



LEGAL FRAME WORK FOR SOLID WASTE MANAGEMENT IN INDIA

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Presentation for IFAT INDIA

at Mumbai



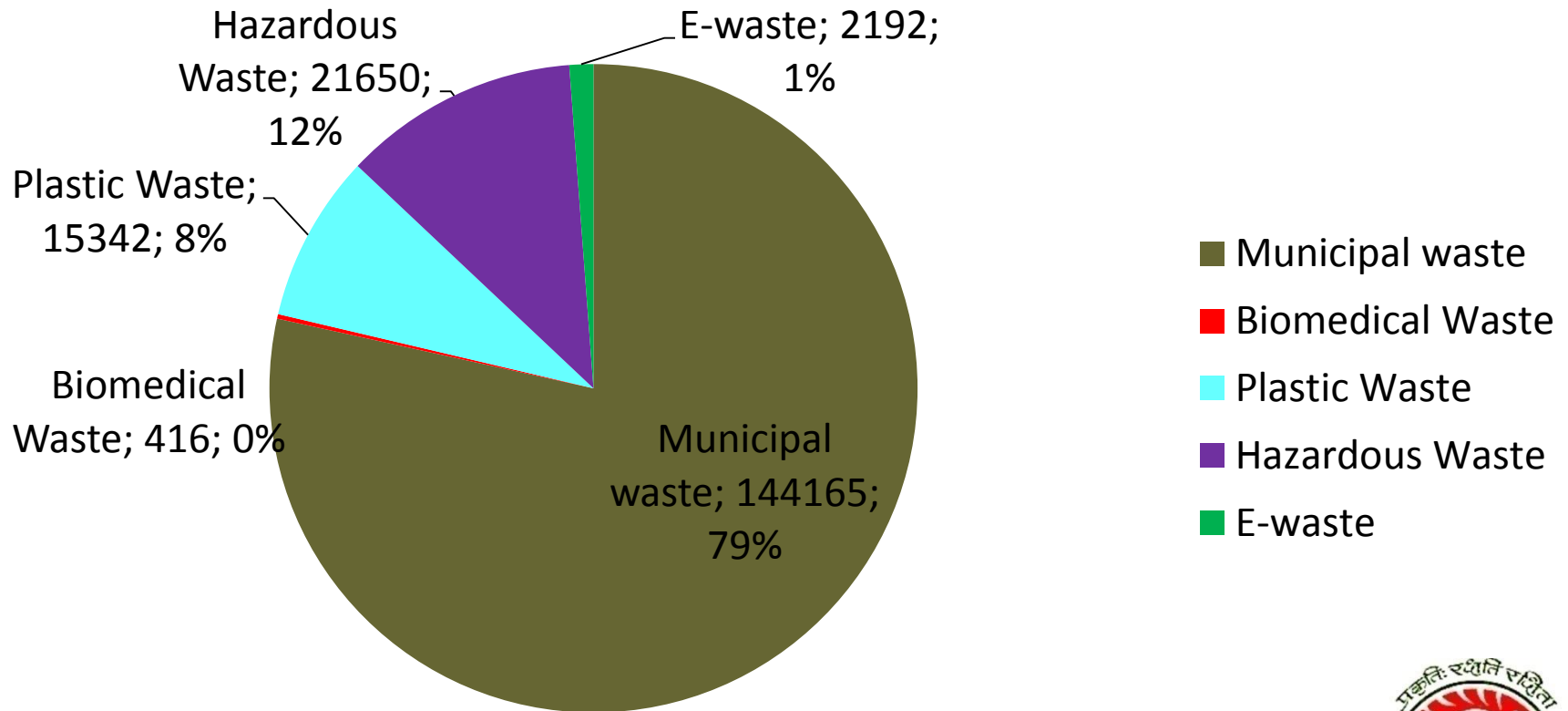


Wastes





Waste Generation



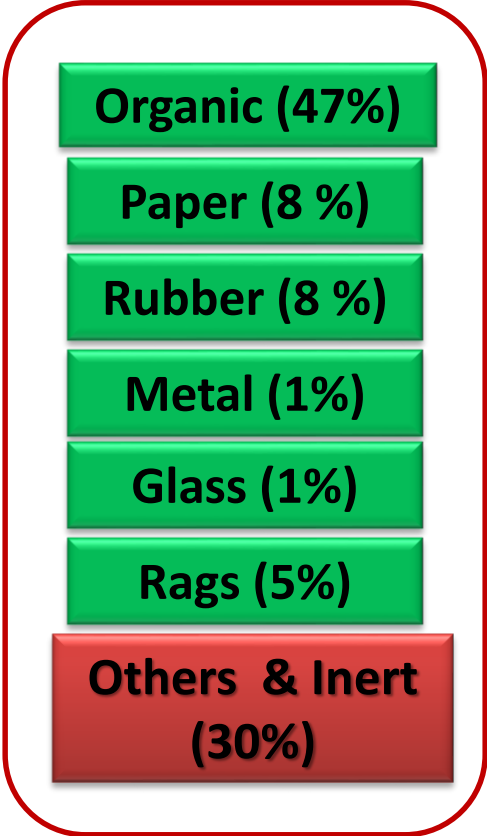
Total Waste Generation: 183,765 TPD

Source: CPCB



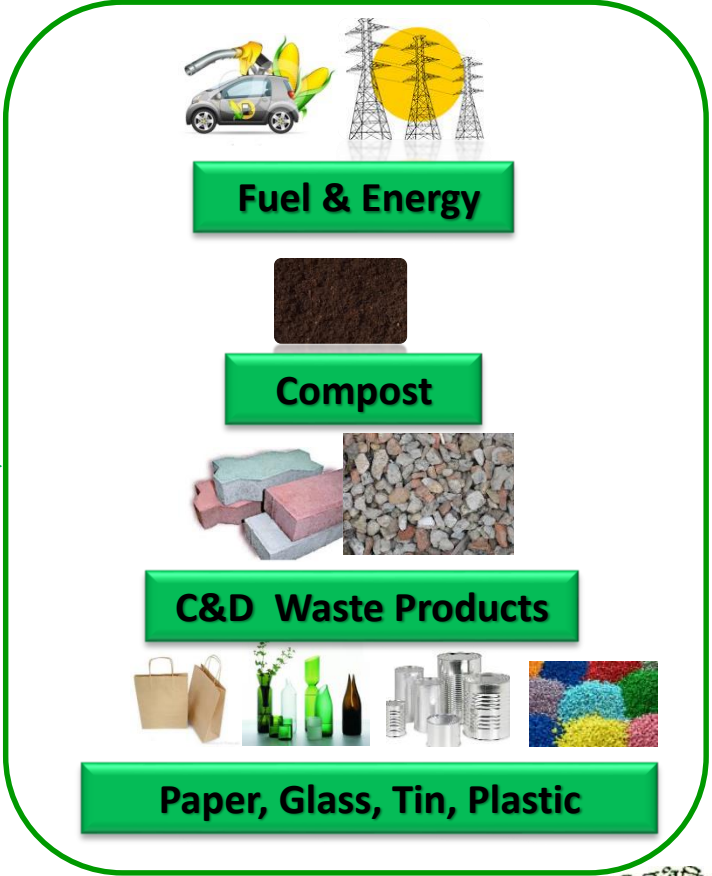


Solid Waste Management



Reuse
Recycling
Recovery

Zero Land Fill





PRESENT AND FUTURE GENERATION OF MSW

- Total waste generation from the municipal areas - 1, 83,765 TPD - about 67 Million TPA
- Out of this 62 million tons is Municipal Solid Waste
- Projected to be 165 million tons by the year 2031 and 436 million tons by 2050.
- Only 75- 80% of the municipal waste gets collected
- Out of this, only 22-28 % is processed and treated
- Remaining disposed off indiscriminately at dump yards





PRESENT AND FUTURE GENERATION OF MSW

- Current practice of dumping on landfills without treatment will need 3, 40,000 cubic meter of landfill space everyday-1240 hectare per year.
- Considering the projected waste generation of 165 million tonnes by 2031, the requirement of land for setting up landfill for 20 years (considering 10 meter high waste pile) could be as high as 66,000 ha.





Legal Frame Work

- **Water (Prevention and Control of Pollution) Act, 1974**
- **Water (Prevention and Control of Pollution) Cess Act, 1977**
- **Air (Prevention and Control of Pollution) Act, 1981**
- **Environment (Protection) Act, 1986**
- **The Public Liability Insurance Act, 1991**
- **National Green Tribunal Act, 2010**

Separate Acts for Biodiversity, Forests , Wildlife etc





Regulatory Instruments for Solid Waste under EPA

- **Municipal Solid Waste Management Rules, 2000**
- **Plastic Waste Management Rules, 1999, 2011**
- **e-Waste Management Rules, 2011**
- **Hazardous Wastes Management Rules, 1989, 2008**
- **Bio-Medical Waste Management Rules, 1998**
- **Notification on Utilisation of Fly Ash, 1999, 2009**





