

# Welcome Remarks

Bjarne Pedersen, Executive Director, Clean Air Asia

# Clean Air Asia

An international NGO headquartered in Manila, with offices in Beijing and New Delhi

Country networks in Indonesia, Malaysia, Nepal, Philippines, Sri Lanka and Vietnam

Established in 2001 as the premier air quality network in Asia by ADB, World Bank and USAID

## **Our vision**

Asia without air pollution

## **Our mission**

To reduce air pollution and greenhouse gas emissions in Asia and contribute to a livable and healthy Asia for all people, both now and in the future

[www.cleanairasia.org](http://www.cleanairasia.org)



# BAQ 2018 in numbers



Over 620 participants with more than 450 international participants representing 48 countries from Asia and the Pacific region, Africa, North America, Europe, and the Middle East

**41 Plenaries and breakout sessions**

**48 Poster presentations**

**32 Pre-events and side events**

**32 Major sponsors and exhibitors**

BAQ 2018 participants are from environment, energy, and transport ministries, city representatives, research and academic institutions, development organizations, civil society organizations, industry associations and the private sector.

# Since last BAQ

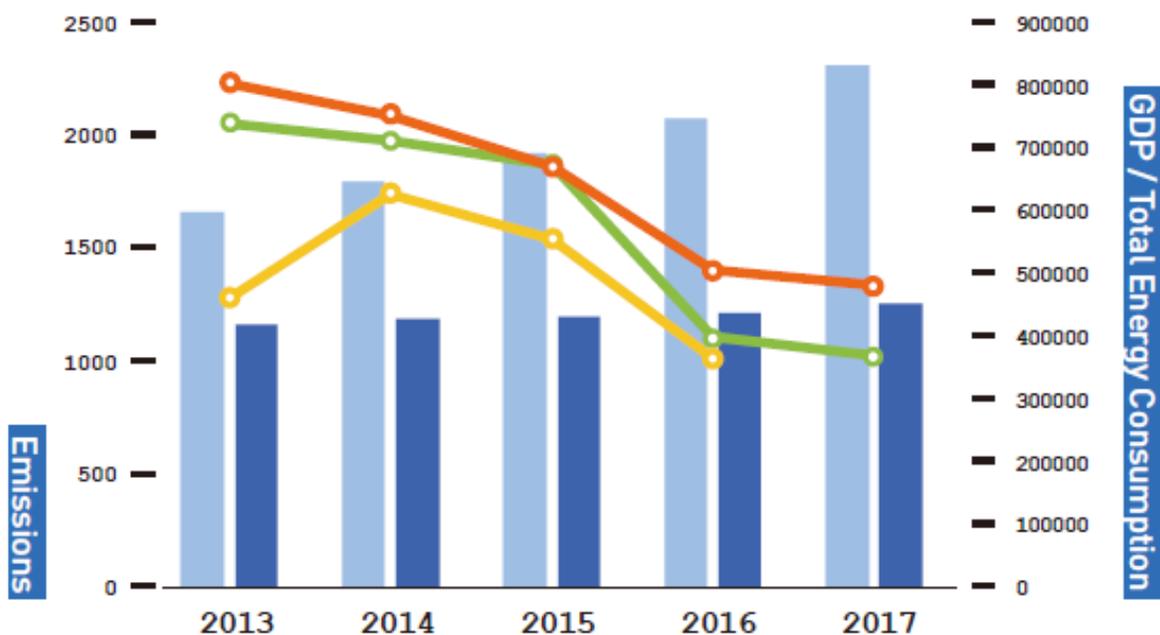
- Emerging consensus of AQ as the big equalizer between environment, health and climate change
- Regional cooperation and subnational action critical to progress
- Political will is equally critical at all levels
- We are starting to grasp the scale of the challenge

And China has made some headway.....focus shifting to India with SE Asia as the next 'frontier'

