

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

LOK SABHA
STARRED QUESTION NO. 84
TO BE ANSWERED ON 22.11.2016

Air Pollution

*84. SHRIMATI VANAROJA R.:

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

- (a) whether the Government has taken note of rise in air pollution in NCR recently and if so, the details thereof along with the reasons therefor;
- (b) the corrective steps taken to reduce air pollution;
- (c) whether India has pledged to reduce Green House Gas (GHG) emissions substantially by 2030, if so, the details thereof along with the estimated funds required for meeting the target and resource mobilisation for the purpose;
- (d) whether India is likely to emerge as the largest emitter of GHGs in the coming years and if so, the reaction of the Government thereto; and
- (e) the names of the developed/ developing countries which have pledged to cut down green house gas emissions, country-wise?

ANSWER

MINISTER OF STATE (INDEPENDENT CHARGE) FOR ENVIRONMENT, FOREST AND CLIMATE CHANGE

(SHRI ANIL MADHAV DAVE)

(a) to (e): A statement is laid on the Table of the House.

Statement referred to in reply to Lok Sabha Starred Question No. 84 due for reply on 22.11.2016 regarding 'Air Pollution' by SHRIMATI VANAROJA R., Hon'ble Member of Parliament

- (a) The air pollution in National Capital Region (NCR) reached severe category in Air Quality Index (AQI) recently during the first week of November, 2016. The rise in air pollution, predominantly with respect to PM_{2.5}, can be attributed to meteorological conditions like low temperature, poor wind speed and low mixing height, in addition to the major contributing factors like road dust, vehicular emissions, construction and demolition activities, gensets, industrial emissions, garbage burning, stubble burning, hot mix plants, brick kilns etc. The meteorological data and PM_{2.5} concentration in Delhi from October 1 to November 10 compared for the years 2015 and 2016 is enclosed at Annexure I.
- (b) The major steps taken by Government to reduce pollution in NCR *inter alia* include notification of National Ambient Air Quality Standards; formulation of environmental regulations / statutes; setting up of monitoring network for assessment of ambient air quality; introduction of cleaner / alternate fuels like gaseous fuel (CNG, LPG etc.), ethanol blending; promotion of cleaner production processes; launching of National Air Quality index; universalization of BS-IV by 2017; leapfrogging from BS-IV to BS-VI fuel standards by 1st April, 2020; comprehensive amendments to various Waste Management Rules and notification of Construction and Demolition Waste Management Rules; banning of burning of leaves, biomass, municipal solid waste; promotion of public transport and network of metro, e-rickshaws, promotion of car pooling, Pollution Under Control Certificate, lane discipline, vehicle maintenance; regular co-ordination meetings at official and ministerial level with Delhi and other State Governments within the NCR; issuance of directions under Section 18(1)(b) of Air (Prevention and Control of Pollution) Act, 1981 and under Section 5 of Environment (Protection) Act, 1986; installation of on-line continuous (24x7) monitoring devices by major industries; collection of Environmental Protection Charge on more than 2000 CC diesel vehicles in Delhi; and ban on bursting of sound emitting crackers between 10 PM to 6 AM etc.
- (c) In 2015, India, as part of its Intended Nationally Determined Contributions (INDCs), announced its commitment to reduce emission intensity of its GDP by 33 to 35 percent from 2005 levels by 2030. This goal is to be implemented between the period 2020 and 2030. India's realization of INDC goals is contingent upon the support on finance, transfer of environmentally sound technologies and capacity building to be provided from available domestic and international sources. A preliminary estimate suggests that at least USD 2.5 trillion (at 2014-15 prices) will be required for meeting India's climate change actions between now and 2030.
- (d) As per India's First Biennial Update Report to the UNFCCC, the quantum of India's net Green House Gas (GHG) emission in 2010 was 1884 million tonnes in CO₂ equivalent terms which is far lower than the GHG emissions of China and USA which rank 1st and 2nd globally in terms of total annual GHG emissions. India's per capita emission in 2010 was 1.56 metric tonnes CO₂ equivalent which is less than one-third of the World's per capita emissions.

