

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 646 OF 2024

In the matter of: -

News Item titled "How Partial Combustion Fuels Your Bad-Air Woes" appearing in The  
Times of India dated 02.05.2024

Index

Sr. No.	Particulars	Page No.
1.	<b>Reply</b> on behalf of Central Pollution Control Board (CPCB) respondent no. 2 in compliance to Hon'ble NGT order dated 31.05.2024 in O.A. No. 646/2024.	
2.	<b>Annexure-I:</b> A copy of Hon'ble NGT order dated 31.05.2024, in O.A. No. 646/2024.	



**Filed by Adv. Atif Suhrawardy**  
(On behalf of Central Pollution Control Board)

Dated: 18.09.2024

Place: Delhi

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 646 OF 2024

In the matter of: -

News Item titled "How Partial Combustion Fuels Your Bad-Air Woes" appearing in  
The Times of India dated 02.05.2024

REPLY ON BEHALF OF THE CENTRAL POLLUTION CONTROL BOARD  
(CPCB) i.e. RESPONDENT NO. 2,

1. That this Hon'ble tribunal in OA no. 646/2024 vide order dated 31.05.2024 raised concern regarding the adverse health effects due to increasing oxidative potential of particulate matter in North India, resulting from incomplete combustion sources and the present reply is being filed by the answering respondent pursuant to the aforesaid order dated 31.05.2024.
2. That, CPCB is a statutory Board constituted under Section 3 of The Water (Prevention and control of Pollution) Act, 1974. It performs the functions under The Water (Prevention and control of Pollution) Act, 1974, The Air (Prevention and control of Pollution) Act, 1981 and The Environment (Protection) Act, 1986.
3. That, with regards to the subject matter herein, it is humbly submitted that the oxidative potential (OP) of particulate matter (PM) is the capacity of PM to oxidize molecules in biological tissues or cells directly by oxidants that are present on and/or within PM. [Reference: He, L., & Zhang, J. (2023). *Particulate matter (PM) oxidative potential: Measurement methods and links to PM physicochemical characteristics and health effects. Critical Reviews in Environmental Science and Technology*, 53(2), 177–197. <https://doi.org/10.1080/10643389.2022.2050148>].



4. The geographical origin, sources of PM, and its OP at five Indo-Gangetic Plain sites inside and outside Delhi, were assessed in the study. As per the study, ammonium chloride, and organic aerosols (OA) from traffic exhaust, residential heating, and oxidation of unsaturated vapors from fossil fuels are the dominant PM sources inside Delhi, with Ammonium sulfate and nitrate, and secondary OA from biomass burning, produced outside Delhi. The study attributes incomplete combustion of biomass and fossil fuels, including traffic, as the dominant contributor to OP.

5. Further, the order of the Hon'ble NGT in OA no. 646/2024 highlights the need to address air pollution from sources such as incomplete combustion of various fuels, biomass burning, vehicular pollution (especially from older and poorly maintained vehicles), burning of plastic/industrial waste and burning and usage of coal.

6. It is submitted that actions have been taken on various pollution sources indicated in the study and these are as under:

A. **Vehicular emissions**

- i. Leapfrogging from BS-IV to BS-VI fuel standards since 1st April, 2018 in NCT of Delhi and from 1st April, 2020 for the rest of the country. Introduction of BS-VI compliant vehicles across the country since April, 2020. Introduction of BS-VI compliant engines initiatives help in improved fuel combustion and engine efficiency.
- ii. Installation of Vapour Recovery System (VRS) at 3256 petrol pumps in Delhi-NCR reduces release of vapours into the ambient environment and formation of Secondary Organic Aerosol.
- iii. Ban on plying of 15-year-old petrol and 10-year-old diesel vehicles in Delhi-NCR, which removes fleet of vehicles with older engines.
- iv. Promotion of electric vehicles (with zero emissions) through Electric Mobility Promotion Scheme 2024 (EMPS 2024) scheme of Ministry of



Heavy Industries, Government of India, and also under the EV policies introduced in Delhi-NCR states, eliminating vehicular emissions.

