Dialogue Earth

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Chinese tech drives east Africa's e-mobility revolution - but Europe can still play a role

China has become the major source of affordable batteries, electric vehicles and related technology for emerging e-mobility ecosystems across Eastern Africa. This is having disruptive impacts. Local startups are using this opportunity, while leveraging European, US and Japanese investment and finance, to expand e-mobility in east African markets such as Kenya and Rwanda via localised and economically viable business models.

Steps toward local value addition are emerging through local assembly, maintenance, and battery servicing operations. But obstacles remain for the kind of transformational change – such as "green industrialisation" – that national governments would like to see.

Europe has played a pivotal role in enabling the e-mobility revolution to take off in certain east African markets. But that role is increasingly vulnerable to geopolitical anxieties about China's role on the continent.

This Dialogue Earth briefing is the fourth in a series on China's diverse and rapidly evolving engagements in climate transitions and development in the Global South. It builds on insights from visits to BasiGo and Ampersand facilities in Nairobi, Kenya, in February this year, as well as conversations with industry and foreign policy professionals who also attended the site visits.

Previous briefings are available here.

Key takeaways

- With distinct price advantages over European equivalents, Chinese-made, locally assembled electric vehicles, in particular buses, are playing a key role in Kenya and Rwanda's e-mobility journey.
- East African startups are driving partnerships with Chinese manufacturers for semi-knocked-down local assembly, and engaging in engineering training, collaboration and knowledge-sharing with Chinese counterparts – but such partnerships have limits.
- Finance remains the biggest obstacle to e-mobility expansion, while shifting conversations in Europe, linking overseas support more closely to geopolitical goals, raise concerns that capital could become harder to access for African firms.
- There is a clear risk that European geopolitical anxiety regarding Chinese technology and supply chains could limit African policy space on climate, energy access and development.
- Doing so would marginalise Europe's role in African development, potentially confining itself to a junior role in Africa's e-mobility transition.
- Conversely, supporting African start-ups that combine Chinese technology with European finance and expertise may help accelerate electrification, while preserving Europe's relevance in Africa's fast-evolving green industrial landscape.

The role of batteries in African energy transitions

Batteries are already playing a transformational role in energy access, transitions and e-mobility in Africa. The price of batteries has almost halved since 2019, while charge hold time and lifespans are seeing continual improvements. Chinese battery producers dominate the global market, from world-leading players such as CATL and BYD to smaller, more bespoke producers such as Fourier Energy and Battsys. China is also the major source of batteries in African markets.

Chinese technology maintains a distinct pricing advantage over its Western counterparts. According to industry representatives, a Kenyan-assembled nine-metre electric bus sourced from China costs around USD 120,000, compared with roughly USD 300,000 for a comparable European model.

Domestic economic dynamics in China – where battery manufacturers are producing far more than domestic demand can absorb, amid fierce price competition – also mean that battery companies are urgently seeking out new markets. They have the will, and technical expertise, to modify their products to suit the needs, demand and unique circumstances of different markets.

These dynamics present an opportune moment for electrification across Africa. Startup companies in Kenya, Rwanda, Uganda and elsewhere are leveraging access to cheap and transformational technology to promote business models that are attuned to local conditions, to push for knowledge and technology transfer through trainings and incremental changes in the supplier-assembler relationship, and to mobilise finance and investment from Western partners.

Notably, the majority of e-mobility business models in Kenya (the main focus country for this briefing) centre on public and service-oriented vehicles, rather than private vehicles. Roughly 70% of Kenyan commuters rely on public transport, and Nairobi is home to around 20,000 diesel buses.

Electrifying buses, motorcycle taxis, and delivery vehicles may deliver far greater climate, air quality and economic benefits than focusing on private cars – the dominant approach in, for example, Europe.

Startups lead the charge

Two east African startups are leveraging these opportunities: BasiGo, which began operations in Kenya in 2021 and later expanded to Rwanda; and Ampersand, which began operations in Rwanda in 2016 and expanded to Kenya in 2022. BasiGo provides electric buses on a pay-as-you-go model, while Ampersand provides swappable batteries most commonly used by delivery and ride-hailing drivers. Both companies are also building out the supporting infrastructure for battery charging and swapping. As of early 2026, BasiGo had deployed roughly 130 electric buses in Kenya and 34 in Rwanda, with around 1,200 reservations for future vehicles. The company operates 11 charging depots across Nairobi, equipped with about 50 fast chargers. Charging costs in Nairobi are currently around 48 Kenyan shillings (approximately USD 0.40) per kilowatt-hour, roughly half the cost of comparable fast charging in Europe.

Governments are also beginning to experiment with policy frameworks for e-mobility. Kenya introduced a dedicated EV charging tariff in 2023 and launched a National Electric Mobility Policy in February of this year. Rwanda, meanwhile, has implemented tax incentives designed to improve the competitiveness of electric vehicles.

Kenya's electricity system is also unusually well suited to transport electrification. The country currently generates significant excess energy at night, nearly 670 gigawatt-hours per year in 2024-25. Much of this "curtailed" energy comes from the country's large geothermal reserves, a renewable and low emission energy source. Electric buses charging overnight can utilise this otherwise wasted electricity at cheaper rates.

Beyond e-mobility, batteries hold multiple secondary potentials for energy access in Africa. A battery from CATL, for example, will see its capacity reduced to 70-80% after about 10 years of use. In this deteriorated condition, it will not be fit for its original purpose powering vehicles, but will still have a "second life" as a storer of power for buildings, solar systems, mini-grids or tools for an additional five to seven years. Both BasiGo and Ampersand are exploring this "second life" market in batteries, in which they still own and lease the battery for other purposes. Being portable, batteries in their second life can offer highly flexible access to electricity, in some contexts even offering an alternative to traditional grid-based connections.

