



MTCC AFRICA
Maritime Technology Cooperation Centre



CAPACITY BUILDING FOR CLIMATE CHANGE MITIGATION IN THE MARITIME SHIPPING INDUSTRY

Support to Emissions Reduction (Conditional)

Madagascar National Workshop | 16 – 17 May 2018 | Toamasina

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International Maritime Organization

European Union Regulation 2015/757

- GHG emissions from Aviation and Maritime Shipping were excluded by the Kyoto Protocol (1997) under Art. 2.2 which instead required ICAO and the IMO to “...pursue limitation or reduction of greenhouse gases...”
- The Paris Agreement also did not directly address aviation and maritime shipping, the text having been omitted just before signature by Parties.
- Question: Who then should conduct MRV of data from international sailing ships? - The ship owner, or the flag state, or the port of call, all of which will routinely be of different nationalities / jurisdictions?
- To assist in the collection of emission data, the EU has taken a **regional approach** with the adoption of Regulation 2015/757/EU intended to monitor, report and verify (MRV) the emissions from ships (5,000 gross tonnes and above), calling at EU ports by assessing their energy efficiency.

International Maritime Organization

European Union Regulation 2015/757

- Verification of CO₂ emissions involves assessing different parameters from the point of view of the *ship's functioning*, date and port of departure, arrival at destination of journey, time spent on the sea (including the time in motion and at berth), fuel consumed, emissions consequently produced, nature of the cargo transported, etc.
- Where there is compliance, the verifier issues a “***document of compliance***” that will have to be surrendered when calling at EU Ports.
- The “***document of compliance***” will be mandatory after 30 June 2019 especially when sailing in Maritime Sensitive Environmental Zones.

Maritime Data MRV Deadlines

1 January 2013	Mandatory requirement to carry on board a Ship Energy Efficiency Management Plan (SEEMP)
31 August 2017	Deadline for the submission of ship Monitoring Plan to your Verifier
31 December 2017	Deadline for the successful assessment of the ship Monitoring Plan by your Verifier
1 January 2018	Start of first Monitoring Period
31 December 2018	End of first Monitoring Period
30 April 2019	Deadline to provide a final verified emissions report to the European Union Commission
30 June 2019	Need to carry “ Document of Compliance ” on board each ship



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Kenya's Conditional Support to Emissions Reduction

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Kenya Supports Emissions Reduction Initiatives

- Compliance should not result to high costs of implementation (budgetarily unaffordable)
- Compliance should not result to comparatively high costs to the State (unit reduction in emissions by a developed country, the corresponding impact in an emerging economy such as Kenya tends to be disproportionately high)
- That Kenya be assisted and facilitated towards compliance as spearheaded by the IMO's Marine Environment Protection Committee (MEPC), in particular resolution MEPC.229(65) on Promotion of Technical Co-operation and Transfer of Technology relating to the Improvement of Energy Efficiency of Ships, which requires the Organization to provide technical assistance to Member States.

Kenya's Proactive Approach

- United Nations Environment Assembly, third Session (UNEA 3 2017) on Pollution - (concluded in December 2017)
- Blue Economy Conference – proposed for November 2018
- Oceans Conference 2020
- Regional Commissions – East African Community (EAC) through its Lake Victoria Basin Development Authority (LVBDA), the Africa Union (AU)
- Active participation at the Marine Environment Protection Committee (MEPC) of the International Maritime Organization (IMO). MEPC72 will be in April 2018 while MEPC73 will be in October 2018

Institutional Readiness

- Kenya ratified the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC) on 28 December 2016
- Kenya has submitted an ambitious Nationally Determined Contribution (NDC) that has the following:
 - Adaptation component seeks to ensure enhanced resilience to climate change towards the attainment of Vision 2030 by mainstreaming climate change adaptation into the Medium-Term Plans (MTPs) and implementing adaptation actions.
 - Mitigation component proposes to abate greenhouse gas emissions by 30% by the year 2030 relative to business as usual scenario of 143 million tons of carbon dioxide equivalent.

Institutional Readiness

- National Climate Change Action Plan (NCCAP) 2013-2017 is under review (2018 – 2022)
- Climate Change Act 2016
- Air quality Regulations
- Directorate of Climate Change at the State Department of Environment
- National Environment Management Authority (NEMA)
- Kenya Meteorological Department (KMD)
- Energy Regulatory Commission (ERC)

MARPOL Annex VI Ratification

1. Benin
2. Congo
3. Ghana
4. Kenya
5. Liberia
6. Nigeria
7. Sierra Leone
8. South Africa
9. Tunisia



Capacity to Measure Air Quality



Measurement of Emissions

Parameters Monitored

- PM2.5, PM10
- Black carbon
- Ozone (O₃)
- Carbon monoxide (CO)
- Carbon dioxide (CO₂)
- Sulphur Dioxide (SO₂)
- Nitrogen Dioxide (NO₂)
- Nitric Oxide (NO)
- Hydrogen Sulphide (H₂S)
- Methane (CH₄)
- Ammonia (NH₃)





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Kenyan Institutions for Emissions Reduction

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Maritime Relevant Data Source

Kenya Meteorological Department (KMD)

- KMD has data on Mombasa Port City Weather (historical, current and forecasting)
- KMD also keeps data on maritime meteorology
- KMD has the capacity to test air quality

Maritime Relevant Data Source

National Environment Management Authority (NEMA)

- NEMA is the National Implementing Entity (NIE) for Kenya.
- NEMA is implementing the Adaptation Fund Programme which is to run for three years.
- NEMA has also been accredited to have direct access for Green Climate Fund (GCF) funding.

Maritime Relevant Data Source

Energy Regulatory Commission (ERC)

- ERC was established under the Energy Act No. 12 of 2006
- Core mandate is technical and economic regulation of the electric power, petroleum and renewable energy sectors.
- ERC regulates the importation, storage and export (including bunkering) of petroleum products
- ERC regulates the importation and production of renewable energy.
- ERC regulates energy efficiency by prescribing the types of energy audits for facilities which can be extended to ships
- Enforcement is through licensing of operators, energy auditors, etc.

Maritime Relevant Data Source

Kenya Maritime Authority (KMA)

- Under the Kenya Maritime Authority Act, 2006, KMA ensures the protection of the marine environment by administering programs for prevention of ship-source marine pollution.
- KMA maintains data on incidences of marine pollution
- KMA is the **“EU/IMO Accredited MRV Verifier”** for emissions from ships
- KMA will therefore be receiving data on GHG emissions from ships (5,000 gross tonnes and above) mooring or docking at Mombasa Port. This excludes innocent passage ships.

Maritime Relevant Data Source

Kenya Ports Authority (KPA)

- KPA is established under the Kenya Ports Authority Act, Cap 391
- They maintain data on all ships that call at the Port of Mombasa
- <https://www.kpa.co.ke/Pages/14DaysList.aspx>



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