



# E-Mobility in East Africa:

## What are the Potentials and Pitfalls?

Judith Owigar  
*Urban Mobility*  
*UN-Habitat*

# Elements of the strategy for low-emission mobility

e<sup>lectric</sup>  
M<sup>obility</sup>  
Mob

UN  
environment  
United Nations  
Environment Programme

- ❖ Reducing the amount of traveling
- ❖ Implementing remote working possibilities
- ❖ Promoting public transport
- ❖ Promoting active travel – Walking or cycling when traveling short distances
- ❖ Focus on people centered planning
- ❖ Increasing the efficiency of the transport system
- ❖ Speeding up the deployment of low-emission alternative energy for transport
- ❖ Moving towards zero-emission vehicles



UN HABITAT  
FOR A BETTER URBAN FUTURE

# Why Electric Mobility

- Improve air quality
- Reduce climate emissions
- Reduce dependence on imported petrol/diesel
- Spur renewable energy
- Harness economic potential
  - Improve balance of trade
  - Assembly/Manufacturing jobs
  - Value Chain Creation
  - Renewable Energy Synergies
  - ICT Synergies
  - Improved Informal Sector Livelihoods



# Electric Mobility and the SDGs



# E-mobility Initiatives in the East African Region



E-buses: Kiira Motors, Uganda



E-boda bodas: multiple vendors



E-tuk tuks: multiple vendors



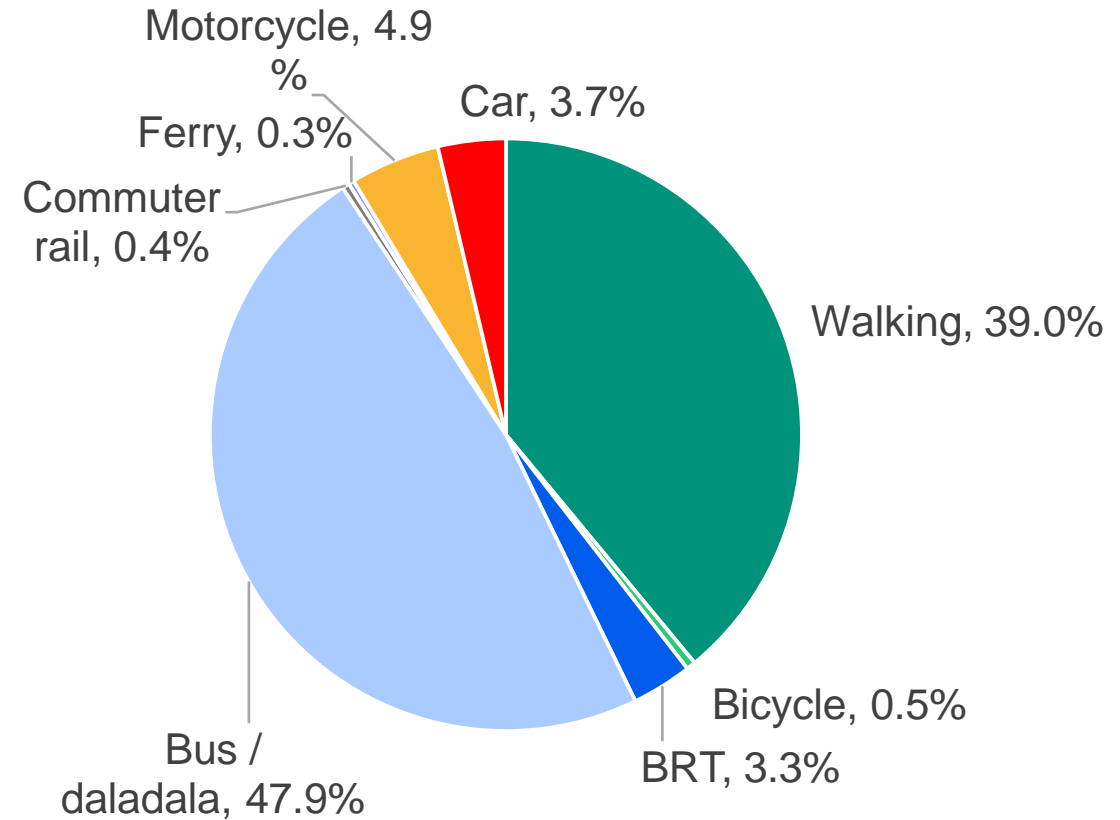
E-matatu: Opibus, Kenya



E-bikeshare, Gura Ride, Rwanda

# Dar es Salaam Transport

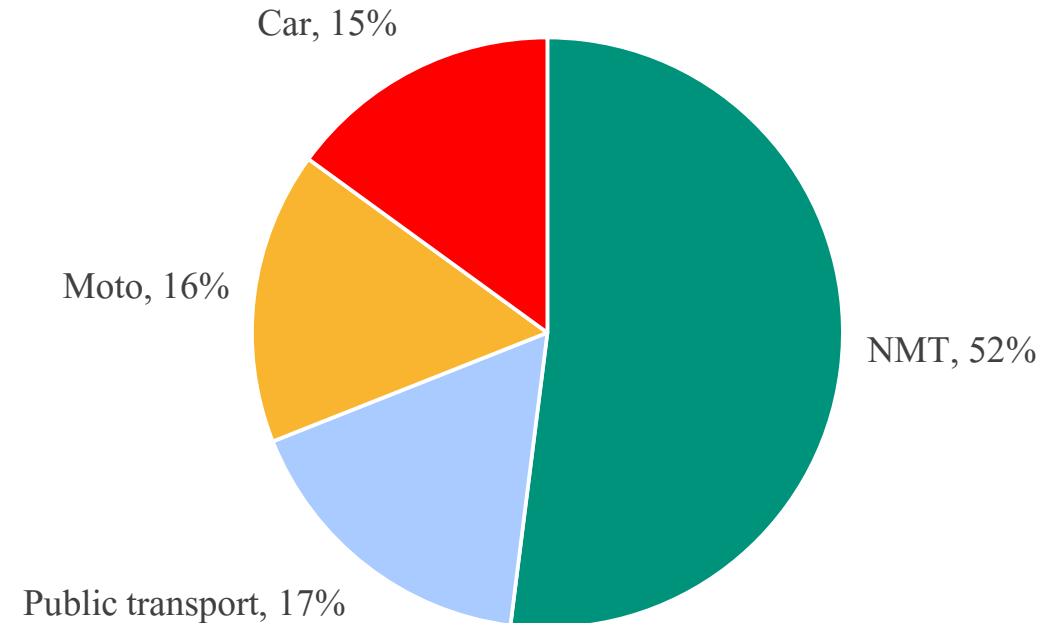
- Normally short trips are done by walking & cycling
- Growing usage of motorcycles
- Longer trips on motorised transport: bus, BRT, urban rail
- Ferry across waterways
- First-phase BRT spans 21 km; 2 more phases under construction



