

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

ORIGINAL APPLICATION NO. 588 OF 2025

IN THE MATTER OF:

SANJAY SHARAN

...APPLICANT

VERSUS

UNION OF INDIA & ORS.

...RESPONDENTS

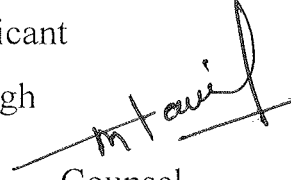
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Place: New Delhi
Dated: 13.05.2026

Applicant

Through


Counsel

MOHD FAISAL, Advocates
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10028. M-9711017506, Email:-
faisalmohd007@gmail.com

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
(Under Section 14 & 15 r/w section 18(1) of National Green
Tribunal Act, 2010)**

ORIGINAL APPLICATION NO. 588 OF 2025

IN THE MATTER OF:

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**SUB: REJOINDER/REPLY ON BEHALF OF THE APPLICANT
TO THE COUNTER AFFIDAVIT FILED BY THE
RESPONDENT NO. 2, (MINISTRY OF POWER).**

MOST RESPECTFULLY SHOWETH,

1. That it is submitted that the fallout of the notification dated 11.07.2025 resulted in keeping all ongoing tenders relating to installation of Flue Gas Desulphurization (FGD) systems across the country on hold, and further imposed a complete embargo on issuance of fresh tenders in this regard. Consequently, the implementation and execution of FGD projects at various Thermal Power Plants were adversely affected and brought to a standstill. Thus, in these circumstances, the People of the entire country have been compelled to live in a perpetual polluted environment endangering their life and life span.

2. That it is reiterated that the notification dated 11.07.2025 constitutes a complete departure from the earlier consistent position adopted by the Government of India, wherein effective steps were initiated for control of SO₂ pollution emanating from Thermal Power Plants pursuant to the Notification dated 07.12.2015 issued by the Ministry of Environment, Forest and Climate Change, without carving out any exemption for Category B and C thermal power plants. That the details furnished in Paragraph No. 3 of the reply clearly demonstrate that out of 602 Thermal Power Plants (TPPs), only 66 TPPs have been classified under Category 'A', whereas the remaining TPPs falling under Categories 'B' and 'C' have effectively been granted exemption from compliance with the SO₂ emission control norms. The said position reflects an almost complete departure and U-turn from the earlier statutory regime and policy framework mandating uniform compliance of SO₂ emission norms for coal-based thermal power plants across the country.
3. It is further submitted that the stipulation of a 10 km radius from NCR or cities having a population exceeding 10 lakhs is arbitrary, unreasonable, and devoid of any rational basis, particularly when such population data is derived from the outdated Census of India 2011, which cannot be relied upon in the year 2025. The said

criteria fails to take into account the substantial demographic changes over the intervening period. Moreover, the imposition of the 10 km radius criterion is contrary to Direction No. 42 (Clause 14) dated 17.09.2021 issued by the Commission for Air Quality Management, which prescribes a much wider radius of 300 km for regulatory purposes. The impugned Office Memorandum, therefore, is not only inconsistent with prior policy measures but also runs contrary to binding regulatory directions, rendering it arbitrary and unsustainable in law. True copy of the direction No. 42 of CAQM is annexed herewith as **Annexure A2/1**.

4. It is submitted that the said notification is purportedly based on the report dated 10.07.2025 of the Central Pollution Control Board (CPCB), which itself raises grave concerns. The CPCB report is an extremely voluminous document (running into more than 500 pages), and it is practically impossible for any authority to meaningfully examine and apply its contents within a matter of hours before issuing the notification dated 11.07.2025. This clearly indicates that the draft notification had been pre-conceived by the Ministry of Environment, Forest and Climate Change and the said report was merely used as a ploy to justify a predetermined outcome. It is further submitted that the CPCB report relies upon

multiple studies, including those conducted by Indian Institute of Technology Delhi and National Institute of Advanced Studies. Insofar as the report of IIT Delhi is concerned, it is clarified that the study was limited to only 10 cities, yet sweeping conclusions have been drawn on a pan-India basis, rendering such generalization unreliable and untenable. Similarly, the study conducted by NIAS is based on observations from merely two Thermal Power Plants, and therefore, its findings cannot be extrapolated to represent the entire country.

