



Be working on the development of green & zero-carbon port

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Wang Yan

Deputy director of ZPMC Innovation Research Institute



CONTENTS

01. Background

02. Current Work

03. Future Outlook

1 Background



Operation
Productivity

Environmental
Protection



Energy
Consumption



Carbon Pledges

Commitment +

- None Made
- Under Discussion
- Proposed Legislation
- Policy Document
- Law
- Achieved

Target Year

- Achieved
- 2030
- 2035
- 2040
- 2045
- 2050
- 2060
- 2050-2100

THE U.S. COMMITTED TO A 2050 TARGET, with a 50%-52% reduction emissions by 2030, after rejoining the Paris Agreement in 2021.

SWEDEN'S 2045 TARGET is the earliest commitment enshrined in law.

CHINA'S 2060 TARGET is one of the most impactful, covering an estimated 25% of global emissions.

AUSTRALIA AND SINGAPORE have carbon neutral ambitions for the second half of the 21st century, but no concrete date.

THE MAJORITY of carbon neutrality goals are only under discussion, with no firm plan of action.

MEXICO AND OTHER MEMBERS of the Carbon Neutrality Coalition agree to target net zero emissions by 2050, but commitment is up to members.

URUGUAY'S 2030 TARGET (under discussion) is the earliest carbon neutral pledge.

BRAZIL'S 2050 TARGET was one of many new pledges made during the U.S. Climate Summit in April 2021.

BHUTAN AND SURINAME are the only two countries that are **carbon negative**, removing more carbon than they emit.

2050

2060

2050-2100

2050

2045

2040

2035

2030

Achieved

Sweden

Germany

Iceland

Austria

Finland

Uruguay

Bhutan

Suriname

Andorra

Angola

Barbados

Bangladesh

Barbados

Belize

Benin

Brazil

Bulgaria

Burundi

Cape Verde

Canada

Central African Republic

Chad

Chile

Colombia

Comoros

Cook Islands

Cyprus

Costa Rica

Czechia

Denmark

Dominican Republic

Dominica

Djibouti

Ecuador

Egypt

Estonia

European Union

Fiji

France

Gambia

Guinea

Guinea-Bissau

Haiti

Hong Kong

India

Indonesia

Japan

Jamaica

Kazakhstan

Kiribati

Laos

Latvia

Lebanon

Lesotho

Lithuania

Luxembourg

Madagascar

Malawi

Maldives

Mali

Mexico

Moldova

Morocco

Mozambique

Namibia

Nauru

Netherlands

Nicaragua

Niger

Nigeria

North Macedonia

Palau

Pakistan

Panama

Papua New Guinea

Paraguay

Peru

Poland

Portugal

Romania

Rwanda

Saint Kitts and Nevis

Saint Lucia

Samoa

San Marino

Senegal

Seychelles

Sierra Leone

Slovakia

Slovenia

Solomon Islands

Somalia

South Africa

South Korea

South Sudan

Spain

Sudan

Switzerland

Tanzania

Timor-Leste

Togo

Tonga

Trinidad and Tobago

Tuvalu

U.S.

