

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UN-STARRED QUESTION NO. 2114
TO BE ANSWERED ON 21.12.2023

Increasing pollution level

2114. DR. M. THAMBIDURAI

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

- (a) whether it is a fact that pollution levels are increasing day-by-day in the country;
- (b) if so, the details thereof;
- (c) the details of the present status of pollution levels, including the most polluted and the least polluted State in the country;
- (d) the details of the funds allocated and spent during the last three years, year-wise, under National Clean Air Programme; and
- (e) the steps taken by Government to contain air pollution?

ANSWER

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

(a) to (e)

Central Pollution Control Board (CPCB) has identified Non-attainment cities (NAC) based on ambient air quality data levels exceeding National Ambient Air Quality Standards with respect to any one of the notified parameters consecutively for five years. City Specific Clean Air Action Plans have been prepared and rolled out for implementation in these 131 non-attainment/million plus cities to improve the air quality. List is enclosed at **Annexure –I**.

The analysis of Air Quality Index indicator in terms of in Good (Good + Satisfactory + Moderate) and Bad (Poor + Very Poor + Severe) days for the year 2021, 2022 and 2023 (till 27th October) of the country (275 cities in 27 States and 4 UTs) reveals that:

- i. In 2021, 149 cities showed more good days than bad days compared to 20 cities which showed more bad days than good days
- ii. In 2022, 181 cities showed more good days than bad days compared to 15 cities which showed more bad days than good days
- iii. In 2023, 270 cities showed more good days than bad days compared to 4 cities which showed more bad days than good days

The analysis of Air Quality Index indicator in terms of in Good (Good + Satisfactory + Moderate) and Bad (Poor + Very Poor + Severe) days of the country in 2023 (till 27th October) reveals that 70 cities showed all Good Days only. The list of 70 cities with all good days and 10 cities with highest percentage of bad days during 2023 is given at **Annexure – II**.

Ministry of Environment Forest & Climate Change (MoEF&CC) launched National Clean Air Programme (NCAP) in January, 2019 which is a long-term, time-bound national level strategy for prevention, control and abatement of air pollution with an objective to improve air quality in 131 Non-attainment and Million Plus Population Cities/Urban Agglomerations.

Under the NCAP, City Specific Clean Air Action Plans have been prepared and rolled out for implementation in 131 non-attainment/million plus cities to improve the air quality. These action plans have short, medium and long term actions for city specific air polluting sources like Soil & Road Dust, Vehicles, Domestic Fuel, MSW Burning, Construction Material and Industries along with the responsible agencies.

Central Government has earmarked an amount of Rs.19,711 Cr. to 131 cities during the period FY 2019-20 till FY 2025-26 out of which 49 Million Plus Cities/Urban Agglomerations are funded under Fifteenth Finance Commission (XVFC) air quality grant. An amount of Rs. 9,103.92 Cr. was released to 131 cities to implement City Action Plans in their respective cities during last three years (FY 2020-21 to 2022-23).

State-wise and year-wise details of funds released and utilization in 24 States/UT's having 131 targeted cities under NCAP are provided at **Annexure-III**. Further, steps taken for improvement of air quality in India are enclosed at **Annexure-IV**.

Annexure - I**List of 131 non-attainment cities**

State	S.No.	City
Andhra Pradesh (13)	1.	Guntur
	2.	Kurnool
	3.	Nellore
	4.	Vijayawada
	5.	Vishakhapatnam
	6.	Anantapur
	7.	Chittoor
	8.	Eluru
	9.	Kadapa
	10.	Ongole
	11.	Rajahmundry
	12.	Srikakulam
	13.	Vizianagaram
Assam (05)	14.	Guwahati
	15.	Nagaon
	16.	Nalbari
	17.	Sibsagar
	18.	Silchar
Bihar (03)	19.	Patna
	20.	Gaya
	21.	Muzaffarpur
Chandigarh (01)	22.	Chandigarh
Chhattisgarh (03)	23.	Bhilai
	24.	Korba
	25.	Raipur
Delhi (01)	26.	Delhi
Gujarat (03)	27.	Surat
	28.	Ahmedabad
	29.	Vadodara
Himachal Pradesh (7)	30.	Baddi
	31.	Damtal
	32.	Kala Amb
	33.	Nalagarh
	34.	Paonta Sahib

