

E-Mobility as a Driver for Change Towards a Gender Transformative and Just Transition to Electric Mobility



Kenya Baseline Report on Gender and E-mobility

August 2024



Federal Ministry
for Economic Cooperation
and Development



A F R I C A
E-MOBILITY
A L L I A N C E

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Authors

This report has been authored by **Aaliyah Iqbal**, **Tom Courtright** and **Tahir Said** from the Africa E-mobility Alliance (Afema) and was reviewed by **Annika Berlin** (UNEP). The contents presented in this document represent the opinion of the authors and are not necessarily the opinion of UNEP.

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Contact: unep-emobility@un.org

Executive Summary

Economic development, population growth, new technologies and increasing urbanization have impacted the mobility demand of citizens in Kenya. The Kenyan government has recognized the importance of transitioning to electric mobility to reduce air pollution and GHG emissions and increase access to affordable and clean mobility for its citizens. However, there remain issues surrounding cost, social equity and gender that need to be addressed to ensure the transition to electric mobility just and inclusive.

Given its abundance in renewable electricity and climate leadership, Kenya is pioneering e-mobility in Africa with the roll-out of electric bicycles, motorcycles, three-wheelers, cars, and buses, presenting opportunities for economic growth and environmental sustainability. Two-wheelers in particular have led the charge, with 3,235 e-motorcycles and 1,674 e-bicycles imported into Kenya by the end of 2023, compared to a cumulative 516 other electric vehicles. Financial incentives – in particular, VAT and excise duty exemptions – have been key to boosting these numbers, although recent political instability has threatened these benefits.

While the e-mobility sector as a whole is growing rapidly in Kenya, women encounter substantial barriers in the sector, including limited financial access, technical skills gaps, and persistent gender biases. Companies willing to share their employment data report that women make up between 23-38% of their staff and less than 5% of drivers. Women are similarly missing in management, with only two of forty-four identified EV companies in Kenya having any women founders. These numbers, shockingly, are believed to still be higher than that in the traditional ICE sector in Kenya but reveal there is a long way to go in integrating and promoting women in a male-dominated sector. The fact that the above numbers had to be collected manually via interviews highlights that the scarcity of gender-disaggregated data in Kenya's transport sector is an additional challenge which impedes the creation of targeted interventions and accurate progress assessments.

It is essential to implement gender-responsive transport policies to ensure equal opportunities for women in the e-mobility sector and the economy at large. Additionally, targeted training and mentorship programs for women are crucial for building capacity and closing the skills gap. Facilitating financial support and resources for women-led e-mobility initiatives is also necessary to overcome economic barriers. Public awareness campaigns can help challenge cultural norms and highlight the benefits of gender equality in transport.

Kenya's transition to e-mobility offers a unique chance to advance gender equality and social justice in the transport sector. By addressing gender disparities and fostering an inclusive approach, the benefits of e-mobility can be equitably shared among all citizens. This baseline report sets the stage for informed actions towards a gender-transformative and just transition to electric mobility.

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Introduction

This baseline study report is an assessment of gender mainstreaming in the electric mobility (e-mobility) sector in Kenya. The study first delves into gender disparities prevalent in the transport sector, analysing the barriers that women encounter in using, operating, and interacting with the transport sector in Kenya. The study then assesses the current state of the e-mobility industry in Kenya, including the leading companies and key policies, and their gender sensitivity. Finally, the study evaluates the challenges and opportunities for boosting gender mainstreaming in the sector and developing the e-mobility industry to grow the pie for all.

Women's roles and agencies in the transport sector in Kenya serve as the beginning of this assessment, setting a baseline for the nascent e-mobility industry. Women's usage of transportation, including trip types, modal choice and time of day are analysed to find out how women and men use transport modes differently.

E-mobility's recent developments are then parsed out through the policy environment and industry landscape, with an eye on gender mainstreaming. Key e-mobility related policies are assessed for their impact both on the e-mobility sector in general and their inclusion of gender mainstreaming. Several e-mobility companies are described with an eye on their employment of women, inclusion of women operators, and other gender-sensitive attributes such as working hours and safety design.

Challenges and opportunities for gender mainstreaming in e-mobility in Kenya are broken down into policy, society, infrastructure and capital. Policy issues, including the lack of a holistic, gender-transformative e-mobility policy are analysed. A wide range of societal issues, including widespread sexism in the workplace and on the streets, gender inequity in Science, Technology, Engineering and Mathematics (STEM) education, and inflexible hours, are analysed, with examples of initiatives to tackle these issues. In addition, the impact of underdeveloped infrastructure and lack of capital on women's participation in the e-mobility sector is described with an eye towards solutions to improve the situation.

Throughout, the study addresses **data availability and knowledge gaps** pertinent to e-mobility and gender in Kenya, while highlighting opportunities for demonstration projects. Recommendations are proposed for improving data collection, analysis, and dissemination to facilitate evidence-based decision-making and policy formulation. The study also explores opportunities for demonstration projects to test and showcase innovative approaches to gender-transformative and inclusive e-mobility practices.

Lastly, the report contextualises **global trends, best practices, and international frameworks** within the specific socio-economic realities and challenges faced by Kenya, providing actionable recommendations for policymakers, practitioners, and stakeholders to promote gender equality, sustainability, and economic development through e-mobility interventions. This report aims to provide a foundational analysis of electric mobility in Kenya, focusing on integrating gender perspectives to ensure an inclusive and just transition.

Methodology

The report employs a mixed-method approach, incorporating both primary data collected through interviews and a focus group discussion, and secondary data collection methods to analyse Kenya's e-mobility sector, with a specific focus on gender dynamics. For the primary data semi-structured interviews were held with a wide range of key stakeholders in the sector, while a focus group discussion was held with transport operators. Secondary data was gathered through extensive literature and policy reviews, encompassing qualitative and quantitative sources such as reports, journals, and media outlets. Additionally, a workshop was held in Nairobi in April 2024 that brought together 34 stakeholders from across the sector.

Literature Review

We began by assessing a wide range of published literature on the topic of gender and e-mobility from key sources including Flone Initiative, GIZ, United Nations Environment Programme (UNEP), Africa E-Mobility Alliance (AfEMA), and others. As the e-mobility sector in Kenya is nascent but developing rapidly, there was a focus on more recent publications, particularly but not solely those with a specific focus on Kenya. The literature review included both academic papers and open-source publications. The keywords used for the searches were "e-mobility in Kenya," "electric vehicles in Kenya," "gender and e-mobility," "sustainable transport Kenya," "electric buses Kenya," "charging infrastructure Kenya," "women in e-mobility Kenya," and "renewable energy and e-mobility Kenya." These searches were conducted across multiple journal articles, and open-source platforms to ensure a comprehensive assessment of the current state of e-mobility in Kenya. Key documents were compiled in a database available publicly [here](#).

Interviews

In-depth interviews were conducted with 16 women and 8 men in the e-mobility sector in Kenya. Their occupations cut across the entire value chain with a mixture of people who are in EV production, C-suite level, capacity building, sales and marketing, technical staff, government policymakers, and EV operators themselves. Semi-structured interviews were used to allow for relevant insights to come to the surface, allowing the researcher to add or omit any aspect of the pre-planned questions as they fit the respondent. These interviews provide comprehensive insights into gender dynamics within the sector, offering diverse perspectives to complement the secondary data and address any gaps or limitations in the existing literature. Specifically, we enquired about initial recruitment processes, gender perspectives in electric vehicle design and technology, economic empowerment through EVs among others.

Stakeholder Workshop

A workshop on gender and e-mobility in Kenya was hosted by UNEP with support from the AfEMA) on April 9, 2024 in Nairobi. The workshop included presentations from UNEP, AfEMA, Flone Initiative, Advanced Mobility Centre, UN-Habitat, and Stima Mobility. Working groups then discussed potential pilot projects for gender inclusion in e-mobility projects in Kenya. The insights and outcomes from these discussions were a key source of data for this report.

Focus Group Discussion

A large focus group discussion was held with 24 transportation operators including 14 women in Nairobi on August 14, 2024. Participants included boda boda riders (19), matatu driver (1), matatu conductors (2), and taxi drivers (2). Nine participants were users of electric vehicles, and fifteen operated Internal Combustion Engine (ICE) vehicles. Topics included the comparative experience of using ICE and electric vehicles, women's experiences as passengers and users of transport, and opportunities to expand women's role in e-mobility in Kenya.

Gender and Transport in Kenya

In Kenya, legislative and policy changes over the past two decades have pushed forward the status of women in society - yet gender inequality remains significant, particularly in the transport sector where women are underserved, underrepresented, and often harassed. Women and teenage girls have higher poverty rates, worsened by detrimental cultural attitudes and ideas about gender roles, and experience more gender-based violence in the home and on the street. Effective engagement in the economy by women is hampered by their limited control over the advantages of land and other resources, especially as producers and market participants. The unpaid caregiving and household work performed by women additionally hinders their mobility and restricts their ability to participate in both productive and social activities.¹

Gender Mainstreaming in Kenya

Gender mainstreaming is mandated by national policy and guaranteed by the Kenyan constitution in all institutions in the public and private sectors. Three key documents have served to push forward the role of women in Kenya: the [Constitution](#), [Vision 2030](#), and the [National Policy on Gender and Development](#). The Global Gender Gap Index compiled by the World Economic Forum (WEF) shows major disparities between men and women in Kenyan society, with the biggest gaps being in technical professions, advancing into leadership roles, and overall lower earned income. The pay gap was, unfortunately, only recorded for OECD countries by the WEF (Figure 1).

Global Gender Gap Index Indicators						2023	
Indicator	Rank	Score*	Compare with Global average	Difference F-M	Female vs Male		Min Max
					Min	Max	
Economic Participation and Opportunity	16th	0.791		-			-
Labour-force participation rate %	33rd	0.862		-10.10	62.90	73.00	0-100
Wage equality for similar work 1-7 (best)	55th	0.661		-			-
Estimated earned income int'l \$ 1,000	8th	0.839		-0.83	4.33	5.16	0-150
Legislators, senior officials and managers %	11th	0.985		-0.75	49.62	50.38	0-100
Professional and technical workers %	100th	0.677		-19.27	40.37	59.63	0-100

Figure 1 Gender Gap Index 2023 for Kenya. Source: World Economic Forum.

¹ “Kenya: Gender Equality & Female Empowerment,” USAID.

<https://www.usaid.gov/kenya/document/gender-equality-female-empowerment-kenya>

Policies for Gender Mainstreaming

Over the past two decades, the Kenyan government has established several key policies and statutes which seek to further gender mainstreaming in society. However, these documents do not address the topic of transportation specifically.

The **2010 Kenyan Constitution** guarantees women's empowerment and gender equality, and states that "Women and men have the right to equal treatment, including the right to equal opportunities in political, economic, cultural, and social spheres."² Additionally, it establishes the Kenyan state as having the fundamental duty to address the needs of women and other marginalised groups in society.

Kenya Vision 2030 seeks to achieve gender parity in terms of income generation, resource distribution, and power. One of the vision's main goals is to "[increase] the participation of women in all economic, social, and political decision-making processes (e.g., starting with higher representation of women in Parliament)."³ However, it does not address the transport and gender links.

Kenya's National Policy on Gender and Development of 2000, updated most recently in 2019, was adopted to guide the mainstreaming of gender equality in all policies, plans and programmes. It has a wide-ranging scope, touching on labour, education, health care, land, housing, agriculture, and more. The National Policy was reviewed in 2019 and aims at "achieving equality of opportunity and outcomes with respect to access to and control of national and county resources and services; and equality of treatment that meets the specific and distinct needs of different categories of women and men". However, it does not explicitly address transport.⁴

Despite these existing policies, women's engagement in the economy is hampered by limited control over land and capital, lower wages, and unpaid caregiving responsibilities. To close the gender gap, targeted efforts are needed to increase women's participation in traditionally male-dominated sectors.

Transport in Kenya

Transport in Kenya is dominated by matatus (informal buses and minibuses), cars, tuktuks (three-wheelers), boda bodas (motorcycle-taxis), and walking. The matatu industry, which has developed in Kenya since the 1930s, is the most common mode for commuters in Nairobi, and across the country also plays an inter-urban transport role.⁵ Matatus, though licensed, are heavily male-dominated, poorly regulated, cartel-dominated, and heavily polluting.

Over the past twenty years, car usage has been on the rise in Kenya, with over 350,000 passenger cars registered in just the period from 2018-2022. Demand for small cars for ride-hailing services in Nairobi

²The Constitution of Kenya. Available at: <https://kenyalaw.org/kl/index.php?id=398>

³"Kenya Vision 2030." Retrieved from <https://vision2030.go.ke/>

⁴"National Policy on Gender and Development," October 2019, Sessional Paper No. 02 of 2019. <https://psyg.go.ke/wp-content/uploads/2019/12/NATIONAL-POLICY-ON-GENDER-AND-DEVELOPMENT.pdf>

⁵"Matatu," by Kenda Mutongi, 2018.

has also helped boost imports – generally used vehicles from Japan - and increased the number of cars and in turn the pollution on the road.⁶

Table 1 Vehicle sales in Kenya, 2018-2022. Source: KNBS.

