



**MINISTRY OF ENVIRONMENT
AND FORESTRY**

Climate Change Directorate

**CONCEPT NOTE FOR THE TRAINING WORKSHOP ON EVALUATING CLIMATE AND AIR
POLLUTION STRATEGIES USING LEAP-IBC**

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VENUE: CROWNE PLAZA, UPPER HILL



**CLIMATE &
CLEAN AIR
COALITION**
TO REDUCE SHORT-LIVED
CLIMATE POLLUTANTS



**UNIVERSITY
OF
NAIROBI**

**THE INSTITUTE FOR CLIMATE
CHANGE AND ADAPTATION**

Introduction and context

Air pollution is the leading global environmental health risk factor responsible for over 3.8 million deaths annually due to exposure to fine particulate of matter (PM) in the outdoor air¹. In Kenya it is estimated that exposure to PM is responsible for nearly 20,000 premature deaths annually from both indoor and outdoor sources², this has been estimated to cost the country USD 2,244 million per year³. Some air pollutants, collectively known as Short Lived Climate Pollutants (SLCPs) such as methane, black carbon, hydrofluorocarbons and ground-level ozone also contribute to the near term regional and global warming. Furthermore, there are clear linkages established between air pollution, poverty and injustice with greatest mortality most likely in low-income countries and amongst most vulnerable members of the society. Thus, preventing air pollution in Africa will advance many of the sustainable development goals (SDGs) by limiting its demonstrable impact on health, agriculture, ecosystems, global and regional climate.

Evidence from the few studies conducted in Africa show air pollution is increasing in cities¹. Already today, 9 of 10 city residents breathe air, which does not meet the World Health Organization's (WHO) guidelines⁴. This is most likely due to rapid urban urbanization, limited access and use of clean technology and unprecedented high economic growth rate (above 5 percent) in most African countries. Increasing emissions from vehicles, biomass burning, and industrial activities are some of the leading sources of air pollution in African cities. Although there are few studies conducted in Africa and most are short-term and thus not comparable to WHO guidelines for ambient air quality, they clearly point to the need to address the serious long-term implications for the health and environment. Thus, African countries need to formulate evidence-based policies and implement cost-effective mitigation strategies at different scales, national, city and at local levels.

The Government of Kenya gazetted the *Air Quality Regulations* in 2013 governing ambient air quality and prohibiting emission of harmful substances⁵. The Constitution of Kenya (2010), under Part 3 of the 4th Schedule designates the control of air and noise pollution as a devolved function for the County Governments. The Kenya government is in the process of developing national air quality management strategy to provide an institutional framework for AQ management. This framework will also guide actions at the sub-national level by County Governments, as per the constitution. The Nairobi City County Government has already started a process to develop an air quality management policy.

Climate change has increased the frequency and magnitude of extreme weather events that have negatively affected Kenya's economy which is highly dependent on natural resources and climate-sensitive sectors such as agriculture, energy, transport, tourism, and water. To meet the international climate change obligations, Kenya ratified the United Nations Framework

¹ (WHO, 2016)

² (GBD, 2016)

³ (Roy, 2016)

⁴ (WHO, 2006)

⁵ (NEMA, 2014)

Convention on Climate Change (UNFCCC) and the Paris Agreement, which is aimed at keeping the global temperature rise to below 2oC, and which has committed all Parties to implement their voluntary Nationally Determined Contributions (NDC). Kenya's NDC sets out the country's actions to contribute to achieving the global goal set out in the Paris Agreement, and include mitigation and adaptation actions. The Paris Agreement entered into force in Kenya on 27th January 2017, and as set out in Article 2(6) of the Constitution of Kenya (2010), the Paris Agreement now forms part of the laws of Kenya.

The foundation of the institutional and legal framework for climate change action is the Constitution of Kenya (2010). Article 42 provides for the right to a clean and healthy environment for every Kenyan, which includes the right to have the environment protected for the benefit of present and future generations. Several policies, strategies, action plans and institutions have been established in Kenya at both the National and County levels to address climate change. The Climate Change Act (2016) is the key legislation that provides a regulatory framework for climate change in Kenya.

Although there are many different statutory and policy documents at the national and county level, there remains a gap in having an integrated approach to air quality management and climate change mitigation. In addition, there is also a challenge in ensuring effective implementation of the existing policies for climate change and air pollution mitigation across all sectors and at multiple scales (local, national, regional). An integrated approach would generate multiple benefits across many sectors and enable Kenya to meet her international and regional obligations such as the SDGs, the Paris Agreement, and East African Framework Agreement on air pollution as well as the general wellbeing of Kenyans.

To address this gap, the Ministry of Environment and Forestry (ME&F), the Stockholm Environment Institute and the Institute for Climate Change and Adaptation at the University of Nairobi (ICCA-UoN), have formed a partnership to strengthen capacities of policy makers, academics and other actors for integrated climate change and air quality planning in Kenya using the Long-range Energy Alternatives Planning with Integrated Benefits Calculator (LEAP-IBC) and its application to mitigation planning across the priority sectors of the National Climate Change Action Plan (NCCAP). This started with a seminar that was held on the 17th July 2018 at ICCA-UoN. It is being followed by a 4-day event that includes an inception workshop for air quality policy in Nairobi and practical training on LEAP-IBC tool.

The LEAP-IBC training will be held from 5th to 7th of September 2018, hosted by SEI, the ME&F and UoN ICCA, with financial support from the Climate and Clean Air Coalition, SNAP initiative (Supporting National Action and Planning of SLCPs). Participants are drawn from county and national governments, and other sector focused institutions in Kenya, and the CCAC focal points from Kenya, Chad, Central Africa Republic, Ethiopia, Zimbabwe. Training on LEAP-IBC will support air quality management, SLCP and GHG mitigation planning across priority sectors at multiple scales and at national and county government. This will be a first of a series of training workshops where every trainee will delve deeper into creating models using LEAP-IBC using own provided data and will link the participants training to specific activity. Thus, this is an opportunity to continuously improving utility of LEAP-IBC as well strengthen the community of

practitioners and commits participants to a period of training of four months. In the Intervening months between the training workshops participants will be expected to participate in continuous exercises identified by themselves and the trainers to gain more experience.

Training Workshop objectives

- *Learn how to use the LEAP-IBC tool to develop an emission inventory, baseline scenario projection and mitigation scenario analysis of short-lived climate pollutants (SLCPs), greenhouse gases (GHGs) and air pollutants.*
- *Understand how data available (e.g. from greenhouse gas inventory, energy balance, statistical authority) can be used to develop these analyses*
- *Determine future steps to development of the climate and air pollution emission inventory, and scenarios analysis in Kenya in a way that is coordinated between all relevant stakeholders.*
- *To understand how the development of a climate and air pollution emission inventory will be taken forward in the other countries that attend the training.*

Training Workshop Outcome

- *A clear work plan for the Kenya LEAP-IBC analysis, including what data will be identified and included in the dataset, the development of the baseline scenario and the mitigation scenarios that will be evaluated.*
- *A clear plan for the coordination of the development of the LEAP-IBC analysis across the relevant and interested stakeholders in Kenya should be developed.*
- *A clear work plan for each country for the development of the climate and air pollution emission inventory, including details on how i) the structure of the LEAP-IBC dataset should be set up to accommodate available data to estimate emissions from each source sector, and ii) the data that is required in order to complete the LEAP-IBC emission inventory.*

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