MERCURY FROM COAL PLANTS: FOCUS ON ASIA

DR LESLEY SLOSS

MINAMATA COP3, GENEVA, NOVEMBER 2019

IEA
CLEAN COAL CENTRE

GLOBAL
MERCURY
PARTNERSHIP

IEACCC

- Technical implementing agreement under the auspices of the International Energy Agency
- Provides expert, independent advice on the clean use of coal
- Reports, webinars, blogs and expert conferences and workshops

Register for free at www.iea-coal.org

UPDATE OF ACTIVITIES IN ASIA

- An update of the Asia-Pacific meeting held in Hanoi Oct/Nov 2019
- An update on project work in SE Asia by the Global Mercury Partnership Area on Mercury releases from coal combustion

SOME OBSERVERVATIONS FROM THE "ASIA-PACIFIC REGIONAL WORKSHOP ON THE REDUCTION OF MERCURY EMISSIONS FROM COAL COMBUSTION"

HANOI, VIETNAM, 31 OCT-1 NOV 2019

SUMMARY OF MEETING

- Reports from countries in the region: China, India, Indonesia, Mongolia, Sri Lanka, Thailand, and Vietnam
- Details of inventory work on emissions from the coal sector
- Current and future policies focusing on mercury emissions (emission limits, reduction targets, control strategies)
- Challenges

GMA emission estimations (kg)

	Total emission	Emission from coal
China	563,781	182,217
India	205,863	108,772
Indonesia	156,763	10,271
Mongolia	6,994	798
Sri Lanka	1,607	225
Thailand	11,561	3,508
Viet Nam	18,053	5,501

SITUATION IN CHINA

- Established a coordination group for implementation of the Minamata Convention
- Extensive work to increase plant efficiency and reduce emissions

By 2020, every Chinese coal plant will be more efficient than every US coal plant

(Vox.com, 2017)

TABLE 1

Coal-fired power emission standards in China, the United States, and the European Union

Conventional air pollution standards for new and existing power plants, in milligrams per cubic meter (mg/m3)

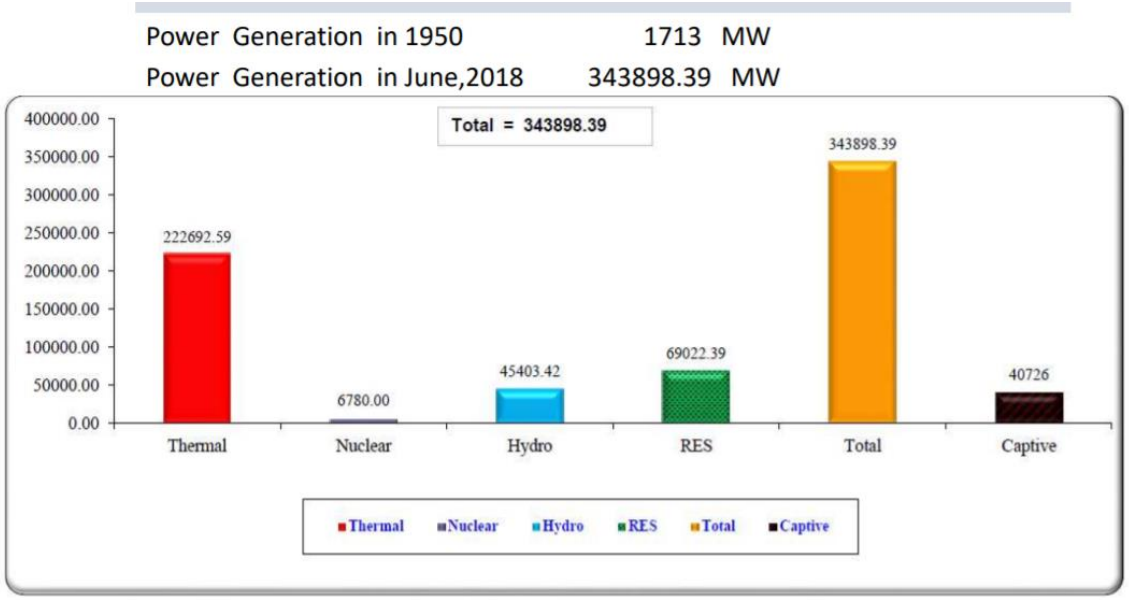
		China	United States	European Union
Nitrogen oxide	Existing	100*	135	200
	New	50	95	150
Sulfur oxide	Existing	50/100/200**	185	200
	New	35	136	150
Particulate matter	Existing	20/30***	19	20
	New	10	12	10

