



Clean Technology Hub
Energy Innovation Centre

Nigeria's Electric Mobility market Report **2025**

Unlocking the Next Wave of Transport
and Energy Growth

About Us

Clean Technology Hub (CTH) is a mission-driven organization established in 2016 to accelerate sustainable development across Nigeria and Africa through the advancement of clean energy and evidence-based climate action. Headquartered in Abuja and operating nationally and across the continent through strategic partnerships, CTH combines rigorous research, practical demonstration projects, and structured incubation programs to support solutions that address energy poverty, climate vulnerability, and the urgent need for inclusive economic growth. Our work is anchored in the belief that clean energy and climate action are critical enablers of social equity, economic resilience, and long-term development in emerging economies.

We adopt an ecosystem-building approach that bridges knowledge gaps, de-risks innovation, and translates ideas into scalable, real-world solutions. Through applied research, pilot deployments, enterprise incubation, and targeted technical assistance, we support early-stage ventures, institutions, and communities to move from concept to impact. While Nigeria remains our core operational base, our models, insights, and partnerships are intentionally designed for replication and adaptation across diverse African contexts, ensuring relevance, viability, and sustained impact.

Central to our approach is robust stakeholder engagement. We convene policymakers, private sector leaders, community representatives, researchers, youth, civil society organizations, and development partners through high-impact workshops, multi-stakeholder dialogues, and capacity-building initiatives that foster collaboration, inform policy, and accelerate coordinated action. Since our inception, CTH has incubated high-potential startups, influenced enabling policy and regulatory processes, deployed meaningful clean energy capacity, and improved livelihoods through direct and indirect interventions in Nigeria and beyond. We remain committed to our vision of an Africa where clean energy and climate action drive inclusive growth, strengthen climate resilience, and expand opportunity for all.

Disclaimer

This report has been prepared by Clean Technology Hub to provide an updated overview of Nigeria's evolving electric mobility ecosystem, including policy developments, market activity, investment trends, and key stakeholders across the value chain. The report is intended to inform policymakers, private sector actors, investors, development partners, and researchers seeking to understand the opportunities, challenges, and emerging dynamics shaping Nigeria's transition toward sustainable transport. The analysis draws on publicly available data, industry reports, stakeholder disclosures, government publications, and market intelligence collected during the course of 2025.

All information presented in this document—including, but not limited to, references to sector stakeholders, market participants, and projects—represents a subset of the current electric mobility landscape in Nigeria at the time of publication. While reasonable efforts have been made to ensure the accuracy and reliability of the information presented, the authors do not claim that the dataset or stakeholder listings are exhaustive. The findings, interpretations, and conclusions expressed in this publication reflect the analysis of the authors and do not necessarily represent the official position of all institutions or stakeholders referenced. A

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List Of Abbreviations

- AEDC** – Asia Economic Development Committee
- AI** – Artificial Intelligence
- AMW** – Africa Motor Works
- BIPC** – Benue Investment and Property Company
- BYD** – Build Your Dreams (Chinese EV manufacturer)
- CAGR** – Compound Annual Growth Rate
- CIG** – Choice International Group (CIG Motors)
- CIT** – Corporate Income Tax
- CNG** – Compressed Natural Gas
- CNG-EV** – Compressed Natural Gas – Electric Vehicle Hybrid Approach
- CTH** – Clean Technology Hub
- DC** – Direct Current
- DFI** – Development Finance Institution
- DMCC** – Dubai Multi Commodities Centre
- E2/3W** – Electric Two- and Three-Wheelers
- E4W** – Electric Four-Wheelers
- ECN** – Energy Commission of Nigeria
- EEGF** – Energy Entrepreneurs Growth Fund
- EIA** – U.S. Energy Information Administration
- ELV** – End-of-Life Vehicle
- ETP** – Energy Transition Plan
- EV** – Electric Vehicle
- EVSE** – Electric Vehicle Supply Equipment
- FEC** – Federal Executive Council
- FEDA** – Fund for Export Development in Africa
- GHG** – Greenhouse Gas
- ICE** – Internal Combustion Engine
- IoT** – Internet of Things
- IVM** – Innoson Vehicle Manufacturing
- JMC** – Jet Motors Company
- LT-LEDS** – Long-Term Low Emissions Development Strategy
- LULUCF** – Land Use, Land-Use Change, and Forestry
- MAX** – Metro Africa Xpress
- NADDC** – National Automotive Design and Development Council
- NA** – National Agenda (2050)

NAIA – Nnamdi Azikiwe International Airport

NAIDP – National Automotive Industry Development Plan

NCCC – National Council on Climate Change

NDC – Nationally Determined Contributions

NEMSA – Nigerian Electricity Management Services Agency

NEV – New Electric Vehicle

PPP – Public-Private Partnership

ROI – Return on Investment

SCADA – Supervisory Control and Data Acquisition

SKD – Semi-Knocked Down (vehicle assembly method)

SME – Small and Medium Enterprise

SON – Standards Organisation of Nigeria

SONCAP – Standards Organisation of Nigeria Conformity Assessment Programme

SUV – Sport Utility Vehicle

TCN – Transmission Company of Nigeria

TCO – Total Cost of Ownership

UBA – United Bank for Africa

UDUS – Usmanu Danfodio University Sokoto

UNILAG – University of Lagos

UNN – University of Nigeria Nsukka

US – United States

USA – United States of America

USD – United States Dollar

V2G – Vehicle-to-Grid

VAT – Value Added Tax

ZEV – Zero Emission Vehicle

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Section

1

EXECUTIVE SUMMARY

This report presents a comprehensive analysis of Nigeria's electric mobility (e-mobility) ecosystem as of late 2025, framing it as a critical nexus for national transport modernization, energy security, and sustainable economic growth. Against a backdrop of rising fuel prices post-subsidy removal, worsening urban congestion, and binding climate commitments, e-mobility is transitioning from a niche concept to a tangible, strategically vital market.

The Nigerian e-mobility market has experienced a transformational surge, with the national EV fleet growing by an estimated 400% since 2020 to reach approximately 20,000 units by the end of 2025¹. This growth is primarily concentrated in high-utilization commercial segments such as the two- and three-wheelers for ride-hailing and logistics, where the total cost of ownership (TCO) is becoming favorable. Landmark developments in 2025, including Siltech's historic export of a fully Nigerian-made EV to the USA and major federal procurements of 240 electric buses, signal deepening market maturation and industrial ambition. This momentum is underpinned by a rapidly evolving policy framework. The landmark Electric Vehicle Transition and Green Mobility Bill (2025) promises a coherent national strategy, introducing aggressive localization mandates, fiscal incentives, and infrastructure requirements, including compulsory EV charging points at fuel stations. These measures align with Nigeria's long-term goals: 30% EV penetration by 2035 (high-ambition scenario), 60% by 2050, and net-zero emissions by 2060.

However, Nigeria's journey is characterized by a stark duality of immense potential and persistent structural constraints. The country ranks in the middle tier of the Africa EV Readiness Index, ahead of nascent markets but behind more coordinated ecosystems like Rwanda and Kenya. Penetration remains below 1% of the total vehicle fleet², constrained by the classic "chicken-and-egg" dilemma of sparse charging infrastructure and limited vehicle adoption. Systemic barriers include:

- **Infrastructure Deficit:** Fewer than 100 public charging stations nationwide, coupled with an unreliable national grid.
- **High Upfront Costs:** Limited access to affordable vehicle financing for consumers and SMEs.
- **Policy & Regulatory Gaps:** Fragmentation between federal and state initiatives, competition with CNG priorities, and slow implementation of supportive regulations.
- **Supply Chain Weaknesses:** Minimal local manufacturing capacity for critical components like batteries and power electronics.

¹ Salau, G. (2026, January 3). Nigeria has experienced 400% increase in electric vehicles adoption within five years – Hamzat. The Guardian Nigeria.

<https://guardian.ng/news/nigeria-has-experienced-400-increase-in-electric-vehicles-adoption-within-five-years-hamzat/>

² Johnson, M. (2025, March 16). Nigeria has pledged to achieve 100% zero-emission sales for new cars and vans by 2040. Climate Scorecard.

<https://www.climatescorecard.org/2025/03/nigeria-has-pledged-to-achieve-100-zero-emission-sales-for-new-cars-and-vans-by-2040/>

The report identifies a clear path forward, emphasizing productive-use energy integration as a core philosophy. Nigeria's e-mobility transition must not be a mere substitution of vehicles but an opportunity to build a more resilient, decentralized energy ecosystem. Strategic opportunities lie in:

- **Renewables-Hybrid Solutions:** Leveraging solar-powered charging and battery-swapping networks to bypass grid constraints, particularly for two/three-wheelers in urban and peri-urban areas.
- **Gas-to-Power Bridges:** Utilizing Nigeria's abundant natural gas for dedicated generation to power high-capacity charging hubs and fleet depots, providing a stable, lower-emission bridge to a fully renewable future.
- **Localized Value Chains:** Developing domestic assembly, battery refurbishment/recycling, and component manufacturing to capture economic value, create jobs, and reduce import dependency.

By 2030, with sustained policy coherence, targeted investment, and innovative business models, Nigeria's EV fleet has the potential to scale to 300,000 units³. Realizing this potential requires a multi-stakeholder approach: decisive government leadership in regulation and piloting, private-sector innovation in financing and service delivery, and development partner support for de-risking capital and building technical capacity.

In conclusion, e-mobility represents more than clean transport for Nigeria; it is a strategic lever for energy diversification, industrial development, and inclusive economic growth. Unlocking this next wave demands moving from ambitious policies to coordinated, infrastructure-led execution, positioning Nigeria not just as an EV adopter, but as a future hub for sustainable mobility solutions in Africa



³ Ken Research. (2025, October). Nigeria EV charging infrastructure market. <https://www.kenresearch.com/nigeria-ev-charging-infrastructure-market>



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Section 2

INTRODUCTION

For this market update, electric mobility (e-mobility) refers to a range of transportation solutions powered primarily by electricity rather than traditional fossil fuels. This comprises battery electric vehicles (BEVs), plug-in hybrid electric vehicles (PHEVs), hydrogen fuel cell vehicles (HFCVs), and the charging infrastructure that supports them, such as public and private stations integrated with renewable energy sources. E-mobility is fundamentally a paradigm shift toward cleaner, more efficient transport systems that reduce reliance on internal combustion engines (ICEs), lowering tailpipe emissions and operating costs. In Nigeria, where urban congestion and fuel dependency worsen environmental and economic difficulties, e-mobility is an important enabler of sustainable development.

Nigeria's push for e-mobility fundamentally aligns with its broader energy transition goals. According to the U.S. Energy Information Administration (EIA)⁴, the country's energy mix remains heavily skewed toward fossil fuels, with oil, natural gas, and coal accounting for over 99% of primary energy consumption by 2023. This dependency not only exposes Nigeria to volatile global oil prices, but it also contributes significantly to greenhouse gas (GHG) emissions. According to Climate Analytics⁵, the transportation sector alone accounted for nearly 26% of the nation's energy-related emissions in 2022, excluding land use, land-use change, and forestry (LULUCF). With Nigeria's vehicle fleet exceeding 11 million units as of 2018 and steadily increasing, widespread adoption of EV and compressed natural gas (CNG) could reduce transportation emissions by up to 44 million tonnes of CO₂ equivalent (MtCO₂e), according to the updated Nationally Determined Contributions (NDC 3.0)⁶. This aligns with Nigeria's commitments under the Paris Agreement, where the NDC 3.0 pledges a 32% reduction in absolute GHG emissions by 2035⁷, with electric mobility playing a critical role in achieving 30% EV penetration in the high-ambition scenario by 2035.

⁴ U.S. Energy Information Administration. (2025). Nigeria country analysis brief.

https://www.eia.gov/international/content/analysis/countries_long/Nigeria/

⁵ Climate Analytics. (2025). Nigeria: Current situation.

<https://1p5ndc-pathways.climateanalytics.org/countries/nigeria/current-situation>

⁶ United Nations Framework Convention on Climate Change. (2025). Nigeria nationally determined contribution (NDC 3.0): Transmission version 2.

<https://unfccc.int/sites/default/files/2025-09/Nigeria%20NDC%203.0%20-%20Transimission%20Version%202.pdf>

⁷ Varin, C. (2025, September 22). Nigeria releases 2035 sector-wide climate target. Argus Media.

<https://www.argusmedia.com/en/news-and-insights/latest-market-news/2734465-nigeria-releases-2035-sector-wide-climate-target>

Nigeria's e-mobility journey reflects a gradual but growing development of policy reform, indigenous innovation, and market necessity⁸. Early efforts began in 2018 with the National Automotive Industry Development Plan (NAIDP), which included exploring tax waivers for green vehicles as climate awareness grew. While adoption remained limited, these early incentives demonstrated the government's desire and created the framework for local innovation. By the early 2020s, policy signals had begun to translate into concrete local action. Indigenous manufacturers such as Innoson Vehicle Manufacturing (IVM) unveiled their first-ever locally produced electric vehicles⁹, while startups including Metro Africa Xpress (MAX) deployed electric motorcycles and three-wheelers designed for urban logistics and rural mobility. Complementing these efforts, the National Automotive Design and Development Council (NADDC), in collaboration with Usmanu Danfodio University, commissioned Nigeria's first solar-powered EV charging station in Sokoto in 2021, demonstrating early solutions to grid constraints.

Nigeria's EV policy landscape grew significantly by 2023 when the updated National Automotive Policy formally introduced EV subsidies, coinciding with the removal of petrol subsidies, a macroeconomic shock that caused fuel prices to increase from ₦185 to above ₦500 per litre, eventually reaching more than ₦1000 per litre, altering total cost of ownership in favour of e-mobility. This dual policy shift created demand, leading to a significant increase in EV sales and deployment across two- and three-wheeler segments. Momentum intensified in 2024 and 2025 with import duty exemptions on EVs and their components. These measures supported rapid market expansion, resulting in a 400% increase in EV adoption from 2020 and bringing the estimated number of EVs on Nigerian roads to approximately 20,000 by the end of 2025. Infrastructure growth has also been progressive, with over 100 chargers across homes, workplaces, and commercial locations deployed in 2025 alone by operators such as EV World Africa¹⁰, alongside pilot integrations into ride-hailing and urban transit systems, particularly in Lagos and Abuja.

