

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

**LOK SABHA**  
**UNSTARRED QUESTION No. 5290**  
TO BE ANSWERED ON: 04.04.2022

**Installation of Smog Towers**

5290. SHRI ARVIND GANPAT SAWANT:

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

- (a) the details specific to the cost incurred in installing Smog Towers;
- (b) whether the Government has assessed the costeffectiveness of installation of Smog Towers to reduce pollution and if so, the details thereof;
- (c) whether the Government believes that reducing pollution at the source is more cost effective than installing Smog Towers to reduce pollution;
- (d) if so, the details thereof and the actions taken thereon to install mechanisms to reduce pollution and smog at its source; and
- (e) the details pertaining to budgetary allocation made towards pollution control?

**ANSWER**

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

**(a) & (b)**

The total project cost of Smog Tower installed by CPCB at AnandViharwas Rs. 18,52,75,120/- excluding taxes and duties, operational cost, power connection, project management consultant (PMC) charges, Annual Maintenance Charges (AMC) and other specific works. Out of which, Rs.13,59,10,000/- was for tower construction and commissioning work related components (executed by TPL).

As informedby the Delhi Government, the total cost for installation of smog tower at Baba Khark Singh Marg, Connaught Place is Rs. 19,42, 35, 120/-.

The two Smog Towers are experimental pilot projects and further utility will depend on the performance results and other relevant issues.

**(c)& (d)**

It is scientifically true that reducing, preventing and control of pollution at the source is more cost effective than installing Smog Towers to reduce pollution.

The government has taken several actions to reduce air pollution which include the introduction of BS-VI norms for fuel and vehicles since April 2020; promotion of E-vehicles; expansion the of network of Metro rails for public transport; promotion of cleaner fuel such

as PNG; stringent emission norms for industries including coal-based Thermal Power Plants (TPPs); zig-zag technology for brick kilns; Extended Producer Responsibility (EPR) for plastic and e-waste management; real-time monitoring of major industrial sectors, etc. Sector-wise measures are enclosed at **Annexure-I**.

(e)

Rs. 472.06 Crores have been provided to non-attainment cities under National Clean Air Programme during 2019-2022. The details are enclosed as **Annexure-II**.

Rs. 4400 Crores and Rs.1833 Crores have been released under 15<sup>th</sup> Finance Commission Grant to 42 Urban Agglomerations (UA) having million plus population in the year 2020-21 and 2021-22 respectively for improving air quality. Details are enclosed as **Annexure-III** and **Annexure-IV**.

Further, Grant of Rs. 12139.00 Crores under Million Plus Challenge Fund has also been allocated for the period of 2021-22 to 2025-26. Details are enclosed as **Annexure-V**.

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**Measures taken by the Government for Air Quality Management**

**Vehicular Pollution Control**

- Leapfrogging from BS-IV to BS-VI norms for fuel and vehicles since April, 2020.
- 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.
- Introduction of cleaner/alternate fuels like CNG, LPG, ethanol blending in petrol.
- Faster Adoption and Manufacturing of Electric Vehicles (FAME) -2 scheme 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.

**Industrial Pollution Control**

- Stringent emission norms for Coal based Thermal Power Plants (TPPs).
- Pet coke and furnace oil have been banned as fuel in Delhi and NCR States.
- Shifting of industrial units to PNG.
- Installation of online continuous emission monitoring devices in highly polluting industries.
- Shifting of Brick kilns to zig-zag technology for reduction of pollution

**Waste Management**

- Notifications of 6 waste management rules covering solid waste, plastic waste, e-waste, bio-medical waste, C&D waste and hazardous waste.
- Setting up infrastructure such as waste processing plants.
- Extended Producer Responsibility (EPR) for plastic and e-waste management.
- Ban on burning of biomass/garbage.

**Crop Residue Management**

- 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 Centres.
- 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.

## **Monitoring of Ambient Air Quality**

- Expansion of air quality monitoring network of manual as well as continuous monitoring stations under programmes such as National Air Monitoring Programme (NAMP).
- Initiation of pilot projects to assess alternate ambient monitoring technologies such as low-cost sensors and satellite-based monitoring.
- Implementation of Air Quality Early Warning System for Delhi, Kanpur and Lucknow. The system provides alerts for taking timely actions.

