



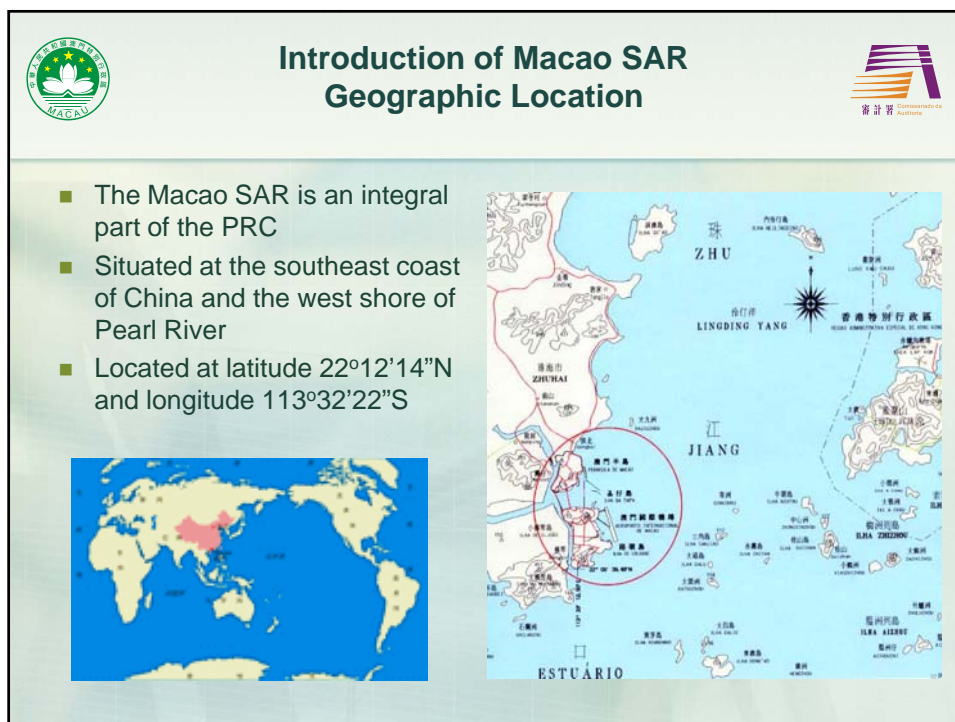
**The People's Republic of China**
Macao Special Administrative Region
Audit Commission



2008 ASOSAI Seminar on Environmental Audit

Audit on Climate Change and Air Pollution



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Prepared by
Mr. Kou Chin Pang, Deputy Commissioner
Mr. Vong Sio Hong, Auditor




**Introduction of Macao SAR**
Geographic Location

- The Macao SAR is an integral part of the PRC
- Situated at the southeast coast of China and the west shore of Pearl River
- Located at latitude 22°12'14"N and longitude 113°32'22"S







Introduction of Macao SAR Geology and Topography




- The total land area is 29.2 km² (in 2008/06)
- Mainly flat lands, terraces and hills
- Most of the flat lands come from sea reclamation. As a result, 1/3 lands in Macao have a height of 2-5 feet above sea level.
- Blooming business activities mostly conducted on flat lands.




