

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

**LOK SABHA**  
**UNSTARRED QUESTION No. 4553**  
TO BE ANSWERED ON 19.07.2019

**Generation of Waste**

4553. DR. (PROF.) KIRIT PREMJBHAI SOLANKI:

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

- (a) the total quantum of solid waste such as plastic waste, e-waste and hazardous waste generated in the country annually, State/UT-wise;
- (b) the total quantum of such waste recycled and/or reused;
- (c) the total quantum of waste that is deposited in landfills;
- (d) whether the Government has taken any steps to encourage the recycling of waste and/or reduce the quantum of waste generated; and
- (e) if so, the details thereof?

**ANSWER**

**MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE**  
**(SHRI BABUL SUPRIYO)**

(a) to (c) As per Ministry of Housing and Urban Affairs Annual Report for the year 2016-17, it is estimated that the total generation of solid waste is approximately 1,50,000 T/day. Out of the total, approximately 90% (1,35,000 MT/day) is collected. Out of the collected waste, 20% (27,000 MT/day) is processed and the remaining 80% (10,80,000 MT/day) is going to the dump sites. Central Pollution Control Board (CPCB) conducted study in 60 major cities of India and estimated that around 4059 ton per day of plastic waste is generated from these cities. Extrapolating this it is estimated that around 25,940 ton per day of plastic waste is generated in the country. The CPCB in 2005 estimated 1.47 lakh ton of e-waste in the country. As per the United Nations University report, "The Global E-Waste Monitor 2017", 20 lakh ton of e-waste generation was reported in the country in 2016. As per information available with CPCB 69,414 MT of e-waste was collected, dismantled and recycled during 2017-18. The inventory of e-waste generation state wise has not been completed for all the states and only six states namely Goa, J&K, Himachal Pradesh, Madhya Pradesh, Chhattisgarh and Punjab have completed the inventory of e-waste generation. Quantity of hazardous waste generation in the country was around 7.17 million ton during 2016-17, of which 3.68 million ton (49.46%) was recycled. The quantum of waste deposited into landfills have not been estimated. The state wise generation of solid waste, hazardous waste, e-waste and city wise generation of plastic waste is enclosed at Annex I.

(d)&(e) For sound management of various type of wastes, the Government had comprehensively revised and notified various waste management rules in 2016 on hazardous

waste, E-waste, solid waste, plastic waste, construction & demolition waste and bio-medical waste. The rules emphasize on recycling and material recovery and provide for technological options for management of such wastes. The recycler/ operator/ generator may opt for any recycling/ resource recovery technological options, after due evaluation by prescribed authorities viz. State Pollution Control Boards/Committees, Central Pollution Control Board, Local Bodies.

CPCB has published guidelines for environmentally sound recycling of commonly recyclable hazardous wastes (such as used/waste oil, zinc dross, copper dross, used lead acid battery, etc. CPCB has prepared 52 Standard Operating Procedures (SOPs) for utilization of 40 different types of hazardous wastes after conducting trial runs.

The CPCB in its guidelines for collection, segregation & disposal of plastic waste has prescribed for technological solutions including utilization of plastic waste in road construction, co-processing in cement kilns, conversion of plastic waste into refused derived fuel (RDF) and disposal of plastic waste through Plasma Pyrolysis Technology. Similarly, the Biomedical Medical Waste Management Rules, 2016 prescribe segregation, collection, pre-treatment followed by channelization of waste plastic, glass and metals to authorized recyclers as well as disposal of infectious incinerable bio-medical waste through incineration.

Further, the Ministry of Electronics and Information Technology (MeitY) is undertaking research and development projects for e-waste recycling/recovery and has set up the following demonstration/ pilot projects:

- Demonstration plant at Bangalore on “Environmentally Sound Methods for Recovery of Metals from Printed Circuit Boards (PCBs) – Phase II” operated by Centre for Materials for Electronics Technology (C-MET), Hyderabad and E-Parisara, Bengaluru.
- Pilot plant at National Metallurgical Laboratory (NML), Jamshedpur involving physical separation and chemical leaching methods for recycling/recovery of electronic waste;
- Demonstration plant at Central Institute of Plastics Engineering & Technology (CIPET), Bhubaneswar on converting plastics from e-waste to virgin master batch for use in value added products. The process is capable of converting about 76% of waste plastic into master batch.

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**Annex I****1. State/UT-wise Status of Solid Waste Generated and Processed up to November 2018**

<b>Sl. No.</b>	<b>State/ UT</b>	<b>Total Waste Generation (MTPA)</b>	<b>Total Waste Processing (%)</b>
1.	Andhra Pradesh	2,330,160	29%
2.	Andaman & Nicobar Islands	36,500	52%
3.	Arunachal Pradesh	66,065	20%
4.	Assam	413,910	35%
5.	Bihar	828,915	43%
6.	Chandigarh UT	172,280	85%
7.	Chhattisgarh	601,885	84%
8.	Daman & Diu	11,680	65%
9.	Dadra & Nagar Haveli	12,775	0%
10.	NCT of Delhi	3,832,500	55%
11.	Goa	94,900	65%
12.	Gujarat	3,702,925	57%
13.	Haryana	1,647,610	17%
14.	Himachal Pradesh	124,830	40%
15.	Jammu & Kashmir	501,510	8%
16.	Jharkhand	849,335	42%
17.	Karnataka	3,650,000	32%
18.	Kerala	227,760	60%
19.	Madhya Pradesh	2,344,760	65%
20.	Maharashtra	8,238,050	44%
21.	Manipur	64,240	50%
22.	Meghalaya	97,820	58%
23.	Mizoram	73,365	4%
24.	Nagaland	124,830	52%
25.	Odisha	992,800	12%
26.	Puduchery UT	127,750	10%
27.	Punjab	1,496,500	33%
28.	Rajasthan	2,372,500	55%
29.	Sikkim	32,485	66%
30.	Tamil Nadu	5,601,655	55%
31.	Telangana	2,690,415	73%
32.	Tripura	153,300	45%
33.	Uttar Pradesh	6,132,000	57%
34.	Uttarakhand	513,190	38%
35.	West Bengal	2,810,500	5%
	<b>Total/ Average</b>	<b>52,971,720</b>	<b>46.03%</b>

