

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYASABHA
UNSTARRED QUESTION No. 1815
TO BE ANSWERED ON 16.03.2023

Pollution level in NCR

1815. SHRI RAJMANI PATEL:

Will the MINISTER OF ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) the top most polluted cities in the country;
- (b) whether Government has failed to control pollution level in the National Capital Territory of Delhi and neighbouring cities like Gurugram, Noida, Faridabad and Ghaziabad, if so, the reasons therefor; and
- (c) whether Government has any proposal or plan to stop the increasing level of pollution in these cities this year and if so, the complete details thereof?

ANSWER

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

(a),(b)& (c):

The status of Ambient Air Quality data of 389 cities of the country in terms of Particulate Matter 10 (PM10) concentrations for year 2021 in descending order is provided at **Annexure-I**. Status of Air Quality Index (AQI) in the National Capital Territory of Delhi and neighboring cities like Gurugram, Noida, Faridabad and Ghaziabad during June- November, 2022 is provided at **Annexure-II**.

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) 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 over baseline 2017-18. NCAP focuses on preparation and implementation of National, State and City level action plans of the targeted 131 cities. Year-wise details of funds provided to 131 cities since the launch of NCAP are enclosed at **Annexure-III**.

The Commission for Air Quality Management in NCR and Adjoining Areas (CAQM), was promulgated in 2021 for better co-ordination, research, identification and resolution of problems surrounding the air quality index and for matters connected with NCR and adjoining areas. A comprehensive policy has been finalized to curb air pollution in Delhi and National Capital Region. The Policy contains sector wise long term action plan to prevent, control and abate air pollution in the NCR including industries, vehicles/ transport,

construction and demolition, dust from roads and open areas, municipal solid waste burning, crop residue burning etc. The targeted action plan also deals with thermal power plants, clean fuels & electric mobility, public transportation, road traffic management, diesel generators, bursting of fire crackers and abating air pollution through greening and plantation etc.

Details of measures taken by the Government to improve air quality are provided at **Annexure-IV**.

Annexure-I

Status of Ambient Air Quality data of 389 cities of the country interms of Particulate Matter 10 (PM10) concentrations for year 2021

Sl.No.	State / Union Territory	City / Town	Annual average concentration of PM10 ($\mu\text{g}/\text{m}^3$) National Standard (Annual average): $60 \mu\text{g}/\text{m}^3$
1	Haryana	Sonepat	319
2	Jharkhand	Jharia	314
3	Jharkhand	Dhanbad	247
4	Uttar Pradesh	Gorakhpur	241
5	Uttar Pradesh	Ghaziabad	233
6	Haryana	Faridabad	230
7	Meghalaya	Byrailhat	226
8	Uttar Pradesh	Greater Noida	221
9	Uttar Pradesh	Noida	215
10	Uttar Pradesh	Bagpat	211
11	Rajasthan	Bharatpur	210
12	Delhi (UT)	Delhi	207
13	Rajasthan	Bhiwadi	204
14	Uttar Pradesh	Kanpur	199
15	Uttar Pradesh	Meerut	199
16	Haryana	Panipat	196
17	Uttar Pradesh	Bulandshahr	195
18	Haryana	Dharuhera	187
19	Uttar Pradesh	Moradabad	184
20	Uttar Pradesh	Khurja	183
21	Madhya Pradesh	Singrauli	182
22	Punjab	Chowkimann (Jagraon)	182
23	Uttar Pradesh	Saharanpur	181
24	Jharkhand	Sindri	179
25	Uttar Pradesh	Bareilly	177
26	Haryana	Narnaul	175
27	Haryana	Gurgaon	174
28	Uttar Pradesh	Gajroula	174
29	Uttar Pradesh	Lucknow	174
30	Uttar Pradesh	Muzaffarnagar	173
31	Jammu & Kashmir (UT)	Jammu	172
32	Uttar Pradesh	Mathura	170
33	Rajasthan	Jodhpur	168
34	Haryana	Yamuna Nagar	166
35	Uttar Pradesh	Ayodhya	166
36	Haryana	Ballabgarh	165
37	Uttar Pradesh	Aligarh	165