Uganda

Ukraine

Uzbekistan

Vanuatu

Vatican City

Yemen

Yemen City

Zambia

China

Kazakhstan

Ukraine

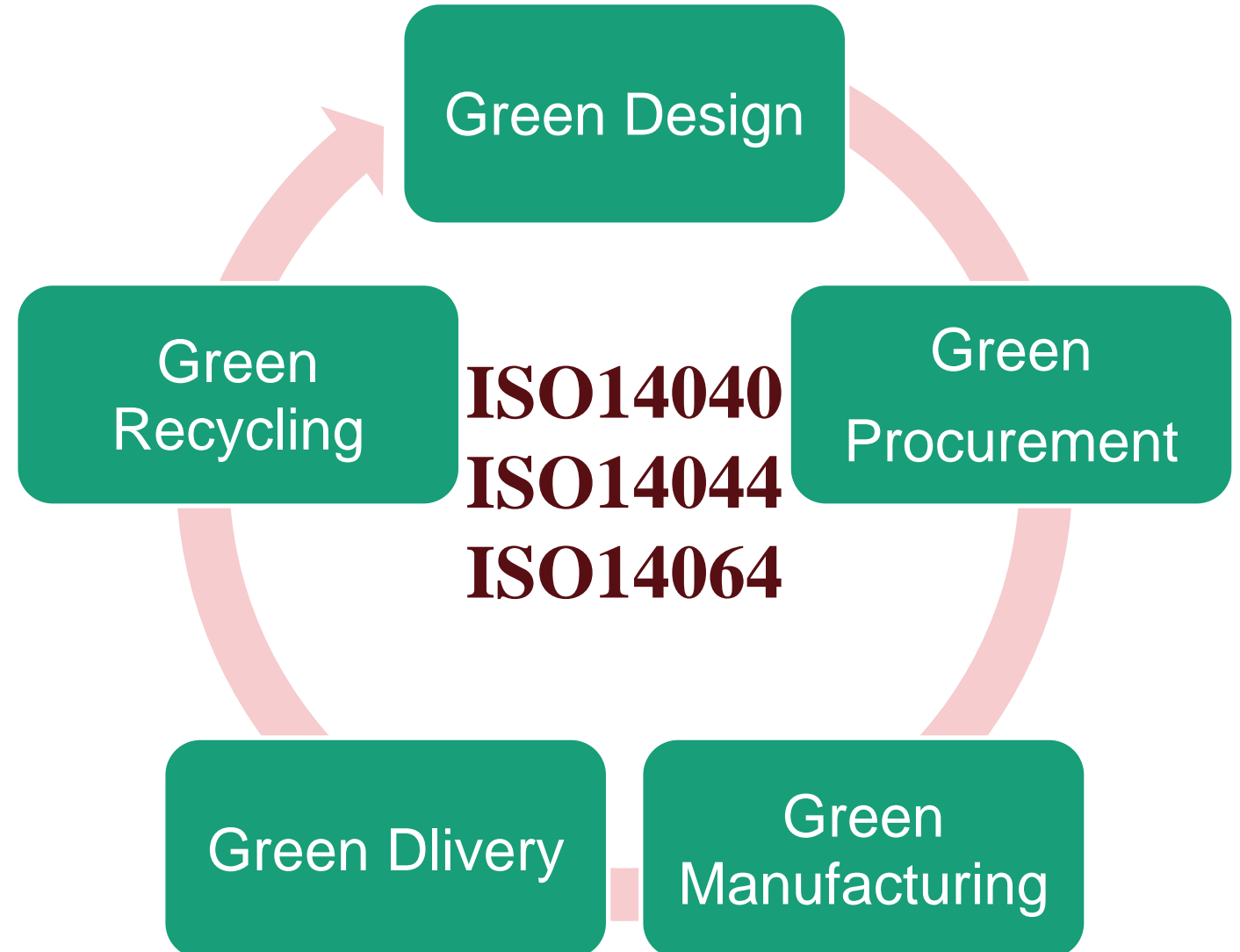
Australia

Singapore

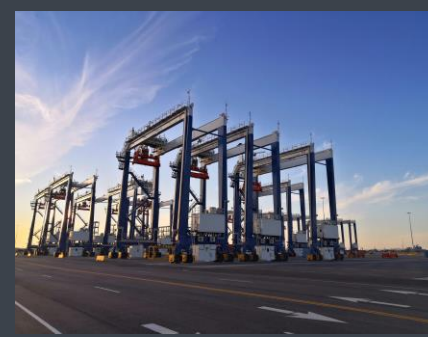
2 Current Work



ISO14067



2 Current Work



2002

Hybrid with Super Capacitor

2006

Electrified Driven

2006

Hybrid with Lithium Battery