**Annexure-II****State wise and City wise details of funds released under NCAP program for implementation of city action plans**Amount in  
Crore

S. No.	State	City	Amount released during FY 2019-20	Amount released during FY 2020-21	Amount released during FY 2021-22	Total fund released upto 31.12.2022
1	Andhra Pradesh	Vijaywada	6.00	-	-	6.00
2	Andhra Pradesh	Guntur	0.12	0.76	1.96	2.84
3	Andhra Pradesh	Kurnool	0.06	0.76	1.36	2.18
4	Andhra Pradesh	Nellore	0.06	0.76	1.92	2.74
5	Andhra Pradesh	Visakhapatnam	0.12	-	-	0.12
6	Andhra Pradesh	Srikakulam	-	2.00	0.49	2.49
7	Andhra Pradesh	Chittoor	-	2.00	0.46	2.46
8	Andhra Pradesh	Ongole	-	2.00	0.64	2.64
9	Andhra Pradesh	vizianagaram	-	2.00	0.83	2.83
10	Andhra Pradesh	Eluru	-	2.00	0.82	2.82
11	Andhra Pradesh	Rajahmundry	-	2.00	1.13	3.13
12	Andhra Pradesh	Anantapur	-	2.00	1.04	3.04
13	Andhra Pradesh	Kadapa	-	1.00	0.83	1.83
14	Assam	Guwahati	0.12	5.00	-	5.12
15	Assam	Nagaon	0.06	2.00	-	2.06
16	Assam	Nalbari	0.06	1.00	-	1.06
17	Assam	Sibsagar	0.06	2.00	-	2.06
18	Assam	Silchar	0.06	2.00	-	2.06
19	Bihar	Patna	10.00	-	-	10.00
20	Bihar	Gaya	0.10	2.00	1.90	4.00
21	Bihar	Muzaffarpur	0.10	5.00	2.50	7.60
22	Chandigarh	Chandigarh	8.28	5.00	4.61	17.89
23	Chhattisgarh	Raipur	6.00	-	-	6.00
24	Chhattisgarh	Bhillai	6.00	-	-	6.00
25	Chhattisgarh	Korba	0.06	1.00	-	1.06
26	Delhi	Delhi	-	-	11.25	11.25
27	Gujarat	Surat	6.00	-	-	6.00
28	Gujarat	Ahmedabad	6.00	-	-	6.00
29	Himachal Pradesh	Baddi (Baddi&nalagarh considered twin during FY 20-21)	0.06	3.00	0.20	3.26
30	Himachal Pradesh	Nalagarh	0.06	-	0.06	0.12
31	Himachal Pradesh	Paonta Sahib	0.06	1.00	0.10	1.16

32	Himachal Pradesh	Sunder Nagar	0.06	1.00	0.08	1.14
33	Himachal Pradesh	Kala Amb	-	3.00	0.00	3.00
34	Himachal Pradesh	Damtal	-	1.00	0.01	1.01
35	Himachal Pradesh	Parwanoo	-	1.00	0.03	1.03
36	Jammu & Kashmir	Jammu & Kashmir	0.12	3.00	4.89	8.01
37	Jammu & Kashmir	Srinagar	-	5.00	7.95	12.95
38	Jharkhand	Dhanbad	6.00	-	-	6.00
39	Karnataka	Bangalore	6.00	-	-	6.00
40	Karnataka	Gulburga	0.12	0.38	2.24	2.74
41	Karnataka	Hubli-Dharwad	0.12	0.38	3.68	4.18
42	Karnataka	Devanagere	0.06	0.76	1.40	2.22
43	Madhya Pradesh	Bhopal	10.00	-	-	10.00
44	Madhya Pradesh	Gwalior	10.00	-	-	10.00
45	Madhya Pradesh	Indore	0.20	-	-	0.20
46	Madhya Pradesh	Ujjain	0.20	0.38	2.33	2.91
47	Madhya Pradesh	Sagar	0.10	0.76	1.36	2.22
48	Madhya Pradesh	Dewas	0.10	0.38	1.33	1.81
49	Maharashtra	Mumbai	9.50	-	-	9.50
50	Maharashtra	Nagpur	9.45	-	-	9.45
51	Maharashtra	Navi Mumbai	9.45	-	-	9.45
52	Maharashtra	Pune	9.45	-	-	9.45
53	Maharashtra	Amravati	0.20	1.14	2.91	4.25
54	Maharashtra	Aurangabad	0.20	-	-	0.20
55	Maharashtra	Nashik	0.20	-	-	0.20
56	Maharashtra	Kolhapur	0.20	0.76	-	0.96
57	Maharashtra	Sangli	0.20	0.76	1.72	2.68
58	Maharashtra	Solapur	0.20	0.38	4.20	4.78
59	Maharashtra	Ulhasnagar	0.20	1.90	-	2.10

