



Arab Academy

for Science , Technology and Maritime Transport



The International Maritime Transport
and Logistics Conference

“MARLOG 13”

**Towards _____
Smart Green Blue
Infrastructure**

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COMPARATIVE ANALYSIS OF PORT GOVERNANCE MODELS FOR GREEN ENERGY TRANSITION





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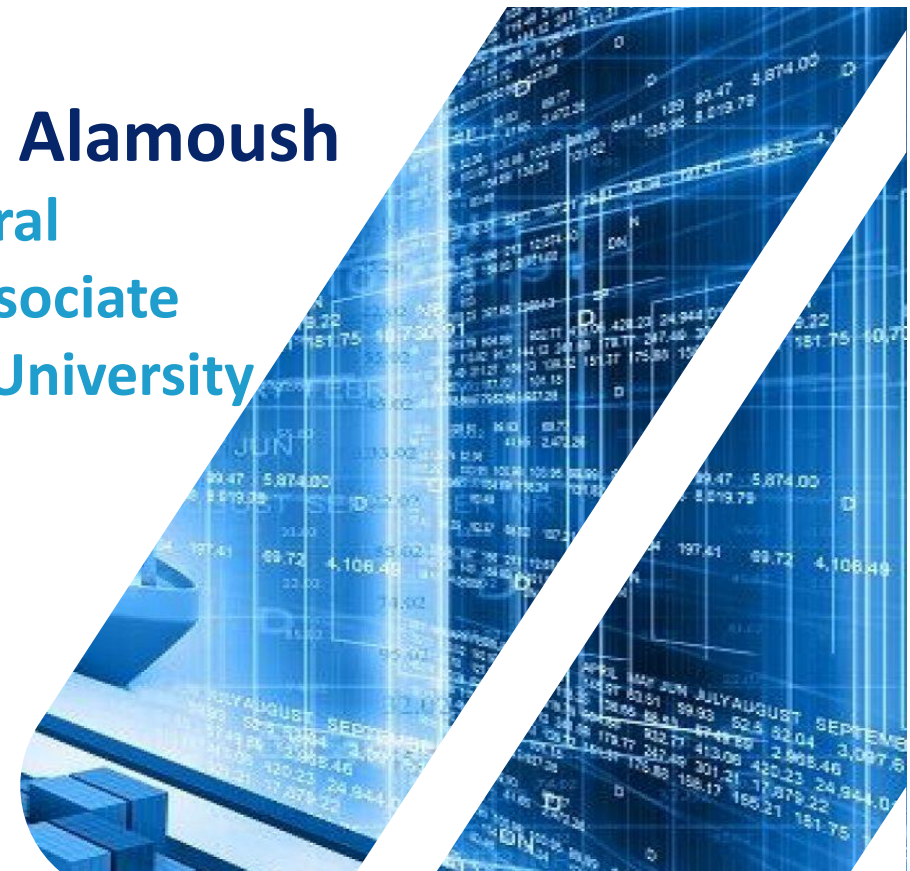
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COMPARATIVE ANALYSIS OF PORT GOVERNANCE MODELS FOR GREEN ENERGY TRANSITION



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Introduction

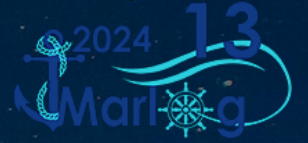


Introduction

Throughout history, ports have been key facilitators of integration into the global economic system. However, because of all the different services and activities in the port area, ports negatively impact the environment. These activities affect the quality of life for nearby populations, which may directly or indirectly affect the air, water, soil, and sediment. In addition, Misra et al. (2017) indicate in their study that the port industry, on its own, contributes to 3% of the overall GHG emissions



Introduction



The 2023 report from the European Sea Ports Organisation (ESPO) highlights that air quality and climate change have been high priorities for ports since 2017.

Munim, Sornn-Friese, and Dushenko 2020; ESPO 2021; Sugimura 2023; Alamoush, Ölçer, and Ballini 2022 highlighted that the extent of government policies and the governance model of a country's ports directly impact the level of implementation of green policies.



Port Governance Models



Port Governance Models

- The interplay between the general administration body and the port authority determines the port governance.
- The World Bank (2007) categorises the port's governance (Administration Models) into four main classifications.

