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Round table consultation to discuss findings from study of

Potential solutions for MSMEs to reduce emissions

through hotspot approach in Delhi NCR

16th November 2022
09:30 AM to 01:30PM

*Do not let our future
Go up in the smoke*



The Grand, Nelson Mandela Road, Vasant Kunj -II, New Delhi - 110070, India



List of Abbreviations

CII	Confederation of Indian Industry
UNIDO	United Nations Industrial Development Organization
MSME	Micro Small Medium Enterprises
MSMEDI	MSME Development Institute
NIMSME	National Institute of MSME
CAF	Clean Air Fund
MPCB	Bawana Manufacturing Welfare Association
NRIWA	Narela relocation Industrial Welfare Association
NCAP	National Clean Air Programme
BEE	Bureau of Energy Efficiency
DPCC	Delhi Pollution Control Committee
IIEC	International Institute of Energy Conservation
CPCB	Centre Pollution Control Board
DSIIDC	Delhi State Industrial and Infrastructure Corporation Development
CAA	Clean Air Asia
IIT- K	Indian Institute of Technology - Kanpur
IIT -D	Indian Institute of Technology – Delhi
UNEP	United Nations Environment Program

List of Panellist

1. **Dr. Archana Walia** – India Director, Clean Air Asia
2. **Dr. B. Sengupta**, Ex- Member secretary, CPCB
3. **Mr. Milind Deore**, Director, BEE
4. **Prof. Mukesh Sharma**, IIT Kanpur
5. **Dr. Suresh Jain**, Professor, IIT Delhi
6. **Dr. Mukesh Khare**, Professor, IIT Delhi
7. **Mr. Sanjay Dube**, president & CEO, IIEC
8. **Dr. Madhulika Bhati**, Principal Scientist, CSIR-NISTADS
9. **Mr. Mukesh Gulati**, Executive Director, Foundation for MSME Clusters
10. **Dr. Sumit Sharma**, Program Officer, UNEP
11. **Dr. Anju Goel**, Professor, Teri

Attendees at the meeting

12. **Ms. Mugdha Jain**, Country Lead, Clean Air Fund
13. **Ms. Pujarini Sen**, Portfolio Manager, Clean Air Fund
14. **Dr. K.V. George**, CSIR -NEERI, Nagpur
15. **Ms. Eti Drolia**, CII, ITC -Centre, Delhi
16. **Mr. Eshan**, CII, ITC – Centre, Delhi
17. **Mr. Sachin Dhawan**, Senior Research Fellow, IIT, Delhi
18. **Mr. Nimish Singh**, Associate fellow, TERI
19. **Dr. Abinaya Sekar**, Senior research associate, Centre for Policy Research
20. **Dr. Sidharth Shekar Mishra**, MBBS, IIMR
21. **Mr. R. Singh Lau**, Office Secretary, CETP, Wazeerpur
22. **Mr. Bhupendra Kumar**, General Secretary, SPM industrial Park Welfare Association
23. **Mr. A. K. Khurana**, SPM industrial Park Welfare Association
24. **Dr. A. K. Pathak**, Assistant Professor, NSUT. Delhi
25. **Ms. Sourosree Lahiri**, Project Associate, TERI
26. **Mr. Santosh Kumar**, Assistant Director, Mo MSME
27. **Mr. Shashank Kumar**, JEE, DPCC

About the round table consultation

Clean Air Asia India (CAA-India) organized a Round Table discussion on “**Potential Solutions for MSMEs to Reduce Emissions**” on November 16, 2022, at The Grand, New Delhi. CAA undertook a project, “Addressing air pollution through hotspot approach in Delhi and NCR,” awarded by Clean Air Fund in 2021-22. As part of the project, CAA completed an assessment of 6 of the 13 industrial air pollution hotspots in Delhi (identified by CPCB) to determine the levels and sources of industrial emissions and challenges faced by the Micro, Small, and Medium Enterprises (MSMEs) in the implementation of clean air schemes, policies, and technologies. After a thorough assessment of the six hotspots, a shortlist of specific industries were identified for interventions. CAA also identified the financial pathways for MSMEs to adopt clean energy and clean technologies. This study was a unique intervention through a local approach to achieving clean air by reducing industrial emissions in the Delhi National Capital Region that can be replicated across India and globally. A strategy for effectively reducing air pollution in these areas was created through a collaborative approach of engaging small and medium industries, local urban bodies, and the environment and pollution departments in Delhi.

During the course of the project, Department of Environment, Govt. of NCT of Delhi brought out a directive for MSMEs in Delhi to switch to cleaner fuels in industrial hotspots (order issued November 2021), as a major step to reduce air pollution from industries/ MSMEs. Due to this mandate, the course of the project was modified beyond the ‘clean energy transition’ to focus on non-point sources of ambient air pollution, and engaged IIT Kanpur to conduct a study to identify policy recommendations and potential solutions that MSMEs could adopt in the material handling process, as well as assess the impact on marginalized/ vulnerable communities.

