

# New Urban Pathways to Better Air Quality and Climate Action: Case Study on Kenya

Country Assessment Report on Nationally Determined Contributions



Authors/Contributors:  
Barbara Lah, Santhosh Kodukula

Editor: Oliver Lah  
Layout/Design: Barbara Lah

Photo: Copyright © CAIF 2017

**Abstract:** This paper will help identifying policy measures in line with the New Urban Agenda and in the context of the respective Nationally Determined Contributions for Kenya. The paper will briefly assess framework conditions in the country in addition to policy actions with mitigation potential, with specific reference to energy and transport.



## Urban Pathways

Supported by:



Federal Ministry for the  
Environment, Nature Conservation,  
Building and Nuclear Safety

based on a decision of the German Bundestag

This project is part of the International Climate Initiative (IKI). The Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) supports this initiative on the basis of a decision adopted by the German Bundestag.

Kenya's Nationally  
Determined Contribution :  
Emission reduction of  
30% by 2030  
relative to BAU scenario,  
(baseline 2010)

## 1. Summary of the Nationally Determined Contribution (NDC)

Kenya is committed to reduce its GHG emissions by 30% by 2030, relative to a business-as-usual (BAU) scenario (baseline 2010) of predicted 143 MtCO<sub>2</sub>e in 2030. Addressing climate change in a holistic manner will benefit Kenya to also address the other socio-economic challenges. By failing to address climate change in a multi-sectorial approach, Kenya will risk a further deterioration of the nation's GDP, resulting in greater unemployment and worsening poverty. While, cities are gaining reputation of job centres, an increased focus is on the Kenyan government to introduce and improve the urban infrastructure. Building an efficient public transport system, securing a sustainable energy supply, investing in sustainable urban planning and mainstreaming the country's effort with neighbouring

still relatively low in comparison to other countries (73 MtCO<sub>2</sub>e in 2010) (Figure 1). Yet, carbon emissions started an increase from 1995 and this trend is likely to continue as Kenya strives to become a middle-income country by 2030 (Kenya's National Action Plan, 2013).

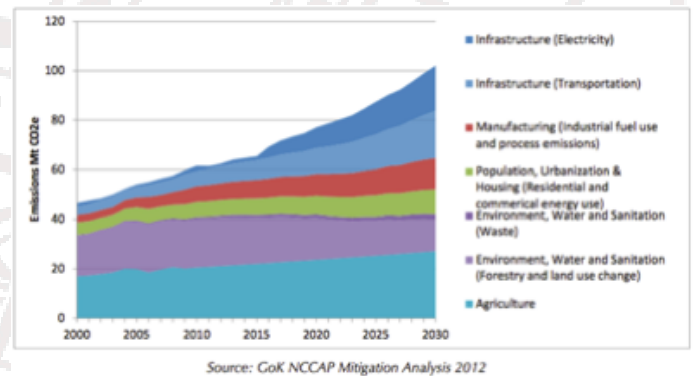


Figure 1: Business as Usual Scenario in Kenya, GHG Emissions between 2000-2030 (NCCAP, 2012)

An efficient public transport system will be essential to achieve the 1.5 degree target

countries will be essential to achieve the 1.5 degree target the global community has agreed on (UNFCCC, 2015).

Kenya's historical contribution of total global emissions per capita is low (less than 1.26 MtCO<sub>2</sub>e) compared to the global average (of 7,58 MtCO<sub>2</sub>e). Emissions in Kenya are



Kenya's National Strategy aims to curb greenhouse gases such as carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) in sectors such as, energy, transportation, industrial processes, agriculture, forestry and other land use and waste sector. Their planning process will include a review of the National Climate Change Action Plan (NCCAP) and the National Adaptation Plan (NAP) through the National Climate Change Secretariat (NCCS) every five years. Through the regular review process, the National Strategy also streamlines the climate change mechanism in all relevant ministries and will oversee the Kenyan Climate Fund.

Kenya wants to balance the need for economic growth with environmental protection

## 2. National Policies and Plans supporting the NDC target

Kenya is committed to achieving its NDC targets based on existing laws and national policies. In recent years, Kenya has developed a National Climate Change Response Strategy (NCCRS 2010), a National Climate Change Action Plan (NCCAP 2013), a National Adaptation Plan (NAP) and a Climate Change Act (2016) to curb the increased emissions in the country.