38	Uttar Pradesh	Hapur	165
39	Haryana	Manesar	164
40	Uttar Pradesh	Agra	164
41	West Bengal	Durgapur	163
42	Haryana	Hissar	162
43	Uttar Pradesh	Firozabad	162
44	Gujarat	Vatva	160
45	Haryana	CharkhiDadri	156
46	Uttarakhand	Dehradun	154
47	Haryana	Fatehabad	153
48	Uttar Pradesh	Anpara	153
49	Bihar	Patna	150
50	Punjab	Ludhiana	149
51	Bihar	Hajipur	148
52	Haryana	Jind	145
53	Haryana	Kaithal	144
54	Bihar	Muzaffarpur	142
55	Haryana	Kurukshetra	142
56	Madhya Pradesh	Katni	142
57	Himachal Pradesh	Baddi	139
58	Punjab	Bishanpura (Payal)	137
59	Haryana	Bhiwani	135
60	Maharashtra	Thane	135
61	Uttar Pradesh	Allahabad	133
62	Uttar Pradesh	Varanasi	133
63	Uttarakhand	Rishikesh	132
64	West Bengal	Raniganj	130
65	Haryana	Sirsa	129
66	Odisha	Rajgangpur	129
67	West Bengal	Howrah	129
68	Jammu & Kashmir (UT)	Pulwama (K)	128
69	Maharashtra	Roha	128
70	Punjab	Tirathpur (Amritsar I)	128
71	Haryana	Palwal	127
72	Uttar Pradesh	Unnao	127
73	Punjab	Rupnagar	126
74	West Bengal	Sankrail	126
75	Odisha	Rourkela	125
76	Rajasthan	Jaipur	124
77	West Bengal	Kharagpur	124
78	West Bengal	Tamluk	124
79	Manipur	Imphal	123
80	Uttarakhand	Rudrapur	123
81	West Bengal	Asansol	123
82	Haryana	Ambala	122
83	Punjab	GobindgarhMandi	122

84	Gujarat	Ahmedabad	121
85	Maharashtra	Dombivali / Kalyan	121
86	West Bengal	Baruipur	121
87	Gujarat	Ankleshwar	120
88	Punjab	Jalandhar	120
89	Rajasthan	Udaipur	120
90	Haryana	Karnal	119
91	Madhya Pradesh	Bhopal	119
92	Punjab	Rohila (Samrala)	119
93	Rajasthan	Chittorgargh	119
94	Gujarat	Rajkot	118
95	Himachal Pradesh	Kala Amb	118
96	Rajasthan	Pali	118
97	Uttarakhand	Kashipur	118
98	Uttar Pradesh	Jhansi	117
99	Uttarakhand	Haridwar	117
100	Gujarat	Jamnagar	116
101	Punjab	Amritsar	116
102	Jharkhand	Saraikela	115
103	Madhya Pradesh	Gwalior	115
104	Odisha	Kalinga Nagar	115
105	West Bengal	Uluberia	115
106	Assam	Guwahati	114
107	Gujarat	Vapi	114
108	Madhya Pradesh	Jabalpur	114
109	Odisha	Paradeep	114
110	Rajasthan	Kota	114
111	Madhya Pradesh	Ujjain	113
112	Jharkhand	Jamshedpur	112
113	Rajasthan	Alwar	112
114	West Bengal	Malda	112
115	Gujarat	Vadodara	111
116	Punjab	Kotladoo (Ajnala)	111
117	Uttar Pradesh	Raibareli	111
118	Jharkhand	Ranchi	110
119	Punjab	Patiala	110
120	Uttarakhand	Haldwani	110
121	Maharashtra	Pune	108
122	West Bengal	Amtala	108
123	West Bengal	Kolkata	107
124	Maharashtra	Mumbai	106
125	Punjab	AspalKhurd (Tapa)	106
126	West Bengal	Balurghat	106
127	West Bengal	Ghatal	106
128	Madhya Pradesh	Indore	105
129	Maharashtra	Chandrapur	105

