

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

**LOK SABHA**  
**UN-STARRED QUESTION NO. 183**  
TO BE ANSWERED ON 04.12.2023

**Air Quality Monitoring Programme**

183. DR. ALOK KUMAR SUMAN:  
SHRI RAVINDRA KUSHWAHA:  
ADV. ADOOR PRAKASH:  
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SHRI KUMBAKUDI SUDHAKARAN:  
SHRI K. MURALEEDHARAN:  
SHRI KARTI P. CHIDAMBARAM:

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

- (a) whether the Government is aware of the threat posed by dangerously low air quality levels across the country especially in the National Capital Region (NCR);
- (b) whether the Government is on track to meet its air quality targets under the National Clean Air Programme and if so, the details thereof;
- (c) the steps taken by the Government towards improvement of the interpretation of satellite data and to include rural areas in PRANAM and similar air quality monitoring programmes;
- (d) whether the Government has recently taken any steps to curb stubble burnings that has resulted in low air quality; and
- (e) whether the Government has any special action plan to address the severe situation in NCR due to high air pollution, if so, the details thereof?

**ANSWER**

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

(SHRI ASHWINI KUMAR CHOUBEY)

**(a):** With a view to abate and control air pollution in Delhi / NCR, the Commission for Air Quality Management in NCR and Adjoining Areas (CAQM), constituted in 2021, has devised a comprehensive policy for abatement of pollution in NCR in July,2022, stipulating sector specific action points quantifying targets along with timelines and implementation plan by various agencies in NCR States including the State of Punjab with respect to abatement of air pollution owing to crop residue burning. The policy framework details sector-wise interventions, quantified targets and timelines for various sectors viz. vehicular pollution, industrial pollution, dust from construction and demolition project activities, road and open areas dust, biomass burning, agricultural stubble burning, Municipal Solid Waste burning, fires in sanitary landfills and air pollution from dispersed sources etc.

Ambient air quality under the National Ambient Air Quality Network is monitored in 518 cities in 28 states and 7 Union Territories (UT). Central pollution Control Board (CPCB) has

identified Non-attainment Cities (NAC) based on ambient air quality exceeding National Ambient Air Quality Standards (NAAQS) with respect to any one of the notified parameters consecutively for five years.

The ambient air quality status in NACs during FY. 2020-21, 2021-22 & 2022-23 with respect to Annual Average concentration of PM<sub>10</sub> is given in **Annexure – I**. The NACs which lies in the NCR are Delhi, Faridabad, Ghaziabad, Khurja, Meerut, Noida and Alwar. (Data enclosed in **Annexure II**).

Further, steps taken for control of air pollution in Delhi/NCR is Annexed at **Annexure –III**.

**(b):**

Government has launched National Clean Air Programme (NCAP) in 2019 as a national level strategy to reduce air pollution levels across the country. Taking into account the available international experiences and national studies, the tentative national level target under NCAP is 20%–30% reduction of particulate matter concentration by 2024.

The city-wise targets for reduction of PM<sub>10</sub> concentration for year 2021-22 to 2025- 26 have been fixed on the basis of PM<sub>10</sub> concentration levels in year 2019-20 as per Guidelines for Utilisation of funds and release under NCAP. Further, for Million Plus Cities funded under the Fifteenth Finance Commission (XVFC) Grants, target for Cities is 15 % reduction in PM<sub>10</sub> concentration & 15% improvement in AQI good days as per XVFC operational guidelines for ULB Grants for Ambient Air Quality Component.

90 cities out of 131 cities have shown improvement in air quality in terms of annual PM<sub>10</sub> concentrations in FY 2022-23 with respect to the baseline of FY 2017-18. 15 cities have met National Ambient Air Quality Standards (NAAQS) for PM<sub>10</sub> (60 µg/m<sup>3</sup>) in FY 2022-23. Details of air quality of 131 cities are enclosed at **Annexure-IV**.

**(c):**

CPCB sponsored an R&D project in IIT Delhi to carry out studies for co-relating the estimation of PM<sub>2.5</sub> from satellite based Aerosol Optical Depth (AOD), which cannot be , however, be used for regulatory purposes.

Portal for Regulation of Non-Attainment Cities (PRANA) Portal is developed to track physical and financial progress of 131 Non-attainment Cities (NACs) under National Clean Air Programme.

As per the CPCB criteria, cities exceeding annual National Ambient Air Quality Standards with respect to any one of the notified parameters for consecutively for five years and with adequate number of ambient air quality monitoring stations is considered for non-attainment cities (NAC).

**(d) and (e):**

The CAQM ,through statutory directions dated 10.06.2021, had provided a framework for control/elimination of crop residue burning and directed to draw up the state-specific action plans based on the major contours of the Framework.

