geopolitical risks—according to observers. This has led to periods of financial vulnerability, market anxiety, and macroeconomic stress.

3. More recently, during 2021-23, the monetary policy has been accommodative despite high and accelerating inflation, which has led to capital outflows and a sharp depreciation. The currency lost two-thirds of its value, while inflation reached 80 percent at the peak. Complex macro-prudential measures were put in place to stem depreciation, guide credit, and sustain high growth. Additionally, Türkiye was hit by several shocks, including high global energy prices, which led to a doubling of the energy import bill, and a devastating earthquake. While growth was still high (5.5 percent in 2022), the economy has accumulated significant imbalances. On that account, all major rating agencies downgraded Türkiye's sovereign credit in 2022.

4. **Recent Developments.** Following the 2023 elections, a policy normalization is taking place under a new economic team, reputed to be supportive of more orthodox policies. This shift is a welcome development, improving economic resilience and creditworthiness. Since June 2023, the central bank has raised interest rates to 50 percent and has been gradually dismantling the many distorting macroprudential regulations. Due to the delayed effects of monetary tightening, the rate-setting committee decided to keep the policy rate (the one-week repo auction rate) steady at 50 percent in September 2024.

5. This marks the first time in over a decade that all three major sovereign rating agencies have upgraded Türkiye's credit rating. In just six months, Fitch upgraded Türkiye's credit rating twice, most recently in September 2024, raising it to 'BB-' with a stable outlook. Earlier in May 2024, S&P upgraded Türkiye's sovereign credit rating to 'B+' with a positive outlook. Moody's followed with a two-notch upgrade in July 2024, bringing the rating to 'B1', also with a positive outlook. Prior to these upgrades, Moody's had issued six downgrades, with the last one in August 2022, lowering it to B3.

Selected economic indicators 1/	2022	2023	2024*	2025*	2026*	2027*	2028*
GDP growth 2/	5.5	4.5	3.4	2.7	3.5	3.5	4.0
Inflation (end-of-period) 2/	64.3	64.8	43.0	24.0	19.6	18.7	18.6
Fiscal balance 3/	-1.1	-5.5	-5.4	-3.7	-3.2	-3.3	-3.4
Gross public debt	30.8	29.3	25.2	26.0	26.0	26.0	25.9
Gross public financing needs	7.2	5.9	7.1	8.0	9.0	9.5	..
Current account balance	-5.4	-4.1	-2.2	-2.2	-1.7	-1.8	-1.8
Gross external debt 4/	50.4	44.2	41.3	39.8	40.9	40.4	39.9

Selected economic indicators 1/	2022	2023	2024*	2025*	2026*	2027*	2028*
Gross external financing needs	26.2	24.7	23.4	23.2	23.4	23.3	..
Gross FX reserves (USD billion) 4/	128.8	141.1	153.6
Exchange rate (TRY/USD) 4/	18.6	29.0	34.2

Sources: MOTF, IMF 2024 Article IV Mission Press Release, IMF World Economic Outlook April 2024; IMF Country Report 23/303, central bank

Notes: 1/ In percent of GDP, except where noted; 2024-28 are projections; 2/ Percent change, year-on-year; 3/ Nonfinancial public sector, IMF definition; 4/ data from central bank, end-of-period, for 2024: most recent as of September 2024

6. The first major driver of the upgrade is CBRT's return to orthodox monetary policy—a continued tight monetary policy stance that has started showing positive results. Annual inflation fell significantly to 52 percent in August 2024, marginally below market expectations, down from 71.6 percent in June and 61.8 percent in July. This marked the lowest reading in inflation since August 2023. The annualized monthly inflation rate for August 2024 was 29.3 percent, down from July and lower than the average rates for the first and second quarters of the year. Domestic credit recorded its lowest growth since February 2022, reaching 38 percent in July 2024. Unlike in July 2022 and 2023, Türkiye has ruled out a mid-year minimum wage hike this year, which is likely to support disinflationary momentum going forward. All these factors are reflected in market participants' annual inflation expectations for the next 12 months—a forward-looking measure of inflation—which stood at 28.7 percent in August 2024 and has steadily declined since October 2023.

7. The second, and an associated, driver of the rating upgrade is Türkiye's reduced external vulnerability, with the current account deficit narrowing to around 1.9 percent of GDP (as of June 2024). FX reserves have risen to USD 153.6 billion as of September 13, 2024, driven by reduced financial dollarization and renewed access to external financing for Turkish issuers, including banks and corporate entities. Capital inflows have cautiously resumed and CDS spreads have declined by 440 bps since mid-2023.

8. After robust growth of 4.5 percent in 2023 and 5.7 percent in Q1 2024, GDP growth in Q2 2024 slowed to 2.5 percent. Leading indicators show that the delayed effects of monetary and credit tightening are becoming more visible, confirming a slowdown in domestic demand with a diminishing inflationary impact. However, persistent stickiness in services inflation, combined with geopolitical developments, could exacerbate inflationary risks. Likewise, the fiscal deficit had widened in June, reflecting the post-earthquake reconstruction, before narrowing marginally in July and August 2024. Earlier in May 2024, the government announced a fiscal tightening program, including freeze on certain construction projects and cuts to goods and service purchases. High borrowing costs, coupled with rising petrol and VAT taxes, as well as other fiscal measures, are contributing to a softening of demand.

