

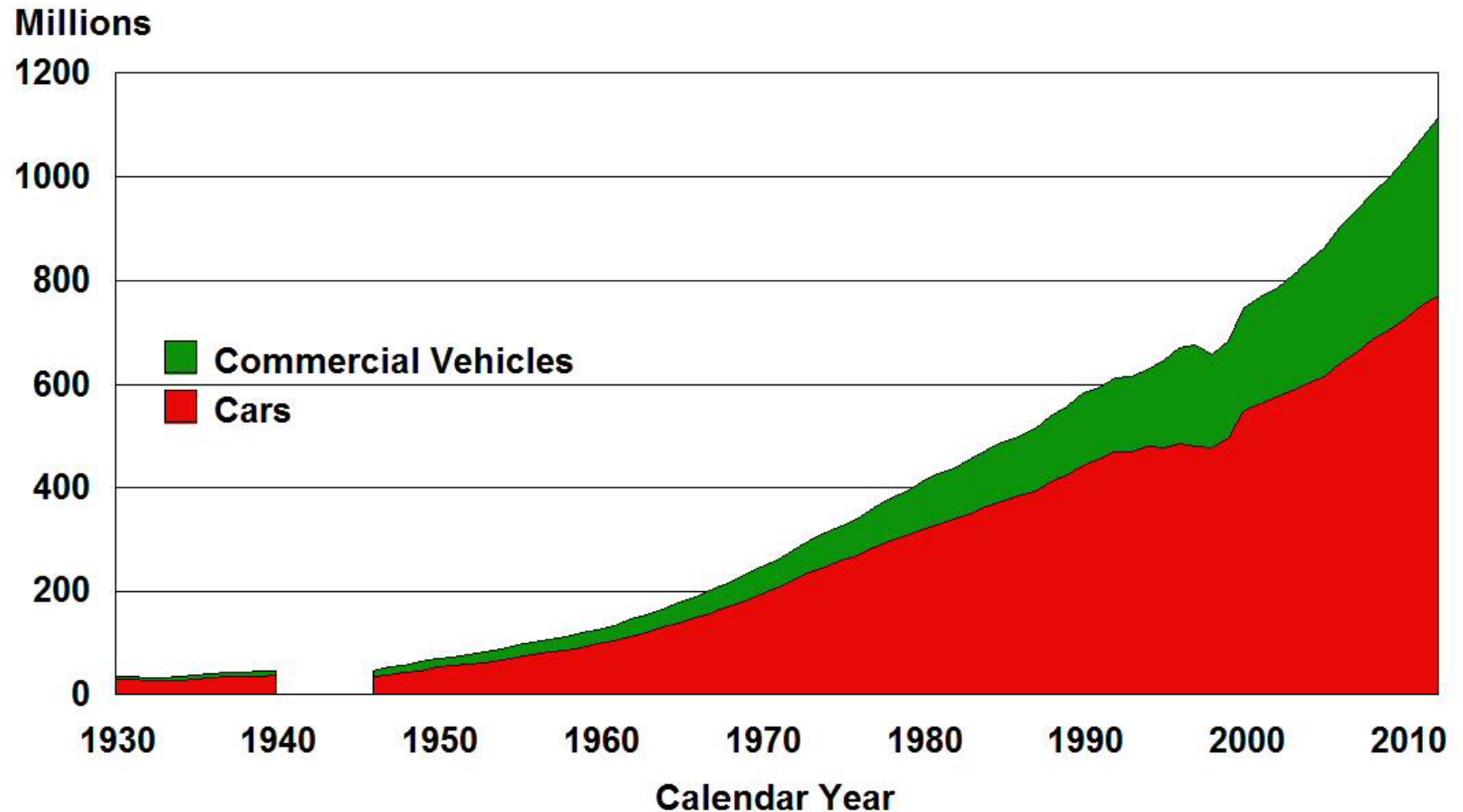
Transport and Climate Change Impacts in African Economies