	2018	2019	2020	2021	2022	Total
Passenger cars	74,683	82,483	65,716	72,520	61,354	356,756
Pickups and lorries	17,734	16,707	12,541	13,057	20,976	81,015
Buses and minibuses	1,877	3,271	1,984	1,715	3,080	11,927
Other	7,742	7,290	13,887	20,207	13,955	63,081
Motorcycles	188,994	210,103	246,705	285,203	131,513	1,062,518
Three wheelers	6,259	7,322	5,896	6,350	4,001	29,828
Total	297,289	327,176	346,729	399,052	234,879	1,605,125

However, the greatest shift recently has been the explosion in boda bodas, which were first encouraged through tax incentives in 2008, and have recently accounted for two-thirds of all imports – but have fallen off in the past two years (Fig. 2).⁷ Boda bodas are poorly regulated throughout the country but are typically loosely self-governed on the local level at stages (known as *mashimo*). Boda boda drivers are over 99% male and have only loose representation in the Boda Boda Safety Association of Kenya (BAK). In Nairobi they are widely used as online delivery services, and mainly offline through hailing on the road throughout the country. However, purchases have slowed down significantly in 2022 and 2023, dropping by three-quarters as the economy struggled and demand dropped off.⁸

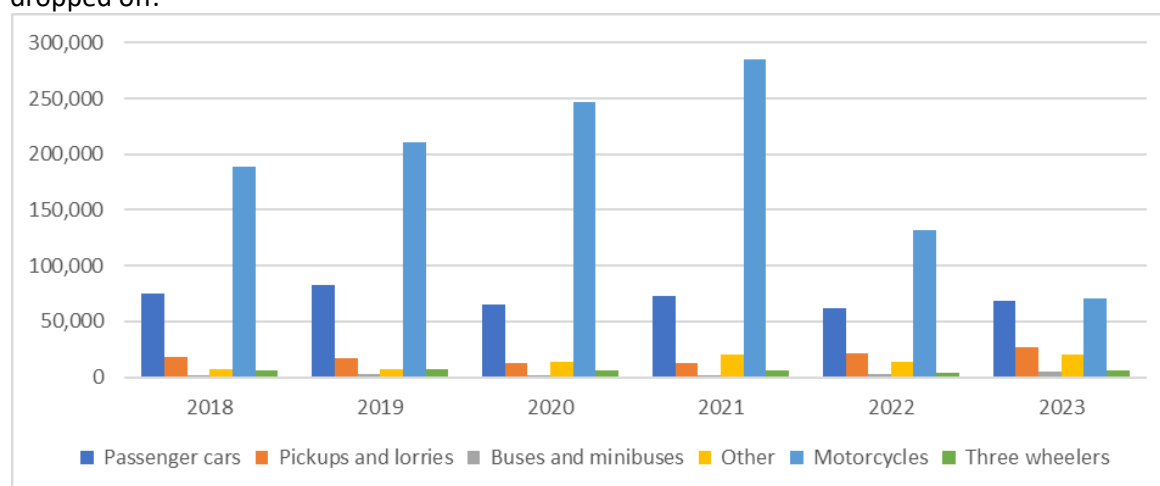


Figure 2 Annual vehicle sales in Kenya. Source: KNBS.

⁶ “Are new jobs good jobs? Digital driving and labor markets in Nairobi,” by Julie Zollmann, November 2022.

⁷ KNBS, Vehicle Registrations 2018-2022.

⁸ <https://www.knbs.or.ke/wp-content/uploads/2024/05/Facts-Figures-2024.pdf>

The three-wheeler sector, known locally as tuktuks, have lost ground in the interior since their initial introduction around the same time as boda bodas but remain commonly used on the coast. They provide both taxi services, from origin to destination, as well as minibus-like services on arterial routes or are used for cargo transportation.

As noted, matatus, boda bodas and tuktuks are all lightly regulated, mainly by men. However, all operators are required to be members of SACCOs (Saving and Community Credit Organizations), which vary in formality. Matatu SACCOs apply for routes and distribute them internally. Boda bodas operate at stages and use ride-hailing apps, though the latter is primarily in the largest cities. While boda boda usage has grown significantly over the past decade, recent fuel rises and the cost of borrowing saw a sharp downturn in 2023.⁹

Women as Transport Users

The predominant modes of transport in Kenya are walking and matatus, as seen in Fig. 3, despite the poor safety record of matatus and the lack of pedestrian infrastructure.¹⁰ Larger cities with longer commutes tend to have a higher share of matatu usage, such as in Nairobi and Mombasa, the capital and a first-tier city, respectively, which each have over 60% share of matatu trips.¹¹ Private and shared car usage is primarily in the largest cities and has been growing significantly in recent years, boosted in particular by Uber chap chap, a cheaper Uber car option, and its rival, Bolt. Smaller towns with lower income and less matatu service are instead dominated by walking trips, and boda bodas are becoming more popular, filling in the gap between matatu services, walking, and private car trips as seen in Fig. 4.

⁹ “Motorcycle imports drop 77pc on higher prices, fuelling costs,” Business Daily Africa. <https://www.businessdailyafrica.com/bd/economy/motorcycle-imports-drop-77pc-on-higher-prices-fuelling-costs-4485180>

¹⁰ Salon, D., & Gulyani, S. (2019). Commuting in Urban Kenya: Unpacking travel demand in large and small Kenyan cities. *Sustainability*, 11(14), 3823. <https://doi.org/10.3390/su11143823>

¹¹ Ibid (Salon & Gulyani, 2019)

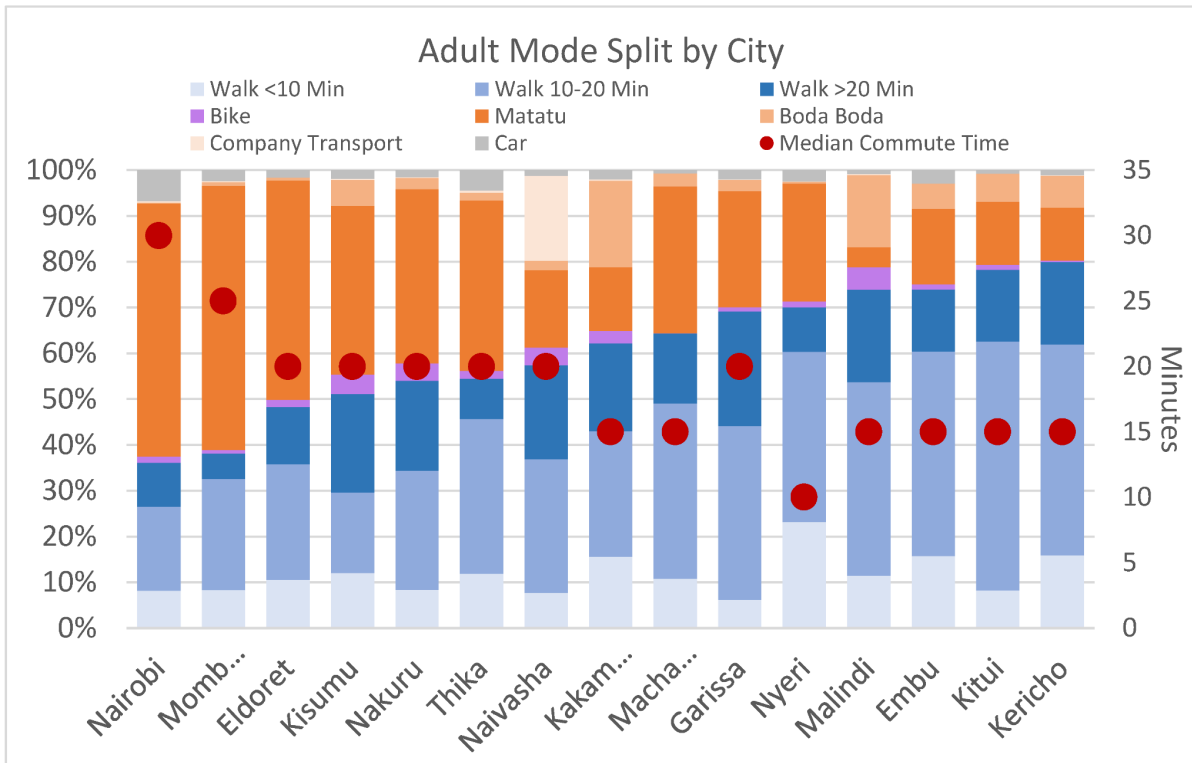


Figure 3 Transport by Mode in Kenya. Source: Salon & Gulyani, 2019

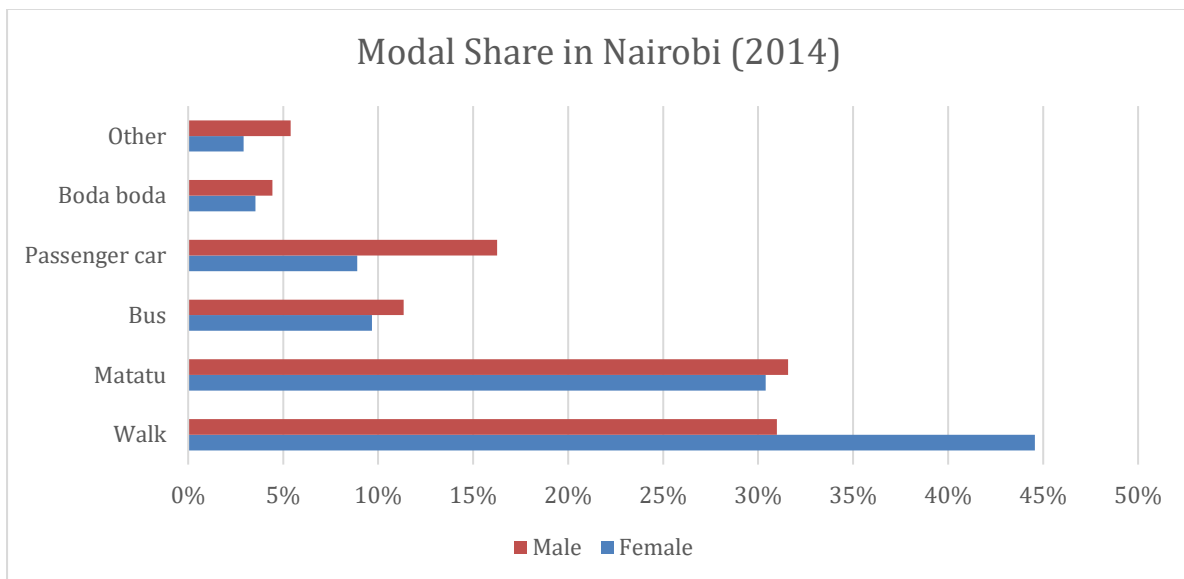


Figure 4 Mode share by gender, adapted from Graph 1-13 in "Gender in Urban Transport in Nairobi, Kenya, Volume 1: Mobility", World Bank, based on a 2014 JICA survey.

Mobility and Caregiving

Because they balance caring for others and domestic duties with employment, women's daily travel patterns differ and are more complex than men's. Women are much more likely to be accompanying a child, which creates significant additional considerations when moving – particularly reducing the safety and convenience of using boda bodas.¹² Women are also more likely to not leave the home altogether, with 3.6% reporting no trips whatsoever, compared to less than 0.9% of men.¹³

Safety and Harassment

Public safety for women remains a major concern when using transportation. In Nairobi, women repeatedly experienced sexual harassment on public transport, and most interviewed women riders do not feel safe, since the majority of harassment incidents are perpetrated by male public transport crews.¹⁴ The problem of harassment and abuse in Nairobi is strongly linked to sexist public attitudes. The likelihood of theft and assault is also increased when there is inadequate illumination at bus stations and on the roadways that run between them and residential areas, and around half of women report nighttime travel as the most unsafe.¹⁵ Sexual harassment is the third most commonly challenge faced by women in Nairobi, as shown by Figure 3, and is reported by nearly nine times as many women as men – emphasizing the gendered nature of the issue.

¹² Ibid (Kishiue / World Bank).

¹³ Akiko Kishiue, Karla Dominguez Gonzalez, and Elise St. John. 2020. Gender in Urban Transport in Nairobi, Kenya Volume I: Mobility. © World Bank.

<https://openknowledge.worldbank.org/entities/publication/10054cbe-63cb-563b-8403-797309c2f077>

¹⁴ "Machakos County Public Transport Sexual Harassment and Gender-based Violence Policy," Flone Initiative, August 2022. <https://floneinitiative.org/national-public-transport-sexual-harassment-gender-based-violence-policy/>

¹⁵ "Expanding available data and knowledge base about women and public transport in Nairobi and Kampala: Nairobi Report," Calvin Kayi / UN Women, December 2021.