Important official documents, which help contributing to the 1.5 Degree target:

1. Constitution of Kenya (2010)
2. Vision 2030 of the National Climate Change Action Plan (2013-2017) has been developed as a blueprint for flagship programmes and projects relating climate change adaptation and mitigation, including:
  - the Integrated National Transport Policy (2010),
  - the National Policy for the Sustainable Development of Northern Kenya and other

Arid Lands,

- the National Disaster Management Plan (2012)
- the Environmental Management and Coordination Act (1999)
- Water Act (2002)
- the Energy Policy and Act (2004,2006,2012)
- the Agricultural Sector Development Strategy 2010-2020
- the Kenya Forestry Master Plan 1995-2020
- the Second National Environment Action Plan (2009-2013)
- Threshold 21 (T-21)Kenya, a dynamic, quantitative and transparent planning tool for climate adaptation.

### 2.1 National Urban Policies

Increasing population and migration to urban areas, due to growing economic and social segregation, threatens Kenya's environment and liveability standards in cities, while also limiting access to basic urban services (GIZ, 2013). Kenya's National Urban Policies have the potential to improve access to basic urban services through proper planning and design, e.g. through public spaces and public infrastructure development. Hence,

promoting and improving the quality of life, while decreasing emissions nationwide.

The task ahead of the Kenyan government is to trigger investments in infrastructure and services, balancing the need for economic growth without increased natural resource use. Increases in investments will contribute to a more balanced distribution of economic benefits and creates a framework for collaboration between local governments, the private sector and the public at large (UN-Habitat, 2014).

The key elements of a green urban economy are – inclusive economic growth (reduce the gap between the rich and poor and increase social and economic participation), ecological compatibility (reducing greenhouse gas emissions by encouraging innovation and environmentally sound technologies), and poverty reduction (increasing income opportunities through improved access to jobs and to basic services) (GIZ, 2013).

Policy measures under consideration include the mainstreaming of climate change response into development planning, decision making and implementation, the formulation of programmes and plans to enhance the resilience, and adaptive capacity of humans and the ecological systems to the impact of climate change. Kenya will promote low carbon technologies to improve efficiency and reduce emissions intensity by facilitating approaches and uptake of technologies that support low carbon and climate resilient development. Kenya's policy strategies are guidelines for the national and county governments on legislative,

policy and other measures necessary for climate change response and attaining low carbon climate change resilient development, administer the Climate Change Fund, set the targets for the regulation of greenhouse gas emissions, expand the renewable and clean energy options in the country, enhance resource efficiency and develop low carbon transport systems and a sustainable waste management.

### 2.1.1 Energy

Kenya's plan for its energy security is the enhancement of its energy resilience through innovation and development of sustainable technologies. The National Energy Policy aims to increase the share of renewable energy sources (wind, biomass, small hydro, geothermal, biogas, solar and waste) (Ministry of Energy, 2012). Kenya generates power mainly from biofuel and waste, geothermal and solar, oil products, crude oil, coal



and hydro (IEA, 2014). At the moment only 2.24 million people in Kenya have access to regular (grid based) power supply, most of which live in Nairobi. Kenya has two main energy suppliers, Kenya Power and KETRACO. The government owns KETRACO entirely and owns 50.1% of Kenya Power. Kenya Power is also financed through commercial loans, paying annually 23 million USD in servicing debt.

## 2.1.2 Transport

Kenya's main mode of transportation is road transport, accounting for 93% of freight and passenger traffic. The Agenda 2030 has the goal to connect all regions of the country, primarily airports, railways and ports to enable economic activity. The north of the country is especially important as a connector to the neighbouring states, such as Democratic Republic of Congo, Rwanda,

Burundi, Southern Sudan and Uganda. According to the ITF Transport Outlook 2017, the infrastructure around centres, airports or production areas has to triple, to provide adequate mobility (ITF, 2017). ITF predicts an increase in CO2 emission in Africa by 2050 from 2015 levels by almost three times, and Kenya has a key role in avoiding this increase.

Kenya's Vision 2030 foresees to promote mass transit systems to support the mobility of the high percentage of people who use non-motorised transportation. Shifting road freight to rail, water and non-motorised transportation can reduce up to 4.1 MtCO2 a year until 2030 (Kenya's National Climate Change Action Plan, 2013). UNEP is working with the Kenyan government to implement a tax incentive scheme, increasing the share of cleaner vehicles, while banning old, emission intensive cars from Kenya's roads (UNEP, 2014).

## 3. Kenya's Climate Change Action Plan

The CC Action Plan will help delivering on several pressing issues in the country:

### Agriculture

Agriculture is the largest GHG contributor in Kenya (30%), of which 90% come from

Energy, transport and resource management are identified as key climate change mitigation sectors.



the livestock sector. This sector offers the potential to decrease emissions, while providing food security and reduction in climate vulnerability (DFID, 2012). Agroforestry will play a big part in the country's future, potentially reducing 4.2 MtCO<sub>e</sub> by 2030 and curbing land erosion, while improving grazing conditions for livestock and increasing tree coverage on farms to 10% (DFID, 2012).

