ENVIS CENTRE, CHANDIGARH
Newsletter
Paryavaran - Patra
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Chandigarh State of Environment

EDITORIAL

SOLID WASTE GENERATION & MANAGEMENT, CHANDIGARH

Waste Generation

Waste Segregation

Collection

Waste can be defined as a material for which the generator has no further use in terms of production, transformation or consumption and wish to dispose as per national laws. Anything that is thrown away such as paper, plastic, unwanted food, broken glass, discarded clothes etc can said to be waste for the generator; however they can serve as the precious raw material for many others including recycle units (plastic, polythene, glass and metals), manure productions farms (organic waste), road construction units (construction & demolition debris) and industries (heating purpose).

Over 10 lac population of the city beautiful, Chandigarh, is generating a huge some of municipal waste i.e about 340 tons/day[1]. However, the well planned waste management structure of the city collects about 97% of the total waste every day, out of which nearly 219 tons/day is processed by the Jaypee waste processing plant and converted in to RDF (refuse derived fuel), while nearly 40 tons/day is been sent to the dumping site (Daddu Majra, Sector 38, Chandigarh)[1]. Remaining waste materials like plastic, polythene wrappers, metallic containers, cans, and glass bottles etc. were collected separately by the local scrap dealers and were sold to specific bodies for further recycle and reuse.

Biomedical waste generated from the city was partially handled by the incineration plant setup at PGIMER after disinfection, and remaining waste sent to the hazardous waste dumping site (Secure Landfill, Nimbua, SAS Nagar, Mohali) for final disposal as per Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008 published by the Government of India in the Ministry of Environment and Forest vide number S.O.1676(E), dated 28th September, 2007 in the Gazette of India.

[1]Municipal officer of health, Municipal Corporation, Chandigarh.

Transportation

Waste Processing & recycling

Final Disposal

For Private Circulation only

Index

Paryavaran Patra

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CLASSIFICATION OF SOLID WASTE

- Bio-degradable/Non hazardous: The waste materials that could be broken down into small molecular fragments by the metabolic or enzymatic action of living micro-organisms such as bacteria, fungi etc. within a reasonable span of time.
  For Example: Fruits & vegetable waste, Lawn-garden waste, agricultural residues etc.

- Non-biodegradable: The waste substances that do not break down naturally by the living organisms in to environmentally safe materials over reasonable time period.
  For Example: Discarded materials made up of plastic, polythene, glass, and metals etc.

- Hazardous: Any waste material that is dangerous or potentially harmful to human health or the environment.
  For Example: Acid containers, bottles of toxic chemicals, infected needles, radioactive waste, flammable etc.

As per the Resource Conservation and Recovery Act (RCRA), hazardous wastes fall into two categories:

Catagory 1: Listed Waste	Cat. 2: Characteristic Waste
The F-list: Waste generated from non specific source	Ignitability: Waste having a flash point less than 60 °C (140 °F)
The K-List: Waste generated from the particular generation source	Corrosively: Waste having pH less than or equal to 2, or greater than or equal to 12.5
The P-List: Discarded commercial chemical products	Reactivity: Waste which can cause explosions, toxic fumes, gases, or vapours when heated, compressed, or mixed with water.
	Toxicity: Waste that are fatal when ingested or absorbed

Source: http://www.epa.gov/osw/laws-regs/regs-haz.htm

Details of different waste materials and time taken to degrade them under natural conditions.

Waste Material	Time taken to Decompose in Nature
Paper Towel	2-4 week
Banana Peel	394 week
Paper Bag	1 month
News Paper	1.5 month
Apple core, Cardboard	2 month
Orange Peels	6 month
Plywood	1-3 year
Wool Sock, Milk cartons	1-5 year
Cigarette Butts	10-12 year
Leather Shoe, Nylon fabric	25-40 year
Tinned Steel Can, Foamed Plastic Cups	50 year
Rubber Boot Sole	50-80 year
Plastic 6-pack holder Rings	450 year
Glass Bottles	1 million year

Source: http://www.greengood.com/terms_to_know/biodegradable_and_compostable_definitions.htm
http://www.hoaxorfact.com/Science/how-long-does-it-take-to-decompose.html

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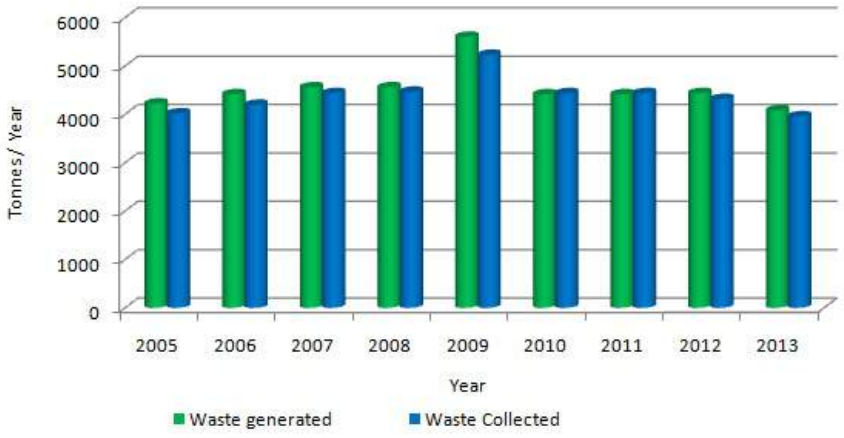
WASTE GENERATION IN CHANDIGARH:

