

Sl. No.	State/Union Territory	Number of Authorized Dismantler/Recycler	State-wise Capacity (MTPA)
1.	Andhra Pradesh	01	480
2.	Chhattisgarh	01	600
3.	Gujarat	16	49053
4.	Goa	01	103
5.	Haryana	28	87378
6.	Himachal Pradesh	01	1000
7.	Jammu and Kashmir	01	165
8.	Karnataka	71	52722
9.	Maharashtra	75	78179
10.	Madhya Pradesh	02	9600
11.	Odisha	03	3680
12.	Punjab	03	4850
13.	Rajasthan	26	90769
14.	Tamil Nadu	24	97271
15.	Telangana	11	41493
16.	Uttar Pradesh	41	243627
17.	Uttarakhand	04	19250
18.	West Bengal	03	1860
TOTAL		312	7,82,080

Study for assessment of air pollution in North India

2425. PROF. M. V. RAJEEV GOWDA: Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

(a) whether any Government sponsored study has been carried out to assess the causes of severe air pollution in North India, including the National Capital Region (NCR);

(b) if so, the findings and details thereof including amount spent and persons involved;

(c) whether Government has taken any direct steps to improve the air quality in the afore mentioned regions;

(d) if so, the details thereof; and

(e) the details of support given, including finance, to State Governments of Delhi, Uttar Pradesh, Haryana and Punjab for mitigating air pollution?

THE MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE (SHRI BABUL SUPRIYO): (a) and (b) Several studies have been conducted by the Government to identify major air pollution sources and their contributions to ambient air pollution levels in the country including Northern India and the National Capital Region. Air pollution in the gangetic plains Of Northern India is a combination of various meteorological factors and is peculiar to this area owing to a trough profile of the gangetic plains, presence of alluvial soil and wind disturbances from the Himalayan region etc.

The major sources of air pollution due to particulate matter are industries, road dust suspension, construction, transport, biomass/garbage burning etc. As per study conducted by TERIARAI (August, 2018 report), sub-sectoral contribution to PM10 in Delhi in the winters of 2017 is as under:

Industry - 27%, Dust (Soil, Road and Construction) - 25%, Transport - 24% Residential - 9%, Agriculture Burning - 4% and Others-10%.

(c) and (d) Central Government has taken a number of regulatory measures for prevention, control and abatement of air pollution. A Comprehensive Air Plan (CAP) for Delhi and NCR has been developed identifying action and implementing agencies. The Central Government has notified a Graded Response Action Plan (GRAP) for Delhi and NCR for different levels of pollution. The nature, scope and rigor of measures to be taken are linked to levels of pollution viz. severe + or emergency, severe, very poor, moderate to poor and moderate, after due consideration by authorities concerned.

Also, Ministry of Environment, Forest and Climate Change has launched National Clean Air Programme (NCAP) in January, 2019 to tackle the problem of air pollution in

a comprehensive manner with a target to achieve 20 to 30 % reduction in PM_{10} and $PM_{2.5}$ /concentrations by 2024, with 2017 as base year. The plan includes 102 non-attainment cities, across 23 States and Union Territories, on the basis of their ambient air quality data between 2011 and 2015 which includes cities of the States of Rajasthan, Uttar Pradesh, Punjab and Ghaziabad and Noida of Delhi NCR. Details of other initiatives taken by the Government are given in the Statement (*See below*).

(e) During 2019-20, for implementation of city specific action plans under the NCAP an amount of ₹ 30.72 crore has been released to 13 cities of Uttar Pradesh and ₹ 12.48 crore to 09 cities of Punjab. The funds have been released for Installation and commissioning of Continuous Ambient Air Quality Monitoring Stations (CAAQMS), Purchase of Mechanical street sweepers and water sprinklers, Source Apportionment studies, Greening and paving, Public awareness, Capacity building and Installation of manual monitoring stations. In FY 2018-19, ₹90.00 lakh was released for expansion of manual ambient air quality monitoring stations under the NCAP. Funding for air pollution abatement and control in Delhi is being specifically managed through the Environmental Protection Charges (EPC) levied on sale of diesel vehicles with engine capacity of 2000 CC and above. Up till January, 2020, funds to the tune of approximately ₹ 174.37 crore has been generated under the said EPC.