60	Maharashtra	Akola	0.10	1.14	1.47	2.71
61	Maharashtra	Badlapur	0.10	1.90	-	2.00
62	Maharashtra	Chandrapur	0.10	1.14	-	1.24
63	Maharashtra	Jalgaon	0.10	0.76	-	0.86
64	Maharashtra	Jalna	0.10	1.14	-	1.24
65	Maharashtra	Latur	0.10	0.38	1.60	2.08
66	Meghalaya	Byrnihat	-	3.00	0.00	3.00
67	Nagaland	Dimapur	0.06	3.00	0.53	3.59
68	Nagaland	Kohima	0.06	3.00	0.40	3.46
69	Odisha	Twin City Bhubaneshwar & Cuttack	6.00	-	-	6.00
70	Odisha	Balasore	0.06	0.76	-	0.82
71	Odisha	Rourkela	0.06	1.14	-	1.20
72	Odisha	Twin city Angul&talchar	0.06	1.14	-	1.20
73	Odisha	Kalinga Nagar	-	3.00	-	3.00
74	Odisha	Talcher	-	-	0.22	0.22
75	Odisha	Cuttack	-	-	3.42	3.42
76	Punjab	Ludhiana	6.00	-	-	6.00
77	Punjab	Amritsar	6.00	-	-	6.00
78	Punjab	Jalandhar	0.12	4.00	-	4.12
79	Punjab	Khanna	0.06	1.90	-	1.96
80	Punjab	Gobindgarh	0.06	3.00	-	3.06
81	Punjab	NayaNangal	0.06	1.00	-	1.06
82	Punjab	Pathankot/Dera Baba	0.06	0.76	-	0.82
83	Punjab	Patiala	0.06	4.00	-	4.06
84	Punjab	DeraBassi	0.06	0.38	-	0.44
85	Rajasthan	Jaipur	6.00	-	-	6.00
86	Rajasthan	Jodhpur	6.00	-	-	6.00
87	Rajasthan	Kota	6.00	-	-	6.00
88	Rajasthan	Alwar	0.06	1.90	-	1.96
89	Rajasthan	Udaipur	0.06	1.90	-	1.96
90	Tamil Nadu	Tuticorin	0.06	3.00	-	3.06
91	Telangana	Hyderabad	10.80	-	-	10.80
92	Telangana	Nalgonda	0.10	0.38	0.47	0.95
93	Telangana	Patencheru	0.10	0.38	-	0.48
94	Telangana	Sangareddy	-	2.00	0.32	2.32
95	Uttar Pradesh	Agra	9.45	-	-	9.45
96	Uttar Pradesh	Allahabad	9.45	-	-	9.45
97	Uttar Pradesh	Kanpur	9.45	-	-	9.45
98	Uttar Pradesh	Lucknow	9.45	-	-	9.45
99	Uttar Pradesh	Varanasi	9.47	-	-	9.47
100	Uttar Pradesh	Muradabad	0.20	1.90	-	2.10

101	Uttar Pradesh	Bareilly	0.20	1.90	-	2.10
102	Uttar Pradesh	Firozabad	0.20	1.90	-	2.10
103	Uttar Pradesh	Jhansi	0.20	1.14	-	1.34
104	Uttar Pradesh	Khurja	0.10	1.90	-	2.00
105	Uttar Pradesh	Anpara	0.10	1.14	-	1.24
106	Uttar Pradesh	Gajraula	0.10	1.14	-	1.24
107	Uttar Pradesh	Raebareli	0.10	1.14	-	1.24
108	Uttar Pradesh	Gorakhpur	-	-	9.64	9.64
109	Uttar Pradesh	Noida	-	-	6.67	6.67
110	Uttarakhand	Kashipur	0.06	3.00	0.79	3.85
111	Uttarakhand	Rishikesh	0.06	5.00	-	5.06
112	Uttarakhand	Dehradun	-	3.00	4.88	7.88
113	West Bengal	Kolkata	6.00	-	-	6.00
114	West Bengal	Howrah	-	5.00	-	5.00
115	West Bengal	Haldia	-	3.00	-	3.00
116	West Bengal	Durgapur	-	3.00	-	3.00
117	West Bengal	Barrackpore	-	2.00	-	2.00
	<b>Total</b>		<b>224.92</b>	<b>150.52</b>	<b>96.62</b>	<b>472.06</b>



