Scaling Electric Mobility Across Kenyan Counties - A Case Of Nairobi, Mombasa And Kisumu Counties

December, 2025

P4G
Pioneering Green Partnerships, Investing in Impact

Practical ACTION

Table of Contents

Disclaimer

This white paper has been prepared for informational and analytical purposes only. The findings, interpretations, and recommendations expressed herein are those of the authors and do not necessarily reflect the views of Practical Action, BasiGo Limited, the EMobility Association of Kenya (EMAK), or any other partner institutions.

While every effort has been made to ensure the accuracy of data and analysis, the authors make no representations or warranties, express or implied, regarding the completeness, reliability, or suitability of the information contained in this publication. The content should not be construed as legal, financial, or technical advice, and readers are encouraged to seek professional guidance before making decisions based on this material.

References to specific companies, products, or services are for illustrative purposes only and do not constitute endorsement or recommendation. The authors and partner institutions shall not be held liable for any loss, damage, or consequences arising from the use of this white paper.

Authors: *Hezbon Mose, Abdullahi Ali, Ignatius Maranga, and George Theuri.*

Acknowledgements

This study was undertaken by Practical Action under the Mobility and ESMS Solutions for Sub-Saharan Africa (MOBESSA) Project, funded by P4G – Partnering for Green Growth and the Global Goals 2030. The project was implemented by Practical Action in partnership with BasiGo, and in close collaboration with the Electric Mobility Association of Kenya (EMAK).

The analysis benefitted substantially from the operational experiences of private e-mobility companies, BasiGo's deployment of electric buses and charging infrastructure, as well as from EMAK's sector coordination, market intelligence, and stakeholder convening role across Kenya's e-mobility ecosystem. These contributions strengthened the empirical foundation of the case studies and enhanced the relevance and practicality of the policy recommendations presented in this white paper.

The authors gratefully acknowledge the participation and contributions of county governments that engaged through structured presentations, focus group discussions, and plenary sessions during the E-Mobility for Counties Workshop held in Naivasha on 16–17 September 2025. Participating counties included Nairobi City, Mombasa, Kisumu, Nakuru, Machakos, Kiambu, Makueni, Kilifi, Kajiado, and Taita Taveta, whose insights on governance, infrastructure readiness, fleet operations, grid reliability, and investment constraints informed the county-level analysis and comparative assessment presented in this study .

The study also benefitted from engagement with national government institutions and agencies, including the Ministry of Transport, Energy and Petroleum Regulatory Authority (EPRA), Kenya Power and Lighting Company (KPLC), National Transport and Safety Authority (NTSA), and the Kenya Bureau of Standards (KEBS), whose technical inputs and policy perspectives strengthened the regulatory and institutional analysis.

The authors acknowledge the financial and strategic support of P4G, whose catalytic funding enabled stakeholder engagement, primary data collection, and applied policy analysis. The findings and conclusions presented in this white paper are those of the authors and do not necessarily reflect the views of Practical Action, BasiGo, EMAK, or P4G.

Preface

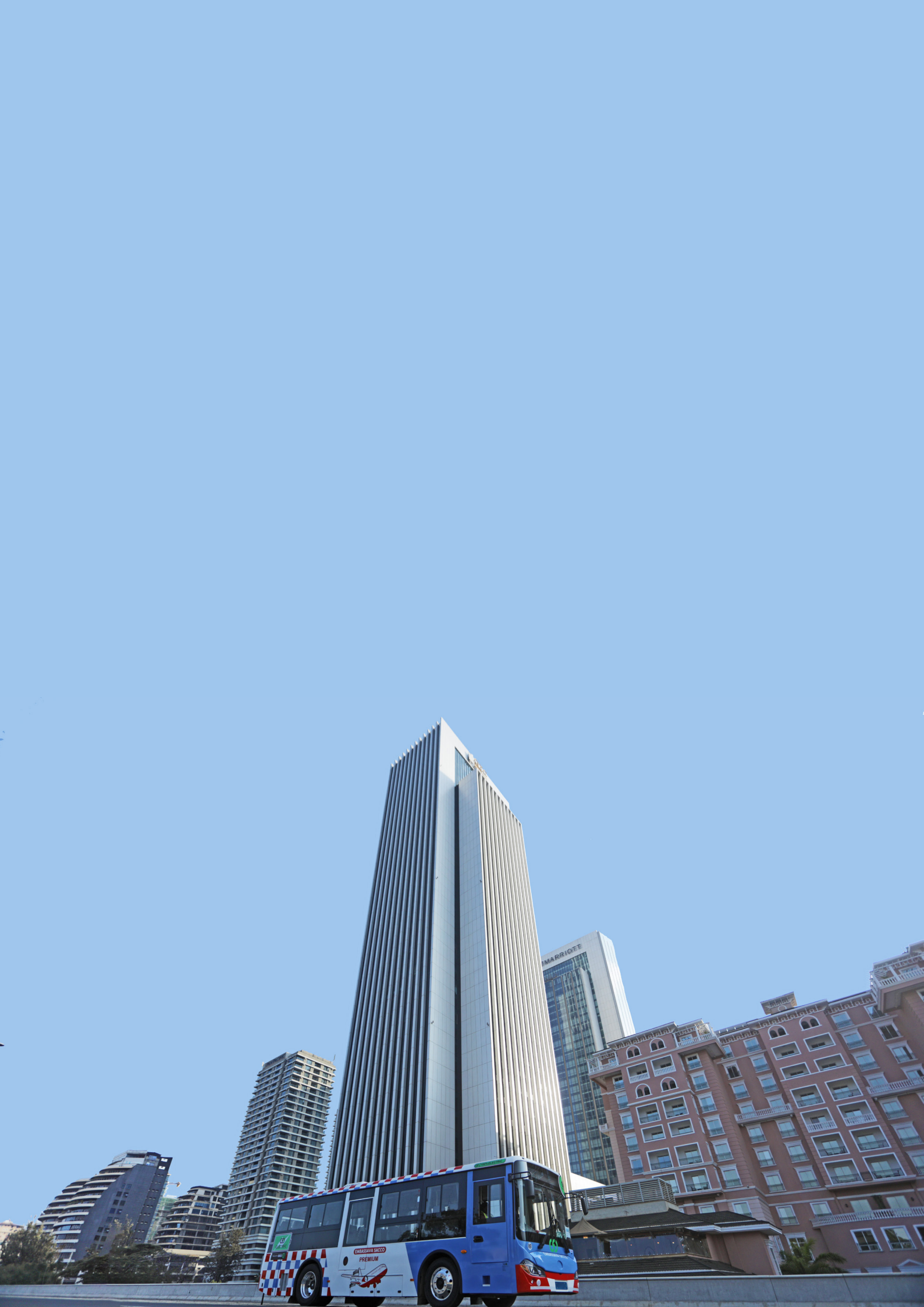
Kenya's EMobility transition presents a paradox: while national progress has been remarkable, adoption remains geographically concentrated. As of 2025, approximately 87% of electric vehicles, 90% of charging infrastructure, and 93% of EMobility companies are based in Nairobi. Yet Kenya's Constitution — through Article 174 and the Fourth Schedule — devolves critical transport and energy functions to county governments, positioning them as essential actors in nationwide electrification.

This white paper addresses a critical gap: the limited availability of countylevel evidence, analysis, and practical guidance to support decentralized implementation. Beyond capacity and financing constraints, counties face governance barriers: fragmented mandates between national and county governments, unclear delegation of authority, and weak coordination mechanisms that slow policy implementation and deter private sector investment.

The paper diagnoses these challenges through four interconnected asymmetries — Policy, Institutional, Infrastructure, and Investment — that interact to create a selfreinforcing cycle: weak governance deters investment, lack of investment limits infrastructure, and limited infrastructure suppresses demand. Breaking this lockin dynamic requires simultaneous action across all four dimensions: national support for county policy development, capacity building for county institutions, grid reliability improvements, and targeted investment incentives.

The analysis draws on applied research under the MOBESSA Project (Practical Action, funded by P4G) and the EMobility for Counties Workshop (September 2025), which convened ten county governments, national agencies, private sector actors, and development partners. Rather than promoting a single model, the paper recognizes county diversity and emphasizes contextspecific pathways.

This white paper is intended for county governments, national policymakers, regulators, utilities, private sector actors, and development partners seeking to support an inclusive, coordinated, and scalable transition to electric mobility in Kenya.


MARRIOTT
EMBASSAVA SACCO
PREMIUM

1 Chapter 1: Introduction and Rationale

1.1 Background: Kenya's E-Mobility Transition

The global shift to electric mobility represents one of the most consequential transformations in modern transportation, driven by the urgent imperatives of climate action, air quality improvement, and energy security. Across continents, nations are racing to decarbonize their transport sectors, recognizing that the future of mobility must be clean, efficient, and sustainable. In Africa, Kenya has emerged as a frontrunner in this transition, demonstrating that developing economies can lead—not follow—in the adoption of transformative technologies.

Kenya stands at a critical juncture where electric mobility offers a transformative solution to converging challenges in climate change, energy security, and urban sustainability. The country's transport sector accounts for over 11% of national greenhouse gas emissions, contributing approximately 4.7 million tonnes of CO_2 equivalent annually, a figure projected to rise substantially under business-as-usual scenarios.[1] As a signatory to the Paris Agreement, Kenya has positioned itself as a regional climate leader. The country's Updated Nationally Determined Contribution (NDC) commits to 32% emissions reduction by 2030, with electric mobility explicitly recognized as a key contributor.[2] Kenya's Second NDC (2031-2035) raises this ambition to 35% reduction, maintaining transport electrification as a priority pathway with 75% of public transport fleets targeted to operate on electric power by 2035.[3]

Electric mobility is rapidly becoming a cornerstone of Kenya's climate and economic development strategy. With 92% of electricity generated from renewable sources, rooted in geothermal, hydropower, wind, and solar, Kenya offers one of the cleanest grids globally, ensuring that EV adoption delivers immediate climate benefits compared to fossil-fuel vehicles.[4] This renewable energy advantage positions Kenya uniquely to maximize the environmental impact of every electric vehicle deployed.

Kenya faces heavy petroleum import dependence, with transport sector consumption accounting for 75% of total petroleum imports valued at approximately USD 5 billion annually.[5] Electric mobility offers a strategic pathway to energy security by leveraging Kenya's exceptional renewable energy foundation. Each gasoline or diesel vehicle replaced by a domestically charged EV reduces petroleum imports by 1,200-1,800 liters annually. At Kenya's 2025 target of 100,000 EVs, cumulative petroleum import displacement could reach 120-180 million liters, equivalent to USD 100-150 million in foreign exchange savings annually.[6]

Between 2018 and June 2025, EV registrations grew from fewer than 100 units to 6,442 vehicles—representing more than a sixty-fold increase in absolute terms.[7] The most dramatic growth occurred between 2023 and 2024, when registrations nearly doubled from 2,694 to 5,294 units, a 96.5% annual

1 Siemens Stiftung & GIZ. (2024). *Kenya e-mobility sector analysis*.

2 UNDP Climate Promise. (2020). *Kenya's Updated Nationally Determined Contribution*; NDC Partnership. (2020). *Kenya NDC implementation*.

3 UNFCCC. (2025). *Kenya's Second Nationally Determined Contribution (2031-2035)*.

4 Energy and Petroleum Regulatory Authority (EPRA). (2025). *Energy & petroleum statistics report — Financial year 2024/2025*. https://www.epra.go.ke/sites/default/files/2025-09/Statistics-Report-June-2025-Web.pdf

5 Business Daily Africa. (2024a). *Kenya petroleum imports and transport sector consumption*.

6 Business Daily Africa. (2024a). *Kenya petroleum imports and transport sector consumption*.

7 EPRA. (2025). *Energy & petroleum statistics report — Financial year 2024/2025.*

growth rate.[8] This momentum continued into 2025, with an additional 1,148 vehicles registered in the first six months alone.[9] The market is driven primarily by electric two-wheelers, which account for approximately 90% of registrations, supported by innovative business models such as Battery-as-a-Service (BaaS) that reduce upfront costs by 60-70%.[10]

Electric buses are also gaining traction, with over 100 units registered with the National Transport and Safety Authority (NTSA) and approximately 200 units deployed across Kenya, primarily in Nairobi's urban public transport system.[11] While this represents only about 1% of the estimated 20,000 public service vehicle (PSV) buses operating in the country, it marks a significant milestone. Companies such as BasiGo have pioneered business models that address the high upfront capital costs of electric buses, and in September 2023, BasiGo established Kenya's first dedicated electric bus assembly line at Associated Vehicle Assemblers in Mombasa, projected to produce 1,000 vehicles over three years while creating 600 jobs.[12]

The Energy and Petroleum Regulatory Authority's (EPRA) introduction of preferential e-mobility tariffs in March 2023, approximately KSh 8 per kWh during off-peak hours and KSh 16 per kWh during peak hours, created financial incentives making electric vehicle operations economically competitive.[13] Electric vehicles demonstrate lifecycle savings of up to 40% compared to diesel equivalents, with electric buses showing fuel cost reductions from KSh 18-22 per kilometer for diesel to KSh 8-12 per kilometer for electricity.[14]

Kenya's policy environment has accelerated this momentum. The National E-Mobility Policy (2025),[15] fiscal incentives under the Finance Act (2025) providing 35-40% cost reductions,[16] EAC import duty reforms (0% for lithium-ion EV batteries),[17] and EPRA's differentiated EV charging tariff collectively form one of Africa's most robust policy frameworks for electric mobility.

Yet despite this progress, adoption remains geographically concentrated:

- Approximately 87% of EVs are registered in Nairobi.[18]
- Approximately 90% of public charging stations are located in Nairobi.[19]
- 93% of e-mobility companies are based in Nairobi.[20]
- Counties outside the capital collectively host fewer than 50 public charging points.

This creates a critical decentralization gap, where the economic, environmental, and social benefits of e-mobility are not being shared equitably across the country. To unlock nationwide benefits and achieve its climate goals, Kenya must decentralize e-mobility adoption by empowering its 47 county governments.

---

8 Citizen Digital. (2025, May 6). Kenya's electric vehicles doubled to 5294 in 2024. https://www.citizen.digital/tech/kenyas-electric-vehicles-doubled-to-5294-in-2024-n362192

9 EPRA. (2025). *Energy & petroleum statistics report — Financial year 2024/2025*.

10 Electric Mobility Association of Kenya (EMAK). (2025). *EMAK 2025 White Paper: Electrifying Kenya's transportation sector* (p. 7).

11 Nairobi County Government. (2025). *Nairobi County E-Mobility Presentation*. E-Mobility for Counties Workshop, September 2025.

12 BasiGo. (2025). *Company overview and assembly operations*; SE4All. (2024). *Kenya e-mobility manufacturing developments*.

13 Energy and Petroleum Regulatory Authority. (2023, March 24). Approval of the schedule of tariffs for supply of electrical energy by Kenya Power and Lighting Company Limited (Gazette Notice No. 3899). *The Kenya Gazette*, CXXV(73).

14 Siemens Stiftung & GIZ. (2024). *Kenya e-mobility sector analysis*.

15 Ministry of Transport. (2025). *National E-Mobility Policy*. Government of Kenya.

16 National Treasury. (2025). *Finance Act 2025*. Government of Kenya; Government of Kenya. (2019, 2022, 2023). *Finance Acts*.

17 East African Community. (2025). *Customs duty reform schedule*.

18 EMAK. (2025). *EMAK 2025 White Paper* (p. 14).

19 Practical Action, GIZ & EMAK. (2025). *E-Mobility for Counties Workshop Report*, September 2025 (p. 18).

20 Siemens Stiftung & GIZ. (2024). *Kenya e-mobility sector analysis*.

1.2 The Decentralization Gap: Why Counties Matter

Kenya's 2010 Constitution established one of Africa's most ambitious devolution models, transforming the country's governance structure by establishing a devolved system in which power, functions, and resources are shared between the national government and 47 county governments. The Fourth Schedule grants county governments exclusive constitutional authority over critical functions for e-mobility, including:[21]

- County roads, public transport, traffic management, and parking (Clause 7).
- Physical planning, zoning, spatial planning and mapping, housing infrastructure approvals and infrastructure development (Clause 8).
- Environmental conservation and natural resources management, control of air and noise pollution.
- Electricity reticulation and regulation.[22]
- Implementation of national policies at county level, creating a direct link between national e-mobility objectives and local action once the final e-mobility policy is launched.

These constitutional mandates mean that counties are not merely stakeholders in the e-mobility transition, they are essential actors with both the legal authority and the responsibility to drive adoption within their jurisdictions. Counties have the power to enact bylaws, issue permits, manage land use, regulate local transport, provide incentives, and mobilize resources.[23] They are uniquely positioned to tailor e-mobility strategies to local contexts, whether that means integrating electric buses/matatus into urban public transport systems, electrifying county fleets to demonstrate leadership, deploying charging infrastructure in strategic locations, or partnering with the private sector to unlock investment.

This constitutional architecture creates fundamental implementation dependencies. The National E-Mobility Policy explicitly assigns counties responsibilities including "designation of sites for charging infrastructure through county spatial plans" and "preferential licensing of electric vehicles for public transport services".[24] Yet the policy provides no model regulations counties can adopt, no technical assistance mechanisms supporting implementation, and no financing arrangements channeling resources to infrastructure deployment.

Yet the current reality reveals a stark disparity. While Nairobi County has leveraged its constitutional mandates to develop a Draft E-Mobility Policy and EV Charging Station (EVCS) Framework, streamline permitting processes, and attract private sector investment, most other counties have yet to take similar steps.[25] Only two counties; Nairobi and Kisumu, have developed draft e-mobility policy frameworks as of 2025.[26] The remaining 45 counties lack specific policies, institutional arrangements, or dedicated budgets for e-mobility.

---

21 Government of Kenya. (2010). *Constitution of Kenya, 2010* (Rev. 2022 ed.). Fourth Schedule — Distribution of functions between national and county governments. Kenya Law Reports.

22 Government of Kenya. (2019). *Energy Act, 2019*. National Council for Law Reporting (Kenya Law). https://www.kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/2019/EnergyAct_No1of2019.pdf

23 Government of Kenya. (2010). *Constitution of Kenya, 2010*. Fourth Schedule.

24 Ministry of Transport. (2025). *National E-Mobility Policy* (Section 7.2).

25 Nairobi County Government. (2025). *Nairobi County EV Public Space Charging Infrastructure Framework* [Draft policy document].

26 Practical Action, GIZ, & EMAK. (2025). *E-Mobility for Counties Workshop Report* (p. 18); Kisumu County Government. (2025). *Cabinet Memo on E-Mobility Integration* [Draft policy document].

1.2.1 The Four Asymmetries of Kenya's E-Mobility Decentralization Gap

The decentralization gap manifests across four interconnected dimensions:

Table 1: The Four Asymmetries of Kenya's E-Mobility Decentralization Gap

Asymmetry Type	Manifestation	Impact
Policy	Only 2 of 47 counties have draft frameworks	Regulatory uncertainty, delayed infrastructure deployment
Institutional	Limited technical capacity in county departments; no dedicated e-mobility focal points	Slow permitting, weak enforcement, fragmented coordination
Infrastructure	Grid uptime varies 80–97% across counties; 90% of charging stations in Nairobi	Unequal service reliability, investor hesitation, reinforced geographic inequality
Investment	90% of charging infrastructure and 93% of e-mobility companies in Nairobi	Reinforces geographic concentration, limits market development in other counties

1.2.2 The Policy Asymmetry

Despite possessing adequate constitutional authority, institutional structures, and financial resources, counties systematically underutilize these assets. All three case study counties maintain zero dedicated e-mobility budget allocations despite substantial annual budgets: Nairobi KSh 38.5 billion,[27] Mombasa KSh 16.26 billion,[28] and Kisumu KSh 15.3 billion[29]. Their County Integrated Development Plans (CIDPs) lack quantified e-mobility targets, allocated budget lines, assigned implementation responsibilities, and monitoring indicators.[30] Furthermore, no county has enacted implementing regulations operationalizing national policy directives, and County Spatial Plans lack designated charging infrastructure sites despite exclusive constitutional planning authority.[31]

This policy vacuum creates regulatory uncertainty for investors and operators. The absence of clear guidelines for siting, permitting, and operating charging stations has resulted in ad hoc decision-making and inconsistent application of regulations. Stakeholders interviewed during the research expressed frustration with the lack of a single point of contact within county governments for e-mobility-related inquiries.

1.2.3 The Institutional Asymmetry

This organizational vacuum creates coordination deficits where responsibilities scatter across Transport, Planning, Environment, and Finance departments without designated focal points providing inter-departmental coordination. Counties maintain robust institutional structures including Transport departments with 10-30 officers, Planning departments with spatial planning expertise, and Environment departments with Climate Change Coordination Units established under the Climate Change Act (2016).[32] Yet these departments lack systematic e-mobility engagement despite possessing adequate organizational foundations.