9. **Outlook and Risks.** Growth is projected to decelerate to 3.4 percent in 2024 and further moderate to 2.7 percent in 2025, due to policy tightening, eventually aligning with the medium-term potential of around 3.5-4.0 percent—according to the IMF. Inflation will remain high at 43 percent by the end of December, mainly due to strong inertia but drop to 24 percent in 2025, as fiscal policy is expected to turn contractionary and real policy rates remain positive. However, the track record on that is still being built, as such normalizations have been prone to reversals. The policy tightening may need to be more decisive and sustained, and is likely to come at the cost of growth, while disinflation and restoring external balances may take a few years. Fiscal reforms—including rationalizing tax expenditure, broadening the tax base, limiting non-essential capex spending and reforming energy subsidies, will help stabilize public debt. Political space exists for such reforms, with no scheduled national elections until 2028.

Exports growth would keep the current account deficit at 1.7 percent in 2024. International reserves are expected to remain above 100 percent of the IMF's reserve adequacy benchmark.

10. As an important risk mitigant, the private sector has demonstrated resilience and has considerable experience in navigating through the volatile environment. Large firms report sufficient liquidity, positive short-term net open FX positions and sufficient natural FX hedges. Regarding the banking sector, despite recent shocks, reported capitalization remains adequate, non-performing loans are low, while reported liquidity and profitability metrics are adequate. Domestic banks have been able to roll over their funding, even amid high market uncertainty. Ultimately, the system hinges on residents' confidence and willingness to keep their sizeable dollar deposits in domestic banks, which so far has been sustained.

11. According to the IMF, public debt is sustainable. It is expected to stabilize over the medium term, at around 26 percent of GDP. Key factors anchoring Türkiye's debt sustainability include government's strong balance sheet, uninterrupted access to financial markets, a track record of economic resilience, and a dynamic economy with substantial growth potential. Likewise, Türkiye's external debt is expected to remain sustainable over the

Annex 3: Economic and Financial Analysis

1. The economic analysis for the Project is based on a similar model used in the ISMEP project, which is a cost-benefit methodology to calculate the Economic Internal Rate of Return (EIRR) and Economic Net Present Value (ENPV) of the Project. The economic benefits focus on protecting human lives, increasing earthquake resilience of public buildings, and energy savings and the subsequent reduction in Greenhouse Gas emissions.¹¹ Moreover, the Project will generate many other traditional economic benefits for the users of infrastructure, including (i) improved sustainability of infrastructure, (ii) improved quality of services provided in retrofitted/reconstructed schools and the childcare center and (iii) better usage of green technologies, etc. However, these additional benefits are not calculated due to their complexity and the absence of data and resources required to undertake such an analysis. The Project's total cost mainly includes capital expenditures and related expenses to retrofit and reconstruct the target buildings and operation and maintenance expenses to be covered by the Istanbul Directorate of Education.

2. The cost-benefit analysis applied with costs and benefits defined based on “with” and “without” scenarios. Baseline scenarios are defined and calculated as a scenario where 40 buildings would not be reconstructed. Without the Project, the proposed 40 schools would continue education under poor conditions with high seismic risk. With the Project, these facilities will not only withstand the destructive effects of a potential earthquake but also provide better educational services and associated social services such as public meetings and sheltering during a disaster. To maintain consistency with the ISMEP Project, most assumptions used in the ISMEP Project have also been used in this Project except the following data that were updated to reflect the current context: GDP per capita, number of average students per school, average life expectancy, average area of school and number of building projected.

Table 1: Key Data and Assumptions

Assumption	Unit	Value	Source
GDP per capital (2021)	USD	12,985.8	World Bank Data Portal
Average life expectancy	year	76	
Earthquakes exceeding Mw = 7 have an annual exceedance probability of	percent	2	www.thinkhazard.org
Mortality rate	percent	4.1%	Conservatively adjusted downward from data from the figure from the 1999 Marmara earthquake of 6.28%
Value of Lives Saved	USD	1,712,000	GFDRR
Annual Discount Rate	percent	10	ISMEP Project
Exchange rate (September 19, 2024)	TRY/USD	33.98	Central Bank of Republic of Türkiye
Average number of students per school	number	945	IPCU

¹¹ The energy savings and GHG emission reduction figures were provided by the IPCU as a part of the Energy Efficiency Analysis (2022) of 25 completed school buildings.