<https://africa.unwomen.org/sites/default/files/2023-05/01%20Statistical%20evidence%20of%20women's%20use%20and%20experience%20of%20public%20transport%20in%20Nairobi1512202101.pdf>

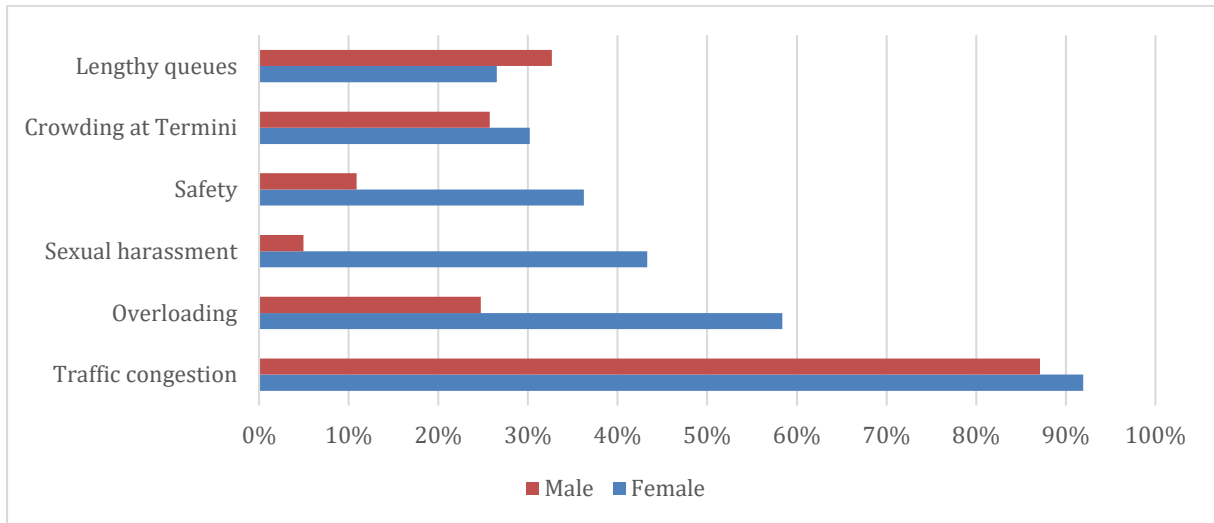


Figure 5 Challenges in using public transport survey, by proportion of respondents indicating challenges. Adapted from: "Gender in Urban Transport in Nairobi, Kenya Volume I: Mobility," World Bank.


Women as Transport Workers


There is a striking gender imbalance in Kenya's public transport workforce, across both the matatu and boda boda sectors. While a study from 2014 indicated that women make up only around 5% of matatu workers in Nairobi SACCOs and 1% of drivers, research from 2020 indicates the number of women matatu workers may have since increased to 10%.¹⁶ In the boda boda sector, women are similarly under-represented, and only around 2.6% of boda boda riders are women.¹⁷


The boda boda sector is generally regarded as being a difficult place for women to work, with widespread harassment and dangerous working conditions, and there are fewer non-operator or non-driver positions for women to occupy. Social norms, road safety, and sexual harassment rank


eBee: empowering women with e-bicycles

eBee is an e-bicycle company in Nairobi with a fleet of over 300 riders. So far, the rider fleet is 9% women, with a near-term goal of reaching 25% women. The company aims for a balanced workforce, with a focus on achieving a 50/50 gender ratio in overall employees and was led by a female country director from July 2021 to February 2024.¹

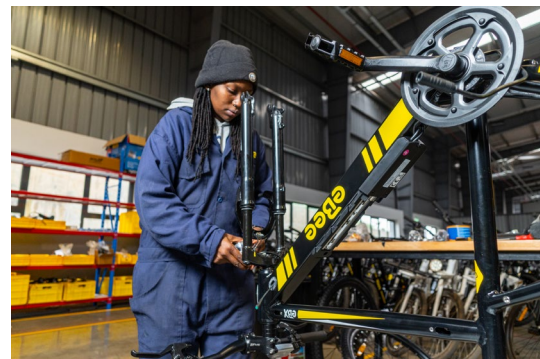
 eBee **promotes flexible working hours** for its women riders. Despite shorter shifts, eBee's women riders have demonstrated optimal performance, delivering a commendable number of orders.

 **three of seven department heads are women.** This approach not only promotes a diverse leadership structure but also fosters a collaborative learning environment.

 **aiming to have 50% female mechanics** in a sector that is typically male dominated.

 **addresses safety concerns**, heightened for women, by allowing riders to leave e-bikes at the main office or designated hives.

 aims to have **one million e-bikes** on the roads by 2030, empowering women all along the way.



¹⁶ Mwangi, 2014, p.72 (Table 3.6).

http://erepository.uonbi.ac.ke/bitstream/handle/11295/77715/Mwangi_Gender%20relations%20in%20public%20road%20transport%20in%20Africa.pdf?sequence=3, "Plight of Women Working in the Transport Industry During Covid-19," Heinrich Boll Stiftung. Retrieved from: <https://ke.boell.org/en/2020/09/04/plight-women-working-transport-industry-during-covid-19>

¹⁷ National Crime Research Centre, 2019

highly among reasons for women’s under-representation in this sector.¹⁸

Building and Maintaining the Pipeline for Qualified Workers

In the informal sector, work is often obtained through social connections - knowing someone with a vehicle that can be rented, shared, or worked on. Women are at a heavy disadvantage here as these systems tend to be self-reinforcing, with men connecting their male friends to these jobs.¹⁹ This is evidenced through the fact women public transport workers in Nairobi seem to have been pigeonholed as conductors: as of 2020 the vast majority (85%) of women transport workers were conductors.²⁰

Another key feeder to the (particularly formal) transport sector is educational programs in engineering and related degrees - where women are severely under-represented. As of October 2023, the total enrolment of women in mechanical engineering-related programs stood at 4,862, only representing 11.8% of the student body.²¹ The same underrepresentation is found in the electrical engineering and building and civil engineering-related programs, with women enrolment at 15.8% (8,163) and 22.7% (18,653), respectively. This represents a severe bottleneck for formal and technical transportation jobs.²²

Even after getting a job, women workers have a harder time keeping their role in the transport sector. During the Covid-19 pandemic and associated lockdowns, over half of female workers in the matatu industry lost their jobs, and in many cases had far more difficulty keeping themselves, and their families, fed, housed, and safe compared to their male counterparts.²³ Even for those who remained employed, or joined or rejoined the sector after the pandemic, work-life balance is a major challenge as transport workers work long hours while also balancing family responsibilities.²⁴ Female workers also frequently lose their jobs if they become pregnant or face suspicion from their partners, a common occurrence given the

“As a conductor it’s difficult to get a man who wants to be with you. We leave home at 4am and come back in the night at 10pm. You have no time to interact with your children or your man. One needs a very understanding partner in this profession.”

- Lucy, a woman matatu conductor

¹⁸ “Women-focused customer research for electric two-wheelers,” BCG Green Ventures, November 2022.

Retrieved from: <https://p4gpartnerships.org/sites/default/files/2023-03/M-KOPA%20-%20BCG%20-%20Gender%20Research%20On%20Electric%20-%20Wheelers%20In%20Africa%20-%20Dec%202022.pdf>

¹⁹ Interview with transport operator, Feb 2024.

²⁰ “Plight of Women Working in the Transport Industry During Covid-19,” Heinrich Boll Stiftung. Retrieved from: <https://ke.boell.org/en/2020/09/04/plight-women-working-transport-industry-during-covid-19>

²¹ Data from TVET Authority and the Directorate of Technical Education

²² Ibid; data from TVET Authority and the Directorate of Technical Education

²³ “Plight of Women Working in the Transport Industry During Covid-19,” Heinrich Boll Stiftung. Retrieved from: <https://ke.boell.org/en/2020/09/04/plight-women-working-transport-industry-during-covid-19>

²⁴ Focus group discussion, August 14, 2024.

young-skewing demographics for female matatu employees.²⁵

Policies Linking Gender and Transport

Kenyan policies on gender in transport are limited. A positive change can be seen on the recently updated Integrated National Transport Policy (INTP) 2024, which includes a section on gender, and places a lot of emphasis on non-motorized and intermediate transport (NMIMT). There are also indications that the government plans to include gender as a prerequisite in planning and design of transport systems to ensure equity and mitigate challenges experienced with the status quo.²⁶ The policy notes that gender disparities are particularly sharp in rural access and village-level mobility and suggests non-transport interventions to decrease or eliminate long-distance travel and boost domestic economic productivity in rural areas, particularly in agriculture. Ultimately, the INTP only calls for, “basic needs closer to the rural poor and informal settlements” and “encouraging the supply and use of NMIMTs.” This is a narrow approach that misses out on women’s transportation needs in urban areas, harassment, ownership, the potential for economic empowerment through mobility and employment in the transport sector in Kenya.²⁷

Relevant Gender Policies

Policy / Regulation	Description	Gender and Transport Impact
National Policy on Gender and Development (2019) ²⁸	To strengthen the normative, legal, policy, and administrative frameworks for achieving gender equality and empowering women at all levels, including through Kenya Vision 2030 and the Medium Term	No clear gender and transport intersection - only a vague mention of women’s reduced mobility in rural areas.

²⁵ “Study Report on Working Conditions and Policies on Employment and Retention of Women in Public Transport Work in Kenya,” Flone Initiative and Heinrich Boll Stiftung. Retrieved from: <https://floneinitiative.org/wp-content/uploads/2024/06/Study-Report-on-Working-Conditions-and-Policies-on-Employment-and-Retention-of-Women-in-Public-Transport-Work-in-Kenya-2020.pdf>

²⁶ “Updated Integrated National Transport Policy,” Ministry of Roads and Transport, March 2024. <https://transport.go.ke/sites/default/files/INTP%20REVIEWED%20MARCH%202024%20SESA.pdf>

²⁷ “Integrated National Transport Policy,” Ministry of Transport, May 2009. <https://land.igad.int/index.php/documents-1/countries/kenya/investment-3/639-integrated-national-transport-policy-moving-a-working-nation/file>

²⁸ “National Policy on Gender and Development,” October 2019. <http://psyg.go.ke/wp-content/uploads/2019/12/NATIONAL-POLICY-ON-GENDER-AND-DEVELOPMENT.pdf>

	Plans (most recently the Fourth Medium Term Plan of 2023-2027). ²⁹	
Isiolo County Gender Policy (2021-2025). ³⁰	To guide institutionalisation and operationalisation of gender mainstreaming in all sectors of County Government functions.	The commitments remain quite vague, outlining policy actions such as "addressing the needs of all persons with disabilities and those experiencing other forms of social inequality across sectors (such as transportation and social infrastructure)," instead of specifying more concrete measures like providing breastfeeding facilities at transportation hubs. Additionally, there is no mention of e-mobility.
Gender Policy 2019 (Ministry of Energy) ³¹	Integrate gender mainstreaming in energy planning under the Ministry of Energy.	Provides guidelines to establish gender equity in energy planning in Kenya. Does not address transport specifically, as it was passed prior to the recent growth in the e-mobility sector.

Current Literature and Data Collection Efforts

Gender-disaggregated, timely, and accurate data in the transportation and energy sectors is crucial for e-mobility planning – yet just a handful of surveys from around a decade ago on gender and mobility in Kenya are available.

In general, there are two studies that have been widely cited: JICA’s 2013-2014 Integrated Urban Development Master Plan Household Survey, and the World Bank’s 2016-2017 BRT Feasibility Study.³²

²⁹ “Fourth Medium Term Plan 2023-2027,” retrieved from: <https://www.planning.go.ke/wp-content/uploads/2024/03/MTP-IV-2023-2027.pdf>

³⁰ “Isiolo County Gender Policy (2021-2025),” 2021. <https://repository.kippra.or.ke/handle/123456789/4157>

³¹ “Gender Policy,” Ministry of Energy, 2019. <https://advocacy.energia.org/assets/2021/11/Gender-Policy-in-Energy-Kenya.pdf>

³² “Integrated Urban Development Master Plan,” JICA, December 2014.

<https://www.kpda.or.ke/documents/Nairobi%20Integarted%20Urban%20Development%20Master%20Plan.pdf>

These are nearly a decade old now, from before the rapid growth in ride-hailing apps, boda bodas, e-mobility and before Covid. Neither of these surveys address ride-hailing apps, and both show fairly low usage of motorcycles. A third study carried out in 2021 by UN Women provides more recent data and included ride-hailing apps (which 14.6% of respondents reported using).³³ Unfortunately, the survey did not include a travel diary style questionnaire and so modal share cannot be ascertained. Additionally, the survey only sampled women and oversampled university graduates (over 50% of respondents were university graduates, compared to 2% of the overall Kenyan population).³⁴ Additional surveys have been carried out by Flone Initiative asking questions specifically around women's experiences in the transport sector.³⁵ This address in particular the challenges women face as users and workers, as well as those of people with disabilities.

There are also occasional issues with methodology in existing reports on transport users in Kenya. For example, several surveys purport to show gender-disaggregated modal split but have totals over 100%, indicating that instead of determining the breakdown of trips respondents are being asked whether or not they take a certain mode of transport.³⁶ Overall, gender-disaggregated data on transport usage, as described by modal share and trip habits remain somewhat scattershot and out of date, carried out by different institutions with different survey tools which make it difficult to assess the role of e-mobility to improve gender inclusivity in the transport sector.