In order to control stubble burning, a new Central Sector Scheme on 'Promotion of Agricultural Mechanization for In-Situ Management of Crop Residue in the States of Punjab, Haryana, Uttar Pradesh and NCT of Delhi' is being administered by Ministry of Agriculture and Farmers' Welfare, with outgo of Central funds of ₹ 1178.47 crore during 2018-2020. This scheme is being continued in 2020-21, with a tentative budgetary provision of ₹ 600 crores (100% Central grants).

Statement

Initiatives taken by the Government for the abatement and control of air pollution

Vehicular Emissions

- BS-IV standards adopted from 1st April, 2017. Leapfrogging from BS-IV to BS-VI fuel standards since 1st April, 2018 in NCT of Delhi, in NCR since October, 2019 and by 1st April, 2020 in the rest of the country for both fuel as well as vehicles.

About Rs 60000 crore was spent on switching over to BS VI fuels.

- 80% reduction in particulate matter emissions in BS IV heavy duty diesel vehicles with respect to BS III and further 50 % reduction in PM due to BS VI standards with respect to BS IV.
- Operationalization of Eastern Peripheral Expressway & Western Peripheral Expressway in 2018 at a cost of about Rs 17000 crore to divert non-destined traffic from Delhi. About 60000 vehicles are diverted on these roads daily.
- Introduction of cleaner / alternate fuels like gaseous fuel (CNG, LPG etc.), ethanol blending in petrol.
- In Delhi, about 500 new CNG stations have been opened during the last 5 years.
- Use of RFID tags have been made mandatory for commercial vehicles entering Delhi. This has resulted in decrease in traffic congestion at Toll collection/ Environmental Compensation Charge collection centres.
- Network of metro has expanded in Delhi NCR with Total length of 377 km and 274 stations at a cost of about Rs 70000 crore. It is used by over 30 lakh people every day and due to this about 4 lakh vehicles are avoided on roads, thereby reducing pollution considerably.
- To promote electric vehicles, Faster Adoption and Manufacturing of Electric Vehicles (FAME -2) scheme has been rolled out with an outlay of Rs 10000 crore for 3 years. DHI has sanctioned 300 buses for Delhi and 100 buses for DMRC under this scheme so far.
- Permit requirement for electric vehicles has been exempted.
- Promotion of public transport and improvements in roads and building of more bridges to ease congestion on roads.

Industrial Emissions

- Stringent emission norms for Coal based Thermal Power Plants (TPPs).
- Badarpur thermal power plant has been closed from 15th October, 2018.
- Pet coke and furnace oil have been banned as fuel in Delhi and NCR States. Import of pet coke to be done by industries using it as a feedstock/in process across the country.

- Out of about 4700 industrial units in Delhi - NCR, about 2600 units have shifted to PNG.
- Installation of on-line continuous (24x7) monitoring devices in all red category industries in Delhi and NCR. 512 industrial units in Delhi- NCR have installed it out of about 603 units.
- Revision of emission standards for industrial sectors from time to time. SO_x and NO_x standards for boilers have been introduced.
- About 2800 brick kilns have been shifted to zig-zag technology in Delhi and NCR. Only brick kilns with zigzag technology can operate in Delhi and NCR.

