



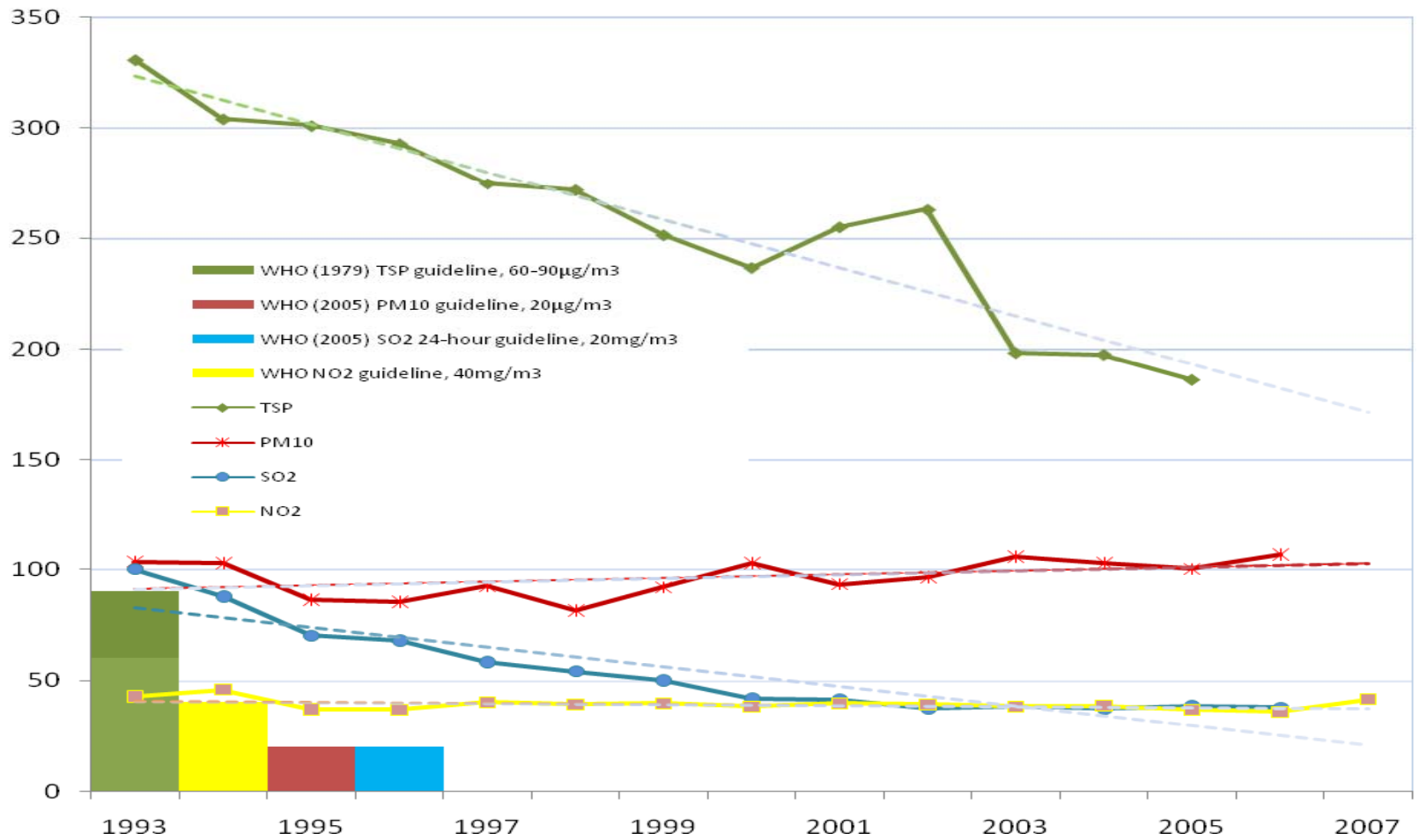
# *Regional Overview – **ASIA** Region*



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28 April 2009  
CAI-Asia Center