# Since BAQ 2016

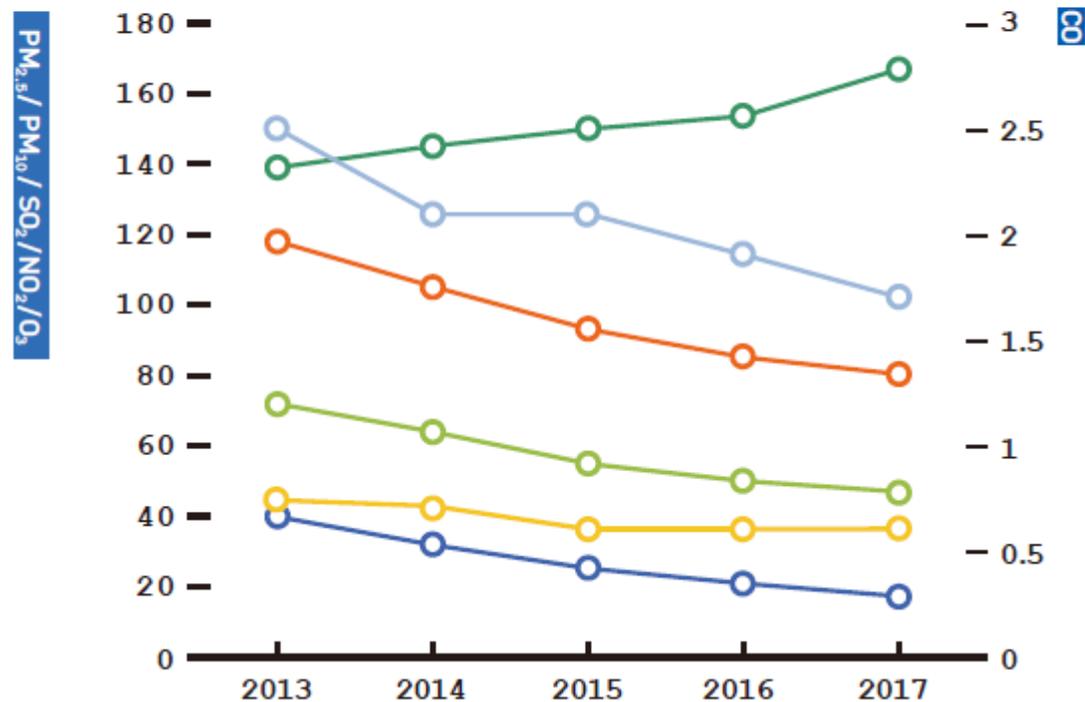
### Primary Air Pollutant Emissions in China

- GDP (RMB 100 million)
- Total Energy Consumption (10,000 tons SCE)
- NOx Emissions (10,000 tons)
- SO<sub>2</sub> Emissions (10,000 tons)
- Dust Emissions (10,000 tons)



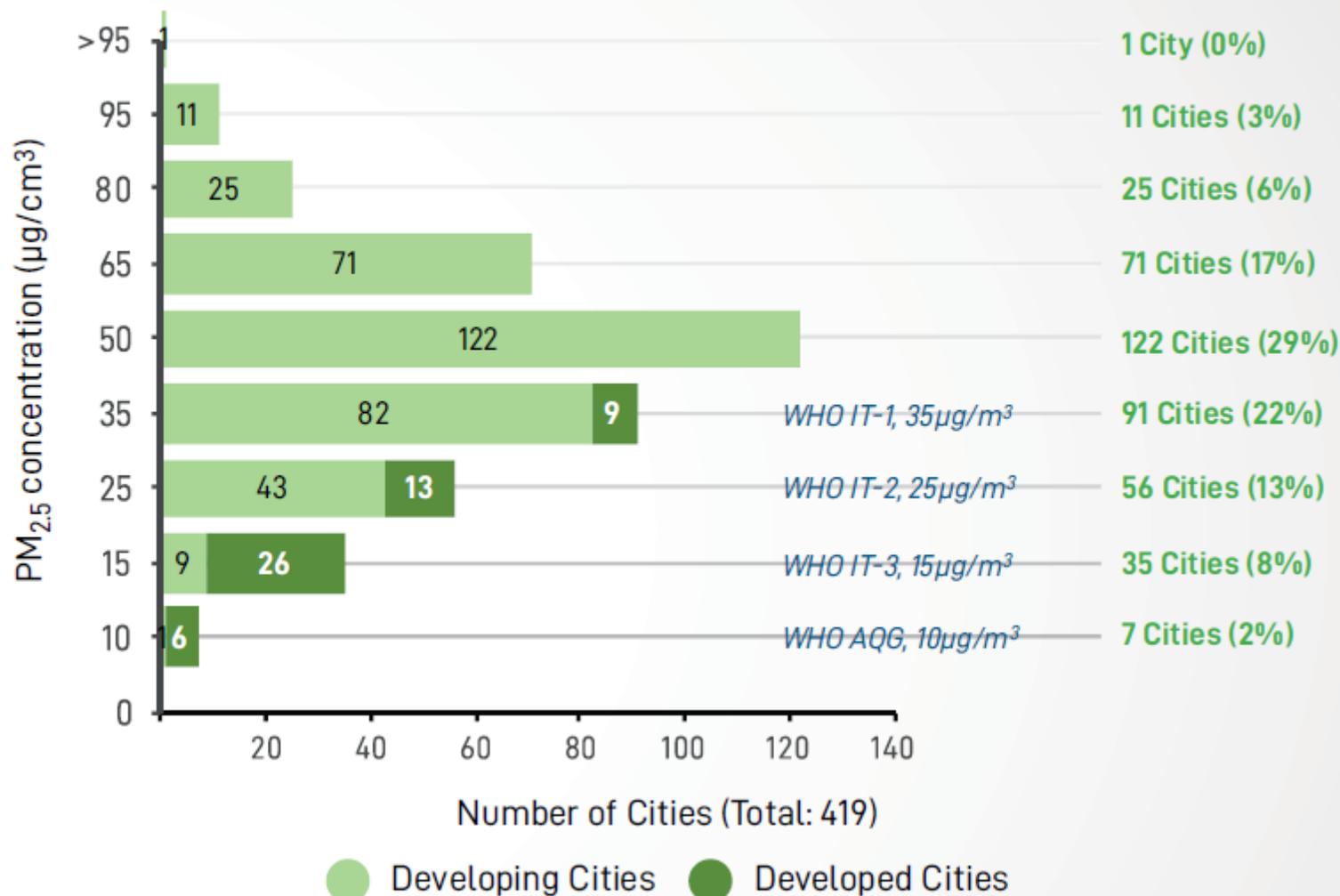
### Annual Average Concentrations of Six Primary Pollutants in 74 Chinese Cities (2013-2017)