African Union

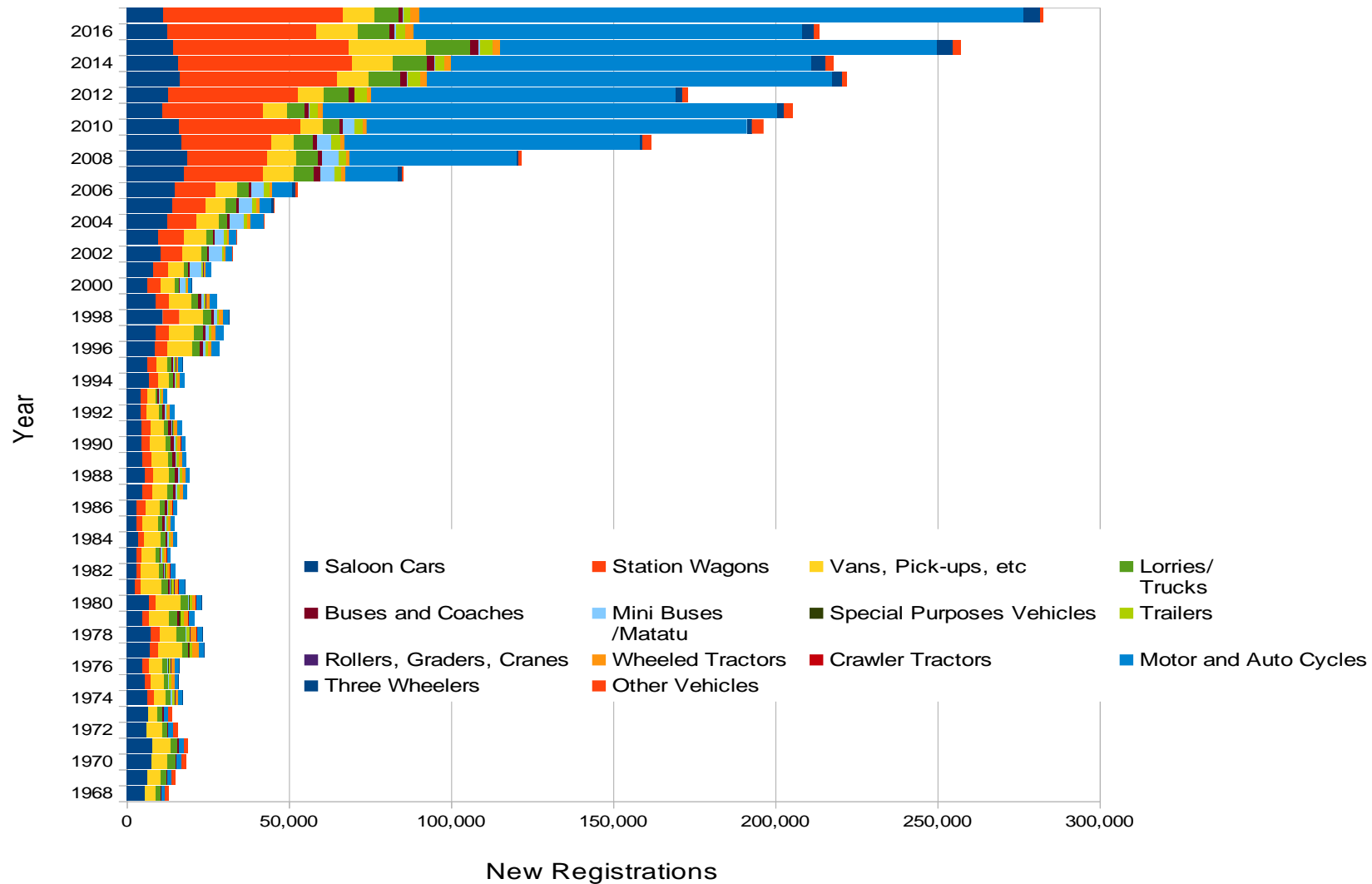
Jane Akumu

World Population of Cars, Trucks and Buses

- Vehicle fleet to **double** (from ~1 billion to ~2.5 billion)
- 90%+ of growth in non-OECD countries
- Very few non-OECD countries have policies