**B. Biomass burning**

- i. A scheme is being implemented by Ministry of Agriculture and Farmers Welfare (MoA&FW) for providing subsidy for purchase of crop residue management machinery and establishment of custom hiring centres (CHCs) in the States of Punjab, Haryana, Uttar Pradesh, Madhya Pradesh and NCT of Delhi. Further, the scheme has been revised to support establishment of crop residue/paddy straw supply chain, by providing financial assistance on the capital cost of machinery and equipment required for Establishment of crop residue/paddy straw supply chain.
- ii. Commission for Air Quality Management in National Capital Region and Adjoining Areas (CAQM) has issued directions for co-firing of 5-10% biomass with coal in thermal power plants located within 300 kms of Delhi, and, in captive power plants of industrial units located in NCR.
- iii. Biomass as a fuel is permitted in industries in NCR and use of coal has been banned. The approved fuel list is in force in Delhi-NCR w.e.f. 01.01.2023. Industries operating on only PNG or biomass are permitted in NCR, except for specific requirement of other fuels by specific industries owing to technical, technological and process requirements.
- iv. Directions issued by CAQM to State governments of Punjab, Haryana and Uttar Pradesh to strictly and effectively implement revised action plan to eliminate and control stubble burning.
- v. CPCB has framed guidelines for providing one-time financial assistance for setting up of paddy straw based pelletization and torrefaction plants which may help in addressing the supply chain issues and the issue of open burning of paddy straw in agriculture fields in Northern Region. 08 paddy straw based pelletisation/torrefaction plants are currently



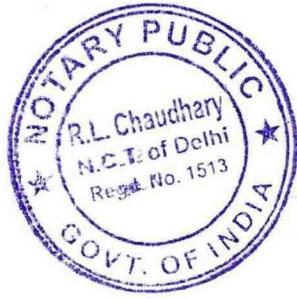
operational in Punjab and Haryana, which have been given one-time financial assistance by CPCB

**C. Plastic/industrial waste**

- i. The Ministry of Environment & Forests and Climate Change (MoEF&CC) notified Plastic Waste Management Amendment Rules, 2021, on 12th August 2021, which prohibits identified single use plastic items, which have low utility and high littering potential with effect from 1st July, 2022. Enforcement drives have been undertaken by CPCB, State Pollution Control Board (SPCBs)/ Pollution Control Committees (PCCs) to implement ban on identified single use plastic items and on plastic carry bags having thickness less than one hundred twenty microns. The MoEF&CC has notified the Guidelines on Extended Producer Responsibility (EPR) for plastic packaging vide Plastic Waste Management (Amendment) Rules, 2022, on 16th February 2022 and Plastic Waste Management (Amendment) Rules, 2024, on 14th March, 2024.
- ii. Further, regulations on EPR have been notified in respect of battery waste, e-waste, waste tyre and used oil management. The EPR regulations mandate targets for recycling / refurbishment only by the authorised facility and use of recycled content, as applicable and promote circular economy.
- iii. CPCB on 26.05.2022 has issued directions under Section 5 of the Environment (Protection) Act, 1986 to all SPCBs/PCCs for implementation of Solid Waste Management Rules, 2016 at MSW dumpsites to prevent fire incidents at MSW dumpsites and ensure their effective handling.



7. That in the light of the above submissions, it is respectfully submitted that this Answering Respondent, i.e., CPCB, shall abide by any order(s) or direction(s) passed by this Hon'ble Court in the instant OA.



A handwritten signature in blue ink, appearing to read "Pankaj Agarwal".

(Pankaj Agarwal)  
Scientist 'F'

Central Pollution Control Board

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

**ORIGINAL APPLICATION NO. 646 OF 2024**

**In the matter of: -**

**News Item titled "How Partial Combustion Fuels Your Bad-Air Woes" appearing in  
The Times of India dated 02.05.2024**

**AFFIDAVIT**

I, Pankaj Agarwal, working as Scientist 'F' in the Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi, the Respondent No.-2 in the above matter, do hereby solemnly affirm, declare on oath and state as under: -

1. That I deponent herein is authorized representative to represent the Respondent CPCB in the present case, and as such, well conversant with the facts and circumstances of the present case on the basis of the information derived from the official records, and hence, competent and authorized to verify, sign and swear this affidavit on behalf of the Respondent CPCB.
2. That the accompanying reply may be read part and parcel of the present affidavit.
3. That the accompanying reply has been drafted and filed under my instructions and authority the contents thereof are true and correct on the basis of the record maintained during ordinary course of business of CPCB and available records and documents and the contents of the same are read over and explained to me and are not repeated herein for the sake of brevity.



