THE MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE (SHRI BABUL SUPRIYO): (a) and (b) The Central Government launched National Clean Air Programme (NCAP) as a long-term, time-bound, national level strategy aiming to reduce PM_{10} and $PM_{2.5}$ concentrations by 20% to 30% by 2024 keeping 2017 as the base year for the comparison of concentration.

City specific action plans have been prepared for ground implementation in all non-attainment cities. Steering, Monitoring and Implementation Committees have been constituted at central level and state level for overall guidance, policy formulation and implementation of NCAP. CPCB is assisting the State Governments in formulation, implementation and monitoring of the city specific action plans.

Strategic initiative to deal with air and water pollution

†1184. SHRI RAM NATH THAKUR: Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

(a) whether Government has recently launched any strategic initiative to deal with water and air pollution;

(b) if so, the details thereof; and

(c) the strategy prepared by Government to prevent the air pollution in view of the fact that a large number of people are suffering from respiratory diseases every year?

THE MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE (SHRI BABUL SUPRIYO): (a) to (c) 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 the timelines and implementing agencies for actions delineated. 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.

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†Original notice of the question was received in Hindi.

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 targets to achieve 20 to 30% reduction in PM_{10} and $PM_{2.5}$ concentrations by 2024 keeping 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 Delhi, Ghaziabad and Noida of Delhi NCR. Several initiatives taken by the Government are given in Statement (*See* below).

As per Continuous Ambient Air Quality Monitoring Stations (CAAQMS) data, there is general improvement in air quality of Delhi in 2019. The number of 'Good', 'Satisfactory', and 'Moderate' days has increased to 182 in 2019 as compared to 108 in 2016. In 2019, there has been reduction in average annual concentration of $PM_{2.5}$ by 19.3% and in average annual concentration of PM_{10} by 25.1% over 2016 in Delhi.

With regard to prevention and control of water pollution, several measures have been taken. These include-

- 60 action plans out of 61 Priority I and Priority II polluted river stretches pertaining to 18 States and 1 UT have been approved. These action plans cover aspects such as source control (municipal sewage management, industrial pollution control, waste management), river catchment/basin management (adoption of good irrigation practices, rainwater harvesting, utilization of treated sewage, ground water recharge aspects), flood plain zone protection and its management (setting up of bio-diversity parks, removal of encroachments, plantation on both sides of the river), Ecological/Environmental Flow (E-Flow), *in-situ* remediation of drains, septage management, water conservation in industries (ZLD), bio-mining of existing legacy dumpsites and watershed management etc. along with budget estimates and agencies responsible for implementation.

- Directions have been issued under Section 5 of the Environment (Protection) Act, 1986 regarding 'Treatment and Utilization of Sewage for Restoration of Water Quality of River' to Municipal Corporations of 46 Metropolitan cities and 20 State Capitals.

- Directions have been issued under Section 18 (I) (b) of the Water (Prevention and Control of Pollution) Act, 1974 to SPCBs/PCCs regarding treatment and utilization of sewage.

- The continuous water quality monitoring systems, Online Continuous Effluent Monitoring Systems (OCEMS), have been installed in industrial units in the country for getting real time information on the effluent quality to identify and take action against non-complying units.
- Setting up of monitoring network for assessment of water quality.
- Stipulation of general discharge standards and industry specific effluent discharge standards under Environment (Protection) Rules, 1986 so as to prevent pollution of the water bodies.
- Indicative guidelines for restoration of water bodies issued as a guidance to the stakeholders for ensuring restoration/rejuvenation of water bodies.
- Promotion of cleaner production processes, installation of Common Effluent Treatment Plants for cluster of Small Scale Industrial units.
- Issuance of directions for implementation of Zero Liquid Discharge in certain categories of highly polluting industries.

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 ₹ 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 and Western Peripheral Expressway in 2018 at a cost of about ₹ 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 ₹ 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 ₹ 10000 crore for 3 years. DH1 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. SOx and NOx 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 zig-zag 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 Feb 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, PM2.5 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.

Working of waste to energy plants

1185. SHRI JOSE K. MANI: Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

(a) waste to energy and compost plants set up during the last three years and number of defunct or under-utilised plants;

(b) whether adequate research has been taken into the causes of their under-utilisation;

(c) whether any study on the pollutants released from waste to energy and compost plants have been undertaken; and

(d) whether waste to energy plants can rival recycling and cut into its growth?

THE MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE (SHRI BABUL SUPRIYO): (a) and (b) There are 28 number of waste to energy plants and biogas plants set up in the Country. The list of these plants is given in the Statement (*See* below). The reason for underutilization is that the required quality of municipal waste is not supplied to the plant as source segregation of waste is still partially implemented.

(c) The study on pollution generated from the waste to energy and compost plants has been conducted by the CPCB. Based on the studies conducted, Ministry of Environment, Forest and Climate Change notified Solid Waste Management Rules, 2016 wherein standards for air pollutants, leachate generation, quality of compost, etc. have been prescribed for minimizing the pollution caused from waste to energy and compost plants.

(d) The recycling industry and its growth is not affected by Waste to energy plants.The criteria for using waste in the Waste to energy plants is that it should be non-recyclable waste having calorific value of 1500 kCal/kg which is to be used as refuse derived fuel or feedstock to waste to energy plants.