130	Punjab	Bhatinda	105
131	Punjab	Khanna	105
132	Tamilnadu	Gummidipoondi	105
133	West Bengal	Siliguri	105
134	Punjab	Mukandpur (Nawashahar)	104
135	West Bengal	Raigunj	104
136	Andhra Pradesh	Visakhapatnam	103
137	Odisha	Bonaigarh	103
138	Odisha	Sambalpur	103
139	Odisha	Jharsuguda	102
140	West Bengal	Medinipur	102
141	Assam	Nagaon	101
142	Meghalaya	Umiam	101
143	West Bengal	Jhargram	101
144	Gujarat	Surat	100
145	Punjab	DeraBassi	100
146	Telangana	Kothur	100
147	West Bengal	Coochbihar	100
148	Punjab	Changal (Sangrur)	99
149	Chandigarh (UT)	Chandigarh	98
150	Madhya Pradesh	Mandideep	98
151	Madhya Pradesh	Ratlam	98
152	Assam	Tezpur	97
153	Jammu & Kashmir (UT)	Srinagar (K)	97
154	Jharkhand	Jorapokhar	97
155	West Bengal	Alipurduar	97
156	West Bengal	Haldia	97
157	Maharashtra	Badlapur	96
158	Odisha	Angul	96
159	Rajasthan	Ajmer	96
160	West Bengal	Jalpaiguri	96
161	Punjab	Naudhrani (Malerkotla)	95
162	Odisha	Bhubaneshwar	94
163	Punjab	QilaBharian (Sangrur)	94
164	Maharashtra	Jalna	93
165	Assam	Nalbari	92
166	Haryana	Mandikhera	92
167	Himachal Pradesh	Nalagarh	92
168	Maharashtra	Navi Mumbai	92
169	Punjab	Kharaori (Sirhind)	92
170	Punjab	Fatehpur (Samana)	91
171	Punjab	Guru Ki Dhab (Kotkapura)	91
172	Punjab	LakhokeBehram (Ferozpur)	91
173	Telangana	Ramagundum	91

174	West Bengal	Rishra	91
175	Himachal Pradesh	Poanta Sahib	90
176	Karnataka	Raichur	90
177	Punjab	Rakhra (Patiala)	90
178	West Bengal	Barasat	90
179	Madhya Pradesh	Pithampur	89
180	Telangana	Hyderabad	89
181	Nagaland	Dimapur	88
182	Odisha	Talcher	88
183	Odisha	Cuttack	87
184	Punjab	Bara Pind (Goraya)	87
185	West Bengal	Madhyamgram	87
186	West Bengal	Barrekpore	86
187	West Bengal	Tribeni	86
188	Maharashtra	Kolhapur	85
189	Punjab	Mureedke (Batala)	85
190	Punjab	Peer Mohammad (Jalalabad)	85
191	West Bengal	Dankuni	85
192	Maharashtra	Pimpri-Chinchwad	84
193	Madhya Pradesh	Dewas	83
194	West Bengal	Chinsura	83
195	West Bengal	Kalyani	83
196	West Bengal	Ranaghat	83
197	Dadara& Nagar Haveli and Daman & Diu (UT)	Silvasa	82
198	Telangana	Sangareddy	82
199	Tripura	Agartala	82
200	Dadara& Nagar Haveli and Daman & Diu (UT)	Daman	81
201	Karnataka	Belgaum	81
202	Maharashtra	Ulhasnagar	81
203	Punjab	Binjon (Garshankar)	81
204	Madhya Pradesh	Sagar	80
205	Madhya Pradesh	Satna	80
206	Maharashtra	Aurangabad	80
207	West Bengal	Krishnanagar	80
208	Bihar	Gaya	79
209	Karnataka	Gulbarga / Kalaburgi	79
210	West Bengal	Baharampur	79
211	Gujarat	Gandhinagar	78
212	Punjab	NayaNangal	78
213	Telangana	Patencheru	78
214	West Bengal	Bankura	78
215	West Bengal	Rampurhat	78
216	Andhra Pradesh	Srikakulam	77
217	Kerala	Kollam	77

218	Maharashtra	Ambernath	77
219	Nagaland	Kohima	77
220	Odisha	Puri	77
221	Punjab	Batala	77
222	West Bengal	Bardhaman	77
223	West Bengal	Suri	77
224	Odisha	Balasore	76
225	Punjab	Aligarh (Jagraon)	76
226	Telangana	Karimnagar	76
227	West Bengal	Bolpur	75
228	Punjab	Dera Baba Nanak	74
229	West Bengal	Purulia	74
230	Goa	Panaji	73
231	Kerala	Kannur	73
232	Andhra Pradesh	Rajahmundry	72
233	Andhra Pradesh	Vizianagaram	72
234	Dadara& Nagar Haveli and Daman & Diu (UT)	Patlara (Daman)	72
235	Gujarat	Nandesari	72
236	Jharkhand	Barajamda	72
237	Madhya Pradesh	Amlai	72
238	Maharashtra	Nagpur	72
239	Maharashtra	Sangli	72
240	Maharashtra	Solapur	72
241	Telangana	Khammam	72
242	Chhattisgarh	Bilaspur	71
243	Dadara& Nagar Haveli and Daman & Diu (UT)	Baldevi (Dadra & Nagar Haveli)	71
244	Karnataka	Bidar	71
245	Karnataka	Hubli-Dharwad	71
246	Odisha	Brajrajnagar	71
247	Telangana	Adilabad	71
248	Telangana	Nalgonda	71
249	Madhya Pradesh	Rewa	70
250	Punjab	JaitoSarja (Batala)	70
251	Odisha	Rayagada	68
252	Arunachal Pradesh	Itanagar	67
253	Goa	Cuncolim	67
254	Himachal Pradesh	Damtal	67
255	Karnataka	Bangalore	67
256	Tamilnadu	Tuticorin / Thoothukudi	67
257	Madhya Pradesh	Chindwara	66
258	Andhra Pradesh	Vijayawada	65
259	Chhattisgarh	Raigarh	65
260	Mizoram	Lawngtlai	65
261	Andhra Pradesh	Anatapur	64

