

Breathing Easier in Bangkok – Part 1

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Long time Bangkok residents, and tourists returning to Bangkok after an absence of a few decades, will have noticed that Bangkok's air quality has significantly improved. Although considerably more progress needs to be made, even now one even hears of people moving to Bangkok from other Asian cities in order to escape air pollution.



Regionally, the air quality improvement initiatives undertaken by Thailand in the last two decades serve as a model for cities facing a similar balancing act between economic advancement and environmental quality. In this next series of articles we will look at what constructive measures have been taken thus far to control air pollution in Thailand.

Before 1992, Thailand had no emissions standards applicable to the queues of vehicles that clogged the streets of Bangkok. Bangkok was considered one of the most polluted cities in the world in terms of air quality. However, following an ASEAN air quality summit in the early 1990s that addressed the issue on a regional level, Thailand began an aggressive and comprehensive campaign to reduce air pollution; a campaign that continues to this day.

According to the World Health Organization, while the number of motor vehicles registered in Bangkok increased by over 40 percent in the first decade of this century, the most dangerous type of air pollution, small particles that enter and then lodge themselves in the lungs, was simultaneously reduced by 47 percent. The air quality in Bangkok now falls within the levels set by the US Environmental Protection Agency for an acceptable concentration of airborne particles and chemicals.

The sources of Bangkok's air pollution problems are similar to those in most major cities, being emissions from vehicles, industrial emissions and man-made cooking, agricultural and forest fires.

Many of the air pollution control efforts have been spearheaded by the Pollution Control Department (PCD) of the Ministry of Science, Technology and Environment, which was created in 1992. Among other things, the PCD maintains a website that reports on the daily air quality in Bangkok and other sites within Thailand.

The solution to Thailand's vehicle emissions problem has been simple and multi-faceted: reduce the number of vehicles on the road (or at least reduce the rate of increase in the number of vehicles on the road) and reduce the emissions that emanate from the vehicles that remain on the road. For a city to function, people need to be able to move about efficiently and easily. If the use of vehicles is to be discouraged, other options must be made available. In Bangkok this was achieved by the introduction of the BTS, the MRT and the BRT (in 1999, 2004 and 2010 respectively). Of course, the first time car buyer incentive program introduced following the 2011 floods as a way to revive the auto manufacturing industry was counterproductive from an air pollution and traffic congestion perspective.

To reduce harmful emissions from vehicles, new fuel quality standards were introduced, higher vehicle emissions standards were imposed, a mandatory vehicle inspection and maintenance program was implemented, and roadside pollution inspections began.

The improvement in fuel standards commenced in the 1990s, and focused on moving Thailand off of lead-based fuels and on to the Euro 3 and then the Euro 4 emissions standards. These fuel standards are imposed through successive Notifications of the Ministry of Science, Technology and Environment under The Enhancement and Conservation of the National Environment Quality Act B.E. 2525 (1992). These standards set increasingly strict limits on the emissions of nitrogen oxides, total hydrocarbon, non-methane hydrocarbons, carbon monoxide and particulate matter.

Thailand managed to eliminate the sale of lead-based fuels by early 1996, before even the US achieved the same milestone. This was important given the disturbing statistics regarding the increasing number of Thai children with dangerous concentrations of lead in their blood.

Eliminating lead-based fuels from the marketplace was in part achieved by increasing the tax on leaded fuels and using a portion of those funds to subsidize the price of unleaded fuels. Happily, subsequent studies showed marked declines in the lead concentrations in Thailand's children, to well within safe levels.

In adopting the Euro 4 emissions standard, Thailand placed among the most progressive ASEAN nations; Singapore's adoption of the Euro 4 standard only takes effect on April 1, 2014. In contrast, the EU now applies the Euro 5 standard, and will soon move to the even more demanding Euro 6 standard.

Twenty years ago, a passenger in a taxi idling interminably at the Asoke-Sukhumvit intersection would have been gradually surrounded by swarms of noisy, smelly, smoke billowing two-stroke motorcycles. Shirt collars were black at day's end, and going for a run in Lumpini Park was probably a net negative from a health perspective. Progress has since been made, but more work is needed.

In future articles we will examine additional ways in which Thailand has been improving its air quality, including the national biofuel and ethanol policies, what was done to get two-stroke motorcycles off of the roads, and the role played in controlling pollution by Thailand's vehicle inspection programs.

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