# Urban Air Pollution Trends in Asia 1993-2007



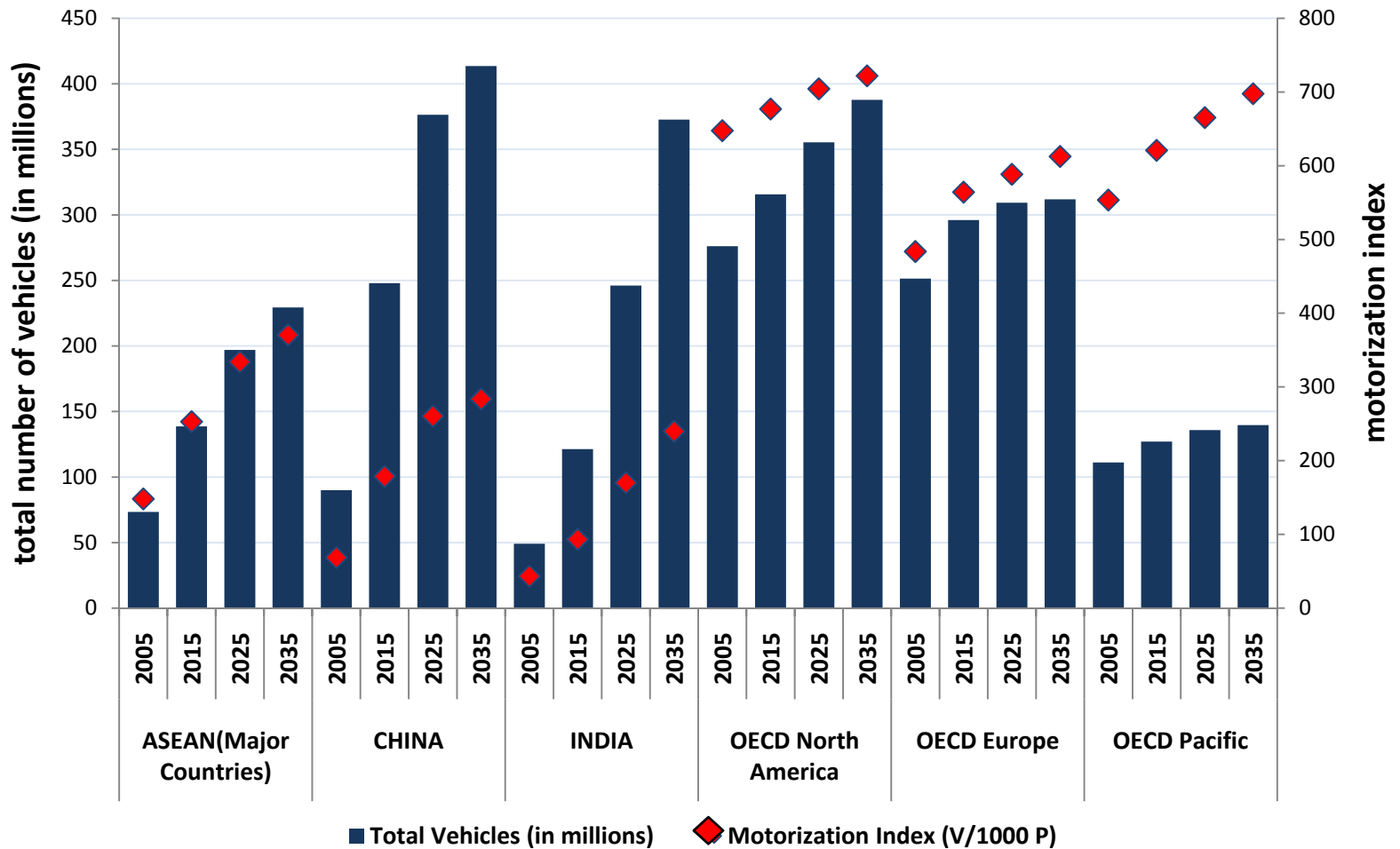
Source: CAI-Asia, 2008

Aggregated Annual Ambient AQ Trends, mg/m<sup>3</sup> (1993 to 2007)