- CO (mg/m<sup>3</sup>)
- PM<sub>10</sub> (μg/m<sup>3</sup>)
- NO<sub>2</sub> (μg/m<sup>3</sup>)
- O<sub>3</sub> (μg/m<sup>3</sup>)
- PM<sub>2.5</sub> (μg/m<sup>3</sup>)
- SO<sub>2</sub> (μg/m<sup>3</sup>)



# 98% of Asian cities are at risk from the health impacts of exposure to PM<sub>2.5</sub>

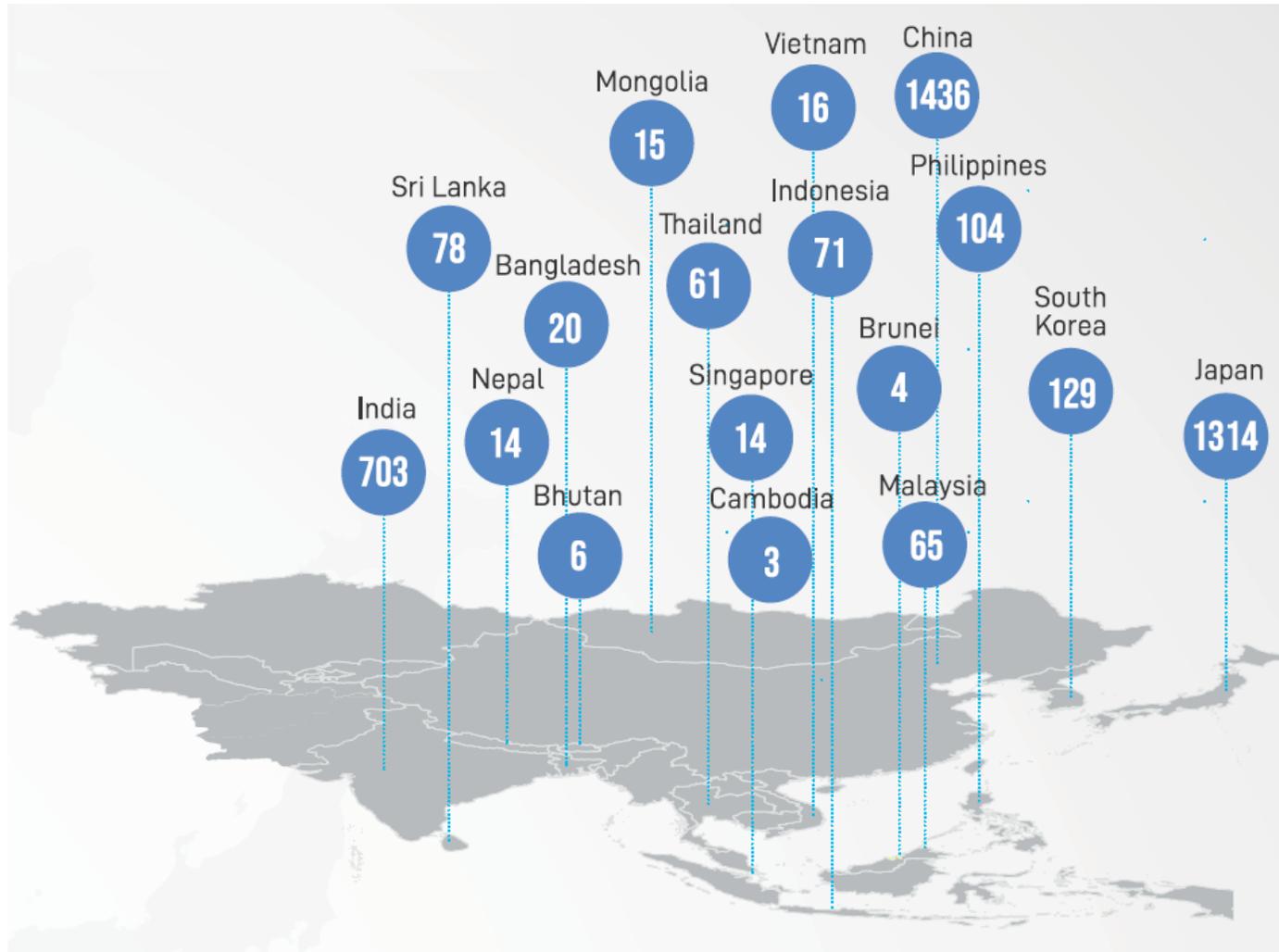
## Distribution of Asian Cities relative to PM<sub>2.5</sub> concentrations



