

# Is electric mass-transit viable in cities of the Global South?

The electrification of non-rail electric transport (BRT, buses with 40 to 120 seats, minibuses) can be a viable solution under certain conditions in cities of the Global South, particularly in Africa (Odhiambo, Kipkoech, Hegazy, Manuel, Schalekamp & Klopp, 2022 ; Booyesen, Pretorius & Abraham, 2025). Several analyses by the World Bank, the IEA (Annual Global EV Outlook reports) and regional reports (NASAC and IAP, 2024) show that electromobility can be integrated into African energy systems as part of a global energy transition, provided that investment is made in energy production, the organisation of the distribution network, the definition of optimised charging strategies and operating modes, and that adequate financing is mobilised.

Pilot projects and deployments of electric bus fleets demonstrate technical and economic viability when the above conditions are addressed and optimal solutions are put in place, for example, the TUMI Transformative Urban Mobility Initiative's "e-bus mission", the various demonstrations carried out as part of the European SolutionPlus project, or the vehicles manufactured by the company Basigo in Kenya.

Electrification of mass transport is a strategic issue for countries in the Global South, especially in Africa (Collett et al., 2021), and can be a lever for industrialisation, contribute to achieving a certain degree of energy sovereignty and participate in urban transformation, in particular by structuring transport and, above all, supporting a profound change in user behaviour with regard to their modes of transport. However, the successful deployment of such a fleet depends on several factors that must take into account the technical, organisational, economic, climatic and social realities of the local and national context (Sovacool, Daniels & Abdul Rafiu, 2022 ; Behnia, Schuelke-Leech & Mirhassan, 2024 ; Consoni, Bermudez-Rodriguez, Andrade & Bastos, 2025 ; Dumoulin et al., 2025).

The main factors concern:

- The integration of e-buses with all private and public transport fleets;
- Financing models for fleets, infrastructure and employee training;
- User acceptance and accessibility, both financial and spatial;
- The robustness and reliability of vehicles, their modes of use and recharging, and the use of climate-appropriate technologies for batteries;
- Vehicle construction, maintenance and design training programmes.

Several studies and research projects address these topics, often independently: feasibility studies, financing models, charging or operational strategies, public policy analyses, etc. The aim of this session will be to highlight the cross-influences between these different factors and to identify ways of optimising them as a whole.