Technical capacity constraints compound implementation challenges. County transport departments employ officers focused on conventional road maintenance and matatu licensing rather than emerging technologies, with few staff possessing expertise in EV technical specifications, charging infrastructure

27 Nairobi City County. (2024). Approved budget estimates for the financial year 2024/2025

28 *County Government of Mombasa. (2024). The Mombasa County appropriation bill, 2024.*

29 County Government of Kisumu. (2024). Approved budget estimates for the financial year 2024/2025.

30 Nairobi City County. (2023). *County Integrated Development Plan 2023-2027*; Mombasa County. (2023). *County Integrated Development Plan*; Kisumu County. (2023). *County Integrated Development Plan*.

31 Government of Kenya. (2019). *Physical and Land Use Planning Act, 2019.*

32 Government of Kenya. (2016). *Climate Change Act, 2016*.

electrical requirements, or battery financing mechanisms.[33] Technical training institutions within county jurisdictions lack EV-specific curricula, while charging infrastructure development permits remain undefined, forcing applicants to navigate general procedures designed for conventional buildings rather than streamlined processes.[34]

1.2.4 The Infrastructure Asymmetry

Grid reliability varies significantly across the country, and this variation has profound implications for e-mobility adoption. Nairobi County benefits from relatively robust grid reliability, with an average uptime of approximately 97%.[35] This high reliability gives investors and charging infrastructure operators confidence that their facilities will be able to operate consistently. In contrast, Mombasa County experiences an average uptime of approximately 85%, with frequent outages and voltage fluctuations, particularly in industrial areas.[36] Kisumu County faces even greater challenges, with an average uptime of only 80%, meaning the grid is unavailable for approximately 20% of the time.[37] These reliability challenges undermine the business case for charging infrastructure, increase operational risks, and deter private sector investment.

The concentration of charging infrastructure mirrors this pattern. Nairobi hosts approximately 270 of the country's 300 public charging stations, representing 90% of national infrastructure.[38] Mombasa County has approximately 10 public charging stations (less than 1 station per 100,000 people), while Kisumu County has approximately 5 public charging stations (less than 0.5 stations per 100,000 people).[39]

1.2.5 The Investment Asymmetry

The geographic concentration of e-mobility in Nairobi creates a self-reinforcing dynamic. Nairobi's dense charging network makes EV ownership practical and attractive, which in turn stimulates demand for more charging infrastructure. The county hosts over 40 private EV operators, including manufacturers (BasiGo, Roam, Spiro, Ampersand), charging infrastructure operators, and financing providers, creating a competitive and dynamic market ecosystem.[40] This represents 93% of all e-mobility companies in Kenya.[41]

Conversely, the scarcity of charging infrastructure in other counties deters potential EV buyers and operators, limiting market development and perpetuating the geographic imbalance. Only 2-3 private EV operators are active in Mombasa, and only 2 operators in Kisumu, limiting market development and consumer choice.[42]

1.2.6 Equity and Climate Implications

The concentration of e-mobility in Nairobi has profound implications for equity and inclusion. Transport is a basic need, and access to clean, affordable, and sustainable mobility should not be a privilege enjoyed only by residents of the capital. Boda-boda riders, matatu operators, and county governments across Kenya all stand to benefit from the lower operating costs, reduced emissions, and improved air quality that e-mobility offers. Yet without deliberate efforts to decentralize the transition, these benefits will remain out of reach for the majority of Kenyans.

---

33 Mombasa County. (2023). Stakeholder interview; Kisumu County. (2023). Stakeholder interview.

34 Siemens Stiftung & GIZ. (2024). *Kenya e-mobility sector analysis*.

35 Kenya Power and Lighting Company (KPLC). (2025). *Grid reliability data* [Internal report].

36 KPLC. (2025). *Grid reliability data* [Internal report].

37 KPLC. (2025). *Grid reliability data* [Internal report].

38 Practical Action, GIZ & EMAK. (2025). *E-Mobility for Counties Workshop Report* (p. 18).

39 Practical Action, GIZ & EMAK. (2025). *E-Mobility for Counties Workshop Report*.

40 EMAK. (2025). Market mapping data.

41 Siemens Stiftung & GIZ. (2024). *Kenya e-mobility sector analysis*.

42 EMAK. (2025). Market mapping data.

Moreover, this concentration contradicts Kenya's constitutional commitment to balanced regional development articulated in Article 174 of the Constitution.[43] The principle of devolution was designed to ensure that development benefits are shared equitably across all regions, not concentrated in the capital.

The concentration of e-mobility in Nairobi also undermines Kenya's ability to achieve its national climate goals. The transport sector's contribution to emissions is not limited to Nairobi; it is a nationwide challenge. Mombasa, as the gateway to East Africa and home to the country's busiest port, has significant emissions from logistics and freight transport. Kisumu, as the hub of the Lake Victoria blue economy, has emissions from fishing logistics and waterborne transport. Other counties, particularly those with growing urban centers, industrial parks, and agricultural value chains, also contribute to the transport emissions profile. Achieving the NDC target of 32% emissions reduction by 2030 requires action across all counties, not just the capital.[44]

Without deliberate county-level acceleration, Kenya risks a single-county transition, undermining:

- Achievement of NDC targets (32% emissions reduction by 2030, 35% by 2035)
- Regional economic integration and industrialization
- Just transition principles and equitable access to clean mobility
- Constitutional commitment to balanced regional development

Counties must therefore move from passive observers to active drivers of e-mobility adoption.

1.2.7 The Economic Opportunity

The economic opportunity is equally compelling. E-mobility offers Kenya significant benefits, including:

- Job creation: Green jobs across the value chain—vehicle assembly, charging infrastructure deployment, maintenance and repair, and battery recycling. The BasiGo assembly line in Mombasa alone is projected to create 600 jobs over three years.[45]
- Reduced petroleum dependence: Lower reliance on imported fuels, easing the national import bill and shielding the economy from volatile global oil prices. At 100,000 EVs, Kenya could save USD 100-150 million annually in petroleum imports.[46]
- Lower operating costs: Savings for county governments, transport operators, and individual vehicle owners, freeing resources for other productive uses. Electric buses reduce fuel costs by 50-60% compared to diesel equivalents.[47]
- Energy system efficiency: Increased consumption of locally produced renewable energy, reduced curtailment (currently 669 GWh annually), and lower overall cost of power generation.[48]

1.2.8 Case Study Counties: Diverse Pathways

The three case study counties; Nairobi, Mombasa, and Kisumu, provide ideal case studies representing Kenya's e-mobility diversity while collectively accounting for 35-40% of national transport emissions and containing 70-80% of existing EV charging infrastructure.[49]

---

43 Government of Kenya. (2010). *Constitution of Kenya, 2010* (Article 174).

44 Government of Kenya. (2020). *Updated Nationally Determined Contribution*. Ministry of Environment and Forestry.

45 BasiGo. (2023). *Company overview*; SE4All. (2024). *Kenya e-mobility manufacturing developments*.

46 Business Daily Africa. (2024a). *Kenya petroleum imports and transport sector consumption*.

47 Siemens Stiftung & GIZ. (2024). *Kenya e-mobility sector analysis*.

48 Ministry of Energy & Petroleum. (2024). *Energy and petroleum statistics report 2024*. Government of Kenya.

49 Changing Transport. (2024). *Kenya transport emissions analysis*; Siemens Stiftung & GIZ. (2024). *Kenya e-mobility sector analysis*.

Nairobi County demonstrates advanced market conditions with approximately 5,600 registered EVs (87% of national total) and 270 charging stations (90% of national total).[50] However, this metropolitan dominance masks severe intra-county spatial inequities where affluent sub-counties enjoy comprehensive infrastructure while high-density areas like Embakasi (population 988,000) and Kasarani (780,000) lack basic charging access despite hosting larger concentrations of matatus and boda-bodas.[51]

Mombasa County presents a distinctive manufacturing anchor through the AVA electric bus assembly line, with reported target production capacity of 1,000 buses over three years creating 600 jobs—positioning it as Kenya's e-mobility production hub with industrial development opportunities extending beyond transport electrification.[52] The county's port operations (handling over 5,000 logistics vehicles daily) and coastal tourism economy present focused electrification pathways requiring county-specific strategies capitalizing on manufacturing comparative advantage.[53]

Kisumu County represents secondary city dynamics with concentrated boda-boda populations of 25,000-30,000 operators, Kenya's highest per-capita motorcycle concentration,[54] enabling cost-effective battery-swapping infrastructure.[55] The county's resource constraints (smallest budget at KSh 8-10 billion) combined with strategic two-wheeler concentration demonstrate how focused strategies can overcome financial limitations through targeted interventions leveraging county-specific assets. Kisumu has also demonstrated policy leadership through its Cabinet Memo on integrating e-mobility into the county's spatial plan.[56]

This white paper is designed to serve as a strategic tool for policymakers, county leaders, investors, and development partners seeking to advance the decentralization of Kenya's e-mobility transition. It moves beyond a descriptive analysis of the current state to provide a prescriptive roadmap for county-level action.

The primary objective is to evaluate the decentralization of e-mobility governance and implementation to county governments, identifying the barriers that must be overcome, the enablers that can be leveraged, and the pathways that can guide the transition.

Specifically, this white paper aims to achieve the following objectives:

Objective 1: Assess the current state of e-mobility readiness across counties. This involves developing a County E-Mobility Readiness Index that provides a transparent, data-driven framework for comparing counties and identifying leaders, emerging players, and nascent adopters. The index enables targeted interventions, ensuring that support is directed where it is most needed and most likely to have impact.

Objective 2: Identify and analyze barriers to county-level e-mobility adoption. Barriers to e-mobility are multidimensional, spanning technical challenges (such as grid reliability), institutional obstacles (such as fragmented permitting processes), financial constraints (such as high upfront capital costs), social factors (such as limited public awareness and skills gaps), and policy gaps (such as weak national-county coordination). This white paper systematically examines these barriers across five dimensions, drawing on evidence from focus group discussions, key informant interviews, and the E-Mobility for Counties Workshop held in September 2025.[57]

---

50 EPRA. (2025). *Energy & petroleum statistics report — Financial year 2024/2025*; Practical Action, GIZ & EMAK. (2025). *E-Mobility for Counties Workshop Report*.

51 Nairobi City County. (2023). *County statistical abstract*.

52 BasiGo. (2023). *Company overview*; SE4All. (2024). *Kenya e-mobility manufacturing developments*.

53 Kenya Ports Authority. (2025). *Annual report 2024*; Mombasa County. (2023). *County economic profile*.

54 Siemens Stiftung & GIZ. (2024). *Kenya E-Mobility Ecosystem Assessment Report*. Siemens Stiftung.

55 Kisumu County. (2023). *Transport sector analysis*; Siemens Stiftung & GIZ. (2024). *Kenya e-mobility sector analysis*.

56 Kisumu County Government. (2025). *Cabinet Memo on E-Mobility Integration*.

57 Practical Action, GIZ, & EMAK. (2025). *E-Mobility for Counties Workshop Report*, September 2025.

Objective 3: Identify and analyze enablers that counties can leverage. While barriers are significant, enablers also exist across all dimensions. These include Kenya's renewable energy advantage, the National E-Mobility Policy framework, fiscal incentives such as VAT and excise duty exemptions, innovative financing models such as Battery-as-a-Service (BaaS), counties' constitutional mandates, and emerging best practices such as Nairobi's one-stop permitting framework. Understanding these enablers is essential for designing strategies that build on existing strengths rather than starting from scratch.

Objective 4: Propose concrete pathways for counties to accelerate e-mobility within their jurisdictions. This white paper presents a Phased County Acceleration Framework covering the period 2025-2035, organized into three phases: Foundational Readiness (2025-2027), Scaling and Sectoral Adoption (2027-2030), and Mainstreaming and Maturity (2030-2035). Each phase has specific strategic focus areas, key actions, responsible actors, and expected results, providing a clear roadmap for implementation.

Objective 5: Recommend institutional mechanisms for national-county coordination. A recurring theme across all consultations and workshops is the gap in coordination between national and county governments.[58] This white paper proposes the establishment of a National-County E-Mobility Coordination Compact, a formal mechanism co-chaired by the Ministry of Transport and the Council of Governors, with a mandate to harmonize policies, streamline regulations, facilitate infrastructure planning, channel financing, build capacity, and monitor progress.

By achieving these objectives, this white paper seeks to transform the discourse on e-mobility in Kenya from one focused on Nairobi's achievements to one centered on nationwide, county-led implementation. It positions counties not as passive recipients of national policy but as active drivers of the transition, empowered by constitutional mandates, supported by national frameworks, and equipped with the tools, resources, and knowledge needed to succeed.

1.3 Guiding Questions and Analytical Framework

This analysis is driven by six guiding questions:

1. What is the current state of county-level e-mobility readiness?
2. Which barriers inhibit adoption, and which enablers exist to overcome them?
3. How can legal and regulatory frameworks support county-led electrification?
4. What financing and business models are viable within county contexts?
5. What differentiated pathways should counties follow based on readiness levels?
6. How can national and county governments collaborate effectively to scale e-mobility?

Three analytical models structure the paper:

1. County E-Mobility Readiness Index:[59] A composite indicator assessing infrastructure, policy, institutional capacity, and market activity. The index provides a transparent, data-driven framework for comparing counties and identifying leaders (8.0-10.0), emerging players (5.0-7.9), and nascent adopters (0.0-4.9).
2. Barriers–Enablers Matrix:[60] A five-dimensional framework identifying obstacles and opportunities across technical, institutional, financial, social, and regulatory domains. This matrix enables systematic analysis of what prevents adoption and what can accelerate it.

58 Practical Action, GIZ, & EMAK. (2025). *E-Mobility for Counties Workshop Report* (pp. 22-24).

59 EMAK. (2025). *County Readiness Index Methodology*.

60 Practical Action, GIZ & EMAK. (2025). *E-Mobility for Counties Workshop Report*.

3. County Acceleration Roadmap:[61] A phased implementation plan spanning 2025–2027 (Foundation), 2027–2030 (Scale-Up), and 2030–2035 (Maturity). The roadmap provides differentiated pathways based on county readiness levels, ensuring that interventions are tailored to local contexts.

1.4 Structure of the White Paper

This white paper is organized into eleven chapters and supporting annexes:

- Chapter 1 introduces the decentralization challenge and the purpose of this analysis.
- Chapter 2 outlines the methodology, data sources, and limitations.
- Chapter 3 provides Kenya's national e-mobility context, including market trends and policy developments.
- Chapter 4 maps county readiness and compares Nairobi, Mombasa, Kisumu, and other workshop counties.
- Chapter 5 analyzes barriers and enablers across five dimensions.
- Chapter 6 outlines legal and regulatory frameworks empowering county action.
- Chapter 7 addresses cross-cutting issues: skills development, gender and social inclusion, grid reliability, and circular economy.
- Chapter 8 presents financing models and business case analysis.
- Chapter 9 provides differentiated county roadmaps based on readiness levels.
- Chapter 10 recommends coordination mechanisms and institutional arrangements.
- Chapter 11 concludes with a call to action and policy recommendations.

Annexes include the County E-Mobility Readiness Index methodology, workshop participant lists, stakeholder interview guides, focus group discussion summaries, and policy briefs for national and county governments.

This structure ensures that the white paper is both comprehensive in its analysis and practical in its recommendations, providing county governments with the knowledge, tools, and frameworks needed to accelerate e-mobility adoption within their jurisdictions.

61 Ministry of Transport. (2025). *National E-Mobility Policy Roadmap*.

2 Methodology

2.1 Research Design and Approach

This white paper employs a convergent mixed-methods design, integrating quantitative market data with qualitative stakeholder insights to provide a holistic assessment of e-mobility readiness. Given the nascent stage of the sector and the fragmentation of official datasets, the study prioritizes data triangulation, cross-referencing policy documents, market reports (EMAK), and stakeholder testimonies, to validate findings and ensure recommendations are contextually grounded.

The research was conducted between June and October 2025, with fieldwork concentrated in the three focus counties and supplemented by insights from seven additional counties that participated in the E-Mobility for Counties Workshop in September 2025.

The methodology was designed to answer the six guiding questions outlined in Chapter 1 and to develop the three analytical frameworks that structure this white paper: the County E-Mobility Readiness Index, the Barriers–Enablers Matrix, and the County Acceleration Roadmap.

2.1.1 Focus County Selection

The selection of Nairobi, Mombasa, and Kisumu as the primary focus counties was a strategic decision based on a multi-criteria analysis designed to capture the diversity of Kenya's e-mobility landscape. The criteria included:

- Diversity of Readiness Levels: The three counties represent the full spectrum of e-mobility adoption in Kenya: Nairobi (Leading), Kisumu (Emerging), and Mombasa (Nascent). This allows for comparative analysis of the challenges and opportunities at different stages of market development.
- Geographic and Economic Diversity: The counties represent distinct economic and geographic contexts: Nairobi as a metropolitan service-based economy, Mombasa as a coastal port and manufacturing hub, and Kisumu as a lakeside city with a focus on the blue economy.
- Collective Significance: Together, these three counties account for 35-40% of national transport emissions and contain 70-80% of existing EV charging infrastructure, making them critical to the national transition.[62]
- Data Availability and Stakeholder Access: As Kenya's three largest cities, these counties have more readily available data and a higher concentration of stakeholders (government, private sector, civil society), enabling a more in-depth analysis.

While other counties such as Nakuru, Kiambu, and Machakos also demonstrate significant e-mobility activity, they were included in the analysis through the E-Mobility for Counties Workshop rather than as full case studies to maintain analytical depth and focus.

2.2 Data Collection Methods

2.2.1 Desk Review of Policy Documents and Literature

A comprehensive review was conducted of key policy documents, including the National E-Mobility Policy (2025), the Finance Act 2025, the Kenya National Climate Change Action Plan (NCCAP) 2023-2027, East

62 Changing Transport. (2024). Kenya transport emissions analysis; Siemens Stiftung & GIZ. (2024). Kenya e-mobility sector analysis.

Africa Community (EAC) 2025 the Constitution of Kenya 2010, the County Governments Act 2012, and the Energy Act 2019. This review established the legal and policy framework within which counties operate and identified the specific mandates, incentives, and institutional arrangements relevant to e-mobility. Additionally, the review examined technical reports and market data from the Electric Mobility Association of Kenya (EMAK), particularly the EMAK 2025 White Paper: Electrifying Kenya's Transportation Sector, which provided critical data on EV registrations, charging infrastructure, and market trends.

2.2.2 Key Informant Interviews (KIIs)

In-depth interviews were conducted with key stakeholders across the e-mobility ecosystem, including county government officials (transport, planning, and environment departments), national government agencies (Ministry of Transport, Energy and Petroleum Regulatory Authority, Kenya Power and Lighting Company, National Transport and Safety Authority, Kenya Bureau of Standards), private sector actors (EV Assemblers and manufacturers such as BasiGo, Roam, Spiro, and Ampersand; charging infrastructure operators), development partners (GIZ, Practical Action, World Resources Institute), and research institutions. These interviews provided insights into the practical challenges of e-mobility deployment, the regulatory bottlenecks, the financing constraints, and the opportunities for innovation and collaboration.

2.2.3 Focus Group Discussions (FGDs)

Focus group discussions were held in the three focus counties to gather perspectives from a diverse range of local stakeholders, including transport operators (matatu and boda-boda SACCOs), county government staff, civil society organizations, and community representatives. The FGDs explored local perceptions of e-mobility, barriers to adoption, potential solutions, and the role of county governments.

County-specific contexts emerged organically: Nairobi's land scarcity, Mombasa's coastal environment challenges, and Kisumu's blue economy opportunities. Transcripts were subjected to thematic analysis, with codes aligned to the Barriers–Enablers Matrix dimensions (technical, institutional, financial, social, policy).

Transcripts from KIIs and FGDs were subjected to thematic analysis to identify recurring patterns (e.g., grid reliability, land scarcity) that emerged organically from the primary data. Gender and cross sectoral balance was emphasized (achieved 35% female participation) and representation from different sub-counties.

2.2.4 Analysis of the E-Mobility for Counties Workshop (September 2025)

The E-Mobility for Counties Workshop, convened by Practical Action, GIZ, and EMAK in September 2025, brought together representatives from 10 counties (Nairobi, Mombasa, Kisumu, Kiambu, Nakuru, Machakos, Makueni, Kilifi, Kajiado, and Taita Taveta) along with national government agencies, private sector actors, and development partners.

The workshop facilitated knowledge sharing, identified cross-cutting issues, and developed actionable priorities for county-level e-mobility. The workshop report provided valuable data on county contexts, stakeholder perspectives, and consensus recommendations, which have been integrated throughout this white paper.

2.2.5 Case Study Analysis

Specific case studies were examined to illustrate both challenges and best practices. The BasiGo case study on charging infrastructure deployment and regulatory processes provided concrete evidence of the institutional barriers counties face, including lengthy approval times for Change of User (6-7 months), NEMA Environmental Impact Assessment (EIA) licences (3-5 months), and county construction permits (ranging from 2 weeks in Nairobi to 4 months in Kiambu).

The Nairobi County EV Public Space Charging Infrastructure Framework was analyzed as a replicable model for streamlined permitting. The Kisumu County Cabinet Memo on e-mobility integration into spatial planning was examined as an example of policy leadership preceding infrastructure development.

