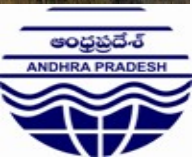




# Present Status of Action Plan for Lowering of Air Pollution in the City of Hyderabad

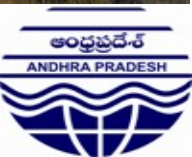
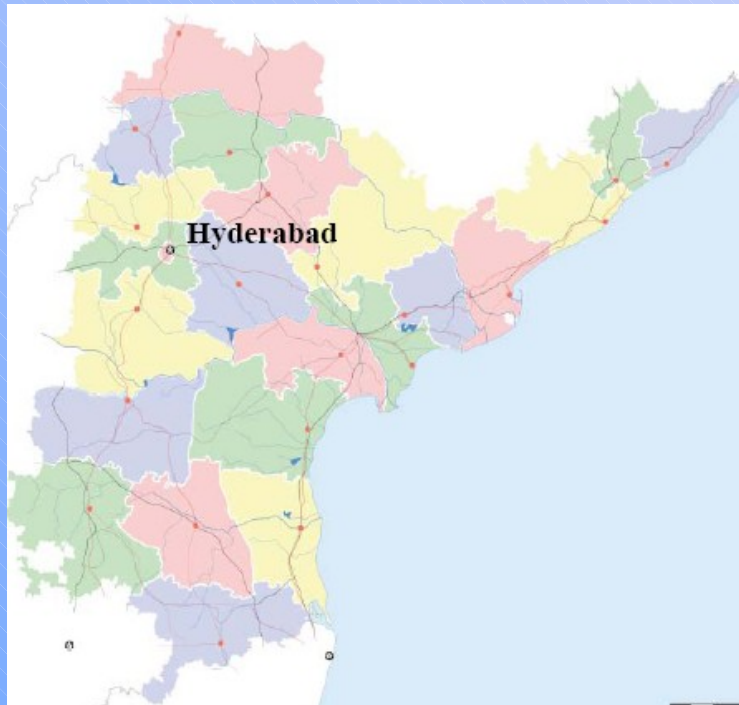
K.Madhusudana Rao, IAS  
Member Secretary, APPCB

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# Introduction

- 400 years old city
- Near 7 million population
- Density of 19,000 persons/ Sq.KM
- Increase in economic activity
- Growth of Industry and IT sector
- Rapid rate of urbanisation
- Migration of Population
- Increase in motorised transport
- Ultimate result is increase in Air pollution



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# Ambient Air Quality Monitoring