- The annual average PM<sub>2.5</sub> concentration in 419 cities in Asia is 40 µg/m<sup>3</sup>.
- **Only 7 of the 419 cities met the PM<sub>2.5</sub> annual average WHO AQG**
- WHO IT-1 compliance:
  - All developed cities complied
  - 6/10 developing cities exceed

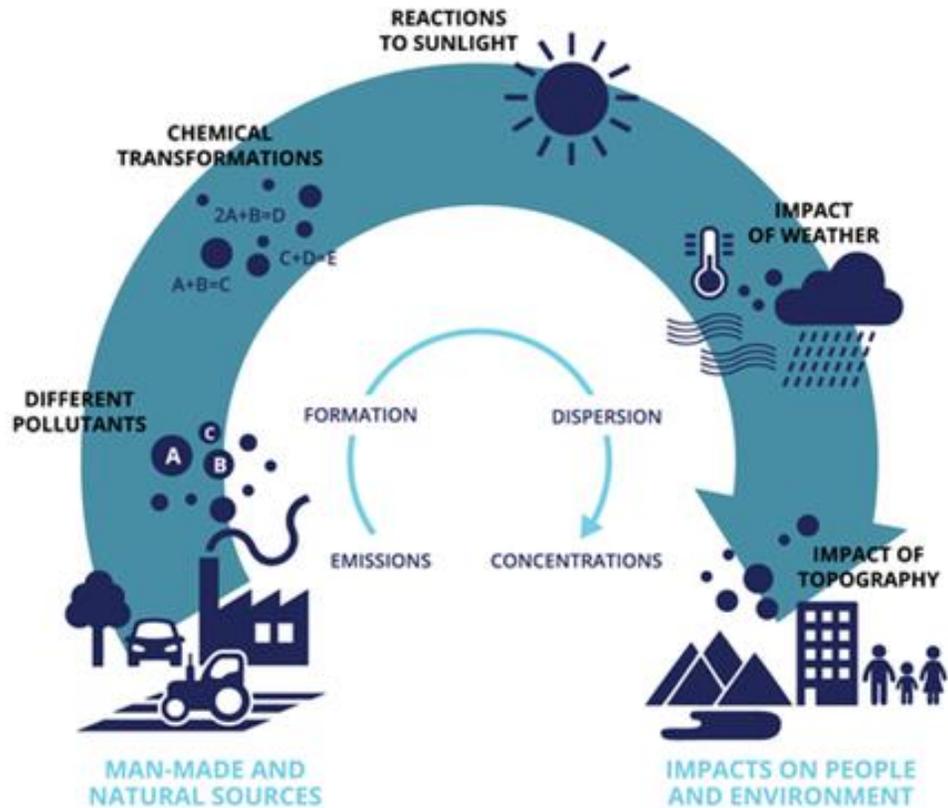
Data collected from publicly available official sources compiled by CAA. Data for the last available year in the period 2007-2017 (Clean Air Asia, 2018)

# Data is still an issue....



- **Pollutants :**  
PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>2.5</sub>
- **Monitoring type:** All kinds of monitoring (from manual to automatic)
- **Geographic scope:**  
17 Asian countries
- **Source:** Official data from environment government websites, national statistics websites, environment reports, request from city contacts