The year 2025 delivered decisive momentum across both public and private sectors. Landmark developments included the launch of the electric tricycle empowerment initiative on November 26, 2025, by the president of the Federal Republic of Nigeria, President Bola

⁸ Ojomo, A. (2024). Against the odds: Nigeria's quiet but bold electric vehicle revolution. Medium. <https://adewaleojomo.medium.com/against-the-odds-nigerias-quiet-but-bold-electric-vehicle-revolution-a48193302c9a>

⁹ Innoson Vehicle Manufacturing. (n.d.). All you need to know about IVM electric vehicles. <https://www.innosonvehicles.com/all-you-need-to-know-about-ivm-electric-vehicles/>

¹⁰ EV World Africa. (2025). EV World Africa milestone report 2025 [LinkedIn post]. LinkedIn. https://www.linkedin.com/posts/evworldafrica_ev-world-africa-milestone-report-2025-activity-7414183994780635137-AEpQ/

Ahmed Tinubu¹¹; the launch of the renewed hope campus transport scheme by the federal government¹²; and Spiro opening its first EV assembly plant with the capacity for 100,000¹³ bikes per year. Late in the year, Siltech exported the Elohim-Falcon, a 100% made-in-Nigeria electric vehicle, to the United States¹⁴, indicating emerging export competitiveness. The Electric Vehicle Transition and Green Mobility Bill of 2025 builds on existing progress by mandating EV charging infrastructure at fuel stations nationwide and targeting at least 30% local component sourcing in EV manufacturing by 2030.

Late 2025 delivered decisive momentum:

1. The federal government procurement of 240 electric buses (40 already deployed through Pi-CNG¹⁵ and 200 approved by the federal executive council to NADDC¹⁶),
2. State governments launching EV pilot projects (e.g., Benue launching of EVs for public transportation¹⁷, Lagos expanding LagRide operations with 100 EVs¹⁸, Nasarawa 60 EVs to cooperatives¹⁹, Borno 620 units²⁰),
3. Commitments made to deploy charging infrastructure (LUG West Africa plans to install over 250 EV charging points across Lagos State in 2026²¹, and Qoray Mobility expansion plans to install 15 additional DC chargers in 2026 across new locations, including Abuja).
4. Financial institutions and finance initiatives supporting e-mobility (UBA's \$100 million “Drive to Own” facility²²,)

¹¹ Okafor, R. (2024). Tinubu launches electric tricycle to reduce transportation cost, youth empowerment. The Nation.

<https://thenationonline.net/tinubu-launches-electric-tricycle-to-reduce-transportation-cost-youth-empowerment/>

¹² The Guardian Nigeria. (2024). FG deploys 240 electric tricycles across 12 universities. The Guardian Nigeria.

<https://guardian.ng/news/fg-deploys-240-electric-tricycles-across-12-universities/>

¹³ Tech In Africa. (2025). Spiro accelerates Africa's EV revolution with new assembly plant and regional expansion. Tech In Africa.

<https://www.techinafrica.com/spiro-accelerates-africas-ev-revolution-with-new-assembly-plant-and-regional-expansion/>

¹⁴ Auto Journal Africa. (2025). Nigeria's Siltechworld makes history with Africa's first EV export to U.S. Auto Journal Africa. <https://autojournal.africa/nigerias-siltechworld-makes-history-with-africas-first-ev-export-to-u-s/>

¹⁵ Adeyemi, A. (2024). FG unveils 40 electric buses in push for clean energy. Punch Newspapers.

<https://punchng.com/fg-unveils-40-electric-buses-in-push-for-clean-energy/>

¹⁶ Olasunkanmi, A. (2025). FEC endorses new industrial policy, okays ₦58bn for 200 electric buses, ₦187.8bn contract for BOI. Vanguard.

<https://www.vanguardngr.com/2025/12/fec-endorses-new-industrial-policy-okays-%E2%82%A658bn-for-200-electric-buses-%E2%82%A6187-8bn-contract-for-boi/>

¹⁷ The Guardian Nigeria. (2025). Benue launches first electric car taxi in Nigeria. The Guardian Nigeria.

<https://guardian.ng/news/benue-launches-first-electric-car-taxi-in-nigeria/>

¹⁸ Akinyemi, T. (2024). Lagos-backed LagRide boosts fleet with electric vehicles. Punch Newspapers.

<https://punchng.com/lagos-backed-lagride-boosts-fleet-with-electric-vehicles/>

¹⁹ Apex News Exclusive. (2025). Nasarawa again set to empower cooperatives with electric vehicles. Apex News Exclusive. <https://apexnewsexclusive.com/nasarawa-again-set-to-empower-cooperatives-with-electric-vehicles/>

²⁰ Channels Television. (2024). Nigeria explores electric vehicles for transportation transition [Video]. YouTube.

<https://www.youtube.com/watch?v=4S9VxCk0Z9Y>

²¹ Oyekanmi, S. (2024). Firm plans 250 EV charging points across Lagos. Punch Newspapers.

<https://punchng.com/firm-plans-250-ev-charging-points-across-lagos/>

All these developments signal that policy ambition is beginning to translate into tangible deployment. Local startups are accelerating adoption through competitive pricing models and targeted infrastructure strategies²³. This momentum continues in early 2026, with the Federal Government deploying 10 electric shuttle buses and 20 electric sedans at the Nnamdi Azikiwe International Airport (NAIA), Abuja, to boost operational efficiency²⁴.

Nigeria's Electric Mobility Market Report 2025: Unlocking the Next Wave of Transport and Energy Growth presents a rigorous, data-driven assessment of the country's evolving electric mobility ecosystem as of late 2025, with forward projections to 2030 anchored in national industrial, energy, and climate ambitions. The report examines the full value chain from battery electric vehicles (BEVs) and plug-in hybrids to charging infrastructure, battery supply chains, and enabling regulatory frameworks across passenger vehicles, two- and three-wheelers, commercial fleets, and mass transit systems. Grounded in Nigeria's structural realities as an oil-dependent economy of approximately 237 million people, an estimated 13–15 million registered vehicles, and persistent power-sector constraints, the analysis situates domestic progress within broader African and global market trajectories to identify scalable growth pathways and investment opportunities.

2.1 Objectives

The report aims to:

1. Deliver a 2025 baseline snapshot of adoption, infrastructure, policy, stakeholders, and market dynamics.
2. Integrate global and continental benchmarks to contextualize Nigeria's position.
3. Identify actionable opportunities and recommendations.
4. Provide forward-looking scenarios to 2030, emphasizing pragmatic pathways (e.g., solar-hybrid charging, hybrid CNG-EV bridges, youth training) that address Nigeria's grid fragility and affordability constraints.

²² United Bank for Africa. (2024). UBA partners CIG Motors, LagRide launches \$100 million drive-to-own vehicle financing scheme. UBA Group.
<https://www.ubagroup.com/nigeria/uba-partners-cig-motors-lagride-launches-100-million-drive-to-own-vehicle-financing-scheme/>

²³ China Global South Project. (2025). Nigeria EV startup bets on free charging and competitive prices [Podcast]. China Global South.

<https://chinaglobalsouth.com/podcasts/nigeria-ev-startup-free-charging-competitive-prices-strategy/>

²⁴ Adesina, A. (2024). FG deploys electric vehicles to boost operations at Abuja airport. Punch Newspapers.
<https://punchng.com/fg-deploys-electric-vehicles-to-boost-operation-at-abuja-airport/>

2.2 Methodology and Data Sources

This analysis adopts a mixed-method research framework combining quantitative assessment, policy tracking, and comparative benchmarking to capture Nigeria's rapidly evolving electric mobility landscape.

1. **Quantitative baseline:** Derived from aggregated industry reports, government publications, market datasets, and real-time stakeholder disclosures to establish adoption, infrastructure, and investment trends.
2. **Policy and regulatory tracking:** Continuous monitoring of national and sub-national policies, legislative developments, and regulatory actions shaping market direction.
3. **Comparative benchmarking:** Alignment with continental indicators, including the Africa EV Readiness Index 2025, where Nigeria currently ranks within the low-to-moderate readiness band.
4. **Late-2025 momentum analysis:** Validation of recent deployments, pilot programs, and public announcements to reflect near-term implementation signals rather than policy intent alone.

To strengthen analytical rigor, key data points were triangulated across multiple sources, including operator announcements, government releases, industry reports, and infrastructure partner updates. Where direct datasets were limited, conservative assumptions and cross-verification were applied to minimize bias and enhance reliability.

Table 1: Key 2025 EV Market Estimates and Context for Nigeria

Indicator	2025 estimates	Note / Context
Total EV Fleet	15,000–20,000 units	Less than 1% of approximately 15 million of Nigeria's vehicles
Market Growth (2020–2025)	400% increase	From 5,000 units in 2020 to approximately 20,000 units
Key Segments	Two- and three-wheelers are dominant; there is slow though steady adoption of 4-wheelers, and e-bus pilots are emerging	Commercial fleets lead (ride-hailing, okadas)
National Targets	60% EV penetration by 2050; 100% by 2060	Energy Transition Plan (ETP) pathway to net-zero 2060
Late-2025 Federal Bus Commitments	Subnationals deploying EVs to support commercial transport: 240 e-buses (40 PiCNG + 200 NADDC)	Procurement & deployment milestone



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Section 3

E-MOBILITY TRENDS – GLOBAL AND AFRICA

This section benchmarks electric mobility developments across multiple levels, using data available from 2025 to situate Nigeria within broader regional and global trends. Africa's low motorization rate of 43 – 73 vehicles per 1,000 people (*one of the lowest in the world, far below the global average of 197–300 per 1,000 people*²⁵) presents a unique leapfrogging opportunity. Renewable-powered, affordable two- and three-wheelers can attract high-ROI pilots for investors while supporting NGOs' goals for equitable, low-emission transport. Emerging innovations, including battery circularity and AI-driven charging optimization, are highlighted as practical solutions to grid constraints, enabling multi-stakeholder collaboration and scalable growth.

3.1 Global Overview

Global EV sales surpassed 20 million units in 2025, accounting for over 25% of total car sales, reflecting a 20% year-on-year (YoY) increase from 2024's 17 million²⁶. Despite overall positive momentum, the year was marked by significant regional divergence. Europe stood out as the fastest-growing major region with 33% growth, fueled by expanded subsidies and a rush to meet legislative targets despite softening emissions standards. China maintained its global volume lead, but growth slowed to 17% amid high domestic competition. Export strategies from Chinese giants like BYD, which doubled overseas shipments to 1 million units, created ripple effects across Rest of World (RoW) markets. RoW surged 48%, particularly in Southeast Asia and South America, where Chinese imports now represent over 85% of EV sales²⁷.

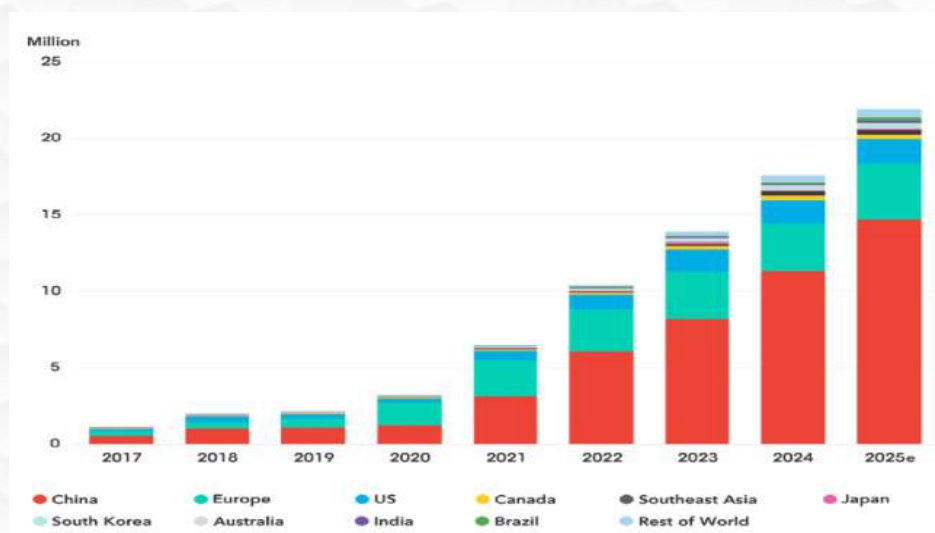


Fig 1: Global passenger EV sales by market²⁸.

²⁵ Africa E-Mobility Alliance. (2025). Africa's electric mobility status 2025.

<https://africaema.org/africas-electric-mobility-status-2025/>

²⁶ International Energy Agency. (2025). Global EV outlook 2025.

<https://iea.blob.core.windows.net/assets/7ea38b60-3033-42a6-9589-71134f4229f4/GlobalEVOutlook2025.pdf>

²⁷ Benchmark Mineral Intelligence. (2025). Global EV sales reach 20.7 million units in 2025, growing by 20%. Benchmark Source.

<https://source.benchmarkminerals.com/article/global-ev-sales-reach-20-7-million-units-in-2025-growing-by-20>

Short-term fluctuations in some markets have been driven by policy changes rather than weakening demand (e.g., the US October 2025 post-tax credit expiration), yet overall momentum remained strong, with EV sales in Q3 2025 up 40% year-over-year in the US²⁹. Looking ahead, growth is expected to accelerate significantly, with passenger EV sales projected to reach roughly 39 million by 2030, reflecting an estimated compound annual growth rate (CAGR) of 32.5% between 2025 and 2030. Over the same period, the global EV market value is forecast to expand from approximately USD 1.6 billion in 2025 to more than USD 6.5 billion by 2030³⁰. Under the current policy trajectory, EVs could account for over 40% of global vehicle sales by the end of 2030, displacing more than 5 million barrels of oil per day and reinforcing progress towards net-zero ambitions³¹.

Technological progress is rapidly improving both the affordability and performance of e-mobility. Battery costs have been declining by roughly 20% each year, creating space for next-generation innovations such as solid-state batteries and ultra-fast charging. Global lithium-ion cell manufacturing capacity reached about 3.8 TWh by the end of 2025 (*around twice projected demand*), while battery demand itself is expected to surpass 1 TWh in 2025 and rise to approximately 6 TWh by 2040³². Charging infrastructure has also expanded significantly, with more than 1.3 million public chargers installed in 2024 alone, bringing the global total to about 5 million. Despite this progress, constraints such as grid capacity and power system resilience remain key challenges that must be addressed as adoption accelerates³³. Geopolitical considerations are increasingly shaping the sector; supply chain diversification has become a priority as countries seek to reduce reliance on concentrated manufacturing and critical mineral processing. China's dominant market position (*projected to account for around 80% of EV sales by 2030*) has prompted accelerated localization efforts in Europe and other regions, with emerging markets expected to see EV market growth of roughly 50% in 2025 as they build domestic capacity³⁴. Looking ahead, technologies such as vehicle-to-grid (V2G) integration and AI-driven demand forecasting could help stabilize electricity networks and optimize charging patterns. In parallel, hybrid and transitional models may play a bridging role for oil-dependent economies, enabling a more gradual and resilient shift toward full electrification³⁵.

²⁸ BloombergNEF. (2025). Electric vehicle outlook.

<https://about.bnef.com/insights/clean-transport/electric-vehicle-outlook/>

²⁹ Morgan, Lewis & Bockius LLP. (2025). 2025 U.S. electric vehicle landscape: Market growth and regulatory pressures.