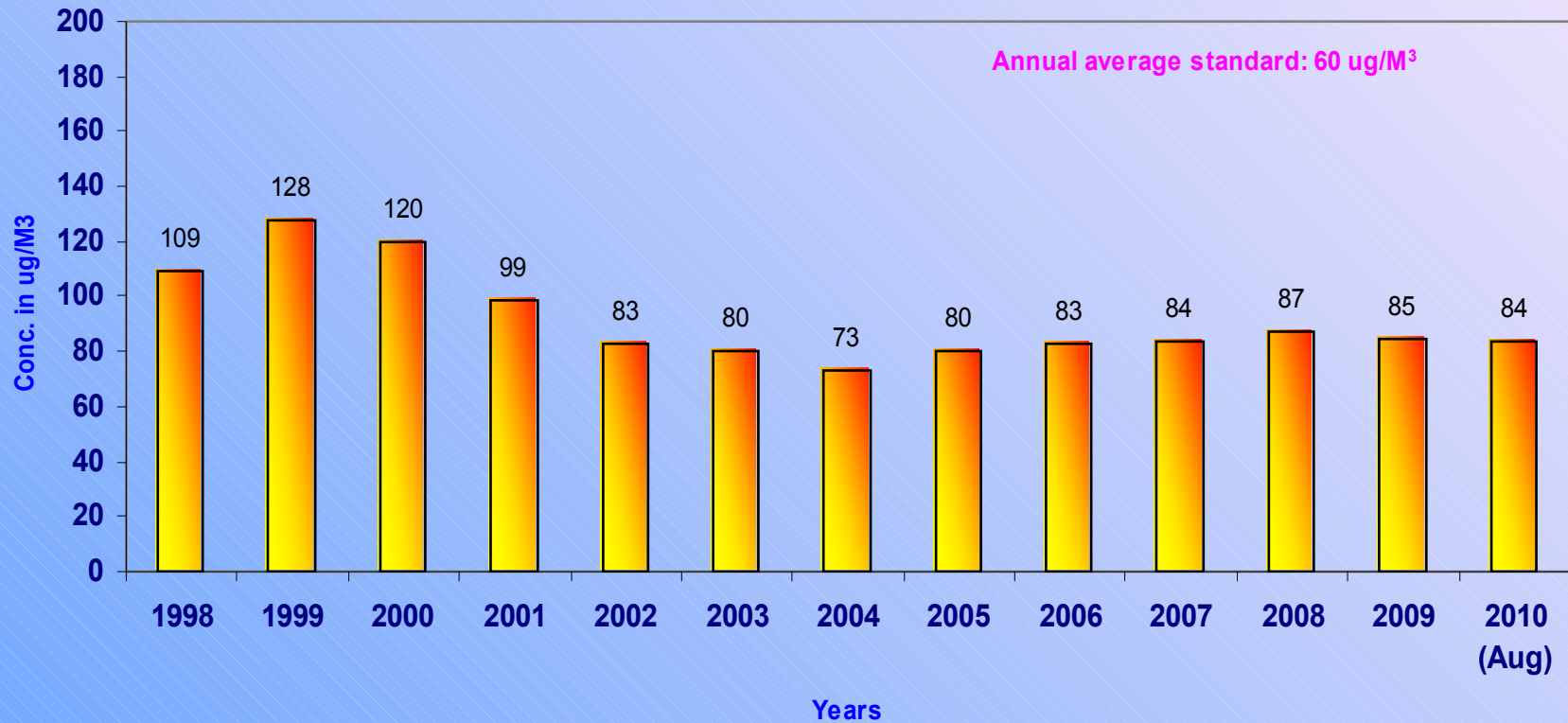
- APPCB is monitoring ambient air quality at 21 locations manually and by one Continuous ambient air Quality Monitoring station in Hyderabad city.
- At 6 locations monitoring is carried out under National Air Monitoring Program (NAMP) and at rest of the locations the monitoring is carried out under State Ambient Air Quality Monitoring Program (SAAQM)
- Respirable Suspended Particulate matter (PM10) is exceeding the annual average of  $60\mu\text{g}/\text{m}^3$  prescribed under NAMP
- Source Apportionment of particulate matter is carried out by APPCB to assess the contribution from different sources, so that policy decisions to reduce the pollution can be taken accordingly.



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# Ambient air quality trends in Hyderabad

Annual average of Respirable Suspended Particulate Matter (RSPM) of Hyderabad city