1912




Introduction of Macao SAR Geology and Topography



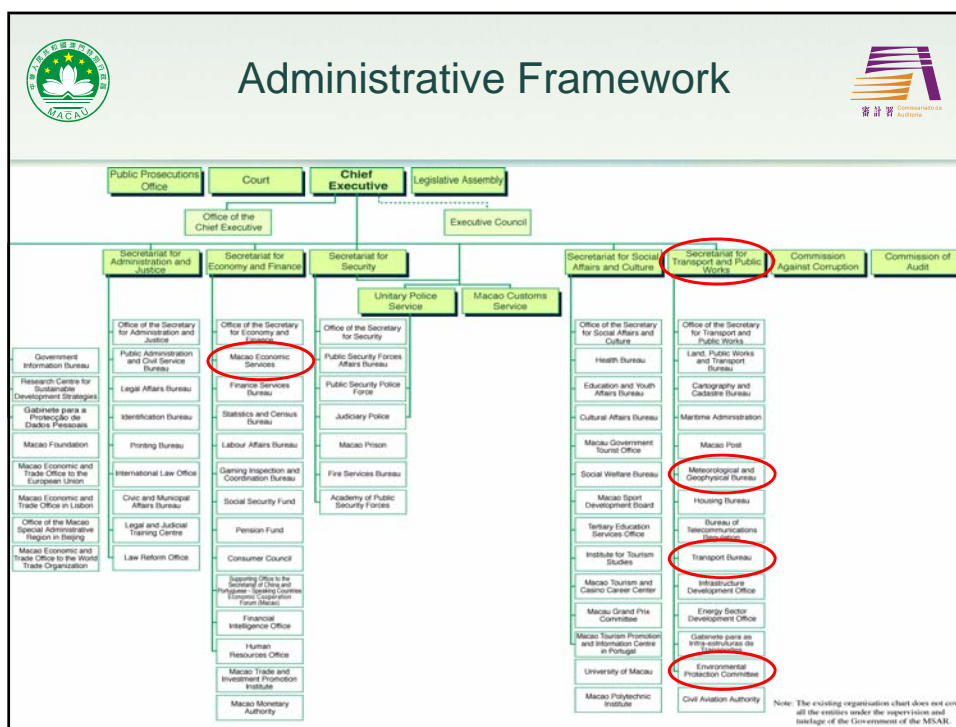


1912
11.6 km²

➔




2008
29.2 km²




Rules and Regulations

International Agreements & Conventions Applicable to the Macao SAR

- Vienna Convention for the Protection of the Ozone Layer(1985)
- Montreal Protocol on Substances that Deplete the Ozone Layer (1987)
- The United Nations Framework Convention on Climate Change (1992)
- Kyoto Protocol (2008)




Rules and Regulations




- The Environmental Law (1991)
Lei de Bases do Ambiente
- Regulations in annual compulsory vehicle inspection (1994)
Regulamenta a inspeção anual obrigatória dos automóveis ligeiros de passageiros, motociclos e ciclomotores
- Define the characteristics of unleaded gasoline (1994)
Define as caraterísticas da gasolina sem chumbo e restringe
- Inclusion in the Criminal Law clauses in relation to the prevention of pollution (1995)
Prevê crime de Poluição (Código penal art.268)
- Control and reduce the use of those substances that would further deplete the ozone layer (1995)
Estabelece as medidas de controlo e redução do uso de substâncias que empobrecem a Camada do Ozono

(Official Portuguese legislation name)




Rules and Regulations (Cont.)




- Restructure the Environment Council (1998)
Reestrutura o Conselho do Ambiente Geral
- Define the sulphur content of diesel oil (vehicles) (2006)
Define o teor de enxofre no gasóleo para veículos
- The limit of emission of pollutants by newly imported vehicles (2008)
Fixação dos limites de emissão de gases poluentes a que devem obedecer os motociclos e ciclomotores novos aquando da sua importação


(Official Portuguese legislation name)




Atmospheric Pollutant Emissions



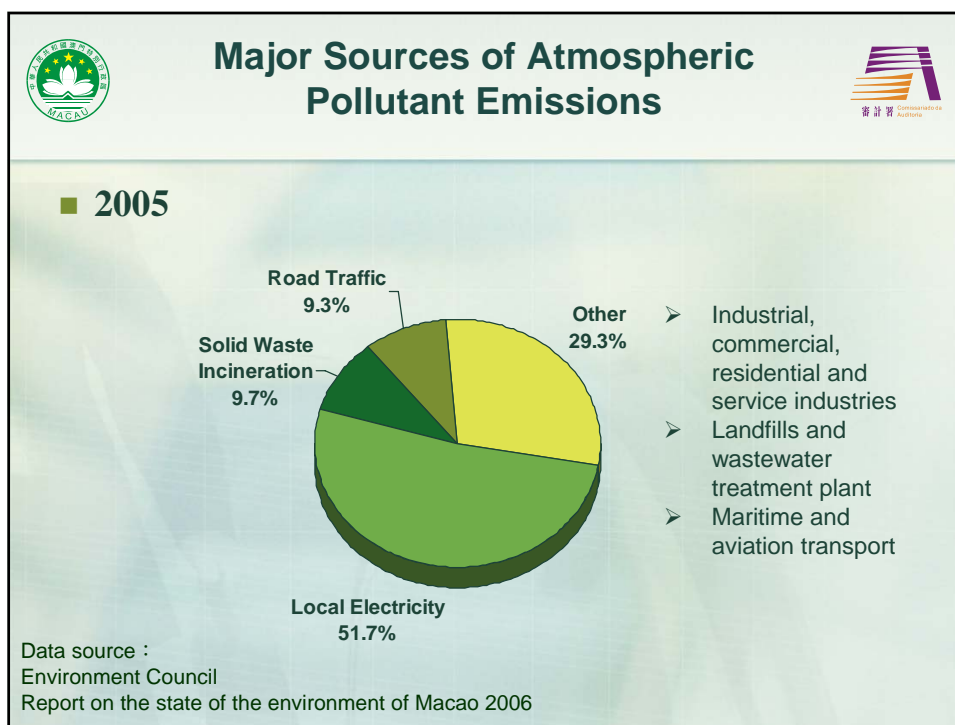
- Carbon Monoxide
- Oxysulfide
- Nitrogen Oxides
- Ammonia
- Non-Methane Volatile Organic Compound
- Respirable Suspended Particulates and those with diameters less than 10 μm
- Lead



