GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYASABHA
UNSTARRED QUESTION No. 2603
TO BE ANSWERED ON 23.03.2023

Targets achieved under National Clean Air Programme

2603. SHRI K.C. VENUGOPAL:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

(a) the details of targets related to air pollution reduction that have been achieved by Government under the National Clean Air Programme (NCAP);
(b) whether Government is aware of the report that ranks Mumbai second in the list of ten most polluted cities in the world; and
(c) the details of the steps taken by Government to control air pollution in the country?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI ASHWINI KUMAR CHOUBEY)

(a), (b), and(c):

Ministry of Environment, Forest and Climate Change (MoEFCC) launched National Clean Air Programme (NCAP) in January, 2019 with an aim to improve air quality in 131 cities (non-attainment cities and Million Plus Cities) in 24 States/UTs by engaging all stakeholders. The programme envisages to achieve reductions up to 40% or achievement of National Ambient Air Quality Standards for Particulate Matter10 (PM 10) concentrations by 2025-26.

82 cities under NCAP have been provided annual target of 3-15% reduction of PM10 levels to achieve overall reduction of air quality up to 40% PM10 levels, and 49 cities under XVth Finance Commission air quality grant, have been given an annual target of 15% reduction in annual average Particulate Matter10 (PM10) concentrations and improvement of good air quality days (Air Quality Index less than 200).Details of achievement by annual target by cities for FY 2021-22 are provided at **Annexure-I** for 82 cities and **Annexure-II** for 49 cities, respectively.

PM10 levels of Mumbai in the year 2021-22 is 102 $\mu g/m^3$and shows improvement of 34% with respect to base year 2017-18. The details of steps taken by Government to control air pollution in country enclosed in **Annexure-III**.

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Annexure-I

Details of air quality improvement targets and achievement of 82 cities under NCAP

Sl. No.	State	City/ Town	Annual Average PM_{10} Concentration ($\mu g/m^3$) FY 2019-20	Target and Actual reduction of PM_{10}Concentration ($\mu g/m^3$) FY 2021-22			Performance Factor (P)
				Unit Reduction		Value Achieved	
				Actual	Target	Actual	
1	Andhra Pradesh	Chitoor	52	4	2	48	200
2		Nellore	67	12	3	55	400
3		Ongole	60	7	3	53	233
4		Guntur	57	-1	3	58	0
5		Eluru	64	-1	3	65	0
6		Rajahmundry	59	-7	3	66	0
7		Srikakulam	65	-7	3	72	0
8		Vizianagaram	67	-4	3	71	0
9		Anantapur	60	11	3	49	367
10		Kurnool	56	-4	2	60	0
11		Kadapa	47	-7	2	54	0
12	Assam	Guwahati	106	10	6	96	167
13		Nagaon*	84	-13	5	97	0
14		Nalbari	75	-21	4	96	0
15		Sibsagar	55	10	0	45	100
16		Silchar*	44	-2	2	46	0
17	Bihar	Gaya	79	-14	4	93	0
18		Muzaffarpur*	124	-23	7	147	0
19	Chandigarh	Chandigarh	88	-4	5	92	0
20	Chhattisgarh	Korba*	47	-13	2	60	0
21	Delhi	Delhi	178	-6	14	184	0
22	Himachal Pradesh	Baddi	133	4	9	129	44
23		Kala Amb*	50	-58	0	108	0
24		Nalagarh*	103	29	7	74	414
25		Parwanoo	59	25	0	34	100
26		Damtal	50	-13	0	63	0
27		Paonta Sahib	78	-9	4	87	0
28		Sunder Nagar	68	22	3	46	733
29	Jammu & Kashmir	Jammu	146	-6	10	152	0
30		Srinagar	122	22	8	100	275
31	Karnataka	Devanagere	63	10	3	53	333
32		Gulburga	82	4	4	78	100
33		Hubli-Dharwad	76	11	4	65	275
34	Madhya Pradesh	Dewas	89	10	5	79	200
35		Sagar	72	0	4	72	0
36		Ujjain	88	-22	5	110	0
37	Maharashtra	Jalna	95	2	5	93	40
38		Chandrapur	90	-13	5	103	0