"Nairobi Urban Transport Movement Project (NUTRIP) BRT Feasibility Study and Business Plan Preparation," June 2016. https://www.ppiaf.org/sites/default/files/documents/2018-01/ITP_Nairobi_BRT_Line_1_Inception_Report_v2_0_ISSUE.pdf

³³ "Expanding available data and knowledge base about women and public transport in Nairobi, Kampala and Dar es Salaam: Nairobi Report," UN Women. Retrieved from: https://data.unwomen.org/sites/default/files/documents/Publications/Nairobi_public-transport_report.pdf

³⁴ "Days of bed space as criterion for varsity admission long gone," Feb 18 2023, The Nation. <https://nation.africa/kenya/life-and-style/weekend/days-of-bed-space-as-criterion-for-varsity-admission-long-gone-4127636>

³⁵ See: "Policy Brief: The Need for Inclusive Transport in Kenya," "Study Report on Working Conditions and Policies on Employment and Retention of Women in Public Transport Work in Kenya," "Assessment of the Mobility of Women with Disabilities," and more, retrieved from: <https://floneinitiative.org/publications/>

³⁶ "Expanding available data and knowledge base about women and public transport in Nairobi, Kampala and Dar es Salaam: Nairobi Report," UN Women. Retrieved from: https://data.unwomen.org/sites/default/files/documents/Publications/Nairobi_public-transport_report.pdf

E-Mobility in Kenya

In Kenya, the transportation sector is a high emitter, responsible for close to 11% of total greenhouse gas (GHG) emissions in the country.³⁷ Domestic road transport makes up the bulk of this, accounting for 10.97 million tons of CO₂e.³⁸

The abundance of renewable energy in Kenya presents a unique opportunity to meeting carbon mitigation goals through the utility of electric mobility. As an example, an electric car in Kenya is likely to produce 80% fewer tailpipe emissions than a traditional ICE vehicle due to renewable electricity generation, mainly from hydroelectric and geothermal sources.³⁹ By 2050, sales of EVs are predicted to account for 80% of the global market in all sectors.⁴⁰ Kenya can therefore benefit from this transition by taking advantage of its locally generated clean electricity and the rising demand in vehicle ownership.

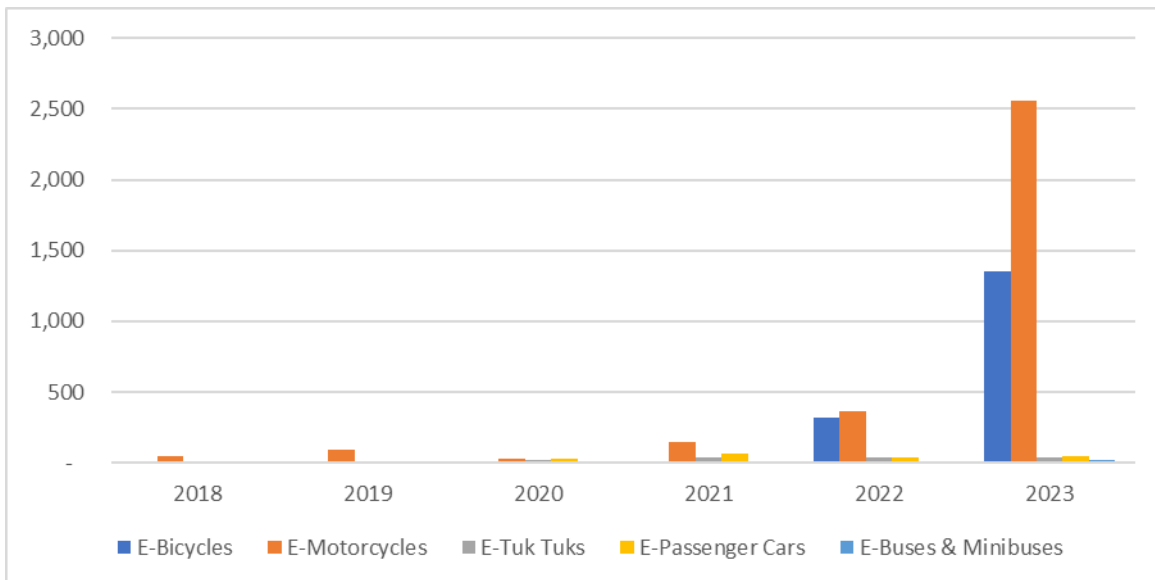


Figure 6 Annual EV registrations in Kenya. Source: NTSA.

E-mobility in Kenya has been led by a strong startup sector, backed by government policy – though most fiscal incentives have recently been repealed, leaving the sector in an uncertain state. Over fifty companies now provide electric bicycles, motorcycles, tuktuks, cars, and buses, as well as charging

³⁷ “A street-level assessment of greenhouse gas emissions associated with traffic congestion in the city of Nairobi, Kenya,” Sitati et al, 2022. Retrieved from:

https://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S2410-972X2022000100006

³⁸ “Performance and Implementation of Climate Change Actions,” Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works, 2019. Retrieved from:

https://www.kcaa.or.ke/sites/default/files/publication/Transport_Sector_Climate_Change_Annual_Report.pdf

³⁹ “Financing the transition to electric vehicles in sub-Saharan Africa,” Shell Foundation, 2022. Retrieved from:

<https://shellfoundation.org/app/uploads/2022/02/EV-Report-McKinsey.pdf>

⁴⁰ IEA. “World Energy Outlook 2019. Paris.” (2019).

equipment and batteries in Kenya. These companies have collectively raised over \$100 million in investments. While there has been recent growth, the electric fleet remains small with only 3,596 electric vehicles registered by the end of 2023, less than 1% of the over 1.6 million vehicles in Kenya (Figure 7).⁴¹

Current E-mobility Policy and Standards

While the Government of Kenya has expressed overall support to the e-mobility sector, EV incentives have been characterized by uncertainty over the past two years and in particular through mid-2024 with an attempted reversal on several tax incentives. This section gives an overview of the relevant policies and their gender relevance.

Existing E-mobility and Climate Policies and their gender considerations

Finance Bills

The majority of the key tax incentives – all gender-blind – passed to boost the e-mobility sector in Kenya came through the Finance Act of 2023/24, though these have since been declared unconstitutional. The Finance Act of 2023/24, which was the law from July 1, 2023 to July 31, 2024, introduced VAT zero-rating on e-bicycles, e-motorcycles, e-tuktuks, e-buses, and lithium-ion batteries and exempted e-motorcycles from excise duties.⁴² These represented major benefits for EVs, and put them at an advantage over ICE vehicles – particularly motorcycles. Partly as a result of these policies, EV imports began to rise rapidly, with total imported electric motorcycles rising from 1,500 in August 2023 to 3,235 by December 2023.

When the **Draft Finance Bill 2024/25** was first circulated in April 2024, the government proposed removing several of the key benefits and creating additional barriers to e-mobility. The proposed bill removed VAT zero-rating for e-buses and e-bicycles. It also proposed removing e-motorcycles fiscal advantages by also exempting ICE motorcycles from excise duty. The bill included an additional motor vehicle tax which would have had an outside effect on EVs as it was to be a 2.5% annual tax on a vehicle's value, which is usually higher for EVs. In addition, it was to include an Eco Levy, resulting in a 750 KSh per kg levy on battery material, which would in effect act as a 5-10% tax on EV batteries.⁴³

In June and July 2024, the Finance Bill of 2024 was withdrawn after massive street protests, and the Finance Act of 2023 was declared unconstitutional and void. As of September 1, 2024, the court

⁴¹ [NTSA](#) data from December 2023, covering 2018-2023. This excludes electric bicycles and other non-traditional vehicles, as they do not have an ICE equivalent and cannot be compared to the ICE market.

⁴² "East Africa Finance Acts 2023/4," Africa E-Mobility Alliance, October 2023.

⁴³ "Kenya's plan to tax Electric Vehicles raises concern," May 22, 2024, Ifeoma Joy Okorie, Techpoint Africa. <https://techpoint.africa/2024/05/22/kenya-plan-tax-electric-vehicles/>

decision was stayed and awaits a Supreme Court hearing, leaving the fate of these critical incentives uncertain.

National E-Mobility Policy

To create a coherent framework for e-mobility in Kenya, the Ministry of Roads and Transport created the Taskforce on the Development of a National Electric Mobility Policy in August 2023. The Taskforce composition is 78% male, with only four women of eighteen members. The Taskforce revealed the country's first **Draft National E-Mobility Policy** in March 2024, which was put out for two weeks of public consultation and input.⁴⁴ The policy established the promising mission to create a “pathway towards a more sustainable, efficient, and equitable transportation powered by e-mobility”. The policy also refers to the targeted 5% adoption rate of electric vehicles in Kenya by the year 2025, as established in the National Energy Efficiency and Conservation Strategy, but doesn't set any targets itself.⁴⁵

While the policy remains a draft as of August 2024 and is still taking public feedback, it has gone slightly further than other policies by incorporating a policy objective specifically on gender equality in the e-mobility ecosystem (Policy Objective VI). This includes five policy measures:

- a. Develop targeted programs that incentivize women, youth and persons living with disabilities (PLWDs) to engage in economic activities enabled by E-mobility.
- b. Develop programs to employ women, youth and PLWDs in different E-mobility activities.
- c. Develop targeted programs for creation of public awareness on e-mobility's benefits, cost savings, and environmental advantages.
- d. Provide fiscal and non-fiscal incentives to players in the E-mobility value chain to employ women, youth and PLWDs.
- e. Establish data security and privacy standards for EVs to protect consumer data, ensure confidentiality, and prevent unauthorized access or misuse of personal information.

While measures A, B, and D explicitly target women, measures C and E are more indirect means of improving gender equality in the sector. Measure C affects women through growing the e-mobility pool and leveraging the fact that women tend to prioritize environmental issues more than men.⁴⁶ Measure E, on the other hand, recognizes women are more likely to be the victims of data breaches, and could help reduce harassment that occurs as a result of the misuse of personal information. No

⁴⁴ “Dawn Of New Era as Ministry Launches Draft Electric Mobility Policy,” March 27, 2024. Ministry of Roads and Transport. Retrieved from: <https://www.transport.go.ke/dawn-new-era-ministry-launches-draft-electric-mobility-policy>

⁴⁵ “Draft National E-Mobility Policy,” March 2024, Taskforce for E-Mobility, Ministry of Roads and Transport. Retrieved from: https://transport.go.ke/sites/default/files/Draft%20National%20e-Mobility%20Policy_For%20Circulation%2027.03.2024.pdf

⁴⁶ “Integrating Women in the Uptake of Electric Mobility in the Two- and Three-Wheeler Sector,” Flone Initiative, 2022.

clear timeline was given for the finalization of the National E-Mobility Policy, nor the implementation of these measures.

Standards

The Kenya Bureau of Standards (KEBS) has established standards on batteries, EVs, and imported used EVs, helping to act as a guardrail for product quality.⁴⁷ In Kenya, the first standards for electric vehicles were created in 2018, and cover the specifications for electrically propelled road vehicles (passenger cars and light commercial vehicles), electric motorbikes, and mopeds in terms of performance, safety, and testing. Of the 21 criteria standards for electric vehicles, 14 are issued to road vehicles that are powered by electricity, 4 to mopeds, and 3 to hybrid electric vehicles.⁴⁸ Standards for EV charging infrastructure, however, have not yet been established, and public chargers for electric cars are so far thus including at least two plug types, of a possible six. This represents a major drawback and wastage in the EV system.

By law, only vehicles that satisfy the conditions set forth by KEBS are permitted to operate on the roads in Kenya. However, KEBS enforcement power is understood to be limited, and it does not do regular testing of goods imported into and sold in Kenya.⁴⁹ Instead, KEBS typically relies on pre-export verification by agents appointed by KEBS in foreign markets, as is the case with e-motorcycles and EV batteries.

Climate Policies

Kenya is a signatory of the Paris Agreement and has taken several actions to establish a legislative framework to address climate change in accordance with its duties under the agreement, the UN Sustainable Development Goals, and Vision 2030. Kenya has also established a National Climate Change Action Plan (2018–2022) to fulfil its obligations under the Paris Agreement. According to Kenya’s Nationally Determined Contribution (NDC), Kenya plans to cut its GHG emissions by 32% from the business as usual (BAU) scenario by 2030.⁵⁰ The NDCs includes measures targeting low carbon and efficient transportation systems while elsewhere broadly calling for gender mainstreaming, but they do not specify the intersection of gender and e-mobility.

