

EVENT REPORT
ON
INTERNATIONAL DAY FOR THE PRESERVATION OF THE OZONE LAYER
(HOPE-2025: HEALING OZONE PROTECTING EARTH)

Department of Environmental Science and Engineering
Delhi Technological University
September 16, 2025
Theme: "From Science to Global Action"

Executive Summary

Delhi Technological University successfully hosted a landmark environmental policy event on International Ozone Day (HOPE-2025), bringing together distinguished scientists, policy experts, and academic leaders to address critical challenges in air quality monitoring and ozone protection. The event emphasized the urgent need for enhanced Volatile Organic Compounds (VOC) monitoring networks and strengthened climate action to protect both stratospheric ozone and public health from ground-level ozone pollution.

Event Overview

Distinguished Speakers and Participants

The event featured two keynote presentations from leading environmental experts:

Dr. S.K. Tyagi, Former Additional Director of Central Pollution Control Board (CPCB) and currently CEO of SQTI, delivered a comprehensive technical presentation on "Preservation of the Ozone Layer and Ground-Level Ozone & Precursors: Policy, Monitoring & Control Overview."

Dr. Pratima Singh, Director of Air Pollution and Waste Management at iFOREST (International Forum for Environment, Sustainability & Technology), presented on "Ozone, SDGs, and Climate Policy: Building a Sustainable Future."

The event was attended by senior officials from Delhi Technological University, including Prof. Prateek Sharma (Vice Chancellor), Prof. Narendra Kumar (Registrar), Dr. Geeta Singh (Head of Environmental Science & Engineering Department), Dr. Rajeev Kumar Mishra (Convenor), and other faculty members, alongside environmental experts, policy researchers, and students from various institutions.

University Leadership Engagement

Prof. Prateek Sharma, Vice Chancellor DTU, and Prof. Narendra Kumar, Registrar DTU, actively engaged with the speakers on technical aspects of pollution monitoring and policy implementation. The university leadership emphasized the importance of academic-industry collaboration in developing indigenous monitoring capabilities and training the next generation of environmental scientists, highlighting DTU's commitment to addressing critical environmental challenges through research and innovation.

Key Technical Findings and Recommendations

Critical Monitoring Gaps Identified

Dr. Tyagi's presentation revealed alarming statistics about ground-level ozone pollution in Indian cities. Delhi recorded 75 days of hourly ozone standard breaches in 2024, while Mumbai experienced 10 such days. Despite ₹11,211 crore being allocated under the National Clean Air Programme (NCAP) during 2019-2025, only 68% has been utilized effectively, with critical components like capacity building and monitoring receiving merely 4% of the allocation.

Five-Point National Action Plan

The event highlighted high-priority recommendations for nationwide implementation:

1. **Mandatory Ozone and NO_x Monitoring:** Implementation at all National Ambient Air Quality Monitoring Programme (NAMP) stations
2. **National VOC Speciation Network:** Establishment for comprehensive precursor tracking across major urban centers
3. **Industrial LDAR Programs:** Implementation of Leak Detection and Repair programs in high-VOC industrial sectors
4. **NCAP Framework Enhancement:** Addition of ozone precursor targets to the existing National Clean Air Programme
5. **Agricultural Impact Assessment:** Commission of nationwide crop impact assessment to quantify losses from ozone exposure

Indigenous Analytical Methods

The event showcased breakthrough developments in indigenous analytical capabilities. Dr. Tyagi demonstrated the newly released BIS 5182 standards for VOC analysis, with Part 27 (released November 2024) and Part 28 (released March 2025) providing standardized protocols for both passive and active sampling using Thermal Desorption Gas Chromatography-Mass Spectrometry (TD-GC-MS). These methods eliminate the need for toxic solvents, provide automated workflows, and significantly improve analytical sensitivity for trace-level pollutants.

Climate-Ozone Policy Integration

Montreal Protocol Success Story

Dr. Pratima Singh emphasized the Montreal Protocol as humanity's most successful environmental treaty, achieving universal ratification by all 198 UN member countries. The phasing out of ozone-depleting substances has already prevented up to 0.5°C of global warming, with the Kigali Amendment's implementation expected to prevent an additional 0.4°C of global warming by 2100.

Sustainable Development Goals Linkage

The presentations outlined how ozone protection simultaneously advances multiple Sustainable Development Goals (SDGs), particularly in areas of climate action (SDG 13), good health and well-being (SDG 3), and life on land (SDG 15). The Montreal Protocol has

contributed more to climate protection than any other environmental treaty, preventing warming equivalent to delaying climate change by 7-12 years.

Regional Pollution Challenge

A critical finding presented during the event revealed that approximately 85% of harmful PM2.5 particles in Indian cities originate from sources outside city boundaries, including biomass burning in rural areas, coal power plants, and highway vehicle emissions. Dr. Tyagi's analysis demonstrated that even if Delhi eliminated all local pollution sources, PM2.5 levels would only decrease from 98 to 63.7 micrograms per cubic meter – still significantly above the national standard of 40 $\mu\text{g}/\text{m}^3$.

Future Initiatives and Capacity Building

Upcoming Technical Workshops

The event concluded with announcements of comprehensive capacity building initiatives for 2025:

- Technical workshops scheduled for Bengaluru, Hyderabad, Gandhinagar, and Chandigarh, focusing on VOC/SVOC monitoring and odorous compound assessment
- A specialized one-day technical workshop on TD-GC-MS for VOCs measurement scheduled for September 17, 2025

Youth Engagement and Innovation

Dr. Singh emphasized the critical role of students and young professionals in driving environmental innovation, stating, "As future leaders, scientists, and citizens, your generation has tremendous power to build upon the Montreal Protocol's success and create even more ambitious environmental solutions." The speakers called for enhanced policy advocacy, scientific innovation in sustainable cooling technologies, and lifestyle choices supporting environmental responsibility.

Conclusions and Policy Implications

The International Ozone Day event at Delhi Technological University successfully demonstrated the interconnected nature of ozone protection and climate action while highlighting critical gaps in India's current air quality monitoring framework. The technical presentations provided a clear roadmap for enhancing VOC monitoring capabilities through indigenous methods and establishing comprehensive precursor tracking networks.

The event's recommendations are expected to influence national policy discussions on air quality management and climate action integration, with follow-up actions planned through the participating institutions. The emphasis on science-to-policy translation, demonstrated through the event's theme "From Science to Global Action," provides a model for addressing complex environmental challenges through integrated approaches combining technical innovation, policy reform, and international cooperation.

The success of the Montreal Protocol, as highlighted during the event, serves as proof that when humanity unites behind science-based solutions, even the most daunting planetary challenges can be resolved, providing optimism and a clear pathway for addressing current air quality and climate challenges in India and globally.

Feedback

The audience and participants of HOPE-2025: Healing Ozone Protecting Earth expressed immense appreciation for the awareness program, highlighting its relevance and timely focus on environmental protection. Many participants shared that the sessions were not only informative but also engaging, with discussions bridging scientific knowledge, policy perspectives, and community action. The blend of expert talks, interactive panels, and practical insights inspired attendees to think about their own role in ozone protection and broader sustainability. They also conveyed a strong interest in having more such events in the future, especially focusing on broader themes of sustainability, climate action, and green technologies.