Atmospheric Pollutant Emissions



- Both greenhouse gas emissions and air pollutions have been increasing from 2003
- In 2005 (compared with those emissions in 2004)
 - CO increased by 7.5% 、 Lead increased by 11.2%
 - SO_x increased by 8.9% 、 Ammonia increased by 8.7%
 - NMVOC increased by 10.9%
 - Respirable Suspended Particulates and those with diameters less than 10 μm increased by 14.3% and 19.5%
- On 19 July 2005, a record high of 39 °C marked the highest temperature in Macao since 1901




Atmospheric Pollutant Emissions


Growth Rates for the Year 2005-2007

Year	Population	GDP	Vehicle	Consumption of Electricity
2005	4.68%	6.9%	7.99%	13.45%
2006	6.02%	17.0%	6.77%	12.26%
2007	4.81%	27.3%	7.15%	23.13%
End-of-Period Amount	538,100	19,177 Million USD	175,845	2,984.3 Million kilowatt-hour


Data source : Statistics and Census Bureau




Government's Work in Prevention of Air Pollution




- From 1987, the Meteorological and Geophysical Bureau began to monitor air pollution along roadside, at high density residential area and some other districts.
- Started specific research of fixed pollutant in July, 2005 (by the Environment Council)
- New rules implemented in January 2006 prescribe that the sulphur content of light diesel fuel should not exceed 0.005% of its weight. (which was 0.05% in the past)


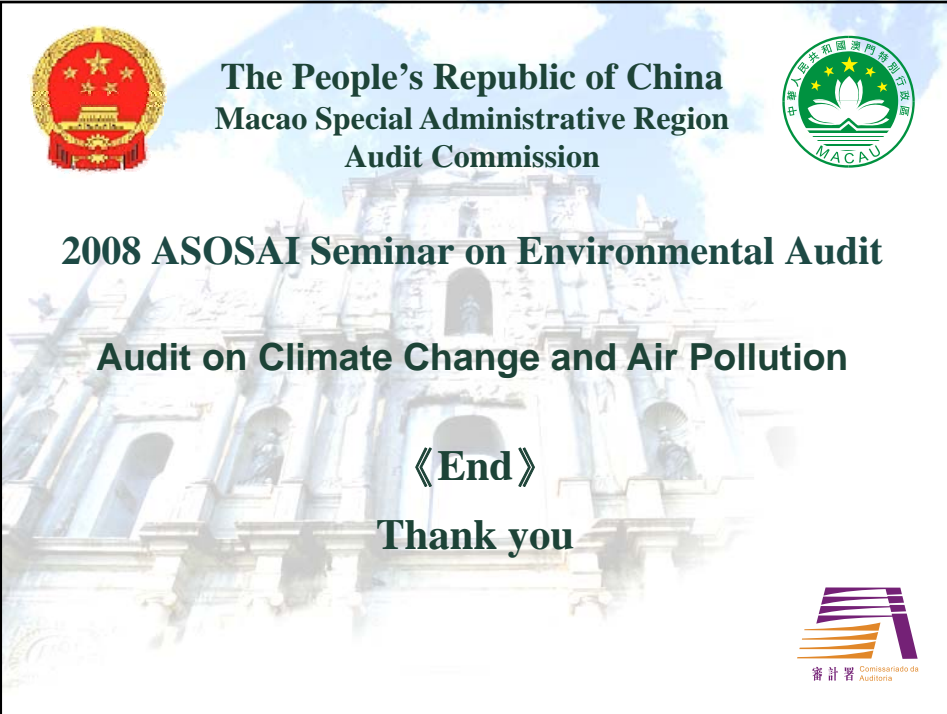





Conclusion



- Macao SAR experiences great economic growth during these years, however, air quality becomes worse.
- In order to reduce greenhouse gas and air pollution, the government promotes city greening, supports education in environmental protection, encourages the use of renewable energy.
- There remains a lack of rules and regulations on environmental protection.
- The Audit Commission of Macao SAR will continue to collect related information and deploy more resources for the audit work.




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**《End》
Thank you**



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Auditoria