5. That it is submitted that as stated by the Chief Engineer of Madhya Pradesh Power Generating Company Limited in its reply of state of M.P. in the present O.A., the installation of Flue Gas Desulphurisation (FGD) projects in Thermal Power Plants was apparently delayed due to pending administrative approvals, and further delays in tender finalization led to multifold cost escalation. It is further noted that while FGD installation may lead to electricity cost by 30–35 paise per unit, the same may be reduced to a net increase of about 8 paise per unit if GST Compensation Cess @ Rs. 400 per tonne is extended to different Thermal Power Plants.
6. Thus, apart from the limited studies of Indian Institute of Technology Delhi and National Institute of Advanced Studies,

which have been selectively relied upon by the Central Pollution Control Board in its report dated 10.07.2025, all other relevant studies, expert bodies, and competent authorities have consistently recommended installation of FGD systems in thermal power plants. This clearly establishes a broad consensus in favour of implementing FGD technology for effective emission control of SO₂, in all types of Thermal Power Plants thereby rendering to any contrary position by highly questionable adopting notification dated 11.07.2025 is arbitrary and unsustainable and this notification is required to be set aside/stayed pending final decision of this Hon'ble Tribunal.

7. That the notification dated 11.07.2025 is wholly contrary to the earlier Notification dated 07.12.2015 issued by the Ministry of Environment, Forest and Climate Change and is detrimental to the health and welfare of lakhs of people residing in the vicinity of thermal power plants, particularly within a radius of 10 km. It is further submitted that, as per the report published by The Lancet dated 29.10.2025, coal-based thermal power plants have been identified as a significant contributor to mortality, with thousands of premature deaths attributed to emissions of SO₂ during the year 2022. In this backdrop, effective control of SO₂ emissions through

installation of Flue Gas Desulphurisation (FGD) systems is not only necessary but imperative for safeguarding public health and ensuring compliance with environmental norms. The impugned notification, by diluting such requirements, is arbitrary, unjustified, and contrary to the larger public interest. True copy of the Lancet dated 29.10.2025 is annexed herewith as **Annexure-A2/2**.

8. It is submitted that the Commission for Air Quality Management (CAQM), in its Report No. 81, after undertaking a comprehensive review of compliance status of thermal power plants, recorded with concern that a substantial number of plants had failed to install the requisite pollution control technologies such as Flue Gas Desulphurization (FGD) systems for controlling sulphur dioxide (SO₂) emissions, as well as systems for controlling NO_x and particulate matter emissions. The said report highlighted persistent delays, lack of adherence to timelines, and the adverse impact of such non-compliance on ambient air quality in the NCR region. Consequently, the CAQM recommended strict adherence to the emission norms and emphasized that all defaulting units must ensure installation and operationalization of emission control systems within the prescribed timelines, originally targeted for completion by the year 2020.

9. Further, in Report No. 84, the CAQM undertook a follow-up assessment and noted that despite repeated directions and the lapse of the initial deadline, compliance remained inadequate and uneven across Thermal Power Plants. The Commission underlined the urgency of expeditious implementation of emission control measures and reiterated that continued non-compliance posed a serious threat to public health and environmental sustainability. The report also recommended the adoption of coercive measures, including restrictions on operation of non-compliant units, imposition of environmental compensation, and prioritization of cleaner fuels and technologies. True copy of the relevant pages of Report No. 84 of CAQM is annexed herewith as **Annexure A2/3**.
10. Thus, both Report Nos. 81 and 84 of the CAQM unequivocally demonstrate that the concerned authorities and thermal power plants were required to achieve full compliance with the emission norms notified on 07.12.2015 by the year 2020, and that any continued delay or deviation therefrom was viewed seriously by the regulatory authorities in light of its direct bearing on air quality management in the region.
11. That in effect, the Respondent Ministry, instead of acting as a regulator and guardian of environmental protection, is seeking to

create ambiguity around the necessity and efficacy of FGD technology, thereby enabling continued non-compliance by TPPs. Such conduct defeats the fundamental right of citizen to a clean and healthy environment under Article 21 of the Constitution of India and warrants strict judicial scrutiny.

12. It is also submitted that many countries like Vietnam, China, Japan, Indonesia, etc. are using different technologies including installing FGD system to curb the air pollution, thus India had also followed similar pattern of installation of FGD system as mentioned in the notification 07.12.2015.
13. That the latest report dated 24.12.2025 published by the Centre for Research on Energy and Clean Air (CREA) categorically establishes the significant contribution of coal-based Thermal Power Plants to noxious SO₂ emissions. The report notes that the highest annual SO₂ contribution is observed in Chhattisgarh (42%), followed closely by Odisha (41%), both being states dominated by coal-fired power plants. The report further emphasizes that reinstating mandatory Flue Gas Desulphurization (FGD) requirements across coal-fired Thermal Power Plants is critical for reducing SO₂ emissions and consequent secondary PM_{2.5} pollution under the National Clean Air Programme. It is further submitted

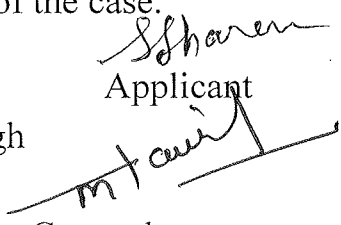
that a report published in *The Lancet* dated 29.10.2025 highlights the grave public health impact of fossil fuel usage, stating that fossil fuels (coal and liquid gas) contributed to approximately 7.52 lakh deaths in 2022, out of which coal alone accounted for 3.94 lakh deaths, primarily due to its use in power generation. The true copy of the CREA report dated 24.12.2025 is annexed herewith as **Annexure A2/4**.

