

# KPA GREEN PORT POLICY



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(KPA)**



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# INTRODUCTION

- State corporation under the Transport Ministry
- Mandate- Maintain, operate and regulate all sea and inland waterway ports in Kenya.
- Port of Mombasa, Lamu, Kisumu, Shimoni, dry ports
- Vision- World class ports of choice
- Mission- Provide efficient and competitive port services to facilitate global trade
- Uganda, Rwanda, Burundi, South Sudan, Northern Tanzania, and Eastern DRC. Handle cargo for Ethiopia, Somalia, Zambia



# PORT OF MOMBASA

Berth/terminal	Cargo handled
B1, B2	Passenger vessels, RoRo, Motor vehicles
B3, B4	Bulk grain, Dry bulk- Clinker
B5	Steel, vehicles, containers
B7 - B10	Coal, clinker, steel, fertilizer, Vegetable oil (mostly crude palm oil)
B11 - B14	Motor vehicles, steel, containers
B16 - B19	Containers
B20, B21, B22	Containers
Kipevu Oil Terminal	Petroleum, gas- 5 products
Shimanzi Oil terminal	Petroleum and gas



# GREEN PORT POLICY

- KPA is implementing a Green Port Policy (GPP)
- GPP is a pro-active, comprehensive approach to address the negative Environmental impacts of port activities and operations
- Guides on Environmentally friendly port operations, port development
- GHG Inventory/carbon footprint
- Focuses on GHG reduction strategies
- Waste management, water management, Air quality, Environmental audits, biodiversity protection, health risk reduction, EMS



# GPP Promises to

- Put people first
- Invest in use of new technologies.
- Co-opt stakeholders and educate the community in improving the environment
- Implement and phase in economically sustainable measures to protect and improve the environment
- Become a regional green port leader in **2025**