<https://www.morganlewis.com/pubs/2025/12/2025-us-electric-vehicle-landscape-market-growth-and-regulatory-pres-sures>

³⁰ Grand View Research. (2025). Electric vehicle market size, share & trends analysis report.

<https://www.grandviewresearch.com/industry-analysis/electric-vehicles-ev-market>

³¹ Ibid.

These trends point to a set of practical entry points for different stakeholders across the electric mobility ecosystem:

1. Governments can use tightening emissions and fuel-economy standards, such as evolving CO₂ targets in major markets, to align domestic policies, signal long-term direction, and attract investment.
2. For the private sector, declining battery prices and improving vehicle performance are steadily lowering the total cost of ownership, particularly for high-utilization segments such as buses and heavy-duty trucks, making electrification increasingly commercially viable.
3. For researchers and analysts, persistent data gaps, especially around affordability, lifecycle costs, and usage patterns in emerging markets, remain a priority area for evidence building.
4. Investors are closely tracking continued market expansion, with global EV sales projected to grow by 25% in 2025 alone, while development finance institutions are scaling concessional and blended finance to accelerate charging infrastructure and grid upgrades.
5. Civil society organizations, meanwhile, have a growing role in ensuring that the transition remains inclusive, particularly as electricity demand from EVs is expected to more than double by 2030.

At the same time, structural risks persist, and without more diversified and resilient supply chains covering battery manufacturing, critical minerals, and component production, many emerging markets could be sidelined from the economic and industrial benefits of this transition, even as adoption accelerates elsewhere.

³² BloombergNEF. (2025). Electric vehicle outlook.

<https://about.bnef.com/insights/clean-transport/electric-vehicle-outlook/>

³³ International Energy Agency. (2025). Global EV outlook 2025.

<https://iea.blob.core.windows.net/assets/7ea38b60-3033-42a6-9589-71134f4229f4/GlobalEVOutlook2025.pdf>

³⁴ International Energy Agency. (2025). Global EV outlook 2025: Executive summary.

<https://www.iea.org/reports/global-ev-outlook-2025/executive-summary>

³⁵ EV Volumes. (2025). EV-Volumes: Global electric vehicle sales database. <https://ev-volumes.com/>

3.2 Africa Trends

Transport accounts for roughly 31% of Africa's total CO₂ emissions from fuel combustion (energy-related CO₂)³⁶. This is up from earlier years and reflects oil's dominance (47% of fuel combustion CO₂, largely transport-driven), a share expected to rise as motorization accelerates. Across key markets such as South Africa, Kenya, Rwanda, Uganda, Ethiopia, and Nigeria, the combined vehicle fleet is projected to expand from about 25 million in 2021 to more than 58 million by 2040³⁷. Against this backdrop, scaled adoption of electric mobility could reduce transport-related emissions in Sub-Saharan Africa by up to 25% by 2040³⁸. The continent's e-mobility sector remains at an early stage but is expanding quickly. As of May 2025, more than 30,000 electric vehicles were in active use, with growth led by commercial applications and concentrated urban corridors³⁹. The YoY growth rates illustrate strong momentum across segments: electric two- and three-wheelers (E2/3W) are growing at about 38%, light-duty vehicles (E4W) at 28%, and electric buses at 44%, driven by urban demand for boda bodas (Kenya) and okadas (Nigeria)⁴⁰. Around 208 e-mobility companies are currently active across Africa, with East Africa hosting nearly half of them due to relatively cleaner power grids, the spread of battery-swapping models, and supportive policy measures, including Rwanda's planned 2025 phase-out of internal-combustion motorcycle taxis in Kigali. Investment activity is also strengthening, as most regions (except Central Africa) have attracted more than USD 100 million in cumulative commitments, supporting assembly facilities and pilot deployments. Notable examples include BasiGo's USD 42 million financing to deploy 1,000 electric buses across Kenya, Rwanda, and Morocco's large-scale EV manufacturing investments, estimated at roughly USD 15 billion⁴¹. The African EV market size is valued at USD 17.58 billion and projected to grow to USD 38.39 billion by 2033, growing at a CAGR of 10.26%⁴².

³⁶ International Energy Agency. (2025). Africa emissions. <https://www.iea.org/regions/africa/emissions>

³⁷ McKinsey & Company. (2024). Power to move: Accelerating the electric transport transition in Sub-Saharan Africa.

<https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/power-to-move-accelerating-the-electric-transport-transition-in-sub-saharan-africa>

³⁸ Ibid.

³⁹ Africa E-Mobility Alliance. (2025). Africa e-mobility report 2025.

<https://africaema.org/wp-content/uploads/2025/09/Africa-E-Mobility-Report-2025.pdf>

⁴⁰ Ibid., p. 2.

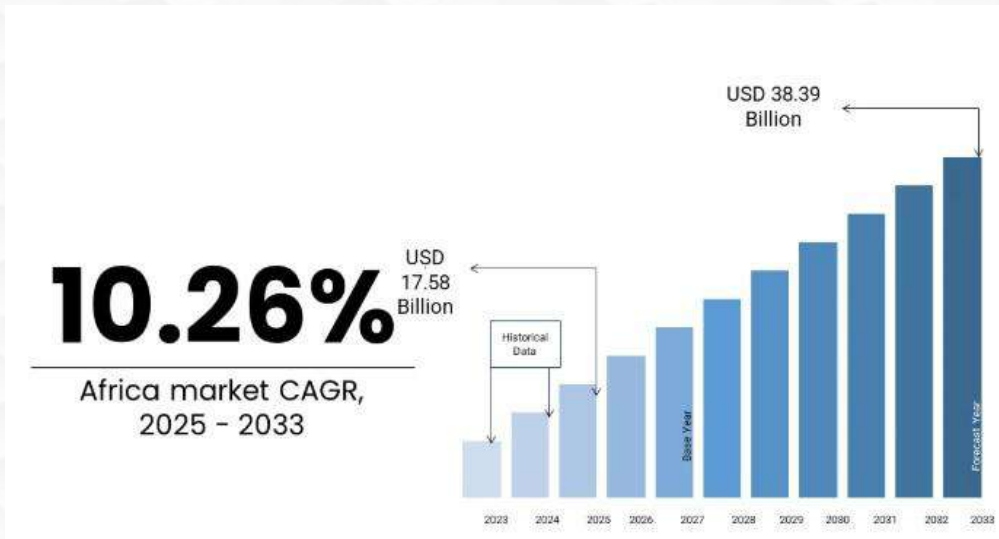


Fig 2: Africa Electric Vehicle Market, market size overview⁴³.

Policy and regulatory approaches across Africa remain uneven but are advancing. Approximately 13 countries now have national e-mobility strategies, with East Africa taking a more directive stance (*illustrated by Ethiopia's 2024 ban on internal-combustion vehicle imports*), while parts of West Africa are prioritizing fiscal incentives and pilot programs, including Ghana's demonstration projects and Nigeria's 2023 national EV policy framework. In North Africa, the emphasis is largely industrial, with countries such as Egypt targeting the production of 20,000 electric vehicles annually by 2030 as part of broader manufacturing ambitions.

Alongside policy development, new structural considerations are emerging. Battery reuse and recycling value chains are becoming increasingly relevant as early fleets age, while workforce inclusion, particularly the underrepresentation of women across technical and operational roles, has gained attention as a constraint on sector growth. These dynamics intersect with global trends, including planned phase-outs of internal-combustion engines in major markets by 2035, creating both risks and opportunities for African countries seeking to position themselves within future supply chains.

Low motorization rates across much of the continent present a practical opportunity to leapfrog directly to cleaner, renewables-integrated mobility systems rather than replicating legacy, fossil-fuel-intensive models. However, infrastructure constraints remain significant. The African EV charging market, valued at roughly USD 31.9 million in 2022, is projected to

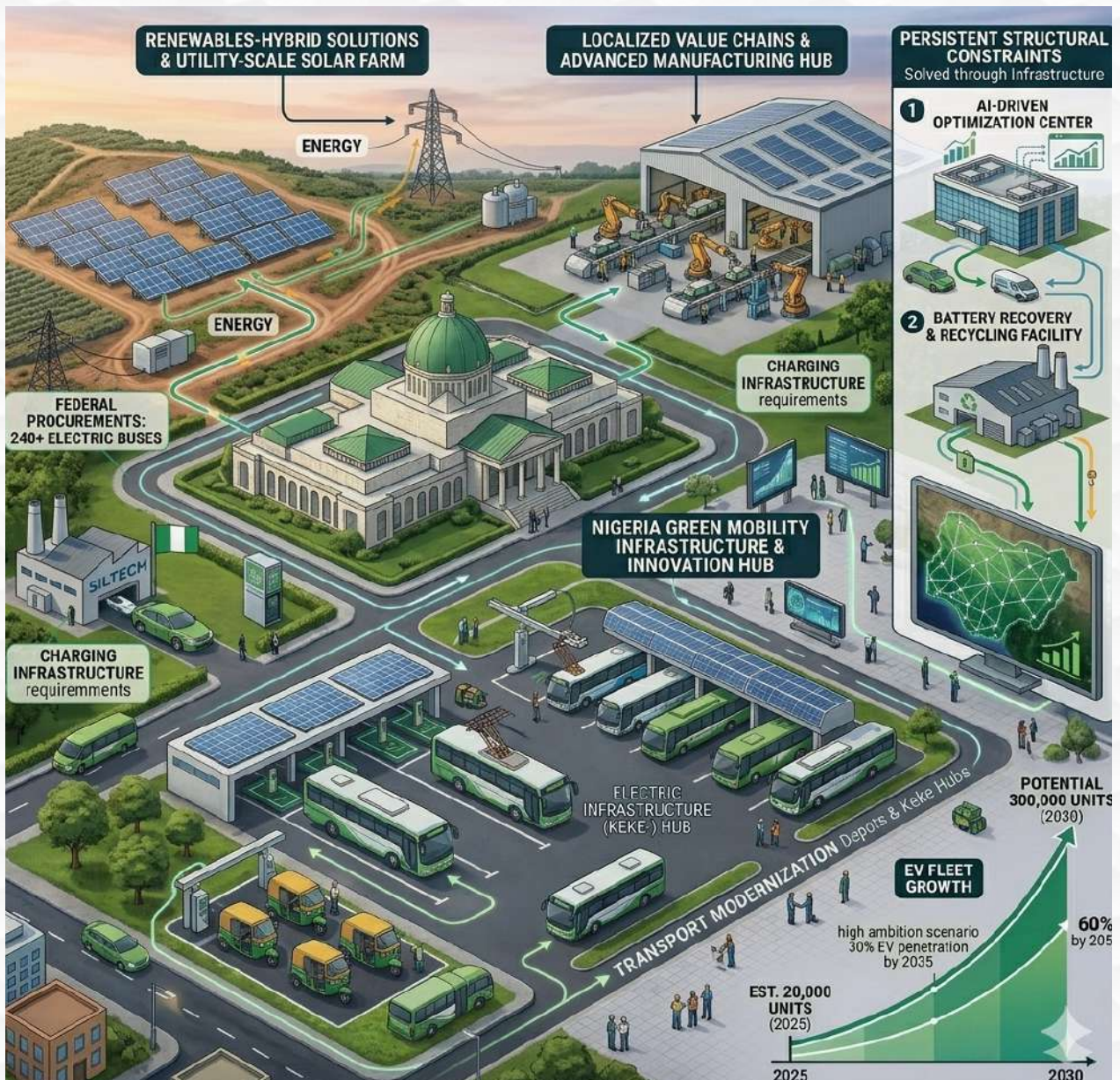
⁴¹ Ibid., p. 2.

⁴² Market Data Forecast. (2025). Africa electric vehicle market.

<https://www.marketdataforecast.com/market-reports/africa-electric-vehicle-market>

⁴³ Ibid.

grow to about USD 256.5 million by 2030⁴⁴, underscoring both the scale of the gap and the pace of expected expansion. Looking ahead, integrated solutions such as V2G systems, distributed solar charging, and microgrids offer pathways to manage grid constraints while expanding access. These models align with development finance priorities around resilience and inclusion, making them attractive for concessional financing and blended capital, while also supporting equitable deployment across urban and peri-urban communities.



⁴⁴ Next Move Strategy Consulting. (2025). Africa electric vehicle charging market. <https://www.nextmsc.com/news/africa-electric-vehicle-ev-charging-market>



Clean Technology Hub
Energy Innovation Centre

Section

4

NIGERIA

NIGERIA E-MOBILITY MARKET OVERVIEW

Nigeria's electric mobility landscape in 2025 shows more structured growth, shaped by policy reform, rising urban transport demand, and increasing private-sector participation following fuel subsidy removal. Adoption has risen sharply by an estimated 400% since 2020⁴⁵, as businesses and fleet operators respond to higher fuel costs and mounting environmental concerns. However, expansion remains constrained by systemic barriers, including unreliable grid supply, high upfront vehicle costs, limited charging infrastructure, and access to finance. Most progress has been concentrated in commercial use cases, such as ride-hailing fleets, delivery services, and high-utilization two- and three-wheelers, which are leading early adoption because the total cost of ownership (TCO) is becoming more favorable in urban settings. By contrast, uptake in rural and peri-urban areas has been slower, largely due to infrastructure deficits and weaker financing access. These disparities point to the need for more decentralized and context-specific deployment models. Off-grid and hybrid charging solutions such as solar-powered micro-charging or battery-swapping stations offer a practical pathway to extend access beyond major cities while reducing pressure on the national grid. Scaling such models could help ensure that growth in Nigeria's electric mobility sector remains both resilient and inclusive as the market matures.

4.1 Major news across Nigeria's e-mobility space

1. President Bola Tinubu launched the electric tricycle empowerment initiative on November 26, 2025⁴⁶. This initiative by the Federal Ministry of Youth and Development in partnership with the House of Representatives is designed to place Nigerian youth at the wheel of the green economy by enabling self-employment through electric tricycle operation, as well as expand clean energy transport nationwide.
2. The federal government deployed 10 electric shuttle buses and 20 electric sedans at the Nnamdi Azikiwe International Airport (NAIA), Abuja, to boost operational efficiency⁴⁷.
3. The Nasarawa State Government distributed 60 electric vehicles (50 tricycles and 10 cars) to cooperatives, youth groups, and institutions as part of its clean-energy empowerment scheme.

⁴⁵ Salau, G. (2026). Nigeria has experienced 400% increase in electric vehicles adoption within five years – Hamzat. The Guardian Nigeria.

<https://guardian.ng/news/nigeria-has-experienced-400-increase-in-electric-vehicles-adoption-within-five-years-hamzat/>

⁴⁶ The Nation. (2024). Tinubu launches electric tricycle to reduce transportation cost, youth empowerment. The Nation.

<https://thenationonline.net/tinubu-launches-electric-tricycle-to-reduce-transportation-cost-youth-empowerment/>

⁴⁷ Punch Newspapers. (2024). FG deploys electric vehicles to boost operation at Abuja airport. Punch.

