

Managing Urban Air Quality: Focus on Clean Vehicle Technology and Fuels
An orientation programme for policy makers

Organised by the Centre for Science and Environment
New Delhi, September 25 – 27, 2012

1. Why this programme?

The Centre for Science and Environment (CSE) announces a three-day orientation programme on **'Managing Urban Air Quality: Focus on Clean Vehicle Technology and Fuels,'** to be held at New Delhi from September 25 - 27, 2012.

Managing urban air quality is turning out to be a serious governance challenge in Indian cities. More than half of our cities are reeling under serious particulate pollution. More and more cities, even smaller cities and towns are getting extremely polluted with serious health impacts. Vehicles are a special challenge as vehicular emissions contribute significantly to human exposure. How clean is our air also depends on how clean our engines and fuels are, how clean they remain over time and the nature of the transportation system and their modal share in cities. Many Indian cities have begun to implement clean air action plans and safety regulations for vehicles. Vehicular pollution control is one of the key strategies of these plans. This interactive forum will cover a range of issues including:

- Pollution challenge of urbanisation
- Understanding air quality, trends and monitoring in Indian cities
- Why vehicles are a special challenge?
- Meeting national ambient air quality standards
- Vehicle technology and clean fuel roadmap
- Gaseous fuel programmes – emissions and safety management
- Vehicle technology and fuel economy
- Challenges of in-use vehicles and transit traffic
- Vehicle inspection system in India and ways to improve it

This three-day orientation programme aims to deepen the understanding of issues of challenges of air pollution and its sources, their relative contribution, mitigation strategies, air quality management and governance, challenges and solutions for clean and safe vehicle technology and fuels, management of in-use vehicle fleet and transit traffic in order to meet the combined objectives of public health, energy security, climate mitigation and road safety.

2. Why do we need this forum?

Air quality management has begun to take roots in India, but it is still not adequate to ensure clean air in all cities. The air quality monitoring regime needs to improve monitoring infrastructure, conduct emission sources inventory, upgrade monitoring technology, create a meticulous regulatory and enforcement mechanism with the ultimate objective of meeting the national ambient air quality standards.

Policy opportunities already exist for the much needed transition. The Central Motor Vehicle Act and Rules provides for emissions and safety regulations. Auto Fuel Policy enables periodic tightening of these regulations. The city action plans have a multi-pronged approach that includes pollution inspection programme to cut emissions from the in-use vehicles, and fuel substitution programme based on CNG or LPG to leapfrog to cleaner emissions. Cities have also started crafting policy to support introduction of advanced electric vehicle technology with fiscal support. The Integrated Energy Policy and the National Climate Action Plan further provides the scope of reducing energy consumption in the transport sector.

At the moment the cities are at the cross roads. About 17 cities have implemented the Bharat Stage IV emissions standards and the rest of the country is in the process of implementing the Bharat Stage III standards. India is now expected to craft the post 2010 roadmap and is poised to phase in the new genre of technology. With the gradual tightening of the emissions standards cities will have to develop capacity to regulate and inspect more advanced and sophisticated emissions control technologies, learn the use of onboard diagnostic systems that will become an integral part of the inspection and maintenance programme; even the emissions testing systems for both new and in-use vehicles will transform. India is also now poised to implement the fuel economy standards and fuel economy labelling programme for vehicles that will throw

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up additional challenges of implementation. Moreover, large scale conversion of vehicles to LPG and CNG has also created demand for safety inspection and maintenance and quality control programmes in cities. It is important to strengthen the regulatory capacity in cities to address common concerns, challenges and solutions for an effective impact.