*Pankaj Agarwal*

**DEPONENT**


**पंकज अग्रवाल / Pankaj Agarwal**  
वैज्ञानिक 'एफ' / Scientist 'F'  
**केंद्रीय प्रदूषण नियंत्रण बोर्ड**  
**Central Pollution Control Board**  
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)  
(M/o Environment, Forest & Climate Change, Govt. of India)  
परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली-110032  
Parivesh Bhawan, East Arjun Nagar, Delhi-110032

**VERIFICATION**

18 SEP 2024

Verified at New Delhi on this day of \_\_\_\_\_ 2024 that the contents of the above reply are correct and true on the basis of the records of the case as mentioned in the day-to-day affairs of the CPCB. Noting has been concealed therefrom or mis-stated.



ATTESTED  
  
NOTARY PUBLIC  
GOVT. OF INDIA

18 SEP 2024



DEPONENT

पंकज अग्रवाल / Pankaj Agarwal  
वैज्ञानिक 'एफ' / Scientist 'F'  
केंद्रीय प्रदूषण नियंत्रण बोर्ड  
Central Pollution Control Board  
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)  
(M/o Environment, Forest & Climate Change, Govt. of India)  
परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली-110032  
Parivesh Bhawan, East Arjun Nagar, Delhi-110032

Item No. 08

Court No. 1

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

Original Application No. 646/2024

News Item titled "How Partial Combustion Fuels Your Bad-Air Woes" appearing in The Times of India dated 02.05.2024

Date of hearing: 31.05.2024

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

**ORDER**

1. This original application is registered *suo motu* on the basis of the news item titled "How Partial Combustion Fuels Your Bad-Air Woes" appearing in 'The Times of India' dated 02.05.2024.

2. The news item relates to a new study by IIT-Kanpur that has revealed that incomplete combustion of various fuels plays a significant role in the poor air quality and associated health risks in north India. The article quotes a study published in 'Nature Communications' journal stated that incomplete combustion sources, led by biomass burning and vehicles, put secondary organic aerosols in the air and increase oxidative potential in Delhi-NCR. The news item states that 'oxidative potential' refers to the free radicals that are generated when pollutants interact with certain substances in the environment or in people's bodies. These free radicals can cause damage by reacting with cells, proteins, and DNA and impact our health. Oxidative potential measures how likely air pollution is to cause this reaction, which in turn can lead to health problems like respiratory diseases, heart disease, and accelerated ageing.

3. The news item further states that older, poorly maintained vehicles, and the ones that idle can cause incomplete combustion. It states that the local sources and processes are the main factors contributing to the widespread air pollution across the region. Ammonium chloride, and organic aerosols from traffic exhaust, residential heating, and oxidation of unsaturated vapours from fossil fuels are the dominant particulate matter sources inside Delhi. The study also indicated that the emissions of ammonium chloride are caused due to the burning of Plastic or industrial waste etc., whereas the emissions of Ammonium Sulphate is due to the burning and usage of coal for various purposes. Due to all these factors, there has been a rise in the air pollutions oxidative factor that is said to be the key factors or the key indicator to cause adverse health effects.

4. The news item raises substantial issue relating to compliance of the environmental norms, especially compliance of the provisions of the Air (prevention and control of pollution) Act, 1981 and the Environment (Protection) Act, 1986.

5. Power of the Tribunal to take up the matter *suo-motu* has been recognized by the Hon'ble Supreme Court in the matter of "*Municipal Corporation of Greater Mumbai vs. Ankita Sinha & Ors.*" reported in 2021 *SCC Online SC 897*.

6. Hence, we implead the following as respondents in the matter:

- (1). Delhi Pollution Control Committee, through its Member Secretary, Building No. TC-12V, 6th floor, C wing, Delhi Secretariat, I P Estate, Delhi-110002.

- (2). Central Pollution Control Board, through its Member Secretary, Parivesh Bhawan, East Arjun Nagar, Delhi-110032.
  - (3). Ministry of Environment, Forest and Climate Change, through its Secretary, Indira Paryavaran Bhawan, Jorbagh Road, New Delhi.
7. Issue notice to the above respondents for filing their response at least one week before the next date of hearing.
  8. List on 20.09.2024.

Prakash Shrivastava, CP

Arun Kumar Tyagi, JM

Dr. A. Senthil Vel, EM

May 31, 2024  
Original Application No. 646/2024  
DV