2.2.6 Case Study Selection Criteria

- Replicability: The case presents a model or approach that other counties can adapt (e.g., Nairobi's permitting framework).
- Innovation: The case demonstrates a novel approach to overcoming a key barrier (e.g., Kisumu's policy-first approach).
- Diversity: The cases represent different aspects of the e-mobility ecosystem (infrastructure deployment, policy development).
- Data Availability: Sufficient documentation was available to conduct a thorough analysis.

2.2.7 Selected Cases

- BasiGo Charging Infrastructure Deployment: Documented the regulatory processes and timelines across multiple counties, revealing significant variations.
- Nairobi County EV Public Space Charging Infrastructure Framework: Analyzed as a replicable model for streamlined permitting.
- Kisumu County E-Mobility Integration into Spatial Planning: Examined as an example of policy leadership preceding infrastructure development.

2.3 County E-Mobility Readiness Index

A key methodological innovation of this white paper is the development of a County E-Mobility Readiness Index based on five weighted indicators: EVCS per 100,000 people (25%), grid reliability as measured by average uptime percentage (20%), existence of county EV policy or incentives (20%), number of active private EV operators (15%), and county fleet electrification commitment (10%).

Data for the index was drawn from Kenya Power and Lighting Company (KPLC) records, county government documents, EMAK market data, and county budget allocations. The weighting schema (e.g., assigning 25% to EVCS density) was derived through expert consensus during the September 2025 E-Mobility for Counties Workshop, reflecting the stakeholders' view that infrastructure visibility is the primary driver of consumer confidence.

The index provides a transparent, replicable framework for assessing county readiness and targeting interventions, with the indicators presented as below:

Table 2: County E-Mobility Readiness Index Components

Indicator	Weight	Rationale	Data Source
EVCS per 100,000 People	25%	Infrastructure availability is the most tangible enabler of adoption.	KPLC, Private Operators, KNBS
Grid Reliability (% Uptime)	20%	Reliable electricity is essential for charging infrastructure viability.	KPLC, County Reports
County EV Policy/Incentives	20%	Policy frameworks signal commitment and create regulatory certainty.	County Documents, Workshop Reports
Active Private EV Operators	15%	Private sector presence indicates market viability and investor confidence.	EMAK, Stakeholder Interviews
County Fleet Electrification Commitment	10%	Government leadership creates anchor demand and demonstration effects.	County Budgets, Policy Statements

2.3.1 Justification and Validation of Weighting

The weighting was not arbitrary; it was validated through a structured process:

- Stakeholder Input: During KIIs, majority of the participants at the e-mobility workshop for counties identified infrastructure availability (EVCS density) as the single most critical factor for adoption, justifying its highest weight (25%). FGD participants in all three counties consistently ranked grid reliability and policy certainly as the next most important factors.
- International Benchmarking: The weighting was compared against e-mobility readiness indices from Rwanda, South Africa, and the city of Oslo, Norway. This analysis confirmed that infrastructure and policy indicators typically receive the highest weights (combined 40-50%), aligning with our model.

Table 3: International Benchmarking.

Country/City	Benchmarking Framework	Key Indicators	Weighting Emphasis
Rwanda[63]	World Bank *Enabling Energy Frameworks for EMobility* (2025)	Policy incentives (tax holidays, bans on petrol motorcycles), charging infrastructure density	Policy + Infrastructure = ~45%
South Africa[64]	Africa EV Readiness & Impact Index (2025); PwC eReadiness Survey	Enabling policies, grid infrastructure, affordability, supply/demand	Policy + Infrastructure = ~50%
Oslo, Norway[65]	Oliver Wyman *Urban Mobility Readiness Index (2024);* GEMRIX (2023)	EV adoption policies, charging infrastructure rollout, system efficiency	Policy + Infrastructure = ~48%

2.4 Synthesis and Framework Development

The data and insights gathered through the above methods were synthesized to develop the analytical frameworks that structure this white paper, including the Barriers-Enablers Matrix (organized across technical, institutional, financial, social, and policy dimensions), the Phased County Acceleration Framework (covering 2025-2035), and the proposed National-County E-Mobility Coordination Compact. These frameworks are designed to be practical tools that can guide county action, inform national policy, and facilitate investment decisions.

2.5 Limitations and Constraints

This white paper focuses on three primary counties—Nairobi, Mombasa, and Kisumu—which were selected based on their strategic importance, population, Number of commercial vehicles (2W, 3W and buses), Electricity penetration and reliability, economic Status, diversity of contexts, and availability of data. Nairobi represents the leading county with the most advanced e-mobility ecosystem. Mombasa, as Kenya's second-largest city and the gateway to East Africa through its port, represents a nascent county with significant untapped potential in logistics and tourism. Kisumu, as the principal city of the Lake Victoria region and a hub for the blue economy, represents an emerging county where policy leadership is beginning to create an enabling environment despite infrastructure limitations.

63 World Bank. (2025). *Exploring Enabling Energy Frameworks for Electric Mobility in Rwanda*. Washington, DC: World Bank Group. Retrieved from https://documents1.worldbank.org/curated/en/099741407092528476/pdf/IDU-89dfbbe7-c5a1-4343-98dc-99ea1f05fcb3.pdf

64 World Bank. (2025). *Exploring Enabling Energy Frameworks for Electric Mobility in Rwanda*. Washington, DC: World Bank Group. Retrieved from https://energyforgrowth.org/article/2025-update-africa-ev-readiness-and-impact-index/

65 Oliver Wyman Forum. (2024). *Urban Mobility Readiness Index 2024*. Oliver Wyman Forum. Retrieved from https://www.oliverwymanforum.com/mobility/urban-mobility-readiness-index.html?

While the primary focus is on these three counties, insights from seven additional counties (Kiambu, Nakuru, Machakos, Makueni, Kilifi, Kajiado, and Taita Taveta) that participated in the E-Mobility for Counties Workshop are also incorporated to provide a broader perspective on county-level challenges and opportunities. The frameworks and recommendations developed in this white paper are designed to be applicable to all 47 counties, with appropriate adaptation to local contexts.

The sectoral focus of this white paper is on public transport; Buses, 2 Wheelers, 3Wheelers (Commercial use) and county government fleets). These sectors were prioritized because they account for the majority of current EV adoption, have significant potential for emissions reduction, and are within the direct influence of county governments through regulatory, fiscal, and procurement mechanisms. While private passenger cars, freight trucks, and waterborne transport are also relevant to the e-mobility transition, they receive less emphasis in this analysis.

The timeframe for the analysis and recommendations is 2025-2035, aligned with Kenya's medium- to long-term climate and development planning horizons, including the NDC target year of 2030 and the vision for a mature e-mobility market by 2035.

A summary of the limitations are as below:

- Data Availability: Comprehensive data on county fleet sizes was based on estimates provided by the 10 counties in attendance at the e-mobility workshop. The numbers presented have not been officially validated.
- Grid Reliability Data: Quantitative grid uptime data from KPLC was only available for the three focus counties. For the other seven, we relied on qualitative assessments from workshop participants, which may be subject to perception bias.
- Rapidly Evolving Environment: The policy and market landscape is changing quickly. This means that some information may become outdated as new policies are adopted, regulations are amended, or market dynamics shift. This white paper is a snapshot as of October 2025 and should be viewed as a snapshot of the current situation and a guide for the immediate to medium term, with the understanding that periodic updates will be necessary.
- Selected focus on three County case study: the focus on three counties means that the analysis may not fully capture the diversity of contexts across all 47 counties, particularly in counties with different transport patterns and infrastructure challenges. However, the frameworks developed are designed to be flexible and adaptable to a wide range of county contexts

Despite these limitations, this white paper represents the most comprehensive analysis to date of the opportunities, challenges, and pathways for decentralizing Kenya's e-mobility transition. It is intended to serve as a catalyst for action, a tool for planning, and a foundation for ongoing dialogue among all stakeholders committed to building a cleaner, more sustainable, and more equitable transport future for Kenya.

3 Kenya's E-Mobility Landscape and the Decentralization Gap.

3.1 Introduction: A Structural Divergence

This chapter presents a diagnostic assessment of Kenya's E-Mobility landscape, revealing a fundamental structural divergence between national progress and sub-national readiness. Adopting the convergent mixed-methods design outlined in Chapter 2, the analysis contrasts the exponential growth of national electric vehicle (EV) registrations with the stark "decentralization gap" observed across the 47 counties.

The findings indicate that while Kenya has successfully transitioned from a pilot phase to early commercial scaling, driven by robust fiscal incentives, regulatory reforms, and renewable energy abundance, this growth remains geographically lopsided. The "Tale of Two Transitions" narrative presented here is not merely descriptive; it identifies systemic governance and infrastructure deficits that must be resolved to unlock a truly nationwide green mobility ecosystem.

Anchored in constitutional commitments to equitable development under Article 174 and the Fourth Schedule, the chapter proceeds in four parts:

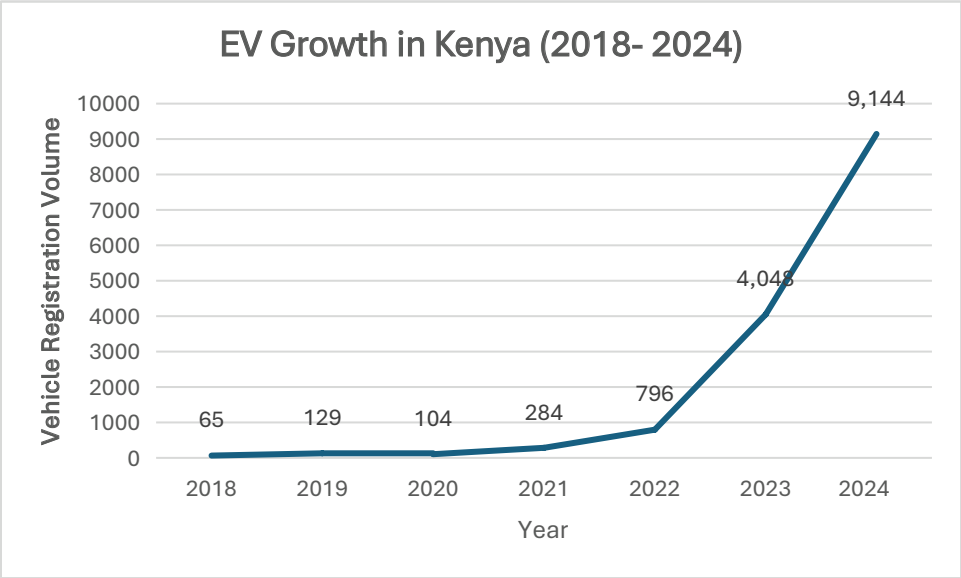
- 3.2 National EMobility Context (Market growth, energy advantage, and policy frameworks).
- 3.3 The Decentralization Context (Constitutional mandates and the governance gap).
- 3.4 CountyLevel Analysis (Comparative readiness, asymmetries, and case studies).
- 3.5 Synthesis (Regional benchmarking and the infrastructure-governance disconnect).

3.2 National E-Mobility Context.

3.2.1 Market Growth & Vehicle Registrations

Kenya's electric vehicle (EV) market has experienced remarkable acceleration over the past five years, transforming from a niche curiosity into a visible and increasingly viable component of the national transport system. In 2018, EVs represented a negligible 0.022% of total vehicle registrations (<100 units). By December 2024, this figure had surged to 1.62%, representing a seventyfold increase in market share. In absolute terms, the number of registered EVs grew to 9,144 units, with the most dramatic growth occurring between 2023 and 2024, when registrations increased by 126% yearonyear.[66]

66 Electric Mobility Association of Kenya (EMAK). (2025). EMAK 2025 White Paper: Electrifying Kenya's Transportation Sector, p. 6.



Graph 1: EV Growth on New Vehicle Registration

Structural Dynamics of Growth

- The TwoWheeler Dominance (≈90% Share)[67]: The market is structurally defined by commercial utility. Electric motorcycles account for approximately 90% of the fleet, catalyzed by the operational expenditure (OPEX) arbitrage available to *bodaboda* operators. With operating costs 40–50% lower than ICE equivalents, and BatteryasaService (BaaS) models reducing upfront capital requirements by 60–70%, this segment has achieved early commercial viability.
- The EBus "Anchor Tenant": While numerically smaller (~100 units),[68] the electric bus segment serves as a critical anchor for grid demand and public visibility. Companies such as BasiGo have pioneered "PayAsYouDrive" models that mitigate high upfront CAPEX, exposing thousands of Nairobi commuters daily to the benefits of emobility and validating the business case for highcapacity charging infrastructure.
- Passenger Cars (Emerging but Constrained): The passenger car segment remains relatively small but is growing. EV cars face 30–40% price premiums compared to ICE equivalents, and limited charging infrastructure outside Nairobi constrains uptake[69]. Beyond affluent early adopters and corporate fleets, the ride-hailing sector has emerged as a catalytic driver. For these high-mileage operators, the operational savings (lower fuel and maintenance costs) accelerate the Return on Investment (ROI), creating a viable business case despite the higher upfront CAPEX.[70] Simultaneously, the entry of international brands (e.g., Tesla, BYD) alongside locally assembled models from Roam is diversifying the market and increasing consumer choice.
- The Manufacturing Pivot: Growth is increasingly driven by local innovation and value addition rather than pure importation. The emergence of local assembly operations by Roam, BasiGo, Spiro, Ampersand, and Opibus demonstrates Kenya's industrial innovation

67 Electric Mobility Association of Kenya (EMAK). (2025). EMAK 2025 White Paper: Electrifying Kenya's Transportation Sector, p. 7.

68 Nairobi County Government. (2025). Nairobi County E-Mobility Presentation. E-Mobility for Counties Workshop, September 2025.

69 Electric Mobility Association of Kenya (EMAK). (2025). EMAK 2025 White Paper: Electrifying Kenya's Transportation Sector, p. 16.

70 234Drive. (n.d.). MojaEV delivers 30 electric taxis in Kenya. https://234drive.com/mojaev-delivers-30-electric-taxis-in-kenya/

capacity. The National EMobility Policy (2025) explicitly prioritizes local manufacturing, while the Finance Act 2023 introduced a preferential 10% import duty for locally assembled EVs (versus 25% for fully built units), reinforcing industrial competitiveness[71].

Diagnostic Insight Despite impressive growth, EVs remain less than 0.3% of Kenya's national fleet, (9,144 registered EVs out of a total vehicle fleet estimated at over 3 million vehicles). Achieving transformational scale will require sustained policy support, innovation in financing and business models, and critically, expansion beyond Nairobi to counties nationwide. This sets the stage for the County EMobility Readiness Index in Section 3.4, which assesses subnational adoption capacity.

3.2.2 Charging Infrastructure and Grid Capacity

The availability of reliable and accessible charging infrastructure is a fundamental prerequisite for e-mobility adoption. Kenya has made significant progress in deploying charging infrastructure, but the distribution remains highly uneven. As of 2025, Kenya Power and Lighting Company (KPLC) reported over 200 dedicated e-mobility accounts, with projections indicating this number could exceed 400 accounts in the near term.[72] These accounts represent a mix of public charging stations, private depot charging facilities for fleet operators, and residential charging installations.

The number of public charging stations—those accessible to the general public for a fee—is estimated at approximately over 300 operational stations as of early 2025.73 However, the geographic distribution of these stations reveals a critical challenge: approximately 90% are located in Nairobi County, with the remainder scattered across a handful of other counties, primarily along major highways and in select urban centers such as Mombasa and Kisumu.74 This concentration creates a self-reinforcing dynamic. Nairobi's dense charging network makes EV ownership practical and attractive, which in turn stimulates demand for more charging infrastructure. Conversely, the scarcity of charging infrastructure in other counties deters potential EV buyers and operators, limiting market development.

The types of charging infrastructure deployed in Kenya reflect the current market composition.

- The majority of charging stations are Level 2 AC chargers (7-22 kW), which are suitable for overnight charging of passenger cars and motorcycles and can fully charge a typical electric motorcycle in 2-4 hours.75
- A smaller number of DC fast chargers (50-150 kW) have been deployed, primarily for electric buses operating , capable of charging a bus to 80% capacity in 1-2 hours.76
- Battery swapping infrastructure, an alternative to plug-in charging, has been deployed by companies such as Spiro and Ampersand for electric motorcycles, offering the advantage of near instant "refueling" and eliminating range anxiety.77

Kenya's electricity grid provides a strong foundation for e-mobility expansion. The country's generation mix is dominated by renewable sources, with hydropower, geothermal, wind, and solar collectively

71 National Treasury. (2023). Finance Act 2023, Section 13.

72 Kenya Power and Lighting Company (KPLC). (2025). E-mobility accounts data [Unpublished internal data]; Electric Mobility Association of Kenya (EMAK). (2025). EMAK 2025 White Paper: Electrifying Kenya's Transportation Sector, p. 12.

73 Electric Mobility Association of Kenya (EMAK). (2025). EMAK 2025 White Paper: Electrifying Kenya's Transportation Sector, p. 14.

74 Electric Mobility Association of Kenya (EMAK). (2025). EMAK 2025 White Paper: Electrifying Kenya's Transportation Sector, p. 14; Kenya Power and Lighting Company (KPLC). (2025). E-mobility accounts data [Unpublished internal data].

75 Technical specifications from charging infrastructure operators; Electric Mobility Association of Kenya (EMAK). (2025). EMAK 2025 White Paper: Electrifying Kenya's Transportation Sector, p. 13.

76 BasiGo. (2025). Charging Infrastructure Deployment and Regulatory Processes [Presentation]. E-Mobility for Counties Workshop, September 2025.

77 Spiro. (2025). Battery-as-a-Service Business Model [Company presentation]; Ampersand. (2025). E-Mobility Solutions for East Africa [Company presentation].

accounting for over 90% of installed capacity.78 This clean electricity profile ensures that electric vehicles in Kenya deliver genuine environmental benefits, with lifecycle emissions significantly lower than ICE vehicles even when accounting for battery production. Moreover, Kenya's electricity sector currently experiences excess generation capacity, with over 400 GWh of energy curtailed annually due to insufficient demand.79 This excess capacity could be harnessed to support transport electrification without requiring new power plants, making e-mobility an efficient use of existing infrastructure.

However, grid reliability varies significantly across the country, and this variation has profound implications for e-mobility adoption. Nairobi County benefits from relatively robust grid reliability, with an average uptime of approximately 97%.80 This high reliability gives investors and charging infrastructure operators confidence that their facilities will be able to operate consistently, generating revenue and serving customers. In contrast, Mombasa County experiences an average uptime of approximately 85%, with frequent outages and voltage fluctuations, particularly in industrial areas.81 Kisumu County faces even greater challenges, with an average uptime of only 80%, meaning the grid is unavailable for approximately 20% of the time.82 These reliability challenges undermine the business case for charging infrastructure, increase operational risks, and deter private sector investment.

Addressing grid reliability challenges will require coordinated action between KPLC, county governments, and private sector actors. Potential solutions include grid reinforcement in key urban centers and industrial zones, the deployment of hybrid solar-battery charging hubs that can operate independently of the grid, and the use of smart charging systems that optimize charging times to avoid peak demand periods and minimize grid stress.83 The National E-Mobility Policy recognizes infrastructure development as a priority and calls for collaboration between the national government, KPLC, and counties to ensure that grid expansion plans are aligned with e-mobility deployment strategies.84

3.2.3 Policy & Fiscal Framework.

Kenya's national policy and regulatory framework for e-mobility has evolved rapidly over the past three years, providing a strong foundation for market development. The National E-Mobility Policy 2025, represents the most comprehensive articulation of the government's vision and strategy for transport electrification.[85] The policy is structured around seven strategic objectives: promoting local manufacturing and assembly, developing charging infrastructure, building technical capacity and skills, providing fiscal and non-fiscal incentives, facilitating access to financing, ensuring inclusion (gender, social, and financial), and establishing an effective institutional framework.[86] These objectives are operationalized through fourteen policy statements that cover the full spectrum of e-mobility enablers, from regulatory reform to end-of-life battery management.[87]

78 Ministry of Energy. (2024). Energy and Petroleum Statistics Report 2024; Kenya Power and Lighting Company (KPLC). (2024). Annual Report 2023/2024.

79 Electric Mobility Association of Kenya (EMAK). (2025). EMAK 2025 White Paper: Electrifying Kenya's Transportation Sector, p. 12.

80 Nairobi County Government. (2025). Nairobi County E-Mobility Presentation. E-Mobility for Counties Workshop, September 2025; Kenya Power and Lighting Company (KPLC). (2025). Grid reliability data [Unpublished internal data].

81 Mombasa County Government. (2025). County presentation. E-Mobility for Counties Workshop, September 2025; Focus Group Discussions, Mombasa, 2025.

82 Kisumu County Government. (2025). County presentation. E-Mobility for Counties Workshop, September 2025; Focus Group Discussions, Kisumu, 2025.

83 Practical Action, GIZ, & EMAK. (2025). E-Mobility for Counties Workshop Report, September 2025, pp. 19-20.

84 Ministry of Transport. (2025). National E-Mobility Policy, Policy Statement 5: Supportive Measures for Charging Infrastructure, pp. 26-28.