# And air pollution issues are becoming more complex....



Source: EEA

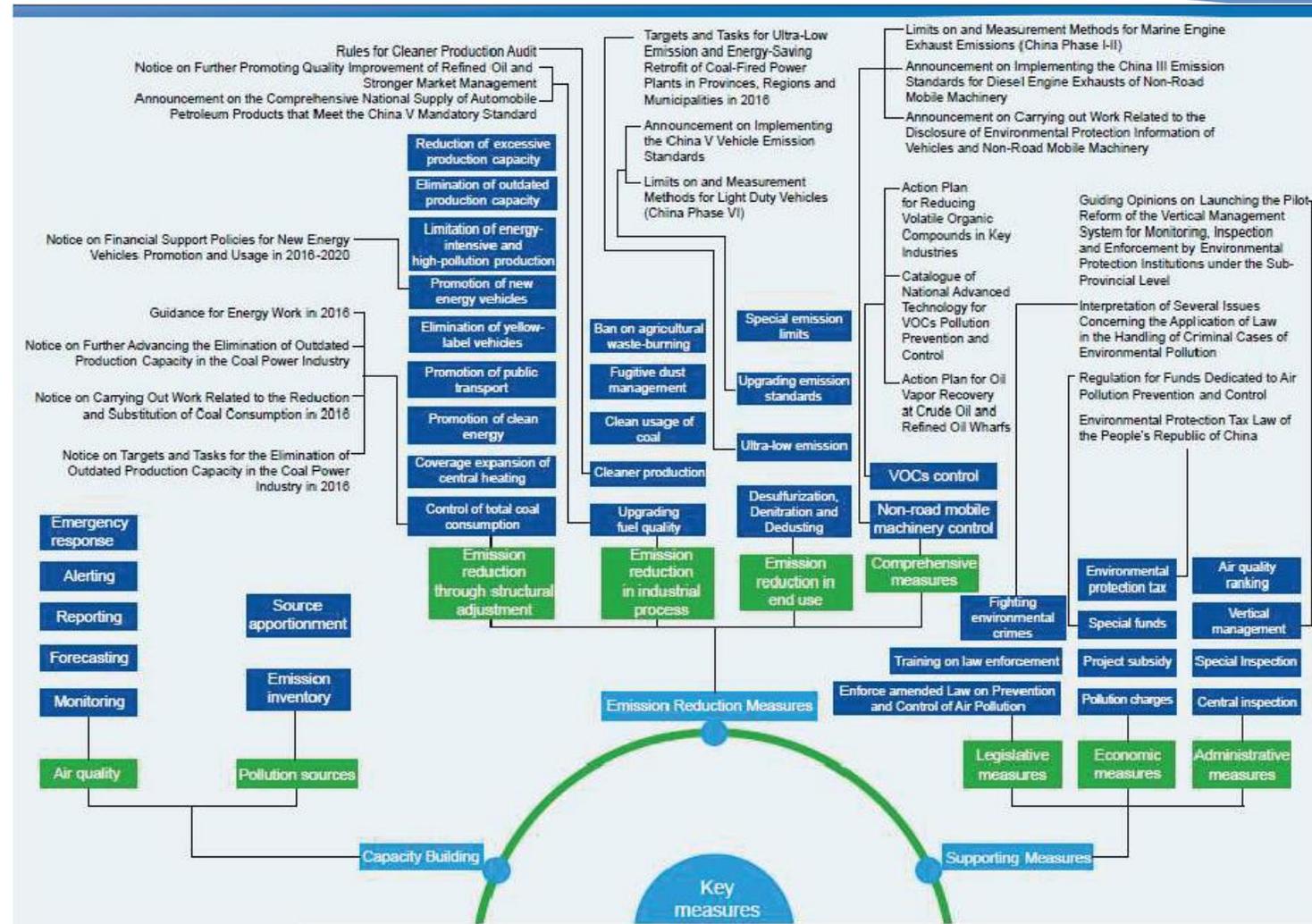


Figure 16: Policy Framework of Air Pollution Prevention and Control

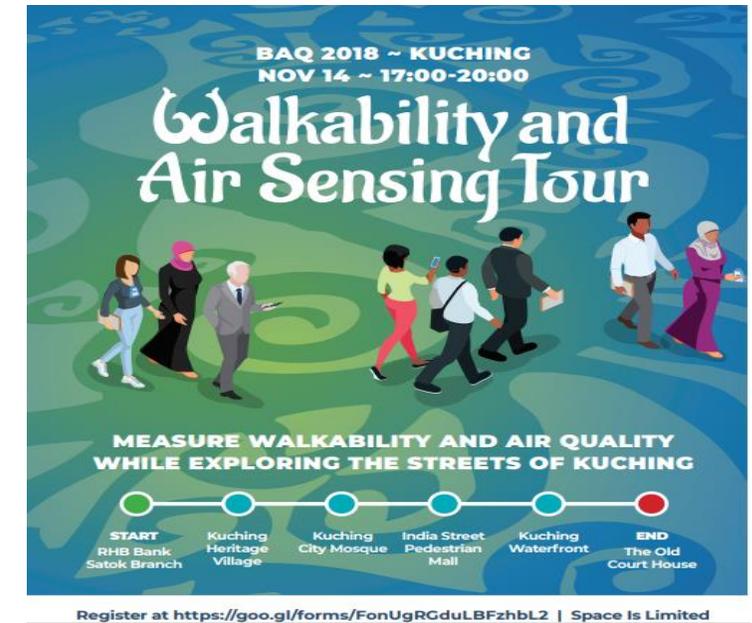
# What BAQ 2018 has in store

More space for interaction

Solutions and partnerships are the focus

Reinforce community understanding and commitment

Share lessons and good practices



# Launch of IBAQ Programme Learning Portal

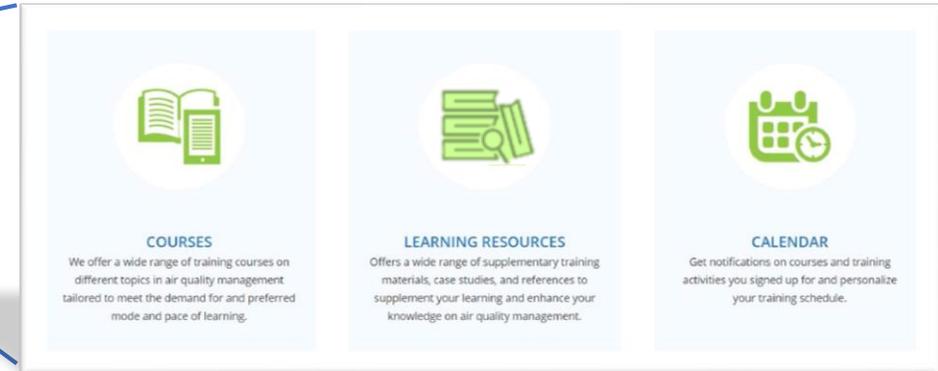