Public Service Port

Tool Port

Landlord Port

Private Service Port



Port Governance Models

Public Service Port

Tool Port

Landlord Port

Private Service Port



Infrastructure



Superstructure



Port labour



Port Governance Models

Tool Port

Landlord Port

Private Service Port

Public Service Port



Infrastructure



Superstructure



Port Labour





Port Governance Models

Public Service Port

Landlord Port

Private Service Port

Tool Port



Infrastructure



Superstructure



Port Labour





Port Governance Models

Public Service Port

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Infrastructure



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Public



Private




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Comparative Analysis



Comparative Analysis

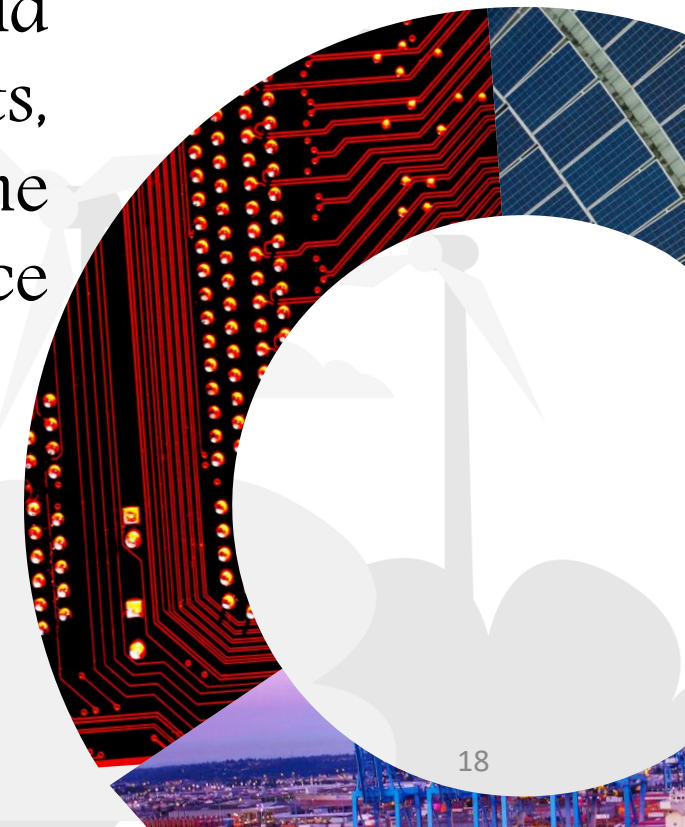
This study focuses on key variables within port governance models, specifically the conversion of a port into a green port, which generally encompasses three main strategies:

- Involving Stakeholders**
- Enacting Green Policies**
- Conducting Scientific Monitoring**



Three Main Strategies

An analysis conducted utilising the Container Port Performance Index 2022 data, which was released by the World Bank, for the top 50 container ports, aimed to assess the applicability of the three variables across all port governance models



Involving Stakeholders

Low



Public Service Port



Involving Stakeholders

Low



Tool Port

Involving Stakeholders

High

Landlord Port

Involving Stakeholders

Low



Fully Privatised

Enacting Green Policies

Medium/ High



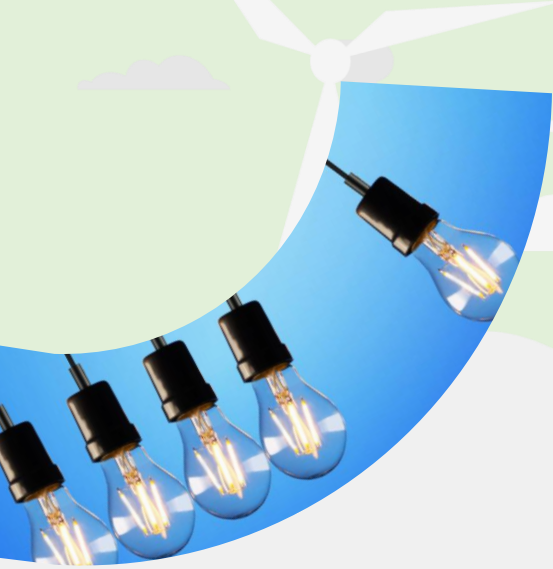
Public Service Port

Enacting Green Policies

Low



Tool Port



Enacting Green Policies

Medium/ High



Landlord Port

Enacting Green Policies

Low / Medium



Fully Privatised

Conducting Scientific Monitoring

Medium/ High



Public Service Port

Conducting Scientific Monitoring

Low

Tool Port

Conducting Scientific Monitoring

Medium/ High



Landlord Port

Conducting Scientific Monitoring

Medium/ High



Fully Privatised



Comparative Analysis

To explore the implementation of green policies within port governance models, an analysis of all ports that have adopted the ESI (56 ports), assembled from the Environmental Ship Index (2023) and the ports' websites

