



8-Point Plan in NCR and Nearby Regions under GRAP Stage-IV

- **For Prelims:** Commission for Air Quality Management in NCR & Adjoining Areas, [Graded Response Action Plan](#), PM2.5 emissions, Light Commercial Vehicles, [System of Air Quality and Weather Forecasting and Research](#), [National Air Quality Monitoring Programme](#)
- **For Mains:** Stages of Graded Response Action Plan, Indian Government Initiatives Related to Air Pollution.

[Source: PIB](#)

Why in News?

Commission for Air Quality Management in National Capital Region(NCR) and Adjoining Areas has invoked **an eight-point action plan aligning with Stage-IV of the [Graded Response Action Plan \(GRAP\)](#)**, aiming to avert any additional decline in the **region's air quality**.

What is the Graded Response Action Plan (GRAP)?

- **About:**
 - The **GRAP** consists of emergency measures designed to prevent the deterioration of air quality after reaching specific thresholds in the **Delhi-NCR region**.
 - The **Ministry of Environment, Forests & Climate Change (MoEF&CC)** notified the GRAP in 2017.
 - Commission for Air Quality Management in NCR & Adjoining Areas (CAQM) implements the GRAP.
- **Implementation:** It is implemented under four stages:

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The stages and restrictions

Good 0-50	Satisfactory 51-100	Moderate 101-200
Poor 201-300	Very Poor 300-400	Severe 401-500

STAGE I (AQI 201-300)

Agencies to strictly enforce orders by NGT, SC on keeping vehicles older than 10 years (for diesel) and 15 years (petrol) off roads.

STAGE II (AQI 301-400)

- Measures to curb air pollution at hot spots
- Diesel generators of more than 19KW cannot be used unless they run on dual fuel or have emission control devices.

STAGE III (AQI 401-450)

- BS-III petrol, BS-IV diesel private cars to be banned in NCR. Last year, the rule was optional for state governments
- Schools will likely be closed for children up to Class 5.

STAGE IV (AQI OVER 450)

- Light commercial vehicles registered outside Delhi will be restricted except those that are EVs/CNG/ BS-VI diesels. Vehicles carrying essentials or providing essential services to be allowed
- Educational institutions will likely be closed. Non-emergency commercial activities and odd-even vehicle policy may be rolled out.

- **GRAP is incremental in nature** and thus, when the air quality dips from 'poor' to 'very poor,' measures listed under both sections have to be followed.

What is the Eight Point Action Plan as per Stage-IV of GRAP?

- Prohibiting the **entry of truck traffic into Delhi**, except for those transporting essential goods and services, along with LNG/CNG/electric trucks.
- **Restricting non-Delhi-registered [Light Commercial Vehicles \(LCVs\)](#) to enter Delhi**, unless they are EVs/CNG/BS-VI diesel, except for essential service carriers.
- Banning the **operation of Delhi-registered diesel Medium Goods Vehicles (MGVs) and Heavy Goods Vehicles (HGVs)**, except for those transporting essential items.
- Imposing a **prohibition on construction and demolition (C&D)** activities in linear public projects like highways, roads, flyovers, power transmission, and pipelines.
- Advising **NCR State Governments and GNCTD** to transition physical classes for grades VI to IX, XI to online mode.
- Directing NCR State Governments/GNCTD to consider **allowing 50% capacity in public, municipal, and private offices**, with the remainder working remotely.
- Empowering the Central Government to **decide on work-from-home protocols** for employees in Central Government offices.
- Encouraging State Governments to contemplate additional emergency measures such as the **closure of educational institutions, non-essential commercial activities, and implementing an odd-even vehicle registration number scheme.**

What are the Main Causes and Sources of Air Pollution in Delhi-NCR Region?