Despite Rules the situation at Ground



Common Sight





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USUAL SITES ALL OVER









Challenges

- Growing India- More Waste with changed quality
- Actual Quantum and Characteristics of waste is not known
- Misplaced emphasis of land dumping- Scarce Land- 66,000 ha
- Poor Sanitation & Public Health
- No or less Resource Recovery
- Informal Sector
- Centralised Vs Decentralised
- Financial and Technical Crunch at Municipal Authorities
- Illiterate, uneducated and unaware public





India Growing.. More Waste

- **GDP Growth Rate: 5.54% (8% Projected)**
- **Manufacturing Rate: 4% (7% Projected)**
- **Present Scenario (2011 Census) Projected for 2031**
- **Population-1.28 bn Projected: 1.70 bn**
 - **Urban Population :377 mn Projected: 600 mn**
 - **Waste Generation:62 mnTPA Projected: 165mn TPA**
 - **Land for Disposal -1240 ha/year Projected: 66,000ha/ year**





Paradigm Shift



Waste



Wealth



Ministry of Environment, Forest & Climate Change

14th October, 2015



A Step towards..... Cleanliness



Waste Management Regulations, 2015

**GROWING BHARAT.. SWACHH BHARAT.....
ZERO WASTE TO LANDFILL**





Revised Regulatory Regime

- Waste is Resource/Wealth.
- Concept of “5-R” – Reduce, Reuse, Recover, Recycle, Refine and Remanufacture introduced.
- Responsibilities of Generators introduced- segregate at source.
- Segregation at source is made mandatory in each type of waste (MSW, BMW, HW, EW etc.).
- Segregated streams to be transported separately.
- Ambit of applicability of rules enhanced.





Revised Regulatory Regime

- Urban Local Body: D2D collection: Reuse, Recycle, Recovery
- Material Recovery Facilities, collection centers, secondary storage facilities to be provided by the Authorities / manufacturers.
- 'Cradle-to-Grave' analysis.
- Recyclables to go for recycling.
- Concept of Resource Recovery and Circular Economy introduced.
- **Extended Producer's Responsibility has been introduced.**





Revised Regulatory Regime

- Monitoring Mechanism strengthened.
- Concept of RoHS introduced.
- Co-processing introduced.
- No Landfills or minimum waste going to Landfills.
- Reduction in greenhouse gas (GHG) emissions and Carbon foot prints.
- Management of C&D waste covered under MSW (separate Chapter).





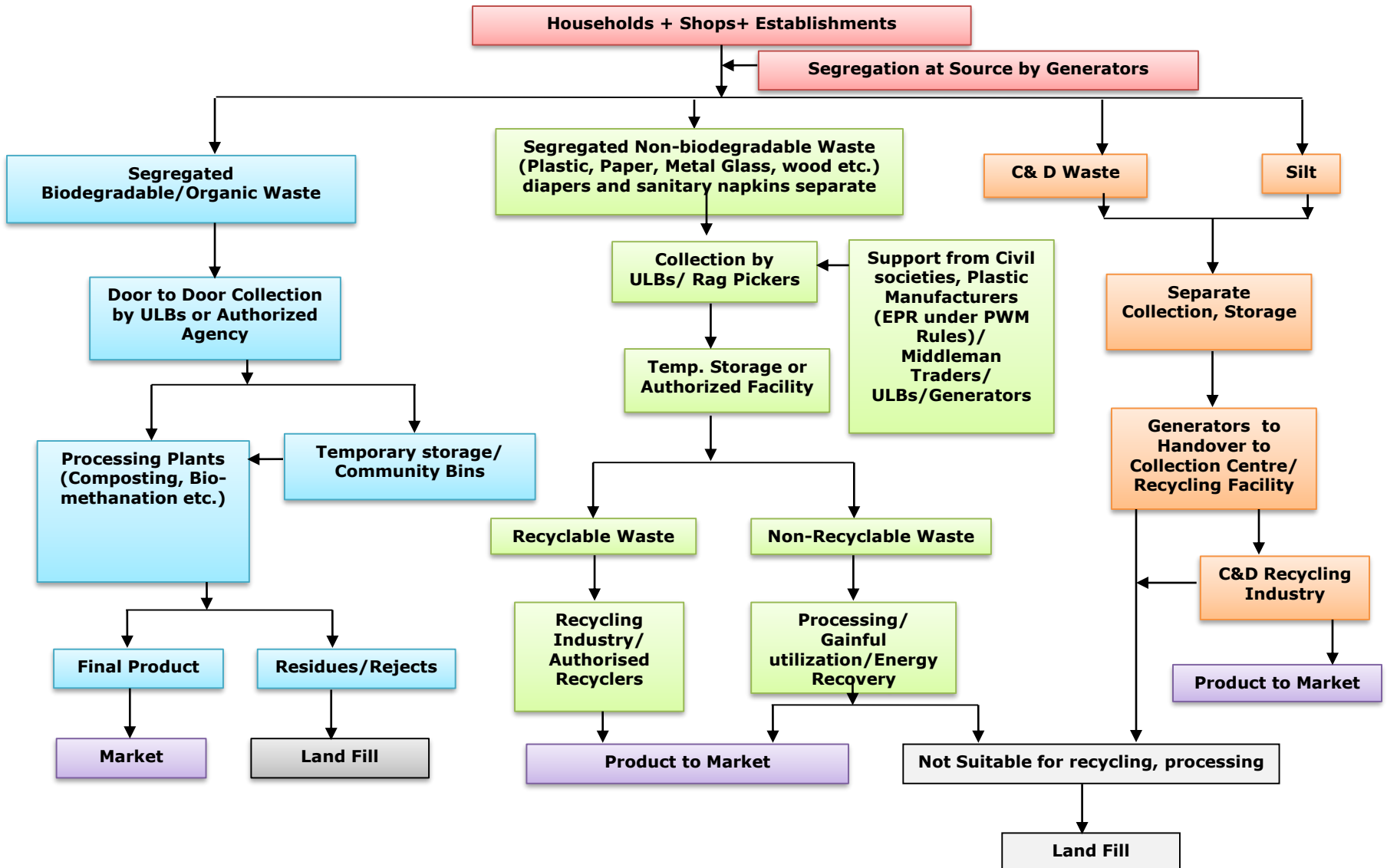
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Revised Regulatory Regime