2011

Lithium Battery Driven

2014

Hybrid with LNG

2021

Hydrogen Fuel cell Driven

The timeline of energy saving technology application on yard crane

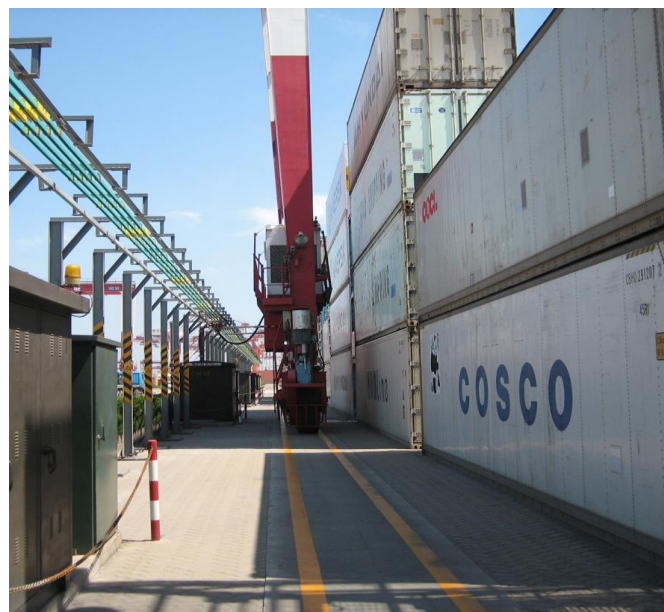
2 Current Work



Motorized cable reel



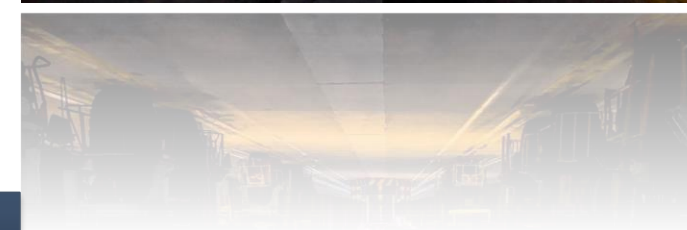
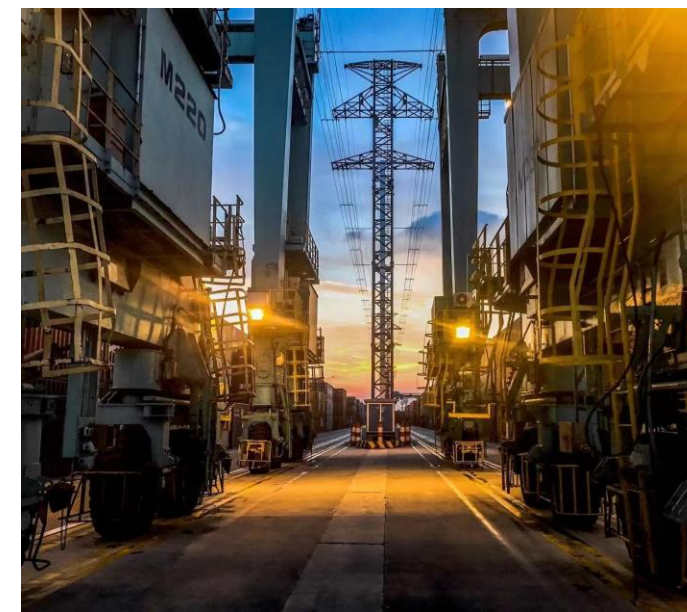
Conductor Rail



