

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Original Application No. 605/2024

News Item titled "Oh-zone! Why this prominent pollutant in Delhi air is becoming a cause for concern" appearing in The Times of India dated 22.04.2024

Date of hearing: 23.12.2024

**CORAM: HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER**

Respondents: Mr. Amit Singh Chauhan, Ms. Shikha Chauhan, Mr. Neelmani Guha & Ms. Shaima, Advs. for CPCB (Through VC)
Dr. Abhishek Atrey & Ms. Jyoti Verma, Advs. for CAQM (Through VC)
Mr. Balendu Shekhar & Ms. Tanisha Samanta, Advs. for DPCC

ORDER

1. In this Original Application, the Tribunal is considering the issue of rising levels of ground level ozone in Delhi, which in many areas exceeds eight hours standard.

2. In pursuance to earlier directions of the Tribunal, CPCB has filed the report dated 20.12.2024. The report of the CPCB discloses the measures for control of ozone which has been taken and also suggest a way forward. The measures which have been taken are disclosed as under:-

"6. Measures for control of ozone

It has been recognised globally that control of ozone is only possible through control of its precursors. It is also evident that control of local sources of its precursors may not yield significant benefits in terms of ozone reduction, as both ozone and its precursors can be transported over hundreds of kilometres.

Considering the same, the government has undertaken several initiatives at the national level, to control the precursors of ozone, i.e. NOx and VOC, and methane and CO to some extent.

The Government has launched National Clean Air Programme (NCAP) in 2019 as a national level strategy to reduce air pollution levels across the country. CPCB has identified 130 million plus/non-attainment cities (cities exceeding NAAQS, consecutively for five years). City Specific Clean Air Action Plans have been prepared and rolled out for implementation in all these 130 non-attainment/million plus cities to improve the air quality. These city specific clean air action plans target city specific air polluting sources like Soil & Road Dust, Vehicles, Domestic Fuel, MSW Burning, Construction Material and Industries with short-term priority action as well as those to be implemented in a medium to longer time frame along with the responsible agencies which improves the ambient air quality. Under NCAP, annual action planning for approved city action plans need to be submitted by concerned Urban Local Bodies (ULBs), which comprise the following actions to control NOx emissions:

- Use of off-peak passenger travel time to move freight and restrict entry of heavy vehicles into cities during the day
- Clean Fuel & Fuel Quality in vehicles
- Introduction of new electric buses (with proper infrastructure facilities such as charging stations) and CNG buses for public transport which will reduce plying of private vehicles on road and help to curb tail-pipe emissions.
- CNG infrastructure for auto gas supply in the city and transition of public transport vehicles to CNG mode.
- Charging infrastructure for E-vehicles
- Phase out old vehicles and introduce vehicle scrappage policy.
- Intensify monitoring of industries to reduce emission by the industries.
- Shifting of polluting industries.
- Conversion to CNG/PNG from pet coke / wood / coal / Furnace oil.
- Regular check and control of burning of municipal solid wastes.

Besides, waste management rules w.r.t solid waste, bio-medical waste, and hazardous wastes etc. are being implemented and EPR (Extended Producer Responsibility) regime for plastic waste, e-waste, used oil, tyre, etc. is in place, which stipulates mandatory targets for recycling/reuse, ensuring waste is managed in environmentally sound manner, thereby preventing it from burning and minimizing VOCs and CO emissions. Solid Waste Management Rules emphasizes on segregation and pre-processing/composting and thus minimising dumping/landfilling which has potential of Methane and VOCs formation. Further, CPCB has issued guidelines on Environmentally Sound Facilities for Handling and Scrapping of End of Life Vehicles, implementation of which helps in control of CO/VOC emissions which otherwise would be generated when environmentally sound recycling practices are not adopted.

Further, sector-specific interventions are listed below:

A. Transport Sector

- The introduction of BS VI-compliant vehicles across the country since April 2020 have reduced NOx emissions as compared to

erstwhile BSIV-compliant vehicles, with 70-85% reduction in the case of 2-wheelers, 25%-68% in the case of 4-wheelers, and 87% in the case of heavy-duty vehicles. There is also 29-49% reduction in CO emissions from BSVI compliant 2 wheelers as against BSIV compliant 2 wheelers.