Dar es Salaam Master Plan, 2018

# Kigali Transport

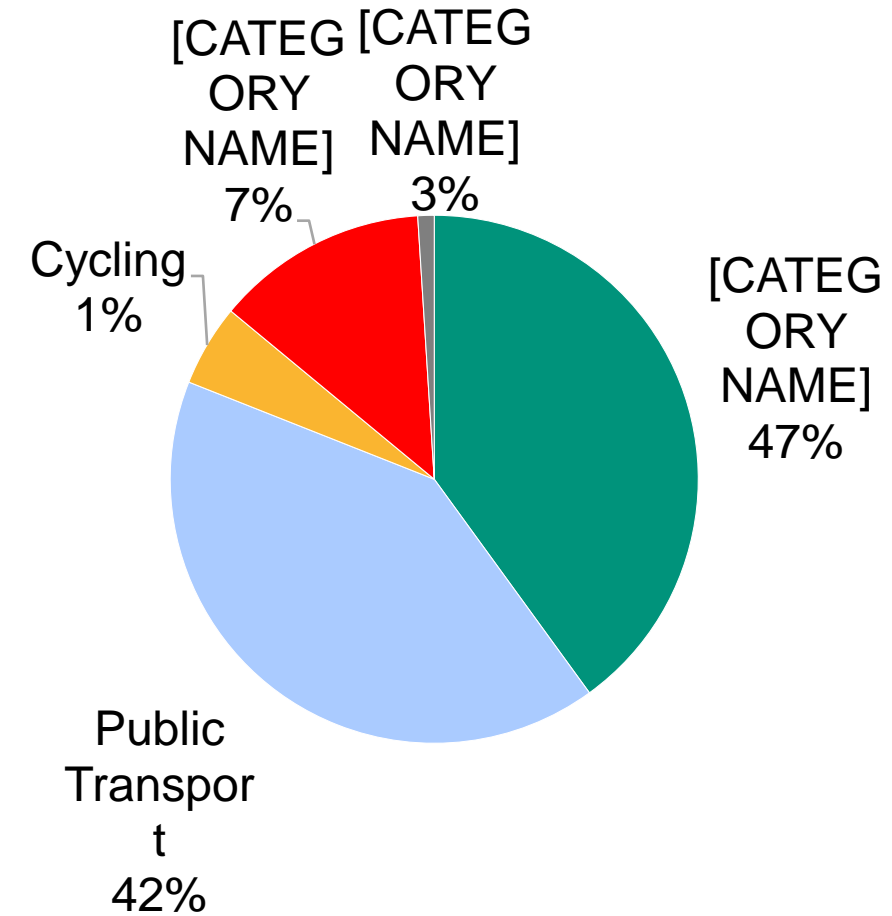
- Public transport reform process launched in 2012. Three formal companies now operate public transport services under a net cost contract with cashless fare collection
- BRT system under planning
- New master plan encourages compact development along BRT corridors & reduction in parking supply
- Boda bodas carry a large share of trips, both last-mile and trunk trips



Kigali BRT Feasibility Study, 2018

# Nairobi Transport

- Public transport in Nairobi is mainly composed of privately-owned and operated transport options that include matatus (minibuses), buses, motorcycle taxis (boda boda), bicycles and tricycles (tuk tuk).
- Growing usage of motorcycles
- Increasing push for planning and investments in NMT facilities



Scoping Study, TRL Nairobi Field Surveys, May 2002.(WB)



# Electrification Opportunity: Bus Fleets

- Fleet for DART phase 1 (following tendering process for full operations):
  - Trunk buses (18 m): 210
  - Feeder buses (12 m): 335
- BRT systems under implementation or planning in Addis Ababa, Kampala, Kigali, Nairobi
- Kigali planning to launch second generation bus contracts
- Kiira motors has launched 2 units of electric buses in Kampala, Uganda



# Uganda Snapshot- Motorcycle Fleet

**Daily Monitor** NEWS BUSINESS OPED SPECIAL REPORTS MAGAZINES SPORTS  
TUESDAY SEPTEMBER 15 2015  
**The boda boda economy  
defining the streets of Kampala**

Twitter Facebook Google+ LinkedIn Print Email



- Second largest employer in the country after agriculture
- Largest employer of the youth
- In 2013, Uganda imported motorcycles worth USD 31 million
- Govt. expenditure on Roads & Works in 2013 was USD 628 million\*