39		Amravati	88	22	5	66	440
40		Akola	67	4	3	63	133
41		Kolhapur	90	12	5	78	240
42		Latur	82	25	4	57	625
43		Sangli	67	10	3	57	335
44		Solapur	86	31	5	55	620
45		Jalgaon	56	-3	3	59	0
46	Meghalaya	Byrnihat	98	-85	6	183	0
47	Nagaland	Dimapur	83	5	4	78	125
48		Kohima	80	13	4	67	325
49	Orissa	Angul	95	-1	5	96	0
50		Talcher	107	30	6	77	500
51		Cuttack	102	14	6	88	233
52		Bhubaneswar	98	7	6	91	117
53		Rourkela	110	3	7	107	43
54		Kalinga Nagar	104	-9	6	113	0
55		Balasore	86	12	5	74	240
56	Punjab	Gobindgarh	127	12	8	115	150
57		Patiala	98	-5	6	103	0
58		Dera Bassi	99	2	6	97	33
59		Naya Nangal	99	34	6	65	567
60		Khanna	106	2	6	104	33
61		Jalandhar	118	-12	7	130	0
62		Pathankot/Dera Baba*	69	3	3	66	100
63	Rajasthan	Alwar	125	15	8	110	188
64		Udaipur	130	8	9	122	89
65	Tamil Nadu	Thoothukudi*	84	17	4	67	425
66	Telangana	Nalgonda*	59	-10	3	69	0
67		Sangareddy	85	5	5	80	100
68	Uttar Pradesh	Gorakhpur	280	138	31	142	445
69		Moradabad	247	96	25	151	384
70		Firozabad	205	69	18	136	383
71		Noida	203	12	18	191	67
72		Bareily*	183	16	14	167	114
73		Khurja*	214	77	23	137	335
74		Raebareli	152	38	11	114	345
75		Gajraula*	215	69	19	146	363
76		Anpara	171	17	13	154	131
77		Jhansi	102	-5	6	107	0
78	Uttarakhand	Kashipur	126	5	8	121	63
79		Rishikesh	135	24	9	111	267
80		Dehradun	166	29	13	137	223
81	West Bengal	Durgapur	129	-29	8	158	0
82		Haldia	71	-22	3	93	0

Annexure II

Details of air quality improvement targets and achievement of 49 cities under XV Finance Commission Air Quality Grant

Sl.No.	City name	Target	Achievement of PM10 during FY 2021-22	No. good days (AQI<200) achieved during FY 2021-22	Achievement of Performance Factor
1	Chennai	15% reduction in PM10 and improvement of 15 number of Good days having AQI<200	55	357	75
2	Trichy		44	264	75
3	Raipur		57	263	75
4	Nashik		57	363	75
5	Vijayawada		68	355	75
6	Madurai		53	256	75
7	Bengaluru		66	353	75
8	DurgBhilainagar		60	250	75
9	Aurangabad		82	355	75
10	Nagpur		67	349	75
11	Pune		82	355	75
12, 13	Hyderabad and Patancheru		87	363	75
14	Indore		98	355	75
15	Visakhapatnam		94	350	75
16, 17, 18	Kolkata, Barrackpore, Howrah		100	354	75
18	Jabalpur		110	352	75
20	Kota		107	351	75
21	Amritsar		116	351	75
22,23,24, 25,26	Mumbai, Navi Mumbai, Ulhasnagar, Badlapur and Thane		102	358	75
27	Vadodara		114	266	75
28	Surat		102	261	75
29	Ranchi		104	85	75
30	Ludhiana		144	350	75
31	Ahmedabad		108	346	75
32	Rajkot		111	267	75
33	Vasaivirar		45	35	75
34	Asansol		111	351	75
35	Jaipur		124	352	75
36	Gwalior		105	354	75
37	Jamshedpur		92	177	75
38	Bhopal		110	353	75
39	Agra		139	321	25

40	Jodhpur		154	334	25
41	Patna		142	321	75
42	Varanasi		92	178	100
43	Kanpur		156	221	25
44	Meerut		178	268	75
45	Dhanbad		236	139	25
46	Ghaziabad		205	229	25
47	Lucknow		144	258	100
48	Allahabad		122	356	100
49	Faridabad		192	254	25

Annexure-III

Measures taken by the Government to improve air quality

Government has taken several initiatives to improve air quality. The following actions were initiated by the Union Government:

A. Vehicular Emission

- **Leapfrogging from BS-IV to BS-VI** norms for fuel and vehicles since April, 2018 in NCT of Delhi and from 1st April, 2020 for rest of the country.
- Network of **metro rails for public transport** are enhanced and more cities are covered.
- Development of Expressway and Highways are also reducing the fuel consumption and pollution.
- **Eastern Peripheral Expressway & Western Peripheral Expressway** has been operationalized to divert non destined traffic from Delhi.
- **Ban on 10-year-old diesel vehicles** and 15-year-old vehicles in Delhi NCR.
- Environment protection charges (EPC) have been imposed on diesel vehicles with engine capacity of 2000cc and above in Delhi NCR.
- Introduction of cleaner/alternate fuels like CNG, LPG, ethanol blending in petrol.
- **Faster Adoption and Manufacturing of Electric Vehicles (FAME) -**2 schemes has been rolled out.
- 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.

B. Industrial Emissions

- Ban on use of pet coke and furnace oil in NCR, use of pet coke in processes in cement plants, lime kilns and calcium carbide manufacturing units.
- Stringent emission norms for Coal based Thermal Power Plants (TPPs).
- Shifting of industrial units to PNG/cleaner fuel in Delhi
- Installation of online continuous emission monitoring devices in highly polluting industries.
- Shifting of brick kilns in Delhi- NCR to zig-zag technology for reduction of pollution
- Notified emission standards for industrial boilers and five industrial sectors i.e. lime kiln, foundry, ceramic, glass and reheating furnaces, in the year 2018.

C. Air Pollution due to dust and burning of waste

- Notification of 8 waste management rules covering solid waste, plastic waste, e-waste, bio-medical waste, C&D waste, hazardous waste, battery waste and ash generated from thermal power plants.
- Setting up infrastructure such as waste processing plants.
- Extended Producer Responsibility (EPR) framework for plastic packaging, battery waste,tyre waste and e-waste have been implemented.
- Ban on burning of biomass/garbage.

D. Monitoring of Ambient Air Quality

- Expansion of air quality monitoring network of manual as well as continuous monitoring stations under programmes such as the National Air Monitoring Programme (NAMP).
- Initiation of pilot projects to assess alternate ambient monitoring technologies such as low-cost sensors and satellite-based monitoring.
- Public Grievances and Response System (PGRS) is developed under NCAP
- Emergency Response System (ERS) has been prepared in NCAP cities.
- Air quality monitoring cell has been constituted across the country in NCAP Cities.

- Implementation of Air Quality Early Warning System for Delhi, Kanpur and Lucknow. The system provides alerts for taking timely actions.
- Public Complaints regarding air pollution issues in Delhi NCR are taken through 'Sameer App', 'Emails' (Aircomplaints.cpcb@gov.in) and 'Social Media Networks' (Facebook and Twitter).
- At present ambient air quality is monitored through a network of 1208 manual and real time monitoring stations in 460 towns and cities across 28 states and 7 UTs in the country which is being further strengthened under NCAP.

E. Convergence of schemes of different Ministries/ departments in improving air quality in urban centers and across the country

Government has released several schemes and initiatives to improve air quality. States and Cities are leveraged to utilise resources through convergence of various schemes and programmes of Union and State Governments.

a) Ministry of Housing and Urban Affairs - Urban Swachh Bharat Mission 2.0

- Provision of Rs. 1,41,678 crores under SBM 2.0
- Period - 2021-2026
- Focused areas -
  - Source segregation of garbage,
  - Reduction in single-use plastic,
  - Effective management of C&D waste
  - Bio-remediation of all legacy dump sites
- Metro rail projects- augment public transport network in cities and thereby improvement in air quality

b) Ministry of Heavy Industries - Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles (FAME) Scheme (Phase II)

- Outlay - Rs. 10,000 Crore
- Period – Started in 2019
- Extended – for 2 years upto 31st March 2024
- Focused areas –
  - 7,090 e-Buses,
  - More than 15 lakh other categories of e-vehicles

c) Ministry of Petroleum and Natural Gas - Sustainable Alternative Towards Affordable Transportation (SATAT)

- Period – 2023-24
- Focused areas
  - Set up 5,000 Compressed Bio-Gas (CBG) production plants
  - CBG for use in automotive fuels

d) **Ministry of Petroleum and Natural Gas - Pradhan Mantri Ujjwala Yojana (PMUY)**

