



**ASIAN INFRASTRUCTURE
INVESTMENT BANK**

Sovereign-backed Financing

Approval Project Document

P000974 Brazil: Recovery and Trade-Facilitation Project in Guaíba, Rio Grande do Sul

Currency Equivalents

As of June 30, 2025

Currency Unit – BRL

USD1.00 = BRL5.4800

Fiscal Year

January 1 – December 31

Abbreviations

AIIB	Asian Infrastructure Investment Bank
CAPAG	Capacidade de Pagamento / Payment Capacity
CELUPA	Celupa Industrial Celulose e Papel Guaíba Ltda./Celupa Industrial Celulose and Paper Guaíba Ltda.
ES	environmental and social
ESEL	Environmental and Social Exclusion List
ESF	Environmental and Social Framework
ESMPF	Environmental and Social Management Planning Framework
ESP	Environmental and Social Policy
ESS	Environmental And Social Standards
FM	financial management
GBV	gender-based violence
GDP	gross domestic product
GHG	greenhouse gas
GRM	grievance redress mechanism
ICU	Internal Control Unit
IMF	International Monetary Fund
km	kilometer
LGPD	General Data Protection Law
M&E	Monitoring and evaluation
NDC	Nationally Determined Contribution
PIU	Project Implementation Unit
PMO	Project Management Office
POM	Project Operations Manual
PP	Project Procurement
PPM	Project-affected People's Mechanism
RMF	Results Monitoring Framework
RPF	Resettlement Policy Framework
RS	Rio Grande Do Sul

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1. Executive Summary

1. The Recovery and Trade-Facilitation Project in Guaíba, Rio Grande do Sul, is a sovereign-backed loan of USD70 million from the Asian Infrastructure Investment Bank (AIIB) to the Municipality of Guaíba, guaranteed by the Federative Republic of Brazil. Total cost is USD87.5 million, including USD17.5 million counterpart financing. The loan has a tenor of 34.5 years with 4.5 years grace and will be implemented from 2026 to 2030 through a Project Implementation Unit (PIU) established by municipal decree.

2. The Project responds to the May 2024 floods, which caused over USD7 billion in damages across Rio Grande do Sul. It will restore and upgrade resilient infrastructure, including 5.6 km of drainage channels, 8 km of dikes, 12.8 km of roads and 9 km of protected waterfront. A 200-hectare industrial and logistics hub will attract new companies and expand the tax base, while defenses will protect 30,000 residents and 2,470 hectares and early-warning systems will extend coverage to 65,000 people.

3. AIIB's additionality lies in embedding build-back-better and climate alignment. The Bank's input enabled adoption of nature-based flood protection, upgraded drainage, digital monitoring and a climate-resilient logistics hub. Over 55% of the loan qualifies as climate finance and the Project is Paris-aligned.

4. Institutional readiness is ensured by the PIU, organized into strategic, managerial and operational units with authority to recruit specialized staff. Procurement will follow AIIB's policy harmonized with Brazil law, while financial management is supported by Brazil's CAPAG (Payment Capacity) framework, where Guaíba holds an "A" rating.

5. Environmental and social (ES) risks are classified as Category A, mainly from dike and waterfront works. A phased ES Management Planning Framework, Resettlement Policy Framework, Stakeholder Engagement Plan and GBV/SH Action Plan are in place. Capacity building will train 800 municipal staff in risk management, supported by a supervision consultant.

6. The Project will accelerate recovery of Guaíba's export-oriented economy, which directs nearly half of its USD1.1 billion exports to Asia. It aligns with AIIB's priorities on Green Infrastructure, Connectivity and Regional Cooperation and Technology-enabled Infrastructure, while strengthening AIIB's partnership with Brazil and offering a replicable model for climate-resilient municipal recovery.

Project No. and Name	P000974 Recovery and Trade-Facilitation Project in Guaíba, Rio Grande do Sul		
AIIB Member	Brazil		
Borrower	Municipality of Guaíba		
Guarantor	Ministry of Finance of Brazil		
Project Implementation Entity	Municipality of Guaíba		
Proposed Amount of AIIB Financing (USDm)	USD70.00	Instrument type (Instrument subtype)	Loan (Sovereign Guarantee)
		Currency of financing requested	US Dollar
Sector (Subsector)	Multi-sector (Multi-subsector)	E&S Category and Comments (if any)	A
Project Objective	To restore and upgrade trade-enabling infrastructure affected by the floods in the municipality of Guaíba, Rio Grande do Sul, to improve connectivity and enhance climate and flood resilience.		
Project Description	The Guaíba Recovery and Trade-Facilitation Project will strengthen urban resilience by upgrading drainage channels, dikes, pumping systems, resilient roads and the waterfront to reduce flood risks and restore mobility. It will also include a logistics and industrial zone to support Guaíba's economic recovery and reinforce its role as a trade-oriented regional economy. The Project will directly benefit 93,000 residents by protecting 30,000 people and 2,470 hectares from 100-year floods, extending early-warning coverage to 65,000 people and ensuring safer access, services, and livelihoods.		
Implementation Period	Start Date: January 01, 2026 End Date: December 31, 2030	Expected Loan Closing Date	March 31, 2031
Co-financing type	Standalone	Following other Financier's E&S Policy?	No
Lead financier		Following other Financier's Procurement Policy?	No

Financing Plan	Total: USD87.5 million AIIB: USD70.0 million Municipality of Guaíba: USD17.5 million
Policy Assurance	The Vice President, Policy and Strategy, confirms an overall assurance that the proposed Bank Financing complies with the applicable Bank operational policies.

Risk	
Key Risks	Mitigation Measures
ES: Noise, dust, waste, biodiversity impacts, traffic disruptions, labor and safety risks.	ESMPF in place, site-specific ES instruments to be prepared and monitored, with AIIB conducting field-based supervision.
Procurement: Limited MDB procurement capacity, potential conflicts with national law.	Training on AIIB policy, adoption of AIIB bidding documents, local procurement consultant support, grievance mechanisms and AIIB prior/post reviews.
Weak implementation capacity and coordination.	Clear roles in the POM, federal–state–municipal coordination and a well-staffed PIU with embedded capacity-building.
Economic Capital (ECap) Consumption	11.14USDm 15.91%

Strategic Alignment				
Alignment with AIIB's thematic priorities		Green infrastructure; Connectivity and Regional Cooperation; Technology-enabled Infrastructure		
Alignment with AIIB's strategies		Strategy on Financing Operations in Non-regional Members; Transport Sector Strategy; Sustainable Cities Strategy; Water Strategy		
Key Outcomes	Indicator	Unit of measure	Baseline (Year)	Target (Year)
	Reduced distance between trade routes	Kilometers	45.5 (2025)	21.5 (2031)

	Area under enhanced flood protection for a 100-year return period	Hectares	0 (2025)	2470 (2031)
	Number of people with access to early warning systems, gender-disaggregated (target: 51% women)	Number	4795 (2025)	65047 (2031)

Other Key Financing Requirements	
Conditions of Effectiveness	Project Operations Manual (POM) is furnished to the Bank's satisfaction.
Key Conditions for 1st Disbursement	NA
Key Covenants	Throughout the Project implementation, the Borrower maintains the Project Implementation Unit (PIU) with sufficient resources, qualified staff, and capacity to implement the Project in accordance with the POM. The internal audit firm shall be engaged no later than three months after Project effectiveness.

President	Liqun Jin
Chief Investment Officer	Konstantin Limitovskiy
Director General	Xiaohong Yang
Project Team Leader	Manuel Benard, Senior Investment Officer
Back-up Team Leader	Natalia Sanz, Senior Investment Officer
Project Team Members	Cody Kho, Team Member Julija Kuklyte Polycarp, Climate Specialist Luiz Eduardo Rodrigues, Project Counsel Khaliqa Mohammed, SFD - Environment Specialist Shonell Robinson, SFD - Financial Management Specialist Chandra Mishra, SFD - Procurement Specialist Rafael Noronha, SFD - Social Development Specialist Mengmeng He, CTL Manuel Cervero Bárcena, Team Member Hanting Qi, Team Member

2. Context

2.1 **Country and Macroeconomic Overview:** Brazil, the largest economy in South America and 10th largest globally, faced a recession in 2015-2016 due to weak investment and fiscal imbalances with recovery interrupted by a 4.1% gross domestic product (GDP) drop in 2020 due to the coronavirus disease (COVID-19) pandemic. Since then, the economy has shown strong resilience, exceeding pre-pandemic GDP levels by 2023. Sovereign credit ratings, which fell from BBB+ in 2014 to BB- in 2018, improved to Ba1 (Moody's) in September 2024, though remaining below investment grade per Fitch and S&P, reflecting cautious optimism. In 2024, GDP growth reached 3.0% supported by favorable export prices and credit expansion, despite tight monetary policy and major flood-related disruptions in the State of Rio Grande do Sul (RS). The International Monetary Fund (IMF) projects 2.2% growth in 2025, with medium-term potential growth revised to 2.5% annually, a significant improvement over the 0.8% average during the 2010s.

2.2 Public debt, which peaked near 100% of GDP in 2020, declined to 86.7% in 2024, but is forecasted to rise to 93.9% by 2029 without bolder fiscal consolidation. The IMF considers debt risks moderate, supported by low dollarization, strong reserves and a deep domestic financial sector. Despite a revised fiscal framework in 2023 targeting a 1% primary surplus by 2026, recent budgets have weakened that commitment and consolidation now depends heavily on revenue measures.

2.3 The State of RS, with a population of approximately 11 million, ranks as Brazil's fifth largest state economy. Its key exports include soybeans, beef, poultry, rice and machinery, positioning it as a vital player in agribusiness and industrial production. China remains its main trade partner, absorbing around 30% of exports and 20% of imports in 2024. The 2024 floods caused over USD7 billion in economic losses, worsening the state's fiscal position and disrupting industrial output. Government measures—including debt reprofiling and aid helped stabilize the state's economy. In 2025, the federal government is urging RS to join a fiscal recovery program to address structural imbalances, amid 2.2% national GDP growth projections under tighter monetary policy.

2.4 **Project Background.** In May 2024, the State of RS experienced one of the most devastating climate-related disasters in its history, with widespread flooding affecting 418 of the state's 497 municipalities. The disaster caused severe damage to critical infrastructure, disrupted essential public services and significantly impacted economic activities across the region. In response, the Federal Government of Brazil committed more than USD17 billion to support emergency relief and recovery efforts. Despite this substantial allocation, a significant financing gap remains, particularly for the rehabilitation and reconstruction of infrastructure that is vital to regional connectivity and long-term economic and climate resilience.

2.5 The Southern Region of Brazil, one of its most industrialized areas, plays a central role in national trade, particularly through export-oriented production linked to Asian markets. The destruction of trade-enabling infrastructures such as transport, energy, water and sanitation systems has not only affected local livelihoods but also jeopardized the broader economic competitiveness of the region. Furthermore, the growing frequency and intensity of extreme weather events underscore the urgent need to invest in resilient infrastructure and capacity to safeguard communities and economic systems against future climate shocks.

2.6 **Municipal Context.** The Municipality of Guaíba, located in the State of Rio Grande do Sul, serves as a key economic and logistical hub within the Porto Alegre metropolitan region. With a population of approximately 93,000, Guaíba hosts major industrial operations, including a large wood and pulp processing plant, automotive logistics centers and various manufacturing facilities. In 2024, the municipality exported over USD1.1 billion in goods, with approximately 50% destined for Asian markets, highlighting its strong international trade linkages.

2.7 Guaíba also serves as a regional center for public services, hosting state-level offices in education, health and public security. Its strategic location near Lake Guaíba and its integration with major transport corridors position it as a vital node for both economic activity and regional development. The municipality continues to attract investment and plays an important role in supporting surrounding communities and municipalities across the region.

2.8 **Addressing Key Development Challenges: Project Contributions:** In response to the severe infrastructure damage and economic disruption caused by the 2024 floods, the Project supports the Municipality of Guaíba in addressing critical development challenges through a coordinated set of investments across multiple sectors. The subprojects are designed to mutually reinforce, creating synergies that enhance both climate resilience and economic revitalization. Central to the Project is the upgrading of Guaíba's flood protection infrastructure, including dikes, drainage channels and pumping systems, which will significantly reduce flood risks. These protective measures are directly linked to the development of a climate-resilient green logistics and industrial zone, strategically positioned to attract new investment and support Guaíba's strong trade links with Asia, particularly in the pulp and paper sector. The Project also supports broader modernization efforts by introducing digital tools and systems to improve infrastructure resilience and service delivery, aligning with the Bank's priority on Technology-enabled Infrastructure.

2.9 Rebuilding and reinforcing key urban roads and access infrastructure will restore safe mobility and economic connectivity within flood-affected neighborhoods, ensuring functional mobility and continuity of operations. These transport improvements will also serve the new industrial zone, facilitating efficient freight movement and investor access. In parallel, the Project will strengthen local disaster preparedness through the deployment of climate monitoring systems, early warning mechanisms and targeted training programs. These integrated interventions, implemented by the Municipality of Guaíba, will not only protect vulnerable communities but also lay the foundation for long-term urban resilience and inclusive, trade-oriented economic recovery.

3. Rationale

3.1 **Project Objective.** The Recovery and Trade-Facilitation Project in Guaíba, Rio Grande do Sul (the “Project”) aims to restore and upgrade trade-enabling infrastructure affected by the floods in the municipality of Guaíba, Rio Grande do Sul, to improve connectivity and enhance climate and flood resilience.

3.2 **Expected Beneficiaries.** The Project will support flood-affected communities in Guaíba by restoring critical infrastructure and strengthening disaster resilience. Local businesses and exporters will benefit from the rehabilitation of transport and trade-enabling infrastructure, ensuring economic continuity. The municipality of Guaíba will strengthen their capacity for disaster response and sustainable infrastructure management. Public sector intervention will focus on supporting the municipality’s economic recovery and enhancing its long-term resilience.

3.3 **Expected Results.** The Project aims to significantly reduce flood risks while improving critical economic and social infrastructure. It will reduce the average distance between key trade routes from 45.5 kilometers (km) to 21.5 km, enhancing regional connectivity between industrial zones, logistics hubs and major highways in the metropolitan area. Flood protection measures will safeguard 2,470 hectares against 100-year flood events and protect nearly 30,000 residents, while providing early warning system coverage to more than 65,000 people. Drainage and flood protection works will include 5.6 km of improved drainage channels, 8 km of dikes and 9 km of protected waterfront, complemented by six nature-based solutions. The development of a 200-hectare green logistics and industrial area will host at least 10 companies, supporting post-flood economic revitalization. The industrial zone and mobility upgrades are also expected to expand the municipal tax base by attracting new businesses and stimulating local economic activity. Infrastructure upgrades will also deliver 12.8 km of resilient urban roads. To strengthen institutional readiness, 800 municipal employees will be trained in disaster risk management and a real-time flood and water quality monitoring system will be fully operational, reinforcing preparedness and adaptive capacity. Detailed methodologies for the calculation of results indicators will be included in the Project Operations Manual (POM). The full Results Monitoring Framework (RMF) can be found in Annex 1.

3.4 **Alignment with AIIB’s Strategy on Financing Operations in Non-Regional Members (the NRM Strategy).** The Project aligns with AIIB’s NRM Strategy through its focus on trade-enabling infrastructure that strengthens connectivity within the Porto Alegre metropolitan area and national logistics corridors. These investments support regional economic recovery while reinforcing Brazil’s trade links with Asia. By building infrastructure that ensures quicker resumption of trade after flood events thus reducing the duration of floodwaters, the Project enhances the resilience of supply chains and promotes sustainable infrastructure with strong cross-border impacts.

3.5 In 2024, Guaíba exported approximately USD569 million in goods to Asia, accounting for approximately 50% of its total exports. The floods that year severely disrupted trade routes, damaged critical infrastructure and raised logistics costs, particularly in the pulp and wood-processing sectors, leading to a 25%–30% drop in export volumes to Asia in the second half of 2024. Prolonged water stagnation disrupted port access and industrial operations. If left unaddressed, cumulative export losses to Asia could reach USD150–200 million over the next

three years and Guaíba would risk a long-term loss of market share due to reliability concerns in just-in-time value chains. Over 98% of Guaíba's Asian trade value is in pulp and processed wood products, with China (61%), United Arab Emirates (UAE) (15%) and Korea (8%) being the top destinations (Annex 2 provides trade details).

