



Presentation

on

Policy on Waste Management



HSM Division

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Waste is the unwanted or unusable substance or toxins that are discarded after primary use, or is worthless, defective and of no use.

» Types:

- Solid waste: Municipal, Industrial or Hazardous and Biomedical waste
- Liquid waste
- Gaseous waste

» On the basis of Bio-degradability:

- Biodegradable wastes
- Non-biodegradable wastes

» On the basis of effects on human health

- Hazardous waste
- Non-hazardous waste



Waste Management



- Waste management is the process of collecting, transporting, treating and disposing of waste in a safe and environmentally friendly way.
- Waste management also involves reducing, reusing and recycling waste as much as possible to conserve natural resources and save energy.
- Waste disposal is becoming more difficult and costly due to the scarcity of land, water and energy resources and the stricter environmental regulations and standards.
- Waste represents a