⁴⁷ “Notice to importers of electric motorcycle and electric motor vehicle batteries,” December 2023, Kenya Bureau of Standards. <https://kebs.org/wp-content/uploads/2023/12/NOTICE-TO-IMPORTERS-OF-ELECTRIC-MOTORCYCLE-BATTERIES-1.pdf>

⁴⁸ “Summary of electric vehicle standards for Kenya,” October 2020, GIZ. <https://changing-transport.org/wp-content/uploads/GIZ-2020-Electric-vehicle-Standards-report.pdf>

⁴⁹ Interview with industry stakeholder, Feb 2024. “Beware what you consume, KEBS mark of quality not guaranteed,” August 10, 2023, The Nation. Retrieved from: https://nation.africa/kenya/news/beware-what-you-consume-kebs-mark-of-quality-not-guaranteed-4332456#google_vignette

⁵⁰ “Submission of Kenya’s Updated Nationally Determined Contribution,” December 24, 2020, Ministry of Environment and Forestry. <https://unfccc.int/sites/default/files/NDC/2022-06/Kenya%27s%20First%20NDC%20%28updated%20version%29.pdf>

Kenya passed the **Climate Change Act** in 2016, requiring the creation of a Climate Change Coordination Unit in each state agency.⁵¹ The Advancing Transport and Climate Strategies (TraCS) initiative tried to institutionalise the Climate Change Coordination Unit at the State Department of Transport (SDoT). The unit's objective is to coordinate the mainstreaming of all climate change responsibilities in the sector. The Climate Change Act also sets up a National Climate Change Council, whose mandate includes setting out a gender-responsive public awareness strategy. However, since the Climate Change Act was passed, the National Climate Change Council had not yet been formed.⁵²

Additional E-Mobility related Policies

Policy / Regulation	Description	Gender Impact
Integrated National Transport Policy (2009; updated 2024) ⁵³	The INTP does not go into detail on e-mobility but declares that the Government will 1) develop personnel capacity for the uptake of electric vehicles and 2) encourage uptake of electric vehicles.	One of the primary roles of the Government is specified as “ensuring there is social equity and gender balance in the transport sector.”
Energy & Petroleum Regulatory Agency Electricity Tariffs (2023)	EPRA has implemented a unique EV charging rate of 16 KSH (0.12 USD) per Kilowatt hour (KWh), which is cheaper than the residential rate, and a nighttime tariff of 8 KSH per kWh. ⁵⁴	No mention / no clear gender impact
National Energy Efficiency and Conservation Strategy (2020)	Set the goal of five percent of all registered vehicles to be electric, by 2025. ⁵⁵	The document calls for using participatory approaches to mainstream gender in energy

⁵¹ “The Climate Change Act, 2016,” 2016, Republic of Kenya.

<https://kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/ClimateChangeActNo11of2016.pdf>

⁵² “President Ruto nominates four to Climate Change Council,” February 13, 2023, The Star. <https://www.the-star.co.ke/news/realtime/2023-02-13-president-ruto-nominates-four-to-climate-change-council/>

⁵³ “Updated Integrated National Transport Policy,” March 2024.

<https://transport.go.ke/sites/default/files/INTP%20REVIEWED%20MARCH%202024%20SESA.pdf>

⁵⁴ “Retail electricity tariff review for the 2022/23-2025/26 4th Tariff Control Period (TCP) effective 1st April 2023,” March 24, 2023, Energy and Petroleum Regulatory Authority.

⁵⁵ “EV Importation and Industrialisation,” ZE-Mobility and Africa E-Mobility Alliance, 2023.

https://africaema.org/resources/AfEMA_policy_paper_2023_Kenya_ii.pdf

		efficiency work and assigns \$188,000 towards this effort. ⁵⁶
Electric Vehicle Charging and Battery Swapping Infrastructure Guidelines (2023)	EPRA released a set of guidelines on public charging infrastructure, including required capabilities.	No mention / no clear gender impact

E-Mobility Companies in Kenya

E-mobility start-ups have been at the frontline of growing the e-mobility sector in Kenya and are critical to women’s entry and progress in the sector. As private companies they have significant freedom in choosing who to hire, how to build capacity, how to design products, and how to market products. These deliberate decisions are critical to shaping women’s experiences and providing space for women to take up leadership positions and gain an equal footing with men throughout the local value chain.



Figure 7 Electric vehicles as part of a 500-strong EV parade in Kenya in September 2023. Source: EMAK.

⁵⁶ “Kenya National Energy Efficiency and Conservation Strategy,” Ministry of Energy, 2020.
<https://repository.kippra.or.ke/bitstream/handle/123456789/3074/ENERGY%20STRATEGY.pdf>

Start-ups are also active in lobbying policymakers, particularly through the Electric Mobility Association of Kenya (EMAK) and have the potential to shape gender-transformative e-mobility policies. However, so far EMAK’s leadership is 86% male, and publications have made only a single vague reference to targeted trainings that could bring in more women to the sector.⁵⁷

While some companies have conducted pilots to bring more women into the sector mainly through grant support for women EV drivers, they remain heavily under-represented and are estimated to make up less than 5% of EV drivers.⁵⁸ Of the 44 companies with publicly known founders in Kenya, only two (5%) have female founders, while companies with over 10 employees reported only around 33-38% of their workforces are female.⁵⁹

⁵⁷ “Electrifying Kenya’s Transportation Sector,” EMAK, April 2024. With the impending departure of EMAK’s single woman board member, it may soon become an all-male team.

⁵⁸ Conversations with three of the largest e-mobility companies revealed having less than 5% female drivers in their fleets.

⁵⁹ Internal AfEMA Companies Database.

E -mobility companies in Kenya and their gender composition



Drivelectric is one of the oldest e-mobility companies in Kenya, founded in 2015. They have 32 EV charging stations and 65 electric vehicles on the road, which are on a mix of lease to own, rental, and retail sales. Of the 65 drivers working with Drive Electric as of April 2024, seven are women (11%).



Ecobodaa operates a fleet of electric motorcycle taxis on lease-to-own schemes for boda boda riders. Ecobodaa also operates three swapping stations in Nairobi and uses its proprietary Safiri payments system to enable riders to pay for a portion of a swap, mimicking the refuelling experience and reducing mobile money charges. Of the 11 full time employees, 36% are women, and 50% in upper management.⁶⁰



Ampersand is a battery-swapping electric motorcycle company operating in both Nairobi and Kigali since 2018. Ampersand assembles batteries in Rwanda and as of May 2024 has over 500 motorcycles on the road in Kenya. Ampersands staff in Kenya is 38% female, while four out of seven department heads across the company's operations are also women. In addition, their fleet is currently 4.2% women riders, and they aim to increase to 10% in 2024.⁶¹



Roam Electric, based in Nairobi locally assembles their electric bike model, the Roam Air, and e-buses. Roam focuses on at-home charging for e-motorcycles in contrast to most local e-motorcycle companies, though it also offers a battery leasing service. Of the 210 full time employees at Roam, 34% are women.⁶²

⁶⁰ Interview with Ecobodaa, April 23rd, 2024.

⁶¹ Interview with Ampersand, April 23rd, 2024.

⁶² Interview with Roam, April 23rd, 2024.



BasiGo is an electric bus and bus charging infrastructure provider, operating in Nairobi and Kigali. BasiGo uses a Pay-As-You-Drive lease model to allow upfront costs comparable to an ICE bus while charging owners based on mileage for charging and maintenance. Of the 80 employees at BasiGo, 37.5% are women. They have also trained 26 women drivers, and of the 35 drivers, 6% are women. Of 46 conductors at BasiGo, 26% are women.⁶³



eBee is an electric bicycle company operating in Kenya, Rwanda, and Uganda. eBee partners with delivery services to operate a fleet of e-bicycles providing deliveries at lower cost than motorcycles - as well as doing retail sales of their e-bicycles. As of April 2024, they have 1,124 e-bikes on the road and 381 jobs created. Out of its seven department heads, three are women, while the Kenyan workforce as a whole is 38% female. In addition, 9% of the riders are women.⁶⁴



Stima Mobility is a software-as-a-service company that provides software and IOT enabled devices to track and maintain batteries in battery swapping networks. Stima works with partners to offer 1-minute battery swaps, M-Pesa mobile payment options, and modular capacity for convenient service. With the Rider App, users can locate stations, book swaps, access rider statistics, and utilize partner services, while the Asset Monitoring Platform provides real-time asset tracking and management for optimal performance. Of the eight employees, only two are women.⁶⁵ However, with support from UNEP they have trained 25 women to become e-motorcycle riders.



EV Chaja offers EV charging infrastructure installation and operation in Kenya. They have 9 charging points in 5 towns in Kenya and offer the EV Chaja app for drivers to find their stations. Of the three full-time employees, two are women.⁶⁶

⁶³ Interview with BasiGo, April 23rd, 2024.

⁶⁴ Interview with eBee, April 2024.

⁶⁵ Interview with Stima, April 2024.



Green Wheels Kenya is a fleet-owning company in partnership with Uber, which employs riders to drive for Uber. GreenWheels partnered with Uber to roll out Uber's first e-motorcycle option in August 2023. GreenWheels has purchased vehicles from Arc Ride, Roam, and One Electric. As of August 2024, 23% of the administrative staff and 25% of management is female, while only 0.5% of their riders are women.⁶⁷

E-mobility companies' reported sales estimates indicate a limited uptake of EVs by women so far. Ampersand, which had the largest reported e-motorcycle taxi fleet in Kenya as of May 2024, had only 4.2% female riders - which is higher than in the ICE sector, where it is around 2.6%.⁶⁸ Although there are no gender-specific statistics on the electric car industry, the fleet is only thought to number around 120, and interviews have indicated that women make up only 10% of fleet operators, which is comparable to the ICE sector.⁶⁹ **This is a huge potential market that businesses should tap in to increase their customer base.**

Women drivers often prefer opportunities in the delivery business, as there is less passenger interaction and thus greater safety and lower risk of harassment.⁷⁰ Kenya has one of the strongest on demand or home food delivery segments in Africa, which makes it an attractive opportunity for women drivers.⁷¹ Additionally, because e-scooters are very suitable for deliveries and less expensive than e-motorcycles, and are often preferred by women for the ease of riding, there is a largely untapped opportunity for women's employment at the intersection of e-scooters and deliveries in Kenya. Pilots supported jointly by private sector companies and government or development partners could create entry points for women into the e-mobility space.

Industry Development

Kenya has witnessed a surge in investment in the electric mobility industry recently, with over \$100 million invested in locally based e-mobility companies over the past five years. This figure more than doubles when including companies working across multiple African countries.⁷² As of early 2024, there are 55 companies that report operating in Kenya in the importing, manufacturing, retailing, or charging of different types of electric vehicles.

⁶⁶ Interview with EV Chaja, April 2024.

⁶⁷ Interview with Green Wheels Kenya, August 2024.

⁶⁸ National Crime Research Center, 2019.

⁶⁹ Interviews with electric car retailing and fleet companies, April 2024.

⁷⁰ "Women-focused customer research for electric two-wheelers," BCG Green Ventures, November 2022.

⁷¹ "The emergence of food delivery in Africa: A systematic review," Bannor, Richard Kwasi and Josephine Amponsah, Sustainable Technology and Entrepreneurship, Vol 3, Issue 2, May-August 2024. Retrieved from: <https://www.sciencedirect.com/science/article/pii/S2773032823000251>

⁷² Internal AfEMA Companies Database.

While women remain under-represented in the industry, discussions with industry leaders highlight opportunities for women in both new and traditional roles. Women have seen their opportunities expand most notably in the engineering and maintenance departments, where women with mechanical and electrical engineering backgrounds have been hired.⁷³ Women in e-mobility have also taken up more traditional roles, such as in marketing and sales, that are similarly reflected in the ICE sector.



*Figure 8 Assembling a BasiGo E9 Kubwa electric bus at the KVM Thika plant in Nairobi.
Photo: BasiGo.*

*Figure 9 Electric taxis charging at the Knights Energy office in Nairobi. Credit: Knights Energy. Figure 10 Assembling a BasiGo E9 Kubwa electric bus at the KVM Thika plant in Nairobi.
Photo: BasiGo.*

⁷³ Interviews with e-mobility leaders, including a former CEO (female) and current CEO (female).

Business Models

E-mobility rollout in Kenya is staggered, with a significant number of startups working on the e-motorcycle space and much fewer in charging infrastructure, cars, buses, boats, or three-wheelers. Smaller format vehicles like bicycles and motorcycles have much smaller batteries and as a result are much closer in cost to their ICE counterparts than cars or buses, making them the low-hanging fruit in the transition to electric vehicles. However, nearly all electric vehicle models remain above the cost of their comparable ICE models if sold upfront with their batteries. Therefore, to bring these vehicles to market, companies use the following business models to shift cost distribution from upfront prices to operational costs.

E-Motorcycles

The most popular vehicle mode by far to electrify in Kenya has been the motorcycle-taxi, known as the *boda boda*, of which there were 3,235 by December 2023. Motorbikes are an affordable, quick, and manoeuvrable form of transportation that can bypass traffic and reach remote locations on poor roads. Currently over 99% of the motorcycle stock in Kenya use internal combustion engines and most are owned and driven by men – though vehicle registration data is not recorded by gender.

The transition to electric motorcycles faces several obstacles. For one, high battery costs and dependence on imports from Asia force companies to balance upfront affordability and range anxiety. An equivalent electric motorcycle, inclusive of battery, can cost more than \$2,000, where the average ICE motorcycle costs less than \$1,200. There also is very limited infrastructure for charging electric motorcycles or other EVs.

Battery as a service models aim to solve the issues of upfront cost, charging infrastructure and range anxiety by keeping batteries under ownership of the battery swap company, removing the costly battery from the cost of the motorcycle. They also provide convenience by allowing the change of battery packs within minutes, rather than waiting hours for the battery to be charged. Providing battery swap stations across the city also addresses customers' range anxiety, allowing them to swap and keep moving, comparable to a refuelling experience. The battery swap model has therefore been adopted by at least 14 e-motorcycle companies in Kenya, including all but one of the largest e-motorcycle companies.⁷⁴ However, the battery swap operators currently all operate exclusive networks, meaning that e-motorcycle riders are only able to swap at swap stations of the same brand, creating inefficiencies and exacerbating range anxiety.