The Governments of Punjab, Haryana, Uttar Pradesh, Rajasthan and Government of NCT of Delhi accordingly formulated State specific Action Plans for prevention and control of paddy stubble burning. Based on field experience and learning during 2021 and 2022, the respective

action plans of Punjab, Haryana and NCR districts of UP have been further revised and updated for the paddy harvest season of 2023 including measures for in-situ & ex-situ management of stubble.

Owing to concerted efforts by all stakeholders and constant monitoring and reviews by the Central Govt., a total of 39129 cases of paddy stubble burning have been reported in Punjab, Haryana, Delhi and NCR districts of UP and Rajasthan for the period between 15th September - 28th November, 2023 as against 53704 incidences for the corresponding period in 2022 i.e. an overall reduction of about 27%.

The CAQM has also constituted a statutory sub-committee on safeguarding and enforcement represented by senior level functionaries of the NCR State Govts. towards policy formulation and implementation & monitoring of field level actions. Graded Response Action plan (GRAP) for abatement of air Pollution in Delhi & NCR was notified by the Ministry of Environment, Forest and climate change in January, 2017. The Commission has issued revised GRAP in October, 2023 which is being operationalized by the sub-committee having representation from Pollution Control Boards/Committee of NCR State Governments and GNCTD, CPCB, ITM, Pune and IMD, New Delhi. Actions listed for different AQI levels under GRAP are invoked from time to time by a sub-committee constituted by CAQM with representation from CPCB.

Other steps for control of stubble burning are as following:

1. MoA&FW in 2018 launched scheme for providing subsidy for purchase of crop residue management machinery and establishment of custom hiring centres (CHCs) in NCT of Delhi and the States of Punjab, Haryana and Uttar Pradesh. During 2018-2022, total fund released to Delhi and other States under the said Scheme is Rs. 2440.07 crores using which, over 2 lakh crop residue machineries have been delivered to individual farmers and CHCs, and over 39,000 CHCs have been established.
2. CPCB has framed guidelines for providing one time financial assistance for setting up of paddy straw based pelletization and Torrefaction plants which may help in addressing the supply chain issues and the issue of open burning of paddy straw in agriculture fields in Northern Region. A maximum amount of Rs. 28 lakhs or 40% of the capital cost considered for plant and machinery of a 1 TPH plant, whichever is lower, shall be given as onetime financial support by CPCB, subject to a maximum total financial support of Rs. 1.4 crore per proposal. A corpus of Rs. 50 crores has been earmarked for utilisation through the guidelines. A total of 10 plants (1 in principle) have been sanctioned so far: 8 in Punjab, 1 in Haryana and 1 in UP.
3. An addendum to the above said CPCB Guidelines was also issued under which one-time financial assistance is provided to Municipal Corporations, Municipal Councils and Zilla Parishads of the states of Punjab, Haryana, NCT of Delhi and NCR districts of Uttar Pradesh and Rajasthan, for establishing paddy straw based briquetting plants for use of briquettes for cremation purpose only.
4. Directions issued by CAQM to State governments of Punjab, Haryana and Uttar Pradesh to strictly and effectively implement framework and revised action plan to eliminate and control stubble burning.

