

eMag on Climate Action in Africa

**#5 What is the place of electric
mobility in sustainable transport
systems in Africa?**

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The Observatory's Lens



Should Africa head towards electric mobility?

Yao Tsoekeo Amedokpo, Laboratoire Villes Mobilités Transports, ENPC

Yao Tsoekeo Amedokpo, Researcher, Laboratoire Villes Mobilités Transports from the School "Ecole des ponts" ParisTech, presents an analysis note of the relevance of electric mobility in African contexts, written for the Observatory of Climate Action in Africa.

What are the main trends in transport electrification on the continent?

The transition to electromobility in Africa is being held back by a heavy reliance on second-hand vehicles, low per capita income, difficulties of access to electricity and grid reliability, and high-carbon electricity mixes.

We can identify a number of drivers for e-mobility in Africa:

- Vast renewable energy potential,
- The development of decentralized, low-cost energy solutions,
- A favorable business model thanks to reduced cost of ownership,
- Incentive policies to promote electric vehicles.

A variety of electric mobility solutions have been deployed across the continent since 2008, but even more so in the last 5 years. These projects are unevenly distributed across the continent, with East Africa playing a leading role.

In any case, electric mobility has great potential for mitigating climate change, thanks in particular to the low carbon footprint of electric vehicles, even in countries with high-carbon energy mixes.

What are the challenges of the transition to electric mobility in Africa?

The development of electric mobility could help African cities reduce their levels of air pollution and mortality. Air pollution is the second leading cause of death on the continent after HIV/AIDS.

From an economic point of view, I personally see electromobility as an unmissable industrial opportunity for Africa.



Today, the continent accounts for just over 2% of global vehicle production.

This would also represent an opportunity to reduce the subsidies on petroleum products.

What are the levers for action to encourage the transition to electromobility?

To make this transition as smooth as possible, several types of levers need to be put in place, particularly support for research and development to make up for the current lack of knowledge on the subject.

I think that what's being done best and fastest, in the medium and short term, is what we're seeing with two-wheelers. They dominate the new market in Africa and are used for passenger transport with rapid returns on investment. What's more, they can be easily deployed thanks to "swapping stations", solving the recharging problems that can arise with larger vehicles. Tricycles also have the potential to be easier to deploy on the continent. Then there are the mini-buses, for which research is underway and where there are already some advances.



Read the note: [Should Africa head towards electric mobility?](#)



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Special segment by Afrik 21



The latest on leading electromobility initiatives in Africa

Benoit-Ivan Wansi, Afrik 21

Benoit-Ivan Wansi, journalist with Afrik 21, a media outlet specializing in sustainable development in Africa, takes a look at recent electric mobility initiatives on the African continent.



What's the latest on electromobility initiatives in Africa?

First of all, I'd like to take you on a tour around Tunisia, where the start-up Bako Motors has delivered solar-powered electric tricycles to health centres to make it easier for medical teams to get around. The initiative was co-financed by the GIZ at a time when the country is planning to reduce its greenhouse gas emissions by 46% ([Read article here](#)).

Electric mobility is also booming in Morocco. For example, the Energy Park platform recently announced the deployment of solar solutions in Moroccan cities following the signing of a partnership with Vivo Energy Maroc ([Read article here](#)). Morocco is the country with the most diversified energy mix on the continent.

East Africa is the most dynamic region on the continent in terms of electromobility. In Kenya, the start-up BasiGo has taken the lead in electric public transport ([Read article here](#)). There's also Spiro, in Uganda, which will put 140,000 electric motorcycles on the road. The \$200 million investment will also create 9,000 jobs. The country still has 460 thermal vehicles on the road ([Read article here](#)).

In Togo, the focus is on tax incentives, with a reduction in customs duties for the import of electric vehicles ([Read article here](#)). This may well extend to other West African countries.

In this respect, Senegal is eagerly awaiting the launch of the first Bus Rapid Transit (BRT) by the government and the French firm Meridiam. Afrik 21 reports on the progress of this project in a context marked by increasing demand for solutions.

What progress has been made in financing electric mobility?

These initiatives are beginning to interest development aid donors such as the African Development Bank. The Sustainable Energy Fund for Africa (SEFA) has granted a \$1 million loan for electric mobility in seven countries ([Read article here](#)). This remains important, as demographic growth is putting back on the agenda the obsolescence of transport infrastructures.

Germany, Denmark and the UK have also pledged funds to support green mobility in Africa. Financing remains the real issue in this sector.