A. MUNICIPAL SOLID WASTE

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Population (Lacs) Approx.	9	9	9	9	9	9	10.55	10.55	10.55
Municipal Population (Lacs) Approx.	8.01	8.01	8.01	8.01	8.01	8.01	9.7	9.7	9.7
MSW Generation (Tonnes/Day)	352	368	380	380	467	368	368	370	340
MSW Collected (Tonnes/Day)	335	350	370	370-375	436	370	370	360	330
MSW (g/capita/Day)	370	370	370	250-270	345	345	345	350	350
No of Landfill Area	1	1	1	1	1	-	-	1	1
Collection Efficiency (%)	95	95	97	95	N.A	N.A	N.A	75	73.28
No of Sehaj Safai Kendras	-	-	28	30	32	-	-	35	36
No of Safai Karamcharies	2542	2705	2962	3589	3209	-	-	2850	3420

Source: -> Municipal Waste Generated (MWG), Information Derived From The Survey Conducted By Service Level Bench-marking in Pilot Cities, Ministry of Urban Development. The Survey was conducted in the year of 2009.
-> Department of Census (UT) Chandigarh
-> Municipal Officer of Health, Municipal Corporations, Chandigarh



The graph above shows the trend in the total waste generation and collection over the last nine years in Chandigarh. It indicates that the waste generation is now following a decreasing trend due to the growing awareness among the people & imposed regulation by the Chandigarh administration over the excessive use of polythene & poly packaging.


Source: Industrial Area, Phase 2, Chandigarh

B. HAZARDOUS WASTE

Year	Type of Hazarduous Waste	Quantity of Hazardous Waste Generated (MT/yr)	Method of disposal
2010-11	Used Oil (MT/yr)	86.01	Sale for re-processing
	Acid Residue	49.14	Used as Raw Material
	Incinerable	15	Incinerated
	Inorganic Natured Waste	78.263	Landfill
	Zinc Ash	NIL	-
	Spent Acid	1615.14	Handed over to M/s Aurodying Baddi for use in their Process
	Total	1843.553	
2011-12	Used Oil (MT/yr)	211.09	Sale for re-processing
	Acid Residue	166	Sale for re-processing
	Incinerable	NIL	-
	Inorganic Natured Waste	16753.389	Landfill
	Zinc Ash	1562.93	Sold to Zinc Sulphate Manufacturers
	Spent Acid	1175.26	Handed over to M/s Aurodying Baddi for use in their Process
	Total	19868.669	
2012-13	Used Oil (MT/yr)	159.308	Sale for re-processing
	Acid Residue	1719.2	Sale for re-processing
	Incinerable	Nil	-
	Landfillable	94.847	Landfill
	Zinc Ash	2228.453	Sold to Zinc Sulphate Manufacturers
	Spent Acid	NIL	-
	Total	4201.808	
2013-14	Used Oil (MT/yr)	199.56	Sale for re-processing
	Acid Residue	2814.49	Sale for re-processing
	Incinerable	15.1	Disposed 2.7 MT Ash to BOWML, Kanpur in PP Bags
	Inorganic Natured Waste	56.355	Landfill
	Zinc Ash	584.9	Sold to Zinc Sulphate Manufacturers
	Spent Acid	NIL	-
	Total	3670.405	

Source: Member Secretary, CPCC, Chandigarh (UT)




Source: Industrial Area, Phase 1, Chandigarh

C. BIOMEDICAL WASTE

Year	Field	HCFs	No. Of HCF Utilizing CBWTF & Private Agencies	No. of HCF Having BMW Treatment Disposal Facilities	BMW Generated (Kg/Day)	BMW Treated (Kg/Day)	No. of Healthcare Facilities Violated BMW Rules
2009	All other Institutions Generating BMW	529	485	-	57	57	8
	Hospitals & Nursing Homes With 50-200 Beds	6	5	1	38	38	2
	500 Beds & Above	3	None	3	1071	1071	3
	Less Than 50 Beds	40	40	-	35	35	19
	Total	**578**	**530**	**4**	**1201**	**1201**	**32**
2010	All other Institutions Generating BMW	640	596	-	56	56	12
	Hospitals & Nursing Homes With 50-200 Beds	7	6	1	35	35	-
	500 Beds & Above	3	None	3	1554	1554	1
	Less Than 50 Beds	41	41	-	45	45	2
	Total	**691**	**643**	**4**	**1690**	**1690**	**15**
2011	All other Institutions Generating BMW	634	633	-	93	93	6
	Hospitals & Nursing Homes With 50-200 Beds	7	6	1	35	34	1
	500 Beds & Above	3	None	3	1750	1750	-
	Less Than 50 Beds	41	41	-	53	53	6
	Total	**685**	**680**	**4**	**1931**	**1931**	**13**
2012	All other Institutions Generating BMW	629	628	-	161	161	8
	Hospitals & Nursing Homes With 50-200 Beds	7	6	-	67	67	3
	500 Beds & Above	3	Nil	3	1702	1702	3
	Less Than 50 Beds	40	42	-	109	109	8
	Total	**681**	**676**	**3**	**2039**	**2039**	**22**
2013	All other Institutions Generating BMW	672	715	3	2091	2091	72
	Hospitals & Nursing Homes With 50-200 Beds	6	5	-	47.8	47.8	3
	500 Beds & Above	3	-	3	1721.54	1721.54	1
	Less Than 50 Beds	39	39	-	129.27	129.27	22
	Total	**720**	**715**	**3**	**2091**	**2091**	**72**