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## Annexure - I

### Ambient air quality status in NACs during FY. 2020-21, 2021-22 & 2022-23 with respect to PM<sub>10</sub>

States / UTs	Sl. No.	Cities	Average concentration (F.Y.) of PM <sub>10</sub> (µg/m <sup>3</sup> )		
			2020-2021	2021-2022	2022-2023
Andhra Pradesh	1.	Anantpur	58	52	57
Andhra Pradesh	2.	Chittoor	41	49	52
Andhra Pradesh	3.	Eluru	58	65	66
Andhra Pradesh	4.	Guntur	56	58	60
Andhra Pradesh	5.	Kadapa	50	54	57
Andhra Pradesh	6.	Kurnool	52	61	64
Andhra Pradesh	7.	Nellore	56	55	56
Andhra Pradesh	8.	Ongole	49	52	50
Andhra Pradesh	9.	Rajamahendravaram	69	68	68
Andhra Pradesh	10.	Srikakulam	66	75	71
Andhra Pradesh	11.	Vijayawada	56	67	90
Andhra Pradesh	12.	Visakhapatnam	104	98	116
Andhra Pradesh	13.	Vizhianagaram	63	71	75
Assam	14.	Guwahati	114	103	106
Assam	15.	Nagaon	90	104	121
Assam	16.	Nalbari	57	99	128
Assam	17.	Silchar	43	45	49
Assam	18.	Sivasagar	48	47	42
Bihar	19.	Patna	143	145	193
Bihar	20.	Gaya	71	97	150
Bihar	21.	Muzaffarpur	180	153	175
Chandigarh	22.	Chandigarh	90	97	116
Chhattisgarh	23.	Korba	46	61	70
Chhattisgarh	24.	Durg Bhilainagar	56	58	70
Chhattisgarh	25.	Raipur	55	61	78
Delhi	26.	Delhi (NCT)	193	196	209
Gujarat	27.	Ahmedabad	120	113	91
Gujarat	28.	Rajkot	94	116	92
Gujarat	29.	Surat	93	100	118
Gujarat	30.	Vadodara	95	121	104
Haryana	31.	Faridabad (NCR)	229	209	212
Himachal Pradesh	32.	Baddi	123	132	145
Himachal Pradesh	33.	Damtal	65	64	64
Himachal Pradesh	34.	Kala Amb	64	114	93
Himachal Pradesh	35.	Nalagarh	90	84	78
Himachal Pradesh	36.	Paonta Sahib	78	90	103
Himachal Pradesh	37.	Parwanoo	44	35	47
Himachal Pradesh	38.	Sunder Nagar	63	47	46
Jammu&Kashmir	39.	Jammu	186	170	158
Jammu&Kashmir	40.	Srinagar	163	111	88
Jharkhand	41.	Dhanbad	198	235	203
Jharkhand	42.	Jamshedpur	96	110	126
Jharkhand	43.	Ranchi	105	110	107
Karnataka	44.	Bengaluru	62	67	68
Karnataka	45.	Devangere	72	57	61
Karnataka	46.	Gulburga / Kalaburgi	92	84	74
Karnataka	47.	Hubli-Dharwad	69	68	76
Madhya Pradesh	48.	Bhopal	114	116	124
Madhya Pradesh	49.	Dewas	93	81	105

States / UTs	Sl. No.	Cities	Average concentration (F.Y.) of PM <sub>10</sub> (µg/m <sup>3</sup> )		
			2020-2021	2021-2022	2022-2023
Madhya Pradesh	50.	Gwalior	125	109	145
Madhya Pradesh	51.	Indore	96	103	109
Madhya Pradesh	52.	Jabalpur	106	115	125
Madhya Pradesh	53.	Sagar	64	79	83
Madhya Pradesh	54.	Ujjain	104	114	111
Maharashtra	55.	Aurangabad	65	86	107
Maharashtra	56.	Akola	54	64	62
Maharashtra	57.	Amravati	58	66	68
Maharashtra	58.	Badlapur	67	94	146
Maharashtra	59.	Chandrapur	100	104	121
Maharashtra	60.	Greater Mumbai	98	106	116
Maharashtra	61.	Jalgaon	53	59	66
Maharashtra	62.	Jalna	86	93	93
Maharashtra	63.	Kolhapur	83	81	80
Maharashtra	64.	Latur	54	57	53
Maharashtra	65.	Nagpur	68	68	97
Maharashtra	66.	Nashik	51	59	62
Maharashtra	67.	Navi Mumbai	52	97	102
Maharashtra	68.	Pune	69	85	96
Maharashtra	69.	Sangli	71	60	69
Maharashtra	70.	Solapur	79	60	76
Maharashtra	71.	Thane	105	130	115
Maharashtra	72.	Ulhasnagar	66	77	128
Maharashtra	73.	Vasai virar	43	174	155
Meghalaya	74.	Byrnihat	127	181	131
Nagaland	75.	Dimapur	85	84	91
Nagaland	76.	Kohima	84	69	72
Odisha	77.	Angul	88	97	98
Odisha	78.	Balasore	78	74	82
Odisha	79.	Bhubneshwar	78	95	118
Odisha	80.	Cuttack	86	90	105
Odisha	81.	Kalinga Nagar	104	114	104
Odisha	82.	Rourkela	96	106	126
Odisha	83.	Talcher	98	81	93
Punjab	84.	Amritsar	113	118	120
Punjab	85.	Dera Baba Nanak	66	71	58
Punjab	86.	DeraBassi	105	98	104
Punjab	87.	Jalandhar	150	130	126
Punjab	88.	Khanna	101	106	103
Punjab	89.	Ludhiana	129	150	164
Punjab	90.	MandiGobindgarh	131	122	131
Punjab	91.	NayaNangal	95	70	63
Punjab	92.	Patiala	102	109	103
Rajasthan	93.	Jaipur	112	126	143
Rajasthan	94.	Alwar (NCR)	110	112	116
Rajasthan	95.	Jodhpur	155	161	146
Rajasthan	96.	Kota	100	112	128
Rajasthan	97.	Udaipur	109	122	128
Tamil Nadu	98.	Chennai	60	57	66
Tamil Nadu	99.	Madurai	57	53	68
Tamil Nadu	100.	Trichy	40	45	47
Tamil Nadu	101.	Tuticorin	84	67	54
Telangana	102.	Hyderabad	88	88	83

