

Environmental Monitoring Technology Proposal

Japan Environmental Technology Association
Chairman, Overseas Committee
Takeshi KOBAYASHI

Personal Introduction

Takeshi KOBAYASHI

- Japan Environmental Technology Association (JETA)
Chairman, Overseas Committee
- HORIBA, Ltd
Manager, Process & Environmental System Tokyo team
International Sales Department



Work Record

- 1994-2004 Join HORIBA, Water R&D team
- 2004-2008 Planning team of **Process& Environmental Segment**
Develop Asian Environmental Business
- 2008-2013 International Sales Team Leader of **Process& Environmental Segment**
- 2013-2020 Business Strategy teams of **Process& Environmental Segment**
- 2021- Tokyo International Sales teams of **Process& Environmental Segment**



Today's Topics

- JETA Introduction
- Chinese Environmental Protection Experience
- Stack Gas Monitoring Technology

JETA Introduction

JETA History

1979 : Japan Environmental Technology Association was established

1989 : A permit was granted by the Environment Agency to found a public corporation

1st April, 2011: A permit was granted by the Public Interest Corporation Commission (PICC) to shift to a Public-Service Corporation (PSC)

JETA Activity

- Propose Monitoring method for Waste Water and Gas regulation
- Maintenance training for environmental measuring technology
- Approval test for engineer of Ambient Monitoring System
- Proposal Japanese Monitoring Technology to Asian Country

JETA Members Companies

1. Environmental Monitoring Maker: 11



2. Environmental Monitoring Maintenance Companies : 22



Waste Water regulation

1979~ COD

1993~ TPTN

Waste Gas regulation

1968 Environmental
Protection Regulation

1969~ SOx、CO

1972~ Dust

1973~ NOx、O3

2006~ VOC



Chinese Environmental Regulation History

	2006-2010	2011-2015	2016-2020	2021-2025
5 years Plan	11 th	12 th	13 th	14 th
Combustion Regulation	De-SOX →	De-NOx →	For Coal Power Plant (Dust:10mg/m ³ , SO ₂ :35mg/m ³ , NO _x :50mg/m ³)	For Steel , Petro Chemical , Incinerator
Automobile Regulation (Brackets denote fuel sulfur content)	China 2 (500ppm)	China3 (150ppm)	China 4 (50ppm) China 5 (10ppm)	China 6 (10ppm)
Other			VOC Regulation	

The Majority of Electrical Production is Coal-fired Power Plant.



China-Japan Environmental Cooperation



Local Government Cooperation
• VOC • Monitoring • Auto mobile

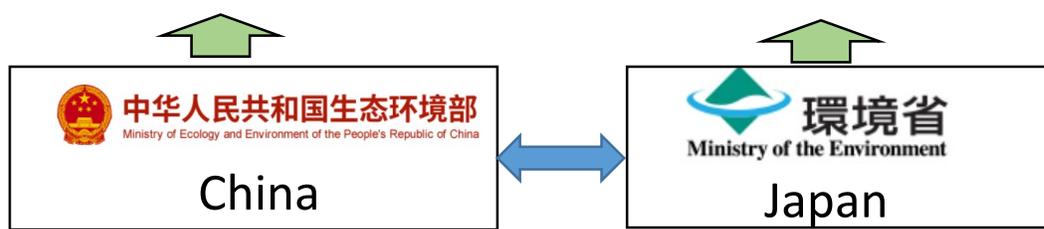
Central Government Cooperation
• Power Plant • VOC • Monitoring Standard

- Technical Seminar
- Proposal monitoring measurement method based on Japanese experience



Technical Cooperation Plat Form
China: The Sino-Japan Friendship Center for Environmental Protection
Japan: IGES

IGES and JETA had Environmental Corporation with Chinese Government



2019年9月3日~4日



2018年7月19日



2018年6月10日

Chinese Environmental Regulation Business



20 years Ago

NOW

Environmental TAX: NO_x, SO₂, Dust

Environmental TAX: NO_x, SO₂, Dust, **VOC**

CEMS
(Continuous Emission
Monitoring System)

CEMS
(Continuous Emission
Monitoring System)

Power Plant & Factory
used **low price** and
not high quality analyzer.