	35.	Parwanoo
	36.	Sunder Nagar
Jammu & Kashmir (2)	37.	Jammu
	38.	Srinagar
Jharkhand (01)	39.	Dhanbad
Karnataka (04)	40.	Bangalore
	41.	Devanagere
	42.	Gulburga
	43.	Hubli-Dharwad
Madhya Pradesh (06)	44.	Bhopal
	45.	Dewas
	46.	Indore
	47.	Sagar
	48.	Ujjain
	49.	Gwalior
Maharashtra (18)	50.	Akola
	51.	Amravati
	52.	Aurangabad
	53.	Badlapur
	54.	Chandrapur
	55.	Jalgaon
	56.	Jalna
	57.	Kolhapur
	58.	Latur
	59.	Mumbai
	60.	Nagpur
	61.	Nashik
	62.	Navi Mumbai
	63.	Pune
	64.	Sangli
	65.	Solapur
	66.	Ulhasnagar
	67.	Thane
Meghalaya (01)	68.	Byrnihat
Nagaland (02)	69.	Dimapur
	70.	Kohima
Orissa (07)	71.	Angul

	72.	Balasore
	73.	Bhubaneswar
	74.	Cuttack
	75.	Rourkela
	76.	Talcher
	77.	Kalinga Nagar
Punjab (09)	78.	Dera Bassi
	79.	Gobindgarh
	80.	Jalandhar
	81.	Khanna
	82.	Ludhiana
	83.	Naya Nangal
	84.	Pathankot/Dera Baba
	85.	Patiala
	86.	Amritsar
Rajasthan (05)	87.	Alwar
	88.	Jaipur
	89.	Jodhpur
	90.	Kota
	91.	Udaipur
Tamilnadu (03)	92.	Thoothukudi
	93.	Trichy
	94.	Madurai
Telangana (04)	95.	Hyderabad
	96.	Nalgonda
	97.	Patancheruvu
	98.	Sangareddy
Uttar Pradesh (16)	99.	Agra
	100.	Allahabad
	101.	Anpara
	102.	Bareilly
	103.	Firozabad
	104.	Gajraula
	105.	Ghaziabad
	106.	Jhansi
	107.	Kanpur
	108.	Khurja

	109.	Lucknow
	110.	Moradabad
	111.	Noida
	112.	Raebareli
	113.	Varanasi
	114.	Gorakhpur
Uttarakhand (03)	115.	Kashipur
	116.	Rishikesh
	117.	Dehradun
West Bengal (07)	118.	Kolkata
	119.	Asansol
	120.	Barrackpore
	121.	Durgapur
	122.	Haldia
	123.	Howrah
Million plus cities which are not non-attainment but funded under XV-Finance Commission		
Gujarat (1)	124.	Rajkot
Haryana (1)	125.	Faridabad
Jharkhand (2)	126.	Jamshedpur
	127.	Ranchi
Madhya Pradesh (1)	128.	Jabalpur
Uttar Pradesh (1)	129.	Meerut
Maharashtra (1)	130.	Vasai-Virar
Tamilnadu (1)	131.	Chennai

Annexure - II

List of cities with highest percentage of good days in 2023 (till 27th October)

State/UTs	Sl. No.	City	No. of days in different categories of AQI during 2023						Good & Bad days			% of Good Days
			Good	Satisfactory	Moderate	Poor	Very Poor	Severe	Good Days	Bad Days	Total No. of days	
Andhra Pradesh	1.	Anantpur	85	146	25	0	0	0	256	0	256	100
Andhra Pradesh	2.	Tirupati	89	173	26	0	0	0	288	0	288	100
Arunachal Pradesh	3.	Naharlagun	105	36	0	0	0	0	141	0	141	100
Assam	4.	Silchar	208	69	0	0	0	0	277	0	277	100
Assam	5.	Sivasagar	215	69	0	0	0	0	284	0	284	100
Chhattisgarh	6.	Bhilai	129	148	21	0	0	0	298	0	298	100
Chhattisgarh	7.	Kunjemura	44	57	58	0	0	0	159	0	159	100
Chhattisgarh	8.	Milupara	62	101	1	0	0	0	164	0	164	100
Chhattisgarh	9.	Raipur	60	173	65	0	0	0	298	0	298	100
Haryana	10.	Palwal	91	160	26	0	0	0	277	0	277	100
Karnataka	11.	Bagalkot	262	27	0	0	0	0	289	0	289	100
Karnataka	12.	Bengaluru	61	215	25	0	0	0	301	0	301	100
Karnataka	13.	Bidar	73	81	24	0	0	0	178	0	178	100
Karnataka	14.	Chamarajanagar	292	5	0	0	0	0	297	0	297	100
Karnataka	15.	Chikkaballapur	122	113	54	0	0	0	289	0	289	100
Karnataka	16.	Chikkamagaluru	150	89	1	0	0	0	240	0	240	100
Karnataka	17.	Davanagere	133	86	9	0	0	0	228	0	228	100
Karnataka	18.	Dharwad	40	102	18	0	0	0	160	0	160	100
Karnataka	19.	Hassan	41	148	10	0	0	0	199	0	199	100
Karnataka	20.	Haweri	129	94	37	0	0	0	260	0	260	100
Karnataka	21.	Hubballi	30	155	104	0	0	0	289	0	289	100