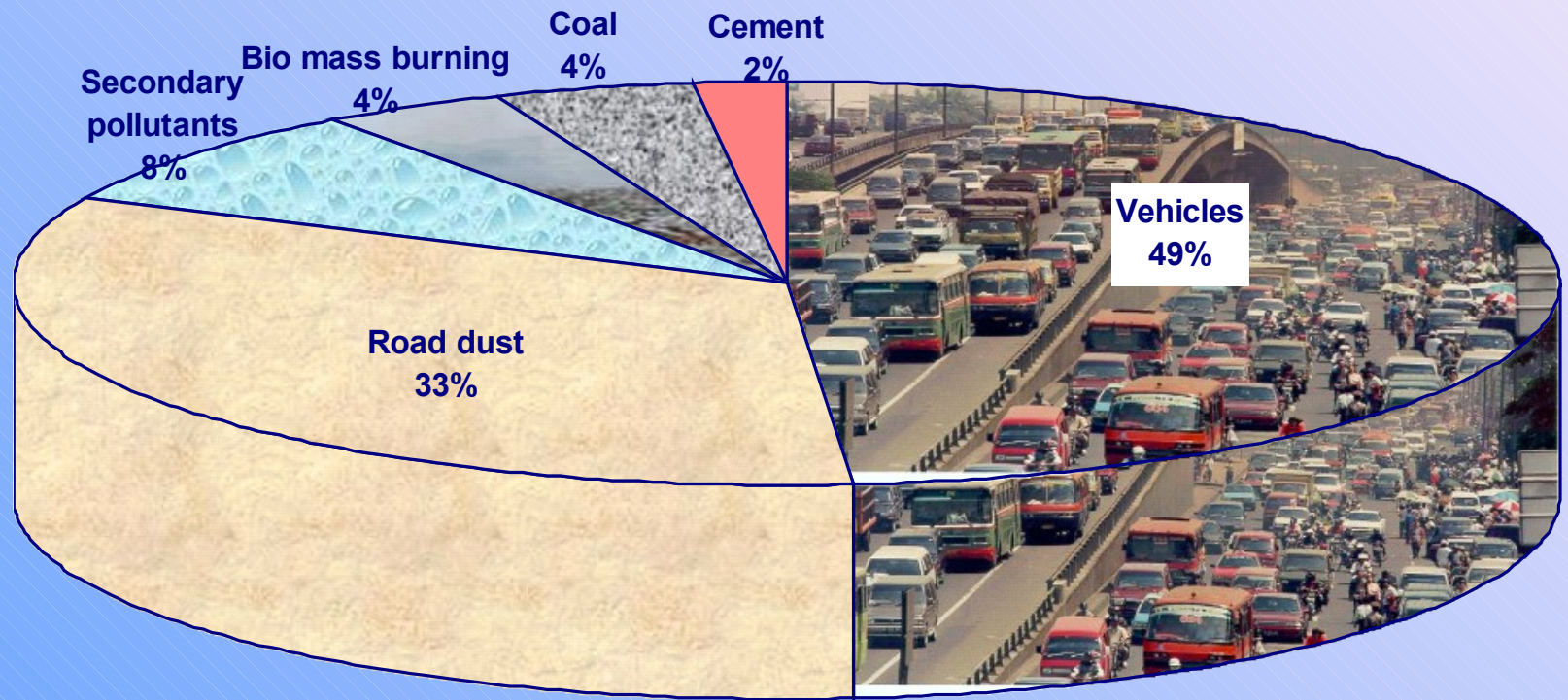


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# Source Apportionment of Air Pollutants

Contribution from different source to Respirable Suspended Particulate Matter (PM10)

