

## 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 PM<sub>10</sub> and PM<sub>2.5</sub> 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/m<sup>3</sup> and for PM 10 levels, the limit is set at 45 µg/m<sup>3</sup>. Recent data from the Delhi Pollution Control Committee (DPCC), the PM 2.5 and PM 10 levels reached up to 445 µg/m<sup>3</sup> and 1,566 µg/m<sup>3</sup>.*

### 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.
- **OECSMS** - 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](#)