In the circumstances it is most respectfully prayed that this Hon'ble Tribunal may be pleased to:

- (a) Allow the present Original Application filed by the Applicant and grant the reliefs as prayed for
- (b) stay the operation of the impugned notification No. G.S.R 465(E) dated 11.07.2025 pending final adjudication of this Original Application.
- (c) Pass such other and further order/orders as are deemed fit and proper in the facts and circumstances of the case.

Place: New Delhi
Dated: 13.05.2026

Through


Counsel

Mohd Faisal, Advocate
E-231, LGF, G.K.-II, New Delhi -
10028. M-9711017506, Email:-
faisalmohd007@gmail.com

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

(Under Section 14 & 15 r/w section 18(1) of National Green Tribunal Act, 2010)

ORIGINAL APPLICATION NO. OF 2025

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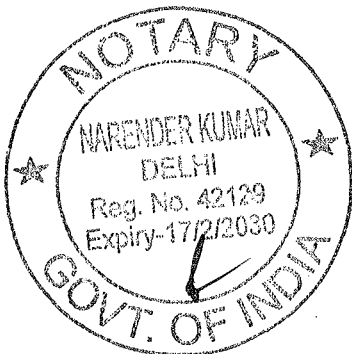
AFFIDAVIT

I, Mr. Sanjay Sharan S/o Late Shri Rajeshwari Sharan, aged about 68 years, R/o C-8/8712, Vasant Kunj, South West Delhi, New Delhi - 110070, do hereby solemnly affirm and state as under:-

1. That I am the Applicant in the accompanying rejoinder to the reply of Respondent No. 2 and well conversant with the facts and circumstances of the instant case hence, competent to swear the instant affidavit.
2. That the facts stated in the aforesaid affidavit are true to the best of my knowledge. No part of it is false and nothing material has been concealed.
3. That the Annexures annexed with the application are true copies of the respective original.

Sharan

DEPONENT



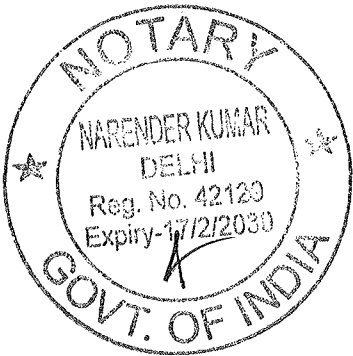
VERIFICATION:

I, the above named deponent, do hereby verify that the contents of my above affidavit are true and correct to the best of my knowledge and belief and nothing material has been concealed there from.

Verified at New Delhi on this 11th day of May, 2026

M. K. Singh
I identified the deponent who has signed in my presence.

S. Sharan
DEPONENT



CERTIFIED THAT THE DEPONENT
Sh./Smt./Km..... *S. Sharan*
S/o, W/o, D/o..... *Rajeshwar Sharan*
R/o.....
Identified by Shri/Smt.....
has solemnly affirmed before me at
Delhi on..... St. No. *22*
that the contents of the affidavit which have been
read & explained to him/her are true & correct to
his/her knowledge.

4
Notary Public, Delhi

11 MAY 2026

COMMISSION FOR AIR QUALITY MANAGEMENT
IN NATIONAL CAPITAL REGION AND ADJOINING AREAS
17th Floor, Jawahar Vyapar Bhawan (STC Building)
Tolstoy Marg, New Delhi-110001

F.No.-120015/25/TPP/2021/CAQM- / 948-955

Dated: 17.09.2021

Subject: Ex-Situ Paddy Straw Management through utilization in Coal Based Thermal Power Plants.