## *Building capacity for air quality management*

**Objective:** To promote the Guidance Framework and provide accessible and sustainable capacity building activities tailored to the needs of the region.

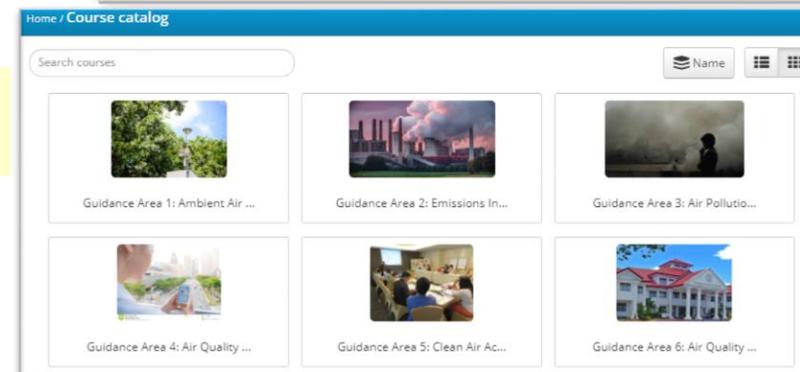
Go to [cleanairasia.org/ibaq](http://cleanairasia.org/ibaq) and click



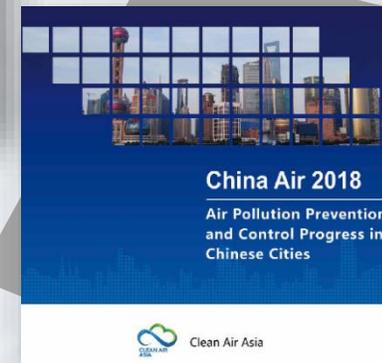
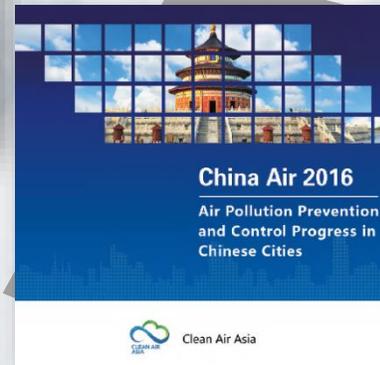
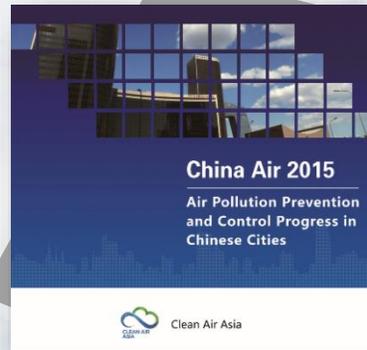
This portal will host online training courses and learning resources (tools, library, case studies).



Features a flagship training course on **Guidance Framework** implementation.

