Empowering Ports' Green Transformation: Port Machinery Full Life Cycle Carbon Reduction

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中华力量, 畅通世界

Contents

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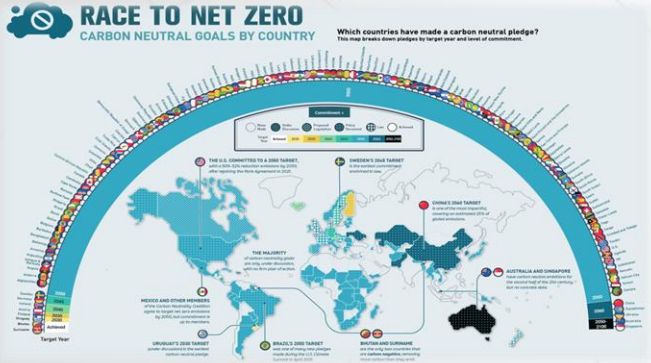
Background

Environmental Protection

Operation Productivity



Energy Consumption

2

Current Work

ISO 14067

Green Design

Green Procurement

Green Manufacturing

Green Delivery

ISO 14040
ISO 14044
ISO 14064

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Hybrid with Super Capacitor

Electrified Driven

Hybrid with Lithium Battery

Lithium Battery Driven

Hybrid with LNG

Hydrogen Fuel Cel

Driven

ENERGY SAVING TECHNOLOGY APPLICATION ON YARD CRANE

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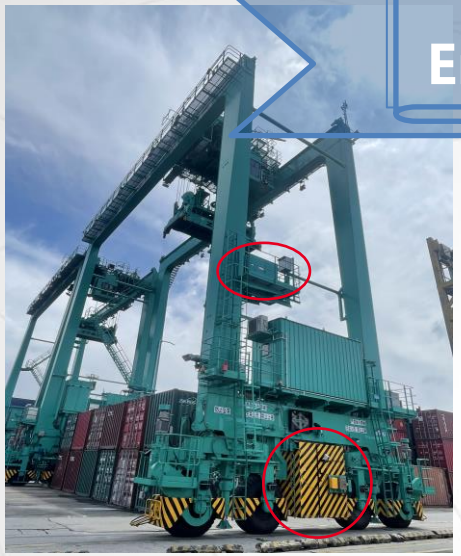
Green Design

Lithium Battery Driven RTG

CO_2 reducing
more than 200 ton

Hydrogen Fuel Cell Driven RTG



CO_2 reducing
more than 300 ton

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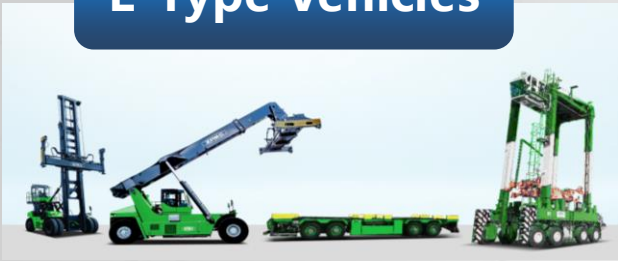
Green products——Mobile mechinery

Green Design

E-Type Vehicles



LNG、Hydrogen SC

Portable battery pack

AGV/IGV

ZPMC 上海振华重工

Lightweight Design

Green Design

Semi-circular Boom STS&RTG Truss boom STS Model S ASC All pipe structure

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Green Procurement

- Establish a supplier green standard access mechanism
- Establish an expert database for cross-field supplier inspections
- Establish a green factory supplier directory
- Promote suppliers to improve green management system certification

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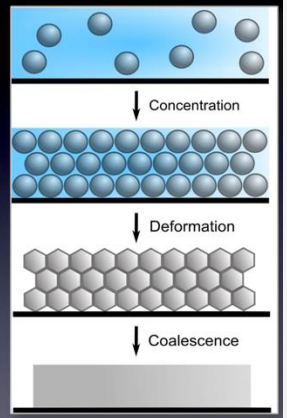
Green Procurement

Paint-shop Upgrade

Welding Smock Control

Automatic Production Line

- Water is used for dilution and cleaning 水作为稀释和清洗
- Film formation of dispersion paints 涂层成膜机理



Green Material

Green Delivery

Shipping Plan

Optimize shipping plans to avoid separate shipments for each port.