85 Ministry of Transport. (2025). *National E-Mobility Policy*. Government of Kenya.

86 Ministry of Transport. (2025). *National E-Mobility Policy*, pp. 18-19.

87 Ministry of Transport. (2025). *National E-Mobility Policy*, pp. 20-35.

The policy's institutional framework is particularly significant. It designates the Ministry of Transport as the lead agency for e-mobility coordination, with specific roles assigned to the Energy and Petroleum Regulatory Authority (EPRA) for standards and tariffs, the National Transport and Safety Authority (NTSA) for vehicle registration and safety, the Kenya Bureau of Standards (KEBS) for technical standards, and Kenya Power and Lighting Company (KPLC) for infrastructure deployment.[88] Critically, the policy recognizes the role of county governments in implementing e-mobility at the local level, calling for the development of county-specific policies and the establishment of coordination mechanisms between national and county actors.[89]

The Finance Act 2025 included fiscal incentives designed to reduce the cost of electric vehicles and charging equipment, thereby improving their competitiveness relative to ICE alternatives.[90] Key measures include full exemption from Value Added Tax (VAT) on electric vehicle batteries, which can account for 40-50% of an EV's cost.[91] Electric buses and electric motorcycles also benefit from excise duty exemptions, significantly reducing their purchase price.[92] For locally assembled electric vehicles, the import duty on components is set at a preferential rate of 10%, compared to higher rates for fully imported vehicles, creating an incentive for local manufacturing and assembly.[93] Charging equipment, including charging stations and related infrastructure, also benefits from reduced import duties, lowering the cost of infrastructure deployment.[94]

The East African Community (EAC) 2025 Common External Tariff, which regulates import taxes within the region and is reviewed annually, was updated following a stay application by Kenya and Uganda. As a result, the import duty rate for Lithium Ion Batteries used for EV's was reduced from 25% to 0% for one year (2024/2025).

The Energy and Petroleum Regulatory Authority (EPRA) has played a crucial role in making e-mobility economically attractive by approving differentiated electricity tariffs for EV charging.[95] Under these tariffs, electricity used for EV charging is priced lower than standard commercial rates, reducing the operating cost per kilometer for electric vehicles and improving their total cost of ownership relative to ICE vehicles. This tariff structure recognizes that EV charging can help absorb excess generation capacity, particularly during off-peak hours, and provides a financial incentive for users to shift to electric mobility.[96]

The Kenya Bureau of Standards (KEBS) is in the process of developing national standards for electric vehicles and charging equipment, covering areas such as charging connector types, safety requirements, electromagnetic compatibility, and battery performance.[97] Standardization is essential for ensuring interoperability between vehicles and charging infrastructure, protecting consumers, and building confidence in the market. The absence of standards has been identified as a barrier in stakeholder consultations, with multiple connector types currently in use and limited clarity on quality and safety requirements.[98]

Despite this strong national framework, implementation challenges remain. Regulatory processes for charging infrastructure deployment are often **fragmented and time-consuming**, involving multiple

88 Ministry of Transport. (2025). *National E-Mobility Policy,* Policy Statement 1: Institutional Framework, pp. 20-21.

89 Ministry of Transport. (2025). *National E-Mobility Policy*, pp. 21, 28.

90 National Treasury. (2023). *Finance Act 2023*, Sections 12-15.

91 National Treasury. (2023). *Finance Act 2023*, Section 12.

92 National Treasury. (2023). *Finance Act 2023*, Sections 13-14.

93 National Treasury. (2023). *Finance Act 2023*, Section 13.

94 National Treasury. (2023). *Finance Act 2023*, Section 15.

95 Energy and Petroleum Regulatory Authority (EPRA). (2024). *Electricity Tariff Schedule 2024/2025*.

96 Energy and Petroleum Regulatory Authority (EPRA). (2024). *Electricity Tariff Schedule 2024/2025*; Ministry of Transport. (2025). *National E-Mobility Policy*, p. 27.

97 Kenya Bureau of Standards (KEBS). (2025). Standards development roadmap [Internal document]; Ministry of Transport. (2025). *National E-Mobility Policy*, Policy Statement 2: Legal and Regulatory Reform, pp. 21-22.

98 Practical Action, GIZ, & EMAK. (2025). *E-Mobility for Counties Workshop Report*, September 2025, p. 16.

agencies with overlapping mandates and unclear procedures.[99] The **coordination between national and county governments** remains weak, with no formal mechanism for systematic engagement, information sharing, or joint planning.[100] These gaps create inefficiencies, delays, and uncertainties that deter private sector investment and slow the pace of e-mobility adoption. Addressing these challenges is a central focus of this white paper's recommendations

Year	Policy/Incentive	Impact
2019	Finance Act	Excise Duty Reduction: Lowered from 20% to 10% for EVs, signaling early government intent.
2023	EPRA Tariff	Operational Support: Introduced the E-Mobility Tariff (KSh 8/kWh off-peak), improving TCO for fleet operators.
2024	Finance Act	CAPEX Reduction: Removed 16% VAT on locally assembled EVs, directly supporting the "Buy Kenya, Build Kenya" agenda.
2025	National E-Mobility Policy	Provides comprehensive strategic direction (Currently in Draft/Final Validation Stage)
2025	EAC Duty Remission	Regional Harmonization: 0% import duty on lithium-ion batteries, reducing the cost of battery-as-a-service (BaaS) models.

3.3 Decentralization Context: Why Counties Matter

3.3.1 Constitutional Mandates (The Fourth Schedule)

While national policy sets the direction, implementation is legally devolved. Mapping the Fourth Schedule of the Constitution against e-mobility requirements confirms that counties possess exclusive mandates over the primary levers of adoption. This means counties are not merely stakeholders; they are constitutionally empowered actors with the legal mandate to drive the transition.

Fourth Schedule Function	E-Mobility Application
County transport (Clause 7)	Regulating *boda-boda* zones; licensing public transport; managing bus terminals.
County planning (Clause 8)	Zoning land for charging hubs; approving building codes for home charging; spatial planning.
Electricity reticulation	Coordinating "last-mile" grid upgrades with Kenya Power to support charging loads.
Air pollution control	Enforcing Low Emission Zones (LEZs) and air quality standards to drive fleet turnover.

3.3.2 The Governance Gap

Despite this clear constitutional authority, a significant governance gap exists at the county level. Only Nairobi and Kisumu have developed draft e-mobility policies, leaving a regulatory vacuum in the other 45 counties. This uncertainty deters private investment and slows infrastructure deployment, a classic symptom of fragmented mandates where national policy intent fails to translate into devolved implementation frameworks.

3.4 County-Level Analysis: A Comparative Case Study

To operationalize the County E-Mobility Readiness Index (Section 2.3), three counties were selected to represent distinct archetypes of readiness.

99 BasiGo. (2025). *Charging Infrastructure Deployment and Regulatory Processes* [Presentation]. E-Mobility for Counties Workshop, September 2025.

100 Practical Action, GIZ, & EMAK. (2025). *E-Mobility for Counties Workshop Report*, September 2025, pp. 22-24.

Table 4: Comparative County Profile (2024/2025)

Indicator	Nairobi	Mombasa	Kisumu
Population (2024 est.)	5.5 million	1.4 million	1.2 million
County Budget (FY25)	KSh 43.2B (USD 270M)	KSh 16.3B (USD 102M)	KSh 15.3B (USD 96M)
EV Registrations (est.)	~8,000	<200	<100
Public EVCS	~150	<10	<5
Grid Reliability (avg.)	97%	85%	88%
Policy Status	Draft Policy & Framework	None	Draft Cabinet Memo
Readiness Score (Index)	7.8 / 10	3.1 / 10	4.5 / 10

3.4.1 Case Study 1: Nairobi

While national-level data provides an important overview of Kenya's e-mobility progress, the reality on the ground is one of stark geographic concentration. As noted earlier, approximately 90% of charging infrastructure and 87% of registered electric vehicles are located in Nairobi County.[101] However, FGD insights reveal a growing equity challenge: infrastructure is heavily skewed toward affluent zones, leaving high-density commuter estates underserved.

3.4.2 Case Study 2: Mombasa

Beyond Nairobi, e-mobility activity is limited but not absent. **Mombasa County**, Kenya's second-largest city and the gateway to East Africa through its port, has seen modest EV adoption, with an estimated **200 registered electric vehicles** and approximately **10 public charging stations** as of 2025.[102] The port and tourism sectors present significant opportunities for e-mobility, but the absence of a county-level policy framework and challenges with grid reliability have constrained progress.[103]

Mombasa presents a paradox: high economic potential (port logistics, tourism) constrained by technical and institutional inertia.

- Technical Barrier: Consistent with thematic analysis, stakeholders cited saline corrosion as a critical failure point for standard charging hardware.
- Institutional Barrier: The lack of a county policy creates uncertainty for investors targeting the ~5,000 logistics vehicles at the port.

3.4.3 Case Study 3: Kisumu

Kisumu validates the premise that policy can precede infrastructure. Despite grid constraints (80% uptime) as noted by workshop participants, the county has signaled strong intent through its Draft Cabinet Memo. The strategic focus is on the Blue Economy, with active pilots exploring electric outboard motors for Lake Victoria fishing fleets—a unique use case identified during the workshop analysis. With an estimated 50 registered electric vehicles and only 5 public charging stations, Kisumu's e-mobility ecosystem is nascent in quantitative terms.[104]

---

101 Electric Mobility Association of Kenya (EMAK). (2025). EMAK 2025 White Paper: Electrifying Kenya's Transportation Sector, p. 14; Kenya Power and Lighting Company (KPLC). (2025). E-mobility accounts data [Unpublished internal data].

102 Mombasa County Government. (2025). County presentation. E-Mobility for Counties Workshop, September 2025; Estimates based on NTSA registration data and stakeholder interviews.

103 Focus Group Discussions, Mombasa, 2025; Practical Action, GIZ, & EMAK. (2025). *E-Mobility for Counties Workshop Report*, September 2025, pp. 12-13.

104 Kisumu County Government. (2025). County presentation. E-Mobility for Counties Workshop, September 2025; Estimates based on NTSA registration data and stakeholder interviews.

3.4.4 E-Mobility for Counties workshop.

The E-Mobility for Counties Workshop, held in September 2025, brought together representatives from 10 counties: Nairobi, Mombasa, Kisumu, Kiambu, Nakuru, Machakos, Makueni, Kilifi, Kajiado, and Taita Taveta.[105] The workshop revealed a diversity of county contexts and priorities. Kiambu County, adjacent to Nairobi, faces challenges with regulatory delays, with charging station permits taking up to 4 months compared to 2 weeks in Nairobi.[106] Nakuru County expressed interest in integrating e-mobility into its industrial park development, recognizing the potential for electric logistics vehicles.[107] Machakos County identified opportunities in agricultural logistics, particularly for electric trucks and cold-chain vehicles.[108] Kilifi and Taita Taveta Counties, both coastal, highlighted the technical challenges of operating EVs in saline environments and the need for specialized equipment and training.[109]

A common theme across all counties is the recognition that e-mobility is not just an environmental imperative but an economic opportunity. Counties see potential for job creation in manufacturing, infrastructure deployment, and maintenance; cost savings for county fleets and transport operators; and enhanced competitiveness for local industries. However, they also identified significant barriers, including limited access to financing, weak technical capacity, fragmented regulatory processes, and inadequate coordination with national government agencies.110 These findings underscore the need for a systematic approach to supporting county-level e-mobility, one that recognizes the diversity of county contexts while providing common frameworks, tools, and resources.

3.5 Synthesis: The Barriers to Decentralization.

3.5.1 The infrastructure-Governance Disconnect

The analysis reveals that the primary barrier to decentralization is not a lack of market interest, but a disconnect between infrastructure and governance. Private investment follows regulatory certainty. The absence of county-level frameworks for zoning, permitting, and licensing—a direct result of fragmented mandates and unclear delegation between national and county entities—is the invisible hand holding back investment outside Nairobi.

3.5.2 Transition to Next Chapter

The gaps identified in this chapter; technical, institutional, financial, and social are not insurmountable. While they reflect the structural divergence between national progress and county readiness, they also highlight areas where targeted interventions can yield transformative impact.

Chapter 4 builds directly on this diagnostic by systematically analyzing these barriers across five dimensions: Technical, Institutional, Financial, Social, and Regulatory. Within each dimension, the analysis identifies the specific enablers that counties can leverage to overcome constraints, accelerate adoption, and align local action with national e-mobility ambitions.

This transition underscores that the decentralization gap is not a fixed obstacle but a governance challenge that can be addressed through deliberate policy design, institutional coordination, and investment strategies.

---

105 Practical Action, GIZ, & EMAK. (2025). E-Mobility for Counties Workshop Report, September 2025, p. 3.

106 Kiambu County Government. (2025). County presentation. E-Mobility for Counties Workshop, September 2025; BasiGo. (2025). Charging Infrastructure Deployment and Regulatory Processes [Presentation].

107 Nakuru County Government. (2025). County presentation. E-Mobility for Counties Workshop, September 2025.

108 Machakos County Government. (2025). County presentation. E-Mobility for Counties Workshop, September 2025.

109 Kilifi County Government. (2025). County presentation. E-Mobility for Counties Workshop, September 2025; Taita Taveta County Government. (2025). County presentation. E-Mobility for Counties Workshop, September 2025.

110 Practical Action, GIZ, & EMAK. (2025). E-Mobility for Counties Workshop Report, September 2025, pp. 14-24.

4 County Readiness Mapping and Comparison

4.1 Introduction

Chapter 3 established Kenya's national e-mobility landscape and identified the decentralization gap—the paradox that despite constitutional devolution of transport and energy functions to counties, 87% of electric vehicles, 90% of charging infrastructure, and 93% of e-mobility companies remain concentrated in Nairobi. This chapter moves beyond the national diagnosis to examine county-level readiness for e-mobility adoption. Using a transparent, evidence-based County E-Mobility Readiness Index, this chapter maps the readiness landscape across Kenya's 47 counties, with detailed comparative analysis of three focus counties (Nairobi, Mombasa, and Kisumu) that represent different pathways and readiness levels. The readiness analysis provides the foundation for subsequent chapters on barriers and enablers (Chapter 5), legal frameworks (Chapter 6), and differentiated county roadmaps (Chapter 9).

4.2 The County E-Mobility Readiness Index: Framework and Methodology

4.2.1 Conceptual Foundation

To move from a purely descriptive account of county e-mobility status to a diagnostic framework that can guide targeted interventions, this white paper introduces a County E-Mobility Readiness Index. The index provides a transparent, data-driven method for assessing and comparing counties' readiness to adopt and scale electric mobility. It enables policymakers, investors, and development partners to identify which counties are leading, which are emerging, and which require foundational support. The index is designed to be replicable and updatable, allowing for periodic reassessment as counties progress.

The County E-Mobility Readiness Index (CERI) integrates five weighted indicators that collectively assess a county's capacity to adopt, deploy, and sustain e-mobility solutions. The index is designed to be transparent, replicable, and actionable—enabling counties to understand their current position, identify priority areas for improvement, and benchmark progress over time. The conceptual foundation of the CERI rests on the understanding that county readiness is not a binary state (ready or not ready) but a continuum. Counties exist along a spectrum from early-stage adoption (nascent awareness, minimal infrastructure, limited institutional capacity) through intermediate development (emerging policies, growing infrastructure, developing capacity) to advanced adoption (mature policies, extensive infrastructure, strong institutional capacity). This spectrum is not static; counties can move along the continuum through deliberate action on policy, institutional capacity, infrastructure deployment, and investment mobilization.

4.2.2 Index Components and Weighting

The County E-Mobility Readiness Index comprises five weighted indicators:

Table 6: County E-Mobility Readiness Index

Indicator	Weight	Definition & Rationale
EVCS Density	25%	This indicator measures the density of public charging infrastructure relative to population size. Infrastructure availability is the most visible and tangible enabler of e-mobility adoption. A higher density of charging stations reduces range anxiety, makes EV ownership practical, and signals to potential buyers and investors that the market is viable. Data for this indicator is drawn from Kenya Power and Lighting Company (KPLC) records and private sector operators, combined with county population data from the Kenya National Bureau of Statistics (KNBS).[111]
Grid Reliability	20%	Grid reliability is a critical technical foundation for e-mobility. Charging infrastructure operators require consistent electricity supply to generate revenue and serve customers. Frequent outages undermine the business case for charging stations and deter private sector investment. This indicator measures the average percentage of time that the electricity grid is operational in each county, based on KPLC outage data and county-level grid performance reports.[112]
County E-Mobility Policy	20%	Policies demonstrate leadership and are better positioned to attract investment, mobilize resources, and implement programs. This indicator is binary (policy exists or does not exist) but can be refined to account for the comprehensiveness and implementation status of policies. Data is drawn from county government documents and the E-Mobility for Counties Workshop.[113]
Private EV Operators	15%	The presence of private sector actors, EV manufacturers, charging infrastructure operators, financing providers—indicates market viability and investor confidence. A higher number of operators suggests a competitive market, greater consumer choice, and a more robust ecosystem. This indicator counts the number of distinct private sector entities actively operating in each county, based on market research and stakeholder mapping conducted by EMAK and development partners.[114]
Fleet Electrification	10%	County governments can demonstrate leadership and create anchor demand for electric vehicles by committing to electrify their own fleets. Such commitments signal political will, provide a stable customer base for EV manufacturers and charging operators, and generate demonstration effects. This indicator assesses whether counties have made public commitments to fleet electrification, allocated budget resources, or initiated procurement processes, based on county budget documents and policy statements.[115]

Each indicator is scored on a 0-10 scale, with 10 representing the highest level of readiness. The weighted scores are then summed to produce a total readiness score ranging from 0 to 10. Counties are classified into three readiness categories based on their total score:

111 Kenya Power and Lighting Company (KPLC). (2025). E-mobility accounts data [Unpublished internal data]; Kenya National Bureau of Statistics. (2024). *2024 Kenya Population and Housing Census*.

112 Kenya Power and Lighting Company (KPLC). (2025). Grid reliability data [Unpublished internal data]; County presentations, E-Mobility for Counties Workshop, September 2025.

113 Practical Action, GIZ, & EMAK. (2025). *E-Mobility for Counties Workshop Report*, September 2025; County government policy documents.

114 Electric Mobility Association of Kenya (EMAK). (2025). Member database [Internal data]; Market research and stakeholder mapping.

115 County budget documents (2024/2025); County presentations, E-Mobility for Counties Workshop, September 2025.

- Leading (8.0–10.0): Counties with strong infrastructure, policy frameworks, and market activity. These counties are positioned to scale e-mobility rapidly and can serve as models for others.
- Emerging (5.0–7.9): Counties with policy commitment or some infrastructure but significant gaps. These counties have potential but require targeted support to overcome barriers.
- Nascent (0.0–4.9): Counties with minimal infrastructure, no policy framework, and limited private sector activity. These counties require foundational capacity building and infrastructure investment.

The index is not intended to rank counties in a competitive sense but rather to provide a diagnostic tool that can inform the allocation of resources, the design of interventions, and the monitoring of progress over time. It recognizes that counties start from different baselines and face different challenges, and it aims to support all counties in advancing along their e-mobility journeys.

4.2.3 Data Sources and Validation

Data for the County E-Mobility Readiness Index was compiled from multiple sources to ensure accuracy and triangulation: Kenya Power and Lighting Company (KPLC) records for grid reliability and capacity data; EMAK market data for charging station locations and operator information; county government documents including CIDPs, spatial plans, and energy policies; workshop data from the E-Mobility for Counties Workshop (September 2025); field research including key informant interviews and focus group discussions; and secondary sources including NTSA vehicle registration data and KEBS standards documentation. Data validation was conducted through triangulation: where multiple sources provided data on the same indicator, sources were compared for consistency. Where discrepancies emerged, the most recent and authoritative source was used. For indicators where data was incomplete, reasonable estimates were made based on available information and documented in the index methodology.

4.3 County Readiness Landscape: Overview and Distribution

4.3.1 County Readiness Assessment: Comparative Analysis

Applying the County E-Mobility Readiness Index to the three focus counties—Nairobi, Mombasa, and Kisumu—yields the following results:

Table 7 : County E-Mobility Readiness Index Scores

County	EVCS Density (25%)	Grid Reliability (20%)	Policy Framework (20%)	Private Operators (15%)	Fleet Commitment (10%)	Total Score	Classification
Nairobi	4.2/5	4.8/5	4.0/5	5.0/5	3.5/5	8.5/10	Leading
Mombasa	1.5/5	3.5/5	1.0/5	2.5/5	3.0/5	4.0/10	Nascent
Kisumu	1.0/5	3.0/5	3.5/5	2.0/5	4.0/5	5.5/10	Emerging

Nairobi County: Leading (8.5/10). Nairobi's high readiness score reflects its dominant position in Kenya's e-mobility ecosystem. With approximately 150 public charging stations serving a population of around 4.4 million, Nairobi has an EVCS density of approximately 3.4 stations per 100,000 people, far exceeding any other county. Grid reliability is excellent at 97% average uptime, providing a stable foundation for charging infrastructure. The county has developed a draft E-Mobility Policy and EV Charging Station Framework, demonstrating policy leadership. Over 40 private EV operators are active in Nairobi, including manufacturers, charging operators, and financing providers, creating a competitive and dynamic market.

