

Asia and Japan Marine and Power Plant

**Japanese Domestic CIMAC
Japan Internal Combustion Engine Federation (JICEF)
3rd November 2022**

TOPICS

- China announced carbon neutrality by 2060
- Chinese Domestic Emission Control Areas
- Singapore - Enhancement of Green Port Program Incentives

China announced carbon neutrality by 2060 (1/3)

- In September 2020, China announced **CO2 emissions peak out by 2030 and achieve carbon neutrality by 2060.**
- Since then, many related plans have been announced, **which are expected to promote the reduction of CO2 emissions and the introduction of renewable energy.**

【2020】

- Sep. President Xi Jinping declared at the United Nations General Assembly (Strive to peak out CO2 emissions by 2030 and achieve carbon neutrality by 2060)
- Oct. Publication of New Energy Vehicle Development Plan and Technology Roadmap
→ New energy vehicles to account for 40% of new vehicle sales in 2030, and 1 million FCVs to be introduced by 2035
- Dec. **President Xi Jinping declared at the Climate Ambition Summit**
→ By 2030, ① 25% non-fossil energy share of primary energy consumption
② Reduce CO2 emissions per unit of GDP by at least 65% relative to 2005 levels
③ Increased forest accumulation by 60 m² compared to 2005
④ Solar and wind capacity of 1.2 billion kW or more

China announced carbon neutrality by 2060 (2/3)

【2021】

- ❑ Feb. **Launch of National Emissions Trading Scheme** (Enforcement of the Emission Rights Management Measures Law) ✕Transactions begin July 16. (Targeting the electric power industry)
- ❑ Mar. The National People's Congress (Government Activity Report, **Outline of the 14th Five-Year Plan and Long-Term Goals for 2035**),
9th Meeting of the Central Finance and Economics Committee
→ By 2025, ①Reduce energy use per GDP by 13.5% over the next 5 years
②Reduce CO2 emissions per unit of GDP by 18% over the next 5 years
③20% non-fossil energy as a ratio of primary energy consumption
- ❑ Apr. **President Xi Jinping declared at the Climate Change Summit**
→ Coal-fired power generation to be strictly limited in the 14th Five-Plan (~2025) and reduced in the 15th Five-Plan (~2030).
- ❑ Sep. **President Xi Jinping declared at the UN General Assembly** (halting construction of new overseas coal-fired projects)
- ❑ Oct. Party Central/State Council “**Opinions on the complete, accurate, and comprehensive implementation of the new development concept and the steady implementation of peak-out carbon emission and carbon neutral operations**” (Documents corresponding to "1" in N+1)
→ By 2060, At least 80% non-fossil energy ratio of primary energy consumption
State Council proposed “**Peak-Out Action Plan to 2030**” (Documents that correspond to the "N" lead documents in the N)
Identification of “Ten Major Actions,” including transition to green and low-carbon energy, energy conservation, carbon reduction, and efficiency improvement

China announced carbon neutrality by 2060 (3/3)

	By 2025	By 2030	By 2060	(Reference) 2020 Performance
Energy Consumption unit per GDP	13.5% reduction (Compare with 2020)	Significant decrease	—	-13.1% (*1)
CO2 Emissions unit per GDP	18% reduction (Compare with 2020)	65% reduction (Compare with 2005)	—	-18.8%
Non-fossil energy consumption rate	Around 20%	25%	80%	15.9%
Installed capacity of wind and solar power	—	More than 1.2 billion kW	—	0.54 billion kW
Forest cover rate/ accumulation	24.1%, 18 bn m ³	25%, 19 billion m ³	—	23.0%, 17.6 billion m ² (*2)
Targets	Laying the groundwork for solid execution of CO2 emissions peak out and carbon neutrality	CO2 emissions will peak out and steadily decreasing trend	Make sure achieving carbon neutrality targets	

(*1) 2019 Figures (*2) 2018 Figures

Chinese Domestic Emission Control Areas (1/4)

CCS Technical Information

(2021) Technical Information No.64 Total No.570
Dec.28,2021
(Total 2+9 pages)

To: All branches and plan approval centers, surveyor/auditor, shipyards/dockyards, ship designers, shipowners, ship management companies and equipment manufacturers