Public Service

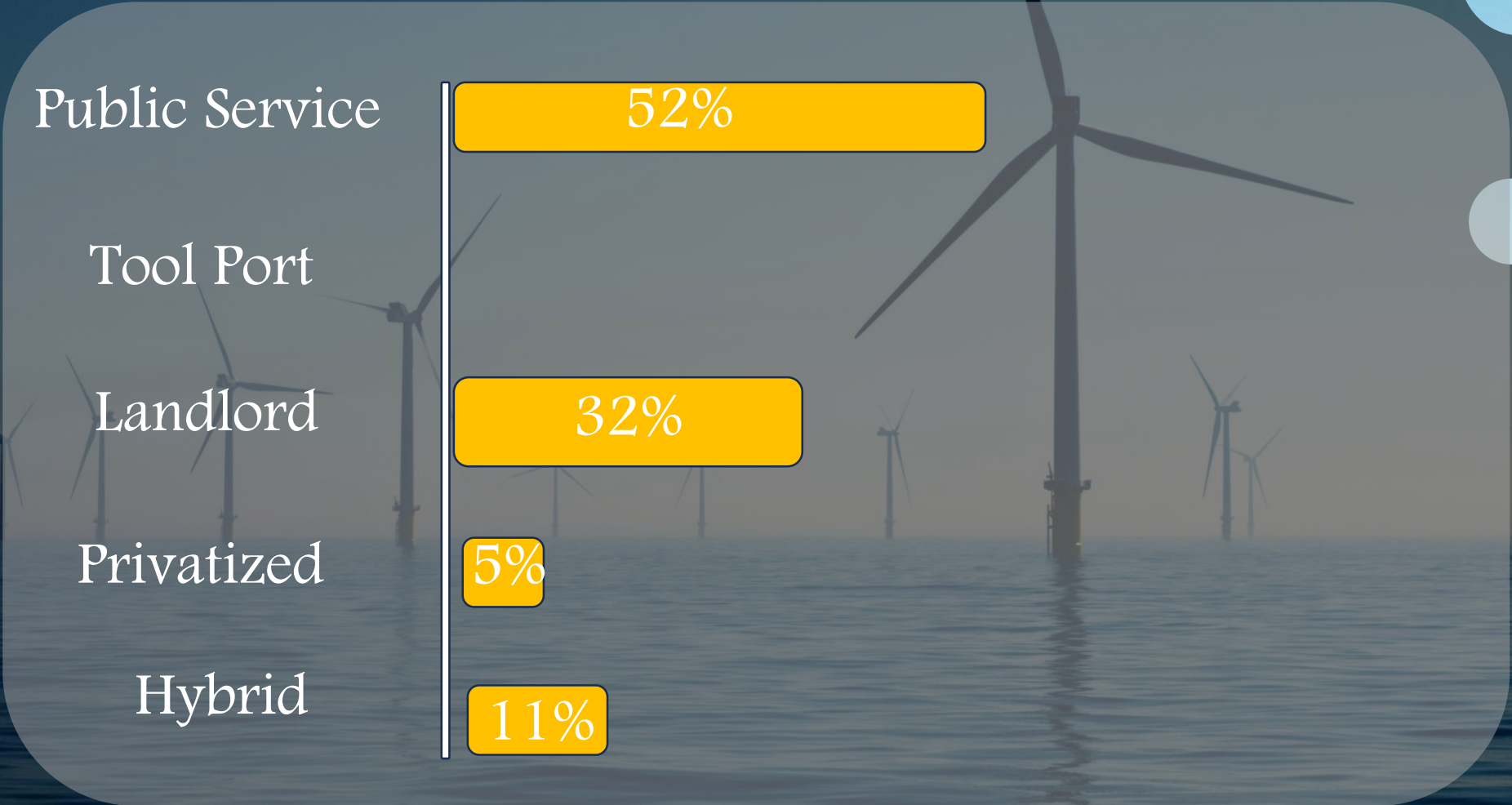
Tool Port

Landlord

Privatized



Comparative Analysis





Discussion & Conclusion



Discussion and Conclusion

- There is not a one-size-fits-all model
- The landlord model, characterized by private sector involvement, is identified as having the potential to enforce green activities, including sustainability, in the long term
- More governance owners correlate with an increased focus on sustainability
- The potential for balancing port efficiency and sustainable practices within the landlord and public port governance models



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Thank You





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