States / UTs	Sl. No.	Cities	Average concentration (F.Y.) of PM <sub>10</sub> (µg/m <sup>3</sup> )		
			2020-2021	2021-2022	2022-2023
Telangana	103.	Nalgonda	60	70	55
Telangana	104.	Patencheru	77	76	80
Telangana	105.	Sangareddy	77	83	86
Uttar Pradesh	106.	Agra	188	146	118
Uttar Pradesh	107.	Allahabad	184	119	125
Uttar Pradesh	108.	Ghaziabad (NCR)	218	216	198
Uttar Pradesh	109.	Kanpur	169	170	143
Uttar Pradesh	110.	Lucknow	209	148	149
Uttar Pradesh	111.	Meerut (NCR)	200	186	177
Uttar Pradesh	112.	Varanasi	168	114	94
Uttar Pradesh	113.	Anpara	142	154	166
Uttar Pradesh	114.	Bareilly	193	175	110
Uttar Pradesh	115.	Firozabad	186	137	106
Uttar Pradesh	116.	Gajraula	168	155	194
Uttar Pradesh	117.	Gorakpur	168	122	102
Uttar Pradesh	118.	Jhansi	99	128	118
Uttar Pradesh	119.	Khurja (NCR)	194	173	150
Uttar Pradesh	120.	Moradabad	206	155	116
Uttar Pradesh	121.	Noida (NCR)	197	203	202
Uttar Pradesh	122.	Raebareli	98	112	102
Uttarakhand	123.	Dehradun	144	146	117
Uttarakhand	124.	Kashipur	129	119	112
Uttarakhand	125.	Rishikesh	77	117	103
West Bengal	126.	Asansol	114	112	147
West Bengal	127.	Barrackpore	75	85	84
West Bengal	128.	Durgapur	103	168	139
West Bengal	129.	Haldia	93	94	91
West Bengal	130.	Howrah	117	125	125
West Bengal	131.	Kolkata	99	105	97

## Annexure - II

Ambient air quality status in NACs in Delhi NCR during FY. 2020-21, 2021-22 & 2022-23 with respect to PM<sub>10</sub>

States / UTs	Sl. No.	Cities	Average concentration (F.Y.) of PM <sub>10</sub> (µg/m <sup>3</sup> )		
			2020-2021	2021-2022	2022-2023
Delhi	1.	Delhi (NCT)	193	196	209
Haryana	2.	Faridabad (NCR)	229	209	212
Rajasthan	3.	Alwar (NCR)	110	112	116
Uttar Pradesh	4.	Ghaziabad (NCR)	218	216	198
Uttar Pradesh	5.	Meerut (NCR)	200	186	177
Uttar Pradesh	6.	Khurja (NCR)	194	173	150
Uttar Pradesh	7.	Noida (NCR)	197	203	202

## Annexure III

Various steps taken in CPCB for controlling Air Pollution in Delhi- NCR cities is given below:

a) Air Quality Response System for Delhi-NCR

Graded Response Action Plan (GRAP) was formulated for Delhi-NCR to tackle the issue of sudden rise in air pollution levels which was notified by MoEF&CC in January 2017 on recommendation of CPCB for implementation. A comprehensive review of actions listed under GRAP was carried out by CPCB in 2020 based on actions taken and improvement observed in air quality in recent years. Based on the inputs given by CPCB, the revised GRAP was published by Commission for Air Quality Management in NCR and adjoining areas (CAQM) and further directions were issued for its implementation.

b) Close monitoring and ground level implementation

- i. 40 teams have been deputed by CPCB since December 2021, to assist CAQM, for conducting incognito inspections of air polluting industries, C&D sites, DG sets in Delhi-NCR to check implementation status of pollution control measures and compliance of other provisions of The Air (Prevention and Control of Pollution) Act, 1981. A total of 15933 units/ entities/ projects have been inspected as on November 03, 2023. Based on these inspections, CAQM has issued Closure Directions in 897 cases and out of these resumption orders have been issued in 695 cases while 143 cases are still under closure and cases of 59 balance units have been transferred to SPCBs / DPCC for final decision.
- ii. Additionally, 40 teams are also checking the implementation of actions invoked under GRAP so far, such as incidences of biomass and waste burning, illegal dumping of industrial waste, ban on operation of stone crushers, mining activities & construction works etc.