- Target of providing 8 crore LPG connections has been achieved
- To further increase the LPG coverage, additional 1 crore LPG connections will be released under PMUY.
- Focused areas
  - Reduced emissions from households due to cooking
- City Gas Distribution Network- adoption of cleaner fuels in the country

e) **Department of Agriculture & Farmer's Welfare - Promotion of Agricultural Mechanization for in-situ management of Crop Residue in the States of Punjab, Haryana, Uttar Pradesh and NCT of Delhi**

- Rs. 1,749.17 crores for crop residue management in the States of Punjab, Haryana, Uttar Pradesh and NCT of Delhi during FY 2018-19 to Fy 2020-21

- Rs 700 crores proposed for FY 2021-22
- Focused areas –
  - Machines for in-situ crop residue management are promoted
  - Subsidies are provided for establishment of Custom Hiring Centres.

f) **Ministry of Road Transport and Highways**

- Implementation of BSVI standards
- Ministry is also focusing on phasing out older vehicular through the vehicle scrapping policy

g) **Ministry of New and Renewable Energy - Schemes for renewable energy and MSW projects**

- Promotion of solar power
- Focused schemes on bio-gas/ bio-methanation plants for managing organic wastes, Waste to energy plants, etc.
- Provide financial incentives for renewable projects.

h) **Ministry of Environment Forest and Climate Change - National Mission for Green India**

- Increase forest/ tree cover on forest/ non-forest lands and improve quality of forest cover.
- Nagar Van Yojana

i) **Ministry of Power**

- Uninterrupted electric power supply
- Phasing out old coal based power plants
- Implementation of FGD in thermal power plants, etc.

F. Steps taken for improvement of air quality in Delhi-NCR

I. Constitution of Commission for Air Quality Improvement in National Capital Region and Adjoining Area (CAQM) through an Act passed by the Parliament of India on 13.08.2021, for the purpose of improving the Air Quality in National Capital Region and Adjoining Areas.

II. **Various actions taken by CAQM** is summarised as under:

Prevention and control of paddy stubble burning

- Framework for Prevention and control of paddy stubble burning prepared after extensive consultation with State Governments of Punjab, NCR States, GNCTD and Central Ministries, Knowledge institutions namely ICAR, IARI, ISRO etc.
- Major components of the Framework:
  - Plans to reduce generation of paddy straw (diversification to other crops and to other varieties).
  - *In-situ* Crop Residue Management
  - *Ex-situ* Crop Residue Management
  - Monitoring/Effective enforcement.
  - IEC activities.
- Statutory Directions to develop detailed state specific Action Plans based on the Framework. Plans finalized for Punjab, Haryana and Uttar Pradesh for 2022, based on the framework and also field learnings from the year 2021. The plans include a futuristic policy for ex-situ utilization of paddy straw.
- Statutory directions issued for mandatory co-firing of biomass with coal (@5-10%) in thermal power plants located within 300 kms. of Delhi.
- Statutory Directions issued for effective implementation of action plans for the prevention and control of Stubble Burning.

- Standard ISRO protocol developed for monitoring fire events. Statutory Directions issued for adoption of the protocol for recording of fire events using satellite data.
- Close monitoring by CAQM of the daily fire counts – regular follow up with the State Governments.
- Commission has evolved a comprehensive policy in July, 2022 towards short-term/ medium-term/ long-term actions to abate air pollution in the region across all contributing sectors.
- CPCB framed guidelines for promoting setting up of paddy straw based pelletization and Torrefaction plants which will help in addressing the supply chain issues. Scheme addresses the issue of open burning of paddy straw in agriculture fields in Northern Region. A corpus of Rs. 50 crores have been sanctioned from EPC funds. Assuming complete utilization of the corpus, over 1 million metric tonnes of paddy straw based pellets are expected to be generated every year.

Control of industrial emissions

- Statutory Directions issued for implementing the "Standard" fuel list of approved clean fuels in NCR and phasing out heavily polluting fossil fuels like coal, diesel oil, LDO etc.
- Statutory Directions for industries to shift to approved fuels, by 30.09.2022 (for areas where gas infrastructure is available) and by 31.12.2022, where gas infrastructure is still not available.

