

Integrated strategies to reduce vehicle emissions

In developing strategies to clean up vehicles, there must be a clear understanding of the emission reductions required from all sources to achieve healthy air quality. Depending upon the air quality problem and the emissions contribution from vehicles, the degree of control required will differ by location. As illustrated in Figure 1, an initial start should be a careful assessment of air quality and the sources that contribute most to the problem or problems.

Where vehicles are the major culprits, a broad-based approach will be needed to formulate and implement policies and actions

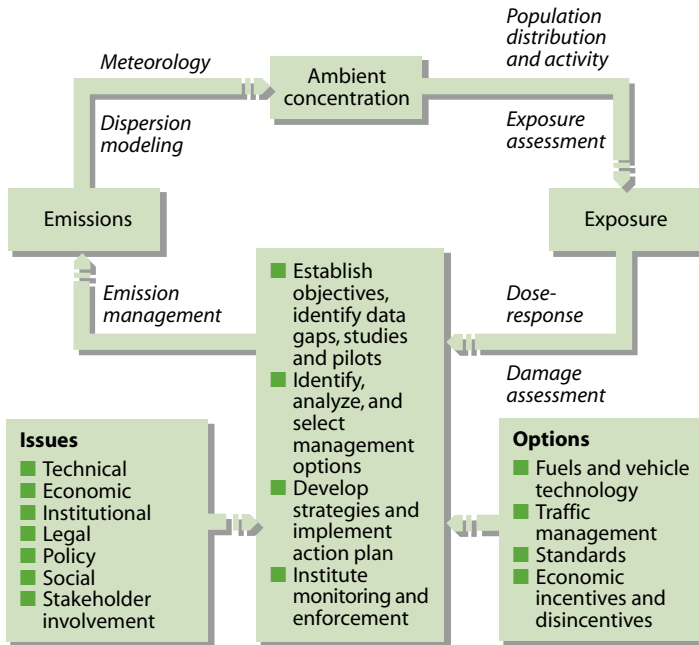
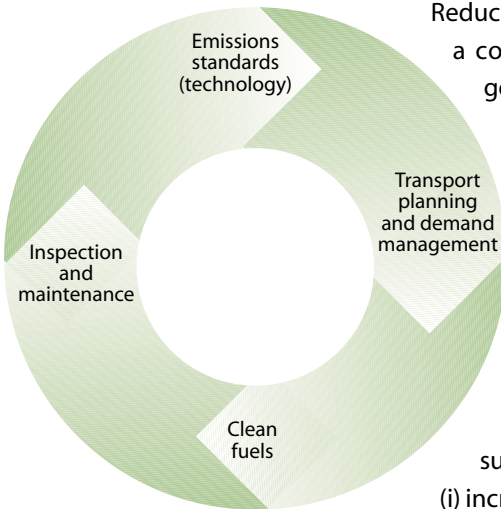


Figure 1
Integrated Air Quality Management Framework

aimed at reducing their pollution. The following groups of stakeholders will each have an important role in the development of appropriate policies and strategies:

- National government agencies and legislative bodies;
- Local government agencies and legislative bodies;
- Industry (vehicle producers, fuel producers, catalyst suppliers, maintenance industry, and others);
- Intermediate groups which can help advocate for and implement pollution reduction campaigns;
- End users. Within this group it is important to differentiate between user groups such as rickshaw drivers who depend on the affected vehicles for a living, and users who require vehicles for personal transportation;
- Breathers.

Figure 2
Elements of a
comprehensive
vehicle pollution
control strategy



Effective and efficient coordination mechanisms for vehicle pollution management must be established. These mechanisms should also clearly allocate responsibilities for specific functions and tasks to individual agencies and organizations.

Reducing vehicle pollution will usually require a comprehensive strategy. Generally, the goal of a motor vehicle pollution control program is to reduce emissions from in-use motor vehicles to the degree reasonably necessary to achieve healthy air quality as rapidly as possible. Failing that for reasons of impracticality, the goal is to meet the practical limits of effective technological, economic, and social feasibility. A comprehensive strategy to achieve such goals includes four key components:

- (i) increasingly stringent emissions standards for new vehicles,
 - (ii) specifications for clean fuels,
 - (iii) programs to assure proper maintenance of in-use vehicles,
 - (iv) and transportation planning and demand management.
- These emission reduction goals should be achieved in the most

cost-effective manner available. Figure 2 illustrates these four elements of a comprehensive vehicle pollution control strategy.

Air quality problems in Asian cities are often caused or exacerbated by emissions from the growing motor vehicles fleet. Appropriate vehicle emissions standards for new and in-use vehicles and a well-designed and operated inspection and maintenance (I/M) program are important elements of an overall strategy to reduce vehicle emissions and air pollution.

A well-designed and operated inspection and maintenance (I/M) program is an important element of an overall strategy to reduce vehicle emissions




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