c) Measures for control of industrial pollution

- i. Industrial units in Delhi have shifted to PNG whereas units in NCR are allowed to operate only with PNG or biomass as fuel.
- ii. Highly polluting fuels such as pet coke and furnace oil have been banned in Delhi-NCR.
- iii. Directions issued for conversion of brick kilns to zig-zag technology in Delhi and NCR. A total of 3003 out of 4608 brick kilns have converted to zig-zag technology including 1762 kilns in Haryana, 1024 kilns in U.P. and 217 kilns in Rajasthan. Brick kilns not converted to zig-zag technology are not permitted to operate.
- iv. Directions issued for Installation of Online Continuous Emission Monitoring System (OCEMS) in Red category air polluting industries in Delhi-NCR. A total of 572 out of 633 industries have installed OCEMS. For remaining units, action is taken by SPCBs/ PCCs as per the provision of The Air (Prevention and Control of Pollution) Act, 1981 including closure of industry and levy of Environmental Compensation.



d) Measures for control of pollution from DG sets

- i. CPCB has come out with System and Procedure for Emission Compliance Testing of Retro-fit Emission Control Devices (RECD) for Diesel Power Generating Set Engines up to Gross Mechanical Power 800 kW. RECDs have been developed for DG sets of 209-799 kW capacity and installation of RECDs is in progress in Delhi-NCR.
- ii. In order to control DG set emissions, CPCB is also funding retrofitment/ upgradation of DG sets in Govt. hospitals in Delhi-NCR and guidelines have been issued in this regard. Under the said guidelines, 100 % funding support is provided for RECD and dual fuel kit installation while 40% funding support is provided for procurement of new gas based Generator sets.

e) Measures for control of dust emissions from C&D sites and roads

- i. Trial study of new technology i.e. Dust Suppressant for control of emissions at construction sites and road dust was got conducted by CPCB and in view of the encouraging results, Advisory have been issued for use of dust suppressant by road owning and construction agencies.
- ii. CPCB has issued guidelines/ mechanism for use of anti-smog guns in Construction and Demolition projects.
- iii. CPCB has published guidelines for dust mitigation measures in handling construction materials and C&D waste.
- iv. CPCB is also funding ULBs/ road owning agencies of Delhi-NCR for construction/ repair of roads and procurement of anti-smog guns and Mechanical road sweepers in order to control road dust emissions. Rs 15.6 cr sanctioned to Ghaziabad Municipal Corporation for construction/ repair of 8 roads. Work has been initiated for all 8 roads by the Corporation. Also, funds of Rs 14.33 crore have been sanctioned to 11 ULBs/ land owning agencies/ road owning agencies of State of U.P. for procurement of 16 no. of mechanized road sweeping machines and 10 anti-smog guns. Tender process for procurement of the said machinery has been initiated by majority of the agencies. Further, proposals have been sought from Delhi, State of Haryana and Rajasthan for NCR districts.

f) Measures for control of stubble burning

- i. CPCB has framed guidelines for promoting setting up of paddy straw based pelletization and torrefaction plants wherein one-time financial assistance is provided to individual entities/entrepreneurs/ companies for setting up of such plants. The guidelines are expected to address the supply chain issues faced by industries and power plants considering use of paddy straw as fuel. Also, with promotion of use of paddy straw, the issue of open burning in agriculture fields in Northern Region may also get addressed. A corpus of Rs. 50 crores has been earmarked for utilisation through the guidelines.
- ii. A total of 10 plants (1 in principle) have been sanctioned so far: 8 in Punjab, 1 in Haryana and 1 in UP.
- iii. CPCB has also issued an addendum under which one-time financial assistance is provided to Municipal Corporations, Municipal Councils and ZillaParishads of the states of Punjab, Haryana, NCT of Delhi and NCR districts of Uttar Pradesh and Rajasthan, for

establishing paddy straw based briquetting plants for use of briquettes for cremation purpose only.