State/UTs	Sl. No.	City	No. of days in different categories of AQI during 2023						Good & Bad days			% of Good Days
			Good	Satisfactory	Moderate	Poor	Very Poor	Severe	Good Days	Bad Days	Total No. of days	
Karnataka	22.	Kolar	46	41	45	0	0	0	132	0	132	100
Karnataka	23.	Madikeri	245	32	0	0	0	0	277	0	277	100
Karnataka	24.	Mangalore	58	150	79	0	0	0	287	0	287	100
Karnataka	25.	Mysuru	109	181	0	0	0	0	290	0	290	100
Karnataka	26.	Ramanagara	98	180	12	0	0	0	290	0	290	100
Karnataka	27.	Shivamogga	100	190	1	0	0	0	291	0	291	100
Karnataka	28.	Udupi	1	53	30	0	0	0	84	0	84	100
Karnataka	29.	Vijayapura	270	21	0	0	0	0	291	0	291	100
Karnataka	30.	Yadgir	112	145	12	0	0	0	269	0	269	100
Kerala	31.	Eloor	23	144	0	0	0	0	167	0	167	100
Kerala	32.	Ernakulam	0	202	5	0	0	0	207	0	207	100
Kerala	33.	Kochi	9	208	28	0	0	0	245	0	245	100
Kerala	34.	Kollam	0	61	1	0	0	0	62	0	62	100
Kerala	35.	Kozhikode	202	85	11	0	0	0	298	0	298	100
Kerala	36.	Thiruvananthapuram	28	162	75	0	0	0	265	0	265	100
Madhya Pradesh	37.	Bhopal	212	58	3	0	0	0	273	0	273	100
Madhya Pradesh	38.	Gwalior	14	162	117	0	0	0	293	0	293	100
Madhya Pradesh	39.	Katni	168	66	6	0	0	0	240	0	240	100
Madhya Pradesh	40.	Pithampur	39	142	91	0	0	0	272	0	272	100
Madhya Pradesh	41.	Ujjain	25	46	24	0	0	0	95	0	95	100
Maharashtra	42.	Akola	57	53	40	0	0	0	150	0	150	100
Maharashtra	43.	Belapur	66	36	15	0	0	0	117	0	117	100
Maharashtra	44.	Bhiwandi	43	38	26	0	0	0	107	0	107	100
Maharashtra	45.	Boisar	15	31	18	0	0	0	64	0	64	100