<https://punchng.com/fg-deploys-electric-vehicles-to-boost-operation-at-abuja-airport/>

4. The Federal Government of Nigeria signed a memorandum of understanding (MoU) with South Korea's Asia Economic Development Committee (AEDC) to establish Africa's first full-scale electric vehicle (EV) manufacturing plant, with an initial capacity of 300,000 vehicles annually and the creation of about 10,000 jobs. The initiative also includes developing nationwide charging infrastructure, aligning with Nigeria's National Energy Transition Plan (ETP) and National Automotive Industry Development Plan (NAIDP). This phased project starts with assembly and progresses to full local production, aiming to reduce reliance on imported vehicles and boost local manufacturing.
5. In December 2025, the federal government launched the Renewed Hope Campus Transport Scheme, deploying 240 solar-powered electric tricycles across 12 federal universities nationwide⁴⁸. Each university received 20 e-tricycles and an on-campus solar charging station. The initiative is designed to reduce student transport costs and cut campus emissions.



6. The Nigerian Senate passed the Electric Vehicle Transition and Green Mobility Bill, 2025, for its second reading (sponsored by Senator Orji Uzor Kalu). This landmark legislation establishes a national framework for EV transition, mandating local manufacturing partnerships for foreign automakers (requiring domestic assembly plants within three years and 30% local sourcing by 2030), nationwide charging infrastructure at petrol stations, and incentives like tax holidays, import duty waivers, toll exemptions, and subsidies for EV users and manufacturers.

⁴⁸ Vanguard. (2025). FG deploys 240 solar-powered tricycles to 12 universities under Renewed Hope transport scheme. Vanguard.

<https://www.vanguardngr.com/2025/12/fg-deploys-240-solar-powered-tricycles-to-12-universities-under-renewed-hope-transport-scheme/>

7. The Federal Executive Council (FEC) approved approximately N58 billion for the National Automotive Design and Development Council (NADDC) to procure 200 electric buses. This initiative focuses on scaling EV adoption in public transport and industrial sectors, fostering value chain development, and supporting Nigeria's clean energy goals under the ETP.
8. Ride-hailing giant Bolt made a landmark move in April/May 2025, partnering with SGX Mobility to launch 25 electric tricycles into its operation in Lagos⁴⁹, with a goal of 1,000 by the end of the year. This initiative makes it possible for riders in Lagos to hail e-tricycles directly via the Bolt app.



9. President Tinubu inaugurated 620 fully electric vehicles (100 cars, 300 bicycles, and 220 tricycles) delivered by Borno State Governor Babagana Zulum, highlighting state-level pilots in clean transport and youth empowerment.



⁴⁹ Vanguard. (2025). Bolt's electric tricycle to cut emissions. Vanguard.
<https://www.vanguardngr.com/2025/05/bolts-electric-tricycle-to-cut-emissions/>

10. The United Bank of Africa (UBA) launched a USD 100 million “Drive to Own” facility in partnership with CIG Motors, Lagride, and Lagos State. The initiative is designed to empower 3,500 drivers to transition from renters to owners.



11. The Presidential Initiative on Compressed Natural Gas (PiCNG) inaugurated a fleet of 40 electric-powered buses in Abuja as part of its broader electric mobility program and Pi-CNG 2.0 initiative. This rollout expands clean mobility options in public transport, supported by private investment in charging infrastructure, and signals federal commitment to integrating EVs into urban transit systems to reduce emissions and fuel costs.



12. LUG West Africa announced plans for EV charging infrastructure across Lagos State with the installation of over 250 charging points, alongside the establishment of a local assembly plant for street lighting infrastructure in 2026. The initiative is aimed at supporting the growing adoption of EVs in Nigeria while reducing dependence on imported street lighting components.

13. Siltech achieved a major milestone by becoming the first African company to export a 100% made-in-Nigeria EV to the United States, demonstrating local expertise in EV manufacturing, with about 65% of materials sourced locally.
14. Lagos State officially integrated 100 EVs into its Lagride ride-hailing service to promote cleaner, smarter transportation.



15. The Standards Organisation of Nigeria (SON) has launched the National Technical Committee on Electric Mobility Standards to develop regulations covering battery safety, charging infrastructure, and vehicle-to-grid integration. This initiative supports Nigeria's target of 30% local EV production by 2032 and signals a growing regulatory commitment to the EV sector. Stakeholders, including the National Automotive Design and Development Council (NADDC), are expected to drive industry alignment, presenting early opportunities for investors and manufacturers in EV production, infrastructure development, and standards-compliant technology solutions.
16. Benue State, under Governor Hyacinth Alia, in partnership with Esse Mobility and Benue Investment and Property Company Limited (BIPC), officially launched a fleet of solar-powered electric vehicles (EVs) and, later, electric motorbikes to promote green transport, reduce fuel costs, and enhance security.



- SAGLEV Electromobility officially opened operations at its 5,000-square-meter EV-only assembly plant in Imota, Ikorodu, Lagos, the first fully electric vehicle assembly facility in sub-Saharan Africa. The plant focuses on local assembly of affordable and premium EVs (including models from Dongfeng like the Voyah, Nammi, and M-Hero 917 luxury off-road SUV)



- Qoray Mobility rolled out CabZero, a dedicated 100% electric ride-hailing and fleet management platform tailored for Nigerian businesses. It provides flexible EV leasing, staff commute plans, on-demand rides, and optimized scheduling - eliminating vehicle ownership while delivering sustainable, cost-effective corporate mobility. Qoray Mobility achieved global recognition when its flagship Electric Teak tricycle, driven by Nigerian rider Sekinat Taiwo, covered 347.11 km in 12 hours on a closed circuit at the National Theatre, Lagos, setting the Guinness World Record for the greatest distance travelled on an electric tuk-tuk/autorickshaw in 12 hours⁵⁰. This surpassed the previous 250 km benchmark, proving the durability of African-designed EVs under real-world conditions.



⁵⁰ Guinness World Records. (2024). Greatest distance travelled on an electric tuk-tuk (autorickshaw) in 12 hours. Guinness World Records.

<https://www.guinnessworldrecords.com/world-records/771528-greatest-distance-travelled-on-an-electric-tuk-tuk-autorickshaw-in-12-hours>

19. Folti Technologies introduced eDryv, Nigeria's pioneering electric vehicle ride-hailing service powered 95% by renewable (solar) energy. Operating initially in Lagos Island, eDryv uses solar-charged EVs for ride-hailing, rentals, and corporate transport—offering a fully green, grid-independent alternative to traditional services. This "transport-as-a-service" model highlights innovative, homegrown clean mobility solutions.



20. In late 2025, Bankrol CamelEV launched operations as a one-stop shop for EVs, offering the following services: sales of EVs, EV financing, charging points (three 120 kW, two 30 kW, and one 60 kW), and after-sales services.
21. In February 2025, NEV Electric officially launched what has been described as one of Africa's largest electric vehicle manufacturing plants⁵¹, located in Abuja. As of mid-2025, the company had assembled over 120 electric buses domestically, with a stated target to scale to 300 units in its next production phase. In March 2025, the company unveiled the NEV T6 - a compact 20-seater electric bus designed for Nigerian urban corridors, campus shuttles, and city-to-city routes^{52,53}.

⁵¹ Daily News Egypt. (2025). Nigeria launches Africa's largest assembled EV charging station. Daily News Egypt. <https://africa.dailynewsegypt.com/nigeria-launches-africas-largest-assembled-ev-charging-station/>

⁵² ThisDay. (2025). Driving Nigeria's green independence: How NEV Electric is leading a new era of local EV manufacturing. ThisDay Live. <https://www.thisdaylive.com/2025/10/01/driving-nigerias-green-independence-how-nev-electric-is-leading-a-new-era-of-local-ev-manufacturing/>

⁵³ NEV Electric. (2025). NEV Electric Nigeria is building Africa's first fully integrated EV ecosystem [Video]. Facebook.

<https://www.facebook.com/100069055971144/videos/nev-electric-nigeria-is-building-africas-first-fully-integrated-ev-ecosystem-inc/1395958752172051/>



22. REVOO launched its electric 2-wheelers in Nigeria, with a range of models designed to cater to different needs and preferences⁵⁴. The REVOO lineup includes the A11, A12, C32, and E52 models, each offering varying performance characteristics and price points.



23. Spiro opened its first EV assembly plant in Ogun State, with operations to begin in Q1 2025, with a production capacity of 100,000 bikes per year⁵⁵. Spiro, in partnership

⁵⁴ The Guardian Nigeria. (2025). Revo global electric motorcycle brand revs up in Nigeria. The Guardian Nigeria. <https://guardian.ng/sponsored/revo-global-electric-motorcycle-brand-revs-up-in-nigeria/>

⁵⁵ Tech In Africa. (2025). Spiro accelerates Africa's EV revolution with new assembly plant and regional expansion. Tech In Africa. <https://www.techinafrica.com/spiro-accelerates-africas-ev-revolution-with-new-assembly-plant-and-regional-expansion/>

with the Ogun State government, is dedicated to phasing out ICE bikes and introducing electric alternatives with 13 battery-swap stations across the state. In September 2025, Spiro also announced its plans to grow its Nigeria swap stations 10x within 3 months⁵⁶.



24. In 2025, MAX (Metro Africa Xpress) continued to consolidate its position as one of Africa's leading mobility companies focused on sustainable and inclusive transport solutions. Marking its tenth anniversary, the company announced a significant milestone in its growth journey. By late 2025, MAX had empowered more than 52,000 commercial drivers through access to electric motorcycles and tricycles. These vehicles have collectively facilitated over 653 million trips, reflecting both the scale of adoption and the company's expanding operational footprint.



⁵⁶ Mobility Rising. (2025). Spiro to grow Nigeria swap stations tenfold in 3 months. Mobility Rising. <https://www.mobility-rising.com/p/spiro-to-grow-nigeria-swap-stations-tenfold-in-3-months>

25. In mid-2025, Ecowaka launched the operation of over 50 electric tricycles in Lagos to boost sustainable transportation in Nigeria. The company adopts an inclusive model for e-mobility, providing access to both brand-new e-tricycles and retrofitted options for petrol-powered tricycles.



4.2 Adoption and Market Size

EV adoption in Nigeria accelerated noticeably through 2025, with the national fleet estimated at approximately 20,000 units, up from about 5,000 in 2020⁵⁷. This represents a 400% increase within five years, driven largely by activity in major urban centers such as Lagos and Abuja. While EVs still account for only around 1% of the overall vehicle stock, growth has outpaced earlier expectations. Policy signals and fiscal incentives have helped improve the investment outlook and stimulate early demand.

Market activity remains concentrated in high-utilization segments. The 2- and 3-wheelers continue to dominate adoption due to lower costs and strong demand for urban mobility services, with companies such as MAX, Spiro, Revoo, Zoome, IRS, and AaraGo leading the segment. The two-wheeler segment alone is estimated to be worth about USD 1.2 billion⁵⁸; however, passenger vehicles and e-buses are gaining traction through corporate fleet transitions and national or subnational pilot programs. Companies such as Folti Technologies

⁵⁷ Climate Scorecard. (2025). Nigeria has pledged to achieve 100% zero-emission sales for new cars and vans by 2040. Climate Scorecard.

<https://www.climatescorecard.org/2025/03/nigeria-has-pledged-to-achieve-100-zero-emission-sales-for-new-cars-and-vans-by-2040/>

⁵⁸ Ken Research. (2025). Nigeria EV two-wheeler market.

<https://www.kenresearch.com/nigeria-ev-2-wheeler-market>

and Qoray Mobility have deployed growing numbers of EVs for ride-hailing and corporate service; Bankrol camelEV has also deployed EVs for airport shuttle. Customer inquiries and procurement interest reportedly doubled in 2025, suggesting that the market may be approaching a broader inflection point for both private and fleet adoption. Forward projections remain highly sensitive to infrastructure and financing conditions. Estimates suggest a CAGR ranging from roughly 6.8% to over 30% between 2025 and 2031, with the national EV fleet potentially reaching 300,000⁵⁹ units by 2030 if charging networks, grid capacity, and localized assembly continue to scale. At the policy level some national targets for 2025, including earlier penetration benchmarks, were not fully met, and parallel emphasis on compressed natural gas (CNG) as a transition fuel has at times diluted focus on full electrification. Nevertheless, the federal government's commitments to transition toward fully zero-emission new vehicle sales by 2040⁶⁰ provide a long-term signal for industry planning, though execution will depend on sustained regulatory clarity, investment in power and charging systems, and stronger domestic supply chains.

4.3 Investment and capital flows

A defining feature of Nigeria's e-mobility ecosystem in late 2025 and early 2026 has been the sharp acceleration in capital inflows, signalling a decisive shift from pilot-stage experimentation to commercially viable, infrastructure-led scale. These blended equity and debt raises, totaling more than USD \$174 million in Nigeria-linked commitments within a four-month window, underscore growing investor conviction that high-utilization two- and three-wheeler models, battery-as-a-service platforms, and solar-hybrid solutions can deliver both climate impact and attractive risk-adjusted returns in a fuel-price-constrained market.

1. MAX (Metro Africa Xpress), the Lagos-based mobility financing and fleet platform, closed a USD \$24 million combined equity and debt round in mid-January 2026. The equity tranche included participation from global institutional investors such as Equitane DMCC, Novastar Ventures (*a repeat investor following its involvement in MAX's September 2025 Series B*), and Endeavor Catalyst, alongside other strategic backers⁶¹. On the debt side, asset-backed and climate-focused facilities were provided by the Energy Entrepreneurs Growth Fund (EEGF) and additional development finance partners. Proceeds are being deployed to expand the EV fleet (*with a strong focus on two- and three-wheelers*), roll out solar-powered battery-swapping infrastructure, enhance proprietary IoT-enabled fleet management systems, and deepen operations across West and Central Africa. Critically for Nigeria, MAX achieved full profitability in its home market in 2025 and operates an assembly plant in Ibadan capable of producing up to 3,600 two- and three-wheeled EVs monthly⁶².

⁵⁹ Ken Research. (2025). Nigeria EV charging infrastructure market.

<https://www.kenresearch.com/nigeria-ev-charging-infrastructure-market>

⁶⁰ Accelerating to Zero Coalition. (2025). Nigeria commits to a zero-emission vehicle future. Accelerating to Zero.

<https://acceleratingtozero.org/nigeria-commits-to-a-zero-emission-vehicle-future/>

⁶¹ Empower Africa. (2025). Nigeria's MAX raises \$24 million to scale electric mobility financing. Empower Africa.