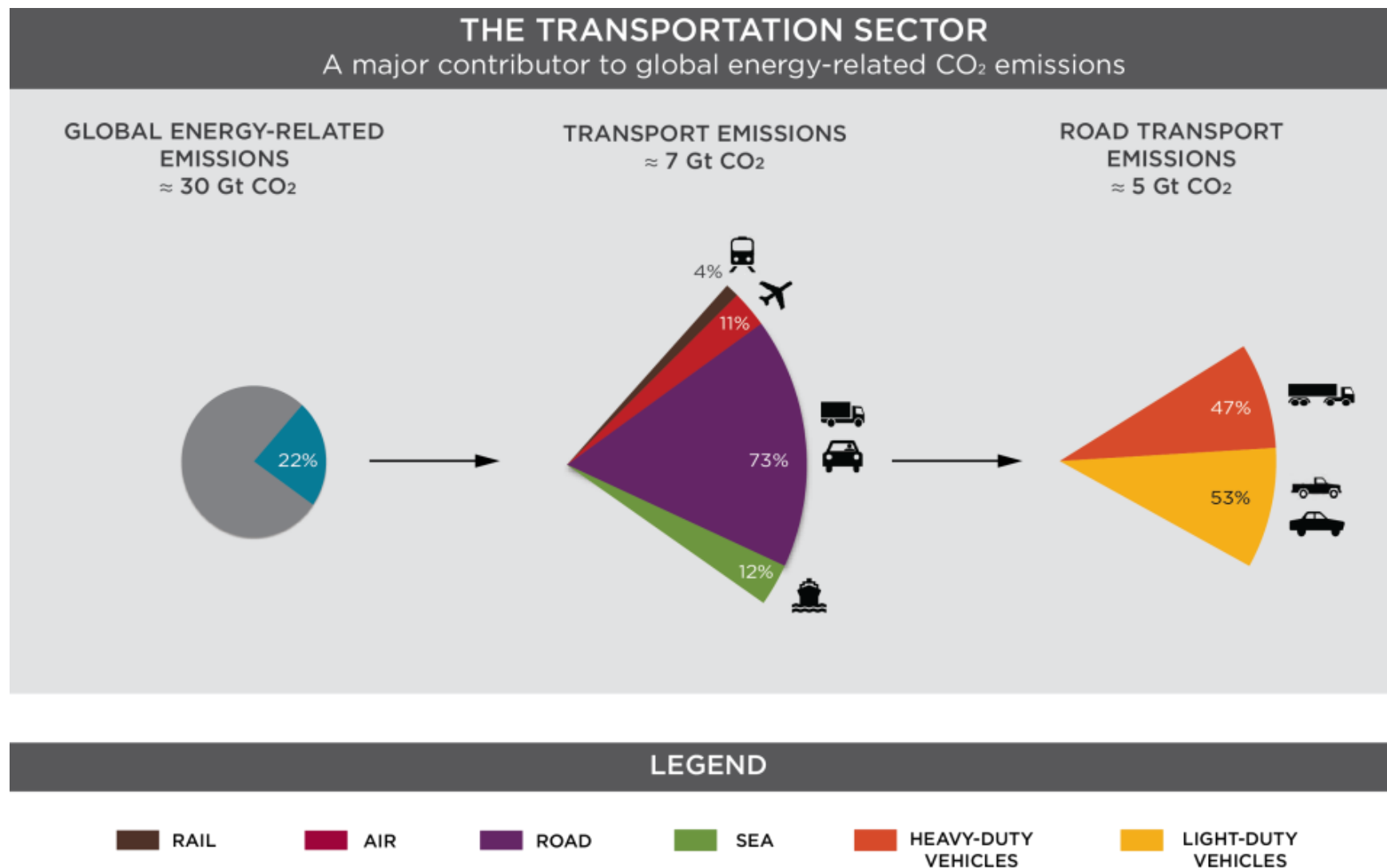


New Vehicle Registrations in Kenya 1968-2017



Source: KNBS Annual Surveys 1970,...,2018

CO2 Emissions from Transport

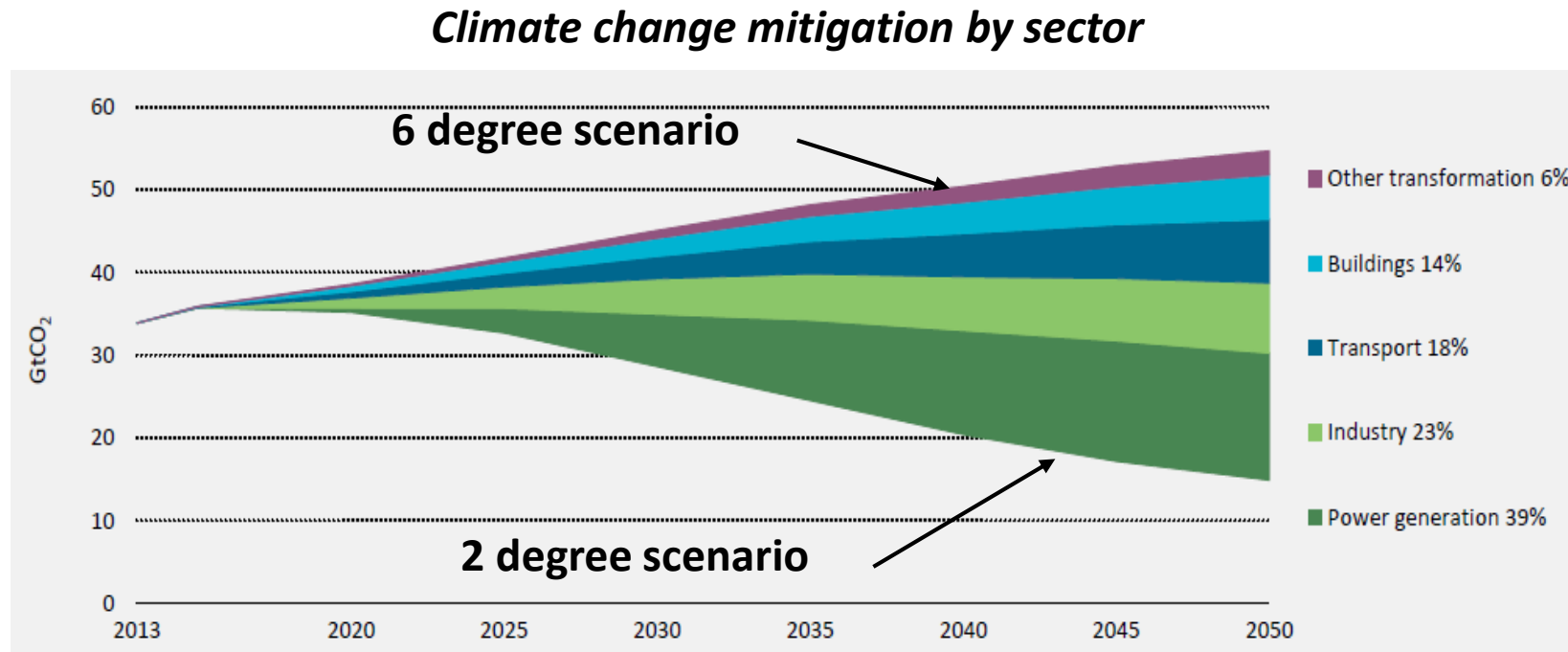


Sources:

ICCT (2014). Global Transportation Roadmap Model. Version 2.0. More information available at <http://www.theicct.org/global-transportation-roadmap-model>.

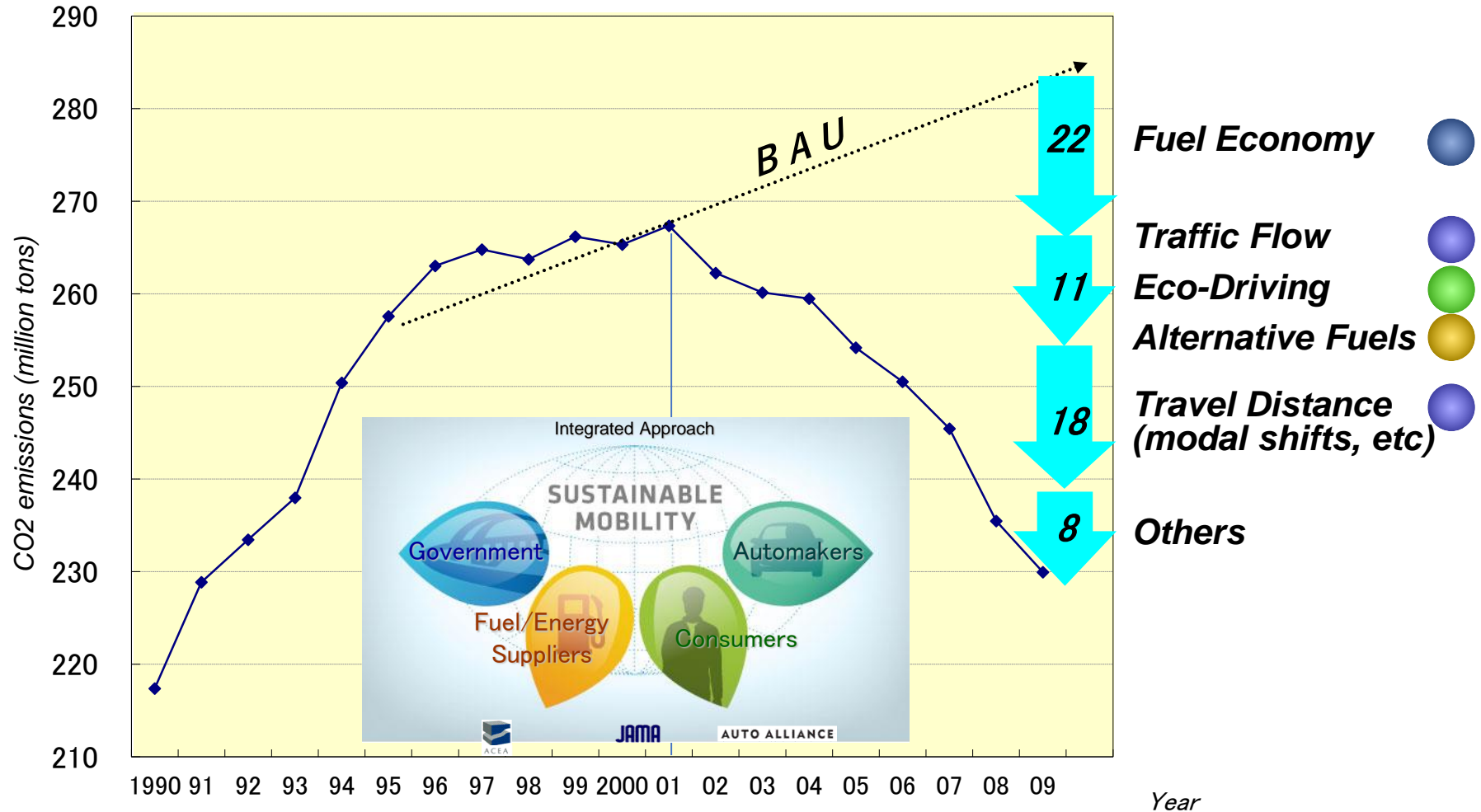
IEA (2012). CO₂ Emissions from Fuel Combustion: Highlights. 2012 edition. Retrieved from <https://www.iea.org/co2highlights/co2highlights.pdf>.

