

APEC TPT-WG41

TRANSPORTATION WORKING GROUP MEETING 41

26-29 MAY 2015



Green Port Policy and Practice

Chinese Taipei



Maritime and Port Bureau, MOTC

Foreword

- Environmental issue
 - Climate change / severe weather
 - Global warming / sea levels
- Maritime trends
 - Bigger and better vessels
 - Alternative energy
 - Eco & Green
- New Age of maritime World



Our Policy

Innovative and diversified administration

International perspective

- IMO instruments, MOUs, other conventions...
- IMO voluntary audit

Green and Eco port

Green port policy



Green Port Action Plans

Cruise Terminal

Cruise Ship

Passenger
Terminal

Cargo Operation

Shipping

Facilities

Land
Transportation

Port Environment

Environmental
Quality

Sustainable
Operation

Community Outreach

Land-water
Interface

Integration with Local
Development Policies

Green Port Performance

Measures	Keelung	Taichung	Kaohsiung	Hualien
Vessel speed reduction	✓	✓		
Energy reuse effectiveness	✓	✓	✓	
Shore power			✓	
Motorization of port facilities	✓	✓	✓	
Low Sulfur fuel of harbor crafts	✓	✓		✓
Alternative energy & energy-saving equipment	✓	✓	✓	✓
Newer, cleaner car and cranes	✓			
Air pollution protection	✓	✓	✓	✓
Water pollution protection	✓	✓	✓	✓
Environmental greenification	✓	✓	✓	✓
Public transportation	✓	✓		
Green architecture	✓	✓	✓	
Eco protection	✓	✓	✓	✓

A case of Kaohsiung

Profile

- Shipping Hub
- 2014 Container throughput 10.59 million TEU

Legislative Background

- 2012 government reorganization
- Kaohsiung Branch of TIPC
- The Commercial Port Law



Map of Port of Kaohsiung



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Taiwan International Ports Corporation Environmental Policy

"Strategic innovation effectively to connect and communicate with global trade flows. Mature into world-class port management group" is the vision of Taiwan International Ports Corporation (TIPC). TIPC manages and operates commercial ports in Taiwan and is engaged in maritime transport-related services, free trade zones, and the development of related facilities and recreational projects.

While TIPC pursues business growth, we are well-aware of the importance of our social responsibility, which is to ensure both environmental and economic sustainability. With the goal to establish green and sustainable ports, we will proactively identify environmental risks that may be associated with our activities and manage the risks accordingly to maintain the environmental impacts.

We endeavor to:

1. Implement and follow through with the Green Port Program to establish extraordinary world-class ports;
2. Comply with applicable environmental regulations to fulfill corporate environmental responsibility;
3. Execute pollution prevention, monitoring, and control measures to maintain environmental quality to meet around port areas;
4. Facilitate environmental education to cultivate environmental awareness among employees; and
5. Strengthen the communication with local communities and pursue sustainable development for both the ports and the cities where we are operating.

Wen-Hsin Chang
Chairman of TIPC
Date: 11/2/2014

Lin, Tai-Ren
President of TIPC
Date: 11/2/2014

Environmental Policy of Port of Kaohsiung

Building itself as TIPC's subsidiary, the Port of Kaohsiung, as a port management entity, that is responsible for maintaining and managing the environment of the port. This is subject to the environmental protection and port of the environment.

Under the environmental management system, the Port of Kaohsiung, as a port management entity, that is responsible for maintaining and managing the environment of the port.

Through the environmental management system, the Port of Kaohsiung, as a port management entity, that is responsible for maintaining and managing the environment of the port.

To achieve the purpose of the environmental management system, the Port of Kaohsiung, as a port management entity, that is responsible for maintaining and managing the environment of the port.

The President, Board of Directors of TIPC is responsible for the implementation, monitoring and management of this environmental policy. The President, Board of Directors of TIPC is responsible for the implementation, monitoring and management of this environmental policy.

- Kaohsiung Branch of TIPC
- EPB of Kaohsiung City Government
- South Maritime Affairs Center of MPB

Management

- EPB of Kaohsiung City Government
- South Maritime Affairs Center of MPB
- EPA
- Kaohsiung City Marine Bureau

Sanction

Supervise

- Kaohsiung Branch of TIPC
- EPB of Kaohsiung City Government
- South Maritime Affairs Center of MPB
- EPA
- Kaohsiung City Marine Bureau

Enforcement

- Kaohsiung Branch of TIPC
- EPB of Kaohsiung City Government
- Kaohsiung Harbor Police Dept.
- Southern Coast Patrol Office of CGA

ESPO EcoPort Certification



Application
May 31,
2013

Self Diagnosis
Method (SDM)
September 30,
2013

EcoPorts
Workshop
November 1,
2013

Port
Environmental
Review System
(PERS)
October 3,
2014

Asia's 1st ESPO
Certificated
EcoPort
November 14,
2014

Environmental Issues in Kaohsiung Port

Resource consumption

Air Quality

Ship Exhaust Emissions

Noise

Water Environment
Monitoring

Dredging Management

Water Related Port
Development

Habitat Restoration

Contaminated Land

Community

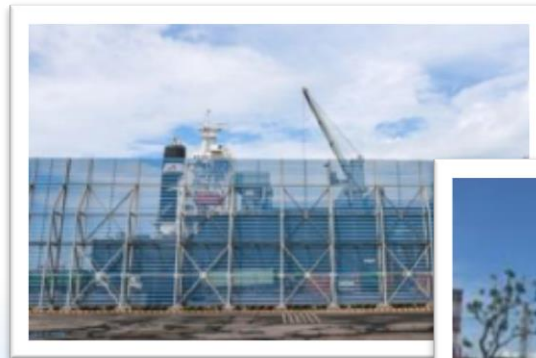
Resource consumption

- Indicators: consumption of water, electricity, fuel, paper...
- Total CO₂ emission reduced by 1.82%