<https://empowerafrica.com/nigerias-max-raises-24-million-to-scale-electric-mobility-financing/>

2. Spiro, Africa's largest battery-swapping and electric two-wheeler operator (with significant assembly and swap-station presence in Nigeria), delivered back-to-back landmark raises that together represent the largest capital mobilization in African e-mobility to date. In October 2025, Spiro secured USD \$100 million⁶³ (Africa's single largest e-mobility investment at the time), led by USD \$75 million from the Fund for Export Development in Africa (FEDA)⁶⁴, the development-impact investment arm of the African Export-Import Bank (Afreximbank). Just four months later, in February 2026, Spiro closed an additional USD \$50 million debt facility from Afreximbank, Nithio (a U.S.-based climate fintech), and the Africa Go Green Fund (managed by Cygnum Capital)⁶⁵. These funds are earmarked for rapid expansion of Spiro's battery-swapping network (already operational in Nigeria with local assembly facilities), deployment of automated fast-swap technology, fast-charging stations, and renewable-energy integration across its six-country footprint (Kenya, Uganda, Rwanda, Nigeria, Benin, and Togo), with pilots in Cameroon and Tanzania.

Collectively, these USD \$174+ million in fresh capital (MAX USD \$24M + Spiro USD \$150M in Oct 2025–Feb 2026 alone) demonstrate a maturing investor thesis: Nigeria-centric models that combine vehicle financing, battery-as-a-service, and decentralized clean-energy infrastructure can de-risk the classic “chicken-and-egg” dilemma while generating recurring revenue and measurable job creation for youth and SMEs in the commercial 2- and 3-wheeler segment. Development finance institutions (DFIs) such as FEDA/Afreximbank, EEGF/Triple Jump, Nithio, and the Africa Go Green Fund are providing the patient, concessional debt layers that commercial banks have historically shied away from, while venture and impact equity players (Novastar, Equitane, and Endeavor Catalyst) are backing proven unit economics and profitability (as demonstrated by MAX in Nigeria).

From a Clean Technology Hub (CTH) perspective, this capital momentum is precisely the catalyst needed to embed e-mobility as a **productive-use energy asset**. When channeled into interoperable solar-hybrid swapping hubs and youth/SME lease-to-own programs, these investments can accelerate Nigeria's EV fleet toward the 300,000-unit target by 2030, create thousands of green jobs in assembly, swapping operations, and maintenance, and shift meaningful kWh loads onto renewable mini-grids, directly supporting the National Energy Transition Plan and net-zero 2060 ambition.

⁶² TechCabal. (2026). MAX raises \$24 million and turns profitable. TechCabal.

<https://techcabal.com/2026/01/16/max-24-million-profitable/>

⁶³ Spiro. (2025). Spiro raises \$100 million in Africa's largest ever investment in electric mobility. Spiro.

<https://www.spironet.com/news/spiro-raises-100-million-in-africas-largest-ever-investment-in-electric-mobility>

⁶⁴ Afreximbank. (2025). FEDA announces strategic investment in Spiro to accelerate Africa's electric mobility transition. Afreximbank.

<https://www.afreximbank.com/feda-announces-strategic-investment-in-spiro-to-accelerate-africas-electric-mobility-transition>

⁶⁵ Spiro. (2024). Spiro raises \$50 million as demand surges across Africa. Spiro.

<https://www.spironet.com/news/spiro-raises-50-million-as-demand-surges-across-africa>

While the largest disclosed equity and blended raises in 2025 to early 2026 remained concentrated in high-utilization 2- and 3-wheeler platforms, Nigeria's e-mobility sector also attracted meaningful capital and financing facilities targeted at electric 4-wheelers and embedded software solutions (fleet management, IoT monitoring, credit scoring, ride-hailing apps, and charging optimization).

1. Lagride (Lagos Ride), the Lagos State Government-backed e-hailing platform, secured a landmark USD \$100 million financing facility from United Bank for Africa (UBA) in December 2025⁶⁶. The debt facility directly supports the “Drive-to-Own” programme (*performance-based transition from rental to vehicle ownership for drivers*) and accelerates EV fleet expansion, including integration of over 100 EVs (*sedans and shuttles*) into the Lagride app ecosystem, with plans to deploy thousands more EVs over the next three years. Funds are also being used to expand dedicated EV charging infrastructure (*for example, a new facility at Alausa*) and strengthen the proprietary ride-hailing and fleet-management software platform. This represents one of the largest single financing commitments to EV-enabled mobility in Nigeria in 2025 and underscores commercial banks' growing appetite for structured, performance-linked lending in the 4-wheeler segment⁶⁷.
2. Moove, the Nigerian-founded mobility fintech (*with strong operations across Nigeria*), is actively pursuing and is positioned for a major USD \$300+ million equity at a valuation exceeding USD \$2 billion. The capital is earmarked for global expansion of its core software platform, advanced credit-scoring algorithms, IoT fleet monitoring, revenue-based financing tools, and ride-hailing/driver management systems, with explicit support for electric 4-wheeler fleets in markets including Nigeria. Moove finances vehicles (*increasingly EVs*) for Uber and other ride-hailing drivers, enabling 4-wheeler adoption in commercial fleets while embedding software that optimizes utilization, maintenance, and electrification transitions. Although the exact close of the 2025 round remains private, the pursuit itself signals strong investor confidence in software-driven 4-wheeler financing models⁶⁸.

These 2025 disclosed inflows (Lagride's USD \$100M debt, alongside Moove's USD \$300M+ equity push) highlight a pragmatic pivot: capital is increasingly flowing toward structured, performance-linked financing and asset-light scaling models that enable real-world 4-wheeler deployment without massive upfront manufacturing capex.

⁶⁶ Business Insider Africa. (2025). LagRide secures \$100 million UBA facility to scale operations. Business Insider Africa.

<https://africa.businessinsider.com/local/lifestyle/lagride-led-by-chairman-diana-chen-secures-dollar100-million-uba-facility-to-scale/0k2ydttd>

⁶⁷ Ibid

A strategy to unlocking Nigeria's e-mobility potential lies in channeling this emerging capital toward integrated, resilient solutions such as solar-hybrid charging at fleet depots, interoperable battery swapping for mixed fleets, and youth/SME lease-to-own schemes that prioritize high-utilization commercial use cases (*ride-hailing, corporate shuttles, last-mile logistics, and urban public transport*). If these financing flows are sustained, coordinated with targeted grid reinforcement pilots, and supported with concessional DFI debt, they could realistically accelerate commercial-scale deployment of electric 4-wheelers while creating measurable job multipliers in local assembly, maintenance, charging-station operations, and driver training. This approach shifts meaningful transport energy demand toward renewables or stable gas-to-power bridges, directly advancing the National Energy Transition Plan's goals and positioning Nigeria as a pragmatic, commercially viable e-mobility market in West Africa

4.4 Comparative Positioning

Nigeria's electric mobility position in 2025 remained behind global leaders; however, it showed promise among African peers, ranking moderately on the Africa EV Readiness Index (scoring 0.6/1.0), reflecting progress in policy formulation and pilot deployment, but also persistent gaps in grid reliability, financing, and charging infrastructure⁶⁹. This places Nigeria in the middle tier among African markets: ahead of many early-stage adopters, yet trailing more coordinated ecosystems such as Rwanda and Kenya.

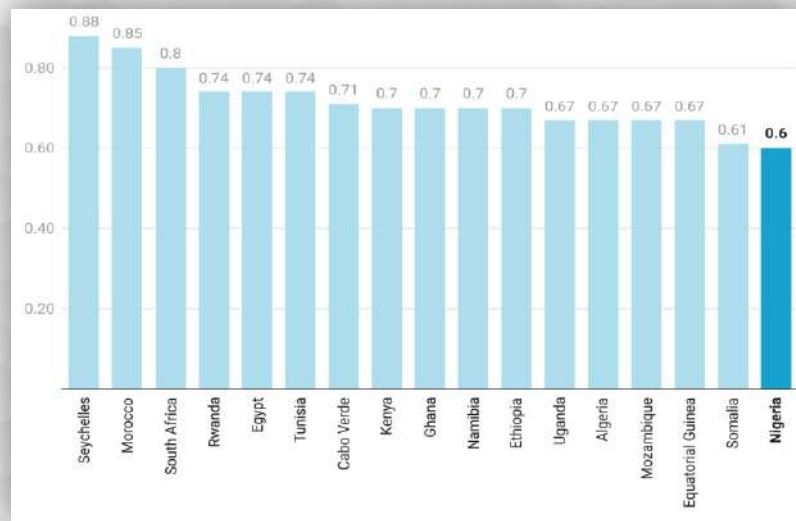


Fig 3: Africa EV readiness index score by country⁷⁰.

⁶⁸ Bloomberg News. (2025). Uber-backed Moove's funding round values company at \$2 billion. Bloomberg. <https://www.bloomberg.com/news/articles/2025-09-19/uber-backed-moove-s-funding-round-at-2-billion-value>

⁶⁹ Energy for Growth Hub. (2025). 2025 update: Africa EV readiness and impact index. <https://energyforgrowth.org/article/2025-update-africa-ev-readiness-and-impact-index/>. The Impact Score takes into account the clean energy share of the electricity generation mix, transport sector emissions, urban air quality, fossil fuel import dependence, fuel subsidy burden, potential utility revenues from 30% electrification of the road fleet, and the projected 2050 motorization rate.

Globally, the contrast is stark, with the global EV fleet estimated to be roughly 58 million vehicles (*about 4% of total vehicles*) with annual sales around 20 million units, representing roughly a quarter of new car sales. Nigeria's EV penetration remains below 1%, underscoring structural barriers such as high upfront costs, limited local manufacturing scale, and infrastructure deficits. Meanwhile, markets like China are projected to approach or exceed 80% EV sales share by 2030, supported by strong industrial policy, supply-chain control, and dense charging networks. Despite this gap, Nigeria has taken important early steps; committing to long-term emissions reduction targets and a stated ambition to transition toward zero-emission vehicle sales by 2040 provide a strategic signal for industry and investors. However, achieving meaningful scale will require stronger coordination across federal and subnational policies, clearer regulatory frameworks, and sustained investment in power and charging systems.





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Section 5



FEDERAL LAW
PROGRAMME



STATE LAW



ENERGY LAW



ENERGY INNOVATION
CENTRE

POLICY AND REGULATORY FRAMEWORK IN NIGERIA

Nigeria's e-mobility policy landscape underwent notable evolution in 2025, building on the National Energy Transition Plan (ETP) and international commitments such as the Zero Emission Vehicles (ZEV) Declaration, which targets 100% EV sales by 2040. However, the federal pivot toward Compressed Natural Gas (CNG) under the Presidential CNG Initiative (Pi-CNG) partially diluted the policy focus on electric vehicles. This shift, combined with broader macroeconomic pressures, contributed to missed milestones, most notably the 7.5% EV penetration target for 2025⁷¹, underscoring persistent gaps between policy ambition and execution. In practice, the policy framework leaned toward investment-focused incentives to stimulate private sector participation and cushion economic constraints. While this approach helped maintain investor interest, it also exposed structural weaknesses, particularly in enforcement, interagency coordination, and the alignment of infrastructure planning with policy goals. These gaps limited the effectiveness of existing incentives and slowed on-the-ground deployment.

Looking ahead, targeted reforms could materially strengthen implementation. As of early 2026, the planned full rollout of the End-of-Life Vehicle (ELV) policy⁷² represents a critical inflection point, with the potential to stimulate circular value chains and support local manufacturing. If these reforms are executed decisively and policy coherence is sustained, Nigeria's framework could support accelerated market expansion, with EV adoption potentially achieving a compound annual growth rate of 30.6% through 2031. A key counter-risk remains policy fragmentation: without clearer prioritization and stronger institutional capacity, parallel energy transitions (EVs and CNG) could continue to compete for limited fiscal and administrative resources, slowing overall progress.

5.1 Key Policies and Incentives

The Federal Executive Council (FEC) approved ₦58 billion for NADDC to procure 200 e-buses, signaling a strong national commitment to scaling electric mobility within public transport while strengthening the domestic automotive value chain. Complementing this effort, Pi-CNG inaugurated 40 e-buses in Abuja in December 2025 as part of the flagship launch of its broader Electric Mobility Programme, alongside the announcement of Pi-CNG 2.0, which aims to expand EV deployment through private-sector-backed charging infrastructure. A defining milestone in 2025 was the Electric Vehicle Transition and Green Mobility Bill⁷³, sponsored by Senator Orji Uzor Kalu. The bill passed its second reading in the Senate on November 5, 2025⁷⁴, and was subsequently referred to the Committee on Industry for further review. Key targets include achieving 30% local content by 2030 and supporting

⁷¹ Lekwa, H. (2025, June 12). Can Nigerians overcome range anxiety in EVs? TheCable.
<https://www.thecable.ng/can-nigerians-overcome-range-anxiety-in-evs/>

⁷² Ibrahim, L. (2025, July 3). Nigerian govt to implement end-of-life vehicle regulation policy. Voice of Nigeria.
<https://von.gov.ng/nigerian-govt-to-implement-end-of-life-vehicle-regulation-policy/>

long-term ambitions of 60% EV penetration by 2050 under the Energy Transition Plan (ETP). Notably, the bill proposes strict localization requirements, mandating foreign automakers to partner with licensed Nigerian assemblers, establish local production facilities within three years, and produce a minimum of 5,000 units annually, with penalties of up to ₦500 million per shipment for non-compliance.

To de-risk investment and accelerate market entry, the policy framework outlines a suite of incentives, including tax holidays of up to ten years, reduced import duties of 10–20% for EVs, VAT exemptions, toll waivers, and targeted subsidies for both users and investors. It also introduces infrastructure mandates, requiring the integration of charging facilities at fuel stations and along major highways, supported by government-led initiatives to develop a national charging network. These measures align with the National Automotive Industry Development Plan (NAIDP) 2023–2033, which emphasizes fiscal clarity, tariff reforms, and local content thresholds, while the introduction of the mandatory Standard Organisation of Nigeria Conformity Assessment Programme (SONCAP) certification for imports aims to uphold safety and quality standards. More broadly, these policy shifts reinforce Nigeria's climate commitments, including the net-zero 2060 target under the Climate Change Act and updated Nationally Determined Contributions (NDCs), positioning transport decarbonization as a strategic priority. For stakeholders, the evolving framework presents a multi-layered value proposition: stronger regulatory enforcement to drive policy coherence, enhanced incentives to improve investor and development finance institution (DFI) returns, and equity-focused provisions, such as prioritizing rural charging infrastructure, that broaden access and inclusion. At the same time, effective implementation will depend on institutional coordination and sustained policy consistency to ensure that ambitious targets translate into measurable deployment outcomes.

⁷³ National Institute for Legislative and Democratic Studies. (2025). Electric vehicle transition and green mobility bill, 2025.

<https://ir.nilds.gov.ng/bitstream/handle/123456789/1832/ELECTRIC%20VEHICLE%20TRANSITION%20AND%20GREEN%20MOBILITY%20ACT%202025%20%28New%20Bill%29%29.pdf>

⁷⁴ National Assembly Library Trust Fund. (2025, November 6). Electric vehicle bill scales second reading. NALTF. <https://naltf.gov.ng/electric-vehicle-bill-scales-second-reading/>

Table 2: Comparative analysis of incentives for EVs vs. ICE vehicles under the Nigeria Tax Act 2025 and the Electric Vehicle Transition and Green Mobility Bill 2025.