Transport and climate change



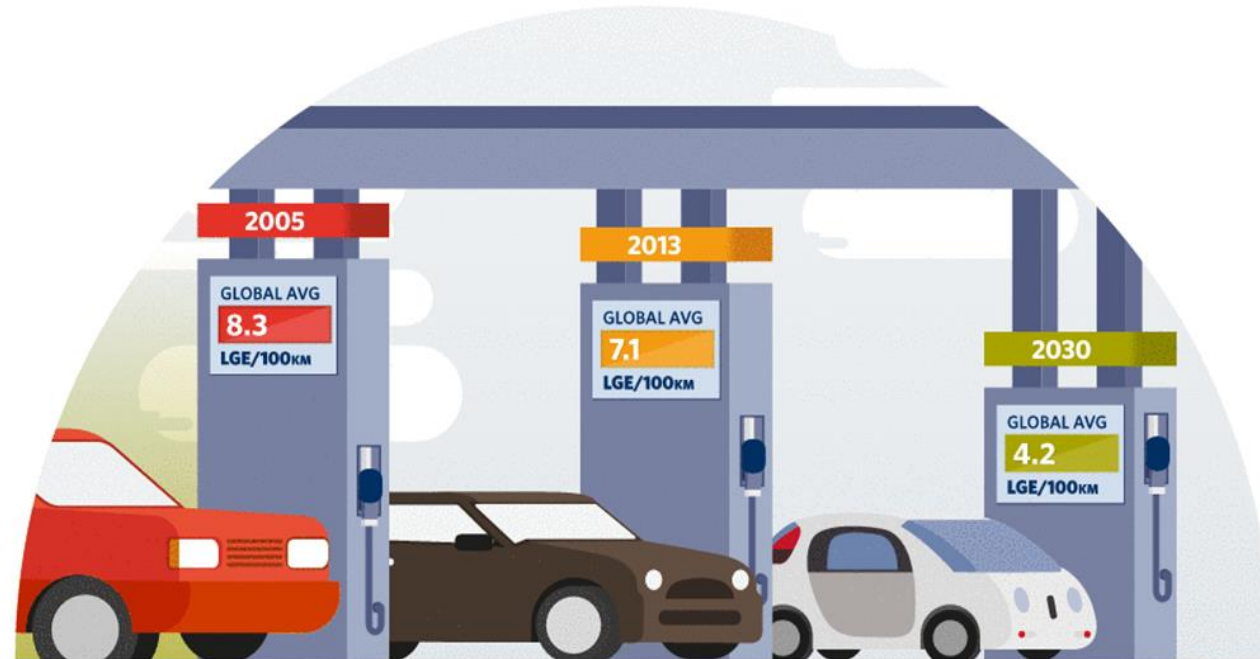
- **Transport needs to contribute 18% to global carbon emission reductions to reach a 2DS**
- **Most of the vehicle fleet growth will take place in non-OECD countries**
- **Climate targets cannot be reached without contribution from developing & transitional countries**

◆ CO₂ Emission Reduction in Japanese Transportation Sector



DOUBLE AVERAGE FUEL ECONOMY

OF NEW CARS BY 2030
AND ALL CARS BY 2050

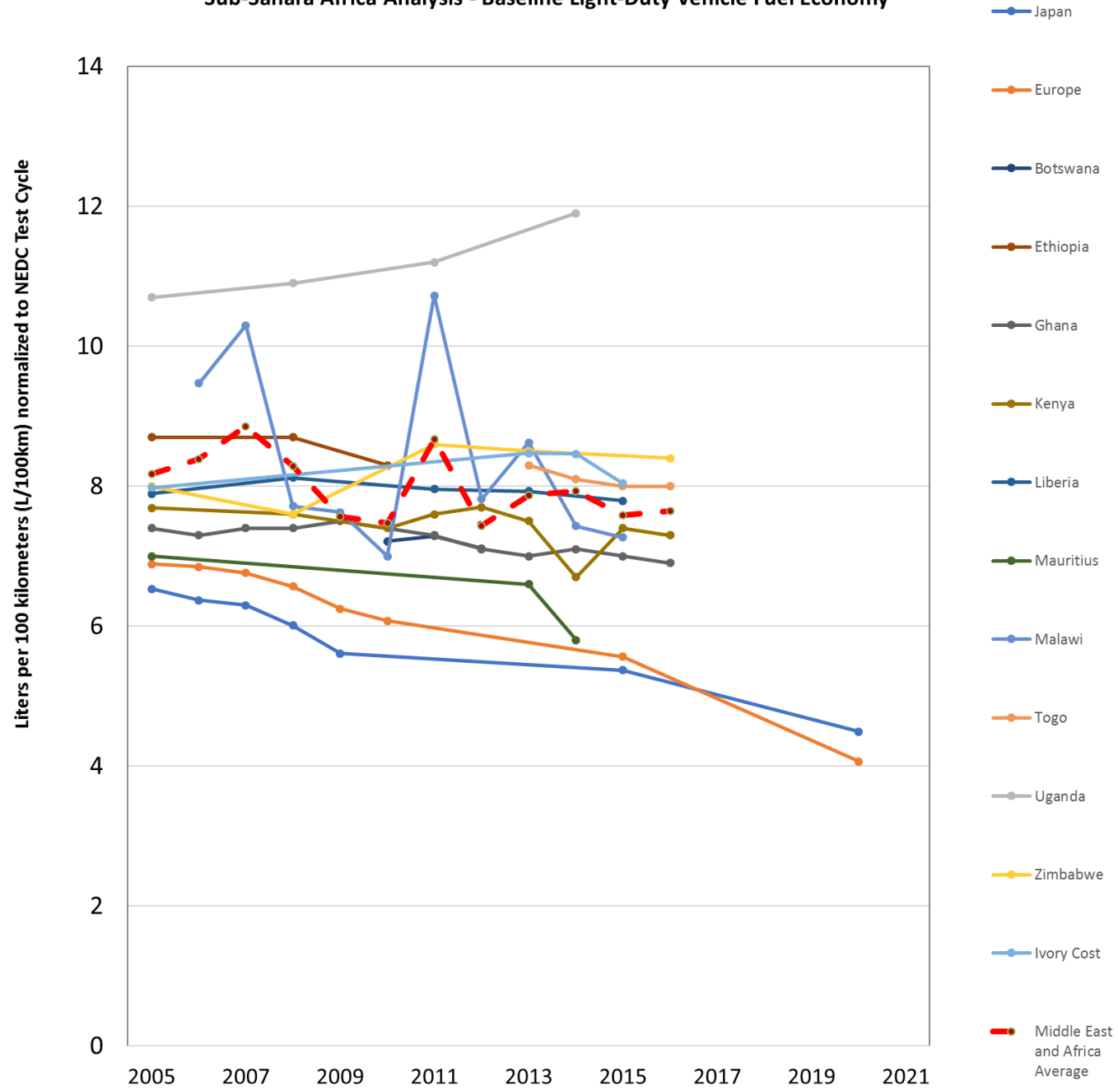


- Fuel economy = fuel efficiency = CO₂ emissions (CO₂ g/km)
- Measured: Litres per 100km (Europe)/Km per litre (Japan)/Miles per gallon (US)