- **Stubble burning:** Burning crop residue by farmers in the nearby states of **Punjab, Haryana and Uttar Pradesh** though significantly reduced but still stands as a primary cause of heightened air pollution brought by north-westerly winds in the national capital during **October and November**.
 - According to SAFAR, stubble burning contributed 25% to Delhi's pollution in 2021.
 - **SAFAR** stands for System of Air Quality and Weather Forecasting and Research. It is a national initiative introduced by the **Ministry of Earth Sciences (MoES)** to provide location-specific information on air quality in near real time.
- **Vehicle Emissions:** The vehicular emissions from the **large number of cars, trucks, buses, and two-wheelers** plying on the roads of Delhi and the NCR are another significant source of air pollution.
 - As per a research paper published in the **Observer Research Foundation**, the transport sector is the **main source of PM2.5 emissions in Delhi (28% of all PM2.5 emissions)**.
- **Industrial Emissions:** The presence of multiple industries in and around the NCR region releases harmful emissions into the atmosphere. Industries emit various pollutants such as [sulfur dioxide \(SO₂\)](#), **nitrogen oxides (NO_x)**, and **particulate matter**, contributing substantially to air pollution.
- **Construction Activities:** Construction sites, especially **brick kilns in the outskirts**, generate high levels of pollutants.
 - Lack of compliance with **environmental regulations, inadequate [waste management](#), and insufficient timelines** for construction projects compound the problem.
- **Waste Burning and Landfills:** Improper disposal of waste, including **open burning of garbage and landfill sites**, emits harmful gases and particulate matter into the air, significantly affecting air quality.
 - **Example: The Ghazipur landfill site.**
- **Geographical and Meteorological Factors:** The geographical location of the NCR region, along with **specific meteorological conditions such as temperature inversion during winters**, contributes to trapping pollutants close to the ground, leading to the exacerbation of pollution levels.
 - **October 2023** witnessed the highest pollution levels since 2020 in Delhi-NCR, **partly due to minimal rainfall**.
 - Rain typically aids in settling particulate matter and dust, thereby enhancing the Air Quality Index .
- **Note:** Global research connects **air pollution to acute myeloid [leukemia](#), and non-Hodgkin lymphoma in children**, primarily due to **pollutants like benzene, NO_x, and particulate matter**. Delhi stands out with **high numbers of leukemia and lymphoma cases in children** compared to regions with lower pollution levels.

What are the Indian Government Initiatives Related to Air Pollution?

- [System of Air Quality and Weather Forecasting and Research \(SAFAR\) Portal.](#)
- [Air Quality Index](#)
- For Reducing Vehicular Pollution:
 - [BS-VI Vehicles.](#)
 - [Push for Electric Vehicles \(EVs\),](#)

- [Odd-Even Policy](#) as an emergency measure (for Delhi).
- Subsidy to farmers for buying [Turbo Happy Seeder \(THS\) Machine](#) for reducing stubble burning.
- [National Air Quality Monitoring Programme \(NAMPP\)](#)

Way Forward

- **Strict Emission Control Policies:** Stricter enforcement of emission norms for **industries, vehicles, and construction activities** to limit pollutants released into the atmosphere.
- **Public Transport and Traffic Management:** Encouraging and enhancing the use of **public transportation to reduce vehicular emissions**. Expanding and improving public transport networks can alleviate congestion and emissions.
 - The recent initiative in Delhi including **increased number of electric buses** and **Delhi Metro's additional trips** is a significant step in the direction.
- **Waste Management and Regulation:** Strict **regulations and effective enforcement in waste management** to minimize open waste burning and landfill emissions.
 - Encouraging **recycling, composting, and waste-to-energy initiatives** to decrease the volume of waste that is openly burnt.
- **Crop Residue Management:** Addressing crop burning by providing farmers with sustainable and cost-effective alternatives for residue management like **Happy Seeder**.
 - Incentivizing and promoting these methods can significantly reduce the need for burning.

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. In the cities of our country, which among the following atmospheric gases are normally considered in calculating the value of Air Quality Index? (2016)

1. Carbon dioxide
2. Carbon monoxide
3. Nitrogen dioxide
4. Sulfur dioxide
5. Methane

Select the correct answer using the code given below:

- (a) 1, 2 and 3 only
(b) 2, 3 and 4 only
(c) 1, 4 and 5 only
(d) 1, 2, 3, 4 and 5

Ans: (b)

Mains

Q. Describe the key points of the revised Global Air Quality Guidelines (AQGs) recently released by the World Health Organisation (WHO). How are these different from its last update in 2005? What changes in India's National Clean Air Programme are required to achieve revised standards? **(2021)**