Incentive	Electric Vehicles (EVs)	Traditional (ICE) Vehicles
Import Duty	10% - 20% (Reduced)	35% (Standard)
Value Added Tax (VAT)	0% (Exempt)	7.5% (Applicable)
Import Adjustment Tax	0% (Exempt)	Varies (up to 35% and more)
National Automotive Council (NAC) levy	15%	15% - 20%
Fossil Fuel Surcharge	None	5% (New in 2025 Tax Act)
Corporate Tax Holiday	Up to 10 years	3 years (Pioneer status only)
Road Tax and Emissions	Exempt	Applicable
Highway Tolls	Free Access (Proposed)	Fully payment

5.2 EV Charging Infrastructure Policies in Nigeria

There are four existing policy frameworks (the National Agenda 2050 of 2021, the Long Term Low Emissions Development Strategy of 2023, the Energy Transition Plan of 2022, and the National Automotive Industrial Development Plan of 2023) that make mention of EV charging infrastructure in Nigeria, and one under development (the Electric Vehicle Transition and Green Mobility Bill of 2025). The existing frameworks typically focus on the EV segment of the market and say very little on EV charging infrastructure.

1. The National Agenda 2050, launched in 2021 under the Federal Ministry of Finance, Budget, and National Planning, envisions 34% and 100% of Nigerian cities having EV charging outlets by 2030 and 2050, respectively. The NA 2050, however, does not mention how this will be achieved beyond “appropriate incentives and sanctions frameworks” and “investments in energy storage devices and systems.”
2. Similarly, Nigeria’s Long Term Low-Emissions Development Strategy (LT-LEDS), launched in 2023 by the National Council on Climate Change (NCCC), contains proposed mitigation measures for the transport sector to promote “wide adoption of electric vehicles,” which includes “providing charging infrastructure along major roads and designated public places.”

3. The Energy Transition Plan, launched in 2022 by the Energy Transition Office, envisioned that the number of EV charging stations would be 60 by 2030 (servicing EVs that make up 1% or 191,700 of the passenger vehicle mix by 2030 and then grow by 6,000 annually after 2030—implying that 120,000 EV charging stations would cater to 13 million EVs (i.e., 60% of the total vehicle fleet) by 2050. This implies a ratio of 108 EVs to 1 charging station by 2050, an improvement from 3,195 EVs to 1 charging station by 2030. While the ETP 2022 was criticized for setting ambitious goals without stipulating implementation pathways and measures, the 2025 revision of targets no longer includes targets for charging stations. Instead, EV targets are disaggregated by vehicle type (2/3 wheelers, 4-wheelers, trucks, and buses), and mention of charging infrastructure is limited to the statement that one of the barriers to EV adoption is inadequate charging infrastructure, and assumptions for the modeled targets include “incentives, regulations, and charging infrastructure investments will drive the transition” and “improvements in battery range and charging infrastructure make electric 2/3 wheelers more viable for consumers.”
4. The National Automotive Industrial Development Plan (NAIDP) of 2023, developed by NADDC, is supposed to be more comprehensive and detailed in the specific incentives to be provided for the promotion of e-mobility in Nigeria. Yet, while “vehicles” are mentioned 264 times, “charging” is mentioned only four times, despite one of the two stated objectives of the plan for e-mobility being “to facilitate investments in electric vehicle charging stations and other infrastructure.” The NAIDP targets cumulative local production of vehicles in Nigeria of 200,000 units by 2033 (covering about 40% of domestic vehicle demand), and 30% (60,000 units) will be EVs, thereby exceeding the ETP 2025 revised projection of 1,210 total EVs by 2030. No commensurate target is set for the local development of charging stations. Fiscal incentives are stated for “auto assemblers,” “auto manufacturers,” and knocked-down imported EVs, and not for charging infrastructure producers.

In contrast, the draft National Action Plan for the Development of Electric Vehicles in Nigeria, developed by the NADDC in 2022, and for which a public validation workshop was held in July 2023, contained a dedicated section on charging infrastructure. It proposed specific measures, such as:

- Tax reduction for renewable energy producers supplying public charging stations (5% VAT, 10% CIT).
- Reduced electricity tariff or subsidies for public charging stations.
- Specified ToU (Time-of-Use) tariffs for individual owners of level 1 (slow charging), level 2 (fast charging), and level 3 (rapid charging) EVSE (Electric vehicle supply equipment) to promote ownership of EVs.
- Foster Land access for EV charging infrastructure development
- Create standards for EV stations
- Domesticating the production of charging station components (unifying the production of charging plugs and superchargers).
- Increase the investment in EV charging stations, including through cheap loans (1-5% interest rate) issued for companies willing to set up commercial charging stations with renewable energy sources, and create funding facilities dedicated to EVs charging infrastructure.

The draft Action Plan was, unfortunately, not pushed forward for approval from the Federal Executive Council.

It is in light of these gaps that the Nigerian Senate has introduced the Electric Vehicle Transition and Green Mobility Bill, 2025. The Electric Vehicle Transition and Green Mobility Bill represents Nigeria's first comprehensive legislative effort to accelerate the adoption, localization, and regulation of electric mobility. The Federal Ministry responsible for Industry, Trade, and Investment has been slated as the primary coordinating body for the implementation of the bill. One of the six objectives of the bill is to “develop nationwide electric vehicle charging infrastructures.” The bill, therefore, has a dedicated section on charging infrastructure. Key provisions include:

- The Standards Organisation of Nigeria (SON) is to ensure that all electric vehicles, components, and charging equipment meet international safety and quality standards, and it should develop and publish specific standards for electric vehicle batteries, motors, and charging stations.
- The Ministry of Transportation is to oversee the licensing and regulation of electric vehicle charging networks.
- The Ministry of Power is to promote the integration of renewable energy into electric vehicle charging infrastructure, develop policies to ensure adequate power supply for electric vehicle charging stations, and collaborate with the Nigerian Electricity Regulatory Commission to establish tariffs for electric vehicle charging services.
- From the commencement of the bill, all fuel stations in Nigeria shall be required to install electric vehicle charging points.
- Private investors establishing electric vehicle charging stations shall be eligible for grants and tax credits.

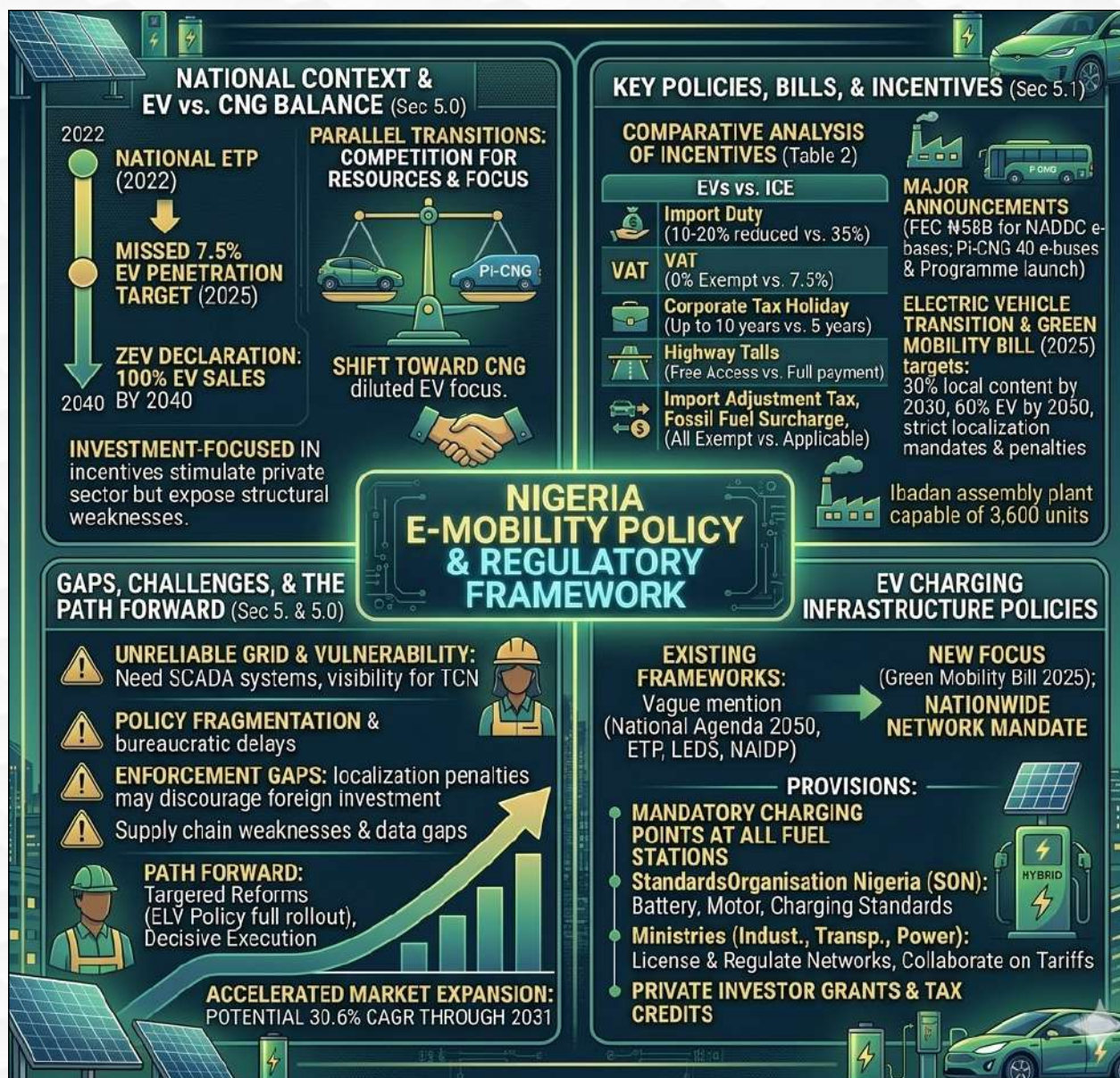
However, while the bill offers vital political momentum, there remain significant technical, institutional, and operational gaps that must be addressed to guarantee effective implementation, industry development, and long-term sustainability. In its current form, it risks establishing a dominant, capital-intensive market that excludes startups, two/three-wheelers, and the vast majority of Nigerians. If significantly strengthened, it could become the cornerstone of Nigeria's energy transition.

5.3 Regulatory Gaps and Challenges

Despite measurable progress, 2025 exposed significant gaps in policy enforcement and overall coherence. The bill's local assembly and localization mandates, while strategically aimed at building domestic capacity, risked discouraging foreign investors due to high penalty thresholds (~~₦~~250–500 million) and opaque licensing processes. Shifts in policy emphasis toward CNG also reduced momentum for e-mobility, as underfunding and bureaucratic delays slowed critical reforms, including investments in Supervisory Control and Data Acquisition (SCADA)⁷⁵ systems for grid stability. These reforms are particularly

⁷⁵ Athekame, C. (2024, September 2). SCADA system 'll be operational in Q4 2024 – MD. News Agency of Nigeria. <https://nannews.ng/2024/09/02/scada-system-ll-be-operational-in-q4-2024-md/>

relevant for EV deployment, as SCADA enables the grid to isolate localized faults rather than triggering nationwide collapses, while allowing the Transmission Company of Nigeria (TCN) to monitor where EV charging demand is concentrated. Without such visibility, transformers remain vulnerable to overloads during peak charging periods, increasing systemic risk. Global supply-side challenges, notably in battery sourcing, further magnified local constraints, while uneven urban–rural adoption trajectories raised concerns about widening social inequities. From a research perspective, limited and inconsistent data on EV adoption hindered robust analysis and evidence-based policymaking. For civil society organizations, the absence of explicit gender-inclusive provisions resulted in the underrepresentation of women across the emerging e-mobility workforce.





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Section

6

CURRENT INFRASTRUCTURE LANDSCAPE

Nigeria's e-mobility infrastructure in 2025 grappled with the classic "chicken-and-egg" dilemma: limited EV adoption due to sparse charging networks, yet insufficient demand to justify rapid infrastructure scaling. With fewer than 100 operational charging stations nationwide by mid-2025, the sector relied on urban pilots and private initiatives supported by renewable energy sources. The nation's EV charging ecosystem remains in its formative stages, emerging in three distinct but complementary streams, each serving specific purposes, offering unique advantages, and facing inherent limitations. These streams include:

1. **Government and research pilots:** Government-led and research-oriented EV charging stations primarily as proof-of-concept installations designed to demonstrate feasibility, build technical capacity, and support early policy experimentation. The National Automotive Design and Development Council (NADDC) leads these initiatives and has commissioned several solar-powered EV charging stations since 2021 across key universities, including the University of Lagos (UNILAG), University of Nigeria Nsukka (UNN), and Usman Danfodio University, Sokoto (UDUS), as well as one at its headquarters in Abuja. Recent expansions include NADDC's collaboration with Federal University Lafia (FULafia) for a new EV starting station⁷⁶. The Federal Ministry of Industry, Trade, and Investment has overseen these projects as part of Nigeria's broader National Automotive Industry Development Plan (NAIDP) and Long-Term Low Emissions Development Strategy (LT-LEDS). The Energy Commission of Nigeria (ECN) also operates a pilot hybrid EV charging station at its Abuja office.

These projects provide foundational learning platforms for EV technology, solar integration, and charging system design. They enable hands-on training opportunities for engineers, technicians, and students, thereby contributing to the development of Nigeria's technical workforce for broader deployment. However, the limitations of this stream are equally apparent. Most installations are typically small-scale and primarily used for research rather than public access. Their financial sustainability remains uncertain, as operations depend on grants rather than revenue. Furthermore, the absence of a structured replication mechanism or dedicated financing window means that these pilots risk remaining isolated projects rather than stepping stones toward national rollout. Finally, there is minimal publicly available operational data, which reduces the feedback loop between demonstration and policy learning.

2. **Fleet and assembler-led deployments:** Possibly the most commercially significant stream, driven by private operators and vehicle assemblers. Private fleet operators and

⁷⁶ Muhammed, A. (2025, September 5). NADDC and FULafia partner to establish EV charging station and CNG conversion hub. Nigeria Education News.
<https://thenigeriaeducationnews.com/2025/09/05/naddc-and-fulafia-partner-to-establish-ev-charging-station-and-cng-conversion-hub/>

vehicle assemblers deploy charging stations to support logistics fleets, ride-hailing services, corporate mobility, and proprietary EV models. Leading companies in this charge include Folti Technologies Limited, Qoray, SAGLEV, First Electric, Phoenix Renewables, Africa Motor Works (AMW), Jet Motors Company (JMC), and EV World Africa.