Objective of the round-table discussion

The round-table discussion was organized as part of the project deliverable as a knowledge sharing event. The key objective was to discuss the policy recommendation, technological solutions, and financial pathways for the reduction of emissions by MSMEs to achieve clean air in the Delhi - NCR, which can be replicated across India and globally.

The meeting was divided into two technical sessions with each of the sessions having a presentation on the studies and a panel discussion with eminent experts from academia, policy and financial areas on technological advancement, financial pathways, and policy suggestions.

Inaugural Session

The event commenced with the inaugural address by Dr. Archana Walia, India director of CAA, with a brief background of Clean Air Asia’s work related to air pollution, MSME, and industrial hotspot in Delhi NCR. She highlighted the overall environmental consequences and the multiple

steps taken by Clean Air Asia to prevent air pollution in Delhi and other Indian cities, emphasizing major contributors like industrial emissions, vehicular emissions, and construction & demolition dust. She addressed the strategic intervention of clean energy and technical intervention in MSMEs and the importance of the MSME sector and its critical need to find better solutions to boost service and productivity with minimal environmental degradation.

Ms. Mugdha Jain, Country Lead of the Clean Air Fund provided the special address. She discussed the various challenges faced by the industrial sector as well as the opportunities available to address them. She also stated the need to identify the industrial emission problems in the capital city and the country. She appreciated the work done by the CAA team to create this platform and organize this meeting to enhance the involvement of stakeholders.

Technical Session 1

The session started with a key presentation on “Addressing Air Pollution in MSMEs through hotspot approach in Delhi NCR”. Mr. Sushil Kumar, the Program Assistant, CAA presented the approach, methodology and key findings from the study including the resulting health issues. He shared the basis of selection of industrial hotspots and industries within it, the air quality index of the selected hotspots, and an overview of the government schemes and programs for MSMEs. The strategy for effectively reducing air pollution in the MSME areas through a collaborative approach of engaging small and medium industries, local urban bodies, and Delhi's environment and pollution departments are also discussed.

The presentation was followed by a panel discussion moderated by Dr Archana Walia. The panelists included Dr. B. Sengupta, Ex- Member secretary, CPCB, Mr. Milind Deore, Director, BEE, Prof. Mukesh Sharma, IIT Kanpur, Dr. Suresh Jain, Professor, IIT Delhi, Dr. Mukesh Khare, Professor, IIT Delhi, Mr. Sanjay Dube, president & CEO, IIEC

Technical Session 2

The second session started with the presentation on “Air Pollution Control Solutions for MSMEs in Delhi for Non-point and Process Emissions” by Prof. Mukesh Sharma, IIT Kanpur. His presentation covered the various processes from different manufacturing units. He discussed the pollution level from diverse points and non-point sources in the identified hotspots in Delhi. He recommended a set of control technologies to reduce the emission levels in the study area. Policy-based suggestions were also discussed to improve the environmental and social standards of the MSME industries.

This was followed by a panel discussion moderated by Prof. Mukesh Sharma. The panelists included Dr. Madhulika Bhati, Principal Scientist, CSIR-NISTADS, Mr. Mukesh Gulati, Executive Director, Foundation for MSME Clusters, Dr. Sumit Sharma, Program Officer, UNEP and Dr. Anju Goel, Professor, Teri.





Key points and recommendations from the panel discussions

Several recommendations and suggestions emerged related to technology, policy, financing as well as general ones. The key points have been summarized below:

- Improve the infrastructure and the civic conditions like road and drainage systems in the industrial areas.
- Regulation of the unregistered industries in different MSME areas .
- The research agencies must monitor emissions from non-fuel sources like dry cleaning, stone crushers, and road dust.
- Awareness and capacity-building programs at both the official and public levels. As the legal requirements are changing rapidly, the industry is not aware or updated.
- A sector-specific approach to identifying the pollution sources and providing accurate solutions.
- Moving towards clean energy by switching fuel should be the way forward. The use of solar energy can be an alternating solution.
- Need for proper infrastructure for the alternating fuel sources. The usage of shared energy sources or common facilities for fuels, common Boilers, generators.

- Upgradation of the existing machinery and technologies to improve efficiency and productivity and reduce emissions is also proposed.
- The enhancement of the Public-Private Partnership and improvement of the supply chain system is the significant.
- The benefits of existing financial schemes to the MSME owners and workers should be communicated more effectively.
- Implementing the existing policies more effectively.
- Creating MSME hubs with proper green cover, data sharing with a major role of utilities.
- Guidelines for accounting social responsibilities of the MSME sectors.
- Moving towards an airshed based and integrated approach.
- Safety norms to be followed to minimize health impacts.

Concluding Remarks and Future Scope

Dr. Tanmoy Mukherjee, AQ Specialist, Clean Air Asia provided a vote of thanks and concluding remarks. He emphasized the need to continue with the work and provided a few pointers for the future scope of work such as the evaluation of the impact of changing fuel sources (to PNG as per government norms) on future emission levels. Having conducted a pilot analysis using CPCB PM2.5 data for just ten months of 2022, shows that more than 60% of the days exceed the NAAQS standard. The maximum PM2.5 values reported are higher than 500 $\mu\text{g m}^{-3}$ for all the stations. Thus, it is evident that even after implementing the government mandates, pollution levels are still higher in these areas.

