Essentially all cars on African roads are made by companies from other regions...
a majority of these cars are not assembled in Africa

Motor vehicles produced by country in 2013 (Organisation Internationale des Constructeurs d'Automobiles, OICA).
For 20 years, Africa has had less than 10% of global proven oil reserves...

Distribution of proved reserves in 1996, 2006 and 2016

Percentage

- Middle East
- S. & Cent. America
- North America
- Europe & Eurasia
- Africa
- Asia Pacific

Source: BP Statistical Review of World Energy, June 2017
...reserves will not last long at current production
12% of Africa’s renewable energy potential can meet BAU scenario 2040 demand!

Source: The New Climate Economy (Global Commission on Economy and Climate)
Electric mobility & renewable energy have major economic potential for Africa!
The transport sector accounts for at least 22% of all global energy related CO2 emissions (ICCT)
To meet ≤ 2°↑ scenario, **20%* of all road vehicles must be electric-powered by 2030 (IEA).**

*400 million electric 2&3 wheelers

A **MAJOR** disruption is needed to increase electric mobility uptake
UN Environment eMob support

- Country projects to develop national policies to promote electric cars
- City projects to introduce electric buses
- Country and city projects to shift from petrol to electric motorcycles
- Discussions ongoing for ~40 more projects for 2019
Motorcycles emissions are substantial

Two-wheelers Emissions Comparison – Total Emissions [g CO₂-equivalents / km]

- Two-stroke Scooter
- Four-stroke motor cycle
- Electric scooter (China energy mix: 724g/kWh)
- Passenger Car (petrol, Golf segment)

Particle Emissions [g PM/ km]

- 0.5g/km
- 0.1g/km
- 0.017g/km (China energy mix)
- 0.002g/km

One two-stroke scooter emits double the NOx emissions of a modern passenger car, 300 times the HC emissions and 80 times the CO emissions.

Africa is home to the world’s highest motorcycle growth rates…

- Most motorcycle purchases are for taxis
- Motorized transport increasingly on motorcycles (>> 50% in Ouagadougou and Bamako)
- Spurred on by public transport collapse, congestion and increasing disposable incomes
- Increasing GDP/capita could see more of the >50% modal share that uses NMT opt for 2-wheelers as a stepping stone to LDV’s
- 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
• More motorcycles imported than cars (same story in many African countries)
• Numbers growing exponentially yet this is shared use (taxis)
• Average motorcycle engine size range: 126-150cc
• Some 2-strokes still imported (no ban in place)

• Annual vehicle km traveled ~31,000 for motorcycles and 15,000 for LDVs
• Motorcycle imports have carburetors (LDVs have EFI) & lack catalytic converters:
  ○ 12 times more HCs than LDVs/km
  ○ 3 times more CO than LDVs/km
  ○ 4 times more NOX than LDVs/km

Source: University of Nairobi from IKI/UN Environment Study
Marrakesh has conducted in-depth feasibility studies of its motorcycle fleet...

- 210,000 people in Marrakesh ride motorcycles
- 78% are male, 76% are btw. 15 & 45 years old
- 84% drive more than 10km per day.

Source: Resing (from Mohammed VI Foundation & UN Environment Study)
UN Environment 2&3 Wheeler Projects Overview:

• 5 ongoing projects in Africa:
  – Morocco, Kenya, Uganda, Ethiopia and Rwanda

• 3 main components:
  • Planning and project baseline setting
    – Local manufacturing potential, electric demand modeling, financing gaps etc.
  • Piloting / policy design
  • Knowledge management & policy replication
Private sector already developing solutions for East Africa...
Electric buses have huge \textit{uptake potential} in African cities

- BRT in Lagos, Johannesburg, Cape Town, George, Dar es Salaam, Marrakech and \textit{Accra}...

- CCAC is supporting soot-free bus work in 20 major cities

- UN Environment lead in: Nairobi, \textit{Accra}, Lima and Santiago
  - Activity 1 - Secure & implement clean bus commitments in target cities
  - Activity 2 – Establish clean bus industry partnership
  - Activity 3 - Report on outcomes
Electrifying mobility is a strategic & cross-cutting intervention for Africa!

- Improve **air quality**
- Reduce **climate emissions**
- Harness **economic potential**
  - Balance of trade
  - Assembly/Manufacturing jobs
  - Value Chain Creation
  - Renewable Energy Synergies
  - ICT Synergies
- Motorcycles can be ideal **stepping stone** for electric mobility
Thank you and thanks to all our partners!

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