- Provision of **'User Fee'** and **'Spot Fine'** introduced.
- Stringent Environmental norms for Incineration.
- Standards for Waste to Energy Projects included.
- Standards for Dioxins and Furans from incinerators introduced. Applicable to "Waste-to-Energy" projects also.
- PPP introduced.
- Certain conditions for manufacture and use of plastic material used for carry/ packaging commodities- Draft Plastic Waste Management Rules, 2015.
- Sale of Compost along with Chemical Fertilisers
- SPCBs shall be the implementing authorities



Closed Circuit/ 360° Approach





Programmes on SWM

- Grants under the 12th and 13th Finance Commission.
- JnNURM, UIDSSMT of Ministry of Urban Development (upto last year).
- Atal Mission for Rejuvenation and Urban Transformation (AMRUT)
- Smart Cities Mission
- Swachh Bharat Mission
- Funds from State Governments
- Central Government funding for setting up of treatment, storage and disposal facilities for e-waste, hazardous waste and biomedical waste
- Financial assistance for training programmes and awareness creation





Status of Waste to Energy Plants

- Total Number of W2E Plants – 22
 - Functional – 5
 - Under Construction – 9
 - Non Functional- 4
 - Work Awarded – 1
 - Tender Awarded – 2
 - Under Bidding -1
- Total Power to be generated – 225.35MW
- Total Waste to be consumed /disposed off - 18,345MT





Plastic Waste Management Rules, 2015

- Extended coverage to Outgrowths in Urban Agglomeration beyond Cities
- Prohibition on Carrying, Packaging & Wrapping: Plastic Carry Bag & Plastic Sheet of **thickness less than 50 micron**
- Multilayered packaging to be phased out in **three years**
- Individual & Institutional Waste Generators' Role: Defined
- Retailers & Street Vendors' Role- Defined
- **Extended Producers' Responsibility includes Brand owners**
- Strengthened Local Bodies: Enforcement and Finance
 - Pricing of Plastic Carry bags- **Funds to go Local Bodies**
 - **User Fee Collection**
 - **Spot Fines for Littering**





Plastic Waste Management

- Arrange for collection system by involving **Producers in one year**
- **Closure of units**
 - manufacturing sub-standards carry bags & plastic sheets
 - Recycling waste illegally
- **Action against users of sub-standards plastic carry bags & plastic sheets**
 - Retailers, Street Vendors, Shopkeepers, etc.
- **Prohibit use of sub-standards carry bags in Haats/ daily markets**
- **Setup Surveillance Squads for enforcement**





BUSINESS OPPORTUNITIES

- Complete Waste Management- Collection, Segregation , Transportation, Recycling, Treatment, Disposal
- Recycling of Plastics
- Recycling of C&D Waste
- Composting
- Bio-Methanetation
- W2E
- Plastics to Oil





Draft Rules available on <http://envfor.nic.in/>,
<http://www.moef.nic.in/>

THANK YOU





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