- iv. CPCB also got a study conducted in Patiala district, Punjab to check whether air quality from stubble burning in close proximity to residential areas adversely affect respiratory health, wherein it was found that there is decline in lung function for all age groups. Accordingly, CPCB advised PPCB and HSPCB to issue appropriate advisory and for spreading awareness amongst farmers through IEC activities.

g) Technical Interventions

- i. Research projects are being carried out by CPCB in collaboration with premier institutions like IIT, NEERI, etc which provide scientific inputs for taking focused action towards improvement in air quality of Delhi NCR. Trials of various new technologies for air pollution control have been carried out such as WAYU air purification units developed by NEERI for pollution abatement at traffic junctions, Pariyantra bus roof top filtration system for PM reduction in ambient environment developed by MRIIRS, Faridabad, negative ion generator for PM reduction in ambient environment developed by Science & Technology Park, Pune, dust suppressant for construction sites and road dust control developed by EPRI, Pune. Out of these, results of dust suppressant were found encouraging and accordingly Advisory have been issued for use of dust suppressant by road owning and construction agencies.
- ii. A pilot Smog tower has been commissioned at AnandVihar, ISBT and its performance is being evaluated by IIT Bombay.

h) Air Quality Index (AQI), Public awareness and Media outreach

- i. Ambient air quality network in Delhi-NCR comprises of 145 ambient air quality monitoring stations (83 Continuous Ambient Air Quality Monitoring Stations (CAAQMS) and 62 manual ambient air quality monitoring stations). In Delhi, the air quality network comprises of 40 CAAQMS and 10 manual air quality monitoring stations. Air Quality Index, a tool for effective communication of air quality status as well as its associated likely health impacts to people was introduced by CPCB. A centralized air quality monitoring portal is operated by Central Pollution Control Board wherein, tracking of various information such as hourly PM concentrations, Live Air Quality Data of Monitoring stations and Live Air Quality Index is being carried out. Daily AQI Bulletin is published on CPCB website giving AQI information for cities across India.
- ii. CPCB has developed a mobile app i.e. SAMEER, where Real-time Ambient air quality data of various parameters including AQI is also given. Sameer app also facilitates the public in lodging of air pollution related complaints in NCR region and such complaints are assigned to various local agencies.
- iii. Dedicated media corner, Twitter and Facebook accounts have also been created for public outreach.
- iv. Complaint redressal on SAMEER app and social media platforms is monitored and redressal status is shared with respective agencies.

- v. Daily AQI status is shared on social media platforms. Various campaigns as well as informative posts related to air pollution, firecrackers, vehicular pollution, stubble burning, sustainable lifestyle, etc. are also posted regularly on social media platforms.
- vi. Citizen Charter under GRAP has been uploaded under Media Corner on CPCB Website.

i) Other Actions

- i. NO<sub>2</sub> and SO<sub>x</sub> standards notified for industrial boilers and five industrial sectors i.e. lime kiln, foundry, ceramic, glass and reheating furnaces.
- ii. Installation of VRS system at 3256 petrol pumps in Delhi-NCR in compliance with orders of Hon'ble Supreme Court and Hon'ble NGT.
- iii. CPCB is carrying out special monitoring of ambient air quality during pre-deepawali period, Deepawali and post-deepawali period in Delhi and 08 other cities.
- iv. CPCB on November 03, 2023 issued Directions under Section 5 of the Environment (Protection) Act, 1986 to Delhi-NCR SPCBs/ PCCs for strict implementation of actions prescribed under stages of GRAP invoked from time to time, in view of the deteriorated air quality situation in Delhi-NCR.

## Annexure – IV

**Details of air quality target and achievement in 131 cities under NCAP in terms of PM10 concentrations**

States	S. No.	Cities	Average concentration (F.Y.) of PM <sub>10</sub> in FY 2017-18 (µg/m <sup>3</sup> )	Target for reduction of PM <sub>10</sub> concentrations for FY 2021-22 to 2022-23 (µg/m <sup>3</sup> )	Average concentration (F.Y.) of PM <sub>10</sub> in FY 2022-23 (µg/m <sup>3</sup> )	Percentage improvement in PM <sub>10</sub> concentrations with respect to baseyear 2017 – 18 (%)
Andhra Pradesh	1	Anantpur	78	54	57	26.92
	2	Chittur	70	48	52	25.71
	3	Eluru	72	58	66	8.33
	4	Guntur	66	52	60	9.09
	5	Kadapa	75	43	57	24.00
	6	Kurnool	79	52	64	18.99
	7	Nellore	64	61	56	12.50
	8	Ongole	65	54	51	21.54
	9	Rajamahendravaram	85	54	68	20.00
	10	Srikakulam	69	59	71	-2.90
	11	Vijayawada	91	46	90	1.10
	12	Visakhapatnam	76	67	116	-52.63
	13	Vizhianagar	72	61	75	-4.17
Assam	14	Guwahati	103	94	106	-2.91
	15	Nagaon	82	79	121	-47.56