**Annexure – III****Amount sanctioned as per recommendations of XV Finance Commission 2020-21 (Rs.  
Cr)**

<b>State</b>	<b>S.No.</b>	<b>U.A.</b>	<b>Amount Sanctioned</b>	<b>State wise Amount Sanctioned</b>
Andhra Pradesh	1	Vijayawada U.A	62	135
	2	Visakhapatnam	73	
Bihar	3	Patna U.A.	204	204
Chhattisgarh	4	Durg Bhilainagar U.A.	52	107
	5	Raipur U.A.	55	
Gujarat	6	Ahmadabad U.A.	182	405
	7	Rajkot U.A.	40	
	8	Surat U.A.	131	
	9	Vadodara U.A.	52	
Haryana	10	Faridabad	48	48
Jharkhand	11	Dhanbad U.A.	52	159
	12	Jamshedpur U.A.	58	
	13	Ranchi U.A.	49	
Karnataka	14	Bruhat Bangalore U.A.	279	279
Madhya Pradesh	15	Bhopal U.A.	88	299
	16	Gwalior U.A.	51	
	17	Indore U.A.	101	
	18	Jabalpur U.A.	59	
Maharashtra	19	Aurangabad U.A.	32	793
	20	Greater Mumbai U.A.	488	

	21	Nagpur U.A.	66	
	22	Nashik U.A.	41	
	23	Pune U.A.	134	
	24	Vasai-Virar City	32	
Punjab	25	Amritsar U.A.	38	90
	26	Ludhiana	52	
Rajasthan	27	Jodhpur U.A.	62	281
	28	Jaipur	165	
	29	Kota	54	
Tamil Nadu	30	Chennai U.A.	181	233
	31	Madurai U.A.	31	
	32	Tiruchirappalli U.A.	21	
Telangana	33	Hyderabad U.A.	234	234
Uttar Pradesh	34	Agra U.A.	90	714
	35	Allahabad U.A.	62	
	36	Ghaziabad U.A.	121	
	37	Kanpur U.A.	148	
	38	Lucknow U.A.	148	
	39	Meerut U.A.	72	
	40	Varanasi U.A.	73	
West Bengal	41	Asansol U.A.	34	419
	42	Kolkata U.A.	385	
<b>Total (in Rs Cr)</b>			<b>4400</b>	<b>4400</b>

U.A – Urban Agglomerate

**Annexure –IV****Release of 15<sup>th</sup> FC grants for FY 2021-22**

<b>State S. No</b>	<b>City S. No</b>	<b>States/UA</b>	<b>2021-22 allocation (amount in Cr)</b>	<b>Recommendation of MoEF&amp;CC (%)</b>	<b>Funds to be released (amount in Cr)</b>
1		<b>Andhra Pradesh</b>	68		
	1	Vijayawada	31	100	31
	2	Visakhapatnam	37	75	27.75
2		<b>Bihar</b>	103		
	1	Patna	103	75	77.25
3		<b>Chhattisgarh</b>	54		
	4	Durg Bhilainagar	26	100	26
	5	Raipur	28	100	28
4		<b>Gujarat</b>	204		
	6	Ahmedabad	92	100	92
	2	Rajkot	20	100	20
	3	Surat	66	100	66
	9	Vadodara	26	75	19.5
5		<b>Haryana</b>	25		
	10	Faridabad	25	25	6.25
6		<b>Jharkhand</b>	80		
	11	Dhanbad	26	25	6.50
	12	Jamshedpur	29	100	29.00
	13	Ranchi	25	100	25.00
7		<b>Karnataka</b>	140		
	14	Bangalore	140	100	140
8		<b>Madhya Pradesh</b>	151		
	15	Bhopal	44	100	44