Finally, negotiations between Mozambique and Japan are progressing to set up a lithium battery factory, essential for electric vehicles.

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Access to electromobility in rural areas and women empowerment



Shantha Blomen, Mobility for Africa

Shantha Bloemen, Managing Director of Mobility for Africa tells us about the impact of their micro-mobility project in Zimbabwe, especially regarding the autonomy and safety of women



Why is this project specifically centred on women?

I started Mobility for Africa as a pilot project in 2019 with the objective of addressing the difficulties in mobility for rural areas, especially for women.

African women living in rural areas have been romanticized as some type of super hero that can carry many things on their head and children on their back. They make it look easy and we believe it is easy, but it is not and it has huge physical, social and economic costs.

What were the first difficulties encountered when trying to implement the project?

There was not a lot of activity on e-mobility in Africa. We were an outlier. We had to prove that you could bring this type of technology to rural communities using an off grid battery swapping system. We also had to prove that rural communities can afford these types of services if it improves their livelihoods.



We believe that we should not think about the electric revolution as only about replacing combustible energies, but to really rethink shared transport solutions on the continent.

This can apply to urban areas too. There is a deficit of affordable, safe, efficient transport.

What does the project consist of?

We brought some tricycles from China that had been useful in rural areas and that could be easily used by women. We were lucky in Zimbabwe, as there are no regulations on tricycles. We have been working with the government for tricycles to not be classified as motorbikes, as it is very difficult for people in rural communities to get a license, especially for women.

We had to learn a lot about batteries, which we did through trial and error. We experimented a lot, and finally we designed a Lithium phosphate battery, that we are continuing to improve as we want it to be durable. We now want to invest in capacity building on electric mobility, teach people the practicalities about battery maintenance and repair, and ultimately recycling.

In terms of the business model, women share the tricycle, they rent it as a group and they pay a monthly fee. We have also set up an "Uber" service with women driving the neighbours to the market or the doctor for instance. We have been working with NGOs and the private sector to see how we could introduce these to purchase,

In summary, I'm very excited about the potential of electric transport that we have to unlock to solve existing problems. It is going to require a lot of investments on the ecosystem, and capacity building. It is important to make sure that Africa does not miss out on its own resources.

Read the case study: "[Mobility for Africa • Promoting access to sustainable electric mobility in rural areas to empower women](#)"



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Humanitarian Innovation for an inclusive e-mobility

Shaukatali Hussein, Tanzania Open Innovation Organisation

Shaukatali Hussein, Founder of Tanzania Open Innovation Organisation, presents the inclusive e-mobility initiative that he is carrying out under the umbrella of the Fabrique des Mobilités

How is your project sustainable longterm?

The idea is not only to deploy electric vehicles but also to manufacture them. Initially we tried designing our own bicycles, then making our own batteries. We do everything by ourselves. We try to bring youth cooperatives to attend our free trainings so that they can get the skills to be able to repair, maintain and fix electric vehicles.

The main objective is to transfer this set of skills so that it is sustainable and it makes people financially independent. People not only have to be able to adapt and adopt these technologies, but also be involved in the building process. We don't just want people to sell these vehicles, but also people who will keep on producing them. For this, we are also working with the local government in the regions.

What is the difference between your project in Tanzania and the French Fabrique des mobilités?

There is not much of a difference between the project in France and this one in Tanzania. The FabMob has been our enabler to be able to implement this project with the cooperatives in the region of Tanga, In Tanzania. The idea was for us to understand the optics and the dynamics of this project transporting it to Tanzania, especially when working with or semi-rural or semi urban areas.

[Find the Mobility Factory project on our Cartography!](#)



Fabrique des Mobilités gave us a shot by believing in us and showing us that there is a growing and exponential demand for these technologies in Tanzania.



How are you making the project 'inclusive'?

We are trying to encourage people to be inclusive in this movement. Tanga is a region that does not benefit from a high presence of technology, and we want to capacitate them to use it, and they come up with different designs

I think that now there is a diverse mindset and tools in mobility that can be useful in different areas.

For example, we have some wheelchairs that are brought from China, but they cannot be used in rural areas as they are not adapted to the irregularities on the soil and they get damaged very quickly. The idea was to build a sturdier version of it that can be used in this terrain, and people have made it electric, they have built reclining sofas into them to make them like a bed. And this creativity is what we are looking for with FabMob: by the people, for the people.

[Watch the recording of eMag #5](#)



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eMag written by Chloé Quinonero and María Lucini