Technical Notice on the implementation of stricter policy for SOx and NOx emissions in the Domestic Emission Control Areas of Hainan coastal areas

In accordance with the "Implementation Scheme of the Domestic Emission Control Areas for Atmospheric Pollution from Vessels(as attached)" published by Ministry of Transport of the People's Republic of China on 30th Nov.2018, the new SOx and NOx emissions policy will enter into force in the coastal control area of Hainan from 1 January 2022, the sulphur content of any fuel oil used on board sea-going vessels should not exceed 0.1% m/m when operating in the coastal emission control area (hereinafter referred to as "DECAs") in Hainan waters. Meanwhile, the Marine diesel engines with a per cylinder displacement at or above 30 litres installed on Chinese vessels engaged in domestic voyages constructed on and after 1 January 2022 or having the marine diesel engine that undergoes a major conversion should meet the Tier III requirements in MARPOL Annex VI when operating in the DECAs in Hainan waters emission control area.

The clean energy, new energy, onboard UPS and exhaust gas cleaning systems can be used by vessels as alternative methods to meet the emission control requirements. In case where the exhaust gas cleaning system is used, the discharge monitoring and control system should be installed and any wastes and discharges should be treated according to the applicable regulations.

If the Chinese public service vessels, inland waterway vessels (except for tankers) and Chinese container vessels, RO-RO passenger ships, passenger ships at 3,000 gross tonnage and above as well as dry bulk cargo ships at 50,000 gross ton level and above engaged in domestic coastal voyages and installed with each marine diesel engine with a power output of more than 130 kW that does not meet the Tier II

CCS published Technical Information on Dec.28th 2021

Source :
<https://www.ccs.org.cn/ccswzen/circularNotice?columnid=201900002000000071&title=NO##>

Chinese Domestic Emission Control Areas (2/4)

Emission control requirements for SO_x and particulate matters

Applicable date	Requirements
After 1 January 2019	The sulphur content of any fuel oil used on board sea-going vessels operating in the DECAs should not exceed 0.5% m/m
After 1 January 2020	The sulphur content of fuel oil used on board sea-going vessels should not exceed 0.1% m/m when operating in the inland river emission control area.
After 1 March 2020	Vessels that do not use the alternative arrangement for the control of SO _x and PMs should only be loaded and use the fuel oil as required in this Scheme when operating in the DECAs.
After 1 January 2022	The sulphur content of any fuel oil used on board sea-going vessels should not exceed 0.1% m/m when operating in the coastal emission control area in Hainan waters.
After 1 January 2025	The feasibility study for vessels using the fuel oil with the sulphur content not exceeding 0.1% m/m should be conducted in due course, so as to inform the decision on the implementation of 0.1% m/m sulphur cap for sea-going vessels when operating in the coastal emission control area on and after 1 January 2025.

Chinese Domestic Emission Control Areas (3/4)

Emission control requirements for NOx

Applicable date	Requirements
After 1 January 2000	The marine diesel engine that undergoes a major conversion should meet the Tier I requirements in the International Convention for the Prevention of Pollution from Ships (MARPOL) Annex VI.
After 1 January 2011	International voyages, the marine diesel engine that undergoes a major conversion should meet the Tier II requirements in MARPOL Annex VI.
After 1 March 2015	Chinese vessels engaged in domestic voyages constructed and the marine diesel engine that undergoes a major conversion should meet the Tier II requirements in MARPOL Annex VI.
After 1 January 2022	Marine diesel engines with a per cylinder displacement at or above 30 litres installed on Chinese vessels engaged in domestic voyages constructed on and after 1 January 2022 or having the marine diesel engine that undergoes a major conversion should meet the Tier III requirements in MARPOL Annex VI when operating in the coastal emission control area in Hainan waters and in the inland river emission control area .
After 1 January 2025	The application of the Tier III requirements of MARPOL Annex VI should be assessed in due course, so as to inform the decision on the implementation of the Tier III requirements for marine diesel engines with a per cylinder displacement at or above 30 litres installed on Chinese vessels engaged in domestic voyages constructed on and after 1 January 2025 or having the marine diesel engine that undergoes a major conversion.