1 Litter > > 1.5Kwh/TEU

Electrified Driven RTG

Overhead Catenary



Green Design

2 Current Work



Green Design

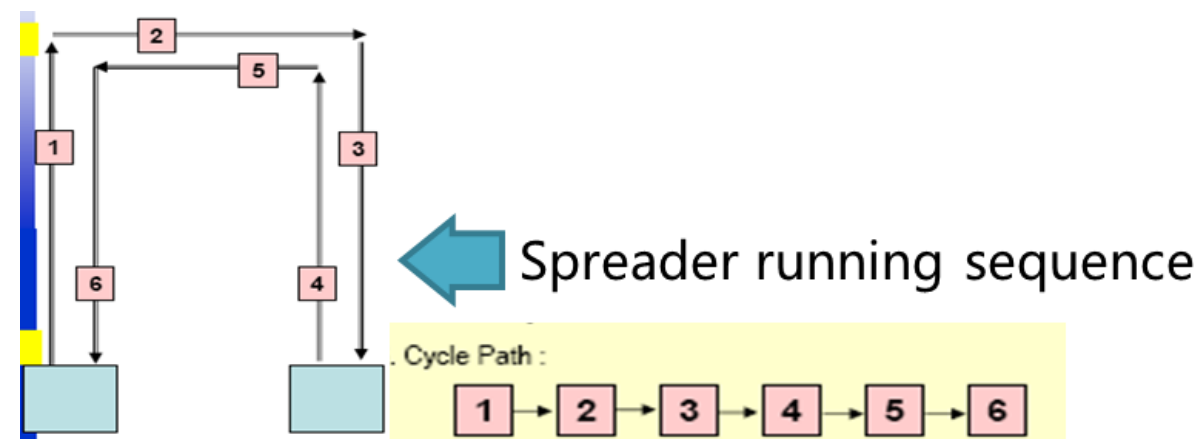


CO₂ ↓ > 200 ton

Lithium Battery Driven RTG

Test Method	Tradition RTG(L)	Hybrid RTG(L)	Fuel Savings(%)
Standby(30min)	5.35L	3.3kwh=0.95L	82.2%
No Load(10 cycles)	13.25L	17.14kwh=4.94L	62.7%
15Ton (10 cycles)	13.9L	16.38kwh=4.72L	66.04%
30Ton (10 cycles)	15.44L	18.04kwh=5.02L	66.32%