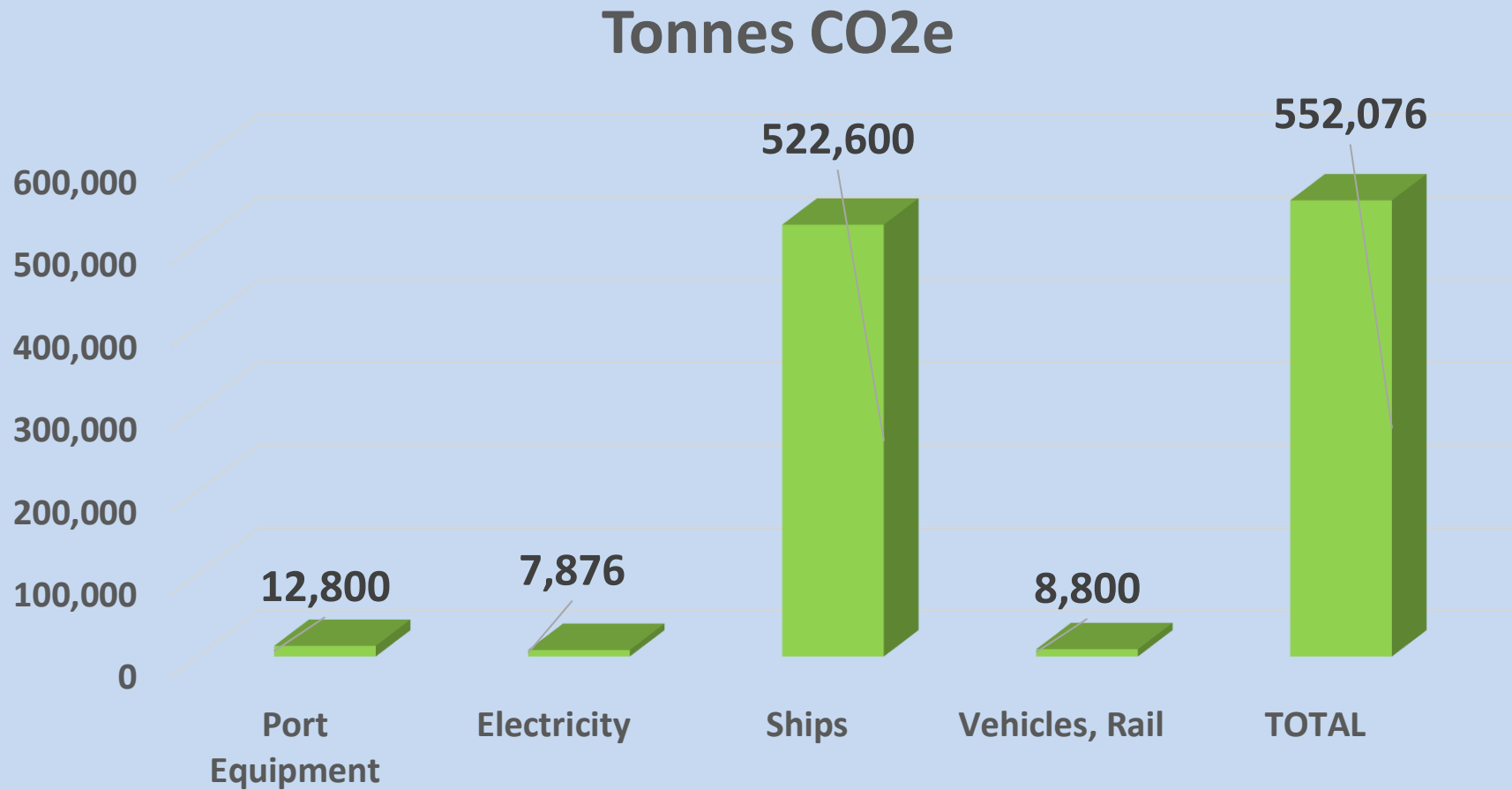


# GHG INVENTORY- GPP

Source of Consumption	Tonnes CO2e	%
1. Port Equipment	17,810	5.3
2. Electricity Consumption	4,108	1.2
3. Ships, Vehicles, Rail- Local	133,203	39.7
4. Associated – non-local	180,346	53.8
<b>TOTAL</b>	<b>335,467</b>	<b>100</b>



# GHG INVENTORY-NCTTCA



Northern  
Corridor  
Transit and  
Transport  
Coordination  
Authority  
(NCTTCA)