States	S. No.	Cities	Average concentration (F.Y.) of PM <sub>10</sub> in FY 2017-18 (µg/m <sup>3</sup> )	Target for reduction of PM <sub>10</sub> concentrations for FY 2021-22 to 2022-23 (µg/m <sup>3</sup> )	Average concentration (F.Y.) of PM <sub>10</sub> in FY 2022-23 (µg/m <sup>3</sup> )	Percentage improvement in PM <sub>10</sub> concentrations with respect to baseyear 2017 – 18 (%)
	16	Nalbari	87	68	128	-47.13
	17	Silchar	49	40	49	0.00
	18	Sivasagar	73	-	42	42.47
Bihar	19	Patna	172	116	193	-12.21
	20	Gaya	79	71	150	-89.87
	21	Muzaffarpur	147	109	175	-19.05
Chandigarh	22	Chandigarh	114	79	116	-1.75
Chhattisgarh	23	Korba	57	48	70	-22.81
	24	Durg Bhilainagar	86	54	70	18.60
	25	Raipur	70	47	78	-11.43
Delhi	26	Delhi	241	151	209	13.28
Gujarat	27	Ahmedabad	164	82	91	44.51
	28	Rajkot	150	82	92	38.67
	29	Surat	130	80	118	9.23
	30	Vadodara	133	77	104	21.80
Haryana	31	Faridabad*	229	157	212	7.42
Himachal	32	Baddi	174	116	145	16.67

States	S. No.	Cities	Average concentration (F.Y.) of PM <sub>10</sub> in FY 2017-18 (µg/m <sup>3</sup> )	Target for reduction of PM <sub>10</sub> concentrations for FY 2021-22 to 2022-23 (µg/m <sup>3</sup> )	Average concentration (F.Y.) of PM <sub>10</sub> in FY 2022-23 (µg/m <sup>3</sup> )	Percentage improvement in PM <sub>10</sub> concentrations with respect to base year 2017-18 (%)
Pradesh	33	Damtal	55	-	64	-16.36
	34	Kala Amb	118	-	93	21.19
	35	Nalagarh	146	101	78	46.58
	36	Paonta Sahib	84	70	103	-22.62
	37	Parwanoo	66	-	47	28.79
	38	Sunder Nagar	78	62	46	41.03
Jammu & Kashmir	39	Jammu	157	126	158	-0.64
	40	Srinagar*	132	107	88	33.33
Jharkhand	41	Dhanbad	315	153	203	35.56
	42	Jamshedpur	135	100	126	6.67
	43	Ranchi	141	78	107	24.11
Karnataka	44	Bengaluru	92	51	68	26.09
	45	Devangere	74	57	61	17.57
	46	Gulbarga / Kalaburgi	55	74	74	-34.55
	47	Hubli-Dharwad	79	68	76	3.80
Madhya Pradesh	48	Bhopal	112	100	124	-10.71
	49	Dewas	83	79	105	-26.51

States	S. No.	Cities	Average concentration (F.Y.) of PM <sub>10</sub> in FY 2017-18 (µg/m <sup>3</sup> )	Target for reduction of PM <sub>10</sub> concentrations for FY 2021-22 to 2022-23 (µg/m <sup>3</sup> )	Average concentration (F.Y.) of PM <sub>10</sub> in FY 2022-23 (µg/m <sup>3</sup> )	Percentage improvement in PM <sub>10</sub> concentrations with respect to baseyear 2017 – 18 (%)
	50	Gwalior	126	98	145	-15.08
	51	Indore	82	62	109	-32.93
	52	Jabalpur	101	71	125	-23.76
	53	Sagar	73	65	83	-13.70
	54	Ujjain	93	79	111	-19.35
Maharashtra	55	Aurangabad	75	55	107	-42.67
	56	Akola	111	61	62	44.14
	57	Amravati	102	79	68	33.33
	58	Badlapur	160	74	146	8.75
	59	Chandrapur	118	80	121	-2.54
	60	Greater Mumbai	161	74	116	27.95
	61	Jalgaon	70	51	66	5.71
	62	Jalna	99	85	93	6.06
	63	Kolhapur	89	80	80	10.11
	64	Latur	82	74	53	35.37
	65	Nagpur	100	56	97	3.00
	66	Nashik	82	46	62	24.39
	67	Navi Mumbai	88	74	102	-15.91