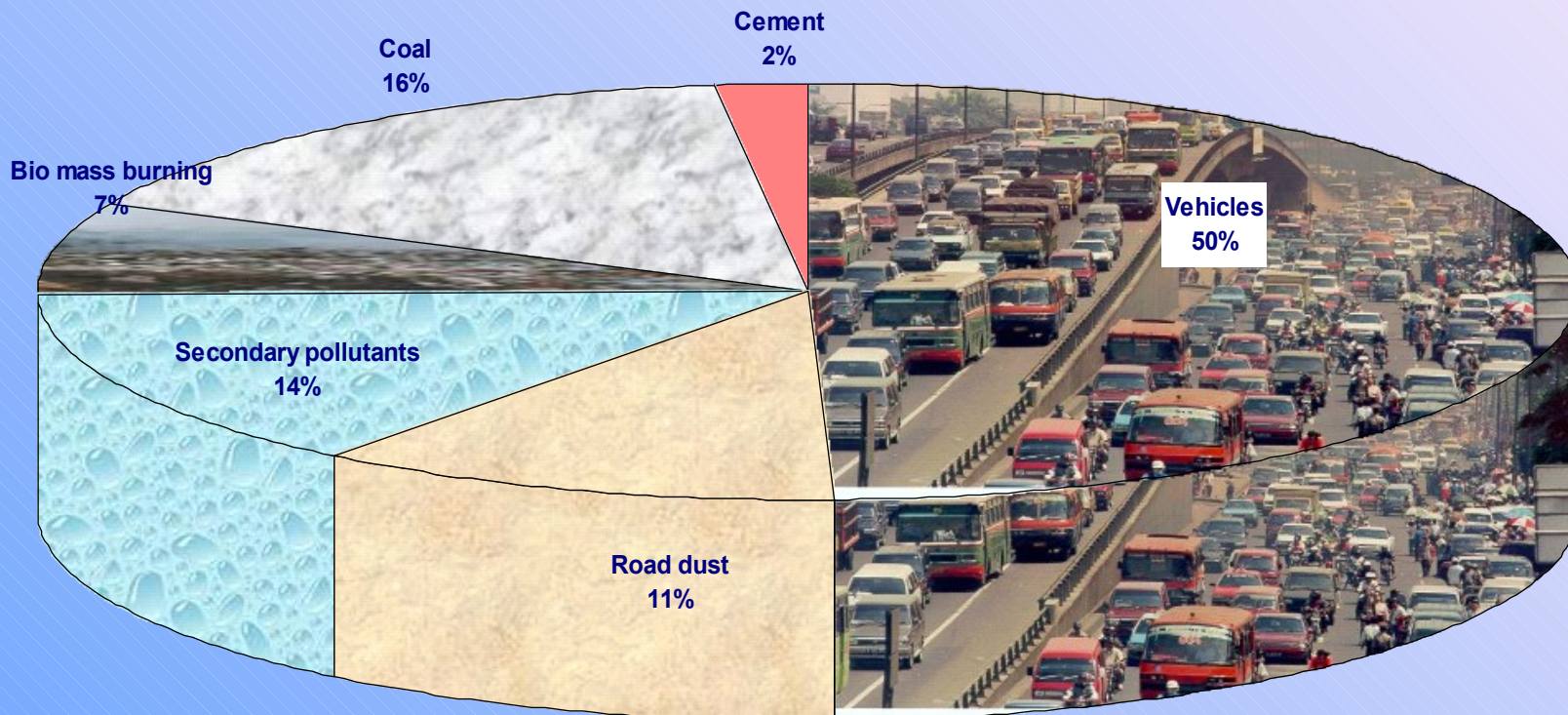


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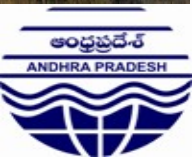


# Source Apportionment of Air Pollutants

Contribution from different source to Particulate Matter of size less than 2.5 microns (PM2.5)

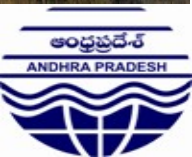


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# Summary of Source Apportionment study

- Mobile sources are the major source of contribution to the particulate matter.
- The contribution of mobile sources is around 50% on an average at the three locations
- PM<sub>2.5</sub> contributes to almost 50% of the PM<sub>10</sub>
- The major contributors to particulate matter of size fraction 10
  - are silica and aluminum
- For size fraction 2.5
  - Organic carbon and ions (nitrates, sulphates)
- Other major sources are:
  - Re-suspended soil (likely to originate from re-entrainment of paved and unpaved road dust)
  - Biomass burning
  - Coal combustion ( from industrial and cooking sources).



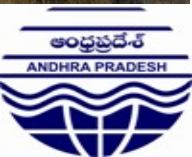
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# Action Plan For Lowering Of Air Pollution In Hyderabad City



- In the matter of W.P.(C)No.13029 of 1985; M.C. Mehta v/s. UOI & others, the Hon'ble Supreme Court vide order dated: 14th August 2003 directed State Governments of Maharashtra (Sholapur), Andhra Pradesh (Hyderabad), Gujarat (Ahmedabad), Uttar Pradesh (Khanpur, Lucknow), Karnataka (Bangalore) and Tamil Nadu (Chennai) to draw-up action plans for lowering air pollution in the cities and also directed that the plan, once finalised, should be placed before Environment Pollution (Prevention & Control) Authority (EPCA).
- Accordingly, the Government of Andhra Pradesh prepared an Action Plan in consultation with all the stake holder departments viz., Transport, APPCB, Civil Supplies, State Oil Co-ordinator, etc. for lowering air pollution in HUDA area.

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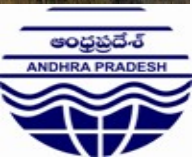




# Action Plan For Lowering Of Air Pollution In Hyderabad City

Contd..

- Government of A.P has taken up various initiatives in co-ordination with stake holder departments.
- Dr.Bhure Lal, Chairman EPCA has been regularly reviewing the status of action plan.
- EPCA has been following up with various agencies viz Central and State Government, MoPNG, GAIL, BGL, Reliance etc to resolve the issues.