Assumption	Unit	Value	Source
Average number of school personnel per school	number	45	
Average floor areas school	sq. m.	10,840	
Number of buildings protected	number	40	
Average building value	USD per sq. m.	4,000	ISMEP Project
Energy (electricity and gas) savings	sq. m.	0.09	IPCU (based on actual data from 25 completed schools)
Annual Greenhouse gas savings	kg CO ₂ e per sq. m. per year	7.7	

3. Energy savings, which include electricity (USD0.09 per square meter) and natural gas (USD0.12 per square meter), have been included in the analysis along with their GHG emission reduction (7.7 kilograms of Carbon Dioxide equivalent, kgCO₂e per square meter) based on the IPCU study¹² of 25 completed school buildings. The average annual savings are around USD60,000 and USD122,000, respectively. GHG emission reduction has been monetized by the 'low' shadow prices, according to the Policy and Strategy Note 2018 No. 1, Shadow Carbon Pricing in the Economic Evaluation of AIIB Projects.

Table 2: Estimated Economics Costs and Benefits (USD)

Year	Capital Investment	Operations and Maintenance Expenditure	Energy Savings	GHG Emission Reduction Benefits	Benefits from Avoided Loss of Lives and Damages to Buildings	Net Benefits (Loss)
1	2,010,600	1,117,000	-	-	-	-4,244,600
2	68,583,800	4,105,889	37,282	54,208	38,875	-59,655,715
3	68,583,800	7,094,778	69,904	83,160	79,478	-49,613,563
4	68,583,800	10,083,667	111,847	110,510	121,809	-39,560,362
5	121,842,360	15,463,667	111,847	115,808	199,041	-74,797,620
6	-	14,346,667	111,847	118,272	203,188	49,605,887
7	-	14,346,667	111,847	120,736	207,335	49,610,033
8	-	14,346,667	111,847	123,200	211,481	49,614,180
9	-	14,346,667	111,847	125,664	215,628	49,618,327

¹² Ibid.

Year	Capital Investment	Operations and Maintenance Expenditure	Energy Savings	GHG Emission Reduction Benefits	Benefits from Avoided Loss of Lives and Damages to Buildings	Net Benefits (Loss)
10	-	14,346,667	111,847	128,128	219,775	49,622,473
11	-	14,346,667	111,847	130,592	228,068	49,630,767
12	-	14,346,667	111,847	135,520	232,215	49,634,913
13	-	14,346,667	111,847	137,984	236,361	49,639,060
14	-	14,346,667	111,847	140,448	240,508	49,643,207
15	-	14,346,667	111,847	142,912	248,801	49,651,500
16	-	14,346,667	111,847	147,840	252,948	49,655,647
17	-	14,346,667	111,847	150,304	261,241	49,663,940
18	-	14,346,667	111,847	155,232	265,388	49,668,087
19	-	14,346,667	111,847	157,696	269,535	49,672,234
20	-	14,346,667	111,847	160,160	273,682	49,676,380
Total	329,604,360	253,065,000	2,008,579	2,438,374	4,005,357	516,734,774

4. Based on available data and the assumptions adopted, the estimated EIRR for the Project is 15 percent per annum and an ENPV of USD70.5 million, comparable to the original ISMEP project estimates of 17.8 percent and USD55 million, respectively. A Social Discount Rate (SDR) of 10 percent per year used in the ISMEP Project analysis is also adopted here. However, it should be noted that a long-term growth rate of GDP per capita or its proxy, such as an annual average growth of real GDP per capita, can also be used as the SDR. According to the World Bank data portal, the annual average real GDP per capita growth of Türkiye from 1961-2021 was 2.9 percent. Therefore, using the SDR of 10 percent is a very conservative assumption.

5. A sensitivity analysis has been carried out for a 20 percent increase in construction costs, resulting in an EIRR of 12 percent, which is still higher than SDR, and a positive ENPV of about USD24 million. Based on the OECD Education at a Glance 2022 report, the average annual increase in teacher salaries in Türkiye during 2010–2021 was around 1.05 percent.

Since salaries account for 95 percent of the total operating expenses, the sensitivity analysis is based on tripling the historical annual salary growth to 3.15 percent, yielding an EIRR of 15 percent and ENPV of about USD67 million.

Table 3: Sensitivity Analysis

Sensitivity Analysis	Base Case	20% Increase in Capital Investment	3.15% Annual Increase in Salary
Discount Rate	10%		
EIRR	15%	12%	15%

6. **Financial Analysis.** Because K–12 public education in Türkiye is free, a financial analysis for the Project is not applicable. However, the lessons from the ISMEP project show significant operational cost savings from incorporating energy and resource efficiency into the Project's technical design. Instead, the financial analysis focused on savings in operational costs based on analyzing 25 completed school buildings. For reconstructed and retrofitted schools, the data showed a reduction in total operational costs, consisting of electricity, natural gas, and water bills, of 30.5 percent and 24 percent, respectively. Replacement and maintenance of materials over the life of the structures were not considered. The schools achieved an average annual total operational cost per square meter of USD0.26 after reconstruction. Applying the same assumptions to the Project's targeted facilities results in the summary of expected combined operational cost savings of around USD137,000 per year under the Project.