

Project : Engine Turn up and Maintenance Program for the BMTA Bus

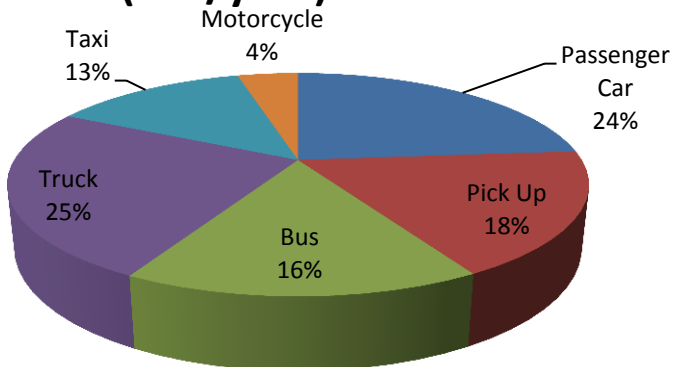


Pollution Control Department (PCD), Bangkok, Thailand

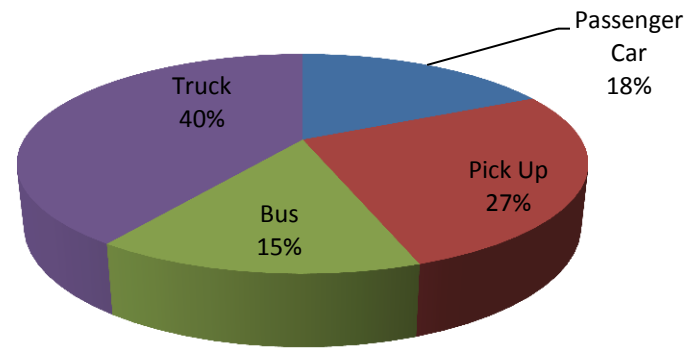
1.Starting point : Air Pollution Problem from BMTA's Buses

Buses are the backbone of the passenger transportation system in Bangkok. Urban bus services are managed by BMTA which operates a fleet of about 7,639 buses per day. Based on the emission inventory in 2015, these poor maintained buses are the main emitter for air pollution.

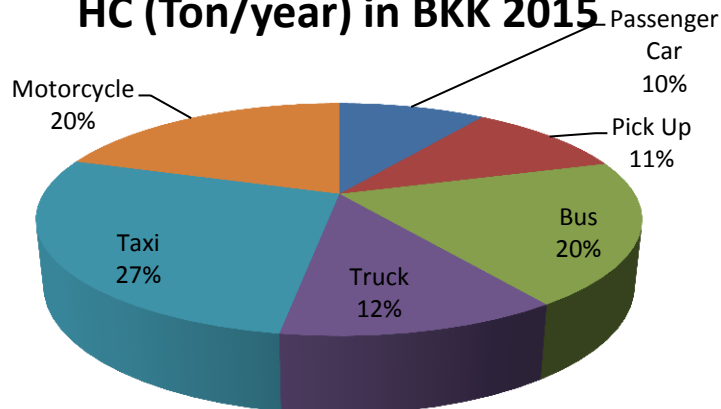
NOX (Ton/year) in BKK 2015



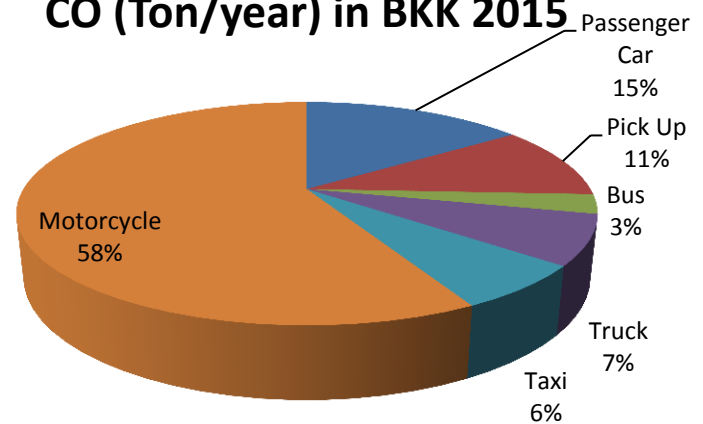
PM (Ton/year) in BKK 2015



HC (Ton/year) in BKK 2015



CO (Ton/year) in BKK 2015



2. Institutional setting :

There are 2 emission standards in Thailand :