- (e) Till date 163 countries have submitted their Intended Nationally Determined Contributions (INDCs) to United Nations Framework Convention on Climate Change (UNFCCC). The list of the countries is enclosed at Annexure II.

Annexure I

ANNEXURE REFERRED TO IN REPLY TO PARA (a) OF THE LOK SABHA STARRED QUESTION NO. 84 DUE FOR REPLY ON 22.11.2016 REGARDING AIR POLLUTION BY SHRIMATI VANAROJA R., HON'BLE MEMBER OF PARLIAMENT.

Comparisons of daily mean PM_{2.5} with Meteorological Parameter (2015 - 2016)

| Date | Temperature C | | RH (%) | | Wind Speed (m/s) | | Wind Direction | | Mixing Height (m) | | PM _{2.5} (µg/m ³) | |
|-----------|---------------|------|--------|------|------------------|------|----------------|----------|-------------------|------|---|------|
| | 2015 | 2016 | 2015 | 2016 | 2015 | 2016 | 2015 | 2016 | 2015 | 2016 | 2015 | 2016 |
| 01-02 Oct | 29.9 | 31.9 | 50.3 | 62.6 | | 1.8 | | SE, E | 808 | 812 | 60 | 89 |
| 02-03 Oct | 29.7 | 32.1 | 50.3 | 64.0 | | 1.9 | | SE,S | 810 | 770 | 55 | 81 |
| 03-04 Oct | 30.5 | 32.3 | 51.8 | 64.3 | | 1.4 | | Variable | 792 | 625 | 81 | 96 |
| 04-05 Oct | 31.5 | 29.0 | 43.5 | 73.5 | | | | | 740 | 525 | 112 | 90 |
| 05-06 Oct | 32 | 29.1 | 41.1 | 69.9 | | | | | 704 | 653 | 94 | 80 |
| 06-07 Oct | 30.4 | 30.2 | 51.3 | 69.9 | | 2.3 | | S | 777 | 727 | 51 | 104 |
| 07-08 Oct | 30.3 | 30.6 | 58.4 | 61.3 | | 1.9 | | W,NW | 699 | 783 | 87 | 108 |
| 08-09 Oct | 30.6 | 30.7 | 49 | 55.2 | 2.2 | 2.0 | NW | NW,W | 709 | 788 | 73 | 86 |
| 09-10 Oct | 31 | 30.7 | 42.6 | 52.7 | 2.1 | 1.4 | W, NW | SE | 723 | 688 | 64 | 96 |
| 10-11 Oct | 31.4 | 29.7 | 36.3 | 51.3 | 2.4 | 2.0 | W | W | 644 | 751 | 70 | 83 |
| 11-12 Oct | 31 | 29.6 | 42.4 | 47.1 | 2.3 | 2.7 | W, S | W,SW | 708 | 754 | 57 | 100 |
| 12-13 Oct | 30.6 | 29.4 | 984.4 | 40.6 | 2 | 2.9 | W, NE | W,SW | 691 | 713 | 65 | 93 |
| 13-14 Oct | 29.3 | 29.4 | 62.7 | 36.8 | 2.4 | 2.8 | SE, E, NE | W,SW | 784 | 688 | 75 | 94 |
| 14-15 Oct | 27.3 | 29.5 | 64.3 | 37.5 | 2.3 | 2.3 | SE, E, NE | W | 773 | 648 | 70 | 88 |
| 15-16 Oct | 28.6 | 28.5 | 58.3 | 42.0 | 1.4 | 2.0 | NE, N | W | 642 | 695 | 83 | 108 |
| 16-17 Oct | 29.3 | | 56.5 | | 1.6 | | N, SW | | 559 | 698 | 91 | 93 |
| 17-18 Oct | 29.1 | 28.9 | 54.6 | 37.9 | 1.9 | 2.2 | Variable | W,SW,NW | 687 | 639 | 96 | 111 |
| 18-19 Oct | 29.4 | 28.6 | 54 | 40.1 | 1.3 | 2.1 | NE | W,SW | 593 | 665 | 116 | 109 |
| 19-20 Oct | 30.2 | 29.0 | 51.9 | 38.6 | 1.6 | 1.9 | Variable | SW | 569 | 550 | 115 | 103 |