1. WHEREAS, Ministry of Environment, Forest and Climate Change, Government of India, in exercise of the powers conferred under Section 3 of the Commission for Air Quality Management in National Capital Region and Adjoining Areas Act 2021, has constituted the Commission for Air Quality Management in National Capital Region and Adjoining Areas (hereinafter referred to as the Commission);
2. WHEREAS, Section 30 of the Act, 2021 provides that anything done or any action taken under the erstwhile Ordinance 2020 shall be deemed to have been done or taken under the corresponding provisions of the Ordinance 2021;
3. WHEREAS, under Section 12 (1) of the Act, the Commission has powers to take all such measures, issue directions, etc., as it deems necessary or expedient for the purpose of protecting and improving the quality of the air in the National Capital Region and Adjoining Areas;
4. WHEREAS, Section 12 (2) (xi) of the Act, empowers the Commission to issue directions in writing to any person, officer, or any authority and such person, officer or authority shall be bound to comply with such directions;

Direction No. 42

5. WHEREAS, the Commission has observed that Paddy stubble burning is a matter of grave concern for air quality in NCR and Ex-situ utilization of paddy straw is an important strategy to solve the problem, especially in the Coal based Thermal Power Plants, being one of the potential users;
6. WHEREAS, the Commission had taken up the matter regarding ex-situ stubble management with NCR States in the past and State Governments were impressed upon the urgency and criticality of ensuring supply chain of biomass for making the ex-situ options viable and successful;
7. WHEREAS, the Commission has issued advisory on 28.07.2021 to the State Governments of Punjab, Haryana and Uttar Pradesh regarding ex-situ stubble management for tackling the problem of Stubble burning.
8. WHEREAS, the matter of utilization of biomass pellets for co-firing in thermal power plants was discussed in the meetings held in the Commission on 09.12.2020, 13.07.2021 and also 5th Meeting of the Commission held on 19th August, 2021 and 24th August, 2021;
9. WHEREAS, NTPC, based on the trials and experimentation has confirmed that it is technically feasible and implementable to co-fire bio-mass pellets with coal in proportion upto 5-10% in Thermal Power Plants without any modifications in the boilers;
10. WHEREAS, NTPC has already started co-firing bio-mass pellets in its power plants and based on the success of the trials, is promoting the use of bio-pellets in its thermal power plants across the country;
11. WHEREAS, the Commission has advised State Governments of Punjab, Haryana and Uttar Pradesh in the 5th Meeting of the Commission dated 19th August, 2021 and 24th August, 2021, to use paddy straw towards

Direction No. 42

co-firing as fuel in their respective state owned thermal power plants, NTPC power plants in the region and also make efforts to "on-board" private thermal power plant operators for this initiative;

12. WHEREAS, the matter was further deliberated in the meeting chaired by the Hon'ble Minister, EF&CC on 03.09.2021, in which the representatives from Thermal power plants in NCR and adjoining areas also participated, Wherein the need to use straw based biomass pellets in thermal power plants was reiterated;
13. WHEREAS, the matter was further deliberated in the meeting held in the Commission on 09.09.2021, in which the representatives of all the Thermal power plants in NCR and adjoining areas participated, wherein the need to co-fire paddy straw based pellets with coal was reiterated;
14. NOW THEREFORE, in view of the above position and the compelling need to control air pollution from burning of paddy straw and its effective utilization as a resource, the Commission constituted under the provisions of "Commission for Air Quality Management in National Capital Region and Adjoining Areas, Act, 2021", hereby directs the Coal based Thermal Power plants situated upto a radius of 300 Km of Delhi:
 - I. to initiate immediate steps to co-fire biomass based Pellets, Torrefied Pellets/Briquettes (with focus on paddy straw) with Coal (up to 5-10%) in the power plants through a continuous and uninterrupted supply chain and
 - II. To take all necessary steps to ensure that co-firing of biomass pellets in Thermal Power Plants begins without any delay.

Direction No. 42

15. First Action taken report in compliance of the above direction be submitted to the Commission by 25.09.2021 and reports thereafter may be sent on a monthly basis.

(Arvind Nautiyal)
Member Secretary
Tel No.: 011-23701197
Email: arvind.nautiyal@gov.in

To:

1. Chairman and Managing Director, NTPC
2. MDs of Power Plants in NCR and adjoining areas:
 - I. Mahatma Gandhi TPS, CLP Jhajjar, Haryana
 - II. Panipat TPS, HPGCL, Haryana
 - III. Rajiv Gandhi TPS, Hisar, HPGCL, Haryana
 - IV. Deenbandhu Chhoturam TPS, Yamunanagar, HPGCL, Haryana
 - V. Guru Hargobind TPS, PSPCL, Punjab
 - VI. Nabha Power Ltd, Rajpura TPS, Punjab
 - VII. Talwandi Sabo TPS, Mansa, TSPL, Punjab
 - VIII. Guru Gobind Singh TPS, PSPCL, Punjab
 - IX. Harduaganj TPS, UPRVUNL, Uttar Pradesh

Copy forwarded to:

1. The Chief Secretary, Government of Punjab, 6th Floor, Punjab Civil Secretariat-1, Sector-1, Chandigarh -160 001
2. The Chief Secretary, Government of Haryana, 4th Floor, Civil Secretariat, Sector – 1, Chandigarh.
3. The Chief Secretary, Government of Uttar Pradesh, 101, Lok Bhawan, U. P. Civil Secretariat, Vidhan Sabha Marg, Lucknow – 226001.
4. Additional Secretary, Ministry of Power, Government of India.
5. Additional Chief Secretary, Power, Government of Punjab.