Directions/ Regulations for use of Power Generating Sets

- No restrictions on generator sets running on LPG/Natural gas, Butane/Propane/Biogas
- Uninterrupted use of DG sets permitted only for emergency services during GRAP.
- DISCOMS to ensure uninterrupted power supply in NCR to minimize use of DG Sets.
- Regulated use of DG Sets for industrial sector during GRAP for limited time subject to retro fitment of Emission Control Devices (ECD) and running on dual fuel mode (gas and diesel)

Control of vehicular pollution

- Implementation of Orders of Hon'ble NGT's and Hon'ble Supreme Court's not permitting overaged vehicles (15/10 yrs. for petrol / diesel vehicles respectively) to run in NCR.
- Advisory issued by Commission for developing suitable EV policies, focusing on mandatory procurement of e-vehicles for various sectors.
- Transition to CNG / cleaner vehicles also in outer NCR.
- Effective PUC regime – control on polluting vehicles

Dust management from roads and open areas and from construction and demolition activities

(i) Road dust management

- Statutory directions to all road owning/ maintaining agencies for setting up of 'Dust Control and Management Cells' (DCMCs).
- Key actions for DCMCs:
  - Optimum utilization of road sweeping machines
  - Scientific disposal of dust collected

- Sprinkling of water and dust suppressants on roads / right of ways
- Augmentation of sweeping and sprinkling machines
- Proper maintenance of roads and also keep road pothole free
- Laying of roads to fully support mechanised sweeping.
- Non-paved road sides to be paved or converted into green
- Greening of central verges / plantation of trees
- Cemented roads in industrial areas.
- Identification of hot spots and implement specific road dust control measures

o Sixty (60) 'Dust Control and Management Cells' set up.
  - NCT of Delhi : 11
  - Uttar Pradesh : 18
  - Haryana : 17
  - Rajasthan : 14

(ii) Dust management from C&D projects:

o Statutory directions issued mandatory registration of projects on plot size is equal to or more than 500 sq mtr. on the C&D web portal.
o Web portals functional in Delhi, Haryana and Uttar Pradesh. Under development in Rajasthan.
o Self-certification by the proponents on the portal.
o Cross Verification of the parameters as certified on the portal vis-à-vis the ground conditions.
o Compliances related to various rules and guidelines related to effective dust mitigation measures at C&D sites viz. Wind breakers, dust screens, water sprinkling, dust suppressants and soil stabilization measures etc.
o Deployment of adequate numbers of anti-smog guns, in proportion to the area of the construction sites.
  - At least 1 for a total construction area between 5000 - 10000 sqm.
  - At least 2 for a total construction area between 10001- 15000 sqm.
  - At least 3 for a total construction area between 15001- 20000 sqm.
  - At least 4 for a total construction Area 20,000 sqm.
o Compliance of guidelines for covering of construction materials with dust potential.
o Transportation of C&D materials in covered vehicles.

Other matters:

(i) Revised Graded Response Action Plan (GRAP)

o Revised GRAP based on Delhi's AQI as against PM2.5 / PM10 levels earlier.
o Preventive / restrictive / prohibitive actions under 4 different stages (I-IV) w.e.f. 01.10.2022.
o Daily forecasts by IMD/ IITM started.
o Sub-Committee for invoking GRAP meeting regularly for invoking the GRAP actions, based on the AQI forecast.
o Actions under Stage II, III and IV of the GRAP to be invoked at least three days in advance of the AQI reaching to the projected levels of that stage, based on the forecast.
  - 24 action points under Stage-I 'Poor' (AQI 201-300)
  - 12 action points under Stage- II 'Very Poor' (AQI 301-400)
  - 9 action points under Stage III 'Severe' (AQI 401-450)
  - 8 action points under Stage IV 'Severe+' (AQI>450)

(ii) Prevention of open burning of solid waste and bio-mass Desired Actions:

- Intensified inspections / monitoring during winters.
- Proper collection, segregation and disposal of solid waste.

- Proper clearance of leaves, twigs etc. after road cleaning activities.

(iii) Prevention of air pollution through fire crackers Desired Actions:

- Strict implementation of Hon'ble Supreme Court / NGT orders on use of fire crackers.
- Enforce ban on use of fire crackers wherever imposed.

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