A site of learning and technology transfer

In the case of BasiGo and Ampersand, elements of learning and knowledge exchange are occurring. Both companies have worked with Chinese suppliers of "semi-knocked-down" kits, which require local assembly. Doing so required training from Chinese engineers.

Additionally, both companies engage in regular exchanges between their engineers and Chinese counterparts, hosted both in east Africa and China, in order to improve components for the needs of the companies and their users. For example, early in their startup journey, BasiGo required a vehicle with a higher wheelbase for the often poor quality of Kenyan roads. This was fed back to engineers and included in subsequent designs.

However, while the assembly of semi-knocked-down kits necessitates and facilitates knowledge transfer, that comes with a limit. IP for components is not normally shared, and knowledge sharing is confined to assembly, rather than component design. It is unclear if there can be a clear line of progression from assembly to original equipment manufacturing.

That said, there are further steps that can be made. In 2025, a number of BasiGo staff were trained directly by CATL, the world's largest battery maker, in battery maintenance and repair. As a result, BasiGo is now the only qualified CATL maintenance supplier in sub-Saharan Africa. Kenyan CATL-trained personnel can now repair battery packs locally and may service CATL systems across sub-Saharan Africa in the immediate future.

Deeper knowledge and technology transfer, however, will require agreements on IP partnerships, something which Chinese companies are so far cautious about, particularly when it comes to new technologies in which they hold an upper hand. Political messaging from Beijing that links technological innovations with self-reliance and national strength as part of the pursuit of "new quality productive forces" in the domestic economy may also prove a headwind to international IP partnerships in battery and other cutting-edge technologies.

Financial barriers

The biggest barrier to expansion of e-mobility company operations in Kenya, Rwanda and elsewhere in eastern Africa is finance. Typically, these firms have approached European, American and Japanese financing and investment, both via development finance institutions, such as British International Investment and the US Development Finance Corporation, and private capital, including Toyota's CFAO Group and venture capital funds. Generally speaking, African finance remains too expensive and traditional in its outlook for startup companies.

Western finance has tended to be slow, which is proving a major barrier to wider deployment of the companies' e-mobility and battery solutions. This has led some companies to look elsewhere for finance, including China. While not a direct recipient of Chinese finance, Ampersand is able to leverage the cheaper costs of Chinese finance by

partnering with Zhejiang-based Wylex Mobility to provide affordable and suitable electric bicycles for Ampersand's swappable batteries.

Additionally, there is a sense that the political conversation in Europe is shifting in ways that could make capital harder to access for African firms, particularly those engaged in trade, capacity building and technology sharing with Chinese firms, increasingly seen as a risk in European discourse. This may be particularly acute in the e-mobility and automobile space where European car companies, once dominant in African markets, are seeing, by some accounts, an existential crisis in the face of Chinese technological and price competition.

Dependency or opportunity

One framing of these emerging connections between East African e-mobility startups and Chinese manufacturers concerns technology and supply chain dependency. In recent years China has demonstrated its willingness to utilise trade measures and supply chains in order to exert pressure on other countries – most recently with export controls on a number of rare earths and critical minerals in response to US tariffs, a measure which affected broad swathes of the industrialised world. Others see China's ability to define technological pathways and standards as a potential dependency risk.

While the framing is based on real concerns – and is perhaps particularly salient to the European ear – it fails to account for the fact that Global South countries, including those assessed here, often have few other "offers" on the table when it comes to technology for their development needs. In that context, the offer of affordable and quality Chinese technology is much more an opportunity than it is a risk. As one interlocutor told Dialogue Earth, African governments are not blind to the risks of technological dependency, but equally are not blind to the urgency of pursuing Africa's energy access and development goals.

At the level of firms, African companies have few options but to be transactional and multi-aligned. They will source technology where it is best, and capital where it is available. In its approach to African governments and markets, Europe should assume this pragmatism will continue – and design policies and strategic approaches accordingly.

In Europe today, though, the debate is swinging away from pragmatic engagement with China and Chinese stakeholders. Domestically, barriers have been raised to the entry of Chinese automakers into the EU market, while internationally, China is often portrayed as a threat more than a potential partner. As noted in a previous briefing, an era of state-led "trilateral cooperation" between European and Chinese stakeholders in third countries has slipped off the agenda in Europe-China relations.

For Europe, the clear risk here is that geopolitical anxiety regarding Chinese technology and supply chains could limit African policy space on climate, energy access and development. Doing so would increasingly marginalise Europe's role in African development, potentially confining itself to a junior role in Africa's e-mobility transition if it does not engage more concretely on technology and skills.

For Africa, the palpable – and familiar – risk is that the geopolitical concerns of partners outside of the continent yet again shape its pathways of development and its response to the climate crisis.

Europe clearly has a role to play, however. It remains a vital source of finance and investment, both in the form of development finance and private capital, for African start ups, as evidenced in both the cases reviewed here. Europe is also the location of much expertise and knowledge, and remains a major export market.

But reforms will need to be made in order for these European strengths to remain relevant. Finance needs to be faster, more flexible and tolerant of risk, industry representatives told Dialogue Earth. Europe's tightening visa regime, meanwhile, must allow for easier exchange between European and

African engineers, investors and business leaders. A commonly heard story in startup circles in east Africa is the ease with which visits to partners in China can be organised, and the headaches involved in doing the same with European partners.

European officials looking to understand the interactions between east African development ambitions and Chinese technology and manufacturing – as well as the importance of European actors' roles – can learn a lot from local e-mobility startups' pragmatic engagement with partners in the east and west.

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