Numbers on e-motorcycle adoption - either ownership or driving - among women are not currently centrally collected. However, as previously noted, two of the largest e-motorcycle company and battery-swapping station providers in East Africa report 0.5% and 4.2% female drivers in their fleets. One complicating factor in collecting gender-disaggregated data has been the rise of the fleet management company GreenWheels, which purchases vehicles from Roam, Arc Ride, One Electric and

⁷⁴ AfEMA Data Portal

others. The retailers do not receive information on how many riders are women, and GreenWheels owns the vehicles and provides them to riders on a daily basis, so that there is no one to one ratio of motorcycles to riders. Additionally, GreenWheels is reported to have a high turnover rate which means statistics do not typically hold up. However, GreenWheels reported only 0.5% of their fleet was driven by women.

Roam and BasiGo’s Roles in EV Industrialization

One of the key private sector proponents of industrialization in Kenya has been the Swedish company Roam. Roam has built a 10,000-square-metre EV manufacturing facility, in July 2023, with a planned annual production capacity exceeding 50,000 motorcycles.⁷⁵ However, there have been delays in delivery of critical parts, with supply chain issues snarling up rollout.

Another key EV player is the e-bus company BasiGo, which has partnered with Kenya Vehicle Manufacturers (KVM) to assemble e-buses in-country. Using knocked down e-buses from Chinese supplier CHTC Motor, KVM’s new assembly plant plans to be able to deliver 1,000 e-buses over the next three years, creating 300 jobs in the process.⁷⁶

Although BasiGo does not have a specific policy or quota for hiring women, the company’s Product Introduction Manager is a woman, who has also pushed to increase the number of women workers employed by BasiGo.⁷⁷

E-Taxis

While the electric passenger car segment in Kenya is underdeveloped, there are a handful of electric cars being used as taxis, primarily through ride-hailing services and niche fleets. Knights Energy and its subsidiary Drive Electric, for example, has purchased a fleet of used electric cars and rents out the vehicles to drivers. Drivers use ride-hailing services including



Figure 11 Electric taxis charging at the Knights Energy office in Nairobi. Credit: Knights Energy.

Figure 12 Charging station in Nairobi. Credit: Tom Courtright. Figure 13 Electric taxis charging at the Knights Energy office in Nairobi. Credit: Knights Energy.

⁷⁵ “Roam unveils East Africa’s largest electric motorcycle plant,” July 25, 2023, Roam Electric. <https://www.roam-electric.com/post/roam-unveils-roam-park>

⁷⁶ “KVM, BasiGo roll out high-volume electric bus assembly plant, target 1000 units by 2027,” April 17, 2024, Kenyan Wall Street. <https://kenyanwallstreet.com/basigo-high-volume-bus-assembly-plant/>

⁷⁷ “Marian Muthui: The unstoppable force assembling Kenya’s first electric buses,” The Nation, March 8, 2024. <https://nation.africa/kenya/news/gender/marian-muthui-the-unstoppable-force-assembling-kenya-s-first-electric-buses-4548876>

Uber to find customers while utilizing Drive Electrics network of charging stations. Another business model for electric cars in Kenya is fleet management, as currently done by Hummingbird Transport, the largest hotel fleet manager in Kenya. Since 2022 Hummingbird Transport has been leasing 16 e-cars from Equator Mobility for its airport transfer service. Hummingbird takes advantage of the known distances, quasi-arterial service, which ease the introduction and usage of capital-intensive charging stations for electric cars.⁷⁸ However, e-taxi models have been challenged by a lack of incentives for electric cars – they were left out of the initial set of tax incentives in 2023 – and by the usage of used electric cars, with shorter driving range, which are also more difficult to insure.⁷⁹

E-Buses

In the e-bus sector, only BasiGo and Roam are providing electric buses in Kenya and there are less only 24 e-buses on the road as of May 2024.⁸⁰ E-buses remain much more expensive than their ICE counterparts. An estimate from June of 2024 puts the cost of mid-sized ICEV buses (assembled locally as is the norm in Kenya) at 5.5 million KSH (\$42,612), while EV buses can sell for 26 million KSH (\$201,440).⁸¹

The e-buses on the road now have therefore tended towards more innovative business models. BasiGo rolled out 19 buses by January 2024 in Nairobi, using an innovative pay-as-you-drive model. The pay-as-you-drive model involves partnerships with banks which allow Kenyan SACCOs, who own and operate the buses, to pay a deposit comparable to ICE vehicles.⁸² Operators then pay per km driven, which covers electricity costs, charging infrastructure, and maintenance. While this model shows promise to expand availability and bring down upfront costs for customers, it requires high capital investment by the EV company, slowing down growth.

Bus driving remains highly male-dominated - out of the 23 buses BasiGo operates in both Kenya and Rwanda, only 2 out of 35 drivers are women - and while this is a small sample size, this is higher than the 1% of bus drivers that are women in the broader ICE sector. There is more promise in the role of the bus conductor, and 26% of BasiGo's conductors are women - again higher than the ICE sector which has around 6% female conductors, as BasiGo has made a targeted effort to onboard women conductors.⁸³ This has been helped by initiatives such as BasiGo and Advanced Mobility Center's training in October 2023 of 26 women for the public transport sector, with a focus on e-bus training.

⁷⁸ "Equator Mobility partners with Hummingbird Transport to provide cleaner, cheaper hotel and airport transfers," December 1, 2022, Maris Africa. <https://marisafrika.com/equator-mobility-electric-vehicles-partnership-with-hummingbird/>

⁷⁹ Focus group discussion participant

⁸⁰ The third company, Exodus Mobility, has been testing operations of a Roam bus, but has since shut down.

⁸¹ "Electric Buses are Reshaping Nairobi's Public Transport," Andariya, June 11, 2024.

<https://andariya.com/post/electric-buses-are-reshaping-nairobi-s-public-transport>

⁸² "KCB, BasiGo In Deal To Finance Purchase Of Electric Buses," Makokha, Amos; Capital Business. October 4, 2022. <https://www.capitalfm.co.ke/business/2022/10/kcb-basigo-in-deal-to-finance-purchase-of-electric-buses/>

⁸³ A bus conductor is someone who collects fares from passengers and aides in bus operations. Internal call with BasiGo employee; Mwangi, 2014, p.72

E-buses may also be more appealing for women employees due to being easier to drive, newer and more comfortable. They also attract a more amenable ridership than ICE buses; women conductors and drivers have been found to be preferred by other disadvantaged groups over male operators.⁸⁴ Alternatively, women’s higher representation in the e-bus sector may simply be the outcome of e-bus manufacturers and operators making a more targeted effort to achieve gender equality, resulting in a larger pool of trained women capable of working in the broader e-mobility sector. This shows that it is possible to include more women in the transport workforce if deliberate measures are taken. Finally, the fact that almost all e-buses are bought new could provide a more genuine opportunity for women seeking to become drivers and conductors but otherwise lacking the in-group connections needed to sign up for an ICE bus that is already in operation – by a man.

Charging Infrastructure

In the cases of most e-motorcycle and e-bus companies, charging or swapping services are bundled into the services provided by the companies and customers are locked-in to these charging services upon purchase of the vehicle. However, this is not the case for electric cars.

Outside manufacturing EV chargers itself, which is currently not happening in Kenya, there is very little labour involved in the EV charging subsector. Chargers can be installed within half a day, with no permanent on-site labour and only very occasional maintenance.

Swapping stations, on the other hand, are still mostly manned, and there are opportunities for women to work as swappers. However, there is an increasing share of automated swap stations – such as those rolled out by Spiro and Arc Ride – which could significantly reduce employment opportunities in the e-mobility sector.

There are thus likely few opportunities for gender inclusion directly within the EV charging sector beyond the production of such chargers. However, ensuring EV charging locations are gender-

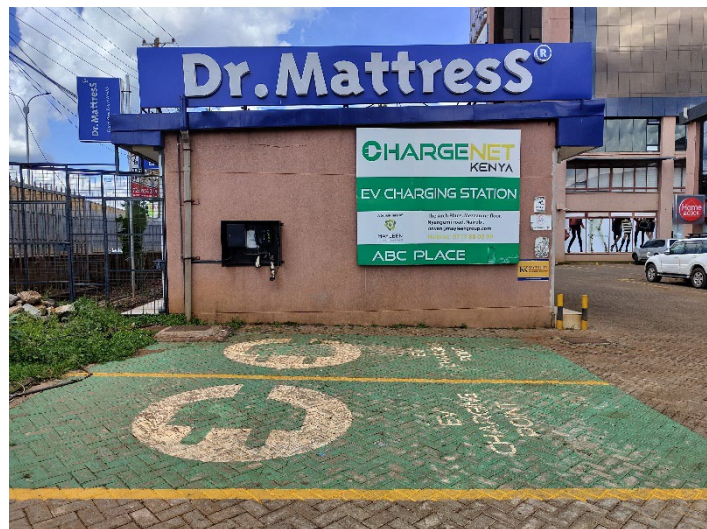


Figure 14 Charging station in Nairobi. Credit: Tom Courtright.

Figure 15 Charging station in Nairobi. Credit: Tom Courtright.

⁸⁴ “Redesigning Kenya's Public Transport With Women In Mind,” Forbes, March 8, 2023.

<https://www.forbes.com/sites/ashoka/2023/03/08/redesigning-kenyas-public-transport-with-women-in-mind/>

sensitive, through matching women’s mobility patterns (e.g. placing chargers at hospitals and markets) and providing safety features including lighting, remains critical.⁸⁵

Challenges for gender mainstreaming in the EV industry

Notwithstanding the advantages that come with electric mobility and an indication of slightly higher female employment in the EV sector over the ICE sector, there are important obstacles that need to be overcome before it can be scaled up. These include the high upfront prices of EVs, issues with battery quality, a lack of public awareness and understanding of EV technologies, lack of technical skills and a lack of charging infrastructure. Investors in e-mobility also still have concerns around asset resale value and battery life.

Policy and legislation

A **thorough legislative framework** is necessary to ensure the success of electric mobility and the mainstreaming of gender in the sector. Kenya runs the risk of focusing solely on technology change and missing the opportunity for gender mainstreaming in the transport sector. The lack of stable policy incentives increases the risks for investors and innovators looking to engage in the space. The special features of EVs, such as battery management and charging infrastructure and gender aspects, are not sufficiently addressed by the laws and policies in place. The Draft E-Mobility Policy, released in April 2024 is a commendable first step, but it fails to address key issues including vehicle and charging station design, gender inclusion and women’s leadership in e-mobility.

Policy stability has also become a critical issue, as companies, users, and investors have faced a rocky journey recently with the alarming Finance Bill 2024/25 withdrawn after massive street protests and the declaration of the 2023/24 Finance Act as unconstitutional. The journey from putting in an order to a factory in Asia to the pressing the pedal on the road in Kenya can take around six months, which means that if a company orders vehicles or batteries for import there is a roughly 50% chance that there will be a different tax regime by the time the vehicles land.⁸⁶ These costs are either then passed onto consumers – making them less likely to buy and raising it out of the realm of affordability for some – or swallowed by the company, making them less likely to become profitable and be able to survive and grow.

Technical standards guarantee that EVs are produced or imported with a consistent degree of safety and quality. Vehicles and charging equipment of inferior quality or ill-fitting designs can jeopardise the safety and functionality of EVs and their appropriateness for women operators and the market more

⁸⁵ “Electric charging infrastructure and gender equality: An overview for USER-CHI,” Katharina Csillak and Sophie Kamenz, 2023. <https://open-research-europe.ec.europa.eu/articles/3-47>

⁸⁶ Exchanges with e-mobility companies, August 8, 2024.

broadly. Technical standards which require more gender-sensitive EV design would be a key step to raising the bar for gender mainstreaming in e-mobility.

Culture and Society

Public awareness. Customers are reluctant to embrace the technology if they don't fully comprehend the benefits of electric vehicles. Women's low adoption of EVs in Kenya indicates a lack of targeted public awareness or marketing to women. There is also a need to bring policymakers and EV companies up to speed on gender-sensitive EV design and policy, in order to bend the industry towards targeting women for EV adoption.

Inflexible hours. Women have a difficult time working in the transport sector especially as operators because of the long hour shifts. They are not able to make these long hour shifts because of the household and caregiving duties that they need to attend to. One e-motorcycle company reported that their efforts to bring women into the space were stymied by a partner's requirement that working hours begin at 6 AM, cutting into hours needed for domestic responsibilities.