Direction No. 42

6. Additional Chief Secretary, Power and New and Renewable Energy,
Government of Haryana.
7. Additional Chief Secretary, Department of Additional Sources of Energy,
Government of Uttar Pradesh.
8. Member Secretary, Central Pollution Control Board

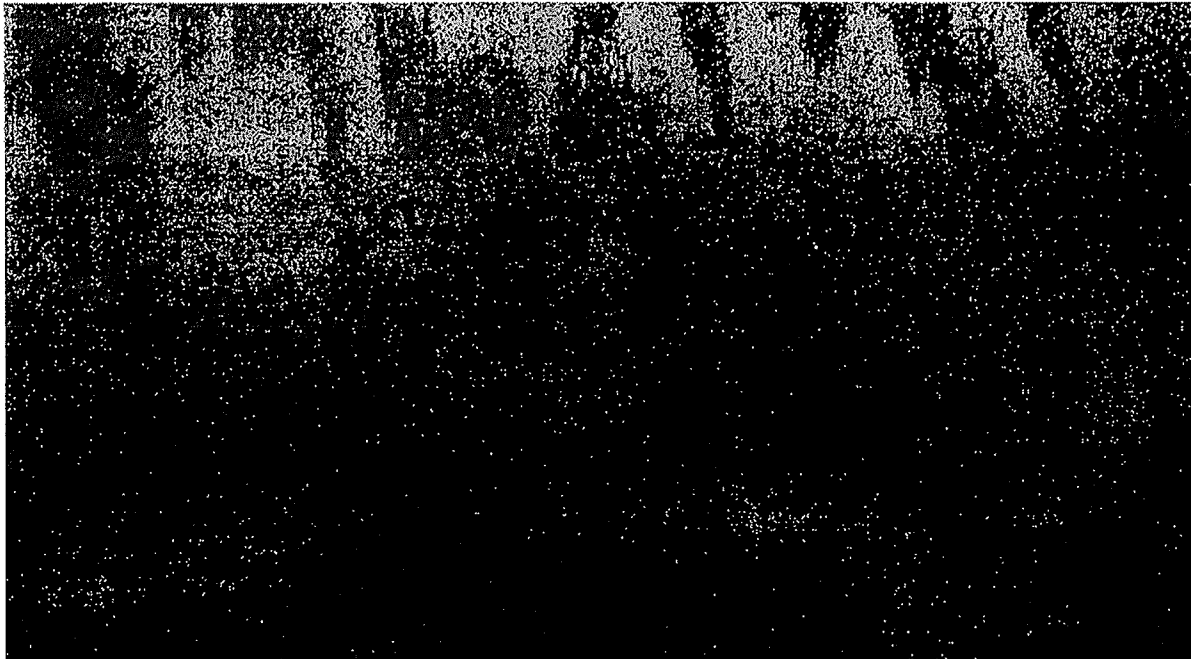
Arvind
(Arvind Naufiyal)




Health

PM 2.5 not only killed 1.7 million people in India during 2022, but also caused financial losses to the tune of 9.5% of country's GDP: Lancet


Heat waves on the rise triggered by climate change; urban greenness falling



Air pollution over Delhi. Photo by Vikas Choudhary/CSE

 Jayanta Basu

Published on: 29 Oct 2025, 6:00 am

 Air pollution is not only the biggest killer in India but also significantly impacts its economy, a new global report has confirmed.



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More than 1.7 million people died in India during 2022 from exposure to PM 2.5, the ultra-fine particulate pollutant, according to The Lancet Countdown on Health and Climate Change that works in close coordination with the World Health Organization (WHO).

The figure shows a sharp increase compared to the values registered twelve years back.

The Union environment, forest and climate change ministry had rebutted the high air pollution-linked figure in an October 26 social media post in the context of another global report released a few days back: "...The reported figure of 2 million deaths linked to air pollution... is not based on actual records but derived using statistical modeling techniques (that) had its own limitations...". The State of Global Air 2025 reported 2 million air pollution related deaths in India during 2023.

The Lancet report, a document prepared by 128 experts from 71 academic institutions and UN agencies, has also found that every Indian, on average, had faced nearly 20 days of heat waves during 2024. About one-third of these could be attributed directly to climate change.

"We have prepared a separate sheet for India, which is significantly affected," responded Mariana Romanello, an executive director of Lancet Countdown and a lead author of the report, to this correspondent when asked about the situation in India.