Actual Operating 57.37%



2 Current Work

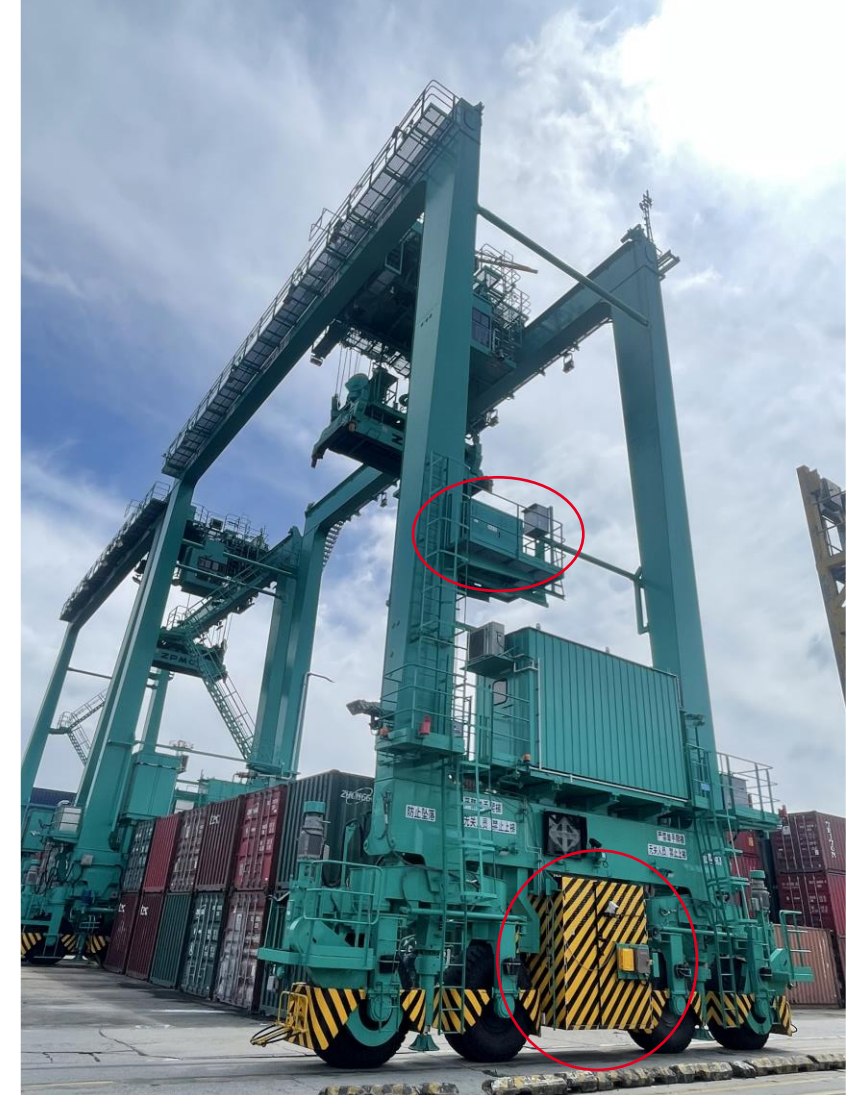


Zero Emissions



CO₂ ↓ > 300 ton

Hydrogen Fuel Cell Driven RTG



Green Design

2 Current Work



E-Type Vehicles



LNG、 Hydrogen SC



Portable battery pack



AGV/IGV

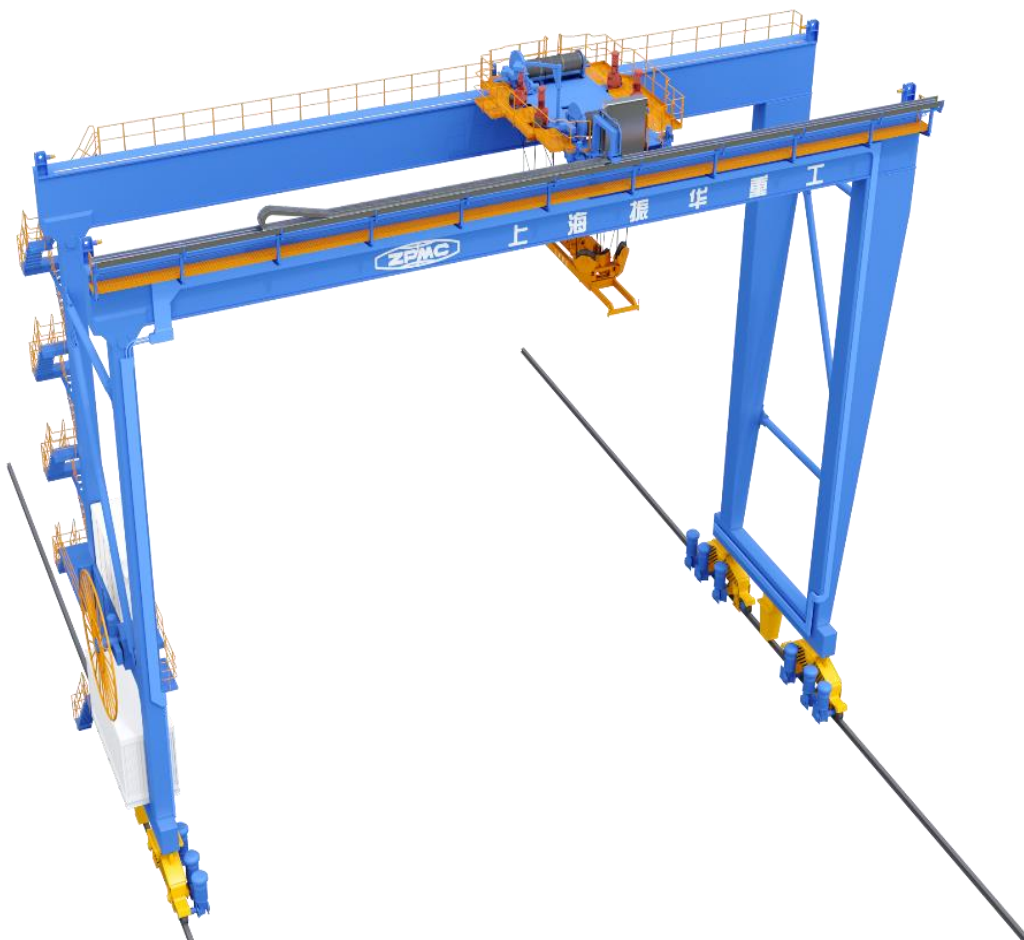


Green Design

2 Current Work

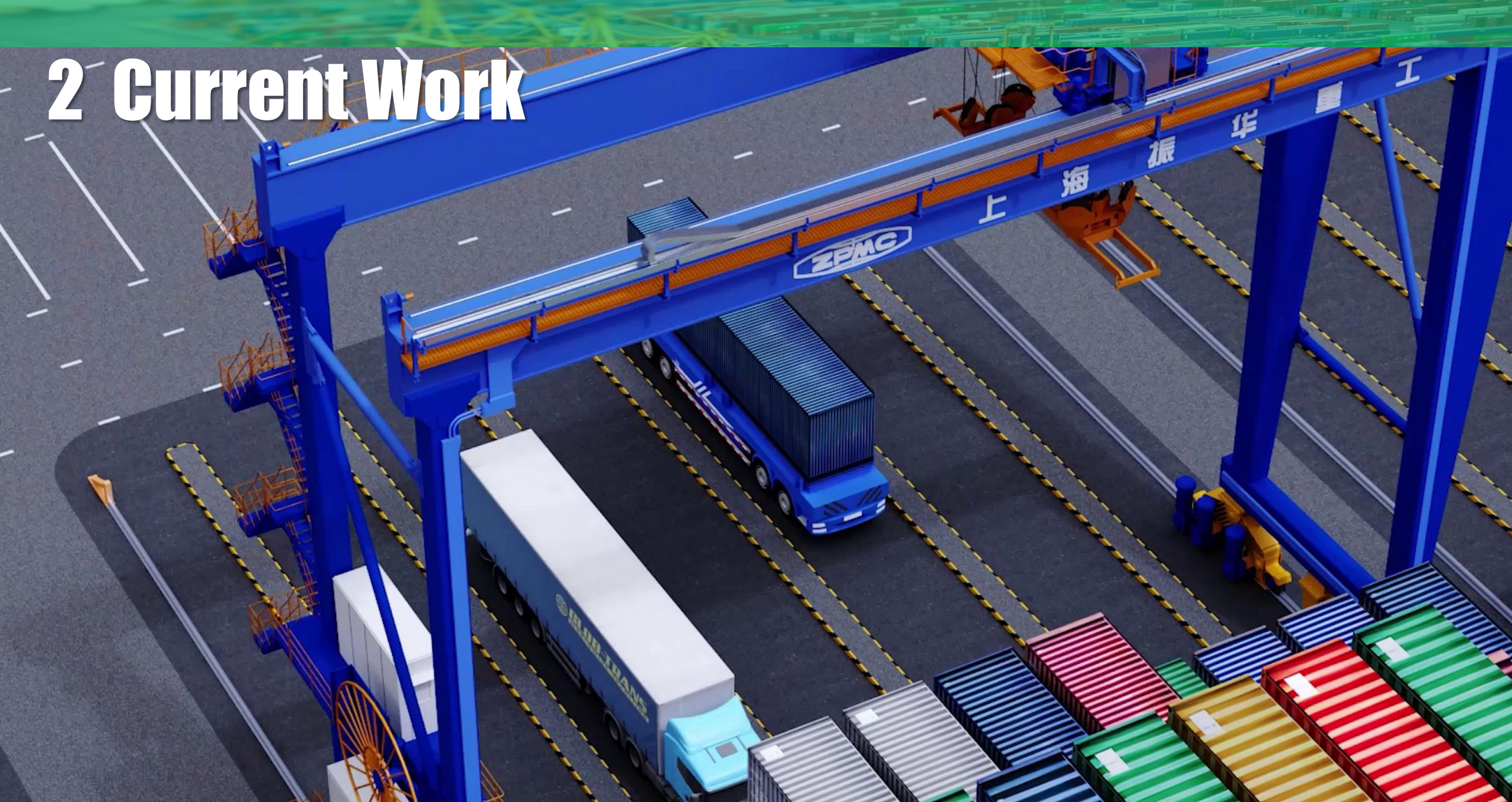


Green Design



Swift
Superior
Sustainable

2 Current Work



2 Current Work



Green Design



Semi-circular Boom STS&RTG

Truss boom STS

New 8 rope MAX

All pipe structure

2 Current Work



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

2 Current Work



Green Manufacturing



Water Pollution Control



Paint-shop Upgrade



Solid Waste Management



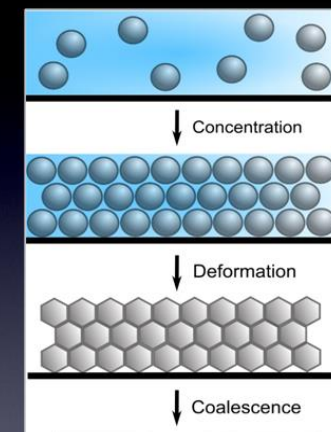
Welding Smoke Control

2 Current Work



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 Energy



Green Process

2 Current Work



Green Delivery



Shipping Plan



Marine Paint



Shore Power



Energy Monitoring

3 Future Outlook



2025

Energy consumption
will be reduced by 15%
Carbon dioxide
emissions will be
reduced by 18%

2028

Carbon dioxide
emissions will be
reduced by 65%
Carbon dioxide
emissions reach the
peak

