



5th African Ports Environmental & Social Sustainability Study Visit

SUMMARY REPORT

Denmark

23rd to 27th October 2023

Contributors

Ghanian delegation, Cameroonian delegation & Angolan delegation

Edition

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TABLE OF CONTENT

CONTENTS

Table of content	1
SOME ABBREVIATIONS	1
INTRODUCTION	2
Expectations	2
LEARNING FROM Danish Experience	3
Conclusion and Prospects.....	4

SOME ABBREVIATIONS

CII	Carbon Intensity Indicator
EEXI	Energy Efficiency Existing Ship Index
EPL	Engine Power Limitation
GPHA	Ghana Ports and Harbour Authority
IMO	International Maritime Organization
PAD	Port Authority of Douala
PAK	Port Authority of Kribi
PENAf	Ports Environmental Network-Africa
PEPP II	Port Effectiveness and Public Private Cooperation for Competitiveness
PESCANGOLA	Empresa Portuária de Pesca de Angola
PMAWCA	Ports Management Association of West and Central Africa

NB: Attendance list and presentations attached.

INTRODUCTION

Thirteen (13) experts from West and Central African ports met in Denmark for a study visit to Aalborg and Aarhus, two key port cities of Denmark.

Beating the winter cold, this group of young management staffs and service providers from the sub-Saharan African port industry were keen to understand the dynamics of the cohesion that keeps solidifying between the Danish Port Authorities, the Danish universities and the big companies in the port industry that made it possible for Denmark to lead the way to sustainable development in Europe.

Starting with the north-most traditional city of Aalborg with its heavily industrialized port strongly cooperating with the Aalborg university which has a highly specialized engineering research activity, the study visit ended in the commercial and relatively modern city of Aarhus. The presentations from researchers, port managers, and business leaders, set the stage for an honest and objective exchange of ideas that was crystalized into a generalized commitment to create innovative frameworks within which sustainable development research can be nurtured to grow strong in the West and central Africa maritime ecosystem.

EXPECTATIONS

Participants were very expectant and shared preoccupations which sought to understand:

COOPERATION FOR SUSTAINABILITY

- How has inter-port cooperation helped the Danish ports to benchmark and get sustainability on rails
- What relationships has Danish ports established with Danish researchers in the domain of energy and other innovative actions to reduce carbon footprints and reach the neutral climate status?

ACTIONS FOR SUSTAINABILITY

- What is done in the field of green financing here Denmark?
- How do researchers and sustainability experts communicate the importance of sustainability to Port management?
- How is the Polluter Pay principle implemented here?
- How do Danish ports address pollution from cement producing companies?

All these in view of identifying relevant concepts and practices that can be exported to our subregion and contextualize accordingly.

LEARNING FROM DANISH EXPERIENCE

While the port of Aalborg distinguishes itself as the best blade producer for windmills in the whole world, the port of Aarhus is the largest commercial port in Denmark and a leader in green fuel transition in all of Europe. The presentations threw lights on the elaborate working relationship that researchers and members of the port community enjoy. This kind of industrial symbiosis facilitates the realization of the sustainability agenda in Danish ports as it also reveals how one company's raw materials can be gotten from another's waste products and vice versa, contributing to circularize the economy thereby optimizing resources and reducing carbon footprint.



Participants were introduced into the philosophy of the sustainability of strategy in Danish ports which was partly inspired from what was happening in certain ports in Europe and North America. The strategy consists of three main approaches which are the activist approach (or specific initiatives), the formal approach (policy initiative) and the systematic approach (ecosystem initiative) which enhances stakeholder management and creates joint awareness. This chain also describes the sustainability journey of Danish ports, and possibly that of many European ports.

Different solutions deployed to attain a climate neutral state were presented from different angles and discussed. The concept of circular economy was also emphasized. The Danish port, research, and maritime public and private administrations all proved to be mobilized towards achieving the stated goal of becoming carbon neutral by 2030, with an important transition in the fuel to begin using methanol by 2028. Carbon emission reduction covered targeted scope 1, scope 2 and scope 3.

A notable project geared at offsetting carbon footprint is that of collecting CO₂ and storing in reservoirs of 800m to 3km below the earth surface or under the sea. This CO₂ could later on be transformed into methanol which is a greener fuel than diesel. This project will be launched later on this year and the company in charge is FIDELIS. The optimization of methanol, hydrogen, biodiesel, and ammonia as alternative sources of electricity as compared to the present fossil fuels, is an ongoing project with tight deadlines. Optimization mostly in the EPL values. Attempts to have electrically powered vehicles and cruise ships are ongoing with limited success. It should be noted here that, like many other European ports, Danish ports have serious challenges having their vessels below the IMO reference lines for CII values. Discussions are being carried out on the relevance of this difficult-to-meet target. Denmark is now expanding its sustainability research to Africa through initiatives such as the Port Effectiveness and Public Private Cooperation for Competitiveness (PEPP II) which connects Ghana and Denmark in strategic innovative research sectors. Worth mentioning that Dr. Harry did his Master class in the port of Aalborg. Denmark is

developing other initiatives such as maritime corridors with its European neighbors. Other Danish research projects for sustainable development include Power-to-X and Green Fuels.

In a bid to set the pace in complying with IMO regulations on reducing the carbon footprints of fuels, making it greener, Denmark is not only innovating by decarbonization projects as the one mentioned above, but also are stepping forward to invest in research that will help find greener fuels for the future. The technical options and alternative fuels have been combined to build emission reduction potential. Concepts EEXI (Energy Efficiency of Existing ship Index) and the CII (Carbon Intensity Indicator) amongst others were presented to exemplify how science forms the basis for setting targets and defining actions in Danish ports. It was therefore made clear that Danish ports and maritime companies have adopted a science-based approach to sustainability and it is yielding results this far.

CONCLUSION AND PROSPECTS

It was nonetheless evident that Denmark has its challenges which it is actively identifying and working to solve. When asked to give the value of the total power consumed and the relative cost of sustainable management for each Danish port, we were informed that these values are still to be evaluated. It also was clear that Denmark is reflecting on ensuring that clean water won't be an issue for the future neither will availability of farmable land. In same line, four (04) PhD research are being partly financed by the Port of Aalborg to improve on their solution offering capacity.

After much brainstorming during working sessions and site visits to Aalborg and Aarhus respective ports and city universities, participants gained a strong resolve to address sustainability issues in the West and Central African port community through collaborative networks which includes symbiotic partnerships between port authorities, researchers, companies, and key actors for particular domains of concern. With this, the following actions were arrived at:

- 1- Collaborate and build research-informed and actor-financed solutions to reduce air pollution, particularly clinker pollution, in our ports by 70% in the next decade.
- 2- Find a way, through PMAWCA and PENAf, to use subregional researchers to assess the Renewable Energy capacity of West and Central African ports.
- 3- Work towards adequately including local universities, preferably of port cities, to participate in future study visits in other to contribute to seed the research-port-industry ecosystem that we hope to build in the coming years.
- 4- Harmonize the ship waste billing philosophy, like paying a flat rate for sludge removal independent of how much sludge is produced. This is to discourage shipping lines from dumping wastes in territorial waters.

It should be noted here that ballast water management attracted a lot of attention when it comes to understanding and applying the IMO resolutions in certain ports of the subregion.