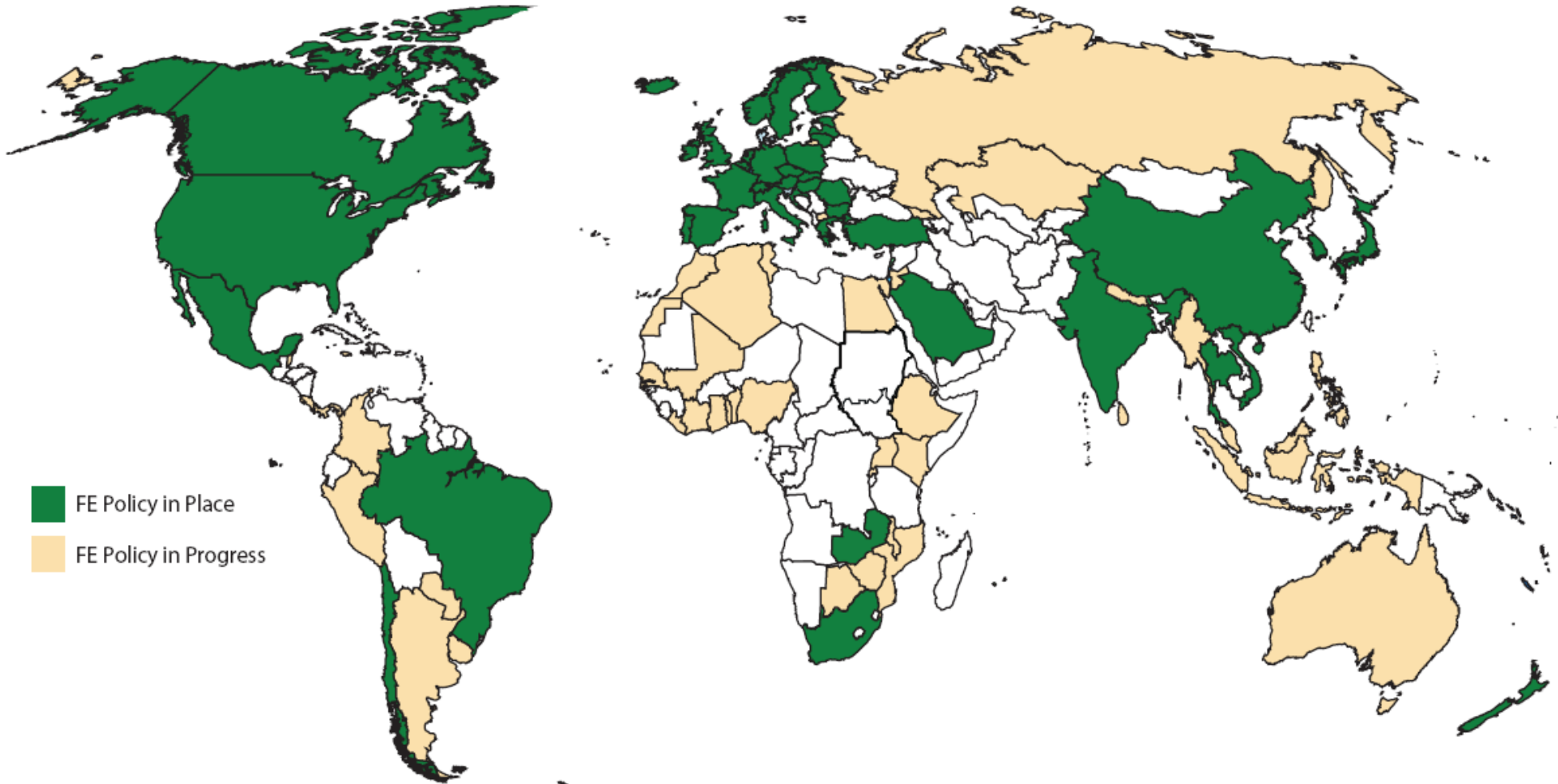
Benefits:

- reduced CO₂ emissions and support the Paris Agreement
- reduced fossil fuel consumption and national expenditures on fossil fuels
- Improved air quality through adoption of more advanced vehicles and technologies

Sub-Sahara Africa Analysis - Baseline Light-Duty Vehicle Fuel Economy



Global Progress on Fuel Economy Policy



For more information visit www.globalfuelconomy.org

Global Fuel Economy Initiative (GFEI)

Fuel Economy Levels

Zimbabwe	2005	2008	2011	2013	2016
Average (l/100km)	8	7.6	8.6	8.5	8.4

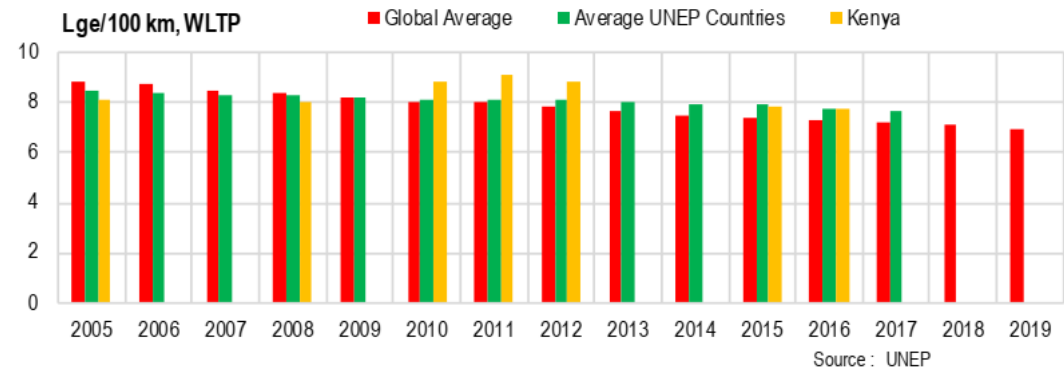
Kenya	2010	2011	2012	2013	2014	2015	2016
Average (l/100km)	7.4	7.6	7.7	7.5	6.7	7.4	7.3

Botswana	2010	2011	2012	2015
LDV Average (l/100km)	7.5	7.2	7.1	6.8

Mauritius	2005	2013	2014	2015
LDV Average (l/100km)	7.0	6.6	5.8	5.9
HDV Average (l/100km)			19.5	17.8