2060

Achieve carbon
neutrality

3 Future Outlook



④ Carbon Management

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

③ Energy Management

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

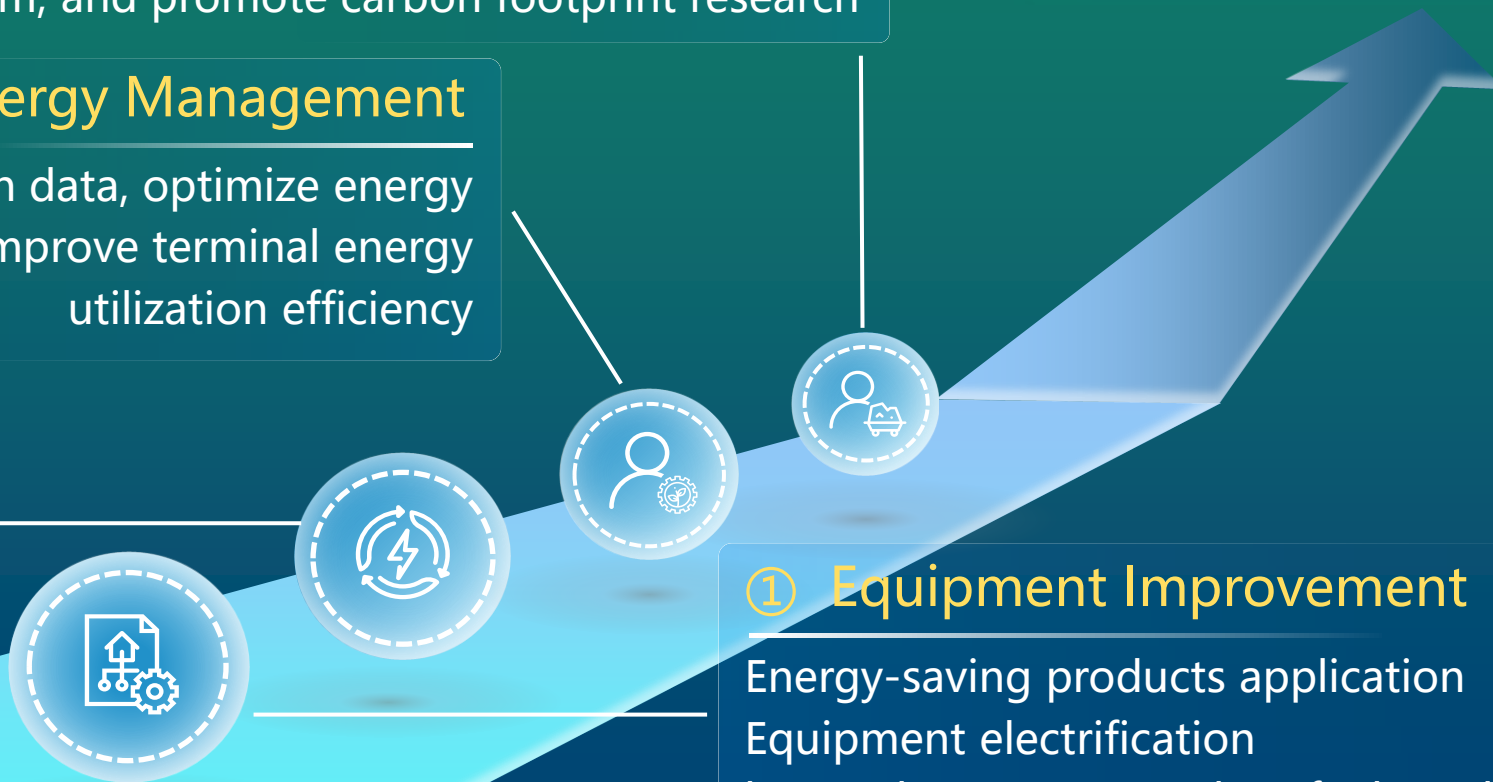
② Green Energy

Renewable energy application
Quay crane photovoltaic
Wind power plant

① Equipment Improvement

Energy-saving products application
Equipment electrification
low-carbon or zero-carbon fuels replacement

Carbon Neutrality



THANKS

FOR YOUR TRUST