3.6 To address these disruptions, selected subprojects will focus on reconstructing public infrastructure and restoring economic and social services through a climate-resilient, build-back-better approach. Investments will reduce the duration and impact of future floods, enabling a faster resumption of trade and industrial activity. Key measures include enhanced drainage systems, nature-based solutions and improved logistics infrastructure, all of which support long-term sustainability and contribute to climate mitigation. With timely implementation, Guaíba's exports to Asia are expected to return to pre-flood levels by 2026, with projected annual growth of 5%–7% thereafter. These investments are aligned with Brazil's National Logistics Plan and national objectives for climate-resilient infrastructure, reinforcing AIIB's mandate to promote resilient, inclusive and sustainable growth through high-quality cross-border infrastructure.

3.7 **Strategic Fit for AIIB.** The Project aligns with AIIB's overarching objective of promoting sustainable development through infrastructure investment, with a strong emphasis on economic recovery, inclusivity and long-term impact. By restoring trade capacity, strengthening resilience and enabling green industrial development, the Project directly supports AIIB's NRM Strategy, contributing to regional connectivity, climate action and deeper economic integration between Brazil and Asia. It contributes directly to the Bank's thematic priorities of Green Infrastructure, Connectivity and Regional Cooperation and Technology-enabled Infrastructure. By supporting climate-resilient flood protection systems, green urban infrastructure, nature-based solutions and a climate-smart industrial and logistics zone, the Project promotes low-carbon, sustainable urban redevelopment in Guaíba. These investments will strengthen the ability of communities and local industries to withstand climate shocks, ensuring safer mobility, improved trade connectivity and long-term resilience. By restoring and strengthening trade-enabling infrastructure essential for Guaíba's integration with Asian markets, the Project also reinforces regional economic competitiveness and cross-border value chains. Furthermore, it advances Technology-enabled Infrastructure by integrating digital tools for climate monitoring, early warning and smart logistics, strengthening both operational efficiency and disaster preparedness. Through its climate-aligned design, the Project qualifies for climate mitigation finance and exemplifies AIIB's role as a partner in delivering sustainable, high-impact investments in Brazil's Southern Region.

3.8 The Project also demonstrates strong alignment with several of AIIB's sector strategies. Under the Transport Sector Strategy, the Project will support the upgrading and reconstruction of key transport infrastructure, improving trade connectivity and logistics resilience in a flood-prone region. The Sustainable Cities Strategy is reflected in the investments aimed at strengthening city-level infrastructure and services, incorporating low-carbon mobility, improved drainage and urban resilience. The Water Sector Strategy is addressed through investments in stormwater management, flood control and integrated water infrastructure.

3.9 **Paris Agreement Alignment (PAA) and Climate Finance.** In line with AIIB methodology for assessing the alignment with the mitigation and adaptation goals of the Paris

Climate Agreement, the Project is assessed as aligned. The Project also contributes to climate finance. According to joint MBD methodologies and associated guidance for tracking climate mitigation and adaptation finance, the Project is contributing USD38.98 million (55.6%) as climate finance, with USD13 million contributing towards mitigation and USD25.98 million as adaptation finance. Detailed assessment is provided in Annex 6 (Paris Agreement Alignment Assessment).

3.10 Value Addition by AIIB. Drawing on its global emergency-recovery expertise, most notably from the 2021 Henan Flood Emergency Rehabilitation and Recovery Project, AIIB deploys tailored “build-back-better” approaches that balance the urgency of immediate recovery with the goal of long-term resilience. Additionally, the Bank’s rigorous Environmental and Social Policy further elevates and strengthens local standards during both construction and operation. The Project reflects AIIB’s upstream technical support and climate adaptation focus through the adoption of specific design features, including nature-based flood protection measures, upgrading of aged drainage infrastructure, incorporation of digital early warning systems and the planned development of a climate-resilient industrial and logistics zone. Finally, a dedicated Project Management component embeds capacity building within the municipal Project Implementation Unit (PIU), equipping the Guaíba team with lasting skills in procurement, risk management and environmental and social (ES) oversight.

3.11 Value Addition to AIIB. The Project will help significantly strengthen the partnership between the Bank and Brazil, a founding AIIB member. It will also support the Bank to further expand its insights into the largest economy of Latin America. This Project will leverage AIIB’s experience and insights gained from disaster relief operations in other members, thereby enriching a repository of knowledge, particularly in post-flood rehabilitation Projects, which will guide future investment operations, both from technical and policy angles.

3.12 Lessons Learned. In AIIB’s emergency financing, drawing on the China Henan Flood Emergency Rehabilitation and Recovery Project and Türkiye’s Emergency Road Rehabilitation and Reconstruction Project, the following points are considered best practices based on the lessons learned: (a) adopting flexible, phased preparation and procurement approaches allows rapid mobilization while accommodating detailed screening and alignment with AIIB’s Environmental and Social Framework; (b) coupling physical infrastructure reconstruction with green solutions bolsters both immediate recovery and long-term resilience; (c) embedding dedicated capacity-building support within local implementing agencies, through PIU training in procurement, financial management, ES oversight and emergency response, builds lasting institutional skills; (d) enforcing contract-level Environmental and Social Management Plans and ES due diligence, ensures systematic risk mitigation and (e) aligning design with “build-back-better” principles, integrating climate adaptation measures, enhanced design standards and resilient materials, delivers sustainable, disaster-resilient infrastructure that meets international best practices.

3.13 In addition, lessons from the Côte d’Ivoire Inclusive Connectivity and Rural Infrastructure Project (2023) emphasize the importance of linking connectivity improvements with trade logistics and basic services, strengthening maintenance strategies and institutional capacity and fostering community engagement to enhance ownership, relevance and sustainability of investments.

4. Project Description

4.1 **Project Description.** The Recovery and Trade-Facilitation Project in Guaíba (the Project) addresses both the urgent recovery needs and the long-term resilience priorities of communities and economic sectors affected by the widespread and economically disruptive flooding in southern Brazil in May 2024. Structured as a sovereign guaranteed loan and administered by the municipality of Guaíba, the Project aims to mobilize long-term financing to support a comprehensive post-disaster recovery effort. At the same time, it seeks to enhance the municipality's capacity to withstand future climate-related events.

4.2 The Project will focus on restoring and enhancing trade-enabling and climate-resilient infrastructure across critical sectors, including water and flood management, urban development, transport and logistics and basic infrastructure, with best climate resilience practices and nature-based solutions incorporated wherever possible. Aimed at reducing the duration and impact of flood events, these investments will enable faster recovery and the timely resumption of trade and economic activity, which is essential for restoring southern Brazil's export-driven economy and supporting the region's long-term social and economic resilience (Annex 3).

4.3 The Project consists of a coordinated package of subprojects that respond directly to the most affected areas and critical service disruptions. These include:

- (a) Rehabilitation of the CELUPA Drainage System: Upgrading macro-drainage infrastructure to restore functionality and prevent future inundation in the CELUPA neighborhood.
- (b) Construction of the Santa Rita Urban Dike: A major flood protection structure designed to safeguard low-lying residential areas and reduce exposure to recurrent high-water events.
- (c) Development of a New Industrial and Logistics Hub: Creation of resilient economic infrastructure in a flood-safe zone to support job recovery and industrial activity.
- (d) Reconstruction of Strategic Road Access: Restoration and elevation of priority urban roads to reestablish connectivity, enable emergency access and ensure continuity of mobility during adverse weather events.
- (e) Requalification of the Waterfront Area: Integrated urban redevelopment and climate adaptation measures along the Guaíba waterfront, including green infrastructure and public spaces.

These subprojects are designed to be mutually reinforcing, ensuring that infrastructure recovery is aligned with long-term resilience objectives. The full list of indicative subprojects and estimated costs is provided in Table A3.1 (Annex 3). Selection and sequencing of subprojects will follow technical, economic and environmental criteria, with the flexibility to adjust as further assessments are completed.

4.4 **Components.** The following components will be included in the Project, in alignment with the structure approved in December 2024 by the External Financing Commission (Comissão de Financiamentos Externos or COFIEX):

4.4.1 **Component A:** Investments in urban drainage and flood protection (Total USD32.45 million; AIIB USD17.95 million). This includes improvements to existing flood protection infrastructure such as dikes, pumps and drainage systems, as well as the construction of additional infrastructure to mitigate future flood risks.

4.4.2 **Component B:** Investments in the construction of a green logistics and industrial area (Total USD15.95 million; AIIB USD13.00 million). Located on elevated ground at 20 meters above sea level, this component will finance a climate-resilient logistics hub designed to ensure uninterrupted operations during extreme weather events. Strategically positioned between the BR-116 and BR-290 highways, the hub provides direct access to the Port of Rio Grande and Mercosur markets, reinforcing Guaíba's role in regional and international supply chains.

4.4.3 **Component C:** Investments in urban infrastructure and transport access (Total USD30.6 million; fully financed by AIIB). Focuses on rebuilding and strengthening flood-damaged roads and urban infrastructure to improve connectivity and mobility across Guaíba.

4.4.4 **Component D:** Investments in climate monitoring, disaster risk management and sanitation improvement (Total USD4.75 million; AIIB USD4.70 million). Covers the restoration of basic infrastructure and the implementation of systems for climate monitoring, emergency alerts and risk mitigation.

4.4.5 **Component E:** Investments in program and project management (Total USD3.75 million; fully financed by AIIB). Supports coordination, oversight and effective implementation of all Project components.

4.5 **Cost and Financing Plan.** The Project cost (Table 1) is based on a representative set of feasibility studies and technical documentation covering key subprojects (Annex 3 provides details).

Table 1. Project Cost and Financing Plan

Item	Project Cost (USD m)	Financing (USD m)	
		AIIB	Counterpart
Component A – Improving the Efficiency of Urban Drainage and Flood Protection	32.45	17.95	14.50
Component B – Construction of Green Logistics and Industrial Area	15.95	13.00	2.95
Component C – Construction of Supporting Urban Infrastructure and Transport Access Infrastructure	30.60	30.60	-
Component D – Climate Monitoring, Risk Management and Sanitation Improvement Programs	4.75	4.70	0.05

Component E – Program and Project Management	3.75	3.75	-
Grand Total	87.50	70.00	17.50

4.6 Implementation Arrangements and Readiness

4.6.1 **Key Agreements.** The Project will be implemented through the following agreements: (a) Loan Agreement between AIIB and the Municipality of Guaíba; and (b) a Guarantee Agreement between AIIB and the Federative Republic of Brazil. The guarantee of the Federative Republic of Brazil for this Project will be limited to Guaíba's financial obligations under the Loan Agreement entered with AIIB (including repayment of principal, payment of interest and other financial charges); and will not cover the performance obligations of Guaíba Municipality or its local counterpart contribution.

4.6.2 Implementation arrangements.

(a) **Project Implementation Unit:** The Municipality of Guaíba via the Municipal Decree No. 159/2025 has established a dedicated PIU under the Municipality's Special Projects Office to oversee the implementation of the Project. The PIU is responsible for coordinating physical and financial execution, ensuring compliance with AIIB's requirements and managing reporting and supervision processes. Its structure includes:

- (1) **Strategic Committee (Comitê Diretivo):** Chaired by the Secretary of the Mayor's Office and composed of senior municipal officials, a representative of the City Council and an AIIB representative. This committee provides overall direction and ensures strategic alignment for the implementation of the Project.
- (2) **Management Unit (Núcleo Gerencial):** Led by the Head of the Special Projects Office, this unit includes legal counsel, training advisors and technical staff responsible for planning, coordination and compliance throughout the Project Implementation.
- (3) **Implementation Unit (Núcleo Operacional):** Comprising functional teams covering procurement (SELIC), ES, financial management and control (General Comptroller of the Municipality, Finance Department and Central Internal Control Unit), technical oversight (project engineering, works supervision) and monitoring and evaluation (M&E) (Planning Department and Ombudsman). They will be responsible for the execution of the day-to-day activities of the Project.

The PIU is empowered to contract up to 20 specialized professionals and operates with a dedicated budget and reporting obligations to both AIIB and national authorities, ensuring transparency and effective program delivery.

(b) **Supervision Consultant:** To ensure effective oversight of civil work and given limited multilateral development bank (MDB) experience, the PT has initiated modalities for technical assistance support by allocating resources under Component E: Program and Project Management. This provides flexibility to mobilize embedded advisors using loan proceeds or, alternatively, through external grant support and development partner coordination, which will be further explored. The consultant

will be contracted in accordance with AIIB's procurement policy and will support the PIU in supervising construction quality, verifying progress against schedules and ensuring compliance with technical specifications, ES safeguards and health and safety standards. The supervision consultant will also assist in contract management, reviewing contractors' deliverables and preparing progress reports, serving as a key interface between the PIU and the contractors during project execution.

- (c) Project Operations Manual (POM): A POM will be prepared by the Municipality of Guaíba, in consultation and to the satisfaction of AIIB, and will be a condition for the loan effectiveness. The POM will serve as a comprehensive implementation guide for the Project, outlining procedures and responsibilities for planning, procurement, execution and monitoring of Project components. It will include fiduciary and ES requirements and the application of AIIB's policies. The POM will define disbursement arrangements, reporting obligations and grievance redress mechanisms. It will include risk management procedures, M&E frameworks and oversight mechanisms tailored to the Project's scope. Finally, the POM will define the procedures for submission, review and agreement between the municipality and AIIB regarding any proposed modifications to the scope of existing subprojects or the inclusion of new ones.
- (d) Procurement arrangements: The procurement of goods, works and services financed partially or wholly by the AIIB loan shall comply with AIIB Procurement Policy (June 26, 2024) as well as its associated Directive on Procurement Instructions for Recipients (PIR, July 26, 2024). The Project's implementing entity qualifies as a Public Entity under Clause 2.1(b) of the Procurement Policy. Therefore, the relevant provisions under Section 2, Procurement by Public Entities of the PIR shall apply. These include the general considerations applicable to procurement by public entities, as well as the specific provisions respectively for procurement of goods, work and non-consulting services and the selection of consulting services by public entities.

A dedicated PIU has been designated, with assigned procurement staff, including a procurement manager/project manager and a professional consultant, to lead project procurement preparation and implementation. The PIU will coordinate implementation, while procurement and contract management work will be executed by functional departments of the municipality without reliance on external consultants.

The Municipality of Guaíba has prepared and submitted a draft Project Delivery Strategy (PDS) and Procurement Plan (PP) in line with AIIB requirements. Both documents have been reviewed and commented on by AIIB. Based on the PDS, the PP outlines detailed procurement arrangements, including contract packaging, cost estimates, procurement methods, AIIB review procedures and timelines for each contract. The PP will serve as the operational basis for the PIU to conduct procurement activities and must be updated regularly, or as needed, for AIIB review and no-objection throughout project implementation.

Procurement under this Project will comply with both AIIB procurement policy and Brazil's federal procurement laws, particularly Federal Law No. 14.133/2021, in a harmonized manner. The following standard bidding documents will apply:

- (1) National Competitive Bidding (NCB): The Municipality will adopt the World Bank model bidding documents (in Portuguese) for NCB for works, goods and non-consulting services, as well as the World Bank's standard request for proposals (in Portuguese) for consulting services procured through the national competitive selection method. These documents will be modified as needed to reflect AIIB's policy requirements.
- (2) International Open Competitive Tendering/Selection (IOCT, IOCS): For IOCT and IOCS the AIIB standard procurement documents for goods, works and consulting services (in English) will be used as per the requirements of AIIB PIR.

Based on the total investment amount of the subprojects and the nature of the Project components, it is anticipated that no high value or high-risks goods and works contracts will be procured through international open competitive tendering. However, a few consulting services contracts are likely to be procured through IOCS given their high value and complexity.

All contracts subject to national competitive tendering or selection will be procured through the public e-procurement system (<https://www.portaldecompraspublicas.com.br/>), which covers the whole procurement and contract management process. For contracts subject to international open competition, this system could face limitations related to language, media coverage and other requirements under AIIB's procurement policy that may not be accommodated. Although no such procurement is expected, should it become necessary, detailed procedures will be included in the POM. Further assessment will be conducted in due course prior to the commencement of procurement activities.

Advance procurement and retroactive financing: The municipality intends to use AIIB loan proceeds to carry out advance procurement and retroactive financing of some consulting services required for subprojects' preparation (technical designs, studies, among others). The total amount eligible for retroactive financing defined as expenditures incurred within 12 months prior to the loan agreement signing date shall be no more than 20% of the total loan amount. To qualify for AIIB financing, advance procurement activities must comply with AIIB's procurement policy requirements and must be included in the approved PP. Additionally, a General Procurement Notice (GPN) of the project based on AIIB's template must be published in at least one local media outlet circulated nationally and on the website of AIIB before commencement of any procurement activities.