While the county has not yet made a formal commitment to fleet electrification, discussions are ongoing, and pilot programs are being explored.

Nairobi's leadership position creates both opportunities and responsibilities. The county can serve as a demonstration site for innovative business models, technologies, and policies that can be replicated elsewhere. It can also serve as a knowledge hub, sharing lessons learned with other counties and facilitating peer-to-peer learning. However, Nairobi's concentration of resources and activity also highlights the equity challenge: the benefits of e-mobility must be extended beyond the capital if Kenya is to achieve its national climate and development goals.

Mombasa County: Nascent (4.0/10). Mombasa's low readiness score reflects the absence of a policy framework and limited infrastructure, despite the county's strategic importance as Kenya's second-largest city and the gateway to East Africa. With approximately 10 public charging stations serving a population of around 1.2 million, Mombasa has an EVCS density of less than 1 station per 100,000 people. Grid reliability is a significant challenge, with an average uptime of only 85%, particularly in industrial areas where charging infrastructure for logistics fleets would be most valuable. The county has no specific e-mobility policy or framework, creating regulatory uncertainty. Only 2-3 private EV operators are active in Mombasa, limiting market development. However, the county government has expressed interest in fleet electrification, particularly for garbage trucks and administrative vehicles, and has begun preliminary discussions with potential partners.

Mombasa's nascent status does not reflect a lack of potential. On the contrary, the county's port and tourism sectors present significant opportunities for e-mobility, particularly in logistics and hospitality. What is lacking is the policy leadership, infrastructure investment, and institutional capacity needed to unlock this potential. Targeted interventions—including policy development support, grid infrastructure upgrades, and pilot projects in strategic sectors—could rapidly advance Mombasa's readiness.

Kisumu County: Emerging (5.5/10). Kisumu's classification as an emerging county is particularly interesting because it demonstrates that policy leadership can precede infrastructure development. With only approximately 5 public charging stations serving a population of around 1.1 million, Kisumu has an EVCS density of less than 0.5 stations per 100,000 people, the lowest among the three counties. Grid reliability is the poorest, with an average uptime of only 80%, a significant barrier to infrastructure deployment. However, Kisumu has developed a draft Cabinet Memo on integrating e-mobility into the county's spatial plan, signaling strong political commitment. Only 2 private EV operators are active in the county, but interest is growing. Notably, Kisumu has made a strong commitment to fleet electrification, with the county government exploring partnerships for electric garbage trucks and administrative vehicles.

Kisumu's emerging status reflects the power of policy leadership to create an enabling environment even in the absence of infrastructure. The county's focus on integrating e-mobility into its blue economy strategy, particularly in fishing cold-chain logistics and Lake Victoria waterborne transport—demonstrates the potential for sector-specific approaches that align e-mobility with local economic priorities. With targeted support for grid infrastructure, skills development, and pilot projects, Kisumu could rapidly transition from emerging to leading status.

Table 8 Detailed County Comparison

Indicator	Nairobi	Mombasa	Kisumu
EV Stock (approx.)	~8,000	~200	~50
Public EVCS (approx.)	150	10	5

EVCS per 100,000 people	3.4	0.8	0.5
Grid Reliability (avg. uptime)	97%	85%	80%
Grid Coverage (% of county)	96.7%	Data needed	Data needed
County Fleet Size (vehicles)	~500	Data needed	Data needed
Monthly Fuel Bill (KES)	35-40 million	Data needed	Data needed
Monthly Maintenance Cost (KES)	30 million	Data needed	Data needed
County Policy Status	Draft EVCS Frame-work	None	Draft Cabinet Memo
Active EV Operators	10+	2-3	2
PSV Vehicles (total)	~20,000	Data needed	Data needed
EV Buses (approx.)	~200 (1% of PSV)	Data needed	Data needed
Motorcycles (total)	~1,000,000	Data needed	Data needed
EV Motorcycles (approx.)	~4,900 (>1%)	Data needed	Data needed
Taxis (total)	~60,000	Data needed	Data needed
Air Quality (PM2.5 vs. WHO)	1.1x WHO guideline	Data needed	Data needed
Transport Contribution to Air Pollution	40%	Data needed	Data needed

Applying the County E-Mobility Readiness Index to Kenya's 47 counties reveals a highly skewed distribution of readiness, with most counties clustered at the lower end of the readiness spectrum. This distribution directly reflects and reinforces the decentralization gap identified in Chapter 3. Advanced Readiness Counties (Score 70-100): Approximately 2-3 counties, led by Nairobi, demonstrate advanced readiness with mature infrastructure, strong policy frameworks, significant private sector presence, and high grid reliability.

Intermediate Readiness Counties (Score 40-70): Approximately 5-8 counties demonstrate intermediate readiness, with emerging infrastructure, developing policies, growing private sector presence, and variable grid reliability. Early-Stage Readiness Counties (Score 0-40): Approximately 35-40 counties demonstrate early-stage readiness, with minimal infrastructure, limited or no policy frameworks, few private operators, and variable grid reliability.

This distribution has important implications for policy and implementation. A one-size-fits-all approach to supporting county e-mobility adoption will fail to account for the vast differences in readiness levels. Instead, differentiated strategies are required that match support intensity and type to county readiness levels.

4.4 Classification of Other Workshop Counties by Readiness Level

The E-Mobility for Counties Workshop included representatives from 10 counties. In addition to the three focus counties (Nairobi, Mombasa, Kisumu), seven other counties participated: Kiambu, Nakuru, Machakos, Makueni, Kilifi, Kajiado, and Taita Taveta. This section classifies these counties by readiness level and identifies their distinctive characteristics and pathways.

4.4.1 Intermediate Readiness Counties (Score 40-70)

Kiambu County (Readiness Score: 58/100), adjacent to Nairobi, benefits from proximity to the capital and integration into the greater Nairobi metropolitan area. The county has approximately 30-40 charging stations, primarily concentrated along major transport corridors. Kiambu has expressed interest in integrating e-mobility into its industrial park development strategy, recognizing the potential for electric logistics vehicles to reduce operating costs. However, Kiambu faces regulatory delays, with charging station permits taking up to 4 months compared to 2 weeks in Nairobi. Kiambu's pathway forward should focus on streamlining regulatory processes and integrating e-mobility into industrial park planning. **Nakuru County (Readiness Score: 55/100),** a major industrial and agricultural hub, has demonstrated institutional readiness and political will to advance e-mobility. The county has approximately 20-25 charging stations and has expressed strong interest in integrating e-mobility into its industrial park development. Nakuru's private sector presence is growing, with several operators engaged in vehicle sales and charging infrastructure deployment. Nakuru's pathway forward should focus on developing a dedicated e-mobility policy, expanding infrastructure through public-private partnerships, and leveraging industrial park development as an anchor for e-mobility adoption. **Makueni County (Readiness Score: 48/100),** strategically located along the Nairobi–Mombasa Highway, has positioned itself as a willing host for e-mobility pilots. The county has approximately 5-10 charging stations, primarily concentrated in major towns along the highway (Athi River, Emali, Mtito Andei). Makueni has demonstrated political will and openness to partnerships, with county leadership inviting KPLC, investors, and private sector actors to pilot charging stations and EV models. However, Makueni faces significant grid constraints, with grid coverage at only 35% and frequent blackouts forcing reliance on solar solutions. Makueni's pathway forward should focus on developing a dedicated e-mobility policy, expanding infrastructure through off-grid solutions, and leveraging its strategic corridor location to attract intercity EV travel.

4.4.2 Early-Stage Readiness Counties (Score 0-40)

Machakos County (Readiness Score: 32/100) has not yet rolled out formal e-mobility projects due to limited institutional capacity and competing priorities. However, the county has identified specific opportunities in agricultural logistics, particularly for electric trucks and cold-chain vehicles that could reduce spoilage and improve market access for smallholder farmers. The county's fleet of 298 vehicles and 372 motorbikes, entirely ICE-powered, presents significant opportunity for cost savings through electrification. Machakos's pathway forward should focus on building institutional awareness and capacity, developing a basic e-mobility policy, and piloting agricultural logistics applications. **Kilifi County (Readiness Score: 28/100),** a coastal county, faces technical challenges similar to Mombasa, including saline corrosion affecting charging hardware durability. The county currently has minimal EV infrastructure and uptake, reflecting both technical barriers and limited institutional capacity. Kilifi has expressed interest in partnerships to address technical challenges and build institutional capacity. Kilifi's pathway forward should focus on research on saline-resistant charging hardware, building institutional capacity, and developing a basic e-mobility policy. **Taita Taveta County (Readiness Score: 35/100),** despite challenges including hilly terrain and low grid coverage (approximately 50% in rural areas), has positioned itself as a potential hub for intercity e-mobility along the Nairobi–Mombasa Highway. Voi town, a major stopover point on the highway, has been identified as a natural location for EV charging or battery swapping infrastructure. The county's fleet of 407 vehicles (181 cars, 197 motorbikes, 29 heavy equipment), entirely ICE-powered, with an

estimated annual fuel bill of KES 30 million, presents significant opportunity for cost savings through electrification. However, past trials have failed due to poor economics and terrain challenges, creating skepticism among transport operators. Taita Taveta's pathway forward should focus on addressing misconceptions through demonstration projects, developing a basic e-mobility policy, and leveraging its strategic corridor location to attract intercity EV travel through battery swapping infrastructure. **Kajiado County (Readiness Score: 25/100)** is at an early stage of e-mobility adoption, with very limited EV infrastructure and uptake. The county has expressed interest in partnerships to advance adoption but has not yet developed a dedicated e-mobility policy or identified specific e-mobility opportunities. Kajiado's pathway forward should focus on building institutional awareness, developing a basic e-mobility policy, and identifying context-specific e-mobility opportunities (e.g., livestock transport, tourism).

4.5 Conclusion

This chapter has mapped Kenya's county-level e-mobility readiness using a transparent, evidence-based County E-Mobility Readiness Index. The analysis reveals a highly skewed distribution of readiness, with the vast majority of counties clustered at the lower end of the readiness spectrum. This distribution directly reflects and reinforces the decentralization gap identified in Chapter 3.

The comparative analysis of three focus counties (Nairobi, Mombasa, Kisumu) illustrates three distinct pathways for e-mobility adoption, each with different entry points and sequencing. Nairobi's advanced readiness demonstrates the potential for rapid scaling when infrastructure, policy, and private sector presence align. Mombasa's intermediate-early stage readiness illustrates the challenges of unlocking economic potential without policy and institutional support. Kisumu's intermediate readiness demonstrates that policy leadership can drive progress even in resource-constrained environments. The classification of other workshop counties reveals that readiness is distributed across a spectrum, with some counties (Kiambu, Nakuru, Makueni) demonstrating intermediate readiness and others (Machakos, Kilifi, Taita Taveta, Kajiado) demonstrating early-stage readiness.

Each county has distinctive characteristics, opportunities, and constraints that require context-specific strategies. The readiness analysis provides the foundation for subsequent chapters on barriers and enablers (Chapter 5), legal frameworks (Chapter 6), and differentiated county roadmaps (Chapter 9). Understanding county readiness is essential for designing support strategies that match intervention intensity and type to county capacity and context.

5 Legal Frameworks for County Action

5.1 Legal and Regulatory Gap Assessment for County E-Mobility Adoption in Kenya

Electric mobility in Kenya is transitioning from a niche technology to a strategic national priority, with counties serving as the frontline institutions responsible for urban transport planning, roadway infrastructure, environmental management and permitting of local charging facilities. The E-mobility sector in Kenya is growing rapidly, characterized primarily by the uptake of electric two- and three-wheelers, with emerging segments like e-buses and passenger cars. By the end of 2024, approximately 5,300 EVs were registered nationally. This transition is driven by the National E-Mobility policy (2024) and aligns with national climate goals, aiming for a substantial reduction in Greenhouse Gas (GHG) emissions from the transport sector (targeting 3.1 MtCO2eq reduction in the NCCAP 2023-2027).

The successful adoption of E-mobility depends heavily on effective implementation at the devolved level, where county governments exercise core constitutional functions concerning transport, urban planning and local service delivery. Counties like Nairobi, Mombasa and Kisumu are strategic hubs, but preliminary findings show significant constraints, including overlapping mandates with the national government, grid reliability issues, limited access to financing and a lack of integrated policies and spatial planning. However, current legislation remains largely ICE-oriented, resulting in regulatory uncertainty that affects private investment, county permitting efficiency, and safe battery lifecycle management. The central legal challenge is the sectoral fragmentation of mandates across multiple central government Ministries Departments, and Agencies (MDAs) and county governments, necessitating a robust legal and institutional framework for coordination.

The primary legal and regulatory issues inhibiting seamless county E-mobility adoption span the following critical areas:

5.2 Spatial Planning and Infrastructure Legal Gaps

The legal framework for planning rests on the power of county governments to regulate land use in the public interest, exercised through land use and physical development planning.

There is lack of integration in urban planning. County planning documents, such as the County Integrated Development Plan (CIDP) and spatial plans, often lack provisions for designated EV charging spaces or Battery Swapping Stations (BSS), demonstrating weak alignment between planning needs and energy transition goals.

There is need for inter-county coordination. Strategic E-mobility infrastructure (like charging stations, BSS points, and BRT corridors) requires planning across county boundaries, particularly in metropolitan areas like Nairobi. Long and inconsistent permitting processes for the installation of EVCS, sometimes taking up to 4-6 months in some counties, alongside unclear business models for county land allocation, constrain infrastructure development.

Another gap is the building code scope. The 2024 National Building Code requires 5% of parking spaces in commercial buildings or multi-dwelling units to be designated for EV charging, but leaves out other commercial spaces, public buildings, and single-dwelling units.

The development of Public Charging Stations (PCS) requires dedicated land, which is a key constraint in urban areas.

5.3 Environmental Legal and Policy Gaps at County Level

Kenya's environmental governance mandates - derived from Article 42 of the Constitution - guarantee citizens a right to a clean and healthy environment. Yet, implementation systems for EV-related environmental risks remain incomplete. The Environmental Management and Coordination Act (EMCA) and its Impact Assessment Regulations do not explicitly categorize electric vehicle assembly, battery refurbishment, battery recycling, or end-of-life dismantling as high-risk activities requiring mandatory environmental assessment[116]. This gap allows hazardous facilities to receive county permits without adequate safeguards.

Hybrid vehicles continue to emit regulated pollutants such as NOx and COx, but existing Air Quality Regulations govern only internal combustion engines, creating a compliance void for transitional fleets that may dominate Kenyan markets for the next decade117. This is particularly concerning for counties such as Nairobi and Mombasa where roadside emissions already exceed urban health thresholds.

The Sustainable Waste Management Act (2022), mandates Extended Producer Responsibility (EPR), but regulations lack clarity on who constitutes the "producer" for second-hand imported EV batteries, which dominate the market, hindering effective end-of-life management118. Imported second-hand EVs and detachable battery packs lack traceability mechanisms, nor do counties have standards for safe battery transport, thermal-event response, or occupational protection for informal waste workers. Furthermore, there is a lack of national standards for Materials Recovery Facilities (MRFs) to handle EV batteries safely for recycling or repurposing.

County Implications: Counties lack enforceable tools to regulate EV battery waste, supervise material recovery facilities, or inspect swapping-station safety - exposing residents to growing fire, toxicity, and illegal dumping risks.

5.4 Transport Sector Gaps and County Public Mobility Impacts

County governments have specific functions in transport, including county roads, street lighting, traffic, parking, and public road transport. The Kenya's Traffic Act does not distinguish between propulsion types, leaving Electric Vehicles (EVs), Hybrid Electric Vehicles (HEVs), and Plug-in Hybrid Electric Vehicles (PHEVs) outside specific regulatory definitions119. As a result, county licensing authorities lack a legal basis to impose differentiated conditions for e-PSVs, including minimum battery state-of-health thresholds, verified range requirements, and fire-safe route scheduling.

There is need for an increase in the emergency response capacity. EV operations, particularly involving Lithium-Ion batteries, introduce unique safety risks (e.g., battery fires/ thermal runaway) that local emergency services must manage.

The vehicle inspection standard, KS 1515:2000, does not include testing for high-voltage electrical systems, charging port functionality, or lithium-ion thermal protection120. This limits counties' technical

116 African Development Bank. (2022). *Approach paper to guide preparation of an African Green Minerals Strategy*. Abidjan: AfDB.

117 Constitution of Kenya (2010).

118 Energy and Petroleum Regulatory Authority. (2023). *Electric vehicle charging and battery swapping infrastructure guidelines*. Nairobi: EPRA

119 Environmental Management and Coordination Act, Cap 387 (Kenya) (1999).

120 Environmental Management and Coordination (Air Quality) Regulations, Legal Notice No. 34 (2014) (Kenya).

competence to enforce roadworthiness, especially for shared mobility fleets such as electric boda bodas and e-matatus.

The county government can regulate the local transport by introducing privileges and incentives. Leveraging these powers can incentivize EV uptake.

Legal authority for siting charging infrastructure remains fragmented. EV chargers and battery swapping stations are not formally recognized land-use categories in county zoning frameworks, and no safety codes govern fire-resistant stand-offs, grounding requirements, or battery storage protocols near high-occupancy areas121. Furthermore, there are no legal provisions or standards governing the safe aftermarket conversion of Internal Combustion Engine (ICE) vehicles to EVs or hybrids. There is also a lack of mandatory requirements and training for local emergency services on responding to specialized EV fires.

While the national government sets standards for county road construction and maintenance, local implementation details remain a county function. There needs to be a set standard for local roads.

County Implications: Public transport electrification stalls because counties cannot enforce EV-specific operational safety or ensure equitable placement of charging infrastructure in dense urban corridors.

5.5 Procurement Legal Gaps

There is lack of EV prioritization in county fleets. County governments, like national MDAs, need to transition their vehicle fleets to electric models to align with national climate goals. Administrative action should be taken to include EVs within the scope of preference and reservations provisions of the Public Procurement and Disposal Act (Part XII) and its regulations. Policies must be established to prioritize the procurement of EVs for government fleets, with minimum local content requirements, where applicable

5.6 Energy Sector Gaps Affecting Municipal Electrification Plans

EV charging infrastructure in Kenya is currently guided by EPRA through non-binding technical guidelines rather than legally enforceable regulations122. Counties depend heavily on clarity in such regulations to issue installation permits, enforce safety compliance, and plan electrical upgrades for bus depots and logistics hubs.

County energy planning does not currently incorporate spatial charging network design, tariff coordination with utilities, or the integration of renewable energy for demand-side management. Without jurisdictional clarity on the role of vehicle-to-grid (V2G) systems or distributed solar-EV hybrid charging, counties risk permitting infrastructure that strains substations and increases network losses.

County Implications: Distribution-level preparedness varies widely, hindering private investors from deploying scalable charging networks in county public transport systems.

5.7 Fiscal and Incentive Gaps Limiting Local Adoption

National tax incentives have improved EV import competitiveness, yet county taxation remains unaligned with national emission-reduction goals. Local licensing fees, parking charges, and land-use levies are often uniformly applied across ICE and EV vehicles123. This can inadvertently increase the economic burden on EV operators, particularly in boda boda-dominated counties such as Kisumu and Mombasa.

121 KEBS. (2000). Code of practice for inspection of road vehicles (KS 1515:2000). Nairobi: Kenya Bureau of Standards.

122 National Building Code. (2024). Government of Kenya.

123 National Climate Change Action Plan 2023–2027. (2023). Ministry of Environment and Forestry, Nairobi.

The long-term reliance of the Road Maintenance Levy Fund (RMLF) on petroleum fuel levies poses a major fiscal threat to road funding as E-mobility reduces fuel consumption, necessitating the introduction of alternative revenue streams.

Additionally, Kenya's carbon market framework is under development, leaving counties uncertain about revenue-sharing arrangements for transport decarbonization projects and public EV fleet transitions124.

County Implications: Without supportive local incentives, adoption of EV fleets by low-income transport operators remains economically challenging.