\*Budget Speech Financial Year 2013/14



WIN NOW

FORTUNE  
WIN ON TERMINAL  
Tickets available for

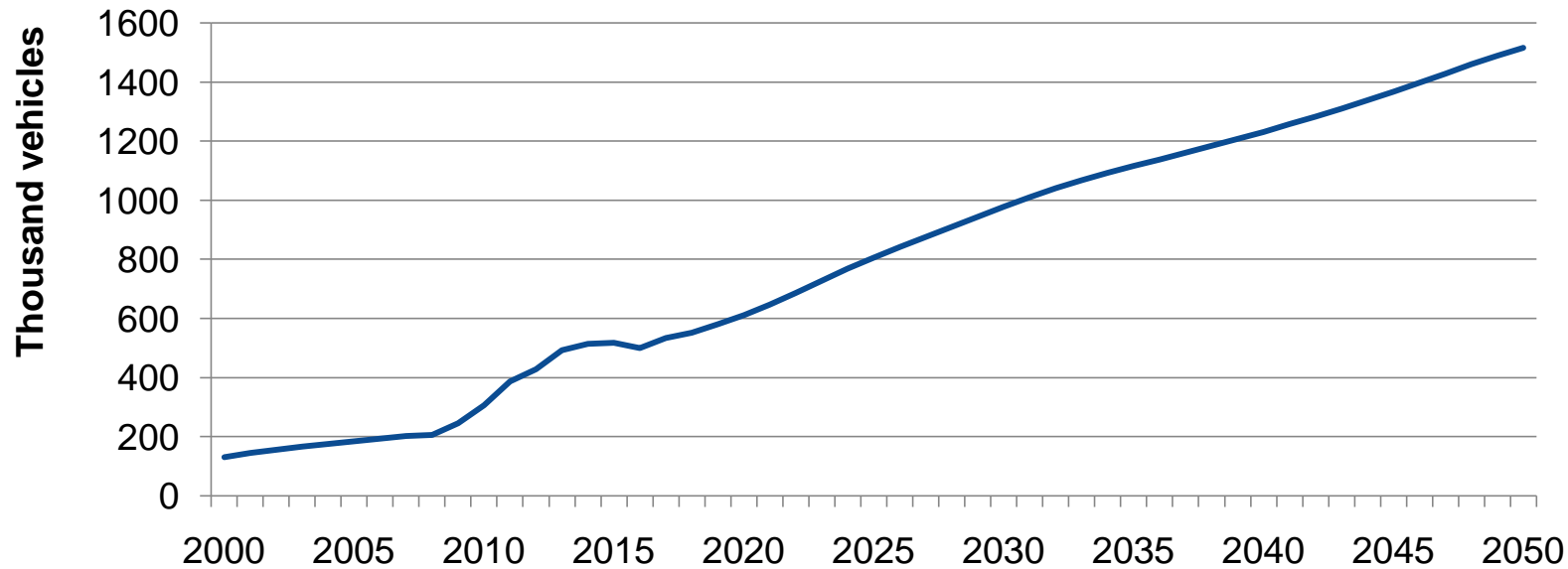
200	200
500	400
1000	800
2500	2000



# Kenya Snapshot- Motorcycle Fleet

**Tripled between 2000 and 2016 and is set to triple again over the next 30 years**

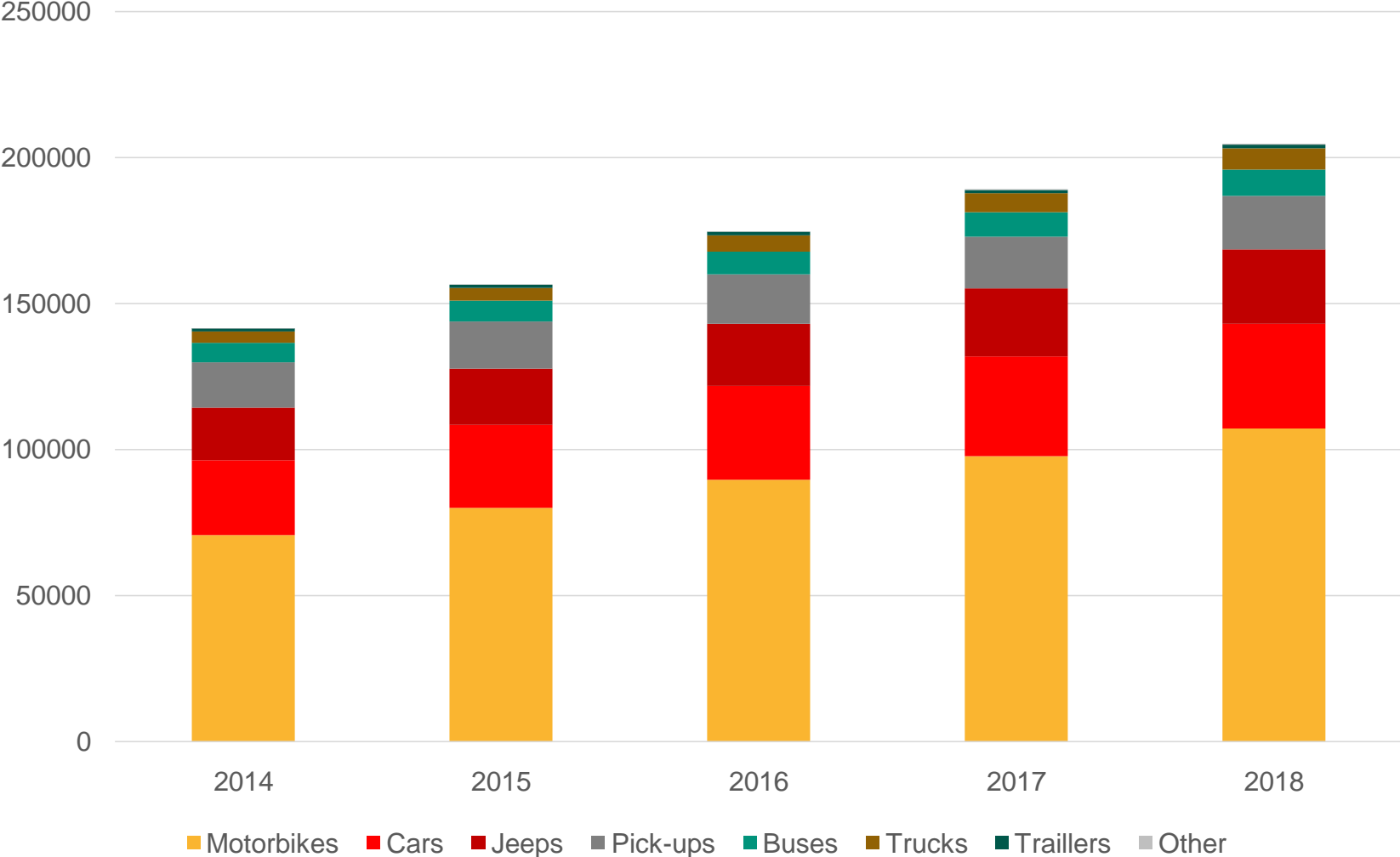
