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Jamaica

Sustainable Port Practices





Port Sustainability Best Practices

What does Sustainable Port Development mean ?



Sustainable port development involves changing how ports run so that machinery, operations and port activities are more environmentally-friendly. This includes replacing old methods with new, more sustainable practices, and takes time to implement.

Shipping Ports and their Impact on the Environment



Did you know?

Shipping engines emit carbon dioxide, nitrogen oxides, sulfur oxides and greenhouse gasses

The shipping industry consumed **201 million metric tons** of oil between 2019 and 2020

The shipping industry accounts for

over **20%** of all marine litter

Old ships are often dumped in yards in **3rd world countries**, leaving large amounts of waste

In 2018, the shipping sector accounted for around

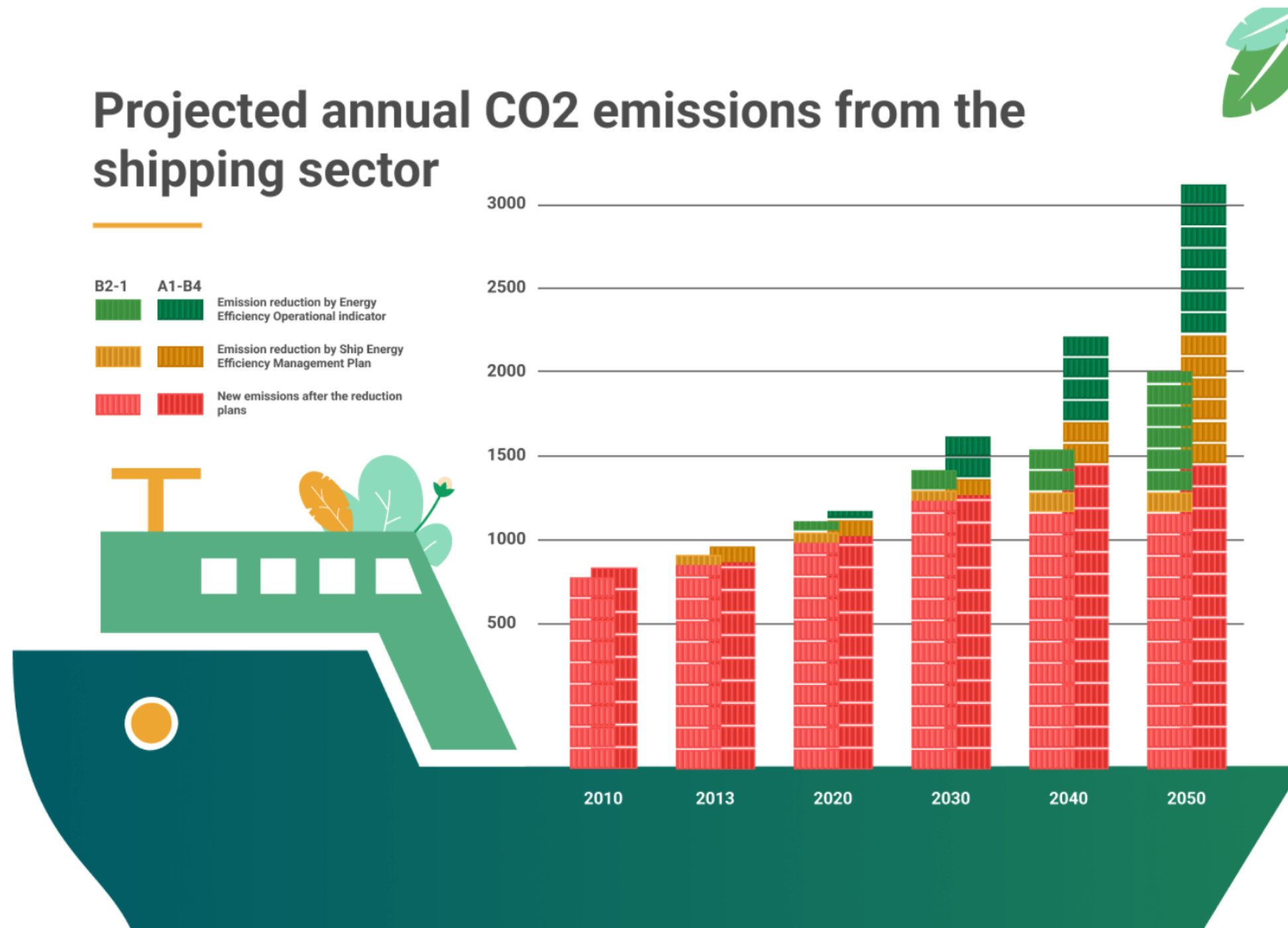
11% of all transport-related CO2 emissions



Projected Shipping Sector CO2 missions



Projected annual CO2 emissions from the shipping sector



International Organizational Roles



Regulations by the *International Maritime Organization (IMO)* and the *European Green Deal (EGD)*:

Some of the most recent policies put in place by the IMO include a focus on:

- *Cleaner air*: Making drastic cuts in sulfur oxide emissions from vessels.
- *Human health*: Putting regulations in place to improve air quality by reducing the emissions of harmful gasses.
- *High quality fuels*: Implementing the use of fuels that have low emission rates and are not harmful to the environment.
- *Industry guidance*: Releasing industry guidelines that will be constantly monitored.