Air Quality

- To reduce dust, vehicle exhaust emission, suspended fine particles.
- Dust protection wall
- LR air quality monitoring



Ship Exhaust Emissions

- Promote shore power
- Lower vessel speed when entering port
- Designate berth



Noise

- Low-noise machinery and equipment
- Road pavement improvement
- Cargo handling improvement
- Transportation network improvement



Water Environment Monitoring

- Installation of port area sewage pipes
- Increase use of reclaimed water
- Reduce fuel-split incidents
- LR monitoring of water quality



Dredging Management

- Recycling and reuse of sediments



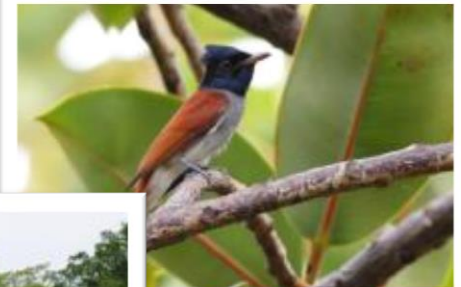
Water Related Port Development

- Environmental Monitoring for Kaohsiung International Container Terminal



Habitat Restoration

- Green landscaping
- Improve the open area, water front, and green corridors within the port



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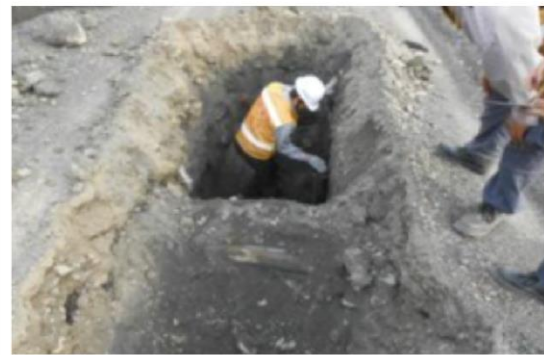
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26-29 MAY 2015



Contaminated Land

Community



Best Practices 1

Vehicle Cleaning Pool

- 4 automatic car wash system at the exit of the loading area of large bulk and sundry goods in Zhongdao Commercial Port
- Started operation: October, 2010
- 99% of vehicles washed
- Reduced fugitive dust pollution



Best Practices 2

Kao Ming Green Terminal

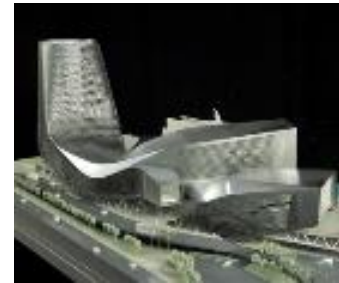
- Phase I completed: January 2011
- Phase II completed: September 2014
- Most advanced and energy-saving technology
 - Resources / power recycling
 - Shore power / solar & wind power
 - Electric vehicles
- Green architecture & landscaping
- Increase operating efficiency



Best Practices 3

Kaohsiung Harbor Regeneration Plan

- Since 1988 Land readjustment for Kaohsiung Multi-functional Commerce & Trade Park
- 2017 Completion of Kaohsiung Port Terminal
- Port land utilization
- Art, cultural and creative industry
- Asia new bay area port-city project
- Local communication



PERS Onsite Audit

高雄港EcoPorts第二階段認證(PERS)現地查核
Kaohsiung EcoPorts Certification-PERS onsite audit



ESCO EcoPort Network

<http://www.ecoslc.eu/map>

ECO SLC
Sustainable Logistics Chain

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[Management Tools EcoPorts and ECOSLC Tools](#)
[EcoPorts Network Ports in the Network](#)
[Join Now Join the network](#)
[Contact Contact us](#)

Welcome to the EcoPorts network

This page provides visibility and credit to ports that are currently part of the Network through the interactive map and the list below. The "EcoPort" status is obtained upon completion of a Self Diagnosis Method (SDM) checklist. The port is awarded in that way for providing data on the performance of its environmental management programme and for contributing in such way to the up-to-date maintenance of the ECOSLC International Benchmark of performance. Additional credit is provided to ports that are certified with PERS, the only port-sector specific environmental management standard, and ISO 14001.

CERTIFICATE OF VERIFICATION

THIS IS TO CERTIFY THAT
THE DOCUMENTATION OF THE PORT ENVIRONMENTAL REVIEW SYSTEM
OF:

*Port of Kaohsiung
Taiwan*

HAS BEEN REVIEWED BY LLOYD'S REGISTER TO
THE FOLLOWING ENVIRONMENTAL MANAGEMENT
STANDARD:

*Port Environmental Review System
(PERS) version 4*

THE SYSTEM IS APPLICABLE
TO THE:

*Activities, products and services of
the port authority*

Certificate no: 088
Verification date: 17 October 2014

ON BEHALF OF ECO SLC

Sustainable Logistic Chain

ON BEHALF OF LLOYD'S REGISTER

A PERS certificate is the confirmation that the PERS requirements have been reviewed and met. However, because the review is based on third hand information, a PERS certificate is not a value judgement of the port's environmental management system and its performance, since these have only been evaluated on the basis of documents supplied by the port.

What's Next?

Continue EcoPort Certifications

- Automation of port facilities and equipment
- Low-pollution measures, high efficiency technology
- LR Monitoring of Air / Water quality

The International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention)

- Domestic implementation via PSC

Environmental Ship Index (ESI)

- IAPH World Port Climate Initiative

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Regulation

Motive

Communication

Enforcement

Thank you!

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TRANSPORTATION WORKING GROUP MEETING 41

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