Motorcycle stock



Source: UNEP



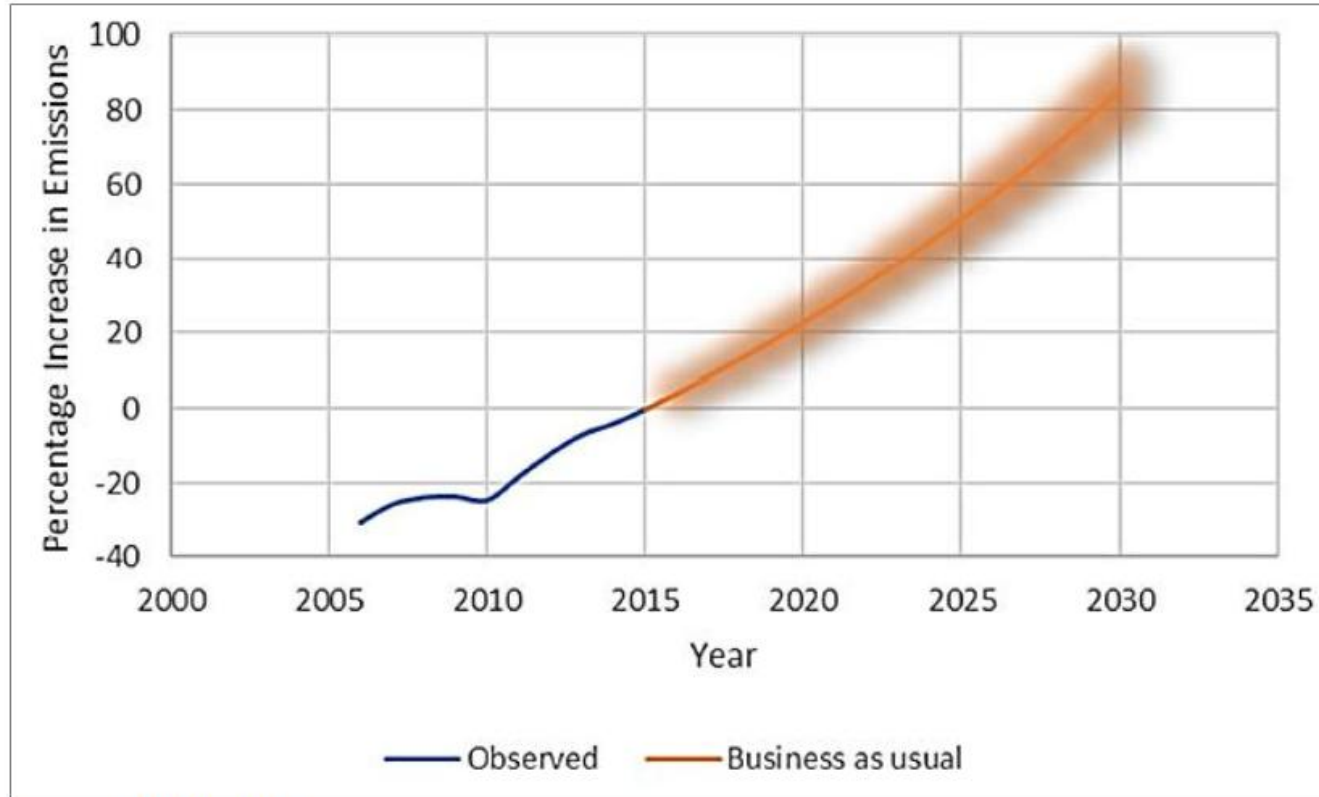
# Rwanda motor vehicle trends



Source: UNEP

# Emissions trends: Rwanda

**Figure 3: Trend of Rwanda emissions assuming BAU scenario**



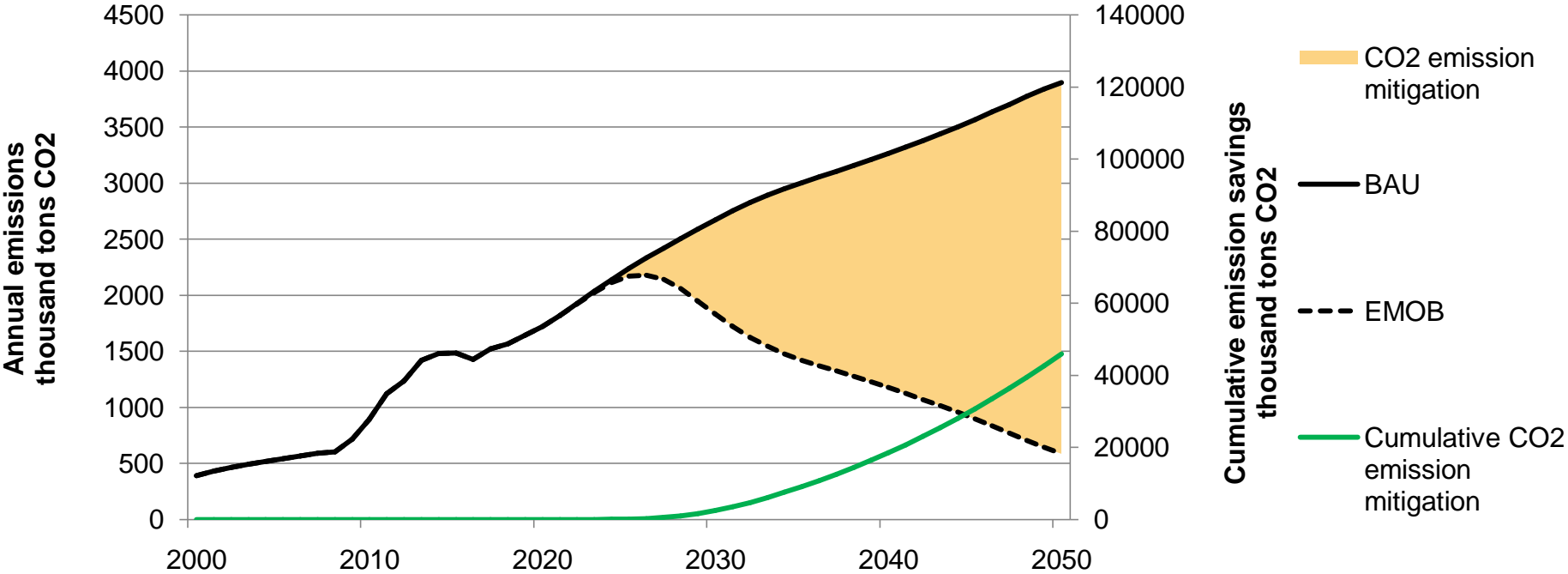
Source: REMA, 2018



