



**The Sustainable Development
and the Construction of Resource-
saving and Environmentally Friendly
Port in Shanghai**

Shanghai Transport and Port Authority
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It is the fundamental principle of the Chinese government to adopt the sustainable development and the harmonious co-existence of human and the nature.





In October 2005, the Chinese government made the strategic decision of the construction of resource-saving and environmentally friendly society.





China's Ministry of Transport put forward the target of the construction of resource-saving and environmentally friendly ports.



◆ Specific Targets:

Overall energy consumption of total cargo handling

Reduce by about 10%

Cargo throughput
Per unit berth length

Increases by about 50%

Energy Efficiency

Increase significantly

Port overall particulate mitigation

Reach 70%

Port Wastewater Treatment

Reach 100%

Major pollutant Discharge

Decrease Significantly



The Guidelines on the Construction of Resource-saving and Environmentally Friendly Port in Shanghai

**Overall energy consumption
of port cargo handling**

**Reduce 8% by 2015;
Reduce 10% by 2020**

**CO2 emission from port
cargo handling**

**Reduce 10% by 2015;
Reduce 12% by 2020**

**Energy saving and emission
reduction by RTG retrofit**

Reach 100% by 2015

**Overall Port particulate
Control/mitigation rate**

Reach 70%

Wastewater treatment rate

Reach 100%

**Vessel bilge water and trash
Collection rate**

Reach 100%



Evaluation Indicators

Indicators of Resource-saving Ports

Num	Indicator	Unit	Goals	Note
1	Overall energy consumption of total cargo handling	10,000 tons of coal /10,000 tons Cargo throughput	Reduce 8% by 2015; Reduce 10% by 2020	Mandatory
2	Shore power application rate	%	By 2020, shore power usatge in all international cruise terminals, major passenger terminals, 30% of major container terminals and break bulk terminals	Reference
3	Coastline usage efficiency	10,000 tons/meter	Continue to increase	Mandatory



Evaluation Indicators

Indicators of Environmental Friendly Ports

Num	Indicator	Unit	Goals	Note
1	SO2 and NOx reduction rate		Reduce Significantly	
2	Port CO2 emission	tons	By 2015, emission reduce by 10% from 2005 level; By 2020, emission reduce by 12% from 2005 level	Mandatory
3	RTG retrofit rate for energy saving and emission reduction	%	100% by 2015	Mandatory
4	Port particulate control /mitigation rate	%	70%	Mandatory
5	port wastewater treatment rate	%	100%	Mandatory
6	Vessel bilge water and trash collection rate	%	100%	Mandatory



Four Phases of the Construction of Resource-Saving and Environmentally Friendly Port in Shanghai

- ◆ **Preparatory Phase (2011)**
- ◆ **Initiation Phase (2012-2014)**
- ◆ **Implementation Phase (2015-2017)**
- ◆ **Completion (2018-2020)**



Sustainable Development in Shanghai Port

I Make adjustment on transportation methods

- ◆ Focusing on domestic trade instead of foreign trade
- ◆ Focusing on high-end products instead of popular consumer goods
- ◆ Increase Import and reduce export



Sustainable Development in Shanghai Port

II Make functionality adjustment in Shanghai Port

- ◆ Make functionality adjustment and relocate facilities in the Huangpu River Docks



Sustainable Development in Shanghai Port

II Make functionality adjustment in Shanghai Port

- ◆ plan to build travel boat docks and yacht docks and establish a basic home harbor of international cruises.



Sustainable Development in Shanghai Port

II Make functionality adjustment in Shanghai Port

- ◆ Reduce small-scaled building material and coal docks and establish large-scaled dry bulk distribution centre.



Sustainable Development in Shanghai Port

II Make functionality adjustment in Shanghai Port

- ◆ Combine some public docks and enterprise docks into one and achieve the multi-functionality in coastline resources.



Sustainable Development in Shanghai Port

III Improve the transportation System

- ◆ Advance the construction of inland waterways and inland harbors and promote the vessel-to-vessel transit.



- ◆ Build several cross-river tunnels and establish the traffic channel from Chongming to Qidong.



Sustainable Development in Shanghai Port

IV Improve equipment fuel efficiency

Establish a comprehensive energy consumption cap for the port operations and enforce equipment fuel consumption and carbon emission limits.



Sustainable Development in Shanghai Port

V Promote the use of energy efficient and emission reduction technologies

Promote the container RTG “diesel to electricity” energy-saving retrofit and mobile shore power system.



Sustainable Development in Shanghai Port

V Promote the use of energy efficient and emission reduction technologies

Introduce and develop lighter, energy efficient, electrical powered loading and unloading equipment with frequency control capability and promote LED lighting.



Sustainable Development in Shanghai Port

VI Adopt the renewable and alternative energy

Research and adopt hybrid-powered vessel and other vessel power as solar, wind, natural gas and hot air pump, etc.



Sustainable Development in Shanghai Port

VII Improve the information management



Shanghai will continue to focus on technology innovation and sustainable development. Promoting energy conservation and emission reduction, Shanghai port is determined to become a "green" port

and helps to boost the development of China's economy and promise a happy life to all Chinese.





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Thank You

