



Roadmap for Harmonization of Vehicle Emission Standards in East Africa



Prepared by

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I. Introduction

Air pollution is a major environmental and health problem in many cities in developing and transitional countries. Recent studies have pointed to emissions from motor vehicle traffic as the main source of air pollution in most of these cities, contributing to as much as 80% of urban air pollution in some cities. The key pollutant that is of grave health concern is small particulate matter (PM), causing an estimated 3.2 million premature deaths annually, with the majority coming from transport emissions. PM contributes to increased respiratory infections such as bronchitis and pneumonia as well as chronic lung and heart disease, and causes numerous premature deaths. Diesel PM is especially toxic, and is now classified as carcinogenic by the International Agency for Research on Cancer, the specialized cancer agency of the World Health Organization. The smaller part of PM, black carbon, is also an important climate pollutant, contributing significantly to global warming.

The Partnership for Clean Fuels and Vehicles (PCFV) has been supporting developing and transitional countries to implement clean fuels and vehicles policies to reduce vehicle emissions. To assist countries to develop and implement longer term vehicle emission strategies that look at fuels and vehicles as a system, the PCFV developed a [Regulatory Toolkit](#) that provides a menu of options for countries to match cleaner fuels to vehicle improvements. The East Africa sub-region adopted harmonized low sulphur fuels in January 2015. At the same time, the Regulatory Toolkit was piloted within the sub-region before completion in 2014/15. Following this support, Rwanda adopted mandatory vehicle emission testing from January 2015. Kenya and Uganda are also at advanced stages of implementing similar mandatory vehicle emission testing and are already putting up and/or upgrading the necessary infrastructure for this. Burundi and Tanzania are also expected to follow suit. For successful implementation of the Toolkit within East Africa, it will be important for the entire sub-region to develop harmonized vehicle emission standards to match the cleaner fuel standards. In addition, each country in the sub-region will need to develop and implement an effective vehicle inspection and maintenance program.

This Roadmap for Harmonization of Vehicle Emission Standards in East Africa has been developed as part of PCFV/UN Environment's support towards helping the East Africa sub-region to initiate discussion on harmonization of vehicle emission standards in addition to helping individual nations in the sub-region to develop roadmaps for effective vehicle

emissions inspection and maintenance (I/M) programs. The Roadmap has been developed through a consultative process that took place between November 2016 – March 2017 through national and regional consultative meetings with various stakeholders within the East Africa sub-region including: national standards organizations, environmental protection agencies, transport and infrastructure ministries and departments, technical standards committee of the East African Community (EAC), government agencies in charge of energy, trade and industrialization, local government units, trade and industry associations, academia, NGOs and consumer organizations. The process was led by the Environmental Compliance Institute (ECI) with support from UN Environment (DTIE/Transport Unit).

2. Key Issues for Harmonization

During the consultative process, several areas of divergence in approach to vehicle emission standards and regulation between the various countries in the East Africa Community (EAC) were identified. Finding an acceptable middle ground on these points of divergence is paramount to the harmonization of vehicle emission standards in East Africa. The table below summarizes the key points of divergence hence main areas for potential harmonization.

Issue	Details and Recommendations
<i>Concepts and Terminology</i>	Although English is the predominant official language in East Africa, there are some marked differences in concepts and terminology relating to motor vehicle emissions inspections and testing. Major variations are evident in Rwanda which was previously predominantly French speaking, and Burundi which is still mainly French speaking. Towards harmonization of the standards, there is need to develop a common framework working document that can facilitate convergence on key concepts and terminologies and to ensure that same understanding and meanings are not lost in the event of any translation.
<i>Emission limits for various pollutants</i>	A rapid assessment of the existing vehicle emission standards in all the EAC countries as outlined in the respective codes of practice for inspection of road vehicles