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			Good	Satisfactory	Moderate	Poor	Very Poor	Severe	Good Days	Bad Days	Total No. of days	
Maharashtra	46.	Dhule	42	48	34	0	0	0	124	0	124	100
Maharashtra	47.	Latur	58	75	2	0	0	0	135	0	135	100
Maharashtra	48.	Mahad	64	34	18	0	0	0	116	0	116	100
Maharashtra	49.	Malegaon	32	65	17	0	0	0	114	0	114	100
Maharashtra	50.	Sangli	101	21	13	0	0	0	135	0	135	100
Maharashtra	51.	Solapur	26	93	161	0	0	0	280	0	280	100
Mizoram	52.	Aizawl	117	71	31	0	0	0	219	0	219	100
Odisha	53.	Brajrajnagar	26	80	48	0	0	0	154	0	154	100
Puducherry	54.	Puducherry	118	167	7	0	0	0	292	0	292	100
Rajasthan	55.	Dungarpur	8	38	6	0	0	0	52	0	52	100
Rajasthan	56.	Pratapgarh	24	116	78	0	0	0	218	0	218	100
Rajasthan	57.	Sirohi	30	115	43	0	0	0	188	0	188	100
Tamil Nadu	58.	Ariyalur	119	102	23	0	0	0	244	0	244	100
Tamil Nadu	59.	Chennai	16	241	44	0	0	0	301	0	301	100
Tamil Nadu	60.	Ooty	96	134	21	0	0	0	251	0	251	100
Tamil Nadu	61.	Palkalaiperur	25	115	1	0	0	0	141	0	141	100
Tamil Nadu	62.	Ramanathapuram	153	95	5	0	0	0	253	0	253	100
Tamil Nadu	63.	Salem	31	96	16	0	0	0	143	0	143	100
Tamil Nadu	64.	Tirupur	90	98	9	0	0	0	197	0	197	100
Telangana	65.	Hyderabad	5	240	56	0	0	0	301	0	301	100
Uttar Pradesh	66.	Agra	55	199	47	0	0	0	301	0	301	100
Uttar Pradesh	67.	Bareilly	77	143	67	0	0	0	287	0	287	100
Uttar Pradesh	68.	Moradabad	15	137	149	0	0	0	301	0	301	100
Uttar Pradesh	69.	Varanasi	126	159	16	0	0	0	301	0	301	100

State/UTs	Sl. No.	City	No. of days in different categories of AQI during 2023						Good & Bad days			% of Good Days
			Good	Satisfactory	Moderate	Poor	Very Poor	Severe	Good Days	Bad Days	Total No. of days	
Uttarakhand	70.	Rishikesh	140	97	4	0	0	0	241	0	241	100

List of cities with highest percentage of bad days in 2023 (till 27th October)

State/UTs	City	Good	Satisfactory	Moderate	Poor	Very Poor	Severe	Good Days	Bad Days	Total No. of days	% of bad days
Bihar	Begusarai	1	13	50	55	39	21	64	115	179	64.2
Assam	Byrnihat	1	17	69	67	54	10	87	131	218	60.0
Bihar	Chhapra	4	66	75	76	38	7	145	121	266	45.4
Bihar	Munger	12	39	94	80	26	1	145	107	252	42.4
Bihar	Samastipur	12	65	73	62	42	6	150	110	260	42.3
Bihar	Bettiah	2	55	78	53	35	8	135	96	231	41.5
Uttar Pradesh	Greater Noida	3	36	146	92	19	5	185	116	301	38.5
Bihar	Saharsa	19	63	74	51	39	7	156	97	253	38.3
Bihar	Siwan	10	45	110	47	43	7	165	97	262	37.0
Bihar	Patna	10	76	105	75	32	2	191	109	300	36.3

Annexure – III

(Amount in ₹ cr)

State and year wise details of funds released and utilization in 131 targeted cities during FY 2020-21,2021-22 and 2022-23 under NCAP									
S N	State	Fund released				Fund Utilized			
		FY 20-21	FY 21-22	FY 22-23	Total	FY 20-21	FY 21-22	FY 22-23	Total
		1	2	3	4=1+2+3	5	6	7	8=5+6+7
1	Andhra Pradesh	152.28	77.58	75.06	304.92	0.04	2.31	59.70	62.05
2	Assam	12.00	0.00	24.10	36.10	0.29	1.27	17.89	19.45
3	Bihar	211.00	88.97	7.09	307.06	8.34	56.20	102.02	166.56
4	Chandigarh	5.00	4.61	6.87	16.48	5.13	2.03	4.23	11.39
5	Chhattisgarh	120.00	68.70	57.94	246.64	0.08	23.87	53.81	77.76
6	Delhi	0.00	11.25	22.50	33.75	0.00	0.00	10.77	10.77
7	Haryana	48.00	6.25	19.28	73.53	0.00	0.78	0.00	0.78
8	Himachal Pradesh	10.00	0.48	3.59	14.07	0.09	7.39	5.61	13.09
9	Jammu & Kashmir	8.00	12.84	32.50	53.34	6.08	2.01	7.84	15.93
10	Jharkhand	159.00	72.44	42.00	273.44	0.00	14.83	116.68	131.51
11	Gujarat	405.00	217.71	173.29	796.00	19.31	142.66	343.60	505.57
12	Karnataka	280.52	154.67	128.52	563.71	6.94	1.49	3.02	11.45
13	Madhya Pradesh	300.52	151.20	135.04	586.76	224.92	178.05	103.50	506.47
14	Maharashtra	804.40	453.24	386.83	1644.47	0.51	19.76	449.49	469.76
15	Meghalaya	3.00	0.00	0.45	3.45	0	1.89	0.95	2.84
16	Nagaland	6	0.93	3.95	10.88	0	0.00	1.62	1.62
17	Odisha	6.04	3.64	38.52	48.20	0.23	3.23	42.33	45.79
18	Punjab	105.04	33.75	56.88	195.67	0.06	15.90	117.93	133.89
19	Rajasthan	284.80	122.94	103.76	511.50	0.69	9.86	351.30	361.85
20	Tamilnadu	236.00	131.70	129.22	496.92	102.50	192.05	176.22	470.77
21	Telangana	247.76	118.79	92.96	459.51	34.51	186.28	157.51	378.30