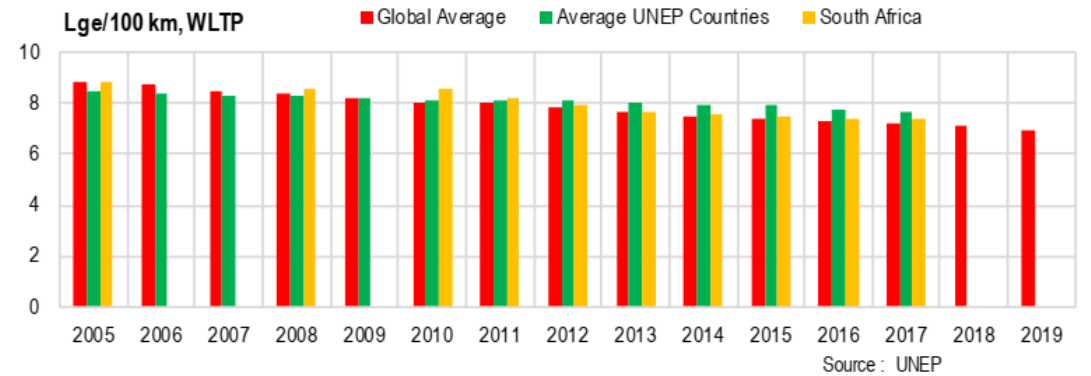
Kenya

FUEL ECONOMY TRENDS

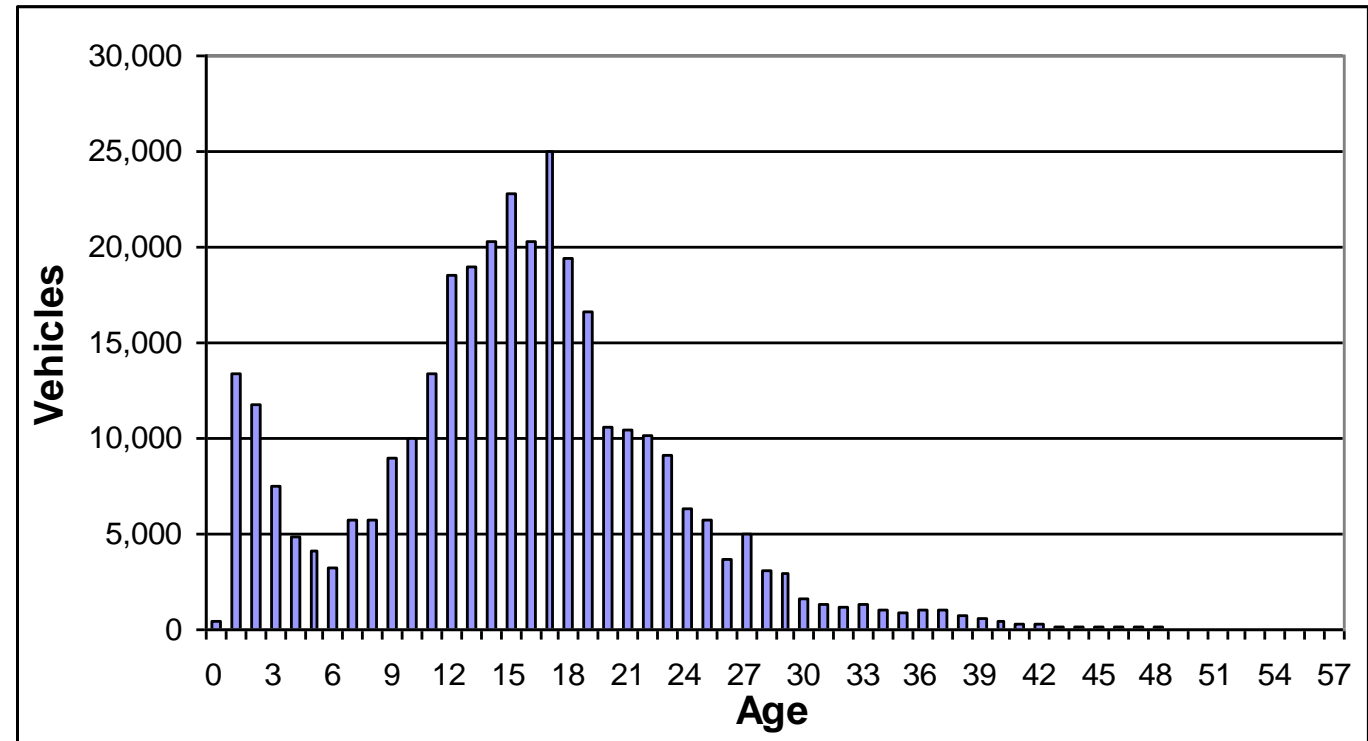
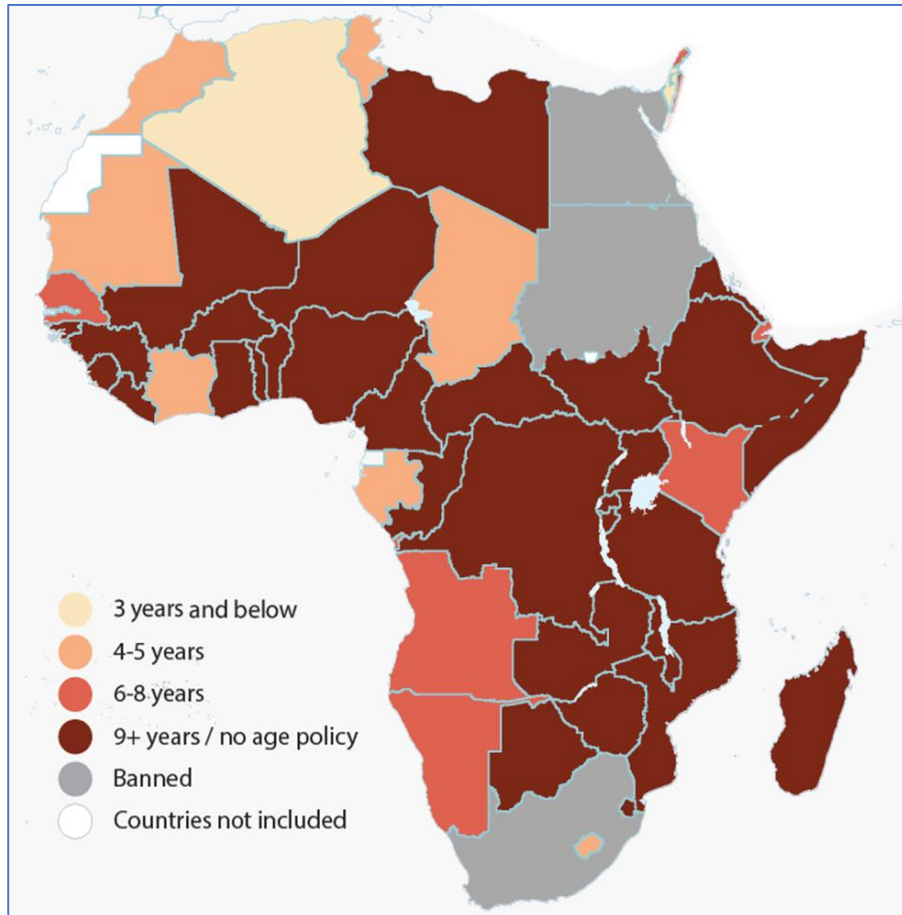