## 2. Plastic Waste Generation in Sixty Major Cities of India

S. No.	Name of City	Total Municipal Solid Waste (Tonnes/day)	Plastic Waste (Percentage of Municipal Solid Waste)	Plastic Waste (Tonnes/day)
		2010-11	2010-11	2010-11
1.	Kavaratti	2	12.09	0.24
2.	Dwarka	18	8.08	1.45
3.	Daman	25	4.64	1.16
4.	Panjim	25	4.47	1.12
5.	Gangtok	26	8.95	2.33
6.	Jamshedpur	28	3.36	0.94
7.	Silvassa	35	6.11	2.14
8.	Port Blair	45	10.07	4.53
9.	Kohima	45	5.01	2.26
10.	Shimla	50	4.45	2.23
11.	Meerut	52	6.42	3.34
12.	Gandhinagar	97	4.81	4.66
13.	Shillong	97	5.44	5.27
14.	Itanagar	102	5.35	5.46
15.	Agartala	102	5.71	5.83
16.	Aizwal	107	7.95	8.50
17.	Imphal	120	5.13	6.16
18.	Ranchi	140	5.92	8.29
19.	Kochi	150	6.29	9.43
20.	Dhanbad	150	5.02	7.52
21.	Guwahati	204	5.04	10.27
22.	Asansol	210	6.01	12.62
23.	Dehradun	220	6.67	14.66
24.	Patna	220	5.73	12.60
25.	Raipur	224	10.61	23.76
26.	Rajkot	230	6.93	15.93
27.	Thiruvananthapuram	250	6.02	15.06
28.	Pondicherry	250	10.46	26.15
29.	Chandigarh	264	3.10	8.18
30.	Jammu	300	7.23	21.68
31.	Jaipur	310	5.03	15.58
32.	Vishakhapatnam	334	9.03	30.17
33.	Nashik	350	5.82	20.38
34.	Bhopal	350	6.59	23.08
35.	Allahabad	350	5.39	18.86
36.	Jabalpur	400	5.18	20.70
37.	Bhubaneswar	400	7.98	31.92
38.	Madurai	450	5.06	22.77
39.	Varansi	450	5.76	25.92
40.	Agra	520	7.86	40.89
41.	Srinagar	550	5.12	28.14
42.	Amritsar	550	4.44	24.42

43.	Vadodara	600	4.57	27.41
44.	Vijayawada	600	7.29	43.72
45.	Nagpur	650	7.07	45.96
46.	Coimbatore	700	9.47	66.31
47.	Faridabad	700	11.29	79.03
48.	Indore	720	8.81	63.40
49.	Ludhiana	850	5.96	50.68
50.	Surat	1200	12.47	149.62
51.	Lucknow	1200	5.90	70.84
52.	Pune	1300	7.80	101.35
53.	Kanpur	1600	6.67	106.66
54.	Ahmedabad	2300	10.50	241.50
55.	Kolkata	3670	11.60	425.72
56.	Bangalore	3700	8.48	313.87
57.	Hyderabad	4200	4.75	199.33
58.	Chennai	4500	9.54	429.39
59.	Mumbai	6500	6.28	408.27
60.	Delhi	6800	10.14	689.52
	Total MSW	50592		
	Average PW generation		6.92	4059.18

### 3. Quantum of generation of e-waste in six states

Sl. No	Year of Information	State	Estimated quantity of e- waste generation (Ton per Annum)
1.	2015	Chhattisgarh	43431
2.	2012	Goa	915
3.	2012	Himachal	4749
4.	2012	Jammu & Kashmir	500
5.	2014-2015	Madhya Pradesh	2,20,700
6.	2012	Punjab	12432

### 4. State-wise Hazardous Waste Generation (2016-17)

S. No.	State/UT	Quantity of Hazardous Waste generation (MTA)
1	Andaman & Nicobar	Not Applicable
2	Andhra Pradesh	282266.4
3	Arunachal Pradesh	Information not available
4	Assam	29434.64
5	Bihar	7629
6	Chandigarh	2846.892
7	Chhattisgarh	65186.14

8	Daman & Diu	INP
9	Delhi#	4197.36
10	Goa	24796
11	Gujarat	2811925.3
12	Haryana	58829.43
13	Himachal Pradesh	29029.38
14	Jammu & Kashmir	1043.21
15	Jharkhand	578788.6
16	Karnataka	336791.6
17	Kerala	38466.20
18	Lakshadweep	0.00
19	Madhya Pradesh	125880.7
20	Maharashtra	381686.2
21	Manipur*	Information not available
22	Meghalaya	75.8
23	Mizoram	0.00
24	Nagaland	10
25	Odisha	595697.8
26	Puducherry*	Information not available
27	Punjab	115490.1
28	Rajasthan*	724663.2
29	Sikkim	785.472
30	Tamil Nadu	383189.2
31	Telangana	277078.5
32	Tripura	270.19
33	Uttarakhand	24264.09
34	Uttar Pradesh	186591.5
35	West Bengal	85848.74