	<p>revealed that there is great variation in emission limits for various pollutants. There are wide ranges in the respective emission limits for CO, HC, NO_x, PM, VOC and Opacity for both gasoline and diesel powered vehicles, whether heavy duty, passenger or light duty. It is recommended that the EAC countries find convergence on the applicable emission limits. With current harmonized fuel standards capable of supporting Euro IV emission standards, it is recommended that the proposed harmonization should target Euro IV equivalent.</p>
<p><i>Age limit and/or technology/performance for imported used vehicles</i></p>	<p>On age limit for imported used vehicles, there are noted variations as follows: Kenya, Uganda – 8 years, Burundi, Rwanda, and Tanzania – 10 years. Several previous attempts to find common ground on this issue have been unsuccessful, with countries such as Kenya even pushing to cap the maximum age for imported used vehicles at 6 years. On the other hand, countries such as Uganda are keen to move the debate from age limit to the technology and performance of the said used vehicles, so that what should matter is performance rather than age. It is recommended that the countries find some convergence on this issue.</p>
<p><i>Categories of vehicles subject to Inspection and Testing</i></p>	<p>There are variations among the EAC countries in the categories of vehicles required by the standards and regulations to undergo not only the initial inspection but also regular subsequent inspections. In some cases such as Tanzania, only commercial and passenger service vehicles must undergo subsequent regular inspections whereas in Rwanda for example, all vehicles must undergo initial and subsequent regular emission inspections. Again, in most of the countries, e.g. Kenya, Tanzania, Uganda and Burundi, motorcycles and mopeds (three-wheelers) are not subject emissions inspections whereas in Rwanda all vehicles including motor cycles they are subject to the standards. It</p>

	<p>is therefore recommended that there be a common agreement within the EAC on the categories of vehicles subject to emission standards to ensure uniformity within the sub-region.</p>
<p>Frequency of Emissions Inspection</p>	<p>There are variations between the EAC countries on the frequency of inspections for the various categories of vehicles subject to emissions inspection. For example, in Kenya, the regulations require annual inspections for commercial and PSVs and every 2 years for personal cars four years old and above; in Rwanda inspections are every 6 months for commercial and PSVs and annually for personal cars. In order to achieve uniform emission reductions, it is recommended that the frequency of inspections for the various categories of vehicles be harmonized.</p>
<p>Test Methods</p>	<p>There is need for the harmonized standards to adopt uniform test methods for the various emission tests in order to achieve uniformity within the sub-region. This includes adoption of similar methodologies for visual assessments where applicable.</p>
<p>I/M Institutional Framework</p>	<p>Rwanda and Uganda have opted for a centralized institutional framework for their I/M programs. Kenya is however considering a decentralized framework in line with its devolved system of government. Again, Uganda has fully privatized its new programme while only maintaining government oversight. In Rwanda, however, the programme is fully government owned and operated. Kenya on the other hand is considering some hybrid system with both government run inspection/testing centres operating alongside licenced private garages. Whereas it may not be possible to achieve a common ground on this issue in view of the different stages of implementation and governance frameworks within the various EAC countries, it is</p>

	recommended that common values on integrity, transparency and accountability be adopted and implemented notwithstanding the institutional framework adopted by any given country.
Taxation regime	There is no common ground within the EAC on what the taxation policy for new versus used vehicles should be. The issue seems to evolve differently in different countries, ranging from 'green' taxes aimed at discouraging importation of used cars (with no positive results recorded e.g. in Tanzania and Uganda), to instances of higher excise/import duty on new vehicles in other instances (e.g. in Burundi and Kenya, thus discouraging adoption of newer vehicle technologies). It is recommended that a common taxation policy that incentivizes the purchase/importation of new as opposed
Scrappage of in-use vehicles	The entire EAC sub-region has no policy on scrappage of in-use vehicles. Noting that older vehicles will invariably have higher emissions, an efficient scrappage policy can help to remove highly emitting old vehicles from the roads and contribute immensely to emissions reductions. It is therefore recommended that the sub-region should consider a harmonized scrappage policy including which categories of vehicles would be subject to the programme, what that applicable age limit would apply to the various categories of vehicles, and what other variables would be applicable.

3. Key Steps of the Roadmap for Harmonization

It is projected that the harmonization of the vehicle emission standards within the East Africa sub-region will take up to one year. This Roadmap therefore outlines the steps in the harmonization process covering 12 months beginning July 2017 to June 2018 (this timeline is based on the assumption that the harmonization process will commence in July 2017, resources and other variables allowing). The steps of the Roadmap are in line with the EAC

Principles and Procedures for the Development of East African Standards. In particular the following key steps and procedures will have to be strictly covered before the harmonized standards can become a reality.