Local Government
recommends to use
evaluated monitor

Strict evaluation
And approval test

Not good data
Maintenance trouble

Not correct Environmental TAX

Correct Environmental TAX by high quality monitoring system

Air Pollution Problem

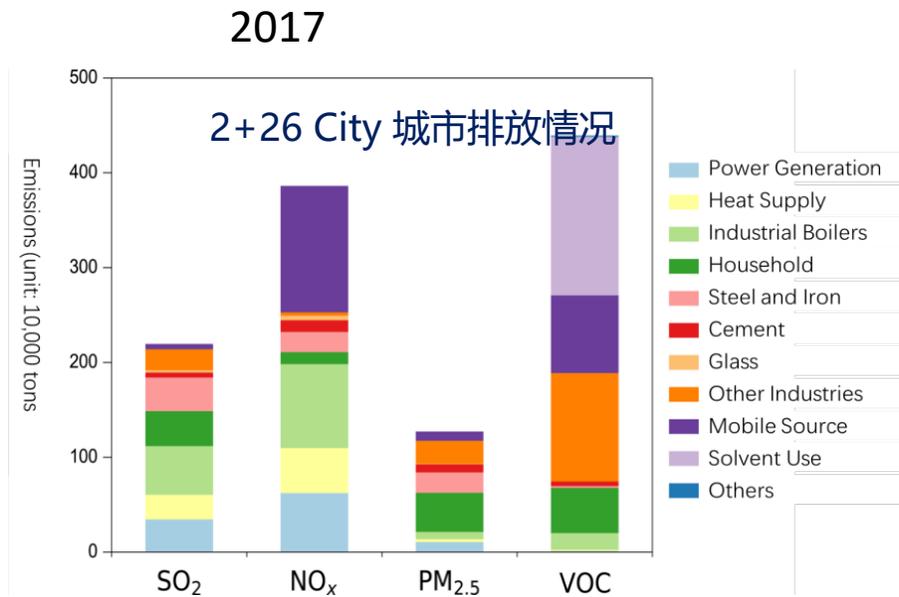
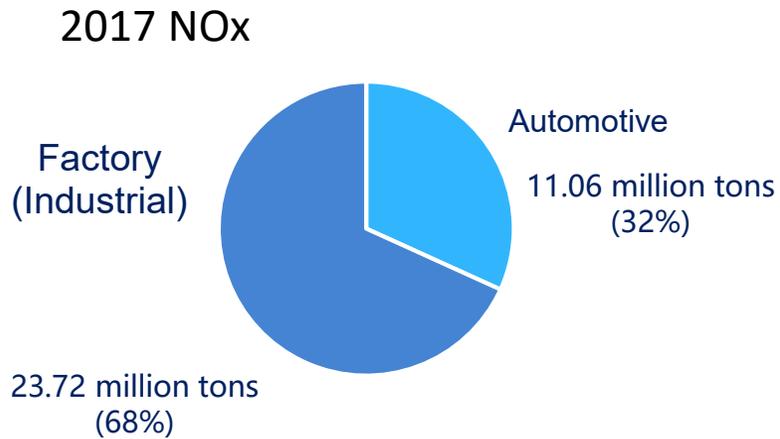
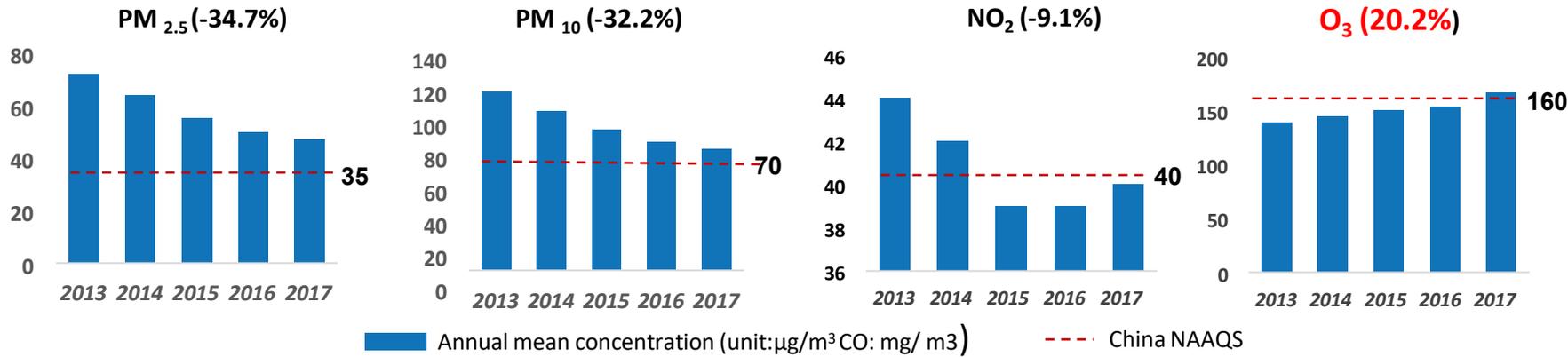
Claim to Government

