

Delhi's Persistent Air Quality Crisis

Why in News?

Delhi's average air quality in October was in the very poor category at 356 — the worst in the country, as per the Central Pollution Control Board.

What are the major contributors to Delhi air pollution?

The most polluted months in the year are generally November, December and January, according to the data on monthly AQI averages.

Particulate Matter Sources	PM10	PM2.5
Road Dust	56%	38%
Transport Sector	9%	20%
Industrial Emissions	10%	11%
Domestic Fuel Burning	11%	12%

- **Construction Dust** - Dust from construction sites contributes 20-30% of all air pollution emitting large amounts of PM₁₀ and PM_{2.5} into the atmosphere.
- **Cold Air Traps** - During winter cold air retains this particulate matter for longer period and thus most polluted months in the year are generally November, December and January.
- **Stubble Burning** - Coinciding of Diwali festivities and stubble-burning season in Punjab , Haryana, Uttar Pradesh.

World Health Organisation suggest that daily average PM 2.5 levels should not exceed 15 µg/m³ and for PM 10 levels, the limit is set at 45 µg/m³. Recent data from the Delhi Pollution Control Committee (DPCC), the PM 2.5 and PM 10 levels reached up to 445 µg/m³ and 1,566 µg/m³.

What are the measures taken to combat air pollution?

- **Graded Response Action Plan (GRAP)** - [Commission for Air Quality and Management \(CAQM\)](#) activates various measures under GRAP plan depending on [Air Quality Index](#) levels.
- It has four stages, each with different restrictions based on the air quality.



Fight against pollution

A look at the city's Graded Response Action Plan to fight air pollution

STAGE 1: POOR QUALITY AIR (AQI between 201 and 300)

- Mechanised sweeping, washing of roads
- Enforcing ban on firecrackers, increased scrutiny of vehicles for pollution standards
- Large unregistered C&D sites can be shut

STAGE 2: VERY POOR AIR (AQI between 301 and 400)

- Dust control measures at C&D sites
- Parking fee to surge by 3-4 times
- Stop use of coal/firewood in eateries
- Augmenting frequency of CNG/electric bus and Metro services

STAGE 3: SEVERELY POLLUTED AIR (AQI between 401 and 450)

- Bar BS-III petrol and BS-IV vehicles from roads
- Govts can take decision on shutting primary schools
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- Ban on all non-essential construction work

STAGE 4: SEVERE+ (AQI between 451 and 500)

- Ban on entry of diesel commercial vehicles (barring B6-VI) in Delhi, except those carrying essential commodities or providing essential services
- Odd-even vehicle policy may be rolled out

- **Vehicle Restrictions** - Diesel vehicles over ten years old and petrol vehicles over 15 years are restricted from entering Delhi.
- **Disincentivizing Private Transport** - New Delhi Municipal Council (NDMC) hiked parking fees for private 2-wheeler and 4-wheeler vehicles.
- **Cleaner Transportation** - Intercity buses plying to Delhi daily from various cities in Haryana, UP and Rajasthan have been shifted completely to much cleaner BS-VI diesel/CNG/EV mode.
- **Environment Compensation Charges** - RFID (radio-frequency identity) system was implemented by South Delhi Municipal Corporation (SDMC) for collection of tolls and from commercial vehicles entering Delhi.
- **Construction Regulations** - Stringent dust control measures at construction sites, including anti-smog guns and remote monitoring, aim to reduce particulate matter generated by these activities.
- **Stubble Burning Control** - Crop diversification, promoting basmati variety, low straw and early maturing paddy varieties, and direct seeding of rice methods have been planned to reduce paddy straw generation.
- **National Clean Air Programme (NCAP)** - It set targets of **40% reduction** in particulate matter concentration, **by 2026** in 131 of India's most polluted cities.
- **Artificial Rain** - Cloud seeding to induce rain and reduce pollution is being considered as a potential emergency measure by the Delhi government.
- **Air Pollution Control at Pollution Hotspots** - Identification and mitigation the local sources of air pollution to immediate impact on the improvement in the air quality around these hotspots are being carried out.
- **Ban on Pet Coke and Furnace oil** - Use of pet coke and furnace oil as fuel in NCR States is banned since October 24, 2017.
- **OECMS** - Online Continuous Emission Monitoring System have been installed in red category air polluting industries in Delhi-NCR.

What are the reasons for the ineffectiveness of these measures?

- **Lack of Coordination** - Delhi, Haryana and Punjab are at loggerheads on the issue of stubble burning.
- **Failure to Check Crop Burning** - CAQM has failed its mandate of driving change in the post-harvest practices of farmers in Delhi's neighbourhood.
- **Inadequacy of emergency measures** - They are not to address most other factors that drive NCR's pollution, including vehicular and industrial pollution.
- **Lack of Public Awareness** - Domestic burning of bio masses and not using of private transport are still prevalent among the public.
- **Deficiency in Urban Management** - Greening the city and cleaning the road dust are still lacking.

What needs to be done to improve air quality?

- Implementing advanced forecasting models to anticipate pollution spikes for proactive interventions.
- Reducing waste burning in pockets by better collection and segregation of waste, replacing biomass for cooking in urban slums by providing easier access to LPG.

- Strengthen public transport infrastructure, enhancing dust and vehicle emission controls.
- Replace CNG vehicles with EV buses as the former emits nitrogen oxides which contribute to smog and particulate matter.
- Proactive planning and comprehensive, year-round measures rather than reactive emergency responses.
- Engage in multi-state coordination for stubble burning solutions remain crucial for a healthier future in the capital.

References

1. [The Indian Express |Tackling Delhi's Annual Pollution](#)
2. [PIB | Pollution Control Measures](#)