# Increasing Motorization and Vehicle Growth



Source: 2008. ADB, CAI-Asia, Segment Y Ltd., and IEA

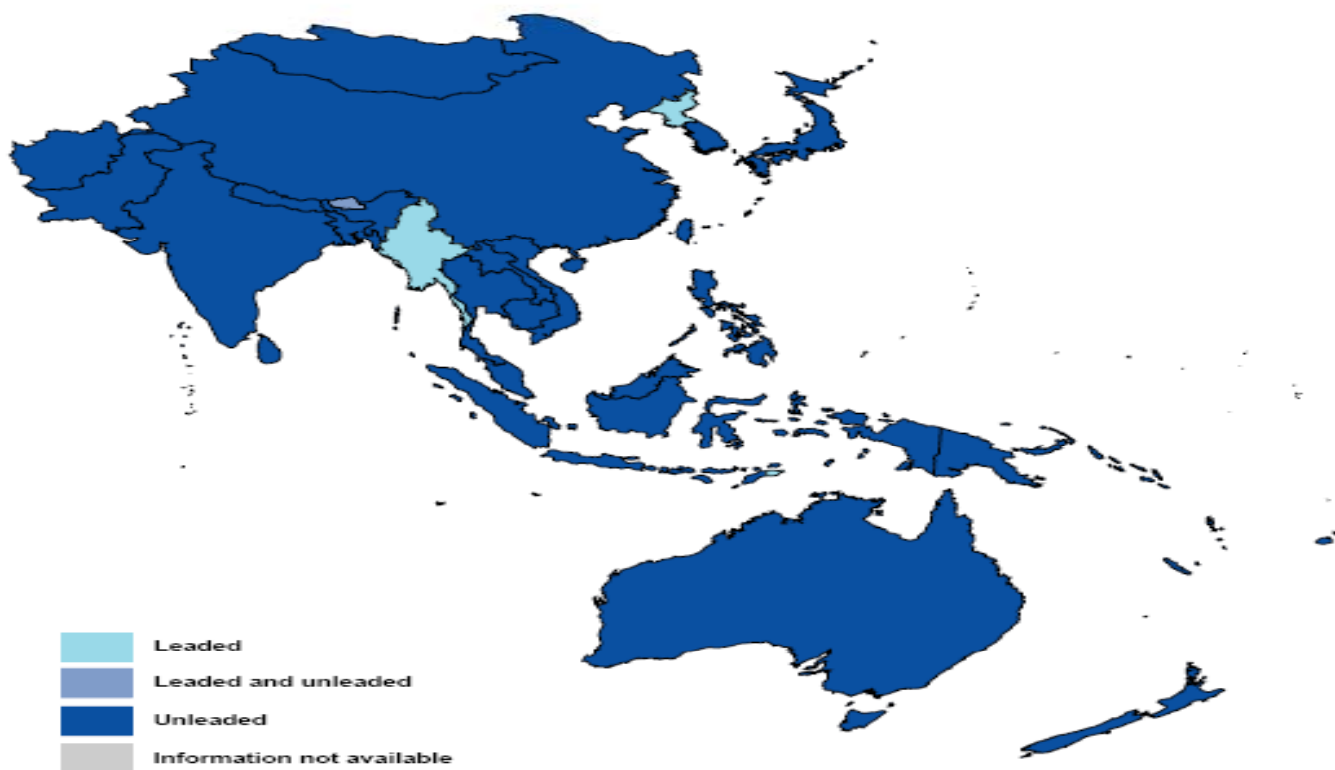




# Lead



## Status of leaded gasoline phase-out in the Asia-Pacific region January 2009



January 2009





## Fuel Standards - Levels of Sulphur in Diesel

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Bangladesh							5000										
Cambodia					2000				1500								
Hong Kong,		500					50							10 <sup>a</sup>			
India (nationwide)	5000				2500					500					350		
India (metros)	5000				2500	500				350 <sup>a</sup>					50 <sup>a</sup>		
Indonesia	5000										3500				350		
Japan <sup>b</sup>	500									50			10				
Malaysia	5000		3000					500 <sup>c</sup>		500 <sup>d</sup>							50 <sup>a</sup>
Pakistan		10000					7000 <sup>c</sup>										
Philippines	5000					2000				500							