| | | | | | | | | | | | | |
|---------------|------|------|------|------|-----|-----|-----------|-----------|-----|-----|-----|-----|
| 20-21 Oct | 30.1 | 29.3 | 47.8 | 36.4 | 2.2 | 2.1 | N, NW, W | W,SW | 638 | 659 | 84 | 113 |
| 21-22 Oct | 28.4 | 29.4 | 44.3 | 36.6 | 2.6 | 2.7 | NW | W,SW | 714 | 526 | 116 | 96 |
| 22-23 Oct | 27.6 | 28.9 | 39.8 | 40.6 | 2.7 | 3.1 | NW | W | 645 | 591 | 73 | 108 |
| 23-24 Oct | 27.2 | 27.8 | 39.7 | 41.2 | 2.2 | 2.9 | NW | W | 606 | 620 | 85 | 136 |
| 24-25 Oct | 27.2 | 28.4 | 39.8 | 38.9 | 1.6 | 2.6 | E, SW, NE | SW,W | 647 | 657 | 100 | 100 |
| 25-26 Oct | 27 | 27.8 | 45.2 | 43.5 | 3.3 | 2.5 | E | W,SW | 733 | 707 | 88 | 87 |
| 26-27 Oct | 26.2 | 27.7 | 47.1 | 43.7 | 2.6 | 1.6 | NE, NW | Variable | 694 | 596 | 75 | 143 |
| 27-28 Oct | 26.3 | 27.3 | 44.7 | 41.7 | 2.3 | 2.2 | NW | W,SW,NW | 694 | 537 | 80 | 214 |
| 28-29 Oct | 21.3 | 26.4 | 52.6 | 42.6 | 3.1 | 1.8 | NW | W | 715 | 548 | 85 | 256 |
| 29-30 Oct | 22.7 | 25.5 | 57.1 | 50.2 | 1.6 | 1.2 | E, NE | E | 708 | 455 | 87 | 344 |
| 30-31 Oct | 24.2 | 24.8 | 54.9 | 56.9 | 1.6 | 1.3 | NW, N | ESE | 673 | 492 | 173 | 447 |
| 31 Oct-01 Nov | 24.8 | 25.1 | 51.9 | 51.4 | 1.4 | 1.0 | N, NW, NE | W,N,E | 627 | 487 | 231 | 259 |
| 01-02 Nov | 25.7 | 25.6 | 51.1 | 48.8 | 1.2 | 1.3 | NE, N | W, NW, SW | 522 | 528 | 185 | 197 |
| 02-03 Nov | 26 | 25 | 50.6 | 55.5 | 1.4 | 1.2 | N, NE | W | 472 | 521 | 201 | 354 |
| 03-04 Nov | 25.7 | 26 | 49.5 | 48.3 | 1.1 | 1 | NE | SW, W | 473 | 501 | 175 | 228 |
| 04-05 Nov | 25.9 | 24.9 | 49.5 | 52.9 | 1.3 | 1.7 | E | SW | 542 | 576 | 149 | 283 |
| 05-06 Nov | 21.8 | 23.1 | 72.2 | 62 | 2.6 | 1.8 | NE | W, SW | 445 | | 117 | 582 |
| 06-07 Nov | 23.5 | 22.9 | 63.8 | 63.2 | 1.7 | 1.3 | E | SW | 585 | | 147 | 709 |
| 07-08 Nov | 23.4 | 23.8 | 62.8 | 47.8 | 1.8 | 3 | N | W | 571 | 618 | 188 | 366 |
| 08-09 Nov | 23 | 23.7 | 59.6 | 42.3 | 1.9 | 2.9 | NE, N | W | 584 | 603 | 127 | 252 |
| 09-10 Nov | 24.2 | 23.6 | 56 | 41.4 | 1.4 | 2.1 | NE | SW, W | 529 | 491 | 130 | 373 |
| 10-11 Nov | 24.7 | 23.8 | 53.3 | 42.4 | 1.9 | 1.3 | NW, N | S, SW | 491 | 402 | 133 | 294 |

Annexure II

ANNEXURE REFERRED TO IN REPLY TO PARA (e) OF THE LOK SABHA STARRED QUESTION NO. 84 DUE FOR REPLY ON 22.11.2016 REGARDING AIR POLLUTION BY SHRIMATI VANAROJA R., HON'BLE MEMBER OF PARLIAMENT.