Project Procurement Management System (PPMS): In line with AIIB procurement policy requirements, all procurement-related documents, including the GPN, PDS, PP, procurement process records and contract management data, must be uploaded to the AIIB PPMS. The system serves both as a centralized archive and

a platform for information exchange, facilitating AIIB's review, comments and issuance of No Objection for procurement activities subject to prior review.

During Project implementation, the AIIB Project team will conduct regular procurement oversight, including both prior and post review, in accordance with the assessed procurement risk rating of the Project.

- (e) Financial Management (FM) arrangements: The overall FM functions of the Project will be led and coordinated by the PIU within the Office of Special Projects. The PIU will be staffed with one dedicated FM Officer who will coordinate with the Secretariat of Budget and Finance in ensuring that the necessary FM functions are executed in a timely manner and in accordance with the POM and financing agreement. The daily FM functions will be carried out by the Secretariat of Budget and Finance and thereby integrated in the existing institutional arrangements of the Municipality. The FM arrangements encompass planning and budgeting, disbursements, accounting, reporting, internal control and internal audit and external audits.

Investment Plan and Budget: The Project has been approved through the Carta Consulta and should be included in the Municipality's Multi-Year Investment Plan by August 31. The annual budget is expected to be approved prior to the start of the following fiscal year, in line with the Municipality's budgetary framework.

Internal and External Audits: Project-specific internal audits will be led by the Municipality's Office of the Comptroller General (internal control authority), with support of audit services from an audit firm deemed acceptable to the Bank. The internal audit firm should be in place no later than three months after Project effectiveness. Project external audits will be conducted by an independent audit firm or institution acceptable to the Bank. The audit Terms of Reference (ToR) have been agreed between the Municipality and the Bank to ensure consistency with AIIB's requirements.

- (f) Environmental and Social arrangements: The Municipality of Guaíba has an Environmental Department responsible for categorizing, approving and monitoring all ES activities and projects within its jurisdiction. To ensure effective oversight and implementation of the Project, the PIU has been established with dedicated ES personnel who will be responsible for managing ES aspects throughout the Project preparation and implementation phases, ensuring compliance with both national regulations and AIIB standards.

Capacity Assessment: The capacity of the municipality's ES team, particularly its experience and familiarity with working in accordance with AIIB's Environmental and Social Policy and associated standards is deemed appropriate and the municipality's existing ES team possesses the necessary capacity to support project implementation. In addition, the Environmental and Social Management Planning Framework (ESMPF) developed for the Project outlines the minimum requirements and capacities needed for members of the PIU. This will inform the Bank about

capacity building or the need for the recruitment of additional personnel, if any, to ensure effective ES management throughout the project lifecycle.

4.6.3 Implementation period. The Project implementation period is expected to be from Q1 2026 to Q4 2030. The implementation period is expected to be approximately five years to deploy the funds. Many subprojects require significant preparatory work, including feasibility studies, technical designs, ES assessments and procurement documentation (Annex 3).

4.6.4 Implementation readiness.

- (a) Subprojects: The subprojects' list and assessment can be found in Annex 3. Their nature and readiness have been discussed between AIIB and the Municipality of Guaíba to ensure alignment with the Bank's requirements. The elected investments will enhance regional connectivity, address infrastructure bottlenecks, promote climate resilience and support trade facilitation, particularly in relation to Guaíba's export linkages with Asian markets. Any modification to the scope of the existing subprojects or the addition of new ones should be discussed and agreed with the Bank. The respective processes will be detailed in the POM.
- (b) Required clearances/approvals for Project implementation: After the Project is approved by the Board of the Bank, relevant Ministerial Departments from Brazil will review the approved terms of the financing for the Project as part of the government's internal authorization protocol for the Loan Agreement and the Guarantee Agreement. Reviews by the Treasury, fiscal authorities and state departments are required before the final authorization is granted by the Senate of the Federative Republic of Brazil.

4.6.5 Monitoring and Evaluation. Guaíba has a robust M&E framework designed to address the demands of its projects across the municipal geography. The Project will follow a M&E information system approach, which will ensure alignment with the Project RMF, providing visibility into progress, risks and opportunities. The PIU will assume primary responsibility for monitoring the progress and performance of the Project, in accordance with the result indicators outlined in the RMF. The Project will adopt the following institutional set-up, system and reporting mechanism for M&E.

- (a) Institutional Set-up for M&E. The existing M&E team at the PIU will be expanded to coordinate all Project M&E activities and further strengthened to operate the M&E system effectively. Roles and responsibilities for M&E coordination among the relevant municipal secretaries and the PIU are formally defined in the information system's Manual of Procedures and will be further detailed in the POM.
- (b) Main System for M&E. The Project's monitoring and evaluation activities will build on Guaíba's existing municipal information system, currently used to plan, manage budgets and monitor the physical execution of locally funded public works and services. AIIB is already working with the municipality to adapt and expand this system to reflect the Project's structure and components, including modules for procurement, financial management and ES safeguards, ensuring full alignment with AIIB requirements.

- (c) Project Monitoring and Data Management System. The Project's RMF will serve as the foundation for tracking progress toward subproject outcomes, using data collected through Guaíba's municipal information system and operationalized via two Standard Operating Procedures: Control Dashboards and Reports. The Project will adopt an agile, multi-layered monitoring approach, combining real-time data visualization through Control Dashboards with field-level verification. Dashboards will be tailored for team managers across all project stages and updated weekly. The Directorate of Planning and Results Monitoring will oversee system performance and ensure data integrity. The RMF will integrate system-generated data with targeted collection methods such as mobile reporting and periodic site visits. All municipal secretariats and teams involved in implementation will be trained in system use, focusing on data entry, reporting and analysis. The AIIB Project Team will have real-time access to the system and all associated reports.

4.6.6 **Reporting.** Guaíba's information system currently includes a reporting module structured around four key deliverables: Audit Report, Internal Control Report, Management Report and Activity and Performance Report. The system monitoring and reporting tools will be adapted to incorporate AIIB's requirements, including provisions on procurement, ES safeguards and Prohibited Practices. Monitoring findings will be consolidated into progress reports to be submitted to AIIB (Table 2). The POM will define the specific monitoring responsibilities, coordination arrangements and reporting protocols, ensuring transparency and accountability throughout implementation. The Project will finance equipment and targeted capacity building to strengthen Guaíba's M&E functions and enable the PIU to fulfill its responsibilities effectively. To the extent possible, the information system will make Project monitoring data publicly available, embedding processes and information disclosure protocols into the M&E system to proactively raise awareness of the Project's impacts and benefits.

Table 2. Reporting Requirements

No.	Requested Report	Frequency
1	Project progress reports including: <ul style="list-style-type: none"> - Progress achieved by output as measured through the indicators' performance targets in the RMF - Key implementation issues and solutions - Updated implementation plan for the next three months 	Quarterly
2	Interim Unaudited Project Financial Report including: <ul style="list-style-type: none"> - Clear tracking of funding received, their uses and financial progress - Breakdown of project expenditures by project activities and disbursements by sources of finance - Identification of variances from the approved budget - Key financial statements specific to the Project 	Quarterly
3	Project's Audited Financial Statements Financial statements covering project funds for one financial year audited in accordance with International Standards of Supreme Audit Institutions; the audit report and the corresponding Management Letter	Annual
4	ES Monitoring Report	Quarterly

	<ul style="list-style-type: none"> - Report on the summary of ES aspects and overview of the ES performance of the Borrower and subprojects - Summary on the operation of and complaints received under the Grievances Redress Mechanism (GRM) 	
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4.6.7 **Mid-term Review.** A mid-term review will be conducted once USD35 million (equivalent to 50% of the loan amount of USD70 million) has been disbursed, or within two years of loan effectiveness, whichever comes earlier), with the objective of assessing implementation progress, evaluating the performance of Guaíba's PIU and verifying alignment with AIIB's policies and operational requirements. The review will focus on the progress of the subprojects, ES risk management, disbursement efficiency and overall contribution of the financed subprojects to the Project's objectives. Lessons learned during the first implementation phase will inform any necessary adjustments to the POM and institutional arrangements for the remainder of the implementation period.

4.6.8 **AIIB's Implementation Support.** Given AIIB's non-resident status in Brazil, the Bank will rely on a combination of regular direct supervision missions, virtual engagements (including periodic video calls, email exchanges and remote document reviews) and local liaison arrangements to ensure effective implementation support. AIIB will conduct formal implementation support and supervision missions at least twice a year, complemented by quarterly technical review visits. These missions will focus on overall performance, compliance with AIIB policies and resolution of implementation challenges. To provide continuous support and localized oversight, AIIB will engage consultants based in Brazil, who will maintain regular communication with the PIU, monitor implementation progress and flag any emerging risks or bottlenecks to the AIIB team. This hybrid supervision approach ensures consistent engagement throughout the Project lifecycle, while leveraging local presence for timely and responsive support.

5. Project Assessment

A. Technical

5.1 **Project Structure and Implementation Approach.** As borrower and implementing agency, the Municipality of Guaíba leads the identification, preparation and execution of subprojects across key sectors, under a structured investment program that ensures good governance, financial discipline and alignment with sustainability objectives.

5.2 The municipality of Guaíba, situated within the flood-prone Porto Alegre metropolitan region, experienced widespread devastation during the May 2024 floods, triggered by extreme rainfall and hydrological events that overwhelmed local infrastructure. Key vulnerabilities included outdated drainage systems, lack of robust flood defenses and unregulated urban expansion into high-risk zones. Critical infrastructure such as roads, pumping stations and public services was incapacitated, especially in low-lying areas like Santa Rita and around the CELUPA drainage channel. The scale and intensity of the disaster underscored the urgent need for integrated investments to restore functionality, protect communities and build long-term resilience.

5.3 **Subprojects Assessment.** In response, the municipality proposed a set of priority subprojects under its recovery program, guided by a “build-back-better” approach. These subprojects focus on restoring and modernizing flood protection, mobility and economic infrastructure. Approved by COFIEX in December 2024 and incorporated into the Project scope, the selected subprojects are technically interlinked and collectively designed to strengthen urban resilience and economic recovery.

5.4 Planned interventions include rehabilitating macro-drainage systems, constructing urban dikes, developing a Logistics and Industrial Hub in a flood-safe area, reconstructing the city’s waterfront and expanding strategic access routes. These physical works will be complemented by institutional and community-strengthening measures, such as risk management training for municipal staff, public awareness campaigns, climate and environmental monitoring systems and updates to the city’s sanitation master plan. These investments aim to reduce vulnerability, improve emergency response and promote sustainable urban development.

5.5 The subprojects have been screened and assessed in alignment with AIIB’s requirements, ensuring that subprojects are well-prepared, risks are identified and mitigated early and investments remain aligned with Guaíba’s strategic development priorities. Annex 3 has the detailed subprojects’ assessment.

5.6 **Institutional Capacity Strengthening.** In addition to infrastructure investments, the Project includes a dedicated component for institutional strengthening, aimed at enhancing the municipality’s capacity in project management, fiscal planning, procurement, climate adaptation and disaster risk management. The relevance, scope and expected outcomes of these activities ensure alignment with the Project’s development objectives, with particular attention to strengthening public service delivery, enhancing implementation readiness and building long-term resilience.

B. Economic and Financial Analysis

5.7 **Scope of Economic Analysis.** As this proposed Project aims at rebuilding critical infrastructure services to facilitate the restoration of economic activities, trade, connectivity and livelihoods of the affected population, a comprehensive economic and financial analysis was not carried out during Project preparation. However, a preliminary economic analysis estimated the expected Project benefits and costs for selected interventions.

5.8 **Economic Benefits.** The proposed interventions in Guaíba deliver broad economic benefits centered on three key areas (a) flood risk mitigation, (b) industrial revitalization and (c) transport connectivity. Key infrastructure subprojects, such as macro drainage works, protective dikes and expanded strategic road access, will significantly reduce economic losses from flooding, safeguard existing assets and support mobility and logistics. These investments will protect vulnerable urban areas from future climate events, ensuring the continuity of economic activity and reducing the burden of emergency spending. The creation of a Green Logistics and Industrial Hub in a flood-safe area is expected to attract climate-conscious businesses, facilitate regional trade and generate employment, especially for firms displaced by recent disasters. It is expected that economic benefits will outweigh economic costs by far.

5.9 Complementing these physical investments, a series of subprojects will build institutional and community resilience. The reconstruction of the city's waterfront is designed not only to recover commercial vitality and tourism but also to restore civic space and social engagement. Updated sanitation planning and real-time climate monitoring will improve health outcomes and support evidence-based risk management. Training initiatives, for municipal staff and citizens, will increase local preparedness, foster a culture of prevention and lower long-term response costs. Together, these measures will restore investor confidence, boost productivity and promote inclusive and sustainable economic growth in Guaíba.

5.10 The analysis estimated that the total damage suffered by the population due to flooding amounted to approximately USD250 million. The proposed urban drainage and flood protection solutions, with an investment cost of around USD33.7 million, are expected to fully address 60% of the problems, representing avoided damages of approximately USD150 million. Based on this, the Social Return on Investment is calculated at 4.5, meaning that for every USD1.00 invested, USD4.50 in social benefits are generated. When annualized over a 12-year period, the investment payback period is estimated at 7.18 years, demonstrating the economic and social viability of the subprojects.

5.11 The logistics and industrial hub project in Guaíba will generate significant economic benefits through both public and private sector participation. Cost recovery will be achieved via mechanisms such as land sales, partner and increased tax revenues from expanded business activities. The subproject will also boost local GDP and create employment opportunities across multiple sectors, including construction, manufacturing, logistics and support services. Meanwhile, the transport connectivity component will reduce travel times along key trade routes, improve logistics efficiency and lower operational costs. The inclusion of EV charging infrastructure will promote fleet electrification, leading to a measurable reduction in greenhouse gas emissions. By enhancing regional competitiveness and promoting cleaner, more efficient transport systems, the subproject will contribute to sustainable economic development and climate resilience.

5.12 **Credit Analysis.** The three major credit rating agencies (Fitch, Moody's and S&P) currently do not assess the credit worthiness of the Municipality of Guaíba. However, as the loan is guaranteed by the Federal Government of Brazil, the sovereign credit rating of Brazil can be representative of the municipality's credit rating. In 2024, Brazil was rated Ba1 (Positive) by Moody's, BB (Stable) by Fitch Ratings and BB- (Stable) by S&P, reflecting its improving macro-fiscal outlook (Table 3).

Table 3: Brazil Credit Rating Summary

Description	Moody's	Fitch Ratings
Credit Rating	Ba1	BB
Outlook	Positive	Stable

5.13 **Financial Analysis.** The Capacidade de Pagamento / Payment Capacity (CAPAG) is a credit risk framework prepared by the National Treasury of Brazil and it assesses the fiscal capacity of sub-national entities (states, districts, municipalities, etc.) and their ability to incur debt. Under Brazil law,¹ sovereign guarantees for subnational borrowing are governed by a counter-guarantee mechanism, whereby the federal government retains the right to intercept federal transfers to the municipality in the event it makes any payment on behalf of the subnational entity, such as in cases of debt service default.

5.14 Based on the CAPAG results published in June 2025, the Municipality of Guaíba was rated "A," indicating that the municipality can borrow additional debt and remains eligible for federal guarantee on new debt. Table 4 summarizes the Municipality of Guaíba's CAPAG rating.

Table 4: Municipality of Guaíba CAPAG Summary

Indicator	Formula	Value
Indebtedness	Consolidated Debt / Net Current Revenue	10.4%
Current Savings	Current Expense / Adjusted Current Revenue	88.7%
Relative Liquidity	(Net Cash – Financial Obligations) / Net Current Revenue	16.8%

Source: National Treasury of Brazil

5.15 A more detailed assessment of the municipality of Guaíba's creditworthiness is provided in Annex 4.

C. Fiduciary and Governance

5.16 **Procurement.** The Procurement capacity assessment of PIU including staffing system concluded that, with the implementation of risk mitigation measures, Guaíba's existing procurement management systems and capacity are acceptable to implement the project procurement activities agreed in the procurement plan with the help of hands-on support by the Bank.

¹ Complementary Law No. 101/2000 (Fiscal Responsibility Law), Article 40.