Gender inequity in STEM education. The e-mobility sector requires a significant amount of engineering and technical skills gained from a STEM education. Women in Kenya make up only 20-30% of students in key university departments feeding into e-mobility, such as engineering and computer science.⁸⁷ The result is a limited number of women graduates for e-mobility companies to hire. An interviewee mentioned that positions were advertised in their department and the criteria was to have 50/50 gender balance, however, no woman applied for the role despite opening it up again and they had to hire all men for the job openings.⁸⁸

Women's educational enrolment is often influenced by existing stereotypes about the course, the learning environment, successful cases in the community or role models, the nature of prospective work environment, and career guidance from either experts, peers or guardians.⁸⁹ As technical skills are in high demand in the e-mobility industry, there is a strong need to tackle the low women's participation in STEM in order to increase their involvement in the e-mobility sector.

Education and mentoring. In most of the interviews women stated the need for education and training from the grassroots level to ensure more women know about the sector thus interested to join it. Mentorship from women already in the sector to those who would like to be in the sector was another key finding from the interviews. Most women interviewees stated that women within the

⁸⁷ "Exploring Enabling Interventions for Increasing Female Students' Access and Participation in Science, Technology, Engineering and Mathematics (Stem) Disciplines in Kenyan Public Universities," Mbirianjau, Lucy Wandiri. <https://ir-library.ku.ac.ke/handle/123456789/18585>

⁸⁸ Interview with e-mobility personnel

⁸⁹ "Female students join TVET ranks in large numbers," January 24, 2024, Technical and Vocational Education and Training Authority. <https://www.tveta.go.ke/female-students-join-tvet-ranks-in-large-numbers/#content>

sector should create more awareness about e-mobility and this will get more women to be confident about joining the sector.

Macho work culture. E-mobility sector workers reported workplaces that can be unfriendly to women, the same as is experienced in all transport sector jobs. The engineering and transport sectors have been historically male-dominated and continue to be so. An EV training course held in Kenya in 2023 reported having only a single female attendee of sixty students.⁹⁰ Another interviewee described an EV fleet with over 140 riders and only one woman. The woman rider ended up leaving the job after two weeks as she found the boda boda culture to be “rough,” with widespread harassment from fellow riders and a high rate of cancellation from customers.⁹¹

A lack of trust in women’s technical skills impacts their ability to work in the e-mobility sector. Five women working in the e-mobility sector described dealing with men who would refuse to accept their expertise as technicians or managers.⁹² Men would ask to be served by other men and show surprise when told that the woman is the only one with the necessary skills to serve them best. This type of discrimination and sexism acts as a drag on women’s daily experiences and makes interactions tiresome.

Sexist attitudes against women operators. All interviewees mentioned that the transport sector is deemed to be a male dominated sector and that there is a widespread belief that transportation jobs are men’s jobs. A 2023 study of promoting cycling among women in Nairobi found negative socio-cultural perceptions a key factor in low levels of uptake.⁹³ Many of these barriers also apply to the use of 2- and 3-wheel electric vehicles.

Interviews and the focus group revealed a widespread consensus that women have a key role to play in the transition to e-mobility. As several interviewees pointed out, there is significant potential for e-mobility to lessen gender inequity in transport as it is a nascent field and men have not built up the same dominance as they have in the ICE sector, thereby creating a fresh playing field for women to compete more on capability.

Infrastructure & Capital

Bank financing options. In order to facilitate Kenya's shift to electric mobility and lessen reliance on foreign funding, some local banks have made financing options available for e-mobility - but not much of it has been actually disbursed. For instance, NCBA Bank set up a KES 2 billion fund in 2022 that can pay for up to 80% of the expenses related to electric cars, but it is yet to be rolled out.⁹⁴ Women in

⁹⁰ Interview with Advanced Mobility Center

⁹¹ Interview with Research Officer within e-mobility

⁹² Interviews with women in the e-mobility sector, December to February 2024

⁹³ Flone Initiative, 2023

⁹⁴ “NCBA unveils Sh2bn electric car financing as e-mobility picks speed,” Business Daily, August 3, 2022.

https://www.businessdailyafrica.com/bd/markets/capital-markets/ncba-unveils-sh2bn-financing-as-e-mobility-gathers-speed-3901646#google_vignette


particular are often less willing to take high-interest loans, which are a hallmark of the vehicle financing industry in Kenya. Reducing interest rates could therefore have an outsize impact on improving women's participation as operators in the sector. Preferential treatment of women in loan applications would also increase the uptake of EVs by women.


Inadequate charging infrastructure. Another significant obstacle to the development of electric mobility in Kenya is the lack of adequate charging infrastructure. An inadequate infrastructure for charging EVs restricts their range, accessibility, and convenience. Many prospective EV buyers, especially women who are usually more risk averse are therefore reluctant to convert from conventional ICEVs.


Local currency instability. The significant decline in value of the Kenyan Shilling has also had an impact on the adoption of EVs by increasing the price of importing EVs and their parts, such as batteries, which has decreased their affordability for Kenyan consumers. Furthermore, the availability of spare parts for the EVs may be impacted by the high cost of imports. This is currently exacerbated by the small scale of these companies and therefore lower access to international financing and capacity to have big inventories and dependence on foreign inputs.


Stima and SOLUTIONS+: driving women forward

Stima is a battery swapping software company that conducted a SOLUTIONS+ funded pilot project to onboard women drivers through partners.

 Stima **organized workshops** to promote interest among women to be e-motorcycle riders. Mentorship programs were also established to empower new recruits and address potential challenges.

 **Practical training** followed, partnering with AA Driving School to enrol women riders. The aim was to have at least five women initiating the training program weekly.

 Connections were established for women riders to rent motorcycles at **subsidised rates** to gain practical experience and save enough to transition to lease-to-own e-motorcycles, while operating with delivery platforms on their own schedules. Stima has since sought to connect women riders to lease-to-own e-motorcycles.

 Throughout, Stima and partners have conducted onboarding sessions and established dedicated communication channels to address the challenges women riders have faced.

Opportunities

Policy. The final **National E-Mobility Strategy** must more holistically address women's role in e-mobility and set out a clear timeline for incentives to establish policy stability. The final policy should include targets for awareness-raising on women's roles and inclusion in the sector, technical measures that would promote gender-sensitive vehicle design, and improve safety standards around charging infrastructure that would encourage women's transition to EVs.

Public awareness. Public awareness programs like EPRA’s Tusonge na EVs⁹⁵ supported by UNEP should more intentionally target women’s adoption of e-mobility. Programs through radio, TV, and most critically social media platforms should highlight the range of EV products on offer today in Kenya and their benefits to users. By promoting on features such as being quiet or having advanced safety features (as available on the BasiGo bus, for example), public awareness programs can increase women’s participation in the e-mobility sector and usage of electric vehicles.

Gender-targeted corporate programs. E-mobility companies should integrate gender-equitable policies to advance women’s experiences and roles in the workplace. This includes flexible hours, mentorship for women employees, equal pay for women, tracking women’s share of employment, setting gender parity targets, implementing anti-discrimination and sexual harassment policies, providing support for women’s upskilling and training employees on unconscious bias. These recommendations are not specific to e-mobility but to all transport jobs - nonetheless, if the e-mobility sector does a better job of tackling this issue, it will increase women’s participation in the sector.

Gender-targeted financing programs. A special fund with reduced interest rates dedicated to women that would enable them to purchase e-mobility products and become entrepreneurs could help their entry into the e-mobility field.⁹⁶ While female transportation workers often face a highly discriminatory work environment, ownership and rental out of vehicles could be a lower-hanging fruit for women to increase their foothold in the transportation sector. This would also improve women’s earning power while reducing exposure to street harassment.

Conclusion and Recommendations

The potential for women in e-mobility is largely untapped and promoted by a few forward-thinking companies and organizations. Pilot projects showing women can add value in the transition to e-mobility – in the manufacturing, maintenance, ownership, management or driving of vehicles - indicate now is the time for scaling up. To take advantage of the opportunities for advancing both transportation decarbonization and gender equality in Kenya, the following recommendations are proposed:

Development and implementation of a gender-transformative e-mobility strategy with a medium-to long-term horizon. This entails forming a permanent inter-sectorial steering body on electric mobility consisting of stakeholders from the private sector, and public sector organisations (such as KEBS, KRA, NTSA, SDoT, Ministry of Energy, Ministry of Environment). Women should make up at least 50% of the team. This will serve as the main hub for developing strategies, policies, and public information about e-mobility and women’s role in the transition. Member organisations must directly take into account women’s perspectives in order to reduce gender inequity in the sector, likely by being mandated to do so via new policies. Additionally, institutions like the National Climate Change

⁹⁵ <https://e-mobilitykenya.org/tusonge-na-evs-campaign/>

⁹⁶ Interview with e-mobility personnel

Council, which have been established by law and have gender-sensitive climate awareness in their mandate but have not yet actually begun meeting, need to be operationalized. In general, any financial incentives must have a minimum 3-year time horizon to provide stability for companies planning to import, retail, and maintain electric vehicles in the country and therefore increase the overall uptake of e-mobility.

Requiring a gender lens for infrastructure and e-mobility investments. Significant amounts of capital are needed to build out e-mobility infrastructure in Kenya. Foreign funding partners, either development agencies or private investors, can attach gender equality requirements to funds tendered (gender lens investing). Domestically, government-run programs can similarly require policies promoting gender equality, while private companies should explore setting women's quotas for their workforce. Targeted funding- either from the Kenyan government itself or from foreign partners- specifically to increase women's inclusion in the e-mobility sector will also be critical.

Gender-responsive training for e-mobility sector workers. Deep-seated gender biases around women's roles in society hamper women's inclusion in the e-mobility sector. While the sector is still small, the foundation can be laid for a more gender-inclusive workforce. Trainings of EV operators, owners, mechanics, and entrepreneurs on all topics should strive for gender balance and should include discussions around gender and sexism in order to stamp out the condescending attitudes held by many men in the sector. Such efforts will require collaboration between companies, educational institutions. There may also be opportunities to piggyback on other efforts to advance wider gender equality and/or women's involvement in STEM fields and manufacturing. In addition, mentorship programs by and for women in the e-mobility industries should be developed.

Gender-disaggregated data collection must be strengthened. Currently there are no centralized public data sources on gendered modal split, vehicle registrations, or women's experiences in the sector - the NTSA, for example, does not collect gender-disaggregated data. Many data sources available are either around a decade old, have small sample sizes, or are not gender-disaggregated. Strengthening gender-sensitive data collection and analysis are necessary to develop appropriate tools for improving women's participation and experiences in the sector. A centralized data repository, perhaps under the Ministry of Transport, should be developed to monitor mobility-related data - such as vehicle registrations, licences, and vehicle type- disaggregated and workforce by gender.

Gender-transformative projects. New models for women's participation in the sector across their roles as passengers, operators, employers, and leaders have been tested; scaling of pilot projects and startup businesses is now required. Partnerships with governments, donor agencies, and NGOs to promote this will be critical. The intersection of delivery and electric scooters is a particularly potential-laden use case that can be supported by for-profits (conducting deliveries and financing vehicles) and non-profits (conducting trainings and gender sensitivity work) alike, as scooters are both highly appropriate for delivery services and strongly preferred by women.

The integration of this gender-responsive approach into Kenya's transportation electrification efforts – through government actions, conscious efforts by the private sector, and the support of both domestic and international NGOs and multinational organizations – is necessary to ensure Kenya is neither left behind its neighbours nor failing to meet the needs of half of its population. The

recommendations laid out above provide a good set of first steps to pursue to make sure Kenyan women can not only enjoy the benefits of electrified vehicles but make their voice heard in the transition to e-mobility.