South Africa

FUEL ECONOMY TRENDS



Average age of vehicles: Example of Tanzania

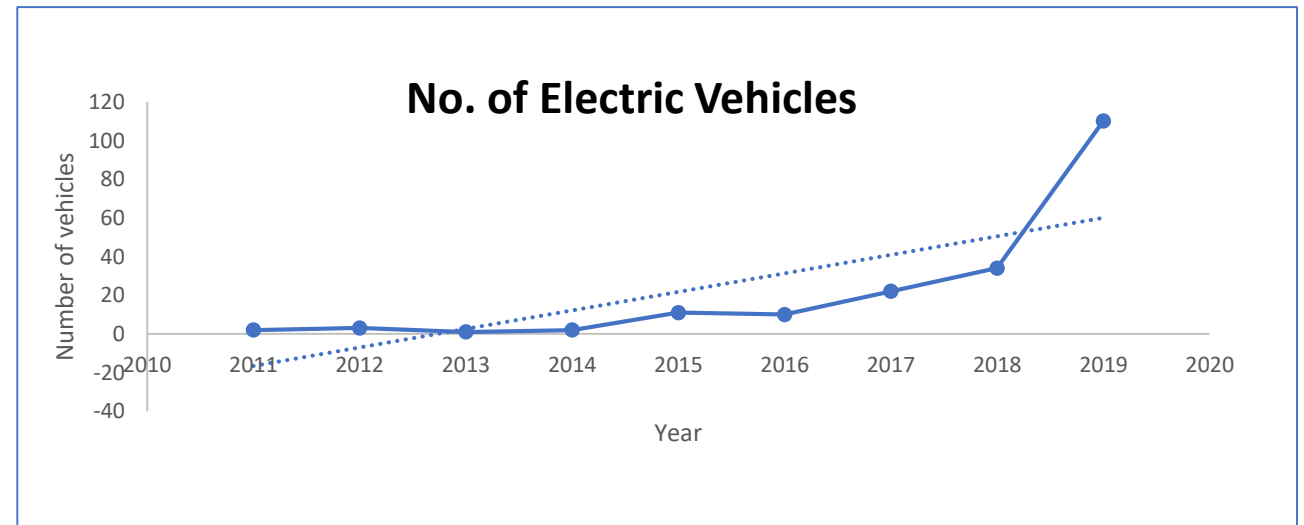
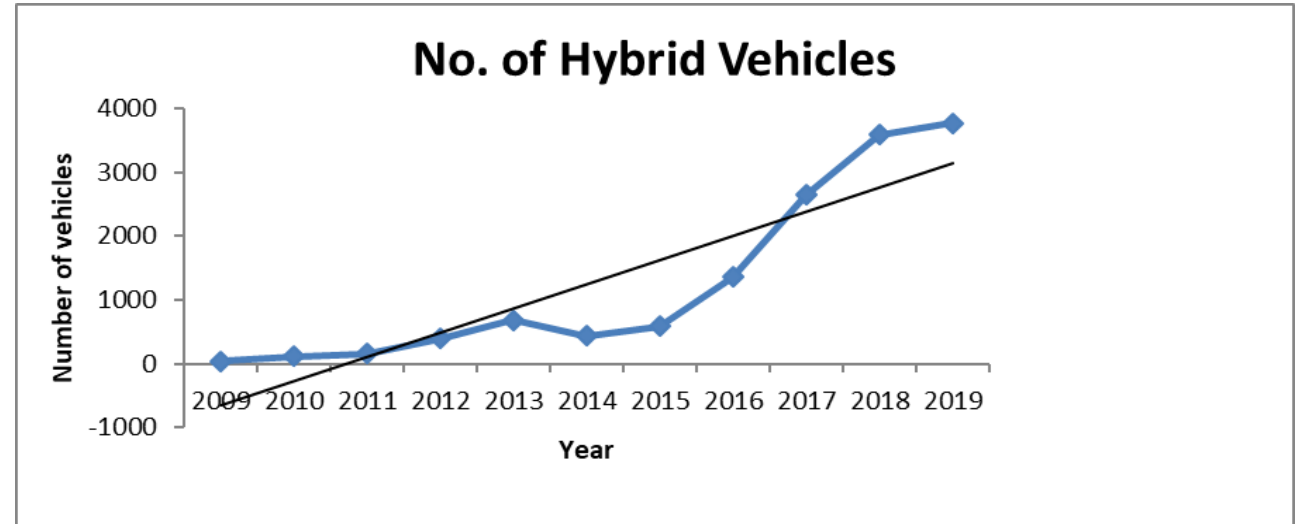


Mauritius

- Adopted a feebate scheme in 2011 at 158 CO₂g/km
- 2013 amended to 150 CO₂g/km
- Fuel economy improved from 7l/100km in 2005 to 5.8l/100km in 2014
- 50 % excise duty waived on electric and hybrid cars and registration fee
- 2009 to 2014, hybrid increased from 43 to 1824 and electric cars from 0 to 8
- 2016 replace by a taxation system with additional incentives to electric vehicles