5.17 After applying mitigation measures, the residual procurement risk is rated as medium. Key risks include

- (a) Multiple consultant assignments that could result in a high number of transactions and delays in contract management.
- (b) Limited experience among municipal staff in managing MDB-financed procurement.
- (c) Lack of familiarity with AIIB's procurement procedures and systems, which may increase the risk of non-compliance or mis-procurement.
- (d) Potential misalignment between national procurement procedures and AIIB's policy. While national systems may occasionally allow broader access to bid and evaluation details often due to misinterpretations of Right to Information (RTI) regulations, AIIB-financed procurement emphasizes integrity and impartiality by limiting disclosure until the contract is awarded.
- (e) Language-related challenges due to the use of Portuguese for procurement and AIIB's PPMS platform operating in English.

5.18 To mitigate these risks, AIIB and the municipality agreed on tailored procurement arrangements, including the adoption of the World Bank National Competitive Tendering (NCT) model bidding documents to overcome the risk of tender confidentiality. The confidentiality of competing tenders is maintained to protect the commercial interests of bidders. Submitted bids are intended solely for evaluation purposes and are not subject to public disclosure. Evaluation outcomes are communicated to the respective bidders and contract award information is publicly disclosed. Existing safeguards measures are in place to address any misperceptions of transparency in AIIB-financed project procurement such as procurement complaint management, procurement reviews by the Bank, standardized evaluation processes and the publication of awarded contracts. Additional measures include continuous training, deployment of a bilingual procurement consultant for in-country support and AIIB's oversight through prior and post reviews and field missions. These efforts are intended to ensure policy compliance and effective implementation.

5.19 As procurement documents and processes will primarily be conducted in Portuguese and Brazil laws will apply for NCT and National Consulting Services (NCS), the Bank has engaged a local procurement consultant. Fluent in Portuguese and experienced in both MDB procurement frameworks and Brazil's regulations, the consultant will be based in Brazil and provide hands-on support to the client. Responsibilities include delivering procurement training, reviewing tender documents and evaluation reports, supporting field missions and offering on-demand guidance throughout implementation.

5.20 The Municipality of Guaíba has an established procurement system supported by a team of 19 procurement professionals and five staff responsible for contract management. While the PIU has not previously implemented MDB-financed projects, several team members have participated in World Bank and IADB-financed operations at federal and state levels and bring substantial experience in managing government-funded procurement. With continued training and guidance on AIIB procurement requirements, the PIU is expected to manage procurement in full compliance with the Bank's policies.

5.21 **Financial Management (FM):** The FM assessment concluded that, with the implementation of risk mitigation measures, Guaíba's existing FM systems and capacity are adequate to ensure the proper use of Project funds and to support timely and reliable financial reporting on eligible activities.

5.22 After applying mitigation measures, the residual fiduciary risk is rated as medium. Key risks include: (a) unrealistic cost estimates, which may lead to inadequate planning and insufficient budget allocations, resulting in budget overruns and delays in fund availability; (b) limited capacity within the internal audit function, which may delay audit execution and hinder early detection of internal control weaknesses and (c) Guaíba's limited experience in managing the financial management requirements of an MDB-financed operation, which may affect compliance and the reliability and timeliness of project reporting.

5.23 These risks will be mitigated with cost estimates prepared by technical experts within the PIU and reviewed and cleared by the Bank as part of the annual work plan. The PIU will also prepare quarterly progress reports, including budget versus actual expenditure, to enable close monitoring and timely corrective actions. FM capacity will be strengthened by appointing a dedicated FM staff member to coordinate the Project's FM functions and ensure compliance with Bank requirements. The Bank will also deliver FM and disbursement training and provide ongoing support throughout implementation. To address internal audit constraints, the Project's internal audit framework will be further strengthened through the engagement of an audit firm.

5.24 **FM Staffing.** The Project's FM functions will be carried out by the Secretariat of Budget and Finance, under the coordination of the PIU. The Secretariat includes approximately 21 professionals experienced in planning, budgeting, execution, accounting and internal control, and it works closely with the municipality's Office of the Comptroller General. The municipality's General Accountant has been formally appointed as the dedicated FM staff within the PIU, responsible for overseeing day-to-day FM activities in line with the Bank's requirements.

5.25 As the Budget and Finance Department has limited experience with AIIB-financed operations, the Bank will provide formal training on FM and disbursement procedures. Ongoing support will also be offered throughout project implementation to ensure compliance with the Bank's policies.

5.26 **Planning and Budgeting.** Systematic budgeting procedures are in place, ensuring timely approval of the annual budget and regular monitoring of budget execution to support informed decision-making. The municipality budget cycle will integrate the planning and execution of all Project activities. The FY2025 budget includes initial provisions for project preparation. The Project will also be incorporated into the Municipality's Multi-Year Investment Plan (PPA) for 2026–2029, as well as the corresponding Budget Guidelines Law (LDO) and Annual Budget Law (LOA).

5.27 Project-specific budget classifications will be established in line with the National Treasury Secretariat's Chart of Accounts. Separate budget lines will be created for counterpart and AIIB financing to ensure clear allocation and tracking of expenditures by funding sources.

5.28 The municipality has mechanisms to promptly issue budget supplements (in coordination with the municipal legislative branch), minimizing delays. However, it is essential that budget estimates are realistic. The Bank's team will review and approve the annual work plan to confirm that proposed budget amounts are adequate. Additionally, quarterly progress reports will include budget execution updates to monitor funding availability against implementation progress.

5.29 **Accounting and Reporting.** The municipality has an integrated financial management system (IPM) that interfaces with the Contract Management system and the banking platform. The municipality's IPM supports key functions including planning and budgeting, budget execution and financial administration, complying with national standards established by the National Treasury Secretariat. These standards include the Manual of Accounting Applied to the Public Sector (MCASP), the Chart of Accounts Applied to the Public Sector (PCASP) and the Brazilian Public Sector Fiscal and Accounting Information System (SICONFI), ensuring alignment with transparency and fiscal responsibility frameworks.

5.30 The IPM system enables the creation of specific codes to clearly track Project transactions by financing source, component, category and activity. It can generate financial reports in formats aligned with AIIB requirements, either directly or through Excel using system-generated data. All system configurations will be finalized within 30 days of Project Effectiveness. During implementation, the PIU will submit quarterly Interim Unaudited Financial Reports (IUFRs) on a cash basis within 30 days of each quarter-end, with the designated FM staff responsible for their preparation and submission to AIIB.

5.31 **Internal Controls and Internal Audit.** The municipality's Public Financial Management framework is governed by Brazil's Constitution and relevant laws, with established segregation of duties and transaction authorizations. Oversight bodies, such as the State Court of Accounts (TCE) and the State Comptroller General (CGE), regularly interface with the IPM system to ensure legal compliance.

5.32 The Internal Control Unit (ICU) is staffed with four personnel, including three professionals with varying expertise: one with experience in legal and administrative matters, one with a background in accounting and auditing and another with experience in procurement and reverse auction processes.

5.33 The ICU reports directly to the Mayor's Office and is responsible for conducting both financial and compliance audits. The ICU's audit plan will include Project-specific audits starting in 2026 and continuing throughout implementation. Internal audit plans are approved by the Mayor's Office before the start of each fiscal year. Semi-annual audits will be conducted, with reports submitted within four months of each reporting period.

5.34 While the ICU is operational, its current capacity is considered inadequate. Therefore, the Project's internal audit capacity will be further strengthened through the engagement of an audit firm. This support will help ensure effective execution of the internal audit and compliance with the Bank-approved Terms of Reference. The ICU will retain full responsibility for providing oversight of work completed by the audit firm and ensuring the selected firm is acceptable to the Bank and interacting with the State Court of Accounts of Rio Grande do Sul (TCE-RS). Final audit reports, including departmental responses to any findings, will be submitted to the ICU, which will remain responsible for presenting the findings to the Mayor's Office and the

PIU. For any identified weaknesses, a time-bound action plan will be required and progress on implementation will be tracked through the Project progress reports. The internal audit firm should be in place no later than three months after project effectiveness.

5.35 In addition to existing regulations and guidelines, the Project's FM function will be guided by a Bank-approved POM, which outlines the applicable FM procedures and processes. This manual will serve as a key reference throughout Project implementation and audit execution.

5.36 **External Audit.** External audits of the municipality are conducted in accordance with International Standards for Supreme Audit Institutions, which also apply to the Office of the Comptroller General (CGU) and the Federal Court of Accounts (TCU). For the Project, annual external audits will be carried out by an independent audit firm or institution acceptable to the Bank, based on the external audit ToR agreed between the Municipality and the Bank.

5.37 Annual audit reports will be submitted to AIIB no later than six months after the end of each financial year. Each report, as specified in the ToR, will include the auditor's opinion, audited financial statements and a management letter outlining any identified internal control weaknesses, along with responses from the PIU.

5.38 **Disbursements and Funds Flow:** The Project will use three disbursement modalities, Advance, Reimbursement and Direct, along with a retroactive financing facility of up to 20% of the total loan amount.

5.39 For Advance disbursements, a segregated United States Dollar Designated Account and a corresponding Brazilian Real project operational account will be opened at Banco do Brasil, the largest commercial Bank in Brazil, majority-owned by the federal government. Funds will be requested based on a six-month cash forecast, and once approved, AIIB will transfer funds to the Designated Account. The Municipal Treasury Secretariat will then transfer the funds to the operational account for project-related expenditures in Brazilian Reals. These accounts will be exclusively for Project use, with no co-mingling allowed. Counterpart funds will be managed through the municipality's existing accounts. All required bank accounts and the Authorization Signature Letter must be completed and submitted by Project Effectiveness.

5.40 **Governance and Anti-corruption.** AIIB is committed to preventing fraud and corruption in the projects it finances. It prioritizes strict adherence to its Policy on Prohibited Practices (2016) to ensure that all financed projects comply fully with its standards. The Bank retains the right to investigate, either directly or through its agents, any suspected instances of corruption, fraud, collusion, coercion, obstruction, misuse of resources or theft related to the Project and its subprojects. AIIB will take necessary actions to prevent and address such issues in a timely and appropriate manner. Specific requirements will be outlined in the Loan Agreement and the POM.

5.41 **Cybersecurity.** Guaíba plays a key role in addressing local cybersecurity challenges through a comprehensive, layered security framework. The municipal government has implemented robust policies, including Municipal Law No. 2.385/2008, which regulates the use and protection of information and information technology resources within the Executive Branch; this policy is currently under revision to reflect recent legal requirements and cybersecurity best practices. The municipality's systems employ secure development

protocols, certified security seals and continuous monitoring by an in-house team, supported by collaboration with local cybersecurity institutions.

5.42 Sensitive data is hosted in Tier III-certified, redundant data centers, with strong backup and disaster recovery plans to ensure continuity. Technical and administrative safeguards align with Brazil's General Data Protection Law (LGPD), supported by an auditable system and a technical note confirming LGPD compliance. Oversight of information security is managed by the Information Technology Coordination Unit, with LGPD policy enforcement handled by the Municipal Comptroller General. During project due diligence, AIIB will carefully assess the adequacy of these cybersecurity systems and protocols, paying particular attention to measures protecting data and systems associated with its financing and implementation. These comprehensive efforts position Guaíba among the top-ranking municipalities in southern Brazil for cybersecurity and reflect its strong commitment to digital security.

D. Environmental and Social

5.43 **Environmental and Social Policy and Categorization.** AIIB's Environmental and Social Policy (ESP), including its Environmental and Social Standards (ESSs) and the Environmental and Social Exclusion List (ESEL), will apply to this Project. An initial review has determined that ESS 1 (Environmental and Social Assessment and Management) is applicable for evaluating the environmental and social impacts of project activities. ESS 2 (Involuntary Resettlement) is also likely to be relevant, while ESS 3 (Indigenous Peoples) will not apply.

5.44 While most of the identified subprojects, as listed in Annex 3, are expected to fall under Category B, the overall Project has been classified as Category A under AIIB's ESP. This precautionary classification accounts for the potential that one or more subprojects may involve significant ES risks. Specifically, the urban flood protection dikes and waterfront redevelopment subprojects may cause significant environmental impacts associated with earthworks and altered hydrological flows. The Category A classification reflects the possibility of substantial impacts during both construction and operational phases, necessitating comprehensive site-specific ES assessments, as well as the implementation of robust mitigation and management measures.

5.45 **Environmental and Social Instruments.** In correspondence to Section VI, E, Item 54 of ESP, the use of a phased approach on ES assessment is adopted for this Project to support the effective design and seamless implementation of the various subprojects. Due to the multi-sectoral and phased nature of the Project, in which not all activities or detailed designs of the subprojects are confirmed, the municipality was required to establish an Environmental and Social Management Planning Framework (ESMPF) clearly describing how key potential ES risks associated with Project activities will be screened, assessed, monitored and managed. The ESMPF defines which ES instruments each subproject will require based on the screening of each subproject's characteristics and design. Additionally, the ESMPF identifies institutional arrangements, roles and responsibilities and includes provisions for stakeholder engagement, grievance redress, information disclosure and capacity building for PIU. It also includes mechanisms for estimating and budgeting the costs of implementing any required measures and determining the schedule for implementing these measures. The ESMPF was finalized and disclosed on July 24, 2025. Subproject ES instruments will be required prior to the

commencement of work. Timelines for preparation, disclosure and finalization of these subproject specific instruments will be included in the POM.

5.46 In addition to the ESMPF, the municipality was also required to prepare a Resettlement Policy Framework (RPF) to guide any potential land acquisition processes, ensuring that such actions, if necessary, are conducted in accordance with ESS 2. Furthermore, a Stakeholder Engagement Plan (SEP) was prepared to outline the process for identifying stakeholders, disclosing relevant information and maintaining meaningful engagement throughout the Project cycle. A specific Project GRM has been established to provide clear procedures for community members and workers to submit complaints and for those grievances to be assessed and resolved in a transparent and timely manner.

5.47 **Environment Aspects.** With a focus on sustainable urban development and a view to “building back better,” incorporating urban climate resilience concepts, including infrastructure resilience and nature-based solutions where possible, the Project is expected to yield multiple environmental benefits including improved drainage, sanitation, flood control, erosion protection, early warning and emergency response and enhanced resilience to climate change impacts. There may be adverse impacts associated with construction/reconstruction works, including vegetation removal, soil erosion and compaction, impacts to biodiversity and pollution from spills and improper waste management. While none of the subprojects are expected to involve dredging, the proximity of the city to Lake Guaíba means that there may be impacts on this water body from construction activities, including excess sedimentation and deterioration in water quality. Considering the potential impacts on Lake Guaíba, a baseline water quality study will be required prior to the subproject ES assessments. This requirement will also be reflected in the POM and loan covenants. Other baselines, such as noise, will be established as part of subproject ES assessments in accordance with the ESMPF. Site-specific risks and impacts will be assessed, managed and monitored in accordance with the ESMPF and the required subproject ES instruments.

5.48 During the operations phase, there may be increased noise associated with the use of reconstructed/rehabilitated roads and potential environmental impacts of industrial activities (mainly technological and logistics-related) in the Industrial Area. Furthermore, new flood protection infrastructure may significantly alter the hydrology of the area and cause downstream impacts. Designs will be informed by detailed studies and the necessary mitigation measures will be incorporated.

5.49 **Social Aspects.** The Project is expected to generate significant positive social impacts by improving access to essential services, enhancing the quality of life and creating local employment opportunities. As the detailed design of the subprojects have not yet been finalized, efforts will be required to minimize and, where possible, avoid the need for involuntary resettlement.

5.50 It is not foreseen that any of the sub-projects will result in significant resettlement or land acquisition. However, should such issues arise, they will be addressed in accordance with the RPF, which follows AIIB’s ESS 2. This will ensure that appropriate safeguards are implemented to mitigate any potential adverse impacts on affected persons and communities.

5.51 During construction, the primary social impacts could be construction-related disturbances, such as noise, dust emissions and restricted access, which could temporarily

disrupt local communities, particularly those near construction sites. To mitigate these impacts, the Project will implement dust suppression measures, noise control strategies and proactive stakeholder engagement to inform residents about construction schedules and road access. Additional risks to community health and safety have been addressed through the ESMPF. Despite these temporary inconveniences, the Project is expected to generate significant socioeconomic benefits for Guaíba, including local job creation, skills development opportunities and improvements to essential infrastructure such as roads, parks and public facilities. Moreover, by enhancing urban resilience, particularly through better flood management systems, the Project can help mitigate the long-standing issue of flooding in the municipality.