Appendix

I: List of interviews

S/N	Name	Designation	Organisation
1	Waithira Makumi	Business Development Manager	Limitless
2	Alex Munene	CEO	Advanced Mobility Center
3	Stacey Obiero	Researcher	Mideva Labs
4	Eve Maina	Business Development Manager	Utu Cars
5	Corazone Katete	Operations Manager	Ecobodaa
6	Sharon Maloba	Engineer	Motion Energy
7	Nicole Nyamao	CEO	Evon Green
8	Magdalena Maluta	Research and Development	Arc Ride
9	Sharon Wangari	Customer Service Lead	eBee
10	Ngenoh Vivian	E-Motorcycle Assembly Lead	Roam
11	Muturo Sifuma	Marketing and Communications Manager	BasiGo
12	Mercy Edna	Transportation Engineering Faculty	Egerton University
13	June Moraa	E-Motorcycle Assembly Technician	Drive Electric
14	Grace Otieno	Office Manager / Project Manager	Stima Mobility
15	Vivian Oyugi	Operations Manager	Ampersand
16	Mercy Karimi	Strategy & Execution Lead	Green Wheels
17	John Msingo	Chief Revenue Officer	EV Chaja
18	Francis Romano	CEO	Drive Electric
19	Alex Mwanzo	General Manager	Equator Mobility
20	Sten Van Der Ham	Co-Founder	eBee
21	Judith Owigar	Consultant	UN-Habitat

22	Peris Karanga	Charging & Research	Utu Cars
23	Kinyar Karangi	Busineses Executive	ChajaWork
24	Otieno Abrahams	Research Assistant	Drive Electric

References

- Africa E-Mobility Alliance (2023). *EV Importation and Industrialisation Kenya: Gaps, Opportunities, and Policy Options*. Africa E-Mobility Alliance.
https://africaema.org/resources/AFEMA_policy_paper_2023_Kenya_ii.pdf
- Ambani, B. (2024, April 18). *Roam to set up electric car charging stations at QuickMart outlets*. Business Daily Africa. <https://www.businessdailyafrica.com/bd/corporate/shipping-logistics/roam-electric-car-charging-stations-at-quickmart-outlets-4595084>
- Ashoka. (2023, March 8). *Redesigning Kenya's Public Transport With Women In Mind*. Forbes. <https://www.forbes.com/sites/ashoka/2023/03/08/redesigning-kenyas-public-transport-with-women-in-mind/>
- Bannor, R.K., and Amponsah, J. (2024). *The emergence of food delivery in Africa: A systematic review*. Sustainable Technology and Entrepreneurship, 3(2).
<https://doi.org/10.1016/j.stae.2023.100062>
- Csillak, K., and Kamenz, S. (2023) Electric charging infrastructure and gender equality: An overview for USER-CHI (H2020 project) [version 1; peer review: 2 approved with reservations, 1 not approved]. Open Res Europe, 3:47 (<https://doi.org/10.12688/openreseurope.15381.1>)
- Dörnyei, Z. (2007). *Research methods in applied linguistics: Quantitative, qualitative, and mixed methodologies*. Oxford: Oxford University Press.
- Electric - mobility in Kenya: An overview of regulatory and legal considerations: MMAN Advocates (no date) ELECTRIC - MOBILITY IN KENYA: AN OVERVIEW OF REGULATORY AND LEGAL CONSIDERATIONS | MMAN ADVOCATES. Available at: <https://mman.co.ke/content/electric-mobility-kenya-overview-regulatory-and-legal-considerations> (Accessed: 16 February 2024).
- Electric Mobility Taskforce, Kenya (2024). *Draft National E-Mobility Policy, Kenya*. Ministry of Roads and Transport. https://transport.go.ke/sites/default/files/Draft%20National%20e-Mobility%20Policy_For%20Circulation%2027.03.2024.pdf
- EPA (2024, January). *Greenhouse Gas Equivalencies Calculator*. EPA.
<https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>
- Flick, U. (2009). *An introduction to qualitative research*. Los Angeles: Sage Publications.
- Flone Initiative (2021). *Integrating Women in the Uptake of Electric Mobility for the Two and Three-Wheeler Sector*. Flone Initiative. <https://floneinitiative.org/wp-content/uploads/2024/05/Integrating-Women-In-The-Uptake-Of-Electric-Mobility-For-The-Two-And-Three-wheeler-Sector.pdf>
- Friedrich Ebert Stiftung. (n.d.). *The Need for Inclusive Transport in Kenya*. Flone Initiative.
<https://library.fes.de/pdf-files/bueros/kenia/19999.pdf>

- Government of Kenya (2019). *Transport Sector Climate Change Annual Report: Performance and Implementation of Climate Change Actions*. Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works.
https://www.kcaa.or.ke/sites/default/files/publication/Transport_Sector_Climate_Change_Annual_Report.pdf
- Heinrich Böll Stiftung Nairobi. (2020). *Policy Briefs on the Employment, Retention and Promotion of Women Workers in the Public Road Transport Industry in Kenya*. Flone Initiative.
<https://floneinitiative.org/wp-content/uploads/2024/06/Policy-Brief-on-the-Employment-Retention-and-Promotion-of-Women-Workers-in-the-Public-Road-Transport-Industry-in-Kenya-min.pdf>
- IEA (2019). *World Energy Outlook 2019*. IEA. <https://www.iea.org/reports/world-energy-outlook-2019>
- Jobes, K., Naidu, V., Limbu, S.T., and Phillips, S. (2017). *Transport: A Game Changer for Women's Economic Empowerment*. ICED and DFID. http://icedfacility.org/wp-content/uploads/2018/03/ICED-Transport-Sector_WEE-Briefing-Note.pdf
- Kayi, C. (2021). *Women and Public Transport in East Africa: Expanding Available Data and Knowledge Base About Women and Public Transport in Nairobi and Kampala*. United Nations Women.
<https://africa.unwomen.org/sites/default/files/2023-05/01%20Statistical%20evidence%20of%20women%E2%80%99s%20use%20and%20experience%20of%20public%20transport%20in%20Nairobi1512202101.pdf>
- Kenya Bureau of Standards. (2024) *Notice to the Importers of Electric Motorcycle and Electric Motor Vehicle Batteries*. Kenya Bureau of Standards. <https://kebs.org/wp-content/uploads/2023/12/NOTICE-TO-IMPORTERS-OF-ELECTRIC-MOTORCYCLE-BATTERIES-1.pdf>
- Kenya Gazette Supplement. (2016). *Acts, 2016: The Climate Change Act, 2016*. Republic of Kenya.
<https://kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/ClimateChangeActNo11of2016.pdf>
- Kenya Law. (n.d.) *The Constitution of Kenya*. Kenya Law. <https://kenyalaw.org/kl/index.php?id=398>
- Kenya Ministry of Roads and Transport (2024, March 27). *Dawn Of New Era as Ministry Launches Draft Electric Mobility Policy*. Kenya Ministry of Roads and Transport.
<https://www.transport.go.ke/dawn-new-era-ministry-launches-draft-electric-mobility-policy>
- Kipkemoi, F. (2023, February 13). *President Ruto nominates four to Climate Change Council*. The Star.
<https://www.the-star.co.ke/news/realtime/2023-02-13-president-ruto-nominates-four-to-climate-change-council/>

- Kishiue, A., Dominguez Gonzalez, K., and St. John, E. (2020). *Gender in Urban Transport in Nairobi, Kenya Volume I: Mobility*. World Bank.
<https://documents1.worldbank.org/curated/en/452851602157024684/pdf/Mobility.pdf>
- Maina, R. (2024, April 30). *Electrifying Kenyan's Public Transport; The Rise of Electric Buses*. Mojatu.
<https://mojatu.com/2024/04/30/electrifying-kenyan-public-transport-the-rise-of-electric-buses/>
- Makena, E. (2024, June 11). *Electric Buses are Reshaping Nairobi's Public Transport*. Andariya.
<https://andariya.com/post/electric-buses-are-reshaping-nairobi-s-public-transport>
- Makokha, A. (2022). *KCB, BasiGo In Deal To Finance Purchase Of Electric Buses*. Capital Business.
<https://www.capitalfm.co.ke/business/2022/10/kcb-basigo-in-deal-to-finance-purchase-of-electric-buses/>
- Mbirianjau, L.W. (2016) Exploring Enabling Interventions for Increasing Female Students' Access and Participation in Science, Technology, Engineering and Mathematics (Stem) Disciplines in Kenyan Public Universities. Kenyatta University. <https://ir-library.ku.ac.ke/handle/123456789/18585>
- Mbuthia, W. (2024, March 8). *Marian Muthui: The unstoppable force assembling Kenya's first electric buses*. Nation. <https://nation.africa/kenya/news/gender/marian-muthui-the-unstoppable-force-assembling-kenya-s-first-electric-buses-4548876>
- McKinsey (2022). *Financing the transition to electric vehicles in subSaharan Africa*. Available at: <https://shellfoundation.org/app/uploads/2022/02/EV-Report-McKinsey.pdf>
- Muhoza, C., Rocio, W. and Chavez, D. (no date) *Mainstreaming gender in urban public transport*. Available at: <https://www.sei.org/wp-content/uploads/2021/05/mainstreaming-gender-in-urban-public-transport-2021.pdf> (Accessed: 18 February 2024).
- Muiruri, K. (2024, January 8). *Motorcycle imports drop 77pc on higher prices, fuelling costs*. Business Daily Africa. <https://www.businessdailyafrica.com/bd/economy/motorcycle-imports-drop-77pc-on-higher-prices-fuelling-costs-4485180>
- Mwangi, S.M (2014). *Gender Relations in Public Road Transport in Africa* (R50/68868/2011) [Master's Thesis, University of Nairobi].
http://erepository.uonbi.ac.ke/bitstream/handle/11295/77715/Mwangi_Gender%20relations%20in%20public%20road%20transport%20in%20Africa.pdf?sequence=3
- n.a (2021). *Women and Public Transport in East Africa: Expanding Available Data and Knowledge Base About Women and Public Transport in Nairobi, Kampala, and Dar es Salaam – Nairobi Report*. United Nations Women.
https://data.unwomen.org/sites/default/files/documents/Publications/Nairobi_public-transport_report.pdf

- n.a. (2020, September 14). *Plight of Women Working in the Transport Industry During COVID-19*. Heinrich Böll Stiftung Nairobi. <https://ke.boell.org/en/2020/09/04/plight-women-working-transport-industry-during-covid-19#:~:text=10%25%20of%20the%20public%20transport,to%201200%20shillings%20every%20day>
- n.a. (2022). *Clean Our Air 2022 Finalist: Roam*. The Earthshot Prize. <https://earthshotprize.org/winners-finalists/roam/>
- n.a. (2023, July 25). *Roam Unveils East Africa's Largest Electric Motorcycle Plant*. Roam. <https://www.roam-electric.com/post/roam-unveils-roam-park>
- Obura, F. (2024, April 11). *KVM, Basigo Roll Out High-Volume Electric Bus Assembly Plant, Target 1000 Units by 2027*. The Kenyan Wall Street. <https://kenyanwallstreet.com/basigo-high-volume-bus-assembly-plant/>
- Okorie, I.J. (2024, May 22). *Kenya's plan to tax Electric Vehicles raises concern*. Techpoint Africa. <https://techpoint.africa/2024/05/22/kenya-plan-tax-electric-vehicles/>
- Oraro, C., and Nyahoro, B. (2023, May 12). *Charging Ahead: The Bright Future of Electric Mobility in Kenya*. Oraro & Co. <https://www.oraro.co.ke/charging-ahead-the-bright-future-of-electric-mobility-in-kenya/>
- Orwa, S., Ombai, M., Nyangueso, S.O, and Sheba, S. (2017). *Gender Mainstreaming in the Rural Transport Sector in Kenya, Final Report* (KEN2044F). Tacitus, Ltd, Kenya. https://www.research4cap.org/ral/TacitusLtd-2017-KEN2044F-GenderMainstreamingKenya-FinalReport-ReCAP-KEN2044-171011_REDACTED.pdf
- Republic of Kenya State Department for Transport (2021). *Electric Vehicle Standards in Kenya, Draft Summary Report*. Republic of Kenya Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works. https://transport.go.ke/sites/default/files/Electric_mobility_standards.pdf
- Republic of Kenya. (2009) *Integrated National Transport Policy: Moving a Working Nation*. Republic of Kenya Ministry of Roads and Transport. <https://land.igad.int/index.php/documents-1/countries/kenya/investment-3/639-integrated-national-transport-policy-moving-a-working-nation/file>
- Republic of Kenya. (2019) *Sessional Paper No. 02 of 2019 on National Policy on Gender and Development*. Republic of Kenya. <https://psyg.go.ke/wp-content/uploads/2019/12/NATIONAL-POLICY-ON-GENDER-AND-DEVELOPMENT.pdf>
- Republic of Kenya. (2024) *Updated Integrated National Transport Policy*. Republic of Kenya Ministry of Roads and Transport. <https://transport.go.ke/sites/default/files/INTP%20REVIEWED%20MARCH%202024%20SESA.pdf>

- Salon, D., & Gulyani, S. (2019). Commuting in Urban Kenya: Unpacking travel demand in large and small Kenyan cities. *Sustainability*, 11(14), 3823. <https://doi.org/10.3390/su11143823>
- Shell Foundation (2022). *Financing the Transition to Electric Vehicles in Sub-Saharan Africa*. Shell Foundation. <https://shellfoundation.org/app/uploads/2022/02/EV-Report-McKinsey.pdf>
- Sitati, C.N., Oludhe, C., Oyake, L., and Mbandi, A. (2022). *A street-level assessment of greenhouse gas emissions associated with traffic congestion in the city of Nairobi, Kenya*. *Clean Air Journal*, 32(1), 1-12. <https://dx.doi.org/10.17159/caj/2022/32/1.12546>
- Tobiko, K., Omamo, R., Kihara Kariuki, P., and Yattani, U. (2020). *Re: Submission of Kenya's Updated Nationally Determined Contribution*. Ministry of the Environment and Forestry, Office of the Cabinet Secretary. <https://unfccc.int/sites/default/files/NDC/2022-06/Kenya%27s%20First%20NDC%20%28updated%20version%29.pdf>
- USAID. (n.d.) *Gender Equality & Female Empowerment in Kenya*. USAID. <https://www.usaid.gov/kenya/document/gender-equality-female-empowerment-kenya>
- Wambugu, A., Kipkirui, J., Kamiri, F., Romano, F., and Maranga, I. (2020). *Summary of Electric Vehicle Standards for Kenya*. Deutsche Gesellschaft für Internationale Zusammenarbeit. <https://changing-transport.org/wp-content/uploads/GIZ-2020-Electric-vehicle-Standards-report.pdf>
- Wanyeki, P. (2024, January 24). *Female students join TVET ranks in large numbers*. Kenya Technical and Vocational Education and Training Authority. <https://www.tveta.go.ke/female-students-join-tvet-ranks-in-large-numbers/#content>