- BS-VI fuel has been introduced which has 5 times less Sulphur content (50 ppm in BS-IV to maximum 10 ppm in BS-VI compliant fuel). This has enabled the introduction of advanced emission control technologies, including Diesel Particulate Filters (DPF) to reduce Particulate Matter (PM) and Selective Catalyst Reduction (SCR) systems for reduction in Nitrogen Oxides (NOx) emissions in BS-VI vehicles.
- Vapour Recovery System (hereinafter referred as VRS) has been installed at all Delhi-NCR petrol pumps, in compliance with the orders of the Hon'ble NGT and Hon'ble Supreme Court. Further, VRS has been installed at those pumps selling more than 100 KLPM petrol and located in million plus cities and selling more than 300 KLPM petrol and located in cities with population more than 1 lakh. Installation of VRS minimizes the release of Benzene and other VOC emissions during petroleum refueling and unloading operations.
- The government is also promoting electric mobility, resulting in zero vehicular emissions, under the PM Electric Drive Revolution in Innovative Vehicle Enhancement (PM E-DRIVE) Scheme launched in September, 2024 with an outlay of ₹10,900 crore. The scheme aims to support electric vehicles including e-2W, e-3W, e-Trucks, e-buses, e-Ambulances, EV public charging stations and upgradation of testing agencies.
- Over 25 states have notified or drafted state Electric Vehicle (EV) policy, to promote the use of EVs.
- The Government has been promoting blending of ethanol in petrol under the Ethanol Blended Petrol (EBP) Programme. The National Policy of Biofuels-2018, as amended in 2022, inter-alia advanced the target of 20% blending of ethanol in petrol to Ethanol Supply Year (ESY) 2025-26 from 2030. The target of 10% ethanol blending in petrol was achieved in June, 2022 i.e., five months ahead of the target during ESY 2021-22. Use of E10 fuel is expected to reduce CO and HC emissions by 20% in 2 wheelers and 4 wheelers as compared to normal gasoline. Use of E20 fuel is expected to reduce HC emissions by 20% for 2 wheelers and 4 wheelers, compared to emissions with normal gasoline. In case of CO, use of E20 fuel is expected to reduce CO emissions by 50% in case of 2 wheelers and 30% in case of 4 wheelers.
- The Ministry of Road Transport and Highways has formulated the Vehicle Scrapping Policy that includes a system of incentives/disincentives for creation of an ecosystem to phase out older, unfit polluting vehicles through a network of Registered Vehicle Scrapping Facilities (RVSFs) and Automated Testing Stations (ATSs). Phasing out of older vehicles will further reduce emissions. Further, environmental friendly disposal of older vehicles through scrapping facilities also reduces the emissions

which would have been released, had these vehicles been disposed off through unauthorised centers.

B. Power plants and Industries

- Industrial emission Standards for NOx and VOC have been revised/ introduced for various sectors such as man-made fiber industry, Fertilizer Industry, Pharmaceutical industry, paint industry etc.*
- NOx emission standards have also been prescribed for coal/lignite-based thermal power plants, industrial boilers, Cement Plant (without co-processing of wastes) and Standalone Clinker Grinding Plants, furnaces etc.*
- Promotion of installation of efficient Ultra Supercritical/ Supercritical units over Subcritical Thermal Units as these units are more efficient and their emission per unit of electricity generation is less than subcritical units.*
- Ministry of Power has issued a policy on utilization of Biomass for Power generation through co-firing in coal-based power plants. The policy mandates 5-7% co-firing of Biomass primarily of agro residue with coal, after assessing the technical feasibility.*
- Inefficient and old thermal power plants having capacity of about 18,802.24 MW comprising 267 units have already been retired till 30.06.2024.*
- India in its Intended Nationally Determined Contributions (INDCs) stands committed to achieve about 50 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030. As of Jul 2024, India has already achieved 45.5% Installed Capacity from non-fossil fuel-based resources.*

C. Biomass burning, with emphasis on paddy straw burning in Northern India

- 1. Central Pollution Control Board (CPCB) has framed Guidelines for grant of one-time financial support under Environment Protection Charge funds for establishment of pelletisation and Torrefaction plants to promote utilisation of paddy straw. In case of setting up of pelletisation plant, Rs. 28 lakhs per tonne per hour (TPH), or 40% of the capital cost considered for plant and machinery of a 01 TPH plant, whichever is lower, is provided as one-time financial assistance with a maximum total financial support of Rs. 1.4 crore per proposal. In case of setting up of torrefaction plants, Rs. 56 lakhs per TPH, or 40% of the capital cost considered for plant and machinery of a 01 TPH plant, whichever is lower, is provided as one-time financial assistance with a maximum total financial support of Rs. 2.8 crore per proposal. A total of 17 applications for establishment of pelletization and Torrefaction plants under the above mentioned CPCB Guidelines have been sanctioned so far, out of which 02 plants are not coming up. Pellet production capacity of 15 sanctioned plants is 2.07 lakh tonne/annum. These plants are expected to utilize 2.70 lakh tonne of paddy straw per annum.*
- 2. CPCB had deployed 26 teams (in 16 districts of Punjab and 10 districts of Haryana) for the period 01st October - 30th November, 2024 to intensify monitoring and enforcement actions regarding stubble burning. These teams coordinated with concerned*

authorities/ officers deployed at the district level by the State Govt. and reported to the Commission for Air Quality Management in National Capital Region and Adjoining Areas (CAQM).