5.52 Occupational Health and Safety, Labor and Employment Conditions: Municipalities in Brazil provide good working conditions for their staff and adhere to Brazil's Labor Law, which ensures fair labor practices, competitive salaries and comprehensive benefits in the public sector. As part of its ESMPF, the Municipality of Guaíba will screen all subprojects for potential labor and working condition issues, utilizing the regularly updated government database to identify any non-compliant entities.

5.53 The ESMPF also establishes clear requirements to identify and mitigate health, safety, social and environmental risks associated with subproject activities that could impact employees and disrupt site operations. Brazil's labor laws set high standards for occupational safety and health (OSH) which is aligned with ESS 1, and worker awareness of these regulations is strong. To ensure continued compliance, regular monitoring site visits will be conducted across subprojects to verify adherence to these labor standards and safety protocols.

5.54 Stakeholder Engagement, Consultation and Information Disclosure. Meaningful and inclusive stakeholder engagement, a core component of the Project, has been carried out during the preparation of the ESMPF, Environmental and Social Impact Assessment (ESIA) and related ES instruments. This engagement process was designed to ensure the active participation of all relevant stakeholders, including project-affected parties, local communities and other key groups. These consultations will be continuously strengthened and expanded upon as the ESF and related subproject instruments are finalized, ensuring that stakeholder concerns and feedback are effectively incorporated into the decision-making process.

5.55 In parallel, a comprehensive SEP has been developed and will be implemented throughout the entire Project cycle. The SEP identifies stakeholders and outlines clear strategies and actions for engaging different stakeholders in a culturally appropriate and meaningful way. It also specifies the roles and responsibilities of project management and implementation units in ensuring effective and ongoing stakeholder consultation and feedback mechanisms from preparation to implementation and beyond. The SEP and Project ES instruments were disclosed on AIB's website, in compliance with the ESP.

5.56 Project Grievance Redress Mechanism: The Municipality of Guaíba has established a GRM that enables both workers and residents to submit grievances and suggestions (<https://guaiba.atende.net/cidadao/pagina/guaiba-mais-resiliente>). A due diligence review was conducted on the existing GRM and confirmed its alignment with international best practices. Furthermore, a project-specific channel has been established and is available for

all stakeholders, including workers and local communities, to raise concerns and complaints. Locally appropriate public consultation and information disclosure processes have been implemented and will continue to be implemented to raise awareness about the GRM, ensuring transparency and accessibility for all affected parties. Additionally, the GRM provides for the establishment of a separate grievance mechanism at the contractor level to address worker-specific grievances, ensuring that labor-related issues are adequately managed and resolved.

5.57 Bank's Project-Affected People's Mechanism. AIIB's Policy on the Project-affected People's Mechanism (PPM) will apply to AIIB investments. 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 where 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>

5.58 Monitoring and Supervision Arrangements. Prior to the commencement of works, the Municipality of Guaíba will be required to prepare subproject ES instruments in accordance with the ESMPF to assess, manage and monitor the ES impacts of subprojects. AIIB's ES specialists will conduct a detailed due diligence review of these instruments to ensure they meet the Bank's standards and requirements and effectively address project-related risks throughout the Project lifecycle. During implementation, the PIU will be required to prepare quarterly ES monitoring reports for submission to AIIB. AIIB will supervise the subprojects by reviewing these reports and conducting periodic site visits to subproject locations.

E. Climate Change

5.59 Climate Change. Brazil has the largest land area in South America. It has an extensive coastline to the east, covering over 7,491 km, along the Atlantic Ocean and a land area of 8,510,295 square kilometers, making it the fifth largest in the world. Coastal hazards such as erosion, storm tide inundation and permanent flooding can have strong adverse impacts on Brazil's coastal regions, leading to loss of shores, damage to settlements, infrastructure and ecosystems. Across Brazil, climate change is already manifesting through higher temperatures, shifting rainfall patterns and more frequent extreme weather events. National studies (e.g., by the Ministry of Environment, the Brazilian Panel on Climate Change and the National Institute for Space Research [INPE]) have consistently identified several major impacts, including rising temperatures, changes in rainfall and associated flooding. The southern region of Brazil has seen a marked increase in the frequency and intensity of heavy rainfall events, especially during spring, and in summer, it has been experiencing more frequent and intense heatwaves. These events stress urban infrastructure and increase health risks.

5.60 Guaíba sits on the western shore of the Guaíba Lake, which receives inflows from four major rivers (the Jacuí, Sinos, Gravataí and Caí) before its waters discharge into the Atlantic Ocean through the Lagoa dos Patos. The municipality's terrain is predominantly flat and lies at low elevation near the lake, though it is interspersed with several hills.

5.61 The functionality of regional and local environmental systems is strongly conditioned by climatic and hydrological variables, whose instability has increased in recent decades, making the region extremely vulnerable to climate-related risks. The municipality of Guaíba, inserted in a lacustrine and deltaic area of high sensitivity, has faced a rise of extreme weather events, particularly more intense rainfalls, leading to severe flooding and the failure of much of its critical infrastructure. The region has a humid subtropical climate with distinct seasonal variations, characterized by hot summers and relatively mild winters. Annual precipitation averages around 1,400 mm; however, it is predicted that more severe extreme rainfall is likely under nearly all future climate scenarios. A more detailed assessment of specific climate risks and associated adaptation measures is provided in Annex 6, Paris Agreement Alignment Assessment. Accordingly, the demands for effective disaster risk management are increasing and this Project will address these needs as part of the project components.

F. Gender Aspects

5.62 **Gender Aspects:** The Project presents opportunities to promote gender equality by increasing women's employment; however, it also recognizes potential gender-related risks during the construction phase, including threats to women's health, safety and well-being. Both the construction and operational phases may pose risks such as gender-based violence (GBV) and sexual harassment, which will require proactive and robust mitigation measures.

5.63 To address these risks, a Gender-Based Violence and Sexual Harassment (GBV/SH) Management Plan has been developed and incorporated into the ESMPF. This plan outlines measures to prevent, mitigate and respond to gender-related risks while ensuring a safe and inclusive work environment. Furthermore, at the contractor level, a specific GBV and Sexual Exploitation and Abuse (SEA) Action Plan will be required as part of the Construction Environmental and Social Management Plan (CESMP) to ensure that gender considerations are fully integrated into project planning and implementation.

G. Risks and Mitigants

5.64 Table 5 presents a summary of Project risks and mitigating measures.

Table 5: Summary of Risks and Mitigating Measures

Risk Description	Assessment (H/M/L)	Mitigation Measures
Project Preparation Risks		
Policy and government risk		
<ul style="list-style-type: none"> ▪ Weak implementation capacity and lack of coordination among government levels. 	M	<ul style="list-style-type: none"> ▪ By defining clear roles in the POM and establishing a coordination mechanism among federal, state and municipal

Risk Description	Assessment (H/M/L)	Mitigation Measures
		<p>entities, coordination should be maintained.</p> <ul style="list-style-type: none"> ▪ To establish a well-staffed PIU, which will provide targeted technical assistance, and embed capacity-building measures, institutional capacity should be strengthened.
Project Implementation Risks		
Land acquisition and resettlement		
<ul style="list-style-type: none"> ▪ Community opposition and delays due to land acquisition. 	H	<ul style="list-style-type: none"> ▪ The subproject design will seek to avoid resettlement and land acquisition. ▪ The municipality has prepared an RPF for cases where resettlement and land acquisition cannot be avoided, addressing procedures for managing such impacts in accordance with ESS2.
Financial management		
<ul style="list-style-type: none"> ▪ Unrealistic cost estimates may lead to budget overruns and delays in fund availability due to inadequate planning and budgetary provisioning. ▪ Limited experience with AIIB or other MDB FM requirements may impact compliance and timely, reliable reporting. 	M	<ul style="list-style-type: none"> ▪ Bank review and clearance of annual work plans enable adequate budgetary planning. Quarterly monitoring of budgetary execution that facilitates timely action is required. ▪ FM arrangements can be strengthened by appointing dedicated FM staff to the Project; internal audit unit capacity can be reinforced by hiring an internal audit firm and streamlining applicable FM systems and procedures through POM. ▪ Provide targeted training to municipality finance staff and ensure regular AIIB supervision (by Bank staff and Consultant) and independent financial audits conducted in accordance with Bank approved TOR, to monitor compliance and performance.
Procurement		
<ul style="list-style-type: none"> ▪ Lack of procurement capacity of the PIU to handle MDB-financed project procurements with poor know-how for procurement planning, though no large and complex packages are anticipated under the Project. ▪ Substantial deviation from AIIB's procurement policy where it conflicts with national procurement law. For example, national procedures allow bidders to access competing bid 	M	<ul style="list-style-type: none"> ▪ Procurement training on AIIB procurement policy and procurement guidance and support will be continuously provided during the project implementation. ▪ Procurement training provided to PIU staff will emphasize the need for confidentiality during tender evaluations. Any pre-tender briefings provided to potential tenderers will also emphasize the need for confidentiality and highlight

Risk Description	Assessment (H/M/L)	Mitigation Measures
<p>submissions or evaluation details before the tender evaluation is finalized, potentially undermining transparency. Reliance on the national process could result in prolonged complaining periods that delay contract awards. Although the public e-procurement system does not provide access to the full content of competing bids, deviations may still occur at the PIU level due to misconceptions about what transparency requires.</p>		<p>relevant provisions in the tender documents.</p> <ul style="list-style-type: none"> ▪ Targeted procurement process and procedural arrangements tailored for the Project have been made and agreed upon with the Recipient, including the adoption of the World Bank NCT model bidding documents for goods and works, to address potential shortcomings in national procurement legislation. ▪ Using World Bank/AIIB standard procurement documents and adhering to MDB procedures will help mitigate such risks and ensure consistent application of best practices. ▪ A local language speaking procurement consultant versatile in both MDB procurement policies and national procurement laws has been hired by the Bank to provide strong field support and supervision to the Project. ▪ Clear communication on grievance mechanisms and transparent handling of complaints will further build trust and reduce potential disputes. ▪ AIIB Project team will conduct the necessary prior and post review of procurement processes utilizing the PPMS as well as field visits.
ES risks and impacts during construction and operation		
<ul style="list-style-type: none"> ▪ ES risks include but are not limited to noise and dust generation, waste generation, biodiversity impacts, traffic disruptions, health and safety issues and labor issues. 	H	<ul style="list-style-type: none"> ▪ The client was required to prepare an ESMPF to assess the ES impacts of subprojects' activities and identify mitigation measures to meet the requirements of local legislation and AIIB's ESP. ▪ ES instruments will be implemented, supervised, monitored and reported regularly to AIIB. AIIB will carry out field-based ES supervision missions to monitor the ES instruments' implementation and the Borrower's ES performance

Annex 1: Results Monitoring Framework

Project Objective		To restore and upgrade trade-enabling infrastructure affected by the floods in the municipality of Guaíba, Rio Grande do Sul, to improve connectivity and enhance climate and flood resilience.									
Indicator Name	Unit of measure	Baseline	Cumulative Target Values					End Target 2031	Data source/ Methodology	Responsibility	
		2025	2026	2027	2028	2029	2030				
Project Objective Indicators											
1	Reduced distance between trade routes	km	45.5	45.5	45.5	45.5	26.5	21.5	21.5	Special Projects Office	Guaíba Municipality
2	Area under enhanced flood protection for a 100-year return period	ha	0	0	0	414	1,414	2,470	2,470	Special Projects Office	
3	Population protected against flood events for a 100-year return period	Number	0	0	0	0	5,918	29,596	29,596	Special Projects Office	
4	Number of people with access to early warning systems, gender-disaggregated (target: 51% women)	Number	4,795	4,795	19,795	34,795	49,795	65,047	65,047	Special Projects Office	
Intermediate Results Indicator											
Component A: Investments in urban drainage and flood protection											
1	Length of new and improved drainage channels installed	km	0	0	5.6	5.6	5.6	5.6	5.6	Special Projects Office	Guaíba Municipality
2	Length of dikes constructed or rehabilitated	km	0	0	0	0	5	8	8	Special Projects Office	Guaíba Municipality
3	Extension of waterfront protected or rehabilitated	km	0	0	0	0	5.38	9	9	Special Projects Office. Start at Florida + Centro + Engenho + Alvorada	Guaíba Municipality

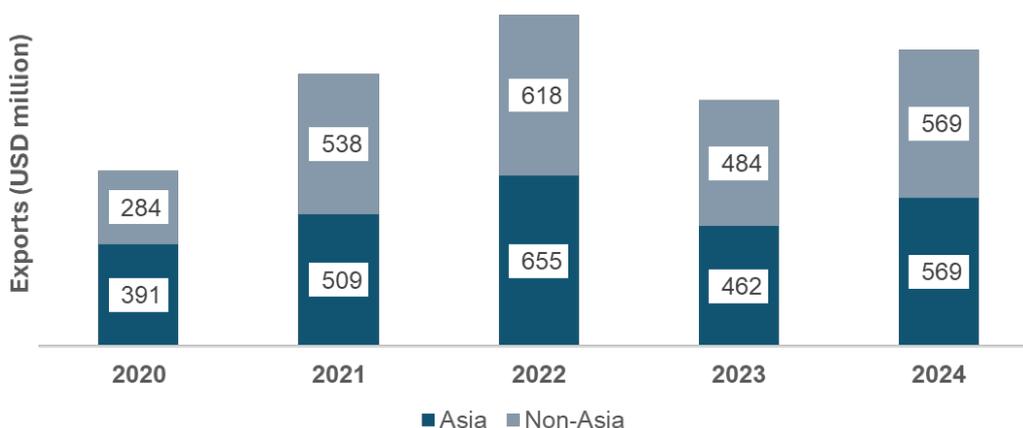
4	Number of nature-based solutions implemented along the waterfront	Number	0	0	0	0	3	6	6	Points of the territory where the water of Lake Guaíba invades at a level lower than 2m.	Guaíba Municipality
Component B: Investments in the construction of a green logistics and industrial area											
5	Area of the developed logistics and industrial area	ha	0	0	0	50	150	200	200	Secretariat of Economic Development and Innovation	Guaíba Municipality
6	Number of companies installed in the industrial and logistics zone	Number	0	0	0	0	5	10	10	Secretariat of Economic Development and Innovation	Guaíba Municipality
Component C: Investments in urban infrastructure and transport access											
7	Extension of resilient urban roads	km	0	0	0	0	8.5	12.8	12.8	Infrastructure and Urban Services Secretariat	Guaíba Municipality
Component D: Investments in climate monitoring, disaster risk management and sanitation improvement											
8	Number of municipal employees trained in disaster risk mitigation and emergency response, disaggregated by gender (target: 51% women)	Number	0	0	200	400	600	800	800	HR Administration Secretariat Management School	Guaíba Municipality
9	Real-time hydrological/water quality monitoring system established and operational to improve flood warning and preparedness	Yes/No	No	Yes	Yes	Yes	Yes	Yes	Yes	Civil Defense	Guaíba Municipality

Annex 2: Guaíba's Trade Profile

1. **Economic Profile.** Guaíba's economy is primarily based on industry and services, with notable emphasis on pulp production and the automotive sector. According to data from the Brazilian Institute of Geography and Statistics (Instituto Brasileiro de Geografia e Estatística or IBGE), the Municipality's gross domestic product (GDP) reached approximately BRL5.2 billion (USD1.5 billion) in 2021. Of the total value added, 33.9% came from services, followed by taxation (36.6%), industry (21.3%), public administration (7.3%) and agriculture (0.8%).

2. **Exports to Asia.** In 2024, the Municipality of Guaíba exported approximately USD1.1 billion in goods to international markets, with nearly 90% of this value attributable to wood pulp exports. Of the total, USD569 million, or about 50%, was directed to Asian economies. Historically, the distribution of Guaíba's exports between Asian and non-Asian markets has remained relatively balanced. This underscores the significant and sustained trade relationships that Guaíba-based enterprises maintain with Asia.