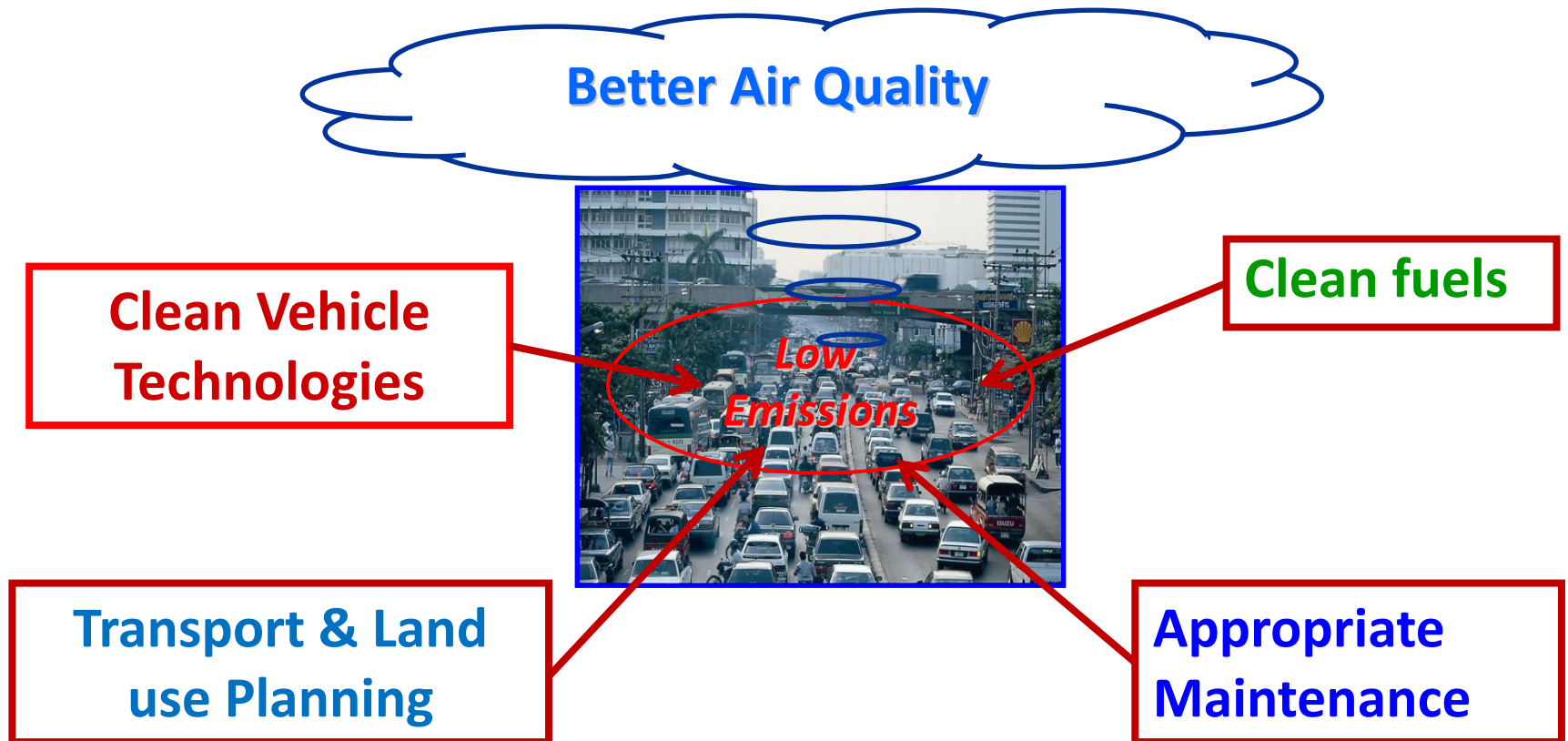
1.New motor emission standards: Euro 3 emission standards have been adopted and implemented in Thailand since 2007 by Thailand Industrial Standards Institute (TISI),Ministry of Industry.

2.In-used motor emission standards: Black smoke and noise level have been established to manage and control in-used buses in Thailand by Pollution Control Department (PCD),Ministry of Natural Resources and Environment.

Roadside inspection teams are established about 50 teams per day join hand between Land Transport Department (LTD), Police Department and PCD for emission inspection in Bangkok.

3. Approach:

Elements of a Comprehensive Vehicle Pollution Control Strategy



Engine Turn up and Maintenance Program have been established and applied to the BMTA's Buses.

4. Outputs :

Engine Turn up and Maintenance Program have been established and applied to the BMTA's Buses.

Benefits of the project were evaluated as the following :

1.Emission reduction: about 11 – 61 % of emission reduction (PM, Nox, CO, HC) and black smoke (Filter type) is reduced about 18 %

2.Energy saving: about 20 % is decreased when the sampled buses were running on chassis dynamometer in laboratory and about 10 % per day can be saved overall

3.Health impact: Reduction of emission in ambient environment can benefit to health impact about 2.4 billion baht in a period of 5 years

5. Lessons:

Mobile source Air Quality Management

Knowing air quality (monitoring network)



Knowing air emission levels (emission inventory,
emission factor)



Setting implementation plans (legal framework,
setting target and investment)

6. Transfer:

The necessary preconditions to transfer this practice to another place are the following :

- 1.Situation air pollution problem in the city
- 2.Main sources of the air pollution in the City
- 3.Existing transportation mode and type of fuel used in the city
- 4.Collaborate among institutions and regulations
- 5.3 Ms: man power ,budget and management