Chinese Domestic Emission Control Areas (4/4)

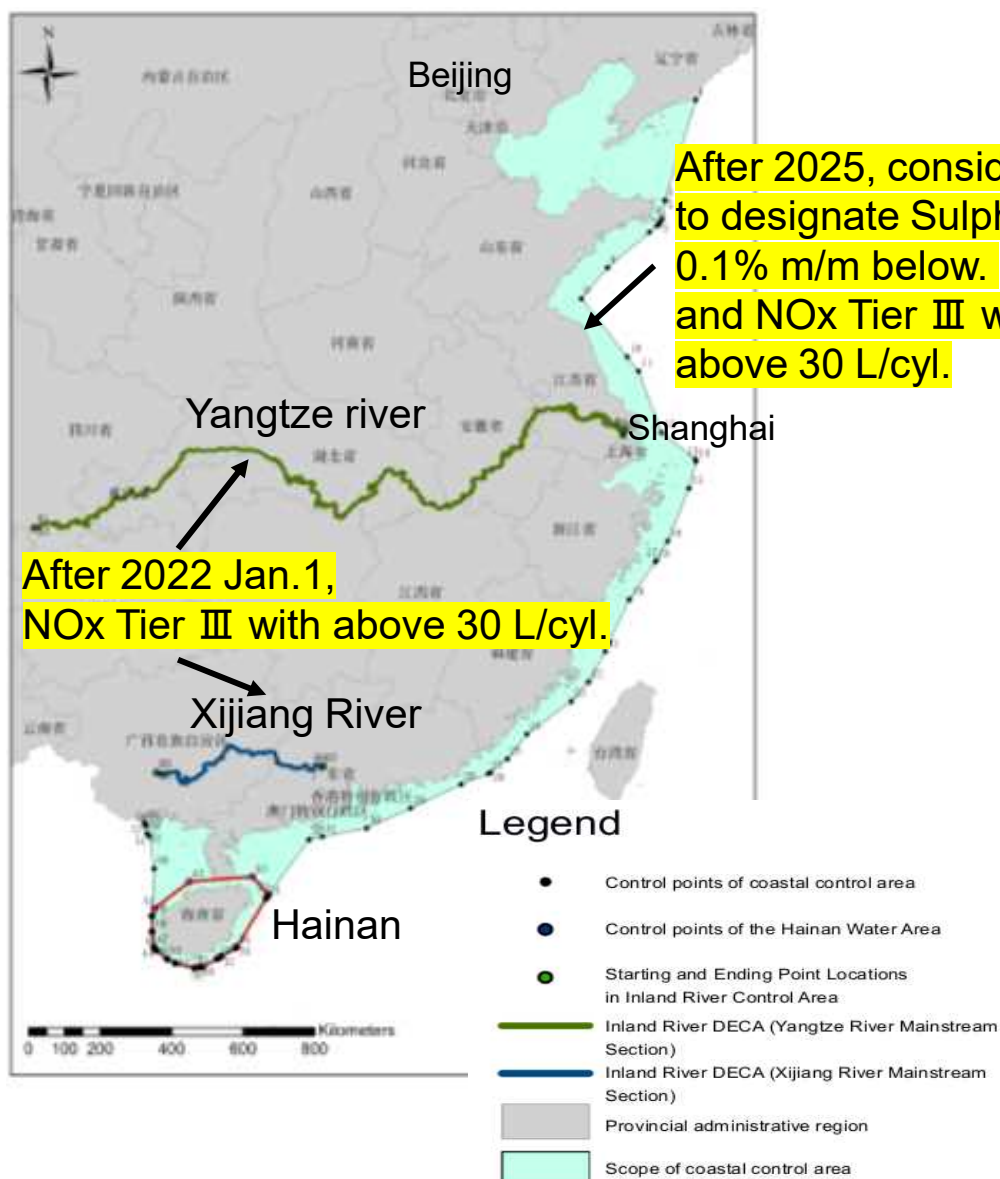


Figure 1 Geographic Scope of the Emission Control Area

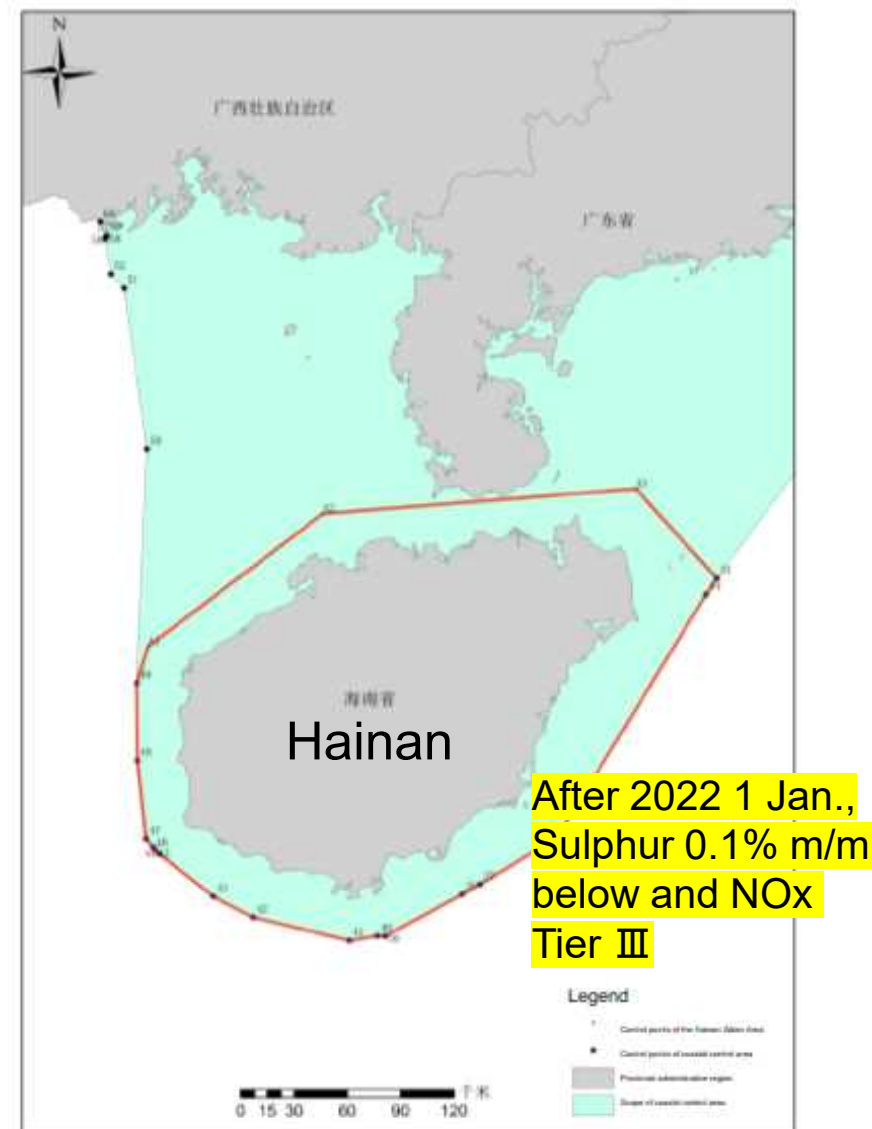


Figure 2 Geographic Scope of the Emission Control Area in Hainan Waters

Singapore - Enhancement of Green Port Program Incentives

The incentive scheme for the owner and management companies of Singapore flagged ships was introduced.

The Marine and Port Authority of Singapore (MPA Singapore) recently published its Port Marine Circular No. 10 of 2022: "Enhancement of the Marine Singapore Green Initiative - Green Port Program (GPP)".

<https://www.mpa.gov.sg/media-centre/details/enhancement-of-the-maritime-singapore-greeninitiative---green-port-programme>

The Green Port Program provides incentives to ship owners and management companies to encourage them to voluntarily adopt solutions that enable their ships to exceed the environmental regulations set by the IMO; these incentives include the reduction of port dues as well as other things.

Circular No. 10 of 2022 updates the criteria for port dues reduction and the associated requirements as of 1 May 2022. The revised requirements are as follows:

1. EEDI reduction exceeds the IMO's MARPOL Annex VI Phase 3 EEDI requirements by 10% or more;
2. Use zero carbon fuel in the Port of Singapore; or,
3. Use low carbon fuel in the Port of Singapore.

For more details on each requirement and the applicable incentives, please refer to the original circular issued by MPA Singapore.

Thank you for your attention



Niigata Plain