# GHG EMISSIONS FORECAST

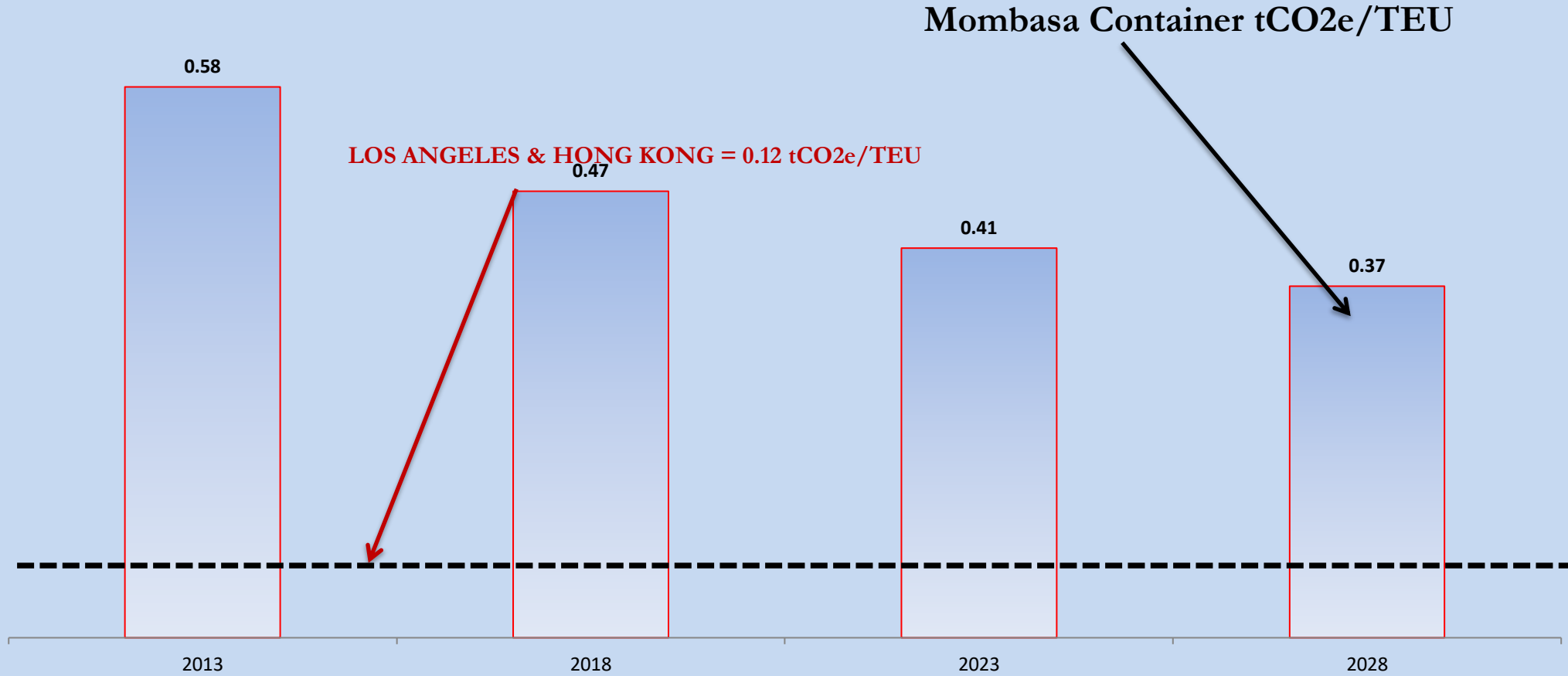


**Without interventions, GHG emissions are projected to double to 700,000 tCO<sub>2</sub>e by 2028**





# GHG INTENSITY



# STUDY ON EMISSION FROM SHIPS

- Comprehensive study (Port of Mombasa) covering various variables
- Data for 3200 ships used- Covering 2 years
- Vessel type- Container, General cargo, RORO, Tanker, Bulk carrier, Car carrier - Emissions
- Main and auxiliary engine power of the ships- Emissions
- Load factor (%)
- Time in the port- Berthing, Maneuvering, anchorage- Emissions
- Emission factors
- Age of the ships- year built-Emissions
- Vessels Dead Weight (DWT)- Emissions
- NO<sub>x</sub>, SO<sub>x</sub>, CO, CO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, S
- Undertaken by MTCC-Africa (KPA, KMA and JKUAT)
- MTCC-Africa may present in future workshops



# GHG REDUCTION MEASURES

- Use of alternative energy sources-Renewable
- Green Procurement
- Cold ironing/shore power- Power to vessels
- Green building
- Forestry programmes
- Control of dust emissions



# GHG REDUCTION MEASURES

- Alternative Energy for equipment
- Enforce truck inspection standards for port entry. Discourage old trucks
- Utilize computer truck scheduling to eliminate truck time in port
- Switch long distance freight from road to rail transport
- SGR to reduce road freight & emissions.
- Switch to electric powered cargo handling equipment



# GREEN projects

- Procurement of hybrid and energy efficient equipment- 28 hybrid RTGs
- Installation of solar power plants
- Onshore power
- LED Lighting- All offices fitted with LED lighting to replace the existing less efficient and more energy consuming light fittings. 111 out of 114 monopoles' 1000 W High pressure sodium lamps already retrofitted with 600 W LED lights
- Perimeter/Road lighting- Wind, solar
- Green Building- Lighting, ACs, Chillers
- Forestry programmes
- Asbestos removal, water harvesting



# PICTORIAL

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# Solar Plant- No.3



**Modern Cruise ship  
Terminal**

**300kw Solar plant**

**Consumption- 200KW**

**Surplus – 100KW**

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# Solar plant No. 2



**350KW**

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# Solar-Wind energy Lighting



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# Eco-Terracing- Hillsides



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# Pergola





# Eco-Terracing



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# GREEN ZONES- Vegetation



**Cafeteria**

**Offices**

**Mosque**

**Resting  
areas**

**Sanitary  
facilities**



# Cont...



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# Mangrove Restoration project





# Cont...



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# More sites



**Community  
Bee Keeping  
project  
supported  
by KPA**



# Adopted sites



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# UPCOMING PROJECTS/Way Forward

- Solar power Plants- **5 megawatts**
- On-shore power
- Review of the GPP
- Evaluate the effectiveness of the measures implemented
- Dust suppression technology
- Forestry programmes
- Asbestos removal- Final phase
- ISO EMS 14001 and OHSAS 45001 implementation



THANK YOU



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