5.8 County Policy Action Matrix

Priorities for County E-Mobility Regulation

Table 3: Proposed changes and Priorities for County E-Mobility Regulations

Policy Area	Nairobi	Mombasa	Kisumu
EV Public Transport Transition	Expand electrified BRT corridors; mandate charging at termini	Electrify port logistics and ferry mobility; pilot electric PSVs	Prepare e-mobility strategy for lake transport and boda boda fleets
Charging Infrastructure Zoning	Require fast-charging in commercial parking and transit hubs	Prioritize beachfront tourism zones & port-exit corridors	Allocate space within informal settlements for safe charging access
Battery Waste & Safety	Create hazardous-waste protocols for EV batteries; enhance firefighting	Invest in climate-resilient storage to avoid corrosion-related hazards	Pilot battery second-life storage for mini-grids
County Incentives	Preferential EV parking, stages for loading and licensing	Waive small-business levies for charging operators	Micro-lending and tax relief for e-boda adoption
Institutional Capacity	Establish County EV Unit under DoT & Environment	Strengthen fire and OHS standards for battery facilities	Build technical inspectorate for EV-specific vehicle checks

5.9 Regulatory Framework for E-Mobility

The regulatory framework for E-mobility relies on several hierarchical laws:

Constitutional Framework: The Constitution of Kenya 2010

The Constitution of Kenya 2010 mandates the right to a clean and healthy environment (Article 42) and imposes corresponding duties on the State to ensure sustainable use of natural resources and establish systems of Environment Impact Assessment (EIA). County governments derive their transport, public works and planning authority from the Fourth Schedule, Part 2. Public procurement is governed by the principles of fairness, equity, transparency, competitiveness and cost-effectiveness (Article 227).

5.10 Climate and Environmental Laws

The Climate Change Act (CCA), Cap 387A, provides the regulatory framework for achieving low-carbon development and allows the Climate Change Council to impose climate change duties on any public entity at all levels of government. E-mobility projects fall under "non-land based carbon projects" and are eligible to earn carbon credits under The Climate Change (Carbon Markets) Regulations, 2024.

The Environmental Management and Co-ordination Act (EMCA), Cap 387, requires high-risk projects (including e-waste recycling and potentially EV manufacturing/assembly) to undergo EIA. The Sustainable

124 Sustainable Waste Management Act, Cap 387C (2022) (Kenya).

Waste Management Act (Cap.887C) mandates segregation, reuse, recycling and recovery of waste, imposing EPR obligations on producers.

5.11 Energy and Planning Laws

The Energy Act, Cap 314, establishes the Energy and Petroleum Regulatory Authority (EPRA) to regulate electrical energy and set tariffs. Crucially, the Act empowers count governments to make rules for energy efficiency and conservation within their jurisdictions.

The County Governments Act (CGA), Cap 265, requires county governments to adhere to established planning frameworks, including the County Integrated Development Plan (CIDP) and the County Spatial Plan, which must integrate and mainstream national values and policies. The Urban Areas and Cities Act (UACA) Cap 275 further requires cities and municipalities to operate within integrated development planning frameworks covering infrastructure and transportation.

5.12 CoK: The Fourth Schedule: County Mandates Relevant to E-Mobility

The constitutional foundation for county involvement in e-mobility is both clear and compelling. Kenya's 2010 Constitution established a devolved system of government in which power, functions, and resources are shared between the national government and 47 county governments.125 This devolution was designed to address historical inequalities, bring government closer to the people, enhance accountability, and empower communities to shape their own development trajectories. Article 6 of the Constitution establishes the principle of devolution, while the Fourth Schedule delineates the specific functions assigned to each level of government.126

Several functions assigned to county governments under the Fourth Schedule are directly relevant to electric mobility, providing counties with both the legal authority and the responsibility to act. These functions are not merely advisory or aspirational; they are constitutional mandates that counties are obligated to exercise. Understanding these mandates is essential for appreciating the central role that counties must play in Kenya's e-mobility transition.

County Transport. Part 2 of the Fourth Schedule assigns to county governments the function of "county transport, including county roads, street lighting, traffic and parking, public road transport, and ferries and harbours, excluding the regulation of international and national shipping and matters related thereto."127 This mandate is comprehensive and directly relevant to e-mobility. Counties have authority over public road transport, which includes the regulation, licensing, and management of buses, matatus, taxis, and boda-bodas—the very sectors where electric vehicles are gaining traction. Counties also have authority over traffic and parking, enabling them to implement preferential policies for electric vehicles, such as dedicated EV parking spaces, reduced parking fees, or access to bus lanes. The mandate over county roads ensures that counties can plan and maintain road infrastructure that supports EV operations, including ensuring adequate street lighting and road surfaces.

County Planning and Development. The Fourth Schedule assigns counties the function of "county planning and development, including statistics, land survey and mapping, boundaries and fencing, housing, and electricity and gas reticulation and energy regulation."128 This mandate is particularly significant for

125 Government of Kenya. (2010). The Constitution of Kenya. National Council for Law Reporting, Article 6.

126 Government of Kenya. (2010). The Constitution of Kenya. National Council for Law Reporting, Article 6 and Fourth Schedule.

127 Government of Kenya. (2010). The Constitution of Kenya. National Council for Law Reporting, Fourth Schedule, Part 2, Section 5.

128 Government of Kenya. (2010). The Constitution of Kenya. National Council for Law Reporting, Fourth Schedule, Part 2, Section 8.

e-mobility infrastructure. The inclusion of "electricity and gas reticulation and energy regulation" gives counties explicit authority over the local distribution of electricity, which is fundamental to the deployment of EV charging infrastructure. Counties can regulate where and how charging stations are located, ensure that electricity reticulation networks are adequate to support charging demand, and coordinate with Kenya Power and Lighting Company (KPLC) on grid expansion and reinforcement. The broader planning and development mandate enables counties to integrate e-mobility into spatial plans, zoning regulations, and building codes, ensuring that new developments include provisions for EV charging.

Control of Air Pollution, Noise Pollution, and Other Public Nuisances. The Fourth Schedule assigns to counties the function of "control of air pollution, noise pollution, other public nuisances and outdoor advertising."129 This mandate provides counties with the authority to regulate sources of pollution, including emissions from transport. Counties can enact bylaws that set air quality standards, restrict the operation of high-emission vehicles in certain areas, or provide incentives for the adoption of zero-emission vehicles. Given that transport is a major contributor to urban air pollution—accounting for an estimated 40% of particulate matter (PM2.5) in Nairobi—this mandate is both relevant and urgent.130 E-mobility is a direct tool for counties to exercise their constitutional responsibility to protect public health and environmental quality.

Implementation of Specific National Government Policies on Natural Resources and Environmental Conservation. The Fourth Schedule assigns to counties the function of "implementation of specific national government policies on natural resources and environmental conservation, including soil and water conservation and forestry."131 This mandate creates a direct link between national e-mobility policy and county-level implementation. The National E-Mobility Policy, adopted in 2025, is a national government policy that requires implementation at the county level.132 Counties are constitutionally mandated to operationalize this policy within their jurisdictions, adapting it to local contexts while ensuring alignment with national objectives. This mandate underscores that counties are not optional participants in the e-mobility transition but essential implementers of national climate and environmental policy.

These constitutional mandates establish that counties are not merely stakeholders in the e-mobility transition—they are constitutionally empowered and legally obligated actors with the authority to regulate, plan, incentivize, and implement e-mobility within their jurisdictions. The question is not whether counties have the legal basis to act, but how they can be supported to exercise their mandates effectively.

5.13 Analysis and Recommendations

The legal and regulatory gaps analyzed above confirm that while the foundational primary legislation exists, specific subsidiary legislation (regulations and standards) and administrative actions at the county level are necessary to operationalize E-mobility mandates.

129 Government of Kenya. (2010). The Constitution of Kenya. National Council for Law Reporting, Fourth Schedule, Part 2, Section 10.

130 Nairobi County Government. (2025). Nairobi County E-Mobility Presentation. E-Mobility for Counties Workshop, September 2025.

131 Government of Kenya. (2010). The Constitution of Kenya. National Council for Law Reporting, Fourth Schedule, Part 2, Section 11.

132 Ministry of Transport. (2025). National E-Mobility Policy. Government of Kenya.

Transport Sector

The Traffic Act (Cap. 403) is deficient in classifying and regulating electric transport.

Gap/Issue	Legal/Regulatory Analysis	Recommendations for Change
Ambiguous Definitions	The lack of statutory definitions for EV, HEV, and PHEV in the Traffic Act prevents tailored regulation of technical standards, taxation, and specialized registration.	Amend the Traffic Act (Cap. 403) to include specific definitions for EV, HEV, and PHEV, and establish them as distinct motor vehicle classes. Update the Traffic (Registration Plates) Rules 2016 (Form A) to mandate the recording of EV-specific data (e.g., Kilowatt rating, battery type, and initial State of Health).
Inadequate Inspection	Current inspection standards (KS 1515:2000) fail to cover critical EV components. This poses safety and consumer protection risks, especially regarding the battery SOH in second-hand imports.	Amend the National Transport and Safety Authority (NTSA) Act to formally require NTSA to collaborate with the Kenya Bureau of Standards (KEBS) in developing revised standards (KS 1515) for inspecting electric and hybrid vehicles, including mandating a minimum 80% battery SOH for second-hand imported EVs.
Safety and Emergency Response	Regulation 56 of the Traffic (General) Rules mandates fire extinguishers for public service vehicles (PSVs), but fire suppression requirements are not specialized for EV battery fires.	Amend the Traffic Act/Rules to mandate appropriate, specialized fire suppression equipment and first aid kits for all categories of EV and hybrid vehicles. County governments must be required to provide training and regular certification for emergency fire services on suppression techniques for EV-related fires.

Spatial Planning and Local Infrastructure

Counties hold the power for local physical and land use planning and control.

Gap/Issue	Legal/Regulatory Analysis	Recommendations for Change
Planning and Zoning	County plans (CIDPs/Spatial Plans under the CGA) are currently disconnected from E-mobility infrastructure needs, hindering large-scale deployment (e.g., BRT integration, location of PCS/BSS).	County governments must utilize the Physical and Land Use Planning Act and the Urban Areas and Cities Act to generate integrated E-mobility urban development plans. This planning should earmark and regulate land for EV infrastructure.
Building Codes and Permitting	The National Building Code mandates 5% EV parking in commercial/multi-dwelling units but excludes other relevant property types. Permitting delays impede deployment.	County governments should enact local ordinances/by laws to expand the mandate of providing charging infrastructure to include other commercial spaces and single-dwelling units, going beyond the national minimum. Counties should also develop concessional land rates for public EV charging infrastructure development to incentivize investment.

Policy, Regulatory and Fiscal Frameworks

This area requires coordinated interventions across national legislation (Energy, Finance, Environment).

Framework Area	Gap/Issue	Recommendations for Change
Regulatory (Energy Infrastructure)	The regulatory requirements for installing and operating Public Charging Stations (PCS) and Battery Swapping Stations (BSS) are currently only in EPRA Guidelines (2023).	EPRA must convert the Electric Vehicle Charging and Battery Swapping Infrastructure Guidelines into formal regulations under the Energy Act, specifying safety, certification requirements, and licensing for operators, including integration with existing fuel station licenses.
Regulatory (Waste Management)	Implementation of Extended Producer Responsibility (EPR) under the Sustainable Waste Management Act (Cap. 387C) is unclear for used EV batteries. There are no national standards for MRFs handling this specialized e-waste.	The Cabinet Secretary (Environment) should make regulations under the Sustainable Waste Management Act to clarify the "producer" for second-hand EVs, mandate battery telematics for tracking, and establish National MRF safety and testing standards for recycling and repurposing EV batteries.
Fiscal (Road Funding)	The long-term RMLF revenue shortfall requires immediate fiscal reform.	Legislative action must be taken to introduce new revenue streams, such as a Vehicle Distance Charging (VDC) system (piloted by 2033) and an EV Power Levy collected at public charging stations, requiring amendments to the KRA Act and the Energy Act.
Procurement (Government Fleet)	Lack of systematic policy to prioritize EVs in government purchases.	Administrative action is required to incorporate EVs within the preference and reservations provisions of the Public Procurement and Disposal Act and related regulations, prioritizing EVs for government fleets with set targets and minimum local content requirements.
Policy Coordination	Effective E-mobility adoption requires mainstreaming and vertical integration of mandates from the national level (CCA) down to specialized agencies and counties.	The proposed multi-agency steering committee (as identified in the Draft Policy) should be formalized to ensure horizontal and vertical coordination across all MDAs and county governments, leveraging the CCA's power to impose climate change duties to reinforce compliance. E-mobility projects should also be registered as carbon trading projects with NEMA (the Designated National Authority) to access carbon credits through the new framework.

Key Roles Counties Can Play to Accelerate E-Mobility

Building on the constitutional mandates outlined above, counties can play nine specific roles in accelerating electric mobility within their jurisdictions. These roles, identified through a comprehensive analysis of county functions and stakeholder consultations, provide a practical framework for county action.133 Each role is grounded in constitutional authority, aligned with national policy objectives, and tailored to the unique capacities and contexts of county governments.

Role 1: Energy, Spatial and Urban Planning

Counties have the mandate to develop County Energy Plans, from Kenya's Energy Act (2019). The Energy Act (2019) requires each county to develop, submit, and implement its own energy plan to achieve national energy goals. These plans are meant to be aligned with the Integrated National Energy Plan (INEP) and are crucial for decentralizing energy solutions, ensuring universal access to clean, reliable,

133 Analysis based on: (1) Constitutional mandates (Fourth Schedule); (2) County Governments Act 2012; (3) Stakeholder consultations and Focus Group Discussions; (4) E-Mobility for Counties Workshop Report (September 2025); (5) Document titled "Role of County Governments in Accelerating the Adoption of EVs in Kenya" (September 2025).

and affordable energy, and supporting local development across sectors like health, education, and agriculture. E-Mobility is a major demand driver of energy consumption which

Counties have the authority to integrate electric vehicle charging infrastructure into land-use planning, zoning regulations, and building codes. This role is fundamental because the availability and accessibility of charging infrastructure is one of the most critical enablers of EV adoption. By incorporating EV charging requirements into spatial plans, counties can ensure that infrastructure is deployed strategically, in locations that maximize accessibility and convenience for users.

County governments must utilize their statutory power to regulate and undertake development control to specifically earmark land for E-mobility infrastructure. The planning process should ensure comprehensive inclusion of all functions, including the provision of physical and social infrastructure and transportation, as mandated by the Urban Areas and Cities Act (UACA).

Specifically, counties can require new commercial and residential developments to include EV charging provisions. This can be achieved through enforcing the Building Codes 2024, that mandates commercial buildings to allocate 5% of parking spaces for electric vehicle charging. Counties could also develop zoning regulations that designate specific areas for charging infrastructure. For example, Nairobi County's draft EV Charging Station Framework includes provisions for integrating charging infrastructure into public parking areas, bus terminals, and commercial developments.134 Such provisions ensure that charging infrastructure is built into the urban fabric from the outset, rather than being retrofitted at higher cost later. County governments should utilize their planning and regulatory powers to expand the mandate of providing charging infrastructure to include other commercial spaces, public buildings, and single-dwelling units, aligning with national guidelines (e.g., EPRA Guidelines).

Counties can also ensure that public parking areas, bus terminals, and transport hubs include charging infrastructure. These are high-traffic locations where charging demand is likely to be concentrated, and where public investment in infrastructure can have high visibility and demonstration value. By designating specific sites for charging infrastructure in county spatial plans, counties provide clarity and certainty for private sector investors, reducing the time and cost associated with site identification and approval. County governments should use their spatial planning authority to develop special zones allocated for public EV charging infrastructure development and provide concessional land rates for this infrastructure.

Furthermore, counties can coordinate with KPLC to ensure that electricity reticulation networks are adequate to support charging infrastructure. This requires integrating e-mobility considerations into county infrastructure development plans and ensuring that grid expansion and reinforcement projects are aligned with anticipated charging demand. Kisumu County's draft Cabinet Memo on e-mobility integration explicitly calls for such coordination, recognizing that grid reliability is a critical constraint.135

Inter-county coordination (e.g., through mechanisms under the Physical and Land Use Planning Act) is required to generate integrated E-mobility urban development plans, covering aspects like BRT corridors. County spatial plans must align with neighboring counties' frameworks.

Role 2: Roads, Transport, and Traffic Management

Counties' constitutional mandate over county transport provides them with multiple levers to promote electric mobility in public transport and private vehicle use. This role encompasses both regulatory measures and infrastructure provision.

134 Nairobi County Government. (2025). Nairobi County EV Public Space Charging Infrastructure Framework [Draft policy document], pp. 12-15.

135 Kisumu County Government. (2025). Cabinet Memo on E-Mobility Integration [Draft policy document], p. 8.

Counties can prioritize EV-friendly public transport by providing incentives for public service vehicle (PSV) operators to adopt electric buses, matatus, and boda-bodas. These incentives can include reduced licensing fees, preferential access to bus routes or terminals, or expedited permit approvals. For example, a county could offer a 50% reduction in annual PSV licensing fees for electric vehicles, making them more financially attractive to operators. Such incentives create immediate cost savings that improve the business case for EV adoption.

Counties can also manage traffic and parking regulations to favor electric vehicles. This can include designating preferential parking spaces for EVs in high-demand areas, offering reduced or waived parking fees for EVs, or allowing EVs access to bus lanes or other restricted zones. These measures provide non-financial benefits that enhance the convenience and attractiveness of EV ownership. Nairobi County has explored the possibility of designating EV-only parking zones in the central business district, which would provide both a practical benefit to EV owners and a visible signal of the county's commitment to e-mobility.136

Counties are responsible for ensuring that county roads support EV operations. This includes maintaining good road surfaces (which reduce energy consumption and vehicle wear), ensuring adequate street lighting (which enhances safety and encourages nighttime charging), and planning road networks that facilitate access to charging infrastructure. While this may seem like a basic function, the quality of road infrastructure has direct implications for the viability and efficiency of electric vehicles, particularly for commercial operators who are highly sensitive to operating costs. Counties must ensure local standards are enforced regarding EV charging infrastructure, especially for motorcycle Battery Swapping Stations (BSS) and PCS located on urban and rural roads.

Counties can identify strategic locations for charging stations based on traffic patterns, population density, and economic activity. This requires data collection and analysis to understand where charging demand is likely to be highest and where infrastructure deployment will have the greatest impact. By proactively identifying sites and including them in county spatial plans, counties reduce the uncertainty and transaction costs faced by private sector charging infrastructure operators.

Finally, counties can facilitate public-private partnerships (PPPs) for charging infrastructure deployment. This involves providing land on concessional terms, streamlining regulatory approvals, and in some cases, guaranteeing anchor demand through county fleet electrification or public transport contracts. PPPs enable counties to leverage private sector capital and expertise while retaining oversight and ensuring that infrastructure serves public objectives.

Role 3: Regulation, Permits, and Bylaws

Counties have the authority to enact bylaws and issue permits related to transport, infrastructure, and environmental management. This regulatory role is critical for creating an enabling environment for e-mobility and ensuring that infrastructure deployment is safe, efficient, and aligned with county priorities.

Counties can enact bylaws for charging infrastructure standards, safety requirements, and battery disposal. While national standards are being developed by the Kenya Bureau of Standards (KEBS), counties can adopt and enforce these standards at the local level, and in some cases, develop additional requirements tailored to local conditions. For example, coastal counties such as Mombasa and Kilifi may need to develop specific standards for charging equipment that can withstand saline environments and

136 Nairobi County Government. (2025). Nairobi County E-Mobility Presentation. E-Mobility for Counties Workshop, September 2025.

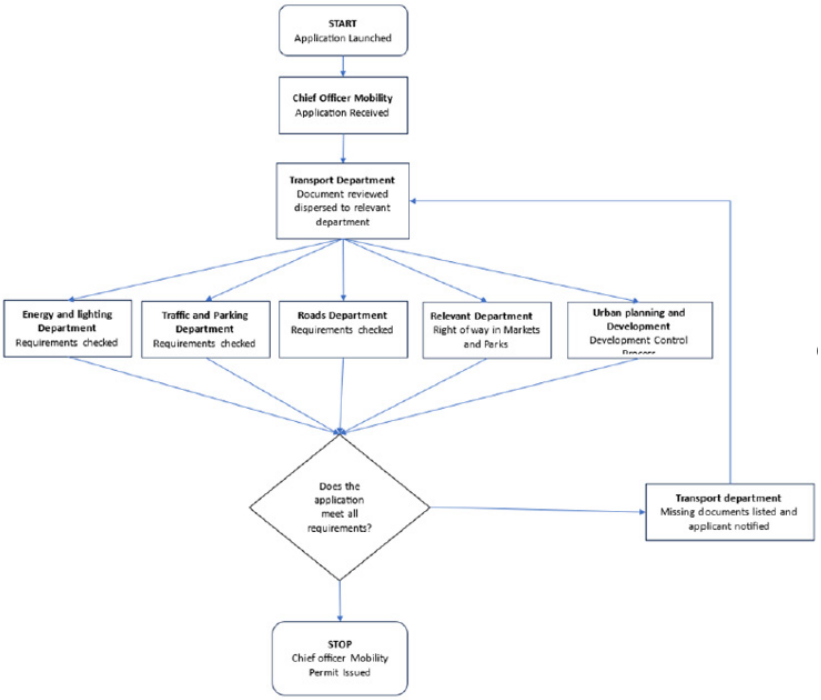
high humidity.137 Bylaws can also address issues such as the siting of charging stations, noise levels, signage, and accessibility for persons with disabilities.

