

Vehicular pollution shoots up ozone levels in Delhi-NCR

Thursday, 20 June 2019 | Sapna Singh | NEW DELHI

Ozone pollution has escalated in Delhi's air as per the findings of Centre for Science and Environment (CSE).

Ozone, the deadly gas, has emerged as a dominant pollutant along with the Particulate Matter (PM) on at least 28 days during the summer this year as compared to only 17 days in 2018 summer, which is much higher than the standards.

Significantly, levels of ozone gas have been measured on a higher side in National Capital Region (NCR).

The analysis has found that among all NCR towns, Faridabad is on top with 80 per cent of days when ozone was exceeding the standards, followed by Ghaziabad with 67 per cent and Gurugram with 21 per cent days.

Interestingly, Noida shows much less impact with only 1 per cent of the days exceeding the standards.

Revealing the research findings, CSE in its report highlighted the places where ozone was measured high. Marking areas like Siri Fort, Najafgarh, and some areas of NCR — Faridabad, Ghaziabad. CSE mentioned that levels of ozone in these areas have crossed the permissible limit to very high. "The NCR region experienced the biggest spikes," said CSE.

Ozone is not directly emitted from any source, but is formed from reaction between gases in the air under the influence of sunlight and high temperature. "Controlling emissions from vehicles and industry is the solution," said CSE.

The analysis concluded this summer, when the Capital witnessed searing temperatures; average ozone levels exceeded the prescribed standard on 16 per cent of the days overall.

CSE Executive director (research and advocacy) Anumita Roychowdhury said this is a matter of serious concern as ozone is a highly reactive gas and can have immediate adverse effect on those suffering from asthma and respiratory conditions.

Highlighting special reason for tracking ozone during summer, Roychowdhury said this is mainly because ozone is not directly emitted from any source. "Other gases such as nitrogen oxide and volatile organic compounds that are emitted from combustion sources like vehicles, industry or power plants, react in the air under the influence of sunlight and temperature to form ozone," said Roychowdhury.

"Summer months, with their high sunshine and high ambient temperatures, increase our vulnerability to ozone impacts. It seems the intense heat wave experienced this summer may have influenced this trend in the region, which is already suffering from severe air pollution," she added further.

Citing ozone gas reading on CPCB index, environmentalist said, "If this trend continues and worsens, the Graded Response Action Plan will also have to initiate action to address the precursor gases that form ozone -- NOx, hydrocarbons etc -- and crack down on vehicles and industry."

However, there are some areas in Delhi where days of ozone exceeding recorded less. In locations like Aya Nagar, Karni Singh Shooting Range, IGI airport, Lodhi Road, Mandir Marg, Pusa Road, Patparganj, North Campus, ITO and Anand Vihar less than 5 per cent of the days have experienced it.

While areas like ITO, IGI airports, Anand Vihar marked under red zone in terms of pollution though these areas recorded less days of exceeding ozone.

"This is a complex atmospheric chemistry and needs investigation, point out CSE researchers and sometimes in highly polluted locations that may generate ozone, levels can dip due to further reaction with gases like NOx. Ozone also drifts to other places and builds up in low polluted areas," CSE experts said.

“Even as Delhi is battling serious particulate pollution, newer rogues are beginning to raise their ugly heads to add to the health risk. The number of days exceeding or crossing the standard have certainly gone up this summer. It can be a serious health crisis if the short duration levels begin to increase hereafter,” Roychaudhury said.

Highlights:

Peak levels remain high during Delhi’s summer

The highest concentration in 2019 went up to 122 microgram per cu m, which is 1.22 times higher than the eight-hour average standard.

During 2018, it had gone up to 106 microgram per cu m which is 1.1 times higher than the standard.

Monthly variation is stark in Delhi

In the month of May 2019, close to 20 per cent of the days exceeded the standards compared to 3 per cent in May 2018.

During June 2018 not a single day had violated the ozone standard, 27 per cent of the days in June 2019 crossed the limit.

Only April 2018 had comparatively higher share of days violating standards (10 per cent) compared to 7 per cent during April 2019.

Deadly hotspots in Delhi

While the average level in Delhi has exceeded the standard on 16 per cent of days this summer, the share of days exceeding the standard in several residential and industrial locations have been significantly higher.

Prominent residential areas show more exceedance:

Siri Fort (76 per cent of the days in the period under analysis), Sri Aurobindo Marg (87 per cent), R K Puram (53 per cent), JLN Stadium (71 per cent), Dwarka Sector 8 (68 per cent) Rohini (63 per cent). The industrial and institutional areas are in an equally bad situation: Bawana (78 per cent of the days in the period under analysis), Jahangirpuri (67 per cent), Najafgarh (92 per cent), Narela (80 per cent).

Delhi requires immediate steps to:

Keep real world emissions from vehicles low and phase in electric mobility.

Scale up - massively -- convenient, affordable and reliable public transport systems.

Initiate more pedestrian- and cycling-friendly, compact and accessible development.

Introduce city-wide parking management and pricing and low emissions zones to restrain use of personal vehicles.

Aggressively control industrial emissions.