The strength of this model lies in its strong alignment with commercial logic. Companies that integrate charging infrastructure directly into their fleet operations achieve higher asset utilization, more predictable energy demand, and immediate economic benefits. The model also supports local industry growth, as firms expand assembly capacity and use their proprietary charging hubs as R&D platforms for locally assembled EVs. However, because these stations are designed for closed-loop fleets, they rarely serve the general public, limiting network interoperability. Regulatory uncertainty further constrains growth: there are still no formal licensing requirements, tariff structures for private charging operators, or standardized technical or safety guidelines from NEMSA or SON. Additionally, most of these projects remain concentrated in commercial centers like Lagos and Abuja, leaving large parts of the country with minimal or no infrastructure presence.

- Battery Swapping Innovations:** Unlike the conventional plug-in charging stations common in developed markets, this model relies on battery swapping, solar microgrids, and modular infrastructure to deliver more accessible electric mobility energy. Tailored primarily for 2- and 3-wheelers, the system eliminates driver downtime by allowing operators to exchange depleted batteries for fully charged ones within minutes. Companies such as MAX, Spiro, Aarago, Siltech, Zoome, and Nayo are leading this shift

This stream offers several notable advantages. Its flexibility supports rapid deployment across urban and peri-urban areas, and its reliance on solar-powered charging helps to overcome persistent grid reliability challenges. It also delivers significant social co-benefits, including support for small and medium-sized enterprises (SMEs), the creation of local manufacturing opportunities, and fostering gender-inclusive employment in operations and servicing. The expansion of this model is constrained by both technological and financial barriers. Battery swapping requires significant upfront capital to procure multiple battery units, creating a working capital burden. The lack of standardized battery formats across OEMs complicates scaling. Additionally, national bodies such as the Standards Organisation of Nigeria (SON) or NEMSA have yet to establish formal safety, performance, and environmental guidelines for battery management and disposal. Access to concessional financing is also limited, as many commercial lenders remain hesitant to support e-mobility ventures without established credit histories or proven repayment performance.

With the emergence of digital mapping tools such as the ConnectVolt app (developed by EVC Point Nigeria), combined with continuous stakeholder engagement and systematic desktop research, the process of identifying and verifying electric vehicle (EV) plug-in charging stations and battery-swapping infrastructures across Nigeria has become far more

structured and evidence-driven. These digital platforms now function as critical enablers of data-driven ecosystem monitoring, helping to close longstanding information gaps between infrastructure developers, policymakers, and end-users.

As of late 2025, available and verifiable data indicate a small but steadily growing network of EV charging stations and battery-swapping points, concentrated largely in Lagos and Abuja, with emerging presence in Kano, Borno, Nasarawa, and selected institutional or pilot sites. While the growth remains modest, it signals the early formation of a formal charging ecosystem in Nigeria. The spatial distribution, however, is still uneven, clustering mainly in urban and peri-urban areas with stronger grid access, higher commercial activity, and supportive institutional environments.

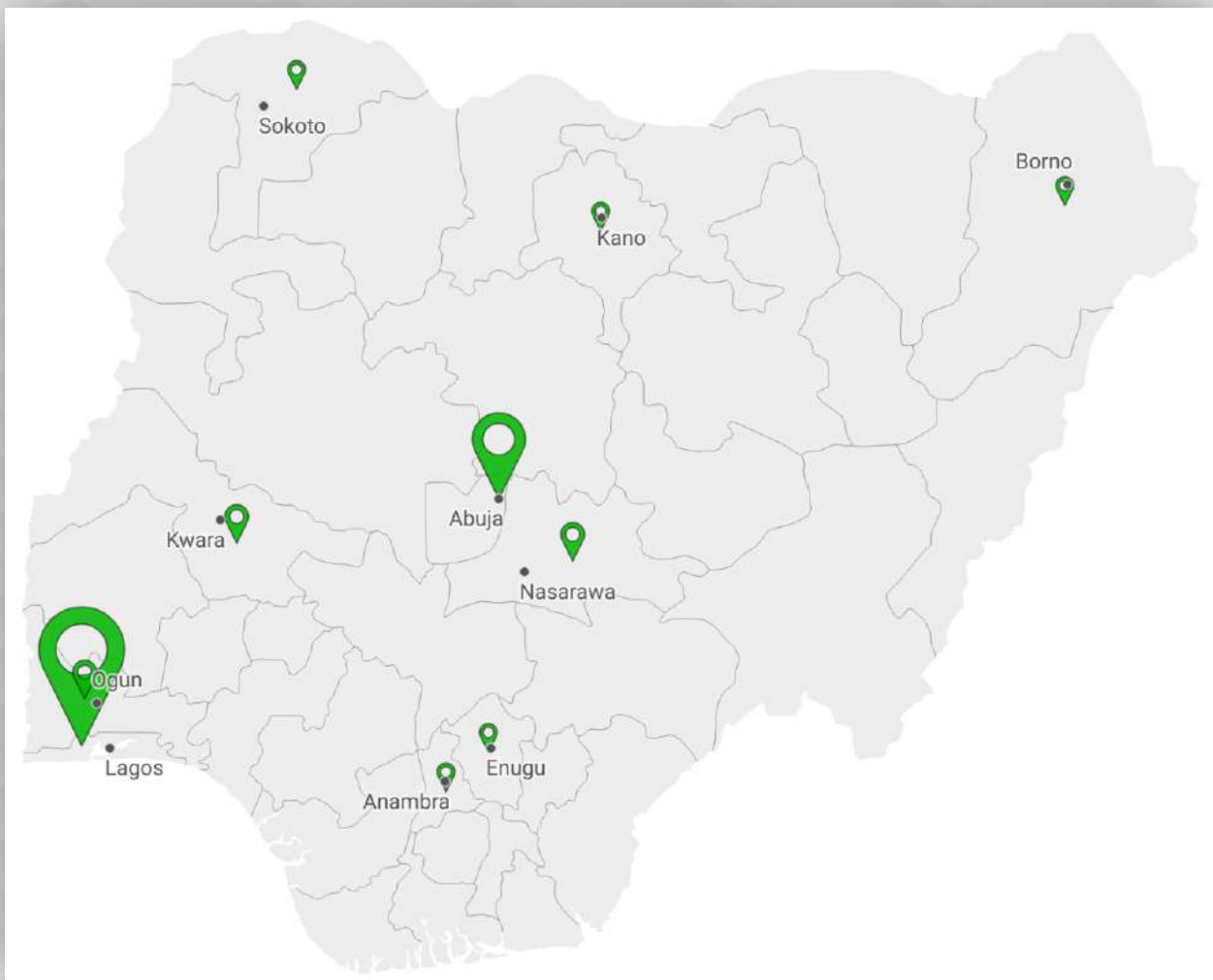


Fig. 4: Distribution of EV Charging/Battery Swapping Stations in Nigeria⁷⁷.

⁷⁷ Source: Connect Volt app, stakeholder engagement, and systematic desktop research



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Section 7



STAKEHOLDER ECOSYSTEM AND KEY PLAYERS

Nigeria's e-mobility stakeholder ecosystem is steadily maturing through multi-sector collaboration anchored in private-sector innovation, government commitments, and growing policy momentum. The landscape now spans government agencies leading regulation and standards-setting; private firms expanding vehicle manufacturing, assembly, sales, after-sales services, and charging infrastructure; and civil society and development organizations advocating for equity, skills development, and environmental sustainability.

Table 3: List of major stakeholders in Nigeria

NATIONAL AND SUB-NATIONAL (MDAs)	
S/N	Name of Ministry, Department or Agency
1	Legislative (Nigeria Senate)
2	Federal Ministry of Transport (FMoT)
3	Federal Ministry of Power (FMoP)
4	Federal Ministry of Environment (FMoE)
5	National Automotive Design And Development Council (NADDC)
6	Rural Electrification Agency (REA)
7	Standard Organisation of Nigeria (SON)
8	National Agency for Science and Engineering Infrastructure (NASENI)
9	National Environmental Standards and Regulations Enforcement Agency (NESREA)
10	Energy Commission of Nigeria (ECN)
11	Nigeria Electricity Regulatory Commission (NERC)
12	Presidential CNG Initiative (Pi-CNG)
13	Lagos State Government
14	Borno State Government
15	Benue State Government
16	Ogun State Government
17	Abia State Government
18	Kaduna State Government

PRIVATE SECTOR				
S/N	Company	Focus/Services	Location	Website
19	African Motor Works (AMW)	Two-, Three- and four-Wheelers; E-mini-buses, Charging Stations, after-sales support	Abuja	https://africanmotorworks.com/index.html
20	AaraGO	E-scooters + Battery swapping solutions	Lagos	https://www.aarago.com/
21	Bankrol CamelEV	Sales (4-wheelers), financing, charging stations and after-sales support	Abuja	www.bankrolcamelevng.com
22	Bob Eco Nigeria Limited	Two Wheelers	Lagos	https://www.bob.eco/
23	Egoras	Three Wheelers	Rivers	https://egoras.com/
24	Electric Motor Vehicle Company (EMVC)	Three and Four Wheelers	Abuja	https://electricmotorvehiclecompany.com/
25	Esse Mobility	E-cars	Abuja	https://essemobility.com
26	EV World Africa	E-cars	Lagos	https://evworldafrica.com/
27	Fairmontshark Limited		Abuja	N/A
28	Folti Technology	E-cars, Charging points, repair and maintenance	Lagos	https://www.folti.io/
29	Hamster Energy Solutions	Four Wheelers	Lagos	https://hamsterenergysolutions.com/
30	Hello Bikee	Two Wheelers	Lagos	https://helloworldbikee.com/

31	Innoson Vehicle Manufacturing	Four Wheelers (Passenger Cars)	Anambra	https://www.innosonvehicles.com/
32	Jet Motors	Minibuses	Lagos	https://www.jetmotorcompany.com/
33	Metro Africa Express (MAX)	Two and Three Wheelers	Lagos	https://www.max.ng/
34	Metropolitan Electric Limited	E-Cars, E-Buses and Three-Wheelers	Lagos	https://www.metropolitanelectricng.com/
35	NEV Electric	E-Buses	Abuja	https://nev-electric.com/index.html
36	Oando Clean Energy Limited (OCEL)	E-Buses	Lagos	https://oandocleanenergy.com/
37	Orbit Electric Bikes	Two Wheelers	Lagos	https://www.orbitelectric.ng
38	Osquareteck Ltd	Two and Three Wheelers	Ogun/Lagos	https://osquareteckltd.wixsite.com/electric-vehicle
39	Possible Electric Vehicle Solution (Possible EVS)	Experience centres and after-sales services	Abuja	https://possibleevs.com/main/
40	Quadcycle	Four Wheelers	Nasarawa	https://quadcyclenigeria.wordpress.com/
41	Revive Earth Ltd	Retrofitting ICE Three-Wheelers & Minibuses	Enugu	https://reviveth.com/
42	Roxettes Motors	Four Wheelers	Enugu	https://roxettesmotors.com/
43	SAGLEV	Four Wheelers (E-cars & E-Buses), assembly	Lagos	https://saglev.com/
44	SGX Mobility	Two and Three Wheelers	Lagos	https://sgxmobility.com/
45	Siltech World	Two and Three Wheelers	Lagos	https://siltechworld.com/
46	SIX-EV	Two Wheelers	Abuja	https://six-ev.com/#technology

47	Sparrow Mobility Limited	Two and Three wheelers	Lagos	https://sparrow-mobility.com/
48	Stallion Motors	Four Wheelers	Lagos	https://stalliongroup.com/automobiles/
49	Thinkbikes	Cargo Two Wheelers, Cargo Three Wheelers	Oyo	https://thinkbikes.com.ng/
50	Trekk Scooters	E-Scooters	Lagos	https://www.trekk-scooters.com/
51	TSWINI	Three Wheelers and Charging Stations	Abuja	https://tswinicompany.tech/
52	Volta EV	Four Wheelers	Lagos	https://voltaev.co/
53	Zap Mobility	Three and four wheelers and charging stations	Lagos	https://www.zapmobility.com/
54	ZOOMe	Two-wheelers , after-sales support, battery Swapping stations	Lagos	https://www.zoome.eco/
55	Ecowaka	Three-wheelers	Lagos	https://ecowaka.io/
56	IRS Group	Three-wheelers	Kano	N/A
57	Nayo Technologies	Two- and three-wheelers, battery swap stations	Abuja	https://nayotech-nology.com/
58	Torchmark	Charging solutions	Abuja	https://thetorchmarkgroup.com/solutions
59	Nigus International Investment	Three- and four-wheeler, charging solutions	Abuja	https://www.nigusng.com/
60	Charging as a Service (CAAS) (a subsidiary of NEV Electric)	Charging Solutions	Abuja	NA