- 3. CAQM has issued directives & advisories to various stakeholders including the 11 Thermal Power Plants (TPPs) located within 300 km of Delhi, State Governments of Punjab, Haryana and Uttar Pradesh on "Ex-Situ Stubble Management" and to establish an ecosystem and robust supply chain mechanism to boost ex-situ utilisation of straw for tackling the problem of stubble burning.*
- 4. CAQM has also directed coal based TPPs including cogenerating Captive TPPs situated in NCR to initiate immediate steps to co-fire biomass-based pellets (with focus on paddy straw utilization) with coal through a continuous and uninterrupted supply chain targeting at least 5% co-firing of biomass pellets.*
- 5. CAQM has provided a Framework to the states concerned for control / elimination of crop residue burning and directed these to draw up detailed state-specific action plans based on the major contours of the framework. Based on the framework, action plans for prevention and control of paddy stubble burning were prepared and directions were issued by CAQM to state governments of Haryana, Punjab, UP, Rajasthan and NCT of Delhi for strict implementation of the framework and revised action plan*
- 6. As per revised model contract for use of biomass in TPPs, issued by Ministry of Power, power plants within 300 kms of NCR shall use minimum 50% of raw material as stubble/ straw/ crop residue of rice paddy sourced from Punjab, Haryana or NCR.*
- 7. Ministry of Petroleum and Natural Gas (MoPNG) has launched a scheme to provide financial assistance to Compressed Bio-gas producers for procurement of biomass aggregation equipment for ex-situ management of paddy straw.*
- 8. Ministry of Agriculture & Farmers Welfare (MoA&FW) in 2018 launched scheme for providing subsidy for purchase of crop residue management machinery and establishment of custom hiring centres (CHCs) in NCT of Delhi and the States of Punjab, Haryana and Uttar Pradesh for insitu management of paddy straw. MoA&FW in 2023 revised guidelines under the scheme to support establishment of crop residue/ paddy straw supply chain, by providing financial assistance on the capital cost of machinery and equipment.*
- 9. MNRE is supporting setting up of Biomass Briquette/Pellet manufacturing plants and to support Biomass (non-bagasse) based cogeneration projects in Industries in the country, by providing Central Financial Assistance (CFA).*
- 10. MNRE is also providing CFA for setting up of Waste to Energy plants for generation of Biogas, Bio-CNG/enriched Biogas/Compressed Biogas, Power/ generation of producer or syngas, from urban, industrial, agricultural wastes and municipal solid waste.*

11. Under the Pradhan Mantri JI-VAN Yojana, a 2G Ethanol Project has been set up by Indian Oil Corporation Limited at Panipat, Haryana, which is expected to utilize 2 lakh metric tonnes of paddy straw per annum. Another 2G Ethanol Project is being set up by HPCL at Bathinda (Punjab).

Regarding control of Methane, being a greenhouse gas, measures to control methane emissions are undertaken by several Ministries/Departments and reported to the United Nations Framework Convention on Climate Change. These measures include:

1. Promotion of Small Hydro Power, Bagasse and Biomass based power, by MNRE
2. Promoting System of Rice Intensification as part of National Food Security Mission (NFSM) and Bringing Green Revolution to Eastern India (BGREI)
3. Increasing area under Direct Seeded Rice (DSR) as part of National Food Security Mission (NFSM) and Bringing Green Revolution to Eastern India (BGREI)
4. Promoting crop diversification
5. Balanced Ration for Livestock, which promotes Optimum feeding of animals through Ration Balancing Programme (RBP)
6. Feeding bypass proteins: Optimizing the use of protein supplement within the ruminant system
7. Sub-Mission on Agricultural Mechanization (SMAM) and central sector scheme on promotion of agricultural mechanization for in-situ management of crops residue launched to increase the reach of farm mechanization to small and marginal farmers and promoting 'Custom Hiring Centres' to offset the high cost of individual ownership"

3. CPCB is directed to file the report disclosing how effectively these measures are being implemented.

4. The CPCB reports discloses following suggestions:-

"7. Way forward

It has been globally established that the control of ozone concentration is only possible through control of its precursors at a regional or national level, and the Government of India has taken several initiatives as listed in Section 6 above for their control.

However, considering the elevated levels of ozone that were observed during COVID-19 lockdown (April 2020) and that the ozone concentration is also influenced by transboundary movement, soil and biogenic emissions, a detailed study may be required with help of air quality experts in order to evaluate the reasons for higher ozone levels at various locations in Delhi, and further ozone formation modelling may be required to assess the contribution of transboundary, biogenic and anthropogenic sources.

The matter has also been discussed with air quality experts and it has been expressed that a study is required and the same is expected to come

out with the steps that may be required to specifically plan and control the sources of ozone (and its precursors). The study for Delhi is likely to take about one year.”

5. The feasibility and mechanism for implementation of recommendations made by CPCB needs consideration. Hence, we deem it proper to implead the following as respondent no. 4:-

4. MOEF&CC through the Secretary.

6. Let Notice be issued to respondent no. 4 for filing the response by way of affidavit, especially commenting upon the recommendations that have been made by CPCB as quoted above. Let the response be filed at least one week before the next date of hearing.

7. Counsel for the CPCB has sought time for the purpose of ensuring the detailed study as mentioned in para 7, quoted above.

8. Hence, we direct the CPCB to file a fresh report at least one week before the next date of hearing.

9. List on 21.04.2025.

Prakash Shrivastava, CP

Dr. A. Senthil Vel, EM

December 23, 2024
Original Application No. 605/2024
SN..