22	Uttar Pradesh	726.16	218.63	672.79	1617.58	44.10	354.67	607.40	1006.17
23	Uttarakhand	11.00	5.67	22.30	38.97	0.20	1.53	14.80	16.53
24	West Bengal	432.00	165.60	173.42	771.02	6.93	161.23	7.06	175.22
Total		4573.52	2121.59	2408.86	9103.97	460.95	1379.29	3241.54	5081.78

List of Steps taken for improvement of air quality
ACTIONS TAKEN BY THE CENTRAL GOVERNMENT

1.0 National Clean Air Programme:

- National Clean Air Programme (NCAP) has been launched by Ministry of Environment, Forest and Climate Change (MoEFCC) 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.
- NCAP envisages reduction by 20-30% in PM concentration over baseline in year 2017 by 2024. Target has been revised to achieve reduction in PM10 level up to 40% or achievement of national standards (60 µg/m³) by 2025-26.
- City Action Plans (CAPs) have been prepared by all 131 cities and being implemented by Urban Local Bodies.
- The city specific clean air action plans target city specific air polluting sources like Soil & Road Dust, Vehicles, Domestic Fuel, MSW Burning, Construction Material and **Industries**
- Performance based financial support is being provided to these 131 cities for implementation of activities of City Action Plan.
- Further, funding for implementation of CAPs is being mobilised through convergence of resources from various schemes of Central Government such as Swachh Bharat Mission SBM (Urban), Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Smart City Mission, Sustainable Alternative towards Affordable Transportation (SATAT), Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME-II), Nagar Van Yojna, etc. and resources from State/UT Governments and its agencies such as Municipal Corporation, Urban Development authorities and Industrial development authorities etc.
- Public Grievance Redressal Portal (PGRP)/helpline have been developed by all 131 cities to address public complaints of air pollution in timely manner.
- Emergency Response System (ERS/ GRAP) have been developed by all 131 cities for taking action in air emergencies
- 90 cities out of 131 cities have shown improvement in air quality in terms of annual PM10 concentrations in FY 2022-23 with respect to the baseline of FY 2017-18.

2.0 Measures for control of vehicular emissions:

- **Leapfrogging from BS-IV to BS-VI fuel standards** since 1st April, 2018 in NCT of Delhi and from 1st April, 2020 for the rest of the country.
- **RFID (radio-frequency identity)** system implemented by South Delhi Municipal Corporation (SDMC) for collection of toll and Environment Compensation Charges from commercial vehicles entering Delhi.
- Introduction of **BS VI compliant vehicles** across the country since April, 2020.
- Department of Heavy Industry is providing subsidy on e-vehicles under **Faster Adoption and Manufacture of (Hybrid &) Electric Vehicles in India (FAME -II India)** scheme.

- **Sustainable Alternative Towards Affordable Transportation (SATAT)** has been launched as an initiative to set up Compressed Bio-Gas (CBG) production plants and make CBG available in the market for use in automotive fuels.
- Operationalization of Expressways & Highways to divert non-destined traffic

3.0 Measures for control of industrial emission:

- **Notification regarding SO₂ and NO_x emission standards** have been issued for Thermal Power Plants.
- **Ban on use of pet coke and furnace oil** as fuel in NCR States since October 24, 2017 and ban on use of imported pet coke in the country since July 26, 2018, with exception for use in permitted processes.