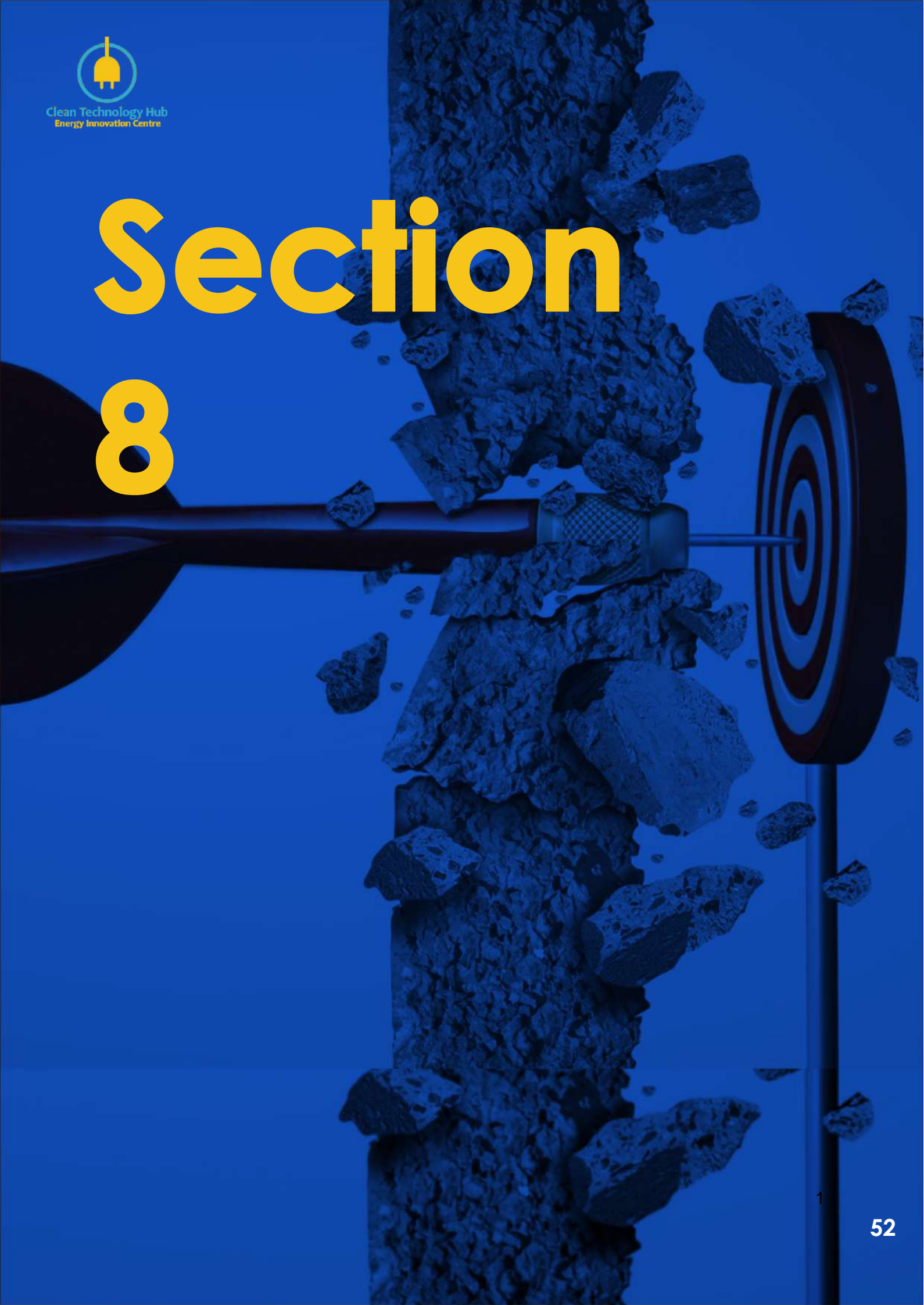
61	EnerIV	Charging Stations and EV Advisory Services	Lagos	https://eneriv.com/
62	EVC Point	Charging Station Locator App		https://evcpointltd.com/
63	First Electric	Charging Stations	Lagos	https://firstelectric.co.com/
64	Ground Zero Africa Industries	Charging Stations	Lagos	https://groundzeroafrica.com/
65	Jemag Renewable Energy	Charging Stations	Plateau	https://jemagenergy.com/
66	NoorahGate	EV Advisory	Abuja	https://www.linkedin.com/company/noorahgate/about/
67	Qoray Mobility	EV sales (3- and 4-wheelers), ride-hailing, Charging Stations	Lagos	https://qoraymobility.com/
68	Schneider Electric	Charging Solutions	Lagos	https://www.se.com/ng/en/
69	Sutergy	Charging Solutions	Lagos	https://www.sutergy.com/
70	Swap Station Mobility (SSM)	Charging Solutions (Battery Swapping)	Lagos	https://www.swapstationmobility.com/
71	Vine Mobility	Charging System Digital Solutions	Lagos	https://www.vinemobility.com/
INDUSTRY ASSOCIATIONS				
72	Electric Mobility Promoters Association of Nigeria (EMPAN)			
73	Renewable Energy Association of Nigeria (REAN)			
74	Renewable Energy and Energy Efficiency Associations Alliance (REEEA-A)			
75	Nigeria Energies Marketers Association of Nigeria (MEMAN)			
NGOs/CSOs/RESEARCH/ADVOCACY GROUPS				
76	Clean Technology Hub			

77	RMI (Rocky Mountain Institute)
78	Sustainable Energy for All (SEforALL)
79	Climedge Hub Limited
80	Abuja Chamber of Commerce and Industry (ACCI)
81	Surge Africa
	ACADEMIA
82	University of Lagos
83	University of Nsukka



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Section 8



CHALLENGES, OPPORTUNITIES, AND RECOMMENDATIONS

The evolution of Nigeria's electric mobility sector, as documented in the preceding sections, reveals a compelling narrative of momentum against persistent structural constraints. While 2025 witnessed unprecedented growth in fleet adoption, policy development, and private-sector innovation, these gains remain fragile and unevenly distributed. The path to transforming e-mobility from a promising niche into a mainstream, economically transformative sector requires a clear-eyed assessment of the specific barriers that impede progress and a strategic identification of the unique opportunities inherent in Nigeria's context.

This section serves as the analytical and prescriptive core of the report, moving from diagnosis to actionable strategy. It synthesizes the evidence presented on market dynamics, policy frameworks, and infrastructure gaps to present a structured analysis of the key challenges currently constraining the market's scalability and sustainability. Concurrently, it identifies the strategic opportunities that arise from Nigeria's specific conditions to build a more resilient and inclusive mobility ecosystem. Ultimately, recognizing challenges and opportunities in isolation is insufficient. Therefore, this section culminates in a set of targeted, stakeholder-specific recommendations. These proposals are designed to bridge the gap between ambition and implementation, offering pragmatic pathways for government, private investors, development partners, and civil society to collaborate in unlocking the full potential of electric mobility as a dual engine for Nigeria's transport modernization and energy sector growth. The analysis herein is grounded in the principle that e-mobility must be developed not as a standalone transport solution but as a productive-use energy asset integrated with Nigeria's broader energy transition and industrial development goals.

8.1 Key Challenges

Nigeria's e-mobility expansion faces interconnected structural, financial, and regulatory headwinds that must be strategically addressed to ensure sustainable growth.

1. **Infrastructure & Grid Constraints:** The national grid's unreliability is the primary technical bottleneck. With fewer than 100 public charging points nationally, "range anxiety" is acute. The lack of grid visibility (e.g., SCADA systems) raises risks of transformer overloads from concentrated EV charging, deterring utility support.
2. **Economic & Financial Barriers:** High upfront costs of EVs persist despite import incentives. Access to affordable, long-term consumer and commercial financing is limited. High interest rates and perceived risk stifle investment in charging infrastructure, creating a financing deadlock.

3. **Policy & Regulatory Fragmentation:** The parallel promotion of Compressed Natural Gas (CNG) has diluted focus and resources for full electrification. Gaps exist between ambitious national plans (ETP, NAIDP) and on-the-ground implementation. There is a lack of standardized regulations for charging infrastructure safety, tariffs, and grid integration.
4. **Industrial & Supply Chain Gaps:** Local manufacturing is nascent, focused on Semi-Knocked-Down (SKD) assembly with minimal local value addition, especially for core components like batteries and drivetrains. There is no formal battery recycling or end-of-life management framework, posing future environmental and resource risks.
5. **Technical Capacity & Data Deficit:** A shortage of skilled technicians for EV maintenance and charging network management exists. There is also a critical lack of granular, reliable data on vehicle performance, charging patterns, and total cost of ownership (TCO), hindering evidence-based policymaking and investment.

8.2 Strategic Opportunities

These challenges present corresponding opportunities for innovation, investment, and strategic leadership.

1. **Productive-Use Energy Integration:** E-mobility can be a catalyst for distributed renewable energy growth.
 - **Opportunity:** Develop solar-hybrid mini-grids with integrated EV charging, creating a new, reliable revenue stream for mini-grid operators while providing clean power for transport. For fleet depots, gas-to-power solutions using Nigeria's domestic CNG/LNG can provide stable, high-capacity charging, acting as a strategic bridge fuel.
2. **Leapfrogging with Appropriate Technology:** Nigeria can bypass legacy systems dominant in developed markets.
 - **Opportunity:** Accelerate the deployment of battery-swapping networks for two/three-wheelers, which reduce upfront cost, eliminate charging time, and are ideal for integration with solar power. This model suits the high-utilization, low-margin commercial transport sector that dominates early adoption.
3. **Building Circular & Local Value Chains:** The transition can foster a new industrial base.
 - **Opportunity:** Establish local battery assembly, testing, and refurbishment centers. This repurposes batteries from early fleet vehicles for secondary uses (e.g., stationary storage) and recovers critical minerals. Mandates in the EV transition and green mobility bill for local content can drive investment in component manufacturing (cables, charging units, and vehicle bodies).

4. **Innovative Financing & Business Models:** New approaches can unlock demand and supply.
 - **Opportunity:** Scale Pay-As-You-Drive (PAYD) and vehicle subscription models to lower entry barriers. Develop blended finance facilities combining development finance, local bank debt, and impact capital to de-risk investments in charging infrastructure and EV asset acquisition for SMEs.
5. **Strategic Policy Leadership:** Nigeria can position itself as a regional standard-setter.
 - **Opportunity:** Finalize and implement the EV Transition Bill to provide long-term certainty. Use state-level pilot projects (e.g., Lagos, Borno, Nasarawa) as living labs to test integrated solutions (EVs + solar + payment systems) that can be replicated nationally.

8.3 Recommendations

1. For the Federal and State Governments:

- a. **Move from Policy to Execution:** Expedite the passage and full implementation of the Electric Vehicle Transition and Green Mobility Bill. Establish a clear, cross-ministerial implementation task force with quarterly public progress reviews.
- b. **Deploy Targeted Infrastructure Incentives:** Introduce direct capital grants, tax credits, and reduced electricity tariffs for public and commercial charging stations, especially those integrated with renewable energy or gas-powered generation. Mandate and facilitate right-of-way access for charging infrastructure along major highways and in public buildings.
- c. **Integrate E-Mobility into Energy Planning:** Direct the Transmission Company of Nigeria (TCN) and distribution companies (DisCos) to develop a Grid Integration Roadmap for EV Charging. This should include time-of-use tariffs to manage demand and identify priority zones for grid reinforcement or off-grid solutions.
- d. **Catalyze Local Manufacturing:** Beyond assembly, provide specific incentives for manufacturing EV components (battery packs, power electronics, and charging cables) and for establishing certified battery recycling facilities.

2. For the Private Sector & Investors:

- a. **Focus on Fleet and Commercial Solutions:** Prioritize business models serving high-mileage commercial operators (logistics, ride-hailing, corporate campuses) where TCO advantages are clearest. Develop integrated service offerings (vehicle + charging + maintenance).

- b. **Invest in Enabling Technology:** Develop and deploy Nigerian-made software solutions for fleet management, charging station aggregation, smart grid management, and battery health monitoring.
 - c. **Forge Strategic Partnerships:** Local assemblers should partner with international OEMs for technology transfer, focusing on models suited to Nigerian roads and climate. Fintech companies should collaborate with EV financiers to create seamless digital lending and payment platforms.
3. **For Development Finance Institutions (DFIs) and NGOs:**
- a. **Provide Blended Capital & Risk Guarantees:** Structure concessional finance facilities to lower the cost of capital for charging infrastructure developers and EV fleet operators. Offer partial credit guarantees to local banks to stimulate EV lending.
 - b. **Support Skills Development & Standards:** Fund technical training programs for EV mechanics, charging network engineers, and battery specialists. Support Standards Organization of Nigeria (SON) in developing and enforcing robust, context-appropriate safety and performance standards for vehicles and infrastructure.
 - c. **Facilitate Knowledge & Data Ecosystem:** Support independent research on EV TCO, user behavior, and grid impact. Fund open-data platforms that map infrastructure and track market growth to improve transparency for all stakeholders.

8.4 What Could Make Nigeria an African E-Mobility Outlier by 2030?

Four high-leverage stretch goals could materially shift Nigeria's position within the African e-mobility landscape and signal readiness for scaled international investment if pursued with disciplined execution and transparent monitoring:

1. **Demonstrate high utilization of federal e-bus fleets:** Targeting a utilization rate above 80% for the 240 federally procured e-buses over 2026–2027 would provide visible and credible proof-of-concept for electrified mass transit. Sustained daily deployment across priority routes would validate operating economics, build public confidence, and create a replicable model for other ECOWAS cities. Achieving this will require coordinated fleet management systems, reliable charging uptime, and performance-based service contracts tied to utilization and reliability metrics.
2. **Establish a flagship intercity solar-charging corridor:** Launching a high-visibility corridor, such as Lagos–Ibadan or Abuja–Kaduna, supported by PPP structures and multilateral finance, would demonstrate long-distance EV viability in West Africa. A limited number of well-placed, solar-hybrid fast-charging hubs with guaranteed uptime could de-risk intercity travel, catalyze private fleet adoption, and attract follow-on investment for corridor replication nationwide.

3. **Pilot grid-interactive e-bus operations at scale:** Deploying vehicle-to-grid (V2G) capability across a cohort of 50–100 e-buses would position EVs as dual-use energy assets. Controlled pilots feeding power back into the grid during evening peak demand could demonstrate ancillary-service value, support grid stability, and open additional revenue streams for transit operators. Success would depend on regulatory clarity, metering standards, and partnerships with distribution companies and system operators.
4. **Build a large-scale, inclusive EV workforce pipeline:** Training and placing at least 10,000 women and youth in assembly, maintenance, charging-station operations, and digital fleet-management roles by 2028 would strengthen domestic capacity while addressing employment needs. Structured partnerships between government agencies, technical institutes, and private manufacturers could align curricula with immediate labour demand, enabling rapid deployment and localization of value chains.

These stretch goals are ambitious but broadly aligned with current trajectories, including federal fleet commitments, strong solar resources, demographic advantages, and emerging financing channels. Delivering even a subset at scale would likely generate significant regional visibility, strengthen investor confidence, and position Nigeria as a leading demonstration market for e-mobility deployment in West Africa by the end of the decade.





Section 9 Conclusion



CONCLUSION

The year 2025 has undeniably marked a turning point for e-mobility in Nigeria, transitioning from theoretical policy discussions to concrete demonstrations of market potential, industrial capability, and sub-national commitment. The 400% growth in the EV fleet, the emergence of local assembly plants, historic export milestones, and the formulation of comprehensive legislation collectively signal that the foundational elements for a sustainable e-mobility ecosystem are being laid. Adoption remains modest relative to the total vehicle fleet, yet the rapid growth of two- and three-wheelers, emerging e-bus programs, and expanding local assembly initiatives signal a structural shift underway.

However, the trajectory of this transition will be determined less by vehicle technology and more by energy system integration and regulatory coherence. Without a reliable electricity supply, scalable financing models, and clear institutional coordination, EV adoption risks remaining confined to isolated pilots and urban clusters. The dual challenge of infrastructure deficit and grid fragility demands innovative, Nigerian-tailored solutions, and when viewed strategically, e-mobility represents more than a decarbonization tool; it is an opportunity to reshape Nigeria's transport-energy nexus. By positioning EVs as productive users of renewable and gas-powered electricity, Nigeria can unlock new investment pathways, stabilize energy demand, and strengthen local manufacturing ecosystems. Fleet-driven deployment, decentralized charging infrastructure, and blended financing models offer pragmatic entry points for scaling the market while managing risk.

The "next wave" of transport and energy growth is within reach; by moving decisively from ambition to execution, Nigeria can unlock a future where clean, efficient, and affordable mobility powers not just the movement of people and goods but the nation's sustainable economic transformation. The journey has begun, and the momentum of 2025 must now be channeled into the sustained, collaborative action required to make electric mobility a cornerstone of a prosperous, low-carbon Nigeria.