Air Pollution Problem improvement

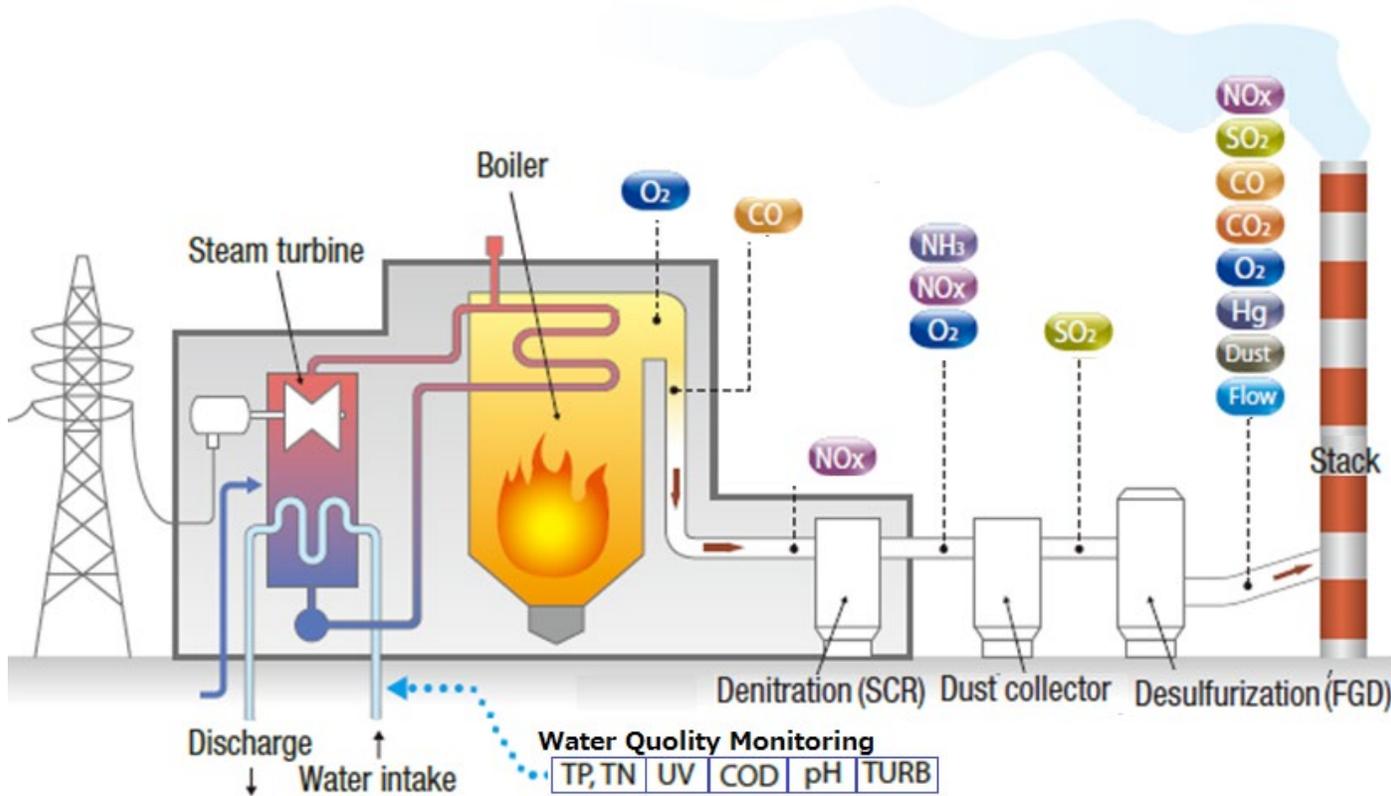




Chinese Environmental Monitoring situation



Stack Gas monitoring system



Japan	SO _x	NO _x	Dust
Isogo (new)	10ppm	13ppm	5mg/m ³ N

China	SO _x	NO _x	Dust
Regulation (Coal Power Plant)	35mg/m ³	50mg/m ³	10mg/m ³
	13.1 ppm	26ppm	