3. What is CSE's track record in urban air quality and vehicle technology issues?

CSE started its urban air quality programme in 1996 to protect public health in Indian cities. The programme elicited tremendous response from the government, the public and the judiciary. In the past ten years, CSE's programme, supported by judicial action, has successfully catalysed significant changes to lower air pollution levels in the capital city. Some of the key developments with which CSE has been deeply involved include advancement of emissions standards for new vehicles, lowering of sulphur content in diesel and petrol, lowering of benzene to 1 per cent, implementation of the largest ever CNG programme for the public transportation systems, phasing out of the 15 year old commercial vehicles and improvement in inspection and maintenance programme for in-use vehicles. Simultaneously, certain important cross cutting measures including the strengthening of air quality monitoring and checking of fuel adulteration were brought to focus. These first generation reforms have made significant impact on the city's air. CSE has remained deeply involved with the air quality management policies, policy discussions on ambient air quality standards and pollution sources. As rapid increase in vehicle numbers and the transportation challenge has emerged as the key area of this programme, CSE has therefore broadened the scope of its policy advocacy to promote public transport strategy and mobility management strategies. This programme has helped to build an extensive network of national and international experts in the field and the requisite research capacity to support the programme.

CSE has also worked on the issues pertaining to vehicle technology and clean fuels. A technical assessment of the PUC programme was carried out to find ways to strengthen the vehicle I/M programme. The CSE technical report of 2003 points out that since commercial vehicles undergo an annual safety and emissions inspection test at a centralised test centre at Burari, it should be targeted for immediate upgradation and be brought under the improved inspection and certification process. Even the safety and roadworthiness tests of the vehicles will require fundamental upgradation. To further strengthen the gaseous fuel programme, CSE has organised series of technical studies of the Delhi CNG programme in October 2001-02, along with global experts to understand the flaws in the system and find ways to improve it in Delhi. More technical studies have been carried out on CNG safety programme and technology roadmap for CNG programme. CSE has also carried out the assessment of various technological interventions to estimate the changes in the pollution load over time to achieve clean air. On a regular basis it tracks the direction of the technology improvement and the emerging issues both globally and nationally.

4. What is the structure of the orientation programme?

This programme will be a combination of:

- In-house lectures and lectures by the key experts in the field. Each session will have select expert faculty
- Interactive sessions will be organised with the practitioners and the experienced policy makers on specific strategies
- The programme will leverage Delhi's experience through well designed field visits and case studies of:
 - Urban air quality monitoring in Delhi and visit to the automatic air quality monitoring station
 - Vehicle inspection programme – PUC testing programme for personal vehicles and Delhi's efforts to create the network of the PUC centres and the data bank through a central server system
 - The upgraded annual fitness and roadworthiness tests for commercial vehicles and the advanced inspection and testing facility in Burari for commercial vehicles
 - Specially designed field visits will demonstrate the implementation challenges of the upgradation of the safety inspection of maintenance programme for CNG buses
- Interactive session among the policy makers for experience sharing across cities

5. What are the key modules of this orientation programme?

Module: The urbanisation challenge

- Pollution challenge of urbanisation
- Understanding air quality in Indian cities
- Public health challenge of air pollution

- Monitoring urban air quality in India

Module: Sources of air pollution

- Vehicles and other air pollution sources
- Why vehicles are a special challenge?

Module: Strategies to better urban air quality

- Meeting national ambient air quality standards

Module: Technology roadmap for vehicles

- Determinants of vehicle technology roadmap for clean transportation
- Issues in fuel quality for robust technology roadmap
- Shifting to new paradigm: Electric and hybrid vehicles
- Gaseous fuel programmes (CNG and LPG)
- Fiscal solution to technology transformation
- Vehicles and fuel economy

Module: The inspection challenge

- Challenges of in-use vehicles
- Vehicle inspection system in India
- What ails the PUC system? Enforcement challenges and beyond PUC
- Finding solutions: Ways to improve vehicle inspection programme
- Second generation centralized I/M programme

6. Who must get involved?

This orientation programme is for policy makers who frame policies, strategies and regulations that have a bearing on air quality management, vehicle technology, fuel specification and management of in-use fleet.

Programme schedule

Date: September 25 - 27, 2012

Venue: Centre for Science and Environment
41, Tughlakabad Institutional Area
(Near Batra Hospital)
New Delhi – 110062

Time: 9.30 am to 5.00 pm

7. For more details and registration, kindly contact Priyanka Chandola at priyanka@cseindia.org

Course contact:

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