SITUATION IN INDIA

New limit for mercury of 30µg/m^3

But India has significant challenges:

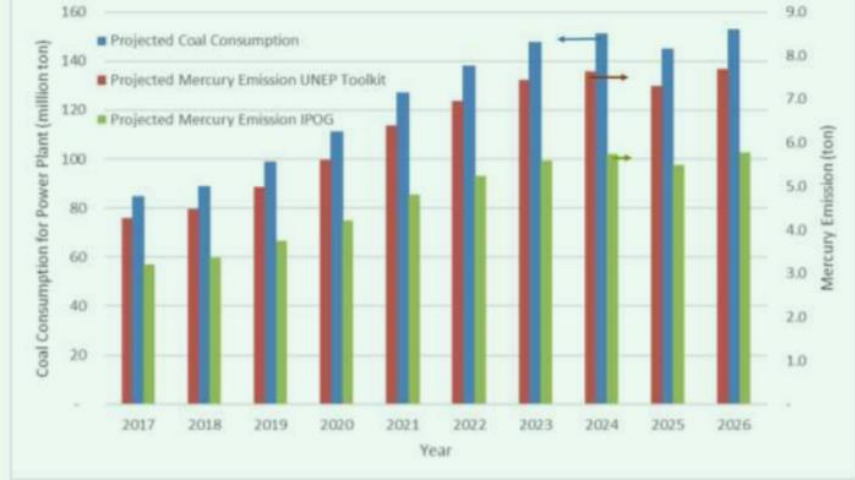
- *High ash coals (up to 4 times global average)*
- *Low water availability*
- *Limited space for plant modifications*
- *Limited availability of emission control systems*



INDONESIA

- Intensive plan to build 35 GW of power (65% coal) between 2015 and 2019
- New emission standard for mercury from April 2019 of 30µg/m^3 based on results from the previous work by members of the partnership area

- Challenges include limited capacity and the intended rapid implementation of new mercury standard
- Limited space at some plants for pollution control technology retrofits



Data Projection Coal Consumption 2017-2026 is taken from Ministry of Energy and Mineral Resources Decree No. 1415 K/20/MEM/2017

MONGOLIA, SRI LANKA, THAILAND, VIETNAM

- There is 1 coal-fired plant in Sri Lanka and 6 coal-fired power plants in Mongolia – investigation underway to evaluate potential policy
- The plant in Sri Lanka has modern emissions control technologies installed which should be achieving significant co-benefit mercury controls
- In Mongolia the focus is on moving away from coal for domestic cooking and heating
- Thailand could be achieving increased co-benefit mercury reduction through pollution control systems. Discussing a mercury emission standard
- Vietnam has potentially the highest expected growth rate in coal use. Discussing a mercury emission standard