	16	Gwalior	26	25	6.5
	17	Indore	51	100	51
	18	Jabalpur	30	100	30
9		<b>Maharashtra</b>	<b>400</b>		
	19	Aurangabad	16	100	16
	20	Greater Mumbai	246	100	246
	21	Nagpur	33	100	33
	22	Nashik	21	100	21
	23	Pune	68	100	68
	24	Vasai-virar	16	100	16
10		<b>Punjab</b>	<b>45</b>		
	25	Amritsar	19	75	14.25
	26	Ludhiana	26	75	19.5
11		<b>Rajasthan</b>	<b>141</b>		
	27	Jodhpur	31	25	7.75
	28	Jaipur	83	100	83
	29	Kota	27	75	20.25
12		<b>Tamil Nadu</b>	<b>117</b>		
	30	Chennai	91	100	91
	31	Madurai	15	100	15
	32	Trichy	11	100	11
13		<b>Telangana</b>	<b>118</b>		
	33	Hyderabad	118	100	118
14		<b>Uttar Pradesh</b>	<b>360</b>		
	34	Agra	45	25	11.25
	35	Allahabad	31	100	31
	36	Ghaziabad	61	25	15.25
	37	Kanpur	75	75	56.25
	38	Lucknow	75	25	18.75
	39	Meerut	36	25	9

	40	Varanasi	37	75	27.75
15		<b>West Bengal</b>	<b>211</b>		
	41	Asansol	17	75	12.75
	42	Kolkata	194	75	145.5
		<b>Total</b>	<b>2217</b>		<b>1833</b>

**Annexure V****FC-XV Recommended Million Plus City Challenge Fund for the year award period  
2021-22 to 2025-26 (Rs. in Crores)**

State S. No	City S. No	States/UA	2021-22	2022-23	2023-24	2024-25	2025-26	Total
1.		Andhra Pradesh	68	70	74	79	80	371
	1	Vijaywada	31	32	34	36	37	170
	2	Visakapatnam	37	38	40	43	43	201
2		Bihar	103	107	113	119	122	564
	3	Patna	103	107	113	119	122	564
3		Chhattisgarh	54	56	60	63	64	297
	4	Durg Bhilainagar	26	27	29	31	31	144
	5	Raipur	28	29	31	32	33	153
4		Gujarat	204	212	223	236	241	1116
	6	Ahmedabad	92	95	100	106	108	501
	7	Rajkot	20	21	22	23	24	110
	8	Surat	66	69	72	77	78	362
	9	Vadodara	26	27	29	30	31	143
5		Haryana	25	25	27	28	29	134
	10	Faridabad	25	25	27	28	29	134
6		Jharkhand	80	83	88	93	95	439
	11	Dhanbad	26	27	29	30	31	143
	12	Jamshedpur	29	30	32	34	35	160
	13	Ranchi	25	26	27	29	29	136

7		Karnataka	140	145	154	163	166	768
	14	Bangalore	140	145	154	163	166	768
8		Madhya Pradesh	151	157	165	174	178	825
	15	Bhopal	44	46	48	51	52	241
	16	Gwalior	26	27	28	30	31	142
	17	Indore	51	53	56	59	60	279
	18	Jabalpur	30	31	33	34	35	163
9		Maharashtra	400	415	438	463	472	2188
	19	Aurangabad	16	17	17	18	19	87
	20	Greater Mumbai	246	254	269	285	290	1344
	21	Nagpur	33	35	37	39	39	183
	22	Nashik	21	22	23	24	25	115
	23	Pune	68	70	74	78	80	370
	24	Vasai-virar	16	17	18	19	19	89
10		Punjab	45	47	50	52	54	248
	25	Amritsar	19	20	21	22	23	105
	26	Ludhiana	26	27	29	30	31	143
11		Rajasthan	141	146	155	165	167	774
	27	Jodhpur	31	32	34	36	37	170
	28	Jaipur	83	86	91	97	98	455
	29	Kota	27	28	30	32	32	149
12		Tamil Nadu	117	122	129	137	139	644

	30	Chennai	91	95	100	106	108	500
	31	Madurai	15	16	17	18	18	84
	32	Trichy	11	11	12	13	13	60
13		Telangana	118	122	129	137	140	646
	33	Hyderabad	118	122	129	137	140	646
14		Uttar Pradesh	360	373	395	417	425	1970
	34	Agra	45	47	50	52	53	247
	35	Allahabad	31	32	34	36	37	170
	36	Ghaziabad	61	63	67	71	72	334
	37	Kanpur	75	78	82	87	89	411
	38	Lucknow	75	77	82	86	88	408
	39	Meerut	36	38	40	42	43	199
	40	Varanasi	37	38	40	43	43	201
15		West Bengal	211	219	231	245	249	1155
	41	Asansol	17	18	19	20	20	94
	42	Kolkata	194	201	212	225	229	1061
		Total	2217	2299	2431	2571	2621	12139

UA – Urban Agglomerate