The villains

The India-specific report of Lancet highlights the impact of fossil fuel burning in India. "There were over 1,718,000 deaths attributable to anthropogenic air pollution (PM 2.5) in 2022 in India, an increase of 38% since 2010," read the report, a copy of which is with this correspondent.

It further pointed out that "...Fossil fuels (coal and liquid gas) contributed to 752,000 (44%) of these deaths in 2022, while coal accounted for 394,000 deaths, primarily from its use in power plants (298,000 deaths)," adding that "...use of petrol for road transportation contributed to 269,000".



The report found that burning of fossil fuels, particularly in thermal power plants and running of millions of vehicles in the country, played a key role in triggering the death march from air pollution.



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Rs 30 lakh crore lost in a year

The report also pointed out that "... In 2022, the monetised value of premature mortality due to outdoor air pollution in India amounted to USD 339.4 billion (nearly Rs 30 lakh crore), the equivalent of 9.5 percent of gross domestic product".

Incidentally, while the climate change-linked threat is on the rise, India's preparedness for the low-carbon transition got decreased marginally in 2024 compared to the year before.

Indoor air pollution also contributes significantly to the death scare from fossil fuel burning, the report showed. "In 2022, household air pollution due to the use of polluting fuels in India was associated with 113 deaths per 100,000. Mortality rates associated with household air pollution were higher in rural than urban areas (125 per 100,000 in rural and 99 per 100,000 in urban)," added the report.

"Evidence is growing stronger indicating diverse and multiple health impacts of air pollution. Most of the deaths are associated with non-communicable diseases like heart disease, lung cancer, diabetes, and even dementia. This suggests growing risk for India's ageing population and calls for urgent integration of clean air strategies with health and development planning," observed Anumita Roychowdhury, an executive director with the Centre for Science and Environment (CSE) and a frontline air pollution expert.

Agriculture and construction sectors most affected by heat

In 2024, people in India were exposed to 19.8 heatwave days each, on average. Of these, 6.6 days of exposure would not have been expected to occur without climate change, according to the report.

"Compared to 1990-1999, in 2024, people were exposed on average to 366 more hours during which ambient heat would have posed a moderate or higher risk of heat stress if undertaking moderate outdoor physical activity," stated the report.

It added that "for 2024, heat exposure resulted in a loss of 247 billion potential labour hours per year, a record high (of) 419 h per person, and 124% more than in 1990-1999. The agriculture sector accounted for 66 per cent, and the construction sector accounted for 20 per cent of losses in 2024. The associated potential income lost from labour capacity reduction due to extreme heat was \$373 million in 2024.



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over 10 million people were living less than 1 m above sea level in India, and therefore at risk from sea level rise".

The Lancet study also found that "between 2001 and 2023, India lost a cumulative total of 2.33 million hectares of tree cover, of which 143,000 were lost only in 2023." Urban greenness in the country has decreased 3.6 per cent during the last decade, it added.

Of the 189 most populous cities in India, having more than 500,000 inhabitants, 14 had exceptionally low levels of urban greenness, 110 had very low levels, 42 had low levels, and 22 had moderate levels. Only Tamruk in West Bengal was classified as having high levels of urban greenness.

The World Health Organization (WHO) Air Pollution

Lancet Countdown on Health and Climate Change

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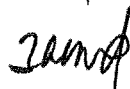
COMMISSION FOR AIR QUALITY MANAGEMENT
IN NATIONAL CAPITAL REGION AND ADJOINING AREAS
17th Floor, Jawahar Vyapar Bhagwan (STC Building)
Tolstoy Marg, New Delhi-11001

F. No. A-110018/01/2021-CAQM 1054 DT

Dated: 10.10.2024

Subject: Implementation of the plans of action for prevention and control of Paddy Stubble Burning, targeting elimination in 2024 - effective enforcement mechanism reg.

1. WHEREAS, the Ministry of Environment, Forest and Climate Change, Government of India, in exercise of the powers conferred under Section 3 of the Commission for Air Quality Management in National Capital Region and Adjoining Areas Act 2021, has constituted the Commission for Air Quality Management in National Capital Region and Adjoining Areas (hereinafter referred to as the Commission);
2. WHEREAS, under section 12(1) of the Act, the Commission has powers to take all such measures, issue directions, etc., as it deems necessary or expedient for the purpose of protecting and improving the quality of the air in the National Capital Region and Adjoining Areas;
3. WHEREAS, Section 12 (1) of the Act, empowers the Commission to issue directions in writing to any person, officer, or any authority and such person, officer or authority shall be bound to comply with such directions;
4. WHEREAS, Paddy stubble burning is a matter of grave concern due to its impact on air quality in NCR and the Commission has been deliberating upon the issue in a series of meetings held with major stakeholders including with the State Governments of Punjab, Haryana, Uttar Pradesh and Rajasthan, GNCTD, State Pollution Control Boards of NCR states, Punjab and Delhi Pollution Control Committee (DPCC) and knowledge institutions;



