

Reducing the Waste in Marine Eco System



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Abstract

The Marine eco system suffers a yearly waste more than 20 BEUR that needs to be addressed for shipping industry to be more efficient The three-principal source of this waste are: Over Capacity, Fuel Efficiency and Waiting time at Terminals. Four disruptions that can address this waste are: Shared Capacity, Big Data Analytics, Smart Vessels & Automated Ports

The Waste is not the same in all the shipping segments and container segment contributing to a major part of this waste of almost 15 BEUR. 25% of the total fleet capacity is wasted due to idle fleet and low fill rate. These ships spend 6% of their time or 22 days waiting at the anchorage for berthing. Container ships spend 25% of their time at berth. Reducing this allows ships to sail slower, save fuel. In case of Gas Carrier: Overcapacity drives waste through unutilized capex, with fleet idle and reduced sailing speeds. Anchorage time of about 100 hours before loading and about 8 hours before unloading. More than 20% excess engine power during 45% of the sailing time, indicating over investment in engines with too high specifications. Out of 145,000 Ships of world fleet, over 18000 are tugs, representing 12% of total. During the presentation we will look at a case study to show the waste in this sector and how can we address this.

Case study for a 75 Tonne Bollard Pull Hybrid Tug:

- **Operational Profile**
- **Alternative Machinery configurations**
- **Detailed view of operation modes for each alternative configuration**
- **Example on how the electric hybrid system is working in each mode**
- **Emission reduction**
- **Benefit analysis including reduction in installed power and fuel consumption**