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# Action Plan focus

Implementation of Bharat stage-III & IV norms, Phasing out vehicles (3 & 4 wheelers) of age more than 15 years, replacement of 2 stroke engines, PUC computerised I&M.

Construction of fly over, road widening, outer ring road, BRT, MMTS, MRTS, Parking facilities.

**Vehicles**

**Infrastructure**

**Initiatives taken by the government**

**Fuel**

**Traffic management**

Low sulphur fuels, LPG, CNG, Low benzene petrol, Bio-diesel and checking fuel adulteration

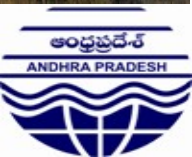
Synchronisation of the signals, removing of intercepts, providing timers, foot over bridges for pedestrians

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# Present Status



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# Distribution of CNG, supply and setting up of stations in Hyderabad

- Presently BGL is operating 4 CNG Stations in Hyderabad at following locations:-
  1. R.P.Road
  2. Nagole
  3. Nampally
  4. Meer pet
- The present off take from each of these outlets is 1500-2000 Kgs/day
- On an average a quantity of 7500 Kgs/day is sold .
- CNG is being transported from Mother Station at BGL-Vijayawada through Light Commercial Vehicles(LCV) having a capacity of approx.450 Kgs



## STATUS OF ALLOCATION OF GAS FOR HYD-CGD

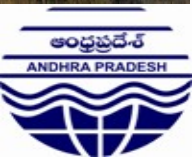
Source	Allocation by MoPNG for CNG/PNG Domestic	Allocation by MoPNG for PNG (Commercial/Industrial)	Total
1	0.1MMSCMD	0.225 MMSCMD	0.325 MMSCMD

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- Number of CNG vehicles in Hyderabad as per Road Transport Authority (RTA)

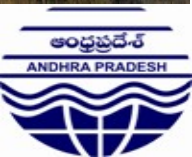
Vehicle Type	Number of CNG Vehicles		
	Hyderabad	Rest of the state	Total
Auto	2632	4254	6886
Cabs	23	19	42
Cars	83	232	315
Buses	*224	253	477
HGV	27	152	179
<b>Total</b>	<b>2989</b>	<b>4910</b>	<b>7899</b>



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# Usage of Bio-diesel in APSRTC

- APSRTC has started using Bio-diesel with B10 blend (mixture of 90% diesel and 10% bio-diesel) in 1646 vehicles in 11 depots of Hyderabad and Secunderabad regions, Hyderabad-II depot of Ranga Reddy region and all the depots of East Godavari Region in view of 10% reduction in Hydrocarbons, 6% reduction in carbon monoxide and 6% reduction in particulate matter.
- Further, there is a plan of expanding this to 21 depots of Hyderabad and Secunderabad Regions.
- **Introduction of Alternative Auto Fuels:**
- Both LPG and CNG are available for automobiles in twin cities. As of now, the following vehicles have been fitted with LPG and CNG in Hyderabad and Rangareddy Districts.
- 40 Auto LPG dispensing stations are operating in Hyderabad, Rangareddy and Medak Districts.





## Status of Vehicles – alternate fuels

District	4 Wheelers		3 Wheelers	
	LPG	CNG	LPG	CNG
Hyderabad	14946	240	31364	2632
Rangareddy	14165	128	1846	98
<b>Total</b>	<b>29111</b>	<b>368</b>	<b>33210</b>	<b>2730</b>



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# Parking policy

- As per the GO., 44% of the built up area is being insisted for parking
- Being enforced strictly without any relaxation.
- 159 Roadside parking lots in the jurisdiction of GHMC.
- These parking lots are being allotted to private parties, DWACUA groups etc., to manage the parking places in the GHMC area.
- Decentralizing the GHMC parking lots to concerned Zonal Commissioners.
- Categorizing the parking lots into High and Low intensity parking lots.
- Feasibility to build vertical parking is being studied .