Direction No. 84

5. WHEREAS, the Commission through Direction dated 10.06.2021 had provided a Framework to the states concerned for control/elimination of crop residue burning and directed to draw up detailed state-specific action plans, based on the major contours of the Framework;
6. WHEREAS, an advisory dated 28.07.2021 was issued from the Commission on effective *Ex-Situ* stubble management for Punjab, Haryana and Uttar Pradesh;
7. WHEREAS, the Commission through directions issued on 16.08.2021 had also advised the Government of NCR States, Government of NCT of Delhi and Government of Punjab to adopt the standard protocol developed by ISRO for the monitoring and reporting of the fire event using the Satellite data;
8. WHEREAS, the Government of Punjab, Haryana, Uttar Pradesh, Rajasthan and Government of NCT of Delhi had formulated the state specific action plans for prevention and control of paddy stubble burning during the paddy harvest season in 2021, 2022 and 2023;
9. WHEREAS, based on field experience and learnings during 2021, 2022 and 2023, the action plans for Punjab, Haryana and UP (NCR Districts) were further updated for 2024;
10. WHEREAS, the salient features of the above noted updated action plans were presented by the representatives from Government of Punjab, Haryana, Uttar Pradesh before the full Commission in its meetings held on 15th March, 2024 and the Commission approved the respective action plans;
11. WHEREAS, the Commission issued Statutory Direction No. 80 dated 11.04.2024 to the State Governments of Punjab, Haryana and Uttar

Pradesh to effectively implement the respective action plans for 2024, in letter and spirit,

12. WHEREAS, the directions as above besides detailing the means of management of paddy stubble, *inter alia*, also called for the following enforcement and safeguarding measures towards complete elimination of paddy stubble burning:
 - i. Enhanced level of IEC/sensitisation activities.
 - ii. Timely deployment of Nodal/Cluster/Village level officers for strict surveillance and enforcement actions.
 - iii. Mechanism for pin-pointing and inspection of the farms/areas where paddy straw is burnt, if any, as per standard ISRO protocol and ensuring red-entries/accountability in such farm records, including levying and realization of prescribed EC.
13. WHEREAS, towards effective implementation of the plan of action for 2024, various consultative and review meetings have been held from time to time with all stakeholders concerned in the State Govt. of Punjab including the Dy. Commissioners of various districts of the State, including a review meeting with the DCs and State Level authorities on 18.09.2024 and 19.09.2024 respectively.
14. WHEREAS, during the various review meetings, the State Governments in Punjab and Haryana committed to targeting elimination of paddy residue burning practice;
15. WHEREAS, despite targeted elimination of fire counts during 2024, a total of 267 and 187 paddy residue burning events have been reported during the period from 15th September – 9th October, 2024, from the States of Punjab and Haryana respectively;



Direction No. 84

16. WHEREAS, the Commission from time to time during paddy harvesting season has called for immediately arresting this trend and initiate appropriate and effective enforcement mechanism, entrusting responsibility and accountability on the identified nodal officers for various villages / blocks and the supervisory officers;
17. WHEREAS, the Commission, on 25.09.2024 had directed for a detailed report from the State Governments of Punjab and Haryana regarding action taken to implement Direction No. 80 dated 12.04.2024 to ensure complete elimination of paddy stubble burning;
18. WHEREAS, effective implementation and enforcement of the action plans towards targeted elimination of paddy stubble burning does not seem to be forthcoming at the level of various agencies of the State Governments;
19. WHEREAS, the Act under Section 12(2)(xi) specifically empowers the CAQM to issue Directions to any person, officer or an authority who shall be bound to comply with such directions;
20. WHEREAS, Section 14 of the Act also stipulates that any non-compliance or contravention of any provisions of the Act, Rules, Directions or Orders issued by the Commission shall be an offence;
21. WHEREAS, the Commission has taken a serious note of the situation arising on account of number of paddy stubble burning incidences and has noted that due enforcement measures towards prevention of paddy stubble burning in the States of Punjab, Haryana and NCR areas of Uttar Pradesh need to be stepped up;
22. WHEREAS, through appropriate orders issued by the various State Governments, open burning of paddy and other agricultural stubble in the fields is already a prohibited activity;

23. NOW, THEREFORE, in exercise of the powers conferred upon the Commission under Section 14(2), the Deputy Commissioners / District Collectors / District Magistrates in the States of Punjab, Haryana, NCR areas of Rajasthan and Uttar Pradesh and in the NCT of Delhi are hereby authorized to file a complaint/ prosecution before jurisdictional judicial magistrate, in case of inaction in respect of officials, including nodal officers and supervisory officers at various levels and Station House Officers, responsible for effective enforcement towards ensuring elimination of paddy stubble burning in their respective jurisdiction.
24. The District administrations and the State Governments are expected to maintain constant and strict vigil towards elimination of paddy stubble burning.