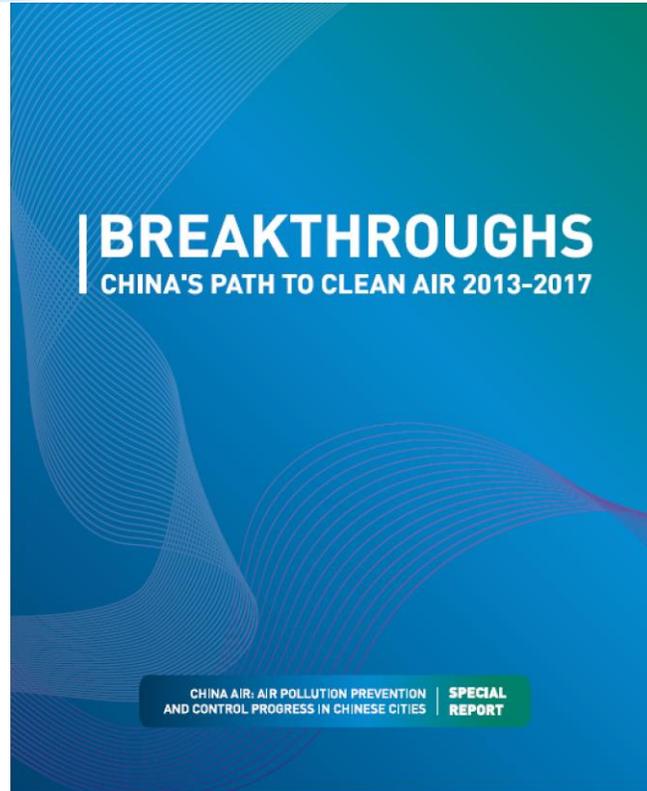


# Tracking China's Progress



*China Air--Air Pollution Prevention and Control Progress in Chinese Cities* is a series of reports to track China's progress

# Special Report of the China Air Series



- Summarizes key experience of China's success from 2013-2017
- Analyzes 9 measures in 4 categories

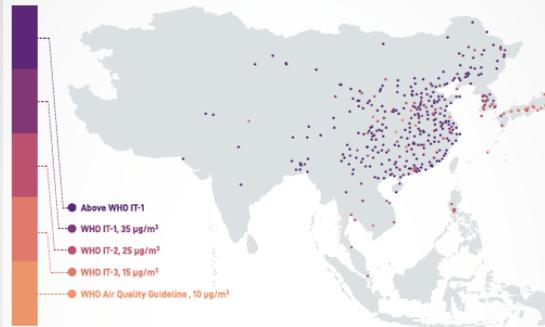




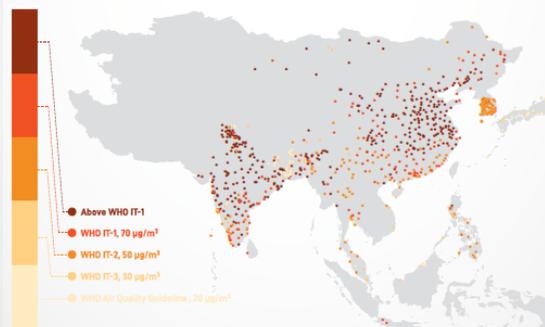
# AIR QUALITY IN ASIA

# STATUS AND TRENDS 2018

**PM<sub>2.5</sub> concentrations in Asian cities**  
Each dot in the map below reflects the level of ambient PM<sub>2.5</sub> concentration in Asian cities, and their compliance to WHO Air Quality Guideline Values and Interim Targets.



**PM<sub>10</sub> concentrations in Asian cities**  
Each dot in the map below reflects the level of ambient PM<sub>10</sub> concentration in Asian cities, and their compliance to WHO Air Quality Guideline Values and Interim Targets.



## Contains information on Asia:

- Health impacts of ambient air pollution
- Drivers of air pollution
- Sources of urban ambient PM<sub>2.5</sub>
- Development of PM<sub>2.5</sub> standards and guideline values
- Air quality monitoring in Asia
- Comparison of PM<sub>2.5</sub> air quality indices
- Air quality-related policies

## REGIONAL AIR QUALITY STATUS AND TRENDS

### HEALTH IMPACTS OF AMBIENT AIR POLLUTION IN ASIA

**6TH** Highest ambient air pollution in the world, ranking as the 6th highest factor for premature deaths in 2016 due to high and increasing lung disease, stroke, respiratory infection, and lung cancer.

Ambient air pollution in the form of particulate matter (PM<sub>2.5</sub>) remains as the biggest environmental risk worldwide, ranking as the 6th highest factor for premature deaths in 2016 due to high and increasing lung disease, stroke, respiratory infection, and lung cancer.

Global ranking of risk factors by total number of deaths from all causes for all ages and both sexes in 2016

### DRIVERS OF AIR POLLUTION IN ASIA

**POPULATION**  
Almost 60% of the 4.5 billion population of Asia is still living in urban areas. Since 2010, the urban population in Asia has been growing at 0.7%.

More anthropogenic activity in urban areas can lead to higher emissions, and this may explain more in other areas. A larger percentage of the population may be exposed to increased health risk due to ambient air pollution.