COUNTRIES IN ASIA ARE ENGAGED IN MERCURY EVALUATION AND SOME ARE MOVING RAPIDLY INTO EMISSIONS MONITORING AND CONTROL

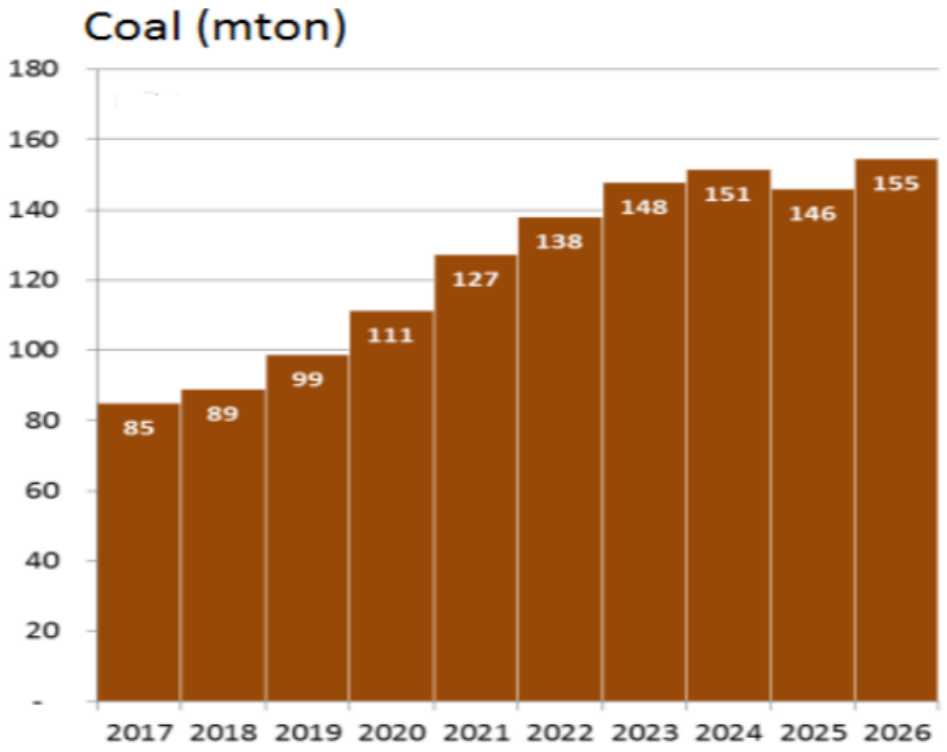
FEDERAL ASSISTANCE AWARD

CAPACITY BUILDING IN SOUTHEAST ASIA TO REDUCE MERCURY AND OTHER POLLUTANT EMISSIONS FROM THE COAL COMBUSTION SECTOR

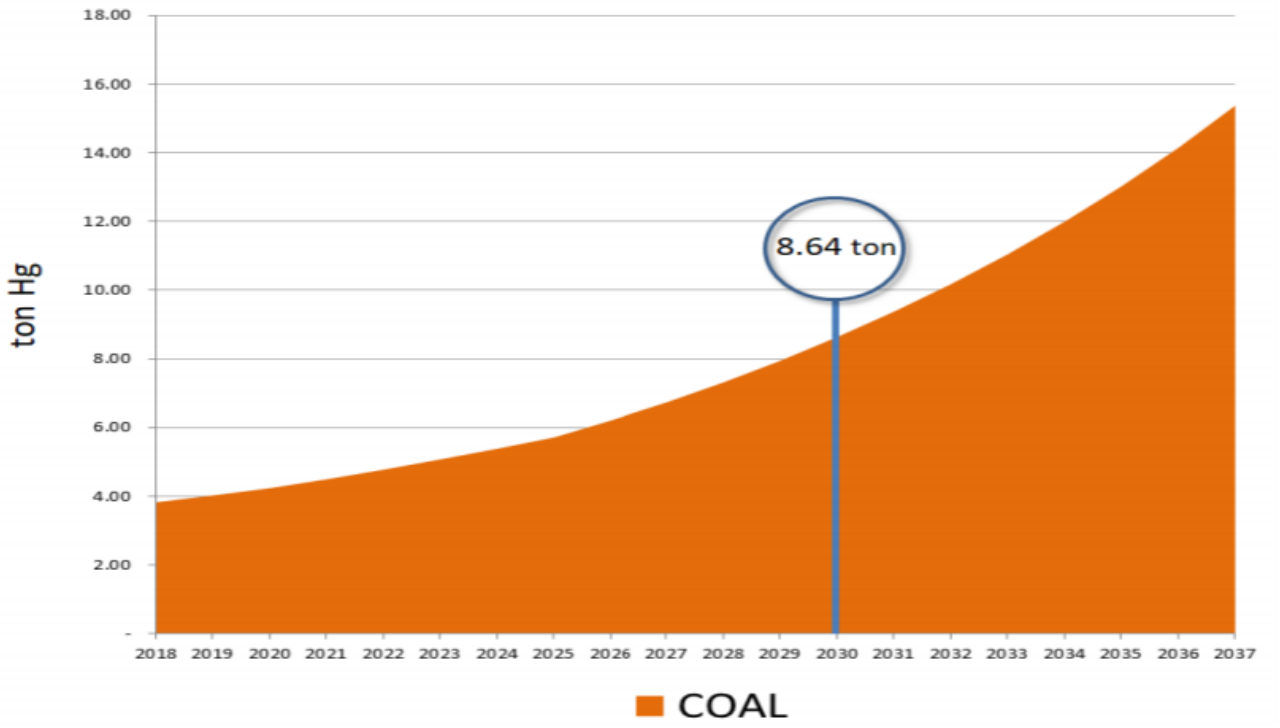
TARGET COUNTRIES

US STATE DEPT-IEACCC: STRATEGIC APPLICATION OF EXPERT KNOWLEDGE

INDONESIA



Coal consumption plan in consideration of Paris Agreement commitments



Projected rise in mercury emissions

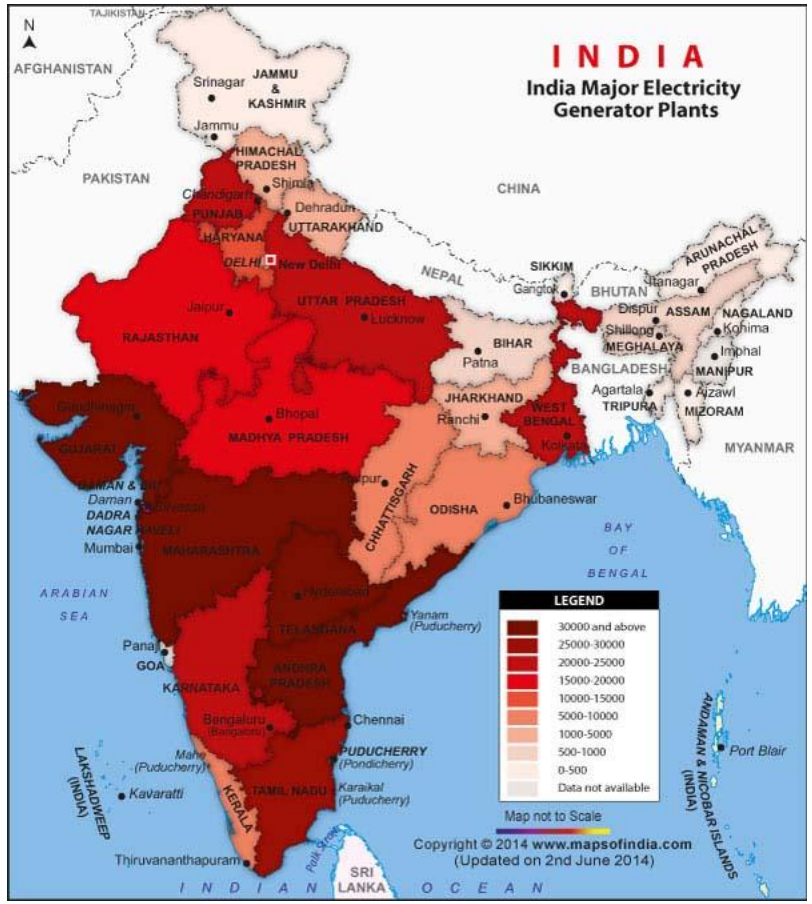
("Mercury Emissions for Coal-Fired Power Plants in Indonesia"
Report prepared by the Basel Convention Regional Centre for South East Asia, 2017)

IMPLEMENTATION

- An evaluation of mercury emissions from the coal sector on a plant by plant basis
- Ranking of plants to identify those with the most potential for cost-effective emissions control
- Work with utilities, government, regulators and vendors to propose potential emission control demonstration projects
- Training, capacity building and outreach

INDIA

- Significant growth in the energy sector
- Coal still the major source of power
- New emission standards (“norms”) under extended delay



Mapsofindia.com

PROJECT WORK IN INDIA

Still to be scoped but will involve evaluating the coal sector and creating potential projects to promote emission reduction, which could include:

- Emissions monitoring and certification programmes
- Energy efficiency and flexibility management
- Multi-pollutant control strategies for the India challenge (high ash, low water)
- Biomass co-firing

THE PARTNERSHIP AREA ON MERCURY RELEASES FROM COAL COMBUSTION WILL CONTINUE TO WORK WITH EMERGING REGIONS, PROVIDING ASSISTANCE AND GUIDANCE AS REQUIRED

FIND OUT MORE

- Join the Global Mercury Partnership via the Partnership's website

- Visit our booth tomorrow (Wednesday) lunchtime for more information from active partners

GLOBAL MERCURY PARTNERSHIP

IEA
CLEAN COAL CENTRE

GLOBAL
MERCURY
PARTNERSHIP

Dr Lesley Sloss
Lesley.Sloss@iea-coal.org