Perhaps most importantly, counties can streamline regulatory and administrative approvals for charging infrastructure deployment. The current regulatory landscape is fragmented and time-consuming, with multiple agencies involved and unclear procedures. BasiGo's experience, documented in a presentation at the E-Mobility for Counties Workshop, illustrates the challenge: obtaining a Change of User approval (to convert land from agricultural or residential to commercial use for charging infrastructure) takes 6-7 months; obtaining a National Environment Management Authority (NEMA) Environmental Impact Assessment (EIA) license takes 3-5 months; and obtaining a county construction permit takes anywhere from 2 weeks in Nairobi to 4 months in other counties.138 These delays increase costs, deter investment, and slow the pace of infrastructure deployment.

Nairobi County has developed a one-stop permitting framework that consolidates approvals and reduces the process to approximately 2 weeks.139 This framework involves designating a single county office as the point of contact for all charging infrastructure applications, coordinating internally with relevant departments (planning, environment, public health, transport), and establishing clear timelines and procedures. The framework also includes a digitized application and tracking system that enhances transparency and accountability. This model is replicable and should be adopted by all counties as a matter of priority.

Nairobi County Application Process

Chart 1: Nairobi Country License Application Process



137 Kilifi County Government. (2025). County presentation. E-Mobility for Counties Workshop, September 2025; Taita Taveta County Government. (2025). County presentation. E-Mobility for Counties Workshop, September 2025.

138 BasiGo. (2025). Charging Infrastructure Deployment and Regulatory Processes [Presentation]. E-Mobility for Counties Workshop, September 2025, slides 8-12.

139 Nairobi County Government. (2025). Nairobi County EV Public Space Charging Infrastructure Framework [Draft policy document], pp. 18-20.

Counties can also use their regulatory authority to enforce air quality standards and vehicle emissions regulations, providing an additional incentive for the adoption of zero-emission vehicles. While vehicle emissions standards are set at the national level by the National Transport and Safety Authority (NTSA), counties have the authority to enforce compliance and to designate low-emission zones where only electric or other clean vehicles are permitted.

Role 4: Incentives and Financial Support

While counties have limited fiscal resources compared to the national government, they have several tools at their disposal to provide financial incentives that can make electric vehicles more attractive and affordable.

Counties can offer local tax breaks or reduced fees on vehicle licensing, parking, and PSV permits for electric vehicles. Vehicle licensing and PSV permits are county functions, and counties have the discretion to set differential fee structures that favor EVs. For example, a county could charge 50% of the standard licensing fee for electric vehicles or offer free parking in county-operated parking facilities. These measures provide immediate, tangible cost savings that improve the business case for EV adoption, particularly for commercial operators who are highly cost-sensitive.

Counties can provide concessional land rates for charging station developers. Land is a major cost component for charging infrastructure, particularly in urban areas where land values are high. By offering public land on concessional lease terms—such as reduced lease rates or long-term leases with favorable conditions—counties can significantly reduce the capital costs for charging infrastructure operators. This is particularly effective when combined with PPP arrangements where the county guarantees anchor demand through its own fleet or public transport contracts.

Counties can offer reduced building permit rates for EV infrastructure projects. Building permits are a county function, and counties can use differential pricing to incentivize EV-related construction. For example, a county could charge 50% of the standard building permit fee for the construction of charging stations, or offer expedited approvals for EV infrastructure projects.

Counties can also provide grants or subsidies to public transport operators to purchase electric vehicles. While this requires dedicated budget allocation, it can be a powerful tool for accelerating fleet electrification, particularly in the public transport sector where upfront capital costs are a major barrier. Grants can be structured as matching funds (where the county contributes a percentage of the purchase price) or as performance-based incentives (where operators receive payments based on kilometers driven or emissions avoided). Such programs can be funded through county budgets, climate finance, or partnerships with development partners.

Role 5: Awareness, Education, and Capacity Building

Public awareness and technical capacity are critical enablers of e-mobility adoption. Counties are well-positioned to conduct awareness campaigns and build local capacity, given their proximity to communities and their understanding of local contexts.

Counties can conduct public awareness campaigns on the benefits of electric vehicles, including lower operating costs, reduced emissions, and improved air quality. These campaigns can use multiple channels, including radio, social media, community events, and partnerships with transport operators' associations. The focus should be on demonstrating the total cost of ownership (TCO) advantages of EVs, which are often not well understood by potential buyers. For example, while an electric motorcycle may have a higher upfront cost than an ICE equivalent, its operating costs are 40-50% lower, leading to significant

savings over the vehicle's lifetime.140 Awareness campaigns can also address common misconceptions about EVs, such as concerns about range, charging time, and battery life.

Counties can train county staff in planning, transport, public works, and environment departments on e-mobility concepts, technologies, and policies. This internal capacity building is essential for ensuring that county governments can effectively exercise their mandates. Training can cover topics such as EV technology basics, charging infrastructure planning, regulatory frameworks, financing mechanisms, and best practices from other counties or countries. The Council of Governors (CoG), in partnership with development partners, can facilitate such training programs.

Counties can build capacity for mechanics and electricians to maintain and repair electric vehicles. The shortage of trained EV technicians is a significant barrier to adoption, particularly outside Nairobi. Counties can address this by partnering with Technical and Vocational Education and Training (TVET) institutions to develop certified EV technician training programs. These partnerships can involve curriculum development, provision of training equipment, and facilitation of internships with EV manufacturers and operators. Kisumu County, for example, has identified the establishment of a TVET-OEM (Original Equipment Manufacturer) partnership as a priority action to address the skills gap in the Lake Region.141

Role 6: Environmental and Pollution Control

Counties' constitutional mandate over air pollution control provides a direct link between e-mobility and public health. Transport is a major source of urban air pollution, and electric vehicles offer a zero-emission alternative that can significantly improve air quality.

Counties can enforce local air quality regulations by monitoring emissions from transport and taking action against high-emission vehicles. This can include roadside emissions testing, penalties for non-compliant vehicles, and restrictions on the operation of high-emission vehicles in sensitive areas such as schools, hospitals, and residential neighborhoods. While vehicle emissions standards are set nationally, counties have the authority to enforce compliance and to adopt additional local measures where necessary.

Counties can monitor emissions from transport by establishing air quality monitoring stations and conducting regular assessments of transport's contribution to pollution. This data is essential for understanding the scale of the problem, tracking progress over time, and making the case for e-mobility as a public health intervention. Nairobi County, for example, has documented that transport contributes approximately 40% of PM2.5 concentrations in the city, and that current levels are 1.1 times the WHO guideline.142 Such data provides a compelling rationale for aggressive action on transport electrification.

Counties can integrate EV adoption into county climate action plans. The Climate Change Act 2016 requires counties to develop County Climate Change Action Plans (CCCAPs) that outline local strategies for mitigation and adaptation.143 E-mobility should be a core component of these plans, with specific targets for fleet electrification, charging infrastructure deployment, and emissions reduction. Integrating e-mobility into CCCAPs ensures that it is treated as a strategic priority, with dedicated resources and accountability mechanisms.

140 Electric Mobility Association of Kenya (EMAK). (2025). EMAK 2025 White Paper: Electrifying Kenya's Transportation Sector, p. 18; Operator testimonials from Focus Group Discussions, Nairobi, 2025.

141 Kisumu County Government. (2025). County presentation. E-Mobility for Counties Workshop, September 2025; Focus Group Discussions, Kisumu, 2025.

142 Nairobi County Government. (2025). Nairobi County E-Mobility Presentation. E-Mobility for Counties Workshop, September 2025.

143 Government of Kenya. (2016). Climate Change Act, 2016. National Council for Law Reporting, Section 14.

Role 7: Coordination with National Government and Stakeholders

Effective e-mobility implementation requires coordination between county governments, national government agencies, utilities, and private sector actors. Counties play a critical convening and coordination role.

Counties can engage in national policy development by providing input on the design and implementation of national e-mobility policies, regulations, and programs. The National E-Mobility Policy explicitly calls for county participation in policy processes, recognizing that counties have unique insights into local contexts and implementation challenges.144 Counties can engage through the Council of Governors (CoG), which represents county interests at the national level, or through direct participation in policy consultations and working groups.

Counties can work with utilities, particularly Kenya Power and Lighting Company (KPLC), on supportive tariff structures and grid infrastructure. This includes coordinating on grid expansion and reinforcement plans to ensure that electricity supply is adequate to support charging infrastructure, and advocating for tariff structures that make EV charging affordable. Counties can also work with KPLC to identify opportunities for deploying hybrid solar-battery charging hubs in areas where grid reliability is a challenge, as is the case in Kisumu and Mombasa.145

Counties can coordinate with regulatory agencies such as the Energy and Petroleum Regulatory Authority (EPRA), the National Transport and Safety Authority (NTSA), and the Kenya Bureau of Standards (KEBS) on standards, licensing, and enforcement. This coordination is essential for ensuring that national regulations are implemented effectively at the county level and that county-specific needs and challenges are reflected in national policy.

Role 8: Resource Mobilization and Budgeting

Financing is one of the most critical barriers to e-mobility adoption, and counties have an important role to play in mobilizing resources and allocating budgets.

Counties can allocate county budget to EV-friendly infrastructure, including charging stations, grid reinforcement, and road improvements that support EV operations. While county budgets are constrained, even modest allocations can have catalytic effects, particularly when combined with private sector investment or development partner support. For example, a county could allocate funds to provide land and basic infrastructure (such as electricity connections and site preparation) for charging stations, with private sector operators responsible for purchasing and installing the charging equipment.

Counties can use public-private partnerships (PPPs) to leverage private investment. PPPs enable counties to access private sector capital, expertise, and efficiency while retaining oversight and ensuring that infrastructure serves public objectives. PPP models for charging infrastructure can take various forms, including build-operate-transfer (BOT) arrangements, concessions, or joint ventures. The key is to structure PPPs in ways that allocate risks appropriately, provide reasonable returns to private investors, and ensure that infrastructure is accessible and affordable for users.

Counties can access donor and climate finance for e-mobility projects. Kenya is eligible for climate finance from sources such as the Green Climate Fund (GCF), the Global Environment Facility (GEF), and bilateral development partners. Counties can access these funds directly or through national government channels. Climate finance is particularly well-suited to e-mobility projects, which deliver quantifiable emissions reductions and align with Kenya's NDC commitments. However, accessing climate finance

144 Ministry of Transport. (2025). National E-Mobility Policy, pp. 21, 28.

145 Practical Action, GIZ, & EMAK. (2025). E-Mobility for Counties Workshop Report, September 2025, pp. 19-20; Kisumu County Government. (2025). County presentation. E-Mobility for Counties Workshop, September 2025.

requires project preparation, including feasibility studies, environmental and social impact assessments, and financial modeling. Counties may need technical assistance from development partners to develop bankable project proposals.

Role 9: Standardization, Maintenance, and End-of-Life Management

Ensuring the long-term sustainability of e-mobility requires attention to standards, maintenance, and the management of end-of-life batteries.

Counties can adopt national and international standards for EV chargers and safety. While standards are developed at the national level by KEBS, counties are responsible for enforcing compliance at the local level. This includes ensuring that charging infrastructure meets safety requirements, that installation is carried out by qualified technicians, and that equipment is regularly inspected and maintained. Counties can also develop additional local standards where necessary, such as standards for coastal environments or for specific types of infrastructure.

Counties can plan for battery disposal and recycling. End-of-life battery management is a critical environmental and economic challenge. Batteries contain valuable materials (such as lithium, cobalt, and nickel) that can be recovered and reused, but they also pose environmental risks if not disposed of properly. Counties can work with the National Environment Management Authority (NEMA) and private sector recyclers to establish battery collection and recycling systems. In the longer term, counties can facilitate the establishment of battery recycling facilities, which can create green jobs and contribute to a circular economy.146

Counties can ensure that maintenance infrastructure is available, including trained mechanics, spare parts suppliers, and service centers. The availability of reliable maintenance and repair services is essential for building consumer confidence in EVs and ensuring that vehicles remain operational over their lifetimes. Counties can support the development of maintenance infrastructure by facilitating TVET-OEM partnerships, providing incentives for service centers to locate in the county, and ensuring that zoning regulations accommodate EV maintenance facilities.

Alignment with National E-Mobility Policy

The nine roles outlined above are not only grounded in constitutional mandates but are also fully aligned with the National E-Mobility Policy adopted in 2025. The policy's fourteen policy statements provide a comprehensive framework for e-mobility development, and counties are essential actors in implementing many of these statements at the local level.147

Table 4: Mapping County Roles to National E-Mobility Policy Statements

County Role	National E-Mobility Policy Statement	Linkage
Role 1: Spatial and Urban Planning	Policy Statement 5: Supportive Measures for Charging Infrastructure	Counties integrate charging infrastructure into land-use planning, zoning, and building codes, operationalizing the national policy at the local level.
Role 2: Roads, Transport, and Traffic Management	Policy Statement 7: Promote EV-based Public Transport	Counties use regulatory and incentive tools to encourage PSV operators to adopt electric buses, matatus, and boda-bodas.

146 Ministry of Transport. (2025). National E-Mobility Policy, Policy Statement 13: End-of-Life Management, pp. 34-35.

147 Ministry of Transport. (2025). National E-Mobility Policy, pp. 20-35.

County Role	National E-Mobility Policy Statement	Linkage
Role 3: Regulation, Permits, and Bylaws	Policy Statement 2: Legal and Regulatory Reform	Counties streamline permitting processes and enact bylaws that create an enabling environment for e-mobility.
Role 4: Incentives and Financial Support	Policy Statement 4: Fiscal and Non-Fiscal Incentives	Counties provide local incentives (reduced fees, concessional land rates) that complement national fiscal incentives.
Role 5: Awareness, Education, and Capacity Building	Policy Statement 8: Technical Capacity and Skills Development	Counties conduct awareness campaigns and establish TVET-OEM partnerships to build local technical capacity.
Role 6: Environmental and Pollution Control	Policy Statement 10: Climate Change Mitigation and Adaptation	Counties integrate e-mobility into county climate action plans and enforce air quality regulations.
Role 7: Coordination with National Government	Policy Statement 1: Institutional Framework	Counties engage with national agencies through the proposed National-County E-Mobility Coordination Compact.
Role 8: Resource Mobilization and Budgeting	Policy Statement 6: Financing Alternatives	Counties allocate budgets, use PPPs, and access climate finance to support e-mobility projects.
Role 9: Standardization, Maintenance, and End-of-Life Management	Policy Statement 13: End-of-Life Management	Counties enforce standards, plan for battery recycling, and ensure maintenance infrastructure is available.

This mapping demonstrates that county action is not a parallel agenda but rather the operationalization of national policy at the local level. Counties are the implementing arm of the National E-Mobility Policy, translating national objectives into context-specific strategies and actions. The success of the national policy depends on the capacity and commitment of counties to exercise their constitutional mandates effectively.

Legal and Regulatory Enablers

Several legal and regulatory instruments provide additional support for county action on e-mobility, beyond the constitutional mandates outlined above.

The County Governments Act 2012 operationalizes the constitutional provisions on devolution and provides counties with specific powers to make bylaws, levy charges, and manage county functions.148 Sections 102-106 of the Act detail counties' powers to enact bylaws on a wide range of matters, including transport, planning, environment, and public health.149 These provisions give counties the legal tools to create enabling environments for e-mobility through local legislation.

The Urban Areas and Cities Act 2011 provides a framework for urban planning and infrastructure development in Kenya's cities and urban areas.150 The Act establishes urban boards and city boards with responsibilities for spatial planning, infrastructure provision, and service delivery. For counties with designated cities or urban areas, this Act provides an additional institutional mechanism for coordinating e-mobility planning and implementation.

The Energy Act 2019 establishes the legal framework for electricity generation, transmission, distribution, and regulation in Kenya.151 While the Act primarily governs national-level energy policy, it recognizes the role of county governments in electricity reticulation and distribution at the local level. The Act also

148 Government of Kenya. (2012). County Governments Act, 2012. National Council for Law Reporting.

149 Government of Kenya. (2012). County Governments Act, 2012. National Council for Law Reporting, Sections 102-106.

150 Government of Kenya. (2011). Urban Areas and Cities Act, 2011. National Council for Law Reporting.

151 Government of Kenya. (2019). Energy Act, 2019. National Council for Law Reporting.

provides for the licensing of electricity distributors and the regulation of tariffs, which are relevant to the deployment of charging infrastructure.

The Climate Change Act 2016 requires counties to develop County Climate Change Action Plans (CCCAPs) and to integrate climate considerations into county planning and budgeting.152 The Act provides a legal basis for counties to prioritize e-mobility as a climate mitigation strategy and to allocate resources accordingly. It also establishes the National Climate Change Council, which includes representation from county governments, ensuring that county perspectives are reflected in national climate policy.

Legal and Regulatory Barriers

While the legal framework provides strong support for county action on e-mobility, several barriers and gaps remain that constrain effective implementation.

Overlapping Jurisdictions. There is often ambiguity about the respective roles and responsibilities of national and county governments in areas such as vehicle standards, PSV licensing, and infrastructure regulation. For example, while counties have authority over public road transport, the National Transport and Safety Authority (NTSA) is responsible for vehicle registration, inspection, and safety standards.153 This overlap can create confusion, delays, and conflicts. Clearer delineation of roles, through Memoranda of Understanding (MoUs) or legislative amendments, is needed to reduce fragmentation and improve coordination.

Lack of Enforcement Authority. Counties may lack the authority or capacity to enforce certain regulations related to e-mobility. For example, while counties have constitutional mandates over air pollution control, they may not have the technical capacity to conduct emissions testing or the legal authority to impose penalties on non-compliant vehicles. Strengthening county enforcement capacity, through training, equipment provision, and legal clarification, is essential.

Need for Harmonized National-County Legal Framework. The current legal framework is fragmented, with e-mobility-related provisions scattered across multiple Acts and regulations. A more coherent and harmonized framework, possibly through the development of model county bylaws or a national-county e-mobility coordination Act, would provide greater clarity and facilitate implementation. The proposed National-County E-Mobility Coordination Compact, discussed in Section 7 of this white paper, is intended to address this gap by providing an institutional mechanism for harmonizing policies and regulations.

Despite these barriers, the overall legal and regulatory framework in Kenya is supportive of county action on e-mobility. Counties have clear constitutional mandates, enabling legislation, and alignment with national policy. What is needed now is the political will, institutional capacity, and financial resources to translate these legal provisions into concrete action on the ground. The following sections of this white paper examine the barriers and enablers that shape counties' ability to exercise their mandates effectively and propose pathways for overcoming constraints and accelerating progress.

CrossCutting Issues

Inclusion, gender, youth, and PWDs

Insights from focus group discussions in Kisumu and Mombasa emphasized that inclusivity cannot be an afterthought in the design of e-mobility systems. Women riders highlighted the need for vehicle designs that prioritize safety, comfort, and cultural acceptance, such as step-through frames or scooter-

152 Government of Kenya. (2016). Climate Change Act, 2016. National Council for Law Reporting, Sections 13-14.

153 National Transport and Safety Authority (NTSA). (2023). NTSA Strategic Plan 2023-2027. Government of Kenya.

type models that are easier to mount and dismount, particularly for those wearing dresses or carrying children.

Financing models tailored to women entrepreneurs and savings cooperatives were also identified as essential to overcoming affordability barriers.

For persons with disabilities, issues of vehicle accessibility and the adaptation of charging infrastructure remain pressing concerns.

FGDs recommended that public charging points and bus fleets adopt universal design standards that integrate ramps, accessible interfaces, and visual/auditory aids to enhance usability.

More broadly, youth constitute the largest demographic of boda boda operators and therefore stand to benefit significantly from targeted training, finance, and entrepreneurial support programs. Without deliberate equity measures, however, there is a risk that e-mobility could exacerbate rather than reduce existing inequalities.

5.14 Skills and workforce readiness

The rapid growth of the sector is creating demand for a skilled workforce that the current training and education system is ill-prepared to meet. Technicians reported limited exposure to EV technologies, particularly in areas such as battery management systems, power electronics, and safety protocols. There is an urgent need for standardized curricula across technical and vocational education and training (TVET) institutions, developed in collaboration with original equipment manufacturers (OEMs).

Establishing apprenticeship programs, joint certification pathways, and structured training-of-trainers models will ensure consistency and quality in skills development. This approach not only addresses workforce gaps but also creates green job opportunities for youth, linking e-mobility to Kenya's wider employment and industrialization agenda.

5.15 Grid readiness and reliability

The reliability and quality of electricity supply emerged as a central concern for stakeholders across all three counties. Nairobi benefits from relatively stable grid conditions, enabling early pilots of bus depots and ride-hailing fleets. In contrast, Kisumu and Mombasa experience frequent outages, voltage fluctuations, and longer connection times, which create uncertainty for investors and undermine user confidence.

Hybrid solar-battery hubs were repeatedly cited as viable solutions to enhance resilience and reduce downtime for charging stations. This not only de-risk private investment but also create opportunities for integrating distributed renewable energy, which aligns with Kenya's decarbonization and energy access goals.

Ensuring coordination between Kenya Power, county governments, and private developers will be critical in building a reliable charging backbone.