Sustainable Ports Roadmap



How can ports be more sustainable?

Use an onshore power supply when ships are docked

Use big data to manage arrivals and departures, reducing congestion and idling

Use alternative sources of energy/
cleaner fuel

Upgrade port equipment to run on
renewable energy

Improve waste disposal facilities



Sustainable Ports – Best Practice Examples



Singapore, Taiwan, Hong Kong and Rotterdam Ports: Sustainability through automation

This means that cranes and other dangerous equipment will be controlled via computers in a control room. Staff no longer have to be inside the vehicles to operate them. This has led to increased efficiency in unloading cargo.

The Port of Rotterdam (Netherlands) is handled by software: Workers can now control cranes remotely, decreasing transport costs and improving human safety.

The Port of San Diego was one of the first ports to focus on energy efficiency, way back in 2014. San Diego adopted the Climate Action Plan, and their efforts have reduced more than 56,000 metric tons of greenhouse gas emissions.

The Port of Hamburg: Ship mooring spaces are equipped with land power connections, to reduce emissions while ships are docked. The port has also been using sulfur free

Sustainable Ports – Challenges to Change

- Financing
- Project and Change Management Transformation
- New Technologies and their Impact on the Business of Shipping and Ports
- Potential impact of new fuels to overall freight costs and impact for Customers





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- Investments made by Terminals in acquisition of hybrid equipment (electric and fuel) to reduce emissions and improve on efficiencies within the Port for 2022.
- Jamaica is participating actively in a “Caribbean Blue Ports Study”. The Study will establish a broad framework for multiple projects; to implement and improve the maritime facilities within the region as it relates to their Blue Ports Status.
- Investments made by Terminals in acquisition of improved Terminal Operating Systems (TOS) that will refine scheduling of vessels – to ultimately minimize dwell times at anchorage.

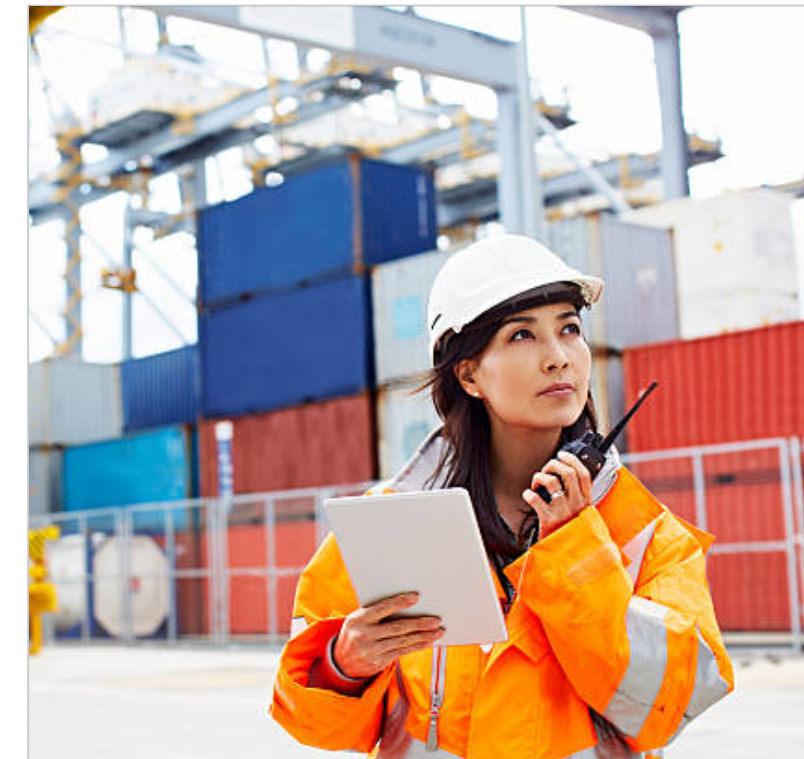
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- Implementation of a **Port Community System (PCS)** – this includes a **Truck Appointment System (TAS)** that is designed to minimize the congestions and dwell times of truckers at the Ports.



Key Points

- Key Points:
- In 2018, the shipping industry accounted for an estimated 11% of all transport-related CO2 emissions.
- Shipping engines emit carbon dioxide and various other greenhouse gasses that are harmful to humans, animals and the environment.
- Big data can be used to manage the congestion and idling of ships at ports, which in turn would reduce fuel consumption.
- Alternative energy and cleaner fuels are now available and can be used to replace fossil fuels.





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