Multiple factors like the meteorological parameters and long-range transport of pollutants impact the air quality level of Delhi. Thus, it is crucial to identify the source of the pollutants in these MSME areas. It is also vital to qualify the non-point emissions over these locations. Therefore, a detailed study (indicating the past, present, and future scenario of the air quality level of these MSME hotspots) based on observation and satellite data could be a way forward. On the other hand, a series of awareness programs among the workers, community, and other stakeholders to spread knowledge about the impact of bad air quality, non-point emissions, and prevention measures suggested in the current study can lead to better social implications in the future.

PROFILE OF THE PANELISTS:

Dr. B Sengupta: Dr. B. Sengupta worked in Central Pollution Control Board (CPCB), Ministry of Environment and Forests, Govt. of India for more than 30 years in a different capacity. He was Member Secretary of CPCB for more than 10 years (1998-2008).

He has vast experience in the field of Air and Water Quality Management, Industrial Pollution Control, Standard Development (Ambient and Source specific), Environmental Impact Assessment Studies, Fuel Quality improvements, Clean Technology, Waste Minimization, Pollution Prevention issues, Pollution Control in SSI units, Climate Change, Hazardous and Solid Waste Management.

Mr. Milind Deore: Milind Deore as Director is leading team at Bureau of Energy Efficiency (BEE), Ministry of Power, Government of India for the Implementation of the Energy Conservation Act, Policies & Schemes of Govt. of India into industries & commercial sectors. He has developed and also been involved in the implementation of various National level energy efficiency and demand side management schemes & programs like Perform, Achieve & Trade (PAT) Scheme for industrial sectors, Bachat Lamp Yojana (BLY) for the domestic sector, Agriculture DSM, Energy Efficiency for SMEs etc.

Prof. Mukesh Sharma: Prof. Mukesh Sharma, a Fellow of National Academy Engineering is Professor of Civil Engineering at IIT Kanpur, India. He obtained Ph.D. Degree from University of Waterloo, Waterloo, Canada in 1994.

His areas of research: air quality monitoring, modelling and management, exposure assessment and simulations.

Prof. Suresh Jain: Prof. Suresh Jain is Professor in Transportation Research and Injury Prevention Centre at Indian Institute of Technology Delhi (IIT Delhi). He had received his Ph.D. degree in air quality modelling for urban transport emissions from Civil Engineering Department.

Prof. Jain has more than 18 years of experience in research, teaching, and consultancy experience in the area of Environmental Science and Engineering.

Prof. Mukesh Khare: Prof. Mukesh Khare received his Ph.D. in Faculty of Engineering (Specialized in Air Quality) from the Newcastle University.

Prof. Khare is a Chartered Engineer and has managed a range of environmental projects throughout his professional career. With a specialization in air quality modelling, his experience has covered research and development studies, teaching, consulting, modelling and editorial activities.

Mr. Sanjay Dubey: Mr. Sanjay Dubey is the President and CEO of IIEC with over 34 years of experience working in clean energy, energy efficiency, clean air and clean transport sectors.

Mr. Dubey has strong experience in the planning, management, and implementation of large national and regional programs.

Dr. Madhulika Bhati, CSIR- NISTADS: Dr. Madhulika Bhati is a principal scientist at CSIR-National Institute of Science Communication and Policy Research. She works at the intersection

of science, technology, and society. She is focused on air pollution and science and technology interventions, renewable energy and its economic and environmental impacts. In these areas, she has published several national and international papers, reports, and policy bulletins.

Mr. Mukesh Gulati: Mr. Mukesh Gulati is the Executive Director of the Foundation for MSME Clusters (FMC), located in India. He is an internationally acknowledged MSME development expert with focus on clusters, value chains and business development services.

Dr. Anju Goel: Dr Anju Goel is researcher interested in environmental Research, social science, statistical methods, and data-driven policymaking. She is skilled in the design and implementation of multi-scale projects from initial conception to delivery. Dr. Goel Currently working at Centre for Environmental Studies, TERI on developing air quality management plan backed by scientific studies, development of monitoring reporting and verification frameworks for AQMP, sensitizing different stakeholders about air pollution and assessing co-benefits of climate policies in terms of reducing air pollution.

Dr. Sumit Sharma: Dr. Sumit Sharma graduated from Delhi College of Engineering and received his PhD degree from Indian Institute of Technology-Delhi. He is currently working as a Program Officer in UNEP. His scientific work included assessments based on air quality monitoring, emission inventorisation, urban and regional scale air quality modelling, and air quality management planning. Dr. Sharma has worked on pollution source apportionment studies carried out for different cities/regions in India to address regional and urban scale particulate and ozone pollution.