# Allotment of parking lots

S. No.	Zone	High Intensity parking lot	Low Intensity parking lot
1	East Zone	05	12
2	West Zone	11	11
3	North Zone	18	30
4	South Zone	01	07
5	Central Zone	21	43
	Total	56	103

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# Public Transport in Hyderabad:

The plan of APSRTC for induction of additional EURO - II/III vehicles is as follows:

YEAR	PLANNED	INDUCTED
2006-07	367	334
2007-08	350	412
2008-09	350	333
2009-10	100	670
2010-11	396	25*

**Note:** \* Up to June 2010

Under JNNURM:

Region	Planned for induction	Actually inducted
Hyderabad and Secunderabad	1000	629

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# Augmentation of public mass transport

- Major initiatives taken are :
- **I Multi Model Transport System – Phase II**
- The Phase II covers 7 Routes and 9 Stations..
- The ICF Chennai is being pursued to supply rakes. After the rakes are supplied bogies will be augmented and new services will be added.



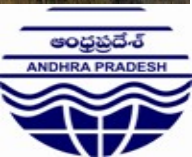
# Augmentation of public mass transport

- **II BRTS (Bus Rapid Transport System)**

- BRTS Project to be implemented in the corridor Rethybowli – Hi-Tech City - JNTU – Kukatpally .

- **III Integrated Transport Management System (ITMS)**

- The pilot project of ITMS started from Green Lands to Jubilee Hills Check post
- Surveillance cameras are fixed by the BSNL at 99 places covering all major junctions and important places to watch the violations of Traffic Rules.



# Augmentation of public mass transport

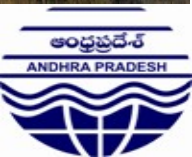
- **IV Hyderabad Metro Rail / Mass Rapid Transit System (MRTS) Project:**

- Based on the recommendations of a Seven Member Committee of Senior Officers, GoAP approved development of Metro Rail / Mass Rapid Transit System (MRTS) on 3 of the busiest corridors of Hyderabad in Phase-1. with a Private Partnership (PPP) mode at an estimated cost of Rs.12,132.00 crores.
- **Line-I:** Miyapur– L.B. Nagar (28.87kms.; 27 stations);
- **Line-II:** Jubilee Bus Station –Falaknama (14.78 km.; 16 stations);
- **Line-III:** Nagole – Shilparamam (27.51 kms.; 23 stations).
- The ground works are expected to commence in December, 2010 and the project is scheduled to be completed in 5 years.



# Enforcement of Pollution Under Control (PUC) Systems

- Out of 164 pollution testing stations licensed in Hyderabad and Rangareddy Districts, 107 stations have been networked. All the 164 stations have been upgraded. PUC Certificates are insisted in the offices for any transactions related to Motor Vehicles.
- Cases are booked against vehicle owners for not possessing PUC certificate, as required under section 192 (ii) of the M.V.Act.
- A special drive has been launched against Air and Noise pollution from 1st February to 15th March, 2010. During this period (6192) Air Pollution and (1971) Noise pollution cases have been booked.
- The total number of cases during 2010 is 10410 and realised the fine amount of Rs. 35,60,750/-.



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# Salient Features of New AAQ standards

- Area classification based on land-use has been done away with only two areas.
  - 1) Industrial, Sensitive, Residential, rural and other areas to have common standards and
  - 2) ecologically sensitive areas.
- The standard for nitrogen oxide and Sulphurdioxide has been made more stringent:
  - For NOx from the existing 60 micrograms/m<sup>3</sup> to 40 micrograms/m<sup>3</sup>
  - For Sulphur oxide from the existing 60 micrograms/m<sup>3</sup> to 50 micrograms/m<sup>3</sup>.
- Inclusion of six new parameters
  - PM 2.5, Ozone, Arsenic, Nickel, Benzene, Benzo (a) pyrene
- Exclusion of Suspended Particulate Matter
- Short term averages(1 hour and 8 hours) standards for Carbon Monoxide and Ozone





# Monitoring of new parameters

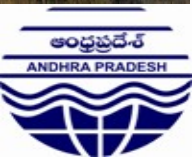
- APPCB has already commenced the monitoring of Ammonia, Ozone, Lead and Nickel in Ambient Air.
- Monitoring of other new parameters viz., PM2.5, Benzene, Benzo(a)pyrene and Arsenic to be commenced soon after the receipt of the necessary infrastructure
- CO monitoring at present is being carried out by electro chemical sensor. Once the Continuous ambient air quality monitoring stations are established it will be carried with NDIR technique as prescribed in the standards.



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# Thank You



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