**MOTORIZATION**  
The average number of motor vehicles in Asia has increased by 10% from 2010-2016. Central and South Asia experienced the highest growth in motor vehicle population at 19%.

MotORIZATION impacts on air quality influenced by several factors such as fuel quality, vehicle fleet performance, exhaust emission levels or new emissions, and emission control on in-use vehicles.

**ENERGY MIX**  
Non-renewable energy dominates 21 out of 22 countries in Asia in 2016 (95% dependence). Energy production in Southeast Asia (79%) and in Central and South Asia (70%) is not renewable energy whereas energy production in East Asia is almost entirely non-renewable (99%).

Renewable energy production has grown by 7% in Asia from 2012 to 2016, with Southeast Asia having the fastest annual average growth at 11%.

Despite the growth of renewable energy production and use, the share in the right-to-overall energy mix has decreased at an annual rate of 1% between 2012 and 2016, reflecting the growth of Central and South Asia. This could be attributed to increased production and use of fossil fuels for the on-going rapid economic growth. East Asia, on the other hand, has decreased its dependence on fossil fuels in the energy mix at an average annual rate of 1%.

### SOURCES OF URBAN AMBIENT PM<sub>2.5</sub> IN ASIAN SUB-REGIONS

Key findings:  
- Domestic fuel burning is the largest source of urban PM<sub>2.5</sub> in Southeast Asia, while in the rest of the region, transport is the largest source.  
- Natural sources contribute significantly to urban PM<sub>2.5</sub> in Central and South Asia.  
- Industry is a significant source of urban PM<sub>2.5</sub> in East Asia.

### AIR QUALITY MONITORING IN ASIA

### AMBIENT PM<sub>2.5</sub> IN ASIA

High level sources:  
- Brown  
- High fuel burning power plants  
- High iron emissions  
- High iron emissions  
- Acid rain  
- Residential activities  
- Landfills  
- High iron  
- Landfills and waste  
- Low weight & light particles  
- Landfills  
- Low vegetation  
- Landfills and waste  
- Occupational activities  
- Other

Other:  
- Diets  
- Tobacco  
- Diet  
- Diet  
- Diet  
- Diet  
- Diet

### DEVELOPMENT OF PM<sub>2.5</sub> STANDARDS AND GUIDELINE VALUES

The process of developing PM<sub>2.5</sub> standards and guideline values for ambient PM<sub>2.5</sub> concentrations.

Indonesia, Mongolia, India, Nepal, Singapore, Philippines, China

### AIR QUALITY-RELATED POLICIES

**ENERGY**  
The growth in Renewable Energy (RE) production in Asia from 2012 to 2016 is the highest in the world, with a 10% increase in total RE production. This is due to the government's support for RE and the increasing demand for RE.

**TRANSPORT**  
Many of the countries in Asia have established regular vehicle emission tests. Some countries have established standards for new vehicles, while others have introduced higher vehicle emission standards equivalent to Euro 5 and 6.

The adoption of Euro 5 and 6 standards significantly reduces atmospheric emissions, providing environmental and health benefits.

### COMPARISON OF AIR QUALITY INDICES IN ASIA FOR PM<sub>2.5</sub>

### LEGAL FRAMEWORK

19 of 22 countries covered in this study only 13 countries have enacted Clean Air Acts.

**CITY-LEVEL ACTION**  
There is a growing need and interest of local governments for evidence-based policy-making. This is achieved through establishing regular reporting of air quality management information and early warning systems, to inform the development of air quality management measures, and to promote other air quality management measures.

As of 2016, cities in Indonesia, Philippines, Thailand and Vietnam have embarked on multi-referenced development of Clean Air Action Plans in China.

10 of 22 countries have developed Clean Air Action Plans in line with the national government's emission reduction strategies.

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# In conclusion

- We know more than what we knew at the last meeting – about the health impacts, about capacity needed, about the toolbox needed BUT the urgency of moving the agenda forward has become even more critical. The more we know, the greater the urgency and need to find concrete solutions – win/win, win/win/win, low-hanging fruits, no regret
- Learning and collaboration among different stakeholders and different regions is needed to harvest solutions and learn – cross leverage rather than ‘reinvent the wheel’
- And the long haul – renewables, sustainable cities, low emission urban development

*'Ultimately, success will only come with unity. Air pollution neither knows nor respects national borders, social status or our climate.*

*Collaboration is hence vital if we are to avoid impending calamity.  
As we address the challenges ahead, let us recognize that our strength lies in our shared vision, and our future – a future without air pollution – is our shared responsibility.*

*And now is the time for action, commitment and solutions.'*

**Thank you!**  
**Terima kasih!**

The slide features a light blue gradient background. At the bottom, there are several overlapping, wavy lines in various shades of blue, creating a decorative border.