- i. **Preliminary Stage:** Idea for a new harmonized standard on vehicle emissions is formally presented to a National Standards Body (NSB) e.g. Kenya Bureau of Standards (KEBS). The NSB evaluates the idea for its relevance, necessity and possibility of achieving the harmonized standard and makes a decision on whether to progress it into the harmonization process. If accepted, the idea is advanced to the proposal stage.
- ii. **Proposal Stage (Stage 1):** The NSB prepares a New Work Item Proposal (NWIP) indicating the suggested title, scope and justification for the item to be included in the EAC standards harmonization programme. The proposal stage ends when a NWIP has been accepted by at least 2 NSBs to advance it into the standards programme.
- iii. **Preparatory Stage (Stage 2):** At this stage the Secretariat of the Technical Committee/Standards Committee develops a Working Draft of the Harmonized Vehicle Emissions Standards that conforms to the approved EAC template, taking into consideration the available international, regional or national standard which may be adopted or adapted as a committee draft. The preparatory stage ends when Working Draft has been accepted to advance to first committee draft.
- iv. **Committee Stage (Stage 3):** At this stage the members of the Technical Committee/Standards Committee receive a Committee Draft of the Harmonized Vehicle Emission Standards, and provides comments on the draft. Consensus is built on received comments for progression of the Committee Draft to the enquiry stage. The committee stage ends when all technical issues have been resolved and a Committee Draft is accepted to advance to the enquiry stage as a Draft East Africa Standard.
- v. **Enquiry Stage (Stage 4):** At this stage, the draft East Africa Standard on Vehicle Emissions is circulated by the Technical Committee Secretariat to all national bodies for public comment for a period of 60 days. At this stage the draft is also notified to the World Trade Organization (WTO). The Technical Committee Secretariat reviews, compiles, collates and circulates comments to all Partner States in order to

deal with unresolved harmonization issues and to advance the document for balloting by the Partner States.

- vi. **Ballot Stage (Stage 5):** At this stage, the Final Draft East African Standard on Vehicle Emissions is distributed by the Technical Committee Secretariat together with the Ballot Form to all Partner States for a one month vote. The position submitted through the Partner State NSB must be explicit: positive or negative. The acceptance criterion of the Final Draft East African Standard is a positive acceptance by all Partner States NSBs.
- vii. **Approval and Declaration Stage (Stage 6):** The Technical Committee Chairman presents to the Standards Management Committee a report of the Technical Committee indicating that the Final Draft East African Standard on Vehicle Emissions is due for approval following a due process. The Standards Management Committee considers the report and verifies that the due process has been followed. The Standards Management Committee also verifies that the final text of the Final Draft East Africa Standard is available with EAC Secretariat. The Standards Management Committee compiles a report which is then circulated to the NSBs and the EAC Secretariat. The Chairperson of the Standards Management Committee presents the report to the East Africa Standards Committee for consideration and approval of the Final Draft East Africa Standard on Vehicle Emissions by the East Africa Standards Committee. The East Africa Standards Committee compiles a report indicating that Final Draft East Africa Standard on Vehicle Emissions is due for approval and declaration as an East African Standard and submits it to the EAC Secretariat.
- viii. **Publication Stage (Stage 7):** Within 1 month after declaration of the East Africa Standard on Vehicle Emissions, EAC Secretariat publishes the number, title and scope of the newly declared Standard in the EAC Gazette and posts the same on EAC WebPortal. The EAC Gazette Notice will indicate the latest date by which the East Africa Standard has to be implemented at national level by publication of an identical national standard or by endorsement; and the latest date by which the national standards conflicting with the East Africa Standard have to be withdrawn. At this stage the EAC Secretariat also updates and publishes the updated EAC Standards catalogue.

The table below summarizes the above stages with specific timelines for each step.

Stage	Timeline												Responsible	
	2017						2018							
	J	A	S	O	N	D	J	F	M	A	M	J		
Preliminary Stage														ECI/UN Environment
Proposal Stage														NSB, ECI/UN Environment
Preparatory Stage														EAC Standards Technical Committee
Committee Stage														Technical Committee Secretariat, NSBs
Enquiry Stage														Technical Committee Secretariat, NSBs
Ballot Stage														Technical Committee Secretariat, NSBs
Approval and Declaration Stage														Technical Committee, Standards Management Committee, EAC Secretariat
Publication Stage														EAC Secretariat