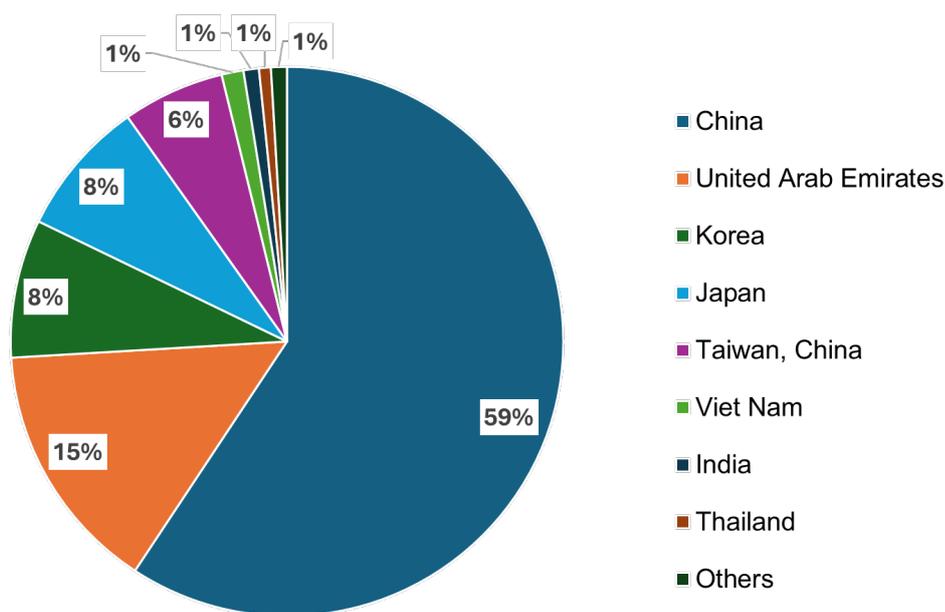
Figure A2.1. Guaíba Exports 2020-2024



Source: Comex Stat

3. **Wood Pulp Exports.** The primary driver of Guaíba's exports to Asia is the CMPC Celulose Riograndense pulp mill, one of the largest pulp production facilities in Latin America. Operated by the Chilean company CMPC, the mill produces high volumes of bleached eucalyptus kraft pulp (BEKP), a key raw material used globally in the manufacturing of tissue, printing and specialty papers. The facility benefits from direct logistical access to the Port of Rio Grande via truck and barge, enabling efficient exports to major Asian markets including China, Japan, Korea and the United Arab Emirates (UAE). In 2024, wood pulp accounted for 97.8% of Guaíba's total exports to Asia. Figure A2.2 presents the distribution of wood pulp exports across key Asian economies in 2024.

Figure A2.2. Distribution of Guaíba Wood Pulp Exports to Asia in 2024



Source: Comex Stat

4. China is by far the largest Asian destination for Guaíba’s wood pulp exports, driven by its vast demand for raw materials for paper and hygiene products. The pulp is typically exported in large volumes via containers or bulk shipments through the port system, with operations often coordinated from the Porto Alegre metropolitan area.

5. **Trade Agreements.** To facilitate its trade with Asia, Brazil has engaged in both bilateral and multilateral trade agreements largely through its membership in Mercosur (The Southern Common Market) trade bloc. In 2018, Mercosur and Korea began negotiations for a Free Trade Agreement (FTA) to facilitate investment between Korea and Mercosur member economies. Similarly, Mercosur and Japan have held exploratory talks on strengthening trade and facilitating investments.

6. While Brazil prefers to negotiate as a Mercosur member, it maintains various bilateral economic dialogues, cooperation agreements and investments with many Asian economies, particularly with China. In 2004, the China–Brazil High-Level Commission for Coordination and Cooperation (Comissão Sino-Brasileira de Alto Nível de Concertação e Cooperação or COSBAN) was established as the primary mechanism for high-level dialogue and cooperation between the two economies.

Annex 3: Technical Description of the Project

Background and Context

1. In May 2024, the municipality of Guaíba in the state of Rio Grande do Sul faced one of the most devastating disasters in recent memory. A combination of extreme rainfall, upstream hydrological overflow and insufficient urban drainage led to unprecedented flooding that affected over 500,000 people. This climate event revealed the extent of vulnerabilities within the city's urban infrastructure, particularly in low-lying areas adjacent to Lake Guaíba and the surrounding watershed. Dams, levees and drainage channels, many of which were constructed decades ago, proved inadequate in containing and redirecting floodwater. As a result, neighborhoods such as Santa Rita, Jardim dos Lagos and Cohab were submerged for several days, resulting in loss of property, forced displacement and significant economic disruption.

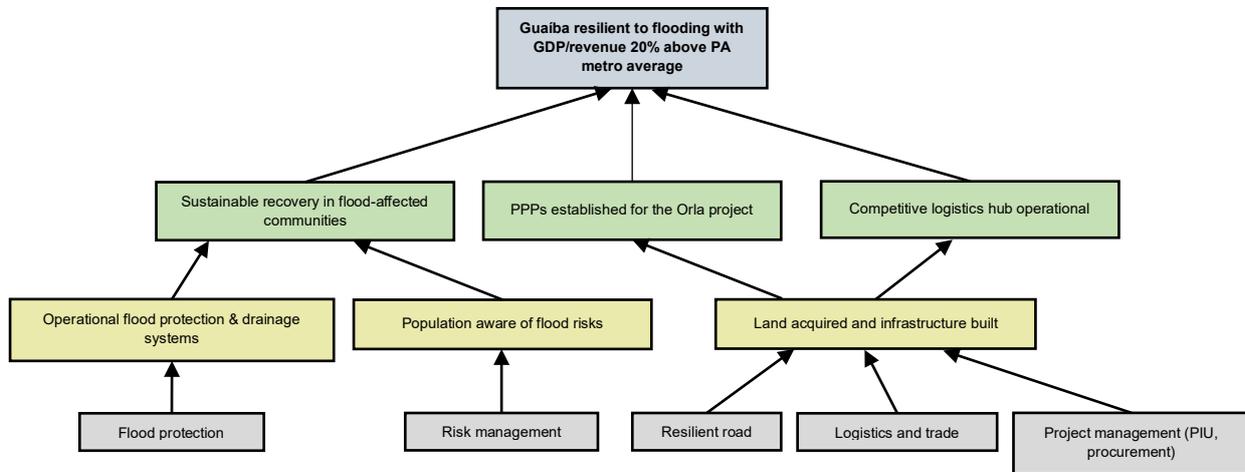
2. This context catalyzed the urgent development of an integrated municipal recovery and resilience strategy. In response, the city proposed a program to rebuild critical infrastructure, reduce future flood risk and strengthen local capacity for climate adaptation. The proposed interventions aim to align with international frameworks such as the Sendai Framework for Disaster Risk Reduction and promote sustainable, climate-resilient urban development.

Project Strategy and Theory of Change

3. The overarching objective of the Recovery and Trade-Facilitation Project in Guaíba, Rio Grande do Sul Project is to build long-term resilience to climate shocks while revitalizing the local economy. The strategy is underpinned by a theory of change that emphasizes sequenced and integrated investments across multiple sectors. This includes: (a) foundational infrastructure to protect against recurring flood hazards; (b) targeted economic investments to attract private sector development and (c) community-level interventions to foster public awareness, preparedness and institutional capacity.

4. The rationale is that resilience is multidimensional, requiring both structural defenses and adaptive social systems. By addressing infrastructure deficits and promoting economic revitalization in tandem, the program aims to transform Guaíba into a regional node for sustainable development and logistics. This strategic vision is consistent with the city's master plan and regional goals for connectivity, economic inclusion and environmental stewardship.

Figure A3.1: Theory of Change



Subprojects Overview

5. The Guaiba Recovery and Trade-Facilitation Project is a comprehensive initiative designed to respond to the catastrophic flooding that affected the municipality in May 2024. The Project includes a suite of subprojects focused on improving climate resilience, enhancing infrastructure and promoting economic development, selected based on criteria such as flood impact severity, criticality to connectivity, potential for economic recovery and readiness for implementation.

6. This summary outlines key components of the program, highlighting objectives, technical considerations and critical risks.

- (a) The CELUPA Macro Drainage Channel upgrade is a priority due to its strategic role in flood protection. The recent flooding events exposed the need for recalibrated hydraulic modeling. The subproject is technically advanced, but it must incorporate updated risk parameters and modeling techniques. Risks include contractor performance and inadequate quality control; strict supervision and robust procurement processes are essential.
- (b) Urban Flood Protection Dikes are planned for areas like Santa Rita and Rio Coelho. These structures will mitigate flood risks and enable safe development. The intervention may include nature-based solutions, such as wetland expansion and green infrastructure, to supplement traditional defenses. Challenges include earthwork volume uncertainty and unverified topography, while final hydrological assessments will be vital to cost precision.
- (c) The Logistics and Industrial Hub will consolidate freight and industrial activity in a strategically located, flood-safe zone. It also includes internal circulation roads, flood protection and drainage systems, basic utilities (water, power, sanitation), logistics support facilities (e.g., loading bays, parking, security) and site preparation. This climate-resilient site near key corridors BR-116 and BR-290 offers direct access to regional and national trade routes, making it highly attractive for investors. Integrating

the hub into mobility and land use plans is essential and addressing potential traffic bottlenecks is a priority for sustainable implementation.

- (d) The Waterfront Redevelopment ('Orla') aims to restore urban identity and strengthen flood defenses through a multi-use corridor of cultural, recreational and resilient infrastructure. The concept includes green spaces, a marina, piers and public transport terminals. Public expectations are high and successful delivery depends on multi-stakeholder collaboration, careful phasing and dedicated project oversight.
- (e) Strategic Access Roads will improve inter-city mobility, especially toward Barra do Ribeiro. Current bottlenecks and limited connections hinder logistics and emergency response. The road expansion will reduce congestion and unlock economic flows, but it requires upfront studies, cost modeling and integration into a mobility plan.
- (f) The Basic Sanitation Plan Update will align Guaíba with national service standards and coordinate with the private operator CORSAN-AEGEA. The success of this regulatory and planning tool will depend on integration with water-sector infrastructure and the quality of consultancy services.
- (g) The Risk Management Training Program focuses on training over 800 municipal staff to improve emergency response and risk management. It must be adapted to staff needs and supported by technical partnerships with universities or specialized agencies.
- (h) The Environmental and Climate Monitoring System will allow real-time tracking of hydrological variables. The technical design must be based on decision-making needs and supported by either integrated technologies or customizable solutions, depending on capacity and cost-benefit analysis.
- (i) The Public Awareness Training Program targets 10,000 citizens to strengthen preparedness and knowledge of risks. This intervention aligns with good international practices and must be designed to reach diverse segments of the population through appropriate community-based organizations.

Table A3.1: Implementation Readiness, Assessment and Mitigation Strategy

Subproject	Implementation Readiness	Next Step	Assessment and Mitigation Strategy
Rehabilitation and Upgrade of CELUPA Macro Drainage Channel	Executive Project	Update engineering to reflect 2024 flood data	Revise hydraulic models, enforce procurement standards
Construction of Urban Flood Protection Dikes - Arroio do Conde	Conceptual	Contract engineering services	Integrate updated flood risk from Jacui River
Construction of Urban Flood Protection Dikes - Santa Rita	Conceptual	Contract engineering services	Recalibrate designs using floodplain mapping and topography
Construction of Urban Flood Protection Dikes - Orla	Conceptual	Contract engineering services	Stakeholder engagement and phased engineering implementation

Logistics and Industrial Hub	Conceptual	Strategic study	Integrate with Master Plan, assess freight and traffic scenarios
Expansion and opening of strategic access routes	Conceptual	Conduct concept study	Prioritize mobility plan and address data gaps in road condition
Rehabilitation and Upgrade of CELUPA Macro Drainage Channel - Drainage Master Plan	Not initiated	Agree on concept and prepare ToR	Ensure integration with CELUPA and Arroio systems
Solid Waste Master Plan	Not initiated	Agree on concept and prepare ToR	Harmonize with sanitation strategy and urban expansion
Rehabilitation and Upgrade of CELUPA Macro Drainage Channel- Early Warning System	Conceptual	Prepare ToR	Design tech specs around municipal decision-making needs
Nature-based Solutions	Not initiated	Agree on concept and prepare ToR	Embed in dike design and flood zoning
Update of the Municipal Basic Sanitation Plan	Conceptual	Confirm concept and prepare ToR	Align with CORSAN, coordinate with PMSB
Environmental and Climate Monitoring System	Conceptual	Agree on concept and prepare ToR	Balance off-the-shelf tech with custom integration
Training - Municipal Staff	Conceptual	Design training modules	Partner with local institutions for tailored capacity building
Training Program for vulnerable population	Conceptual	Design awareness program	Define components and outreach based on flood-affected zones
Program and project management	Initiated	Create and staff PIU; approve POM	Ensure experienced staff and operational readiness

Technical Readiness and Risk Management

7. The technical readiness varies among subprojects. The CELUPA drainage works are the most advanced, with pre-feasibility studies underway. Other components, particularly the Orla and strategic roads; remain in conceptual phases, with detailed designs, environmental licensing and procurement documentation yet to be completed.

8. Key technical risks include limited engineering capacity within the municipal team, challenges in integrating existing infrastructure and the potential for delays in licensing and procurement. Social and environmental risks include community resistance, land use conflicts and biodiversity impacts in floodplain areas. To mitigate these risks, the city plans to engage experienced engineering firms, conduct third-party reviews, develop a shared hydrological model with state authorities and create a robust project implementation entity.

Regional Spillovers

9. The integrated nature of the Project creates numerous positive spillovers. Regionally, the flood defenses will benefit adjacent municipalities by regulating water flows and reducing peak loads. The logistics hub is expected to stimulate trade, attract investment and enhance Guaíba's position within the Greater Porto Alegre logistics corridor. The Orla project contributes to the urban quality of life while enhancing ecological resilience. However, there are also potential negative externalities, including displacement of floodwaters to downstream communities and gentrification risks from urban redevelopment. It is recommended for the municipality to strengthen coordination mechanisms with neighboring jurisdictions, establish inter-municipal working groups and promote transparent stakeholder consultation.

Cost Estimations

10. Estimated costs are aligned with national benchmarks: USD159,500 per hectare for the logistics hub, USD651 per square meter for the Orla and roughly USD5 million for the 11 kilometers of strategic road links. Implementation success will hinge on governance capacity, inter-agency collaboration and adaptive management throughout the project cycle. Overall, the cost assessments appear technically reasonable and strategically justified, particularly given the integration of resilience, climate adaptation and intermodal transport solutions in a flood-prone urban environment. The adherence to benchmark ratios suggests prudent financial planning and supports the viability of these infrastructure investments.

Integrated Technical Analysis and Recommendations

11. The subprojects aim to build the basis for a gradual recovery to May 2024 while they allow for climate resilience and fostering economic development. The subprojects interventions are directly related to an overall understanding that the city must reconsider its current approach to land use and transport interactions by directing and inducing investments. Additional strategic studies, such as master plans, are required, as well as a considerable effort in engineering design before reaching the bidding stage.

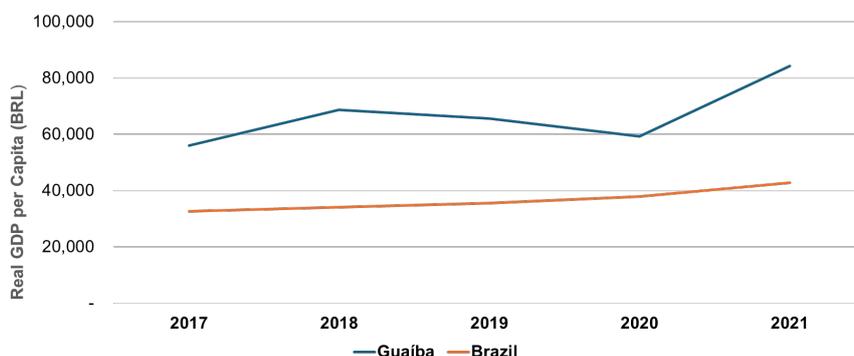
12. Regarding the transport dimension, the strengths lie in simple interventions with potentially high returns for the local community. The investments require civil work that could be quickly implemented and start generating benefits in terms of reduction of travel time, pollution and accidents. Combined, it is envisaged that the subprojects will positively transform the lives of the entire population of Guaíba City and maybe neighboring cities.

13. On the other hand, there is space for improvement in the managerial structure of the municipality, required to control, monitor and adapt to the implementation process. Given the weight associated with subprojects' studies and designs, it is important for the municipality to set up the protocols and processes early during Project implementation.

Annex 4: Financial Analysis

1. **Background.** The Municipality of Guaíba is located in the metropolitan region of Porto Alegre, in the state of Rio Grande do Sul. With an estimated population of 92,924 and a total area of 376 square kilometers, Guaíba has consistently reported a gross domestic product (GDP) per capita above the national average, as illustrated in Figure A4.1.