Crop Residue Management

- In order to prevent stubble burning, a new Central Sector Scheme on 'Promotion of Agricultural Mechanization for *In-Situ* Management of Crop Residue in the States of Punjab, Haryana, Uttar Pradesh and NCT of Delhi' for the period from 2018-19 to 2019-20 is being implemented by Ministry of Agriculture and Farmers' Welfare with the Total outgo from the Central funds of ` 1178.47 crore.
- The State Governments during 2018-19 have supplied more than 1,00,000 machines to the individual farmers and Custom Hiring Centres on subsidy for *in-situ* management of crop residue.
- A reduction of about 18.8% and 31% in active fire incidents in Punjab, Haryana and Uttar Pradesh has been recorded in 2019 over the figures for 2018 and 2017, respectively.

Solid Waste

- Notifications of 6 waste management rules covering solid waste, plastic waste, e-waste, bio-medical waste, C&D waste and hazardous wastes issued in 2016.
- Ban on burning of biomass/garbage.
- 3 Waste-to-Energy (W-t-E) plants are currently operational in Delhi with a Total capacity of 5250 Ton Per Day (TPD) generating 59 MW.
- A 200 TPD waste to compost plant is also operational in Delhi.

- Bioremediation and biomining of landfill sites have also been undertaken in Delhi.
- Number of mechanised road sweeping machines has been increased significantly and presently 58 machines are deployed for cleaning of roads in Delhi.

Construction and Demolition (C&D) Activities

- SoPs and notification regarding dust mitigation measures for construction and demolition activities have been issued.
- Three C&D waste processing plants with 2650 TPD capacity are operational in Delhi. About 3.4 lakh ton of end products have been used till 15th February, 2020.

Monitoring

- Notification of National Ambient Air Quality Standards in 2009 and launch of National Air Quality Index in 2015.
- Ambient air quality is monitored at 793 locations covering 344 cities in 28 States and 7 Union Territories (UTs) across the country under National Air Quality Monitoring Programme (NAMP). Under NAMP, PM_{2.5} is monitored at 274 locations covering 132 cities.
- Implementation of Air Quality Early Warning System for Delhi in October, 2018 in association with Ministry of Earth Sciences (MoES). The system provides timely alerts to implementing agencies for facilitating proactive actions.

Technical Interventions

- Pilot projects were deployed in Delhi for evaluation of air pollution mitigation technologies:
 - Ambient air purification through Wind Augmentation and Purification Units (WAYUs) for pollution abatement at traffic intersections and Pariyayantra filtration units on 30 buses was evaluated. Though minimal improvement in ambient air quality was observed, however, WAYU may be explored for providing improved air quality at localised levels.
 - Application of dust suppressant -The effectiveness of the dust suppressant lasted up to 6 hours after which it had to be reapplied. About 30% reduction

in dust concentrations was observed up to 6 hours Advisory has been issued to State Boards to use dust suppressant.

- The Project Appraisal and Approval Committee at CPCB constituted for utilization of Environment Protection Charge (EPC) Fund has in-principle approved the proposal for installation of one smog tower at Anand Vihar in Delhi.
- Research projects are being carried out by CPCB in collaboration with premier institutions like IIT, NEERI, etc. under Environment Protection Charge (EPC) funds.
- Lack of certification system of ambient air quality monitoring instruments in India was identified. A certification scheme has been established in collaboration with National Physical Laboratory (NPL).
- Regular engagements with technical bodies and experts have been undertaken for knowledge sharing.

Long-Term Ecological Observatories project

2426. SHRI JOSE K. MANI: Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) the progress under the Long Term Ecological Observatories project since 2015;
- (b) the number of projects approved under the National Adaptation Fund on Climate Change since 2015; and
- (c) the number of the above approved projects which focuses on awareness/information dissemination?

THE MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE (SHRI BABUL SUPRIYO): (a) The Ministry of Environment Forest and Climate Change has launched the Long Term Ecological Observatories (LTEO) Programme, which is a multi-institutional, multi-disciplinary project led by the Indian Institute of Science, Bengaluru. The main goal is to pick up signals of climate change impacts on biodiversity across the country. The project is to contribute substantially to regional capacity building in the science of climate change and biodiversity. First phase, over 5 years, include monitoring a range of themes and