262	Goa	Usgao-Pale	64
263	Maharashtra	Amravati	64
264	Sikkim	Rangpo	64
265	West Bengal	Kalimpong	64
266	Andhra Pradesh	Eluru	63
267	Goa	Ponda	63
268	Maharashtra	Akola	63
269	Odisha	Berhampur	63
270	Odisha	Konark	63
271	Chattisgarh	Raipur	62
272	Goa	Codli	62
273	Goa	Kundaim	62
274	Goa	Tilamol	62
275	Karnataka	Tumkuru	62
276	Madhya Pradesh	Damoh	62
277	Maharashtra	Bhiwandi	62
278	West Bengal	Darjeeling	62
279	Andhra Pradesh	Kakinada	61
280	Chattisgarh	Durg-Bhillainagar	61
281	Chattisgarh	Korba	61
282	Goa	Bicholim	61
283	Goa	Honda	61
284	Andhra Pradesh	Guntur	60
285	Goa	Sanguem	60
286	Karnataka	Hassan	60
287	Maharashtra	Jalgaon	60
288	Tamilnadu	Theni	60
289	Telangana	Warangal	60
290	Goa	Amona	59
291	Goa	Margao	59
292	Goa	Tuem	59
293	Karnataka	Yadgir	59
294	Maharashtra	Nashik	59
295	Telangana	Nizamabad	59
296	Andhra Pradesh	Kurnool	58
297	Goa	Assanora	58
298	Goa	Vasco	58
299	Himachal Pradesh	Shimla	58
300	Tamilnadu	Chennai	58
301	Assam	North Lakhimpur	57
302	Goa	Mapusa	57
303	Karnataka	Chikkaballapur	57
304	Kerala	Palakkad	57
305	Madhya Pradesh	Maihar	57
306	Maharashtra	Latur	57
307	Andhra Pradesh	Amaravati	55

308	Andhra Pradesh	Nellore	55
309	Arunachal Pradesh	Naharlagun	54
310	Assam	Daranga	54
311	Karnataka	Devanagere	54
312	Maharashtra	Nanded	54
313	Tamilnadu	Madurai	54
314	Andhra Pradesh	Kadapa	53
315	Andhra Pradesh	Ongole	53
316	Himachal Pradesh	Una	53
317	Kerala	Kochi	53
318	Himachal Pradesh	Sunder Nagar	52
319	Karnataka	Ramanagara	52
320	Kerala	Alappuzha	52
321	Tamilnadu	Tiruvannamalai	52
322	Andhra Pradesh	Tirupati	51
323	Karnataka	Mangalore	51
324	Kerala	Kozhikode	51
325	Assam	Golaghat	50
326	Karnataka	Bijapur / Vijayapura	50
327	Karnataka	Kolar	50
328	Kerala	Ernakulam	50
329	Karnataka	Chamarajanagar	49
330	Kerala	Thrissur	49
331	Sikkim	Gangtok	49
332	Tamilnadu	Cuddalore	48
333	Assam	Sivasagar	47
334	Assam	Tinsukia	47
335	Kerala	Eloor	47
336	Kerala	Thiruvananthapuram	47
337	Tamilnadu	Coimbatore	47
338	Tamilnadu	Trichy	47
339	Andhra Pradesh	Chittoor	46
340	Assam	Silcher	46
341	Karnataka	Mysore	46
342	Karnataka	Shimoga / Shivamogga	45
343	Himachal Pradesh	Dharamshala	42
344	Meghalaya	Khliehriat	42
345	Pondicherry (UT)	Pondicherry	42
346	Tamilnadu	Dharmapuri	42
347	Tamilnadu	Villupuram	42
348	Assam	Magherita	41
349	Himachal Pradesh	Manali	41
350	Karnataka	Bagalkote	41
351	Madhya Pradesh	Nagda	41
352	Pondicherry (UT)	Karaikal	41
353	Assam	Bongaigaon	40