PRC (nationwide) <sup>e,f</sup>	5000						2000				2000 & 500						
PRC -	5000						2000		500	350			50				
Singapore	3000		500								50						
South Korea	500							430	100		30	15(10) <sup>f</sup>					
Sri Lanka	10000							5000 <sup>d</sup>			500						
Taipei,	3000			500			350		100				50				
Thailand	2500			500					350		150				50		
Viet Nam	10000												500				
European Union					500						50(10) <sup>f</sup>		10				
United States	500										15						

Source: **CAI-Aria, 2008**

> 500 ppm

51 – 500 ppm

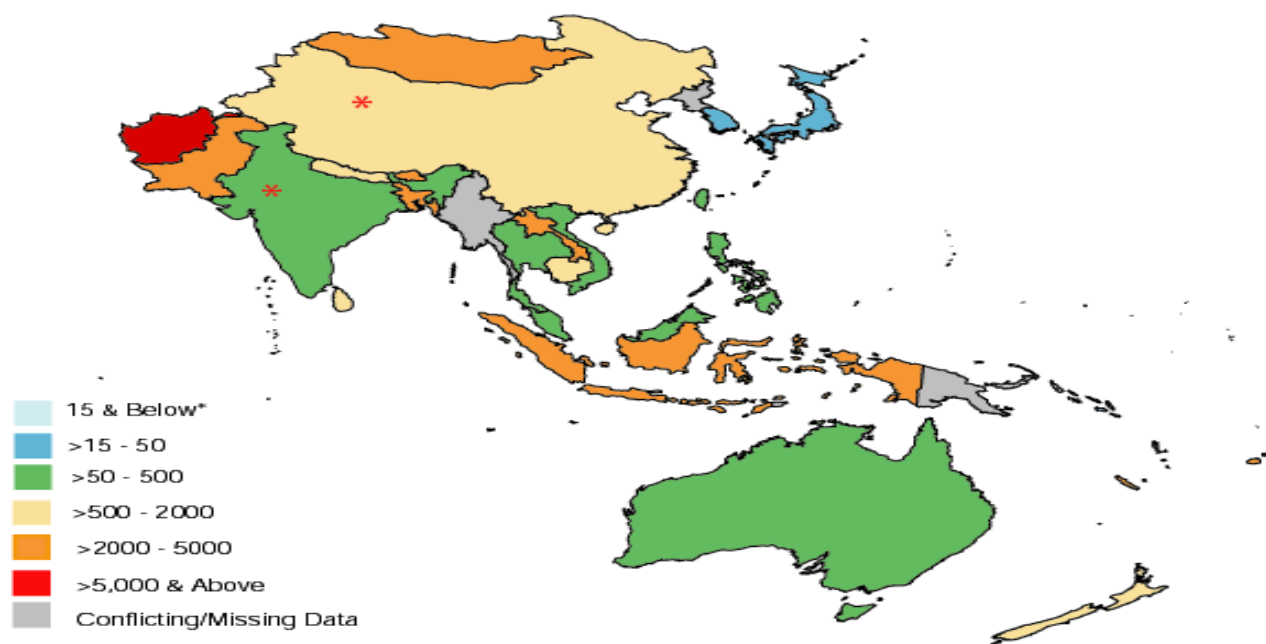
< 50 ppm



# Sulphur



## Diesel Fuel Sulphur Levels: Asia-Pacific January 2009



\* Information in parts per million (ppm)

\* China (Beijing, Hong kong and Macao Sar). - 50ppm

\* India (metro cities). - 350ppm

For additional details and comments per country, visit [www.unep.org/pctv](http://www.unep.org/pctv).