Source: Member Secretary, CPCC, Chandigarh (UT)

D. ELECTRONIC WASTE (E-waste):

It may be defined as the waste electronic/electrical devices which are destined for reuse, resale, salvage, recycling or disposal; such as monitors, CD, hard disks, mobile phones, batteries, chargers, CPU and adaptors etc. The city beautiful, Chandigarh, has a rapidly growing educational and IT (Information Technology) sector. Therefore in the era of changing technology, the e-waste generation in the city has also realized to pose the possible threats to the environment in the coming years.

First e-waste project in Chandigarh was launched by the Young Indians (Yi) body of Confederation of Indian Industry (CII) Chandigarh and Noida based Attero Recycling, in the presence of Chandigarh Administration on 6th June 2011. The project is aimed to collect/purchase the e-waste generated anywhere in Chandigarh and transport it to the waste recycling plant setup by Attero at Roorkee, Uttrakhand. Any e- waste generating unit can contact with the authorized body (Attero) through proper channel (Chandigarh Pollution Control Committee) CPCC and dispose the generated material as per law.

The annual report submitted by Attero to CPCC shows that with the increase in awareness among the waste generators, the total collection of e-waste has shown almost 9 fold increase (7, 062 to 62, 772 kg) in just two consecutive years (2012-2013)

E-Bin Locations in Chandigarh	Date of Installation
e-Sampark, Industrial Area Phase-1 (Electricity Bill Collection Centre)	06-06-2012
e-Sampark, Sector-15 (Electricity Bill Collection Centre)	06-06-2012
e-Sampark, Sector-17 (Central Treasury Office)	06-06-2012
e-Sampark, Sector-18 (Electricity Bill Collection Centre)	06-06-2012
e-Sampark, Sector-23	06-06-2012
e-Sampark, Sector-40	06-06-2012
e-Sampark, Sector-43 (Electricity Bill Collection Centre)	06-06-2012
e-Sampark, Sector-10 (Electricity Bill Collection Centre)	06-06-2012
e-Sampark, Mani Majra (Electricity Bill Collection Centre)	06-06-2012
Department of Environment, 3rd Floor, Paryavaran Bhawan, Sector-19-B	20-09-2012
e-Sampark, PGI Sector-12	06-06-2012
Punjab & Haryana High Court, Sector-1	07-08-2012
Shop No. 16 & 17, Mehak Medicos. Sector-48-A	07-08-2012
e-Sampark, Sector-21	20-12-2012
Chandigarh Pollution Control Committee (CPCC), Ground Floor, Paryavaran Bhawan, Sector-19-B	20-09-2012
Department of Forest , U.T., 2nd Floor, Paryavaran Bhawan, Sector-19-B	20-09-2012
e-Sampark, Sector-47, (Electricity Bill Collection Centre)	06-06-2012

Source: Department of Environment, Chandigarh Administration, Chandigarh.



Response Centre
Feedback Form

YES ! I WANT TO KNOW ABOUT ENVIS CHANDIGARH
Chandigarhenvis

Dear Information Seeker,

ENVIS CENTRE, Chandigarh furnishes you with the services to collect and disseminate information related to environment of Chandigarh. To share information with us you are requested to fill up the form given below.

Your feedback is valuable to us and will be highly appreciated

- Name _____
- Designation _____
- Department _____
- Address _____

_____ City _____

- State _____ Country _____ Pin |_|_|_|_|_|_|
- Phone _____ Fax _____
- Email _____

Your views on scope of improvement :

- Interest Area _____

I would like to have information on following :

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ENVIS CENTRE, CHANDIGARH
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7R's Principle of Waste Management for a Clean and Green Environment :

Refuse : Say no to un-necessary materials such as polythene and plastic used for carrying items or packaging etc.

Reduce : Use carry bags made up of paper or cloth as they are biodegradable.

Reuse : Try to reuse everything before filling the dustbins.

Repair : Increase the life of materials by timely repair and servicing.

Recycle : Segregate the waste that can be recycle such as paper, plastic, metals and glass etc.

Recover: Extract the useful material form the discarded objects before dump.

Rot : Adopt composting for the waste materials that are biodegradable such as food waste, fruit waste, yard waste and cattle waste etc.

Symbols assigned for different waste materials


Compressed Gas


Toxic


Flammable


Corrosive


Compostable


Recyclable


Explosive


Biohazard

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To,

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