New Regulation in China

Reduction of emission gas concentration from Power Plant
2006–: SO₂ reduction, 2011–: NO_x Reduction, 2016–: New regulation

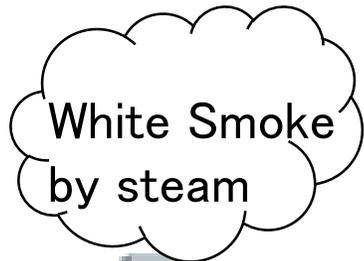
New Regulation

- Dust: <10mg/m³
- SO₂: <35mg/ m³
- NO_x: <50mg/m³

Measurement for High Humidity Exhaust Gas

- Moisture removal
- Avoid gas dissolution

- HORIBA developed new combustion analyzer with Chinese MEP Approval for new strict Regulation.



Stack



HORIBA Stack Gas Analyzer
ENDA-600ZG

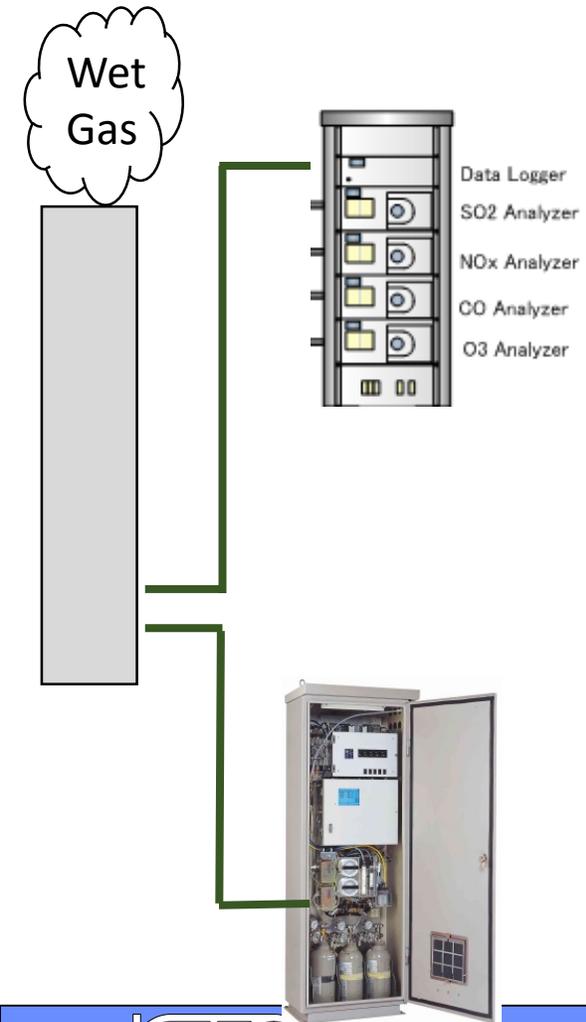
Phosphoric Acid add function

Special Technology
For Low level SO₂ measurement
of high humidity sample

Chinese Low Concentration Monitoring System



CNEMC proposed the following measurement method for Coal Power plant.



■ Dilution method

- Ambient Monitoring system by dilution system with zero gas.
- Reduce water interference

■ Extractive method

- Using heating tube
- Reduce SO₂ measurement error by water contamination

Portable Gas Multi Analyzer



- EU and China inspection engineer uses portable gas analyzer for CEMS performance check .



Global Standard

- Japanese Measurement low
- Korean Measurement low
- Chinese Measurement Low
- Russia GOST
- EU TUEV: EN 14181,
TÜVRheinland® EN 14956 etc.
Precisely Right.
- UK MCERT

Chinese local government checks CEMS performance by portable gas analyzer

Omoshiro-okashiku
Joy and Fun



Danke

Grazie

Tack ska du ha

ありがとうございました

Dziękuję

Σας ευχαριστώ πάρα πολύ

THANK YOU

ขอบคุณครับ

Obrigado

Большое спасибо

Cảm ơn

Merci

감사합니다

Gracias

நன்றி

Terima kasih

谢谢

धन्यवाद

شُكْرًا