4.0 Measures for control of emissions from Stubble Burning:

- Under 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', agricultural machines and equipment for in-situ crop residue management are promoted with 50% subsidy to the individual farmers and 80% subsidy for establishment of Custom Hiring Centers. In 2022, the Scheme has been merged with Sub-Mission on Agricultural Mechanization (SMAM) and SMAM has been merged with Rashtriya Krishi Vikas Yojana (RKVY).
- The Commission for Air Quality Management in NCR and Adjoining Areas (CAQM) on 17.09.2021 directed the coal-based Thermal Power plants situated up to a radius of 300 Km of Delhi to co-fire biomass based Pellets, Torrefied Pellets/Briquettes (with focus on paddy straw) with Coal (up to 5-10%).
- Coal based captive Thermal Power Plants in NCR and adjoining areas directed to co-fire at least 5% biomass pellets by 30.09.2023 and at least 10% biomass pellets by 31.12.2023.

Actions taken by Central Pollution Control Board (CPCB)

1.0 Air Quality Monitoring and Network

- **National Air Quality Index (AQI)** was launched in 2015. Information is being disseminated to public through daily air quality bulletins.
- **Ambient Air Quality Network:** The country has a network of 1447 ambient air quality monitoring stations (516 continuous and 931 manual) covering 516 cities in 28 states and 7 UTs.
- A **Central Control Room** is operated by Central Pollution Control Board wherein, hour to hour tracking of various information such as **PM concentrations, Live Air Quality Data of Monitoring stations, Live Air Quality Index is available. Further, Air Quality Forecast is also available for Delhi-NCR.**
- AQI is monitored along with other parameters and is published on the website in the form of **AQI Bulletin** after analysis. The links for the same have been made available to CAQM for consideration and deciding on urgent actions for control of pollution in Delhi-NCR.

2.0 Measures for control of vehicular refueling emissions

- Installation of Vapour Recovery System (VRS) in new and existing petrol pumps selling gasoline >100kl per month in million plus cities and those selling >300kl per month in cities with population between 1 lakh to 1 million.
- Directions issued to M/s IOCL, M/s BPCL, M/s HPCL, M/s RIL, M/s Shell and M/s Nayara for installation of VRS as per above mentioned criteria

3.0 Measures for control of industrial emission

- For strengthening monitoring mechanism and effective compliance through self-regulatory mechanism, CPCB directed all 17 categories of highly polluting industries to install OCEMS. There are 4,315 units under 17 categories of industries, out of which 3,734 units have installed OCEMS and closure directions are still in-force for 581 units.
- The Ministry of Environment Forest and Climate Change (MoEF&CC), Government of India notifies industry specific discharge standards under Schedule-I: 'Standards for Emission or Discharge of Environmental Pollutants from various Industries' of Environment Protection Act, 1986. So far, industry specific environmental standards, for 79 industrial sectors (including emission standards for 56 sectors) have been notified. Industrial sectors, for which specific standards are not available, general standards as notified under Schedule-VI of Environment Protection Rules, 1986 shall be applicable.
- Installation of **Online Continuous Emission Monitoring System (OCEMS) in red category air polluting industries** in Delhi-NCR
- Industrial units in Delhi have shifted to PNG/cleaner fuels and, operational units in NCR have shifted to PNG/Biomass.
- Shifting of all operational **brick kilns to zig-zag technology** in Delhi and NCR.
- 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.

4.0 Measures for Control of Emissions from Stubble Burning

- 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.
- 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 pelletisation 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. Similarly, a maximum amount of Rs. 56 lakhs or 40% of the capital cost considered for plant and machinery of a 1 TPH torrefaction plant, whichever is lower, shall be given as onetime financial support by CPCB, subject to a maximum total financial support of Rs. 2.8 crore per proposal. A corpus of Rs. 50 crores have been earmarked for utilisation through the guidelines. A total of 10 plants have been approved so far.

- CPCB has also issued an addendum to the guidelines 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.
- 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.
- From 10.11.2023 onwards, 33 scientists of CPCB were deployed as flying squads for assisting the Commission for Air Quality Management in National Capital Region and Adjoining Areas (CAQM) for intensifying monitoring and enforcement actions towards prevention of paddy stubble burning incidents in 22 districts of Punjab and 11 districts of Haryana. The flying squads are coordinating with the state Government/ nodal officers/ officers from respective Pollution Control Boards towards prevention and control of stubble burning in their respective districts and sending their daily reports to CAQM. All teams have been recently recalled in view of paddy harvesting season coming to an end.