5.16 Environmental and health benefits

The potential co-benefits of e-mobility for air quality, health, and climate change mitigation are considerable. Mombasa's transport sector accounts for approximately 46% of county-wide emissions, underscoring the magnitude of the challenge but also the scale of potential gains. Shifting from diesel and petrol to electricity could dramatically cut particulate matter and nitrogen oxide emissions, reducing respiratory illness and improving overall urban health outcomes.

Nationally, scaling e-mobility aligns with Kenya's commitments under its Nationally Determined Contributions (NDCs), offering cost-effective abatement potential when coupled with renewable electricity. In Nairobi, for example, replacing diesel buses with electric buses on key corridors is projected to cut fleet emissions by more than 70%, while in Kisumu, electrifying fishing boats and cold-chain logistics can reduce both emissions and post-harvest losses, creating climate and livelihood dividends simultaneously.

5.17 Circular Economy

The growth of e-mobility brings with it new questions about end-of-life management of batteries and components. At present, Kenya lacks a structured system for collection, recycling, or repurposing of EV batteries, leaving risks of environmental pollution and resource inefficiency. Yet this challenge is also a major opportunity: second-life battery applications for stationary storage, community mini-grids, and backup systems could extend the value of imported batteries while reducing costs for users.

Establishing a regulated battery recycling ecosystem could further catalyze local industry, spur innovation, and create hundreds of green jobs in material recovery, processing, and remanufacturing. Development partners, OEMs, and county governments have a critical role to play in setting up the enabling frameworks for a circular e-mobility economy, ensuring that Kenya avoids replicating the waste management crises associated with other technologies.

Financing & Business Models

The financial dimension of Kenya's e-mobility transition remains one of the most critical determinants of pace and scale. While global battery prices have declined significantly, the capital expenditure (CAPEX) required for e-mobility infrastructure and vehicles continues to present a barrier for both large operators and small-scale entrepreneurs. Electric buses, for example, cost between KES 15–20 million per unit, requiring fleet operators to secure financing arrangements that extend far beyond the reach of conventional credit channels. Similarly, the development of charging depots demands significant upfront investment in land, electrical infrastructure, and power distribution upgrades, with long payback periods that deter many investors. For small and medium-sized enterprises (SMEs), particularly those operating in the two- and three-wheeler ecosystem, access to credit is severely constrained.

Boda boda operators typically rely on informal savings and loan groups, which are insufficient for the acquisition of e-motorcycles priced at KES 160,000–200,000. As FGDs in Kisumu and Mombasa confirmed, this financing gap remains a key barrier to adoption among the majority of potential users. Operational models for battery swapping and multi-site charging also face sustainability challenges. While battery swapping reduces upfront costs for riders, operators of swapping networks bear high capital and operational expenses in maintaining battery inventories, sites, and logistics. Without interoperability across providers, these networks risk fragmentation, which further undermines financial viability. For buses, the need for centralized depot charging stations linked to stable grid connections and land availability adds another layer of complexity, often necessitating government or development partner involvement to de-risk private investment. In response to these constraints, several innovative financing and business models are emerging:

- Battery as a Service (BaaS). Widely piloted in Nairobi, Kisumu, and Mombasa, BaaS models transfer the battery cost from the rider to the operator, enabling riders to pay only for energy use through subscription or pay-as-you-go plans. This lowers the upfront cost of ownership, although its success hinges on interoperable swapping standards, sufficient battery availability, and reliable grid or hybrid supply.
- Depot charging through Public-Private Partnerships (PPPs). For electric buses and larger fleets, PPPs provide a viable model by pooling risk between county governments, utilities, and private investors. Counties can provide land or integrate depots into transport plans,

while private operators invest in equipment and operations. Donors and development finance institutions (DFIs) can offer concessional loans or guarantees to improve project bankability.

- Fleet leasing and lease-to-own models. For logistics companies, leasing arrangements reduce upfront capital needs and allow for cost recovery through operational savings. Lease-to-own schemes, where operators progressively acquire vehicles through installment payments, are increasingly attractive for SMEs and cooperatives. By linking repayment structures to cash flows from daily operations, these models enhance affordability and spread financial risk over time.
- Blended finance for charging backbones. Development partners are increasingly supporting blended finance structures—combining concessional capital, grants, and commercial loans—to catalyze investment in public charging infrastructure. Such models are particularly relevant for building county-wide charging networks, which require long-term investment horizons but are essential for unlocking demand across multiple vehicle segments. Blended finance has also been flagged as crucial for stimulating investment in non-commercially attractive areas such as peri-urban and rural corridors, where private investors are unlikely to venture without de-risking.
- Climate finance and carbon markets. As highlighted in the EMAK White Paper, e-mobility presents opportunities for monetizing carbon credits through emissions reductions in the transport sector. Counties and private operators can tap into bilateral agreements, such as the Kenya–Switzerland carbon deal, to generate additional revenue streams. Incorporating carbon finance into business models could improve returns on investment while aligning with Kenya's commitments under its Nationally Determined Contributions (NDCs).
- Cooperative and community financing. In both Kisumu and Mombasa, focus groups emphasized the potential of saccos, cooperatives, and community-based organizations as financing vehicles. By aggregating demand and pooling financial resources, cooperatives can negotiate better financing terms, reduce individual risks, and improve repayment performance. Linking these structures to concessional credit lines or guarantee funds could expand access for youth, women, and SMEs that dominate the boda boda and last-mile logistics segments.

Ultimately, the sustainability of Kenya's e-mobility transition depends on aligning innovative business models with enabling finance. This requires coordinated action from government, development partners, financial institutions, and the private sector. Policies that provide fiscal certainty, enforce interoperability, and de-risk long-term investments will be key to crowding in private capital. Without such measures, e-mobility risks remaining confined to pilots and early adopters rather than scaling to mass markets.

Roadmap for Scaling (2025–2035)

The roadmap for scaling e-mobility in Kenya outlines a phased approach to guide the transition from pilot projects to nationwide adoption between 2025 and 2035. It identifies key priority actions, responsible actors, and expected outcomes across short-, medium-, and long-term horizons.

This framework emphasizes coordinated action among national and county governments,

development partners, utilities, and the private sector to build an enabling environment for investment, local manufacturing, and inclusive access. It also aims to ensure that e-mobility growth aligns with Kenya's climate goals, industrialization agenda, and regional integration under the EAC and COMESA frameworks.

Table 4: Phased Implementation Roadmap for E-Mobility Transition (2025–2035)

Time Horizon	Priority Actions	Lead Actors	Intended Outcomes
Short Term (1–3 years)	- Establish interoperable standards for chargers and battery swapping. - Introduce one-stop licensing systems at county level; reserve EVCS sites in spatial and transport plans. - Scale anchor use cases: Nairobi e-buses on BRT corridors; Mombasa port and tourism fleets; Kisumu electric boats and cold-chain systems. - Formalize TVET–OEM memoranda of understanding (MoUs) to standardize technician training. - Create concessional finance windows and guarantee mechanisms for EVCS and fleet pilots.	Ministry of Transport; EPRA; County Governments; KPLC; TVETs; OEMs; Development Partners	- Reduced fragmentation in charging/swapping ecosystem. - Faster permitting and siting of charging stations. - Demonstration projects showcase viability of diverse use cases. - Early workforce pipeline established. - De-risked financing catalyzes first wave of large-scale investments.
Medium Term (3–5 years)	- Integrate EVs into formal BRT corridors and city logistics platforms. - Expand local assembly pathways (CKD/SKD) with fiscal certainty and customs clarity. - Enforce and monitor technical and safety standards across all EV segments. - Develop national and county-level data platforms to track EV usage, uptime, energy demand, and safety performance.	Ministry of Industry; National Treasury; KRA; EPRA; County Transport Authorities; Private Sector	- EVs mainstreamed in urban mass transit and logistics. - Growth of local value chains and job creation. - Harmonized standards improve safety, reliability, and consumer confidence. - Data-driven planning informs grid, finance, and policy adjustments.
Long Term (5–10 years)	- Develop regional EV trade frameworks and cross-county/cross-border corridors within EAC and COMESA. - Establish a domestic battery second-life and recycling industry (collection, repurposing, recycling) .- Achieve mass adoption of EVs across public sector fleets (police, municipal, health) and private operators (PSVs, logistics, personal vehicles).	National Government (MoT, MoE, MoFA); Regional Bodies (EAC, COMESA); Private Industry; Recycling Sector	- Kenya positioned as regional EV hub. - Circular economy reduces waste and creates green jobs. - Mass-scale adoption delivers emissions reductions, improved air quality, and industrial competitiveness.

National Policy Brief – Interoperability & Finance Challenges

Kenya's e-mobility market faces structural barriers that hinder scaling. Fragmented standards for charging connectors and battery swapping undermine interoperability and consumer confidence, while the high capital expenditure (CAPEX) required for electric buses, charging depots, and multi-site swapping networks slows investment. In addition, fiscal treatment for completely knocked down (CKD) and semi-knocked down (SKD) kits remains uncertain, constraining local assembly pathways. Developers also face permitting delays of up to four to six months, discouraging private capital. These challenges create a high-risk environment, resulting in limited network effects, high financing costs, and slow adoption.

Recommendations

- **Interoperability standards.** Gazette national interoperability protocols for charging connectors and battery swap systems, ensuring universal compatibility across providers.
- **Financing mechanisms.** Establish EVCS credit guarantee schemes and concessional credit lines, in partnership with DFIs, to reduce the cost of capital for infrastructure developers and fleet operators.
- **Fiscal clarity.** Clarify customs and tax treatment for CKD/SKD kits and EV components, with a stable medium-term fiscal roadmap to support local assembly.

Permitting reform. Introduce service-level agreements (SLAs) to fast-track EVCS permitting to within 30 days, supported by a digital single-window platform.

Expected Results

- Lower risk profiles and financing costs for EVCS developers and fleet operators.
- Rapid scaling of interoperable charging and swapping infrastructure, leading to positive network effects.
- Attraction of private investment and industrial localization in assembly and components.

Evidence Base

- Inception data documenting permitting delays and high CAPEX requirements.
- FGD testimonies highlighting the cost burden of non-universal swapping systems.

EMAK White Paper recommendations on fiscal certainty for CKD/SKD kits.

County Policy Brief – One-Stop Licensing & Spatial Planning Challenges

County governments hold critical levers over land use, spatial planning, and local transport regulation, yet current licensing frameworks for EV charging infrastructure are fragmented. Investors face multiple permit requirements across agencies, lengthy approval times, and inconsistent fee schedules. Land and site constraints further delay deployment. As FGDs revealed, operators struggle with prolonged approval processes and unclear mandates, while users face limited charging access in peri-urban and low-income areas. Nairobi has piloted parking fee incentives, but broader county-level policy frameworks remain underdeveloped.

Recommendations

- **Single-window licensing.** Consolidate all EVCS permits into a single county portal with a harmonized fee schedule, reducing transaction costs and approval times.
- **Spatial planning.** Reserve EVCS sites in county spatial and transport plans, ensuring equitable access across urban and peri-urban corridors.
- **User integration.** Pilot universal payment and ID systems at public EVCS to standardize user experience and improve convenience.

County fleet electrification. Incentivize electrification of municipal and PSV fleets through preferential procurement policies, parking discounts, and targeted subsidies.

Expected Results

- Faster time to market for EVCS developers and investors.
- Equitable distribution of charging infrastructure, improving user convenience and access.
- Demonstration of county leadership in fleet electrification, catalyzing wider adoption.

Evidence Base

- County contrasts observed in Nairobi (charging framework under development), Kisumu (draft Cabinet Memo and spatial plan integration), and Mombasa (policy vacuum).

FGD testimonies on permitting burdens and spare parts constraints.

Skills & Inclusion Policy Brief – TVET Partnerships and Accessible Design Challenges

The growth of e-mobility has outpaced Kenya's current technical training systems. There is a shortage of technicians skilled in EV repair, battery management, and charging infrastructure, leading to safety risks and low vehicle uptime. FGDs revealed widespread concerns over technician capacity, spare part scarcity, and inadequate safety protocols. At the same time, design and financing models often exclude key user groups. Women riders cite safety and comfort challenges, preferring scooter or step-through frames, while persons with disabilities (PWDs) face accessibility barriers. Youth, who dominate the boda boda sector, struggle to access financing for EV acquisition. Without deliberate interventions, e-mobility risks reinforcing social inequalities rather than addressing them.

Recommendations

- **TVET–OEM partnerships.** Develop formal memoranda of understanding between OEMs and TVET institutions to co-design curricula, establish apprenticeships, and embed EV safety protocols.
- **Certification.** Establish a national certification system for EV technicians, ensuring uniform standards of competency and safety.
- **Inclusive design.** Promote adoption of scooter and step-through frame EVs tailored for women and PWDs, supported by accessibility standards in charging infrastructure.

Targeted finance. Expand micro-finance schemes and youth enterprise funds to support young entrepreneurs, women, and PWDs in acquiring EVs and establishing related businesses.

Expected Results

- Improved safety and reliability of EV operations, with higher vehicle uptime.
- Greater inclusivity in adoption, ensuring that women, youth, and PWDs participate in and benefit from the transition.

Growth of a skilled workforce and expansion of green jobs in servicing, assembly, and infrastructure management.

Evidence Base

- FGDs in Kisumu and Mombasa documenting technician shortages, safety concerns, and design preferences.
- Desktop research data highlighting skills gaps and exclusion risks.
- EMAK White Paper 2025 recommendations on skills pipelines and inclusive adoption.

Implementation Framework

The implementation of Kenya's e-mobility policy requires a coordinated, multi-sectoral framework that aligns the roles and responsibilities of government institutions, utilities, the private sector, and development partners. Table 5 outlines the proposed Policy Implementation Framework for Ministries, Departments, and Agencies (MDAs), detailing the key actors across different domains, their respective mandates, and how progress will be monitored through clear Monitoring, Evaluation, and Learning (MEL) indicators.

This framework emphasizes collaboration, accountability, and evidence-based decision-making to ensure effective policy execution, resource optimization, and long-term sustainability of the e-mobility ecosystem. It also identifies data sources that will support continuous performance tracking and adaptive management across national and county levels.

Table 5: Policy Implementation for Ministries, Departments and Agency Framework

Domain	Lead Actors	Key Roles & Responsibilities	Monitoring, Evaluation & Learning (MEL) Indicators	Data Sources
National Government	Ministry of Transport; Ministry of Energy; National Treasury; EPRA; KRA	- Develop and enforce national standards for chargers, connectors, and battery swapping. - Set differentiated EV tariffs and oversee implementation. - Define fiscal policy and incentives (VAT, excise duty, import duty relief). - Clarify customs treatment for CKD/SKD kits and components. - Align e-mobility with NCCAP, NDCs, and industrialization strategies.	- Number of standards gazetted and enforced. - Fiscal policies enacted and stability over 5-year cycles. - Uptake of CKD/SKD assembly projects. - EV registrations (national).	- Number of standards gazetted and enforced. - Fiscal policies enacted and stability over 5-year cycles. - Uptake of CKD/SKD assembly projects. - EV registrations (national).
County Governments	Nairobi City County; Kisumu County; Mombasa County; Council of Governors	- Integrate EVCS into spatial and transport plans. - Establish one-stop licensing systems with defined SLAs (≤30 days). - Pilot electrification of county fleets (buses, utility vehicles, waste collection). - Provide incentives (reduced parking fees, procurement preferences). - Ensure equitable siting of EVCS, including peri-urban and low-income areas.	- EVCS permits issued and average approval time. - Number of county EVCS sites reserved in spatial plans. - County fleet electrified (share of EVs). - Equity indicators (distribution of EVCS across wards).	- County licensing dashboards. - CIDPs and spatial plans. - Fleet procurement records.

Domain	Lead Actors	Key Roles & Responsibilities	Monitoring, Evaluation & Learning (MEL) Indicators	Data Sources
Utility	Kenya Power (KPLC); REREC; County utilities (where applicable)	- Provide streamlined grid connections for EVCS with SLAs. - Apply EV-specific tariffs consistently. - Invest in reliability and power quality (mitigation of outages, voltage fluctuations). - Support hybrid/renewable-integrated EVCS models.	- Average grid connection time. - Number of e-mobility accounts. - EVCS uptime and reliability metrics. - Share of renewable power in EVCS supply.	- KPLC account data. - Utility logs on uptime and outages. - Tariff application records.
Private Sector	OEMs; EVCS operators; SACCOs; logistics firms; assemblers	- Invest in EVCS networks and ensure interoperability. - Deploy fleet pilots (buses, boda bodas, tuk tuks, logistics). - Develop and expand local assembly pathways. - Innovate business models (Battery-as-a-Service, lease-to-own, fleet aggregation). - Build after-sales service and technician training partnerships.	- Number of operational EVCS and swapping sites. - Fleet size by segment and adoption rate. - Volume of CKD/SKD assembly output. - TCO of EV vs ICE fleets. - Jobs created in value chain.	- Operator logs. - Vehicle registration records. - Assembly plant output data. - SME/coop financing records.
Development Partners	DFIs; UNDP; IFC; GIZ; P4G; bilateral donors	- Provide concessional finance and guarantee windows. - Offer technical assistance (TA) for standards, MEL, and planning. - Build capacity of counties, TVETs, and SMEs. - Support pilots in inclusive sectors (fisheries, women/youth enterprises, disability-friendly EVs). - Facilitate access to climate finance and carbon markets.	- Volume of concessional finance mobilized. - Number of TA/capacity-building programs implemented. - Uptake of climate finance/carbon credits. - Inclusivity metrics (youth/women/PWD participation).	- Donor program reports. - MEL frameworks. - Carbon market registries.

Cross-cutting MEL Framework

Key Performance Indicators (KPIs):

- EVCS count, uptime, and geographic distribution.
- Fleet size by segment (2W, 3W, 4W, buses, boats).
- Comparative Total Cost of Ownership (TCO) vs ICE vehicles.
- Number of green jobs created (disaggregated by gender/youth/PWD).
- Inclusion metrics: access to EVs and infrastructure for women, youth, and PWDs.
- GHG reductions from fuel displacement (liters avoided) and emissions avoided ($MtCO_2e$).

Data Sources: KPLC e-mobility accounts, operator logs, customs/assembly records, county dashboards, and donor MEL systems

Conclusion

Kenya's transition to e-mobility is at a decisive moment. The momentum observed in Nairobi, Mombasa, and Kisumu demonstrates that the shift from aspiration to implementation is already underway, with pilots across bus fleets, boda bodas, port logistics, and even early explorations in water transport. These counties illustrate both the potential and the pitfalls of Kenya's e-mobility journey: Nairobi showcases early leadership in e-bus pilots and charging frameworks; Mombasa highlights the untapped opportunities in port logistics, tourism, and blue economy applications; while Kisumu underscores the value of proactive county planning and inclusive stakeholder engagement. Together, they serve as anchor points for a national strategy that must blend ambition with grounded execution.

Realizing this potential requires addressing structural challenges head-on. Policy clarity at the national level particularly around fiscal certainty for CKD/SKD kits, customs treatment of EV components, and interoperability of charging and battery systems will be essential for reducing investor risk and signaling long-term commitment. County governments must play their part by simplifying licensing processes, integrating EVCS into spatial and transport plans, and leading by example through municipal fleet electrification. Utilities, meanwhile, need to guarantee reliable grid connections and explore hybrid solar-battery solutions to de-risk charging operations in regions with weaker electricity networks.

The development of human capital and inclusive financing models will be equally critical. Establishing standardized EV curricula across TVETs in partnership with OEMs can build a pipeline of technicians capable of ensuring safety and reliability, while targeted financial mechanisms such as credit guarantees, lease-to-own schemes, and cooperative financing can open pathways for youth, women, and SMEs to participate in and benefit from the transition. The social dimension of e-mobility cannot be overlooked: designing vehicles and charging infrastructure that are accessible to women and persons with disabilities will help ensure that the benefits of electrification are shared equitably.

If these enablers are prioritized, e-mobility can generate transformative economic, social, and environmental dividends for Kenya. The sector has the potential to create tens of thousands of green jobs, stimulate industrial development through local assembly and recycling industries, and unlock new streams of climate finance through carbon markets. It also offers a direct pathway to reducing greenhouse gas emissions and improving air quality in urban centers, delivering tangible public health benefits.

In short, with policy clarity, interoperable infrastructure, and county-level execution, Nairobi, Mombasa, and Kisumu can anchor Kenya's e-mobility scale-up. By prioritizing anchor use cases, one-stop licensing, skills pipelines, and inclusive financing, Kenya can attract significant private capital, accelerate adoption, and ensure that the transition is both just and equitable. Done right, this transition will not only decarbonize transport but also position Kenya as a regional leader in clean mobility across Africa.

Appendix

1. E-Mobility for Counties Workshop

E-Mobility for Counties Workshop Held in Naivasha County at Lake Naivasha Resort on 17th September 2025.

2. Focus Group Discussions Kisumu

Focus Group Discussions held in Kisumu County at Sovereign Hotel on 25th September 2025.

3. Focus Group Discussions Mombasa

Focus Group Discussions held in Mombasa County at Pride Inn Nyali on 25th September 2025.

P4G
Pioneering Green Partnerships, Investing in Impact

Practical ACTION