

Paraguay

Partner country

Status of the project: Ongoing National Urban Mobility Policy



Basic Information

Population: 6,960,000 | Growth rate: 3.7% (projection 2022)

Percentage of urban population: 62.9%

GDP per capita: USD \$ 4,949 (2020)

Percentage of the population living below the national poverty lines: 23.5%

Annual average infrastructure expenditures as percentage of GDP: 2.25%

Nationally Determined Contribution (NDC): no mobility/transport related NDC

National GHG emissions per capita: 1,21 (tCO₂eq)(2018)

Exposure to climate change: HIGH

Context

Paraguay, a landlocked country in South America, shares borders with Brazil to the east, Argentina to the south and west, and Bolivia to the north. According to data from 2023, the Paraguayan population is 6.1 million inhabitants. Asunción, with around 550,000 inhabitants, remains the capital and largest city in the country. The official languages are Guaraní and Spanish. The Paraguayan economy is characterised by an extensive informal sector. Since the beginning of the new millennium, Paraguay has experienced a notable reduction in poverty and an increase in shared prosperity. In particular, the country stands out as the fifth largest soybean producer worldwide. As of 2014, the Paraguayan economy has maintained an average annual growth of 4%, driven by solid production and high prices in international markets, in contrast to the economic contraction experienced by other countries in the region in the same period. Despite these achievements, Paraguay faces significant challenges to ensure the sustainability and expansion of its social successes. The majority of the population in rural areas continues to depend on family farming, which puts them at greater risk of falling into poverty. A continuous process of migration has been observed from rural areas to the urban centres of the country in search of better educational and job opportunities. These population movements pose challenges and opportunities for the equitable and sustainable development of Paraguay in the future.

Paraguay, as a landlocked country, relies heavily on its transportation and logistics infrastructure to connect with regional markets and international seaports. River transport remains crucial for the Paraguayan economy, with the Paraguay River serving as the main route through which approximately 60% of the country's foreign trade transits. However, since 2006, the railway system has been largely inactive, with only weekly tourist steam trains and short cross-border freight trains with Argentina operational. Public passenger transportation primarily relies on the bus network, while the urban transportation network exhibits extensive coverage, reaching a significant portion of the population. Cargo transportation predominantly utilises trucks, trailers, and other diesel-fueled means, with diesel accounting for approximately 70% of the total fuel used in the transportation sector. While these elements remain essential for the country's economic development, challenges persist in modernising and diversifying transportation options to ensure long-term efficiency and sustainability.

Updated data from the National Vehicle Registry Directorate reveals a significant increase in the number of vehicles over the last six years, reaching 2,450,789 in 2023. This notable growth in the vehicle fleet is attributed to the increase in GDP per capita, urbanisation, and demographic growth. Despite this growth, Paraguay's vehicle fleet remains one of the smallest in Latin America, with a motorisation rate of approximately 3.2 vehicles per 10 inhabitants. A distinctive characteristic of the Paraguayan automotive sector continues to be the significant presence of used and old vehicles in the vehicle fleet.

The transportation sector remains the primary consumer of petroleum products, with a twofold increase in the period between 2007 and 2023, with diesel accounting for approximately 73% of consumption. Gasoline blending with ethanol and diesel with biofuels is necessary to comply with environmental regulations. It is relevant to note that, despite the growth of the vehicle fleet, gasoline prices in Paraguay continue to be among the highest in Latin America, sparking ongoing economic and political debates.

Paraguay continues to stand out as the largest generator of hydroelectric energy per capita globally in 2023. However, only 20% of electricity generation is used domestically, with electricity rates among the lowest in the region. Given the high costs associated with importing almost 100% of petroleum products, the country shows significant potential for electric mobility. In this context, public transportation, particularly the introduction of electric buses, emerges as a strategic sector to lead electric mobility. One of the implemented projects has aimed to prioritise electric mobility in multimodal urban public transport within the Paraguayan political agenda.

The Electric Mobility Master Plan for Public and Logistics Transportation aims to consolidate efforts toward electromobility, encompassing actions for both public passenger and cargo transportation. The development of the plan will be reinforced through training activities, the active participation of non-state actors, regional exchanges and the identification and management of appropriate financial resources for its implementation. With this approach, Paraguay aims not only to leverage its clean energy generation capacity, but also to promote the adoption of electric vehicles in public transportation as a key strategy towards a more sustainable and energy-efficient future.

Support from the Partnership

Technical assistance: National Urban Mobility Policy or Program (NUMP)

Type of NUMP: Policy NUMP

Funded by: European Commission

Funding amount: EUR 300,000

Implemented by: GIZ through the EUROCLIMA+ Program

Local counterpart: Ministerio de Obras Públicas y Comunicaciones – Viceministerio de Transporte (MOPC VMT); Ministerio del Ambiente y Desarrollo Sostenible (MADES)

Main purpose of the NUMP:

- Promote of electric mobility in multimodal urban public transport in Paraguay, to reduce GHG emissions and to achieve Nationally Determined Contributions (NDCs)
- Prioritise electric mobility in multimodal urban public transport within the Paraguayan political agenda.

Supported activities:

- Develop a Master Plan for Urban, Electric and Multimodal Public Transport and a Monitoring, Reporting along with a Monitoring, Reporting, and Verification (MRV) scheme
- Strengthen public sector capacities for implementing electric transport systems and foster regional cooperation
- Involve non-state actors in implementing electric transport systems promoted by the Master Plan
- Identify strategic electric mobility pilot projects and potential funding sources

Status of implementation

Project start date: 2021 Q3

NUMP expected completion date: June 2023

Completed outputs:

- Development and validation of the EUROCLIMA+ project concept
- Pre-study in preparation for the NUMP
- Recruitment of a consultancy for the elaboration of the NUMP
- Master Plan for Urban, Electric and Multimodal Public Transport and Logistics
- Monitoring, Reporting, and Verification Scheme (MRV)
- Capacity development and training courses with local counterparts
- Information and awareness campaign on sustainable urban mobility and the electrification of transport, including the implementation of a website platform
- Roadmap for the implementation of strategic pilot projects

Insights from practice

The importance of fleet renewal in an intensive-carbon economy

The project aimed at introducing electric mobility in logistics transport in Paraguay has significant impacts on climate and energy levels. By incorporating electric vehicles, it anticipates a substantial reduction in greenhouse gas (GHG) emissions and a decrease in the consumption of diesel and gasoline, the main fuels used by trucks in the country. Furthermore, given Paraguay's dependence on imported gasoline, the adoption of electromobility also foresees a reduction in gasoline consumption by delivery vans and motorcycles, potentially resulting in significant cost savings. This decrease in domestic demand for diesel and gasoline would imply a reduction in the fiscal pressure for the import of hydrocarbon imports, thereby freeing up government resources that could be allocated to priority projects other than fuel imports. In this context, the project seeks not only to mitigate the environmental impact, but also to generate economic and financial benefits for the country.

Perspectives for implementation

In 2023, established an Electric Mobility Strategic Council, led by the Ministry of Industry and Commerce (MIC). This council, formed by presidential decree, aims to position Paraguay as a regional leader in electric mobility, promoting energy security, industrial development and environmental sustainability. The National Electric Mobility Strategy, coordinated by the Ministry of Public Works and Communications (MOPC) and the Secretariat of Technical Planning (STP), will guide the transition towards a sustainable energy matrix, in line with international commitments on climate change and the Paraguay 2030 National Development Plan. There is ongoing communication with to foster project initiatives in the sector.

Due to the limited availability of new or aggregated data, the factsheet has only marginally been updated in 2024.