5.0 MSW and C&D Waste:

- CPCB published guidelines (available on
 1. Environmental Management of Construction & Demolition (C & D) Wastes' in March, 2017
 2. 'Guidelines on DUST Mitigation Measures in Handling Construction Material & C&D Wastes' in November 2017.
 3. Disposal of legacy waste by bio-mining and bio-remediation to address open burning and landfill fires
- CPCB has issued direction to all SPCBs/ PCCs for deployment of Anti-Smog Gun and implementation of adequate dust mitigation measures at construction projects/ sites having area more than 20,000 sq. meters.
- CPCB has issued directions under Section 5 of E(P) Act to all SPCBs/PCCs for implementation of SWM Rules, 2016 with reference to fire incidents at MSW dumpsites.
- All these guidelines and Directions are available on CPCB website to be implemented by SPCBs/PCCs

6.0 Technical Interventions

- Research projects are being carried out by CPCB in collaboration with premier institutions like IIT, NEERI, etc. under Environment Protection Charge (EPC) funds which provide scientific inputs for taking focused action towards improvement in air quality of Delhi NCR. Based on the results of one such project, advisory has been issued to State Boards to use **dust suppressant**, along with water to control dust at unpaved roads, roads with heavy traffic and construction sites, as about 30% reduction in dust concentration was observed up to 6 hours after application of dust suppressant.
- CPCB issues a daily report comprising of AQI of Delhi and NCR towns, comparative AQI status, year-wise trends of PM concentration, hotspots for the day, AFE counts, contribution of stubble burning and meteorological forecast. This report is prepared based on the inputs available from various sources such as IMD, SAFAR, IARI, etc., and disseminated through CPCB website.

7.0 Close Monitoring & Ground level implementation

- Central Pollution Control Board has been continuously deploying **dedicated CPCB's teams on the field during the winter season** from 2017 onwards to check on-ground scenario of air pollution related activities and refer these to implementing agencies for necessary action.
- 03.12.2021 onwards **40 officers of CPCB have been deployed as flying squads**, for conducting incognito inspection of industries, construction sites etc. in various areas of Delhi NCR. Based on CPCB reports, further action is taken by Commission on Air Quality Management in National Capital Region and Adjoining areas (CAQM) including issuance of closure directions.

8.0 Regular Stakeholder Consultation, Public & Media Outreach

- Continuous interactions and coordination with government bodies, public agencies, urban local bodies for assessment of mitigation measures and to combat air pollution through review meetings for air quality management in Delhi-NCR. 41 review meetings convened as on date.
- **Twitter and Facebook accounts have been created for public outreach and complaint redressal** is closely monitoring the complaints on SAMEER app and social media platforms (Twitter & Facebook). Sameer and social media complaints are resolved through enforcement agencies and redressal status are being shared with respective agencies.
- **Dedicated media corner** on CPCB website informs latest developments and actions taken.

9.0 Regulatory Actions

- Directions prescribing measures for control of pollution from various sources such as implementation of RECD system/ dual fuel kits in DG sets, use of cleaner fuels in industries, shift to EV/ CNG/ BS VI diesel fuel in transport sector, implementation of dust control measures at C&D sites etc., have been issued by CAQM, wherein CPCB is also a member and provided technical inputs to CAQM. Further, policy to curb air pollution in NCR has also been formulated.
- **Graded Response Action Plan (GRAP) was prepared for implementation under different Air Quality Index (AQI) categories** in pursuant to the Hon'ble Supreme Court's Order dated December 02, 2016.
- CPCB prepared a revised GRAP, based on which, a revised GRAP has been published by CAQM on 05.08.2022, which has come into effect from 01.10.2022. GRAP revised again on 06.10.2023. CPCB is also a member of the sub-committee responsible for invoking various provisions under GRAP.

10.0 Other actions

- In order to control road dust emissions, CPCB is funding NCR ULBs for construction/ repair of roads and procurement of anti-smog guns and Mechanical road sweepers under EPC funds,
- In order to control DG set emissions, CPCB is funding retrofit/ upgradation of DG sets in Govt. hospitals in Delhi-NCR under EPC funds.