(Arvind Nautiyal)
Member-Secretary
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Email: Arvind.nautiyal@gov.in

To

1. The Chief Secretary, Government of Punjab, 6th Floor, Punjab Civil Secretariat-1, Sector-1, Chandigarh-160001.
2. The Chief Secretary, Government of Haryana, 4th Floor, Haryana Civil Secretariat, Sector-1, Chandigarh-160001.
3. The Chief Secretary, Government of Uttar Pradesh, 101, Lok Bhawan, U.P. Civil Secretariat, Vidhan Sabha Marg, Lucknow-226001.
4. The Chief Secretary, Government of NCT of Delhi, Delhi Secretariat, I.P. Estate, New Delhi-110001.
5. The Chief Secretary, Government of Rajasthan, Government Secretariat, Jaipur-302005.

Copy to:

The Chairperson and all Members, CAQM.


(Arvind Nautiyal)



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Press release

India's highest ammonium sulfate contribution comes from power plant dominant state, reinforcing need to reinstate desulfurisation norms

New Delhi, 24 December 2025 – A new analysis by the Centre for Research on Energy and Clean Air (CREA) shows that up to 42% of India's $PM_{2.5}$ burden is chemically formed in the atmosphere from precursor gases, particularly sulfur dioxide (SO_2) from coal-fired power plants (CFPPs), reinforcing the central role of SO_2 control in $PM_{2.5}$ mitigation. Despite this evidence, the current regulatory framework has exempted approximately 78% of these CFPPs from installing flue gas desulfurisation (FGD) systems, weakening SO_2 control at the source.

The highest annual ammonium sulfate contribution is observed in **Chhattisgarh (42%)**, a coal-fired power plant-dominant state, followed closely by Odisha (41%). This shows that reinstating mandatory FGD requirements across all coal-fired thermal power plants is critical to reducing secondary ammonium sulfate formation and $PM_{2.5}$ under the National Clean Air Programme (NCAP).

CREA's analysis finds that secondary particulate matter, particularly ammonium sulfate, is a dominant component of $PM_{2.5}$ pollution across India, **challenging the long-standing policy focus on dust and primary pollution sources** in air quality management. The findings show that a large share of India's $PM_{2.5}$ pollution is not directly emitted but forms in the air through chemical reactions, a reality that has major implications for the ongoing revision of the NCAP.

The assessment, using NASA's MERRA-2 reanalysis data for 2024, finds that ammonium sulfate contributes between **17% and 42% of $PM_{2.5}$ mass across Indian states**, with most states clustering between 30 and 40% annually. This establishes **secondary particulate matter as a core driver of India's $PM_{2.5}$ burden**, rather than a marginal or seasonal concern.

Aside from Chhattisgarh, several other states across India also recorded high contributions, indicating that **secondary sulfate formation is widespread and national in scale, not limited to a few hotspots**.



Seasonal contributions across Indian states show that ammonium sulfate remains a substantial component of $PM_{2.5}$ year-round, peaking in winter (31-52% of $PM_{2.5}$ mass) and post-monsoon (27-53%), and remaining significant even in summer (11-36%) and monsoon season (4-26%). These patterns demonstrate that **secondary particulate matter dominates $PM_{2.5}$ composition during India's most polluted months.**

The findings also highlight major gaps in current air quality strategies, which continue to prioritise PM_{10} , road dust, and other visible pollution sources, while largely overlooking the role of precursor gases such as sulfur dioxide and ammonia. Without addressing secondary particulate matter, improvements in air quality are likely to remain limited and short-lived.

'As the NCAP is revised, India must focus not only on $PM_{2.5}$ concentrations but also on what the pollution is made of. With secondary ammonium sulfate accounting for up to 42 percent of $PM_{2.5}$, largely driven by SO_2 from coal-based power plants, precursor controls and composition monitoring are essential for air quality improvement,' said Manoj Kumar, India Analyst at CREA.

-End-

Contact

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Notes to editors

- India monthly air quality snapshots can be found [here](#).
- Daily Air Quality Dashboard: <https://ncap.energyandcleanair.org/>

About CREA

The Centre for Research on Energy and Clean Air (CREA) is an independent research organisation focused on revealing the trends, causes, and health impacts, as well as the solutions to air pollution. We use scientific data, research and evidence to support the efforts of governments, companies and campaigning organisations worldwide in their efforts to move towards clean energy and clean air. www.energyandcleanair.org.