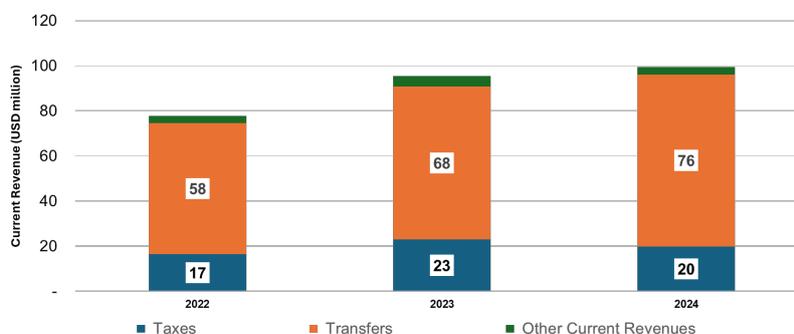
Figure A4.1: Real GDP per Capita, 2017 – 2021



Source: IBGE

2. **Revenue.** In 2024, the Municipality of Guaíba recorded current revenues totaling BRL535.4 million (USD99.4 million). These revenues were primarily composed of intergovernmental transfers (76.7%) and locally collected taxes and fees (20.1%). Guaíba’s tax revenue is mainly drawn from three sources—property taxes, withholding tax on labor and taxes on services. The transfer component largely consists of constitutional and statutory transfers from the state and federal governments. In general, Brazil’s fiscal framework grants significant tax collection responsibilities to states and municipalities, but disparities in economic capacity often limit the revenue-generating ability of subnational entities. To address this, mandatory federal and state transfers function as a compensatory mechanism, redistributing resources to less affluent governments. As a result, high dependence on intergovernmental transfers remains a common fiscal vulnerability among Brazilian municipalities, including Guaíba. Figure A4.2 illustrates the composition of current revenues in the Municipality of Guaíba.

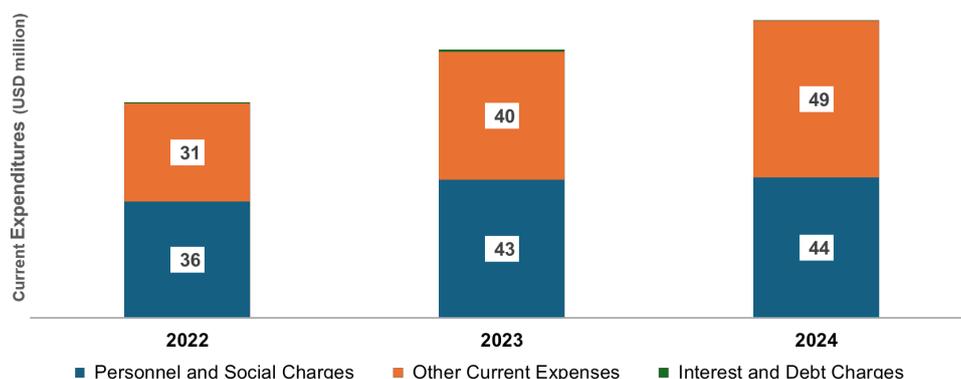
Figure A4.2: Current Revenue, 2022 – 2024



3. **Expenditures.** Brazilian municipalities are primarily responsible for providing healthcare and elementary education, which together consume the largest share of their budgets. They are also tasked with urban infrastructure and social housing, although these areas typically receive less funding in comparison. Because a portion of municipal revenues is constitutionally earmarked for health and education, spending in these sectors tends to rise alongside revenue growth, leading to a pro-cyclical fiscal pattern.

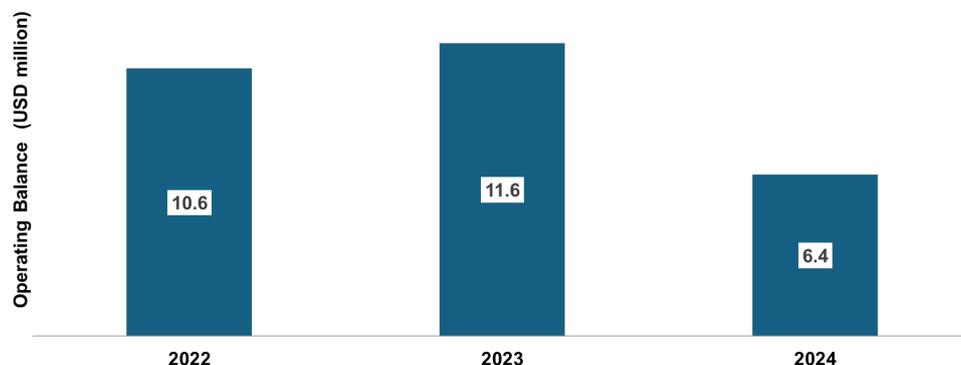
4. In periods of strong revenue performance, expenditure increases proportionally. However, during economic slowdowns, municipalities face limited flexibility to reduce spending due to the rigid structure of personnel costs and mandatory wage obligations. As a result, while revenues may fall, expenditures often remain elevated, creating a potential for fiscal imbalance. To mitigate this, the Brazilian Fiscal Responsibility Law mandates that municipalities must limit their personnel expenditure to 60% of net current revenue. Figure A4.3 below shows the composition of current expenditures in the Municipality of Guaíba.

Figure A4.3: Current Expenditures, 2022 – 2024



5. **Budgetary Performance.** The Municipality of Guaíba has demonstrated strong budgetary performance, consistently recording positive operating balances (current revenues minus current expenditures) from 2022 to 2024, as shown in Figure A4.4 below.

Figure A4.4: Operating Balance, 2022 – 2024



6. **Liquidity and Debt Burden.** Under Brazil’s Fiscal Responsibility Law, local and regional governments are required to observe strict indebtedness limits. Specifically, a

municipality's consolidated net debt may not exceed 120% of its net current revenue. As of the end of 2024, the Municipality of Gualba reported a negative net debt-to-net current revenue ratio of -21.2%, reflecting a strong cash position that more than offset its consolidated debt.

7. **CAPAG.** The Capacidade de Pagamento (CAPAG) is a credit risk framework prepared by the National Treasury of Brazil. It assesses the fiscal capacity of sub-national entities (states, districts and municipalities, etc.) and their ability to incur debt. Under Brazil law,¹ sovereign guarantees for subnational borrowing are governed by a counter-guarantee mechanism, whereby the Federal Government retains the right to intercept federal transfers to the municipality in case of payment default. This counter-guarantee structure significantly reduces repayment risk and ensures strong credit security for the Project. The framework evaluates municipalities on the following three metrics:

- (a) Indebtedness: Size of municipal debt relative to current net revenues.
- (b) Current Savings: Ratio between expenses and current revenues.
- (c) Relative Liquidity: Financial obligations relative to the municipality's cash balance.

8. Table A4.1 summarizes how each of these indicators are rated.

Table A4.1: CAPAG Partial Indicator Rating System

Indicator	Value	Partial Rating
Indebtedness	Less than 60%	A
	Between 60% and 100%	B
	Greater than 100%	C
Current Savings	Less than 85%	A
	Between 85% and 95%	B
	Greater than or equal to 95%	C
Relative Liquidity	Greater than or equal to 5%	A
	Between 0% and 5%	B
	Less than 0%	C

Source: Ministry of Finance (MOF) Normative Ordinance No. 1,583 of Dec. 13, 2023

9. Each indicator is evaluated individually and then aggregated to determine the entity's overall CAPAG rating, which reflects its capacity to borrow and repay new debt. Only subnational entities rated "A" or "B" are eligible to receive a federal guarantee on new borrowings. Table A4.2 outlines how the final CAPAG rating is determined based on the individual scores of each indicator.

Table A4.2: CAPAG Final Rating System

Partial Rating			Final Rating
Indebtedness	Current Savings	Relative Liquidity	
A	A	A	A
A	B	A	
A	A	B	

¹Complementary Law No. 101/2000 (Fiscal Responsibility Law), Article 40.

B	A	A	B	
C	A	A		
B	B	A		
B	A	B		
C	A	B		
A	B	B		
B	B	B		
C	B	B		
C	C	C		D
Other partial rating combinations				C

Source: MOF, Normative Ordinance No. 1,583 of December 13, 2023

10. Based on the CAPAG results published in June 2025, the Municipality of Guaíba was among 1,235 out of 5,567 municipalities to be rated “A.”

Annex 5: Country Credit Fact Sheet

1. **Background.** With a population of around 210 million, income per capita of USD10,200 (USD22,000 in purchasing power parity) and total gross domestic product (GDP) of USD2.2 trillion, Brazil is the biggest economy in Latin America and the 10th largest in the world. Following years of inward-oriented state-driven economic policies, weak private investment, low domestic savings and chronic fiscal problems, the economy experienced a deep recession in 2015-2016 and a deterioration in sovereign credit ratings to below investment grade.

2. Since then, the authorities embarked on an ambitious agenda of economic management reforms, strengthening fiscal frameworks with fiscal rules, improving the sustainability of the pension system, formalizing central bank's independence, reining in quasi-fiscal lending from the state development bank and reducing inflation. The Government of Brazil has also been working to increase trade openness and improve the business environment. Brazil's main trading partner is China. Brazil is also a key member of Mercosur, a South American free trade bloc, and is negotiating free trade agreements with the European Union and Japan. Brazil has large potential in its vast natural resources but has for a long time suffered from environmental degradation.

3. The 2022 election brought some temporary policy uncertainty. The narrow electoral margin and the divided Congress means that policymaking may be slow. Since then, however, the new administration has proved to be relatively pragmatic and reform-minded. It has also been praised for its deep commitment to environmental sustainability, ecological transformation and addressing climate change. In 2024, Brazil held the presidency of the G20 and is hosting COP30 in November 2025.

4. **Recent developments.** Economic growth since the pandemic has been strong, durable and above expectations, with GDP increasing by almost 5% in 2021 and by around 3% annually during 2022-2024. This has been attributed to a policy stimulus, favorable terms-of-trade, improving productivity, strong domestic demand (including private consumption and investment) and better macroeconomic frameworks, and has happened despite higher uncertainty, weakening external environment, disasters caused by natural hazards and tighter policies. Unemployment, at 6.5% as of early 2025, is the lowest in more than a decade.

5. The post-pandemic surge of inflation, partially related to the weaker currency, has been dealt with aggressive interest rates hike, from 2% to 14.75%. Inflation has declined from the peak of 12% in 2022 to below 3% in mid-2023. However, price pressures have persisted and inflation has recently increased again, to over 5%, which is above the central bank tolerance range (3% +/- 1.5pp), so interest rates remain high.

Table A5: Selected Indicators

Selected Indicators	2021	2022	2023	2024	2025*	2026*	2027*	2028*
GDP growth 1/	4.8	3.0	3.2	3.4	2.0	2.0	2.2	2.3
CPI Inflation (end-of-period) 1/	10.1	5.8	4.6	4.8	5.3	3.9	3.0	3.0
Fiscal balance 2/	-2.6	-4.0	-7.7	-6.6	-8.5	-7.7	-6.3	-5.2
Public debt 2/	88.9	83.9	84.0	87.3	92.0	96.0	98.1	99.1

Public gross financing needs 2/	19.4	17.3	18.8	14.9	14.8	13.6	19.2	15.0
Current account balance	-2.4	-2.1	-1.3	-2.8	-2.3	-2.2	-2.1	-1.9
External debt	40.6	34.9	33.7	32.6	32.3	31.0	29.7	28.6
Gross official reserves 3/	362.2	324.7	355.0	329.7	339.4
Exchange rate (BRL/USD) 3/	5.6	5.2	4.8	6.2	5.7

Source: IMF (WEO April 2025; Report 24/209), in percent of GDP unless indicated otherwise; ** = projections

Notes: 1/ percent change y/y; 2/ IMF definition; 3/ latest data from central bank, end-of-period, as of May 27, 2025

6. Fiscal deficits were cut forcefully to below 5% of GDP in 2021 and 2022, as mandated by the fiscal rule and helped by economic recovery, but they surged in 2023 to 7%-8% of GDP and have remained elevated at these levels. Weaker revenues, higher interest expenditures and new spending packages have driven this. That said, the primary fiscal balance target of 0% for 2024 has been met. Also, in 2024, the authorities passed a long-awaited landmark tax reform, simplifying the tax system.

7. Overall, Brazil's risk indicators have steadily declined, with international bond spreads falling from pandemic-era peaks of 400 bps to 50-100bps in 2024 and 2025.

8. **Outlook and risks.** Economic growth in 2025 is expected to moderate to around 2%, due to tighter policies, with confidence surveys and credit conditions pointing to some deceleration. Inflation is expected to stay elevated, mostly due to inertia, before returning to the central bank's target by 2026. In the medium-term, estimates of potential growth have been raised to around 2.5%, on account of demonstrated resilience. This is a large, 0.5 percentage points improvement from earlier projections and significantly better than the 0.8% annual average growth during 2010s. Continued economic reforms will be needed to sustain this above-average performance.

9. Maintaining fiscal discipline has been important for market perception, given persistent challenges, chronic deficits and a history of fiscal slippage, whereby rules have sometimes been adjusted to make room for more spending. The overall fiscal deficit in 2025 is expected to stay high, reflecting high interest payments. However, the underlying primary balance is budgeted at 0%, as per the fiscal rule. For 2026, 2027 and 2028, the target is for a primary surplus of 0.25%, 0.5% and 1.0% of GDP, respectively. This will require significant effort on both expenditure and revenue sides. Fiscal slippage remains a key risk, but financial markets provide a strong measure of discipline, as such slippage tends to lead to volatility.

10. Another risk is global trade policy uncertainty. Direct impact may be limited, because of Brazil's low exposure. However, indirectly, trade diversion, slower global growth, lower commodity prices and high uncertainty would impact Brazil's terms of trade, exports and growth.

11. Public debt remains sustainable, but subject to moderate risks, according to the International Monetary Fund (IMF). Debt, by the IMF definition, had declined to below 85% of GDP by 2022 (the national definition is 10 percentage points lower). However, absent a more decisive fiscal consolidation, debt is expected to drift upwards toward 100% of GDP. Debt risks are substantially mitigated by a small foreign exchange component of public debt, a diverse and stable domestic creditor base, including the central bank, and the deep and sound domestic financial sector. External vulnerability is low thanks to sizeable reserve buffers (well

above IMF's adequacy thresholds), flexible exchange rate, low current account deficit and Brazil's net external creditor position.

12. Over the past two years, all three major rating agencies have upgraded Brazil's credit rating, to BB stable (Fitch and S&P) and Ba1 positive (Moody's), on account of recent improvements to the tax system, the lengthening track record of reforms, pragmatic economic policies and the general resilience of the economy.

Annex 6: Paris Agreement Alignment Assessment

1. **The Project is aligned with the goals of the Paris Agreement on both mitigation and adaptation.** One of the primary goals of the project is to build climate-resilient trade enabling infrastructure, with many of the sub-components being built withstand future climate risks. In terms of climate mitigation, majority of the subprojects are universally aligned, primarily focusing on rehabilitation and meeting energy or water efficiency improvements. Details on each of the alignment assessments are provided below.

Alignment against mitigation goals of Paris Agreement (BB1)

2. Overall, the Project is Paris aligned under the mitigation goals (BB1), with many of the subprojects considered as universally aligned due to their rehabilitation nature linked to post construction of the flood recovery (drainage, coastal rehabilitation and related studies and training programs). The construction of new buildings, such as logistics and industrial hubs, will be conducted to meet the energy efficiency and green building standards. However, a few subprojects linked to expansion of roads required to do the five-step specific criteria assessment. The SC1-SC3 analysis is provided here and relevant subproject assessment for SC4 are listed in the relevant column (under the Expansion and opening of strategic roads sub-project assessment). For SC5 (cost benefit analysis) the preliminary economic analysis using project information outlines the expected project benefits and costs for selected interventions will have positive effects. With the majority of investments within the project targeting flood projection-related investments, this results in a highly profitable cost-benefit ratio. Detailed analysis of subprojects with carbon emission accounted for will be performed at the project implementation stage.