States	S. No.	Cities	Average concentration (F.Y.) of PM <sub>10</sub> in FY 2017-18 (µg/m <sup>3</sup> )	Target for reduction of PM <sub>10</sub> concentrations for FY 2021-22 to 2022-23 (µg/m <sup>3</sup> )	Average concentration (F.Y.) of PM <sub>10</sub> in FY 2022-23 (µg/m <sup>3</sup> )	Percentage improvement in PM <sub>10</sub> concentrations with respect to baseyear 2017 – 18 (%)
	68	Pune	102	57	96	5.88
	69	Sangli	87	61	69	20.69
	70	Solapur	81	77	76	6.17
	71	Thane	138	74	115	16.67
	72	Ulhasnagar	153	74	128	16.34
	73	Vasai virar*	99	86	155	-56.57
Meghalaya	74	Byrnihat	175	87	131	25.14
Nagaland	75	Dimapur	142	75	91	35.92
	76	Kohima	127	72	72	43.31
Odisha	77	Angul	97	85	98	-1.03
	78	Balasore	84	77	82	2.38
	79	Bhubneshwar	85	87	118	-38.82
	80	Cuttack	93	90	105	-12.90
	81	Kalinga Nagar	109	92	104	4.59
	82	Rourkela	99	97	126	-27.27
Punjab	83	Talcher	113	95	93	17.70
	84	Amritsar	189	74	120	36.51
	85	Dera Baba	79	64	58	26.58



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		Nanak				
	86	DeraBassi	88	88	104	-18.18
	87	Jalandhar	178	104	126	29.21
	88	Khanna	142	94	103	27.46
	89	Ludhiana	168	80	163	2.98
	90	MandiGobindgarh	148	111	131	11.49
	91	NayaNangal	87	88	63	27.59
	92	Patiala	106	87	103	2.83
	93	Jaipur	172	88	143	16.86
	94	Alwar	152	110	116	23.68
Rajasthan	95	Jodhpur	189	115	146	22.75
	96	Kota	139	72	128	7.91
	97	Udaipur	127	113	128	-0.79
	98	Chennai	66	40	66	0.00
	99	Madurai	72	49	68	5.56
Tamil Nadu	100	Trichy	88	43	47	46.59
	101	Tuticorin	123	76	54	56.10
Telangana	102	Hyderabad	110	62	83	24.55

States	S. No.	Cities	Average concentration (F.Y.) of PM <sub>10</sub> in FY 2017-18 (µg/m <sup>3</sup> )	Target for reduction of PM <sub>10</sub> concentrations for FY 2021-22 to 2022-23 (µg/m <sup>3</sup> )	Average concentration (F.Y.) of PM <sub>10</sub> in FY 2022-23 (µg/m <sup>3</sup> )	Percentage improvement in PM <sub>10</sub> concentrations with respect to baseyear 2017 – 18 (%)
	103	Nalgonda	59	53	55	6.78
	104	Patencheru	74	62	80	-8.11
	105	Sangareddy	85	76	86	-1.18
Uttar Pradesh	106	Agra	202	110	118	41.58
	107	Allahabad	169	163	125	26.04
	108	Ghaziabad	285	154	198	30.53
	109	Kanpur	227	142	143	37.00
	110	Lucknow	253	155	149	41.11
	111	Meerut	159	149	177	-11.32
	112	Varanasi	230	126	94	59.13
	113	Anpara	175	146	166	5.14
	114	Bareilly	207	151	110	46.86
	115	Firozabad	247	170	106	57.09
	116	Gajraula	204	175	194	4.90
	117	Gorakpur	150	222	102	32.00
	118	Jhansi	109	90	118	-8.26
	119	Khurja	195	192	150	23.08
	120	Moradabad	222	200	116	47.75
121	Noida	229	169	202	11.79	

States	S. No.	Cities	Average concentration (F.Y.) of PM <sub>10</sub> in FY 2017-18 (µg/m <sup>3</sup> )	Target for reduction of PM <sub>10</sub> concentrations for FY 2021-22 to 2022-23 (µg/m <sup>3</sup> )	Average concentration (F.Y.) of PM <sub>10</sub> in FY 2022-23 (µg/m <sup>3</sup> )	Percentage improvement in PM <sub>10</sub> concentrations with respect to baseyear 2017 – 18 (%)
	122	Raebareli	145	131	102	29.66
Uttarakhand	123	Dehradun	250	141	117	53.20
	124	Kashipur	99	110	112	-13.13
	125	Rishikesh	129	118	103	20.16
West Bengal	126	Asansol	147	87	147	0.00
	127	Barrackpore	86	69	84	2.33
	128	Durgapur	150	113	139	7.33
	129	Haldia	92	65	91	1.09
	130	Howrah	139	69	125	10.07
	131	Kolkata	147	69	97	34.01

Note: \* For air quality data of Faridabad, baseline data of FY 2020-21 was considered as baseline data for FY 2017-18 was not collected.

\*For air quality data of Srinagar, baseline data of FY 2018-19 was considered as baseline data for FY 2017-18 was not collected

\* For air quality data of Vasai-virar, baseline is FY 2019-20 was considered as baseline data for FY 2017-18 was not collected.

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