Marine Paint

Utilize premium marine paint to reduce hull resistance and fuel consumption.

Shore Power

Equipped with shore power devices, enabling to switch to shore power upon berthing.

Energy Monitoring

Aids in selecting the optimal speed, optimizing draft, and adjusting engine status.

3

Future Outlook

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④ Carbon Management

Refine the carbon management process, establish a carbon emission accounting system, and promote carbon footprint research

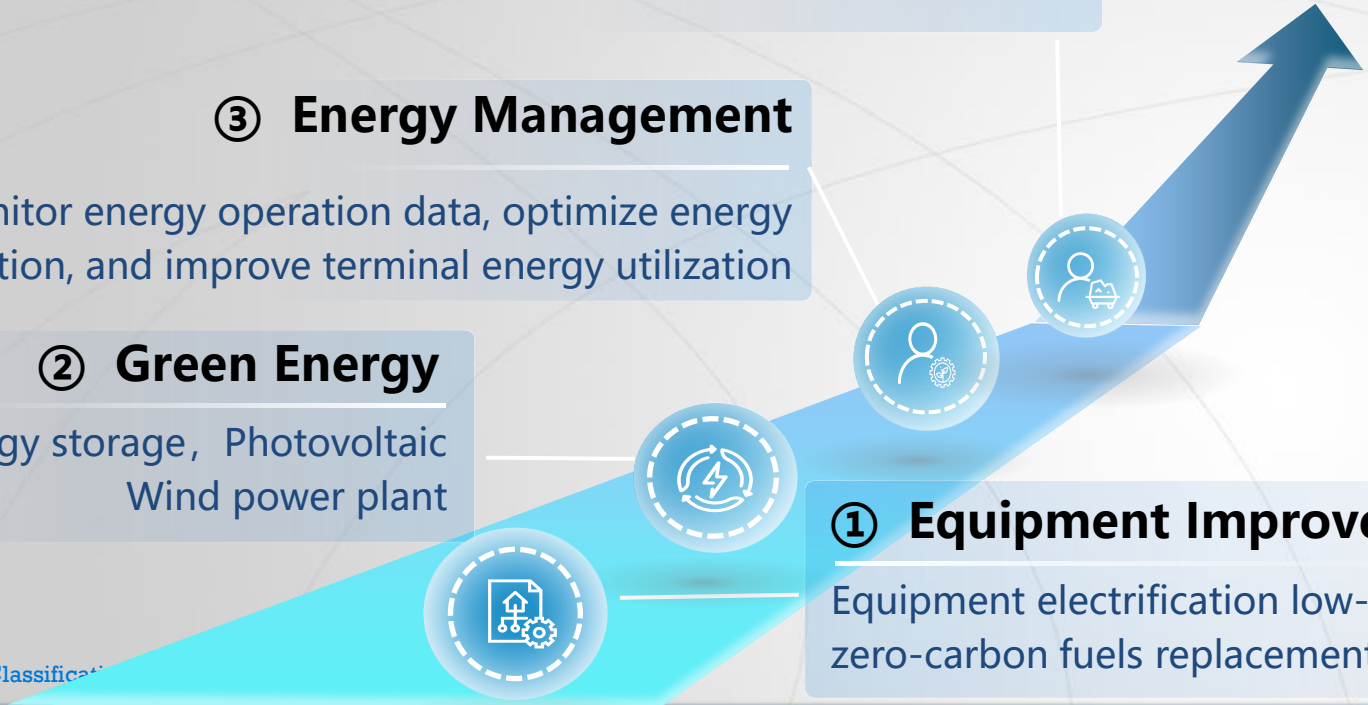
Carbon Neutrality

③ Energy Management

Monitor energy operation data, optimize energy consumption, and improve terminal energy utilization

② Green Energy

Energy storage，Photovoltaic
Wind power plant



① Equipment Improvement

Equipment electrification low-carbon or zero-carbon fuels replacement

THANKS