3. **SC1: Nationally Determined Contribution (NDC) Alignment** Brazil's updated NDC submitted to the UNFCCC in December 2020 (and reaffirmed in 2023) commits to reducing total greenhouse gas emissions by 50% below 2005 levels by 2030 and achieving climate neutrality by 2050. The documents underscore that cleaner transport systems are among the priority areas to meet this trajectory. Brazil's National Policy on Climate Change (Política Nacional sobre Mudança do Clima – PNMC), which was approved by the Federal Law No. 12.187/2009, establishes broad targets for greenhouse gas (GHG) reductions across sectors and promotes low-carbon technologies, biofuels and energy efficiency in transport. The Nationally Determined Contribution (NDC) in Brazil recognizes the role of biofuels, stating that it will "strengthen measures to promote efficiency gains and expand the use of biofuels" in transport. It further commits to improving energy efficiency in light and heavy-duty vehicles and refers to the RenovaBio policy as a mechanism to cut transport emissions through expanding sustainable biofuels. It reaffirms the adoption of higher efficiency standards and lower carbon intensity fuels as part of achieving net emissions reductions.

4. Furthermore, a central instrument for decarbonizing fuels is RenovaBio, the National Biofuels Policy, created by Federal Law No. 13.576 of 2017. RenovaBio establishes a system of decarbonization credits (CBIOs), which fuel distributors must purchase to compensate for emissions. The policy aims to expand the production and use of ethanol and biodiesel, gradually replacing fossil fuels in the transport sector.

5. **SC2 Long-Term Strategy (LTS) Alignment.** In its LTS strategy, the Government of Brazil identifies the transport sector as one of the critical areas requiring deep decarbonization to achieve Brazil's goal of climate neutrality by 2050. The LTS emphasizes that sustainable biofuels will remain the main pillar of Brazil's approach to reducing emissions from road transport, given its unique advantages as a major producer of ethanol and biodiesel. Brazil plans to continue expanding the production and consumption of these fuels to replace fossil diesel and gasoline, especially in heavy-duty vehicles such as trucks and buses where electrification may be more complex or costly in the short term. In addition to biofuels, the strategy commits to progressively improving vehicle efficiency through stricter emission and fuel economy standards. These improvements will help reduce energy consumption per kilometer travelled and lower the carbon footprint of the vehicle fleet.

6. **SC3: Low Carbon Pathway (LCP) Consistency.** A qualitative assessment of the policies and strategies for the decarbonization of the road sector in Brazil has been carried out, which has been supplemented by a quantitative analysis of the historical trends of carbon dioxide (CO₂) emissions in the transport sector. It has been found that overall, the government has plans to decarbonize the road transport fleet.

7. **Regulatory framework overview.** The federal government has been developing the National Electric Mobility Strategy, the draft of which was published by the Ministry of Mines and Energy in 2022. This strategy proposes actions to promote electric and hybrid vehicles, support the development of battery manufacturing capacity, expand charging infrastructure and integrate renewable energy into transport. Although the strategy is still pending final regulatory approval, it is expected to guide incentives for electrification. Another important regulatory framework is the Vehicular Emission Control Program (Proconve), created in 1986 by CONAMA Resolution No. 18 and updated periodically. The latest phases (Proconve L7 and L8) impose stricter limits on pollutants such as nitrogen oxides and particulate matter. While Proconve primarily targets local air pollution, it indirectly contributes to decarbonization by requiring technological modernization of vehicle fleets. In addition, the National Energy Plan 2050 (Plano Nacional de Energia – PNE 2050), published by Brazil's Energy Research Office in 2020, identifies the gradual electrification of light-duty vehicles and the increase in biofuel blending as Brazil's primary strategies to reduce emissions from road transport over the next decades.

8. At the regional level, Rio Grande do Sul has adopted state-specific climate and transport policies that complement federal initiatives. The State Policy on Climate Change (Política Estadual sobre Mudanças Climáticas – PEMC), established by State Law No. 13.594 of 2010, reinforces the commitment to reduce emissions and adapt to climate impacts. This law encourages the expansion of public transport, improvements in logistics efficiency, the use of biofuels and the adoption of alternative propulsion technologies.

9. In 2021, the state government released the State Mobility and Logistics Plan (Plano Estadual de Logística e Mobilidade – PEMLOG), which outlines measures to modernize public transport fleets, reduce diesel dependency and promote pilot projects with electric buses and low-emission vehicles. Rio Grande do Sul has also prepared the State Plan for Climate Change Adaptation and Low Carbon Development, under the Secretariat of Environment and Infrastructure (SEMA). This plan identifies the transport sector as a priority for emission

reductions and proposes actions such as the gradual electrification of urban fleets and the development of infrastructure for alternative fuels.

10. At the municipal level, the city of Porto Alegre has made additional commitments through the Global Covenant of Mayors. In 2021, the city published its Climate Action Plan, which sets targets to transition the municipal bus fleet to low-emission technologies, expand cycling and pedestrian networks and launch pilot projects to electrify service vehicles. Given this city is near the Guaíba municipality and has clear trade links, the relevant policy actions are expected to positively contribute to Guaíba efforts as well.

11. Despite overall emission growth, the carbon intensity of Brazil's road transport sector has not increased at the same rate, thanks to its large-scale use of biofuels. Brazil has one of the world's most developed alternative fuel programs, particularly ethanol blended with gasoline and biodiesel blended with diesel. Since the 2000s, ethanol has consistently substituted gasoline in light-duty vehicles and biodiesel blends have gradually increased in diesel fuel—from B2 (2% biodiesel) in 2008 to B13–B14 (13–14%) in recent years. This fuel mix has helped mitigate the carbon intensity per unit of energy consumed in the sector.

12. The analysis clearly shows that in terms of road expansion in the affected municipality, such investments do not undermine Brazil's overall long-term pathway of decarbonization of the transport sector, with many of the national as well as regional regulatory frameworks supporting gradual reduction in associated GHG emissions.

Alignment with adaptation goals of the Paris agreement (BB2)

13. **Climate changes in vulnerability context.** The initial climate risk screening of the project has resulted in high risks for fluvial and pluvial flooding.¹An overview of key climate risks has been detailed in the Environmental Social Management Framework, which further assessed the key historical data and trends. A more detailed project level climate risk assessment will be conducted for those subprojects which are identified as having high risk to hazards. Furthermore, detailed studies have been planned for several projects, which will further analyze the necessary scope of the proposed adaptation measures (e.g., development of hydraulic, geotechnical and structural designs for the construction of flood protection dikes for the coastal resilience components of the project).

14. Data from INMET- National Institute of Meteorology and CEMADEN- (National Center for Natural Disaster Monitoring and Warning indicates a trend towards an increase in the frequency of episodes of intense rain (above 100 mm in 24 hours), as well as in the total volume of annual precipitation. The occurrence of combined extremes, such as water accumulation in the river's tributary to Guaíba added to the incidence of south wind, has contributed to the intensification of overflows and floods, as observed in the events of May 2024. Analyzing the data from the Porto Alegre station that has data since 1899 and a flood mark of 1873, the 2024 flood has a return time of more than 200 years. In comparison to the events of 1941 and 2024, where it is observed that in 1941 the flood was the result of 15 days of rain and in the flood of 2024, only 5 days of rain but of greater intensity. Regional projections of climate change, according to the Brazilian Panel on Climate Change (PBMC) and INPE

¹ Swiss Re initial climate risk screening report, 2025

models indicate, for the coming decades, there will be an increase of up to 20% in the frequency of extreme hydro-meteorological events, the average temperature may rise between 1.4°C and 2.2°C, with an impact on evapotranspiration and water balance. There will be a higher occurrence of composite events, such as the combination of river floods with atmospheric blockages.²

15. Overall, particularly for the municipality level risks assessment, only flooding exposure has been identified as moderate for the one in 200-year period, as most of the analyzed area is not shown to be in a river flood zone. However, the areas at the waterfront have high to very high flood exposure for the return period of one in 50 and 100 years. There is also some exposure to storm surge directly at the waterfront. In terms of future projections, models show a moderate to significant increase under all assessed climate change scenarios (SSP1-2.6, SSP2-4.5, SSP5-8.5). Concurrently, extreme precipitation is also modelled to increase. This increase in extreme precipitation can cause pluvial flooding in areas previously not located in a flood zone, especially when the area urbanizes without investments into an appropriately sized drainage system. Climate models also project a significant to extreme increase in heatwaves, which shift heatwave exposure from at present low levels to moderate levels by 2050 and high levels by 2070 under SSP5-8.5.

16. Urban infrastructure and industrial areas are particularly sensitive to flooding, landslides, windstorms, wildfires and earthquakes as large events can cause serious damage to infrastructure, buildings and industrial machinery.³

Step 2: Definition of climate resilience adaptation measures

17. The specific climate resilience and adaptation measures of the project are detailed in Table A6.1. Those include rehabilitation and upgrading of drainage systems, construction of flood projection dikes and reconstruction of the city’s waterfront.

Table A6.1. Paris Alignment Assessment of Subprojects

Subprojects	Brief Description, including Proposed Adaptation Measures	BB1 and BB2 Alignment Rationale
Rehabilitation and Upgrade of CELUPA Macro Drainage Channel	<p>Upgrade of the existing rainwater drainage infrastructure, with a particular focus on the CELUPA channel, a critical component of Guaíba’s macro-drainage system.</p> <p>Specific works will include:</p> <ul style="list-style-type: none"> (a) Mechanical and manual desilting (unclogging) of the channel bed. (b) Structural reinforcement of channel banks to prevent erosion. (c) Installation of flow regulation and control devices (e.g., sluice gates, check dams). 	<p>BB1 universally aligned (rehabilitation category).</p> <p>BB2 aligned. The proposed activities will include measures to address the flood retention mechanisms and early warning systems.</p>

² Project’s ESMPF, 2025.

³ Swiss Re report, May, 2025.

	<p>(d) Implementation of flood retention mechanisms (e.g., detention basins or infiltration galleries).</p> <p>(e) Deployment of real-time monitoring systems to assess hydraulic performance and alert to potential failures</p>	
<p>Construction of Urban Flood Protection Dikes</p>	<p>Constructing a system of protective dikes to mitigate flood and erosion risks in vulnerable urban areas of the city. Preliminary geotechnical and hydrological vulnerability assessments that the area is highly exposed to compound flood hazards. The proposed dike alignments should be based on digital elevation models (DEMs), floodplain mapping and proximity to critical infrastructure and urban areas to be prepared as part of project executing studies.</p>	<p>BB1 universally aligned (rehabilitation category).</p> <p>BB2 aligned. The project will protect existing residential and commercial zones from 50- and 100-year flood events and maintain road accessibility for emergency response under extreme weather events.</p>
<p>Logistics and Industrial Hub</p>	<p>The subproject will enhance the flow of goods and services in an organized and efficient manner, while also providing separation from urban areas of the municipality. Furthermore, the location is selected to be near highways BR-116 and BR-290, which will contribute to optimizing travel time to major centers such as Porto Alegre and facilitating connections with other regions of the state</p>	<p>BB1 aligned as it will include green building design elements.</p> <p>BB2 aligned. The proposed site has been selected with consideration for climate resilience, as it is situated outside flood-prone areas. This choice will enable businesses to operate without climate-related risks.</p>
<p>Reconversion and reconstruction of the city's waterfront</p>	<p>Integration of tourism, infrastructure and flood protection along the southern shoreline. Among all the works, the subproject will include redevelopment of piers, expanded boardwalk with bike lanes, kiosks, green spaces and a marina to support leisure and local tourism, as well as development of few strategic roads and connections. This includes the General Guaíba–Barra do Ribeiro Road (8.5 km) and a new link from Av. Adão Foques to BR-116 via Rua Sara Monte Alegre (2.3 km).</p>	<p>BB1 aligned for the activities related to public spaces and rehabilitation, however, part of the project includes the establishment of a new road, therefore SC1-SC5 criteria were applied. Based on the SC criteria, those are PA aligned. For SC4, the assessment confirms that projects are viable and specific mobility and accessibility improvements will include implementation of safe bike lanes, improved public transport, accessible sidewalks and possibility of adding EV infrastructure in the future. The project can be considered as future-proofed, as it will be able to accommodate the infrastructure required to enable the deployment of future lower-carbon fleets, once available.</p> <p>BB2 aligned as the interventions will employ a risk-oriented approach that seeks to minimize the impact of floods. This strategy is intended to manage the interaction with nature. Flood protection</p>

		systems will be installed, such as water retention basins, vegetated buffers, real-time monitored pumping systems, reforestation and community-based environmental education.
Expansion and opening of strategic access routes		BB1 aligned using SC1 to SC5 specific assessment. SC1-SC3 information is provided above and SC4-Alternative test and carbon lock in test confirm that the construction of roads will significantly improve traffic flow to and from the area. Presently, traffic is predominantly directed toward the central part of the city, which results in congestion during peak hours. This intervention will be particularly beneficial for freight vehicles navigating through narrow streets amid mixed traffic. BB2 aligned with detailed climate risk assessment to be undertaken at a later stage.
Studies and project related designs	Will include development of executive projects and final designs for the subprojects, including: <ul style="list-style-type: none"> (a) Building city protection dikes. (b) Developing infrastructure for the logistics hub and industrial city. (c) Restoring and restructuring the waterfront. (d) Expanding and opening strategic access roads as needed. 	BB1 universally aligned. BB2 aligned, as the scope included analysis of relevant adaptation measures for the City Protection Dikes – such as the development of hydraulic, geotechnical and structural designs for the construction of flood protection dikes, including topographic surveys, soil investigations, hydrological modeling and the specification of materials and construction methods to ensure resilience and long-term performance.
Update of the Municipal Basic Sanitation Plan	Review the Municipal Basic Sanitation Plan (PMSB) of Guaíba for the potential implementation of water treatment plant in the future.	BB1 universally aligned (technical and professional services) BB2 aligned (low climate risk exposure)
Risk Management Training Program	Deliver training to municipal employees to modernize the services associated with risk prevention, mitigation, response actions and emergencies. Additionally, this initiative will include training on the relevant computerized systems required for service delivery.	BB1 universally aligned (professional services) BB2 aligned (low climate risk exposure)
Environmental and Climate Monitoring System	Deploy integrated tech tools and procedures to gather, analyze and interpret data for decision-making on natural hazards. Focus will be on monitoring Guaíba lake water levels across various municipal locations.	BB1 universally aligned (technologies) BB2 aligned (low climate risk exposure)

Training Program for vulnerable population	This project will include training for the population to achieve awareness about hazards, risks and preparations for events	BB1 universally aligned (professional services and technologies) BB2 aligned (low climate risk exposure)
Program and project management	Program management associated costs	BB1 universally aligned (technologies) BB2 aligned (low climate risk exposure)

Assessment of consistency against the relevant climate adaptation strategies

18. Rio Grande do Sul, Brazil's southernmost state, faces increasing climate-related hazards, including severe floods, droughts, heatwaves and extreme weather events intensified by climate change. The state has developed specific strategies and policy frameworks to improve adaptation and reduce vulnerability, notably its State Climate Change Policy (Política Estadual sobre Mudanças Climáticas - PEMC) and the State Plan for Climate Change Adaptation and Low Carbon Development (PEMC Implementation Plan).

19. Urban resilient infrastructure projects such as this one will include flood-protection systems, suitable drainage network upgrades, resilient roads and other disaster risk mitigation measures that strongly support the objectives outlined in these following policies (Table A6.2). The project is strongly aligned with Rio Grande do Sul's climate adaptation strategies by integrating structural upgrades that promote resilient infrastructure and nature-based solutions and advance state and national policy goals to build safer, more sustainable and equitable cities in the face of accelerating climate risks.

20. **Climate finance calculation.** Based on the joint MDB methodologies for tracking climate mitigation and adaptation finance, the project is considered as climate finance-eligible. A total of USD13 million is accounted for mitigation finance (for the subproject Construction of Logistics and Industrial Hub, which will include green building design elements) and USD25.98 million accounted for adaptation finance, which is calculated using the proportional approach and mostly includes type 2 and type 3 activities within various components, such as construction of urban coastal resilience and projection dikes, rehabilitation of drainage channels and other flood protection measures). Table A6.2 provides a detailed breakdown per component.

Table A6.2 Climate Finance Calculation

Item	Financing (USD m)	
	AIB	Climate finance (Mitigation/Adaptation)
Component A – Improving the Efficiency of Urban Drainage and Flood Protection	17.95	Adaptation- 17.95
Component B – Construction of Green Logistics and Industrial Area	13.00	Mitigation- 13
Component C – Construction of Supporting Urban Infrastructure and Transport Access Infrastructure	30.60	Adaptation- 6.25
Component D – Climate Monitoring, Risk Management and Sanitation Improvement Programs	4.70	Adaptation- 1.78
Component E – Program and Project Management	3.75	N/A
Grand Total	70.00	Mitigation: 13 Adaptation: 25.98