### **Environment, Water and Sanitation**

Reforestation of degraded land will contribute to the target of clean water and sanitation access for all in Kenya, improving millions of livelihoods. Restoration of forests have the potential to reduce 20 MtCO<sub>2e</sub> annually by 2030, while sustainable waste management as well as tougher regulations on mining and mineral resources needs to be implemented.

### **Tourism**

The tourism sector will rely heavily on the successful implementation of climate change mitigation, e.g. curbing ecosystem reduction, infectious diseases, high temperature.

### **Infrastructure**

As Kenya's economy grows, the more attention the physical infrastructure needs to attain, assuring a sustainable socio-economic development and attracting investment. Secure renewable energy (wind and solar) needs to be expanded and transport infrastructure needs to be built and maintained, which in turn negatively impacts resource efficiency. Public transport needs to be introduced/expanded and existing private transportation properly regulated.

### **Manufacturing**

Expanding the manufacturing sector will require increased water consumption, a resource already under pressure in dry seasons. Additionally, many cement manufacturers occasionally turn to burning coal as cheap fuel source, increasing GHG emissions countrywide. Awareness campaigns are planned to inform manufacturers and decision makers about the potential increased CO<sub>2</sub> emissions.

### **Population, Urbanisation and Housing**

Curbing climate change will help managing some of the reasons for urban migration from rural areas. Adaptation to climate change will include flood management in risk areas, slum upgrading and climate risk assessments for public buildings. Sustainable energy solutions for private households need to be introduced to reduce indoor pollution and save costs.

### **Health**

Climate-sensitive diseases will rise when no action is taken. Adaptation measures will include: disease surveillance, early warning, monitoring and evaluation and systems for malaria epidemics.

### **Disaster Preparedness**

Adaptation measures will include early warning systems in case of disaster, systems of effective response and the development of climate-proofed infrastructure.

## **4. Conclusion**

Kenya has a commendable commitment to wards the environment and to reduce the

effects of climate change. The obligation to protect the environment and the land is enshrined in the constitution of Kenya. Kenya still has a long way to go and many difficult decisions to make to fulfil its commitment and reach its promised NDC target. Planned actions to deliver on these objectives include mainstreaming climate change into development planning, decision making and implementation; build resilience and enhancing adaptive capacity; provide incentives and obligations; promote low carbon technologies to improve efficiency and reduce emissions intensity; administer the Climate Change Fund; boost renewable and clean energy options; enhance resource efficiency; build low carbon transport systems; and provide sustainable waste management.

## 5. References

- CarbonBrief, 2017, available at: <https://www.carbonbrief.org/paris-2015-tracking-country-climate-pledges>
- DFID, Kenya's Climate Change Action Plan: Low Carbon Climate Resilient Development Pathway, 2012.
- GIZ, The Urban Future, Sixth Session of the World Urban Forum, 2012.
- Government of Kenya, Kenya's National Climate Change Action Plan, 2013-2017, Nairobi, 2012.
- Government of Kenya, Kenya National Climate Change Action Plan, 2013, available at: <https://cdkn.org/wp-content/uploads/2013/03/Kenya-National-Climate-Change-Action-Plan.pdf>
- Government of Kenya, National Climate Change Action Plan (NCCAP), Mitigation Analysis, Nairobi, 2012.
- IEA, Statistics for Kenya, available at: <https://www.iea.org/statistics/statisticssearch/report/?year=2014&country=Kenya&product=Balances>
- International Transport Forum, ITF Transport Outlook 2017, OECD Publishing, Paris, 2017.
- Ministry of Energy, Feed-In\_Tariffs Policy on Wind, Biomass, Small-Hydro, Geothermal, Biogas and Solar Resource Generated Electricity, Nairobi, 2012.
- UNFCCC, Adoption of the Paris Agreement, Paris, 2015.
- UN-Habitat, Urban planning for city leaders, Nairobi, 2014.
- United Nations, Sustainable Development in Kenya, Stocktaking in the run up to Rio+20, Nairobi, 2012
- UNEP, Annual Narrative Progress Report, Support to Low Carbon Climate Resilient Development for Poverty Reduction in Kenya, Nairobi, 2014.

UN-Habitat is grateful for the financial support provided by the government of Norway for the NDC analysis this paper is based on.

 **UN HABITAT**  
FOR A BETTER URBAN FUTURE

 **Wuppertal  
Institut**



WORLD  
RESOURCES  
INSTITUTE

WRI ROSS CENTER FOR  
SUSTAINABLE  
CITIES



[www.uemi.net](http://www.uemi.net)  
[www.wupperinst.org](http://www.wupperinst.org)  
[www.caif.eu](http://www.caif.eu)  
[www.wri.org](http://www.wri.org)