# Emission Mitigation in Kenya

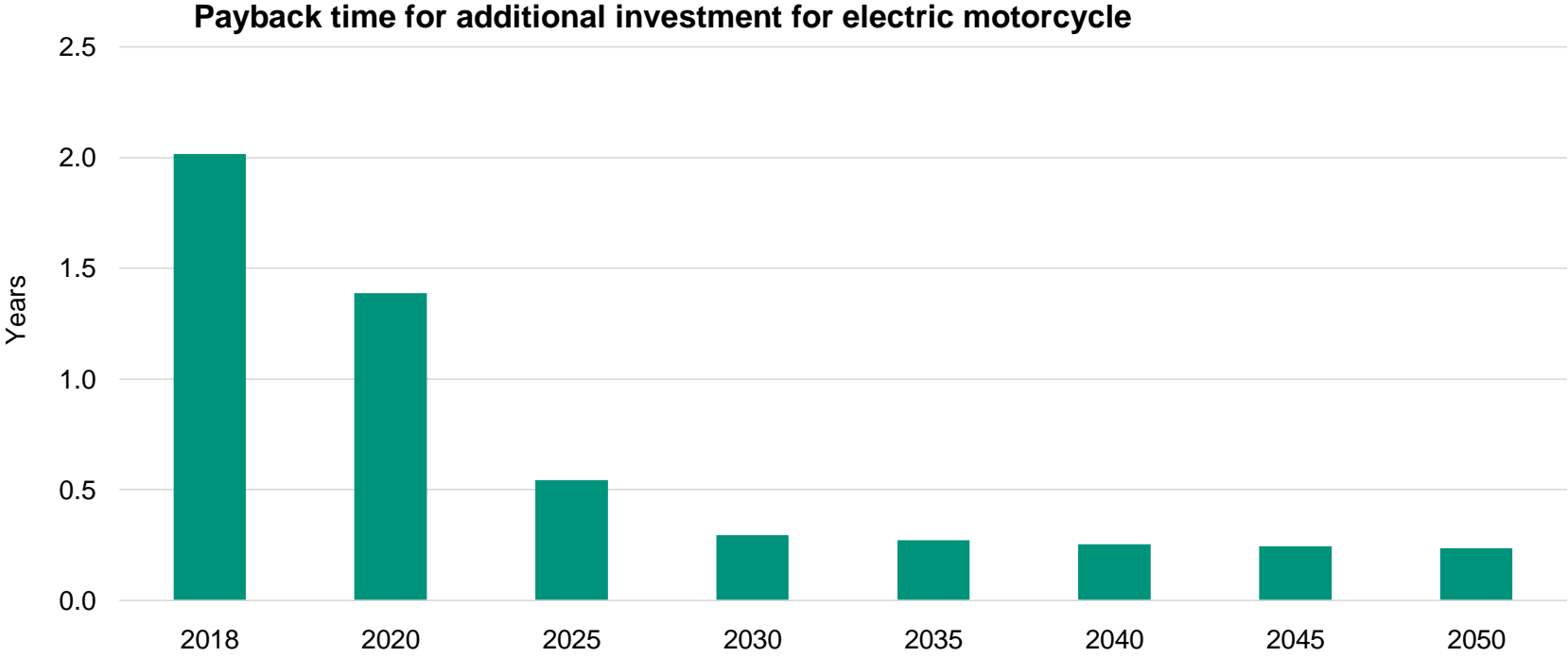


### CO2 emission mitigation



Source: UNEP


# Boda boda payback time



Source: UNEP

# Electrification opportunity: boda boda ecosystem



The background of the slide is a photograph showing a person's hands holding a white smartphone. The person has purple nail polish. In the foreground, the keyboard of a laptop is visible. A dark grey horizontal band is overlaid on the image, containing the main title text.

# Global e-learning program

## Course 1

### Electric Mobility - more than just electrifying cars

<http://www.solutionsplus.eu/global-e-learning-program.html>

**Thank You**