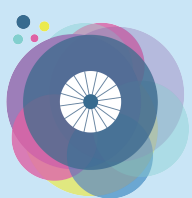


SCALING GENDER-INCLUSIVE ELECTRIC MOTORCYCLES



IN KIGALI



**WE DRIVE
CHANGE**
WOMEN IN F-MOBILITY DRIVE CHANGE

EXECUTIVE SUMMARY

Kigali is navigating the early stages of e-mobility adoption, with national policies like the NDC and Climate Change Action Plan laying the groundwork. While the city-level policies are developing, they remain less advanced compared to national frameworks. Private sector initiatives are gaining traction, driven by a focus on reducing operational costs and aligning with environmental goals. However, challenges persist, such as high upfront costs and the need for comprehensive charging infrastructure.

Stakeholder engagement is evolving, with start-ups playing a crucial role by collaborating with public officials to address barriers to e-mobility. Despite this, informal transport operators remain relatively marginalized and require more inclusion in the transition process.

To advance e-mobility effectively, Kigali needs further detailed research on its impact across different vehicle types. Enhancing transparency and involving transport providers in policy formulation is essential for developing effective financial models. Additionally, integrating e-mobility with urban planning will ensure the strategic placement and safety of charging infrastructure, facilitating a smoother transition.

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BACKGROUND

National Context and Urban Mobility in Kigali

Kigali, the capital of Rwanda, is a rapidly growing urban center, serving as the nation's political, economic, and cultural hub. With a population that has surged to approximately 1.5 million in 2018 and projected to reach 3.8 million by 2050, Kigali faces increasing demands for sustainable urban mobility solutions. By 2017, about 52% of the city's trips were made using non-motorized modes, 17% by public transport, 16% by moto-taxis, and 15% by cars. The growing urbanization predicts a significant rise in motorized trips, highlighting the need for a shift towards sustainable mobility.

Recognizing these trends, the Rwandan government has proactively supported low-carbon transportation initiatives. Kigali's 2050 Transport Master Plan emphasizes transit-oriented development, public transport enhancement, and non-motorized transport measures. Initiatives like Car-Free Sundays and the establishment of car-free zones underscore the city's commitment to reducing carbon emissions and promoting a high-density, walkable environment. Central to these efforts is the push for electric mobility, seen as a vital strategy to curb carbon and air pollution.

Rwanda's updated Nationally Determined Contribution (NDC) outlines ambitious targets for electric vehicle adoption, aiming for 70% of new vehicles by 2035 to be electric. These efforts are supported by a range of fiscal and non-fiscal measures, including tax incentives, reduced electricity tariffs for charging stations, and support for local manufacturing and assembly of electric vehicles (EVs).

Achievements from SOLUTIONSplus Demonstration Action

The SOLUTIONSplus project in Kigali successfully demonstrated various electric mobility solutions aimed at reducing air pollution, carbon emissions, and fossil fuel dependency, while also generating economic benefits for transport operators. Key interventions included:

Electric Motorcycles: The project supported the transition from fossil-fuel to electric motorcycles, focusing on gender inclusion. Women were empowered to become drivers of electric motorcycle taxis, significantly contributing to Kigali's urban mobility. A lifecycle analysis revealed a 75% reduction in greenhouse gas emissions from electric motorcycle taxis by 2030 compared to a business-as-usual scenario.

Bike Share System: A conventional bike share system was deployed along key bus corridors, with plans for integrating pedal-assist electric bicycles in the future.

Electric Buses: A pilot project introduced electric buses with a pay-as-you-drive leasing model, demonstrating significant potential for scaling up.

KEY METRICS

ELECTRIC MOTORCYCLES

35 women trained to become drivers of electric motorcycle taxis.

24 women successfully passed their exams and received electric motorcycles.

Environmental Impact: A 73% reduction in greenhouse gas emissions and a 100% reduction in NOx and PM2.5 emissions from the base case.

Financial Impact: An Internal Return Rate (IRR) of 17.5% for electric motorcycles, marking a 5.3 percentage point improvement compared to internal combustion engine (ICE) motorcycles.

Research: A city-wide study focused on scaling the inclusion of women in the moto-taxi industry.

CONVENTIONAL AND ELECTRIC BICYCLES

Bike Share System: 80 conventional bicycles deployed along two corridors with 80 bike racks at strategic locations.

Policy Support: A study on financial conditions for a viable electric bicycle system and policy advice on tax conditions for pedal-assist electric bicycles.

ELECTRIC BUSES

Deployment: 4 electric buses operated by 3 companies, covering 51,795 km and serving 224,144 commuters.

Environmental Impact: 19 tonnes of CO2 emissions and 12,944 liters of diesel avoided.

Planning: Development of a Kigali E-Bus Master Plan based on pilot data.

POLICY AND INSTITUTIONAL COORDINATION

E-mobility Technical Committee: Established in Kigali to enhance coordination.

City Roadmap on Electric Mobility: Developed along with policy recommendations for EV charging infrastructure and gender inclusion in e-mobility projects.

DETAILED ACTIVITIES AND RESULTS

ELECTRIC MOTORCYCLES

Support to Ampersand: Provided financial and technical support, focusing on battery design and industrialization strategy.

Gender Inclusivity: Women's empowerment was a core component, with 35 women trained and 24 receiving electric motorcycles. Continuous monitoring and research are being conducted to support the scaling of gender-inclusive e-mobility.

BICYCLES

Bikeshare System: Supported Guraride in deploying a bike share system, with plans for future integration of electric bicycles.

Cycling Infrastructure: 80 bike racks deployed across Kigali to promote cycling.

ELECTRIC BUSES

Pilot Project: Introduced electric buses with an innovative leasing model, leading to significant interest from local operators.

E-Bus Master Plan: Developed to guide the future scaling of electric buses in Kigali.

ADDRESSING FURTHER NEEDS TO SCALE

The WE Drive Change Women Initiative is dedicated to advancing gender-inclusive electric mobility in Kigali, building on the successes of the SOLUTIONSplus demonstration. As electric mobility expands from early-stage fleet sizes to a mainstream presence, the initiative focuses on overcoming key challenges, including addressing ecosystem gaps, supply chain dependencies, and workforce recruitment issues. A complete and supportive regulatory environment for all types of electric vehicles is essential to this progress. By tackling these challenges head-on, the initiative is paving the way for a sustainable, inclusive future for all in Kigali.