354	Karnataka	Chikkamagaluru	40
355	Karnataka	Koppal	40
356	Mizoram	Aizwal	40
357	Tamilnadu	Salem	40
358	Assam	Dibrugarh	39
359	Tamilnadu	Mettur	39
360	Tamilnadu	Nagarcoil	39
361	Himachal Pradesh	Parwanoo	38
362	Karnataka	Chitradurga	38
363	Kerala	Kottayam	38
364	Meghalaya	Dawki	37
365	Meghalaya	Tura	37
366	Mizoram	Saiha	37
367	Karnataka	Madikeri	36
368	Meghalaya	Nongstoin	35
369	Mizoram	Serchhip	35
370	Tamilnadu	Sivagangai	35
371	Tamilnadu	Tiruvarur	35
372	Karnataka	Mandya	34
373	Tamilnadu	Perambalur	34
374	Karnataka	Udupi	33
375	Kerala	Pathanamthitta	33
376	Karnataka	Gadag	32
377	Mizoram	Mamit	32
378	Sikkim	Singtam	32
379	Kerala	Mallapuram	31
380	Sikkim	Namchi	30
381	Kerala	Wayanad	29
382	Sikkim	Pelling	29
383	Meghalaya	Shillong	27
384	Sikkim	Chungthang	27
385	Sikkim	Mangan	27
386	Mizoram	Lunglei	25
387	Sikkim	Ravangla	23
388	Mizoram	Champhai	22
389	Mizoram	Kolasib	17

Annexure –II

Status of Air Quality Index (Number of days) of cities of Delhi, Ghaziabad, Noida, Gurugram and Faridabad during June- November, 2022

City	Month in 2022	Number of days in different categories of AQI						Good & Bad days	
		Good	Satisfactory	Moderate	Poor	Very Poor	Severe	Good Days	Bad days
		(0–50)	(51–100)	(101–200)	(201–300)	(301–400)	(>401)		
Delhi	June		3	14	10	3		17	13
	July		25	6				31	0
	August		18	13				31	0
	September	1	11	18				30	0
	October	2	4	8	10	7		14	17
	November				12	15	3	0	30
Ghaziabad	June		2	13	11	4		15	15
	July	2	21	7				30	0
	August	2	17	12				31	0
	September	3	11	16				30	0
	October	5	1	6	13	6		12	19
	November			5	13	10	2	5	25
Noida	June		2	13	10	5		15	15
	July	1	24	5				30	0
	August	3	19	9				31	0
	September	1	14	15				30	0
	October	3	3	8	11	6		14	17
	November			6	13	9	2	6	24
Gurugram	June		1	13	12	4		14	16
	July	2	14	12	2			28	2
	August	2	16	13				31	0
	September	1	8	21				30	0
	October	4	2	8	11	6		14	17
	November			1	18	9	2	1	29
Faridabad	June		3	16	9	2		19	11
	July		17	13				30	0
	August	1	5	25				31	0
	September	2	11	17				30	0
	October	4	2	10	8	7		16	15
	November			1	15	12	2	1	29

Annexure-III: Year-wise details funds released to 131 Non-attainment cities and Million Plus Cities under National Clean Air Programme (NCAP)

(Amount in crore)

Details	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23 (till 10 th March)	Total
XVth Finance Commission Air Quality Performance Grant to 49 Million Plus Cities	-	4400.00	2025.00	1566.44	7991.44
Funding to remaining 82 cities by MoEFCC	224.92	150.52	96.62	452.18	924.24
Total	224.92	4550.52	2121.62	2018.62	8915.68

Annexure-IV: 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
- 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:
 - 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.
 - Web portals functional in Delhi, Haryana and Uttar Pradesh. Under development in Rajasthan.
 - Self-certification by the proponents on the portal.
 - Cross Verification of the parameters as certified on the portal vis-à-vis the ground conditions.
 - 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.
 - 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.
 - Compliance of guidelines for covering of construction materials with dust potential.
 - Transportation of C&D materials in covered vehicles.

Other matters:

- (i) Revised Graded Response Action Plan (GRAP)
 - Revised GRAP based on Delhi's AQI as against PM2.5 / PM10 levels earlier.
 - Preventive / restrictive / prohibitive actions under 4 different stages (I-IV) w.e.f. 01.10.2022.
 - Daily forecasts by IMD/ IITM started.
 - Sub-Committee for invoking GRAP meeting regularly for invoking the GRAP actions, based on the AQI forecast.
 - 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.