**January 2009**



UNEP



# Emission Standards New Light-Duty Vehicles

Country	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
European Union	E1	Euro 2				Euro 3			Euro 4			Euro 5				Euro 6				
Bangladesh <sup>a</sup>											Euro 2									
Bangladesh <sup>b</sup>											Euro 1									
Hong Kong, China	Euro 1	Euro 2				Euro 3			Euro 4			Euro 5								
India <sup>c</sup>							Euro 1			Euro 2			Euro 3							
India <sup>d</sup>					E1	Euro 2				Euro 3			Euro 4							
Indonesia											Euro 2									
Malaysia			Euro 1										Euro 2		Euro 4					
Nepal						Euro 1														
Pakistan	No conclusive information available																			
Philippines									Euro 1			Euro 2				Euro 4				
PRC <sup>a</sup>							Euro 1		Euro 2		Euro 3		Euro 4							
PRC <sup>e</sup>							Euro 1		Euro 2		Euro 3		Euro 4 Beijing only							
Singapore <sup>a</sup>	Euro 1						Euro 2													
Singapore <sup>b</sup>	Euro 1						Euro 2						Euro 4							
Sri Lanka									Euro 1				Euro 2 <sup>f</sup>							
South Korea											Euro 4				Euro 5					
Taipei,											US Tier 1					US Tier 2 Bin 7 <sup>g</sup>				
Thailand	Euro 1						Euro 2		Euro 3				Euro 4							
Viet Nam											Euro 2									





## Supportive clean fuels and vehicles declarations

- **First Governmental Meeting on Urban Air Quality in Asia** recommended development of roadmaps for fuel quality and vehicle emission standards for new vehicles (2006)
- **Second Governmental Meeting** encouraged preparation of national long-term vision statement for urban air quality and urged members to make good use of international initiatives such as the PCFV (2008)
- **ASEAN Declaration on Environmental Sustainability** on its intention to 'intensify cooperation on the joint research, development and deployment of low emission technologies for the cleaner use of fossil fuels' (2007)
- **Ministerial Conference on Global Environment and Energy in Transport** issued a Ministerial Declaration stating the need to work effectively with international organizations such as PCFV in realizing low-carbon and low-pollution transport systems (2009)





## Recent and Upcoming PCFV Activity

### Recent

- Launch of Roadmap for Cleaner Fuels and Vehicles (2008)
- National Mission to Indonesia on Sulphur Reduction Project
- Launch of Clean Fleet Toolkit and Fuel Economy Workshop at Better Air Quality workshop in Thailand (2008)
- Lead Phase Out Workshops in Mongolia and Laos (2008)
- Toolkit Trainings by CAI-Asia Center in the Philippines (2009); one pilot project ongoing
- CAI-Asia Center meetings with stakeholders in Pakistan, Philippines, and Vietnam on clean fuels and vehicles action planning project (2008, 1Q 2009)

### Upcoming

- Regional Workshop on Partnership for Clean Fuels and Vehicles for East Asia (May 2009)
- Improving Fuel Economy in the ASEAN Region (May 2009)





# Challenges - Sustainable Transport Framework

Government Action



Urban/Transport  
Planning and Demand  
Management

Public Transport &  
Non Motorized  
Transport

Cleaner and Efficient  
Fuels and Vehicles

Freight and Logistics



Individual Action

- Institutionalizing and implementing policies
- Increasing private motorization (including 2 wheelers), high number of old vehicles
- Public transport share declining and many cities relying on intermediate public transport (including autorickshaws, tricycles, jeepneys, etc.)
- High fuel subsidy and fuel adulteration
- Heavy duty vehicles including freight and logistics

