

Delhi will use 3 new devices to battle pollution this winter

CPCB will put air filters on buses, purifiers at traffic junctions and mix chemicals with cement.

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A wind augmentation and air purifying unit that was installed in Mumbai. The ones to be installed in Delhi are an advanced version, which can clean 90% of the pollutants.(HT ARCHIVE)

Installing huge air purifying machines at polluted traffic intersections, mounting air filters on buses and mixing chemicals with cement to suppress construction dust — Delhi will try three brand new innovations this winter to improve its air quality.

“The primary pollutants in Delhi’s air are particulate matters PM10 and PM2.5. Other pollutants such as SO₂, NO₂ and ozone mostly remain within the prescribed limits. The projects that would be undertaken on an experimental basis are mostly aimed at reducing PM levels,” a senior Central Pollution Control Board (CPCB) official said.

The new devices and techniques were awarded to various research organisations after being approved by the department of science and technology. The environment protection charge, collected from polluting vehicles (SUVs with engine capacity of 2000cc or more) as per the Supreme Court orders, will fund these devices. The CPCB has a corpus of around ₹43 crore to fund such projects.

In winter, air quality in Delhi dips to abysmal levels and the graded response action plan (GRAP) — measures to control ‘very poor’ and ‘severe’ categories of air pollution — comes into play. Last year, the Delhi government had tried out ‘anti-smog guns’, which failed to improve air quality.

Pariyayatra

These are air filter units that can be mounted on the roof of any vehicle — buses, cars, auto-rickshaws and even two-wheelers. As the vehicle moves, air passes through the holes in front of the device. The filters fitted inside the unit trap the pollutants. What comes out is clean air.

At least 30 such devices will be fitted on the roofs of buses in Delhi this winter on a pilot basis. The device has been developed by Faridabad-based research organisation Manav Rachna International Institute of Research and Studies.

“During experiments, we found the filters can trap up to 98% of the particulate matter,” said BS Gill, a professor who led the research team.

WAYU

The wind augmentation and air purifying unit (WAYU) has been developed by IIT Bombay and National Environmental Engineering Research Institute (NEERI).

“WAYU cleans air in three ways. It removes particulate matter. Second, it breaks down toxic pollutants such as carbon monoxide and volatile organic compound by oxidation, producing harmless carbon dioxide. Third, as the device sucks in air, it creates turbulence in the air and helps in further dispersal of pollutants,” said Rakesh Kumar, director of NEERI, a Nagpur-based research organisation.

At least 54 such units would be placed at five traffic intersections in Delhi — ITO, Anand Vihar, Shadipur, Bhikaji Cama and Wazirpur — to check their effectiveness. “WAYU devices were earlier installed in Mumbai. But the units to be installed in Delhi are an advanced version, which can clean up to 90% of the pollutants,” said a NEERI scientist.

Dust suppressants

Dust from construction and demolition sites contributes to at least 4% of PM10 and two per cent of PM2.5 load in Delhi’s air. A chemical, magnesium chloride, is often used to suppress dust.

“We would take up a project in which magnesium chloride would be added to cement and dust to suppress them. This way the dust could be suppressed by at least 8-10 hours,” said P Gargava, member secretary of CPCB. This new technique would be tried out in at least three construction and demolition sites in Delhi.

The CPCB has awarded at least 17 projects to various organisations under the EPC funds, all of which are aimed at reducing pollution in Delhi.