List of Countries

1. Afghanistan
2. Albania
3. Algeria
4. Andorra
5. Angola
6. Antigua and Barbuda
7. Argentina
8. Armenia
9. Australia
10. Azerbaijan
11. Bahamas
12. Bahrain
13. Bangladesh
14. Barbados
15. Belarus
16. Belize
17. Benin
18. Bhutan
19. Bolivia
20. Bosnia-Herzegovina
21. Botswana
22. Brazil
23. Brunei
24. Burkina Faso -

25. Burundi -
26. Cabo Verde
27. Cambodia
28. Cameroon
29. Canada
30. Central African Republic
31. Chad
32. Chile
33. China
34. Colombia
35. Comoros
36. Congo
37. Cook Islands
38. Costa Rica
39. Côte d'Ivoire
40. Cuba
41. Democratic People's Republic of Korea on behalf of Democratic
People's Republic of Korea
42. Democratic Republic of the Congo
43. Djibouti
44. Dominica
45. Dominican Republic
46. Ecuador
47. Egypt
48. El Salvador
49. Equatorial Guinea
50. Eritrea
51. Ethiopia Federal Democratic Republic of Ethiopia
52. Fiji
53. Gabon
54. Gambia
55. Georgia
56. Ghana

57. Grenada -
58. Guatemala
59. Guinea
60. Guinea Bissau
61. Guyana
62. Haiti
63. Honduras
64. Iceland
65. India
66. Indonesia
67. Iran
68. Iraq
69. Israel
70. Jamaica
71. Japan
72. Jordan
73. Kazakhstan
74. Kenya
75. Kiribati
76. Kuwait
77. Kyrgyzstan
78. Lao People's Democratic Republic
79. Latvia and the European Commission on behalf of the European Union and its Member States.
80. Lebanon
81. Lesotho
82. Liberia
83. Liechtenstein
84. Madagascar
85. Malawi
86. Malaysia
87. Maldives
88. Mali

89. Marshall Islands
90. Mauritania
91. Mauritius
92. Mexico
93. Micronesia
94. Monaco
95. Mongolia
96. Montenegro
97. Morocco
98. Mozambique
99. Myanmar
100. Namibia
101. Nauru
102. Nepal
103. New Zealand
104. Niger
105. Nigeria
106. Niue
107. Norway
108. Oman
109. Pakistan
110. Palau
111. Panama
112. Papua New Guinea
113. Paraguay
114. Peru
115. Philippines
116. Qatar
117. Republic of Korea
118. Republic of Moldova
119. Russia
120. Rwanda
121. Saint Kitts and Nevis

122. Saint Lucia
123. Saint Vincent and Grenadines
124. Samoa
125. San Marino
126. Sao Tome and Principe
127. Saudi Arabia
128. Senegal
129. Serbia
130. Seychelles
131. Sierra Leone
132. Singapore
133. Solomon Islands
134. Somalia
135. South Africa
136. South Sudan
137. Sri Lanka
138. Sudan
139. Suriname
140. Swaziland
141. Switzerland
142. Tajikistan
143. Thailand
144. The former Yugoslav Republic of Macedonia
145. Togo
146. Tonga
147. Trinidad and Tobago
148. Tunisia
149. Turkey
150. Turkmenistan
151. Tuvalu
152. Uganda
153. Ukraine
154. United Arab Emirates

155. United Republic of Tanzania
156. United States of America
157. Uruguay
158. Vanuatu
159. Venezuela
160. Viet Nam
161. Yemen
162. Zambia
163. Zimbabwe