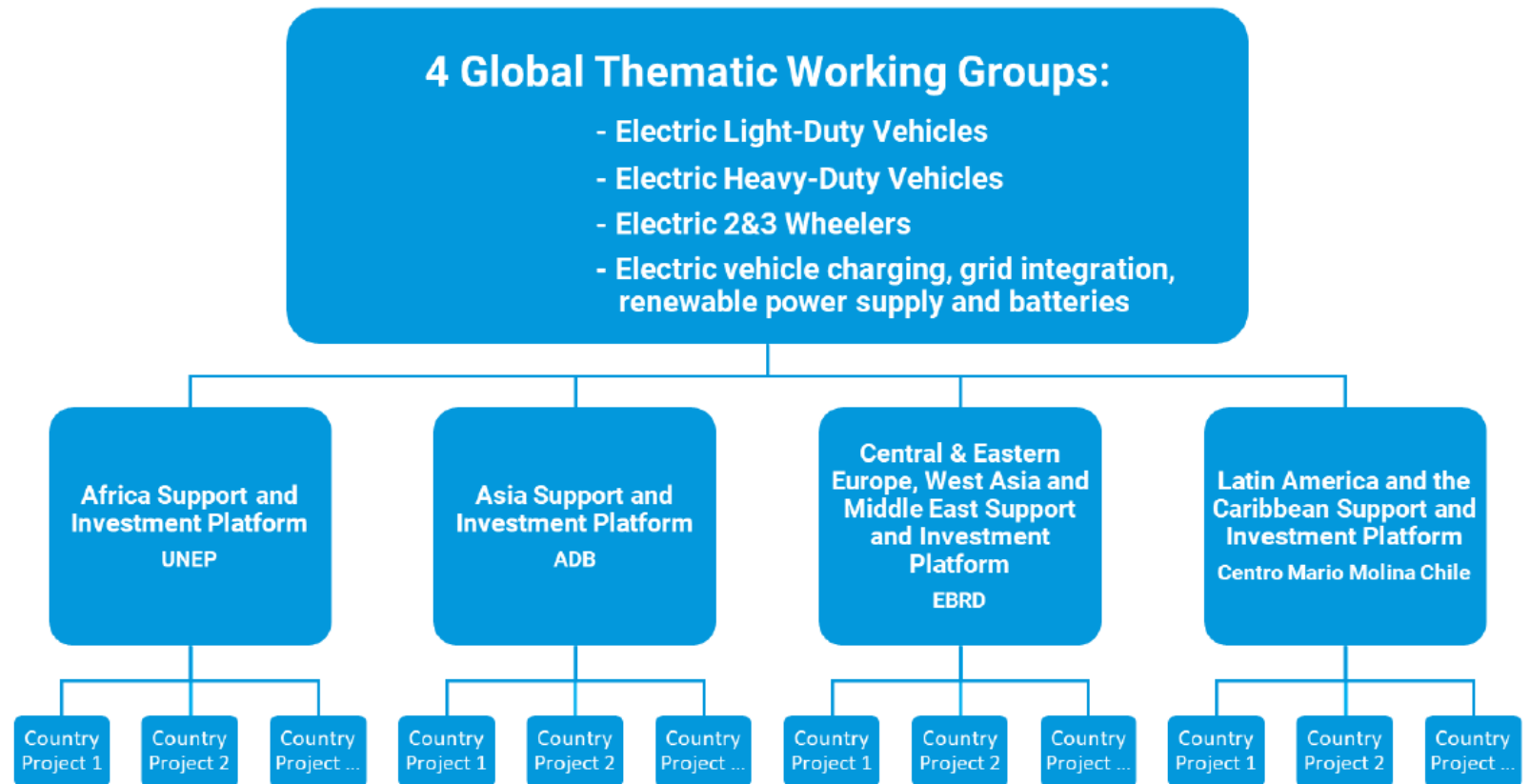
Type	Current	New
Conventional		
Up to 550 cc	15%	0
551-1000 cc	55%	45%
1001-1600 cc	55%	50%
1601-2000 cc	75%	No change
Above 2,000 cc	100%	No change
Hybrid		
Up to 1600 cc	55%	25%
1601-2000 cc	75%	45%
Above 2000 cc	100%	70%
Electric cars		
Up to 180 Kw	25%	0
Above 180 Kw	25%	No change

Regulations incentivize cleaner and safer- Example of Mauritius



Structure of the Programme

- The **national e-mobility projects** funded by the countries' STAR allocation are the core of the programme
- The countries will be supported with training materials, tools, best practices and capacity building etc. developed in the **Global Programme Working Groups** led by IEA and UNEP
- “Communities of practice” will be organized through **Regional Support Platforms**, which will also act as e-mobility market-places



Pillars of the UNEP's Electric Mobility Programme



Electric 2&3 wheelers

- Economically viable
- Technically mature
- Charging at home outlets feasible
- High growth rates of two-wheeler market in Asia and Africa





















Electric light duty vehicles







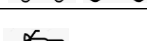


- Close to break-even with conventional cars
- Technically mature
- Highest mitigation potential of global transport energy use and emissions
























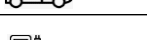


Electric buses

- Economically viable on high-capacity lines
- High potential to improve local air quality
- Manageable charging infrastructure requirements

Africa		
Burundi		UNEP
Cote d'Ivoire		UNEP
Ethiopia		UNEP
Ghana		UNEP
Kenya		UNEP
Madagascar		UNEP
Mauritius		UNDP
Mozambique		UNEP
Rwanda		UNEP / SOL+
Senegal		UNEP
Seychelles		UNEP
Sierra Leone		UNEP
South Africa		DBSA
Tanzania		UNEP / SOL+
Togo		UNEP
Tunisia		UNIDO
Uganda		UNEP
Zambia		UNEP

Asia		
Bangladesh		UNDP
India		UNEP / ADB
Indonesia		UNDP
Maldives		UNEP
Nepal		SOL+
Philippines		UNEP / SOL+
Sri Lanka		UNEP
Thailand		UNEP
Viet Nam		UNEP / SOL+

Central & Eastern Europe, West Asia, Middle East		
Uzbekistan		UNDP
Albania		UNIDO
Ukraine		UNEP / EBRD
Belarus		UNDP
Armenia		UNEP
Jordan		UNIDO

Latin America & the Caribbean		
Antigua & Barbuda		UNEP
Argentina		UNEP
Belize		UNEP
Colombia		UNEP
Costa Rica		UNEP
Chile		UNEP
Dominican Republic		UNEP
Ecuador		UNEP / SOL+
El Salvador		UNEP
Grenada		UNEP
Guatemala		UNEP
Honduras		UNEP
Jamaica		UNDP
Nicaragua		UNEP
Panama		UNEP
Paraguay		UNEP
Peru		UNDP
St. Lucia		UNEP
Uruguay		SOL+

Summary



- High vehicle growth rate
 - High fuel consumption will persist without fuel economy policies
 - Fuel economy policies can substantially reduce CO2 emissions – supporting the Paris Agreement
 - African countries need tailormade policy interventions to promote cleaner vehicles
 - Key to have a regional common framework
-

Next Steps: Integrated Approach to Low Emission Transport



Ultra low sulphur fuels



Vehicle emission standards /I&M



Soot free public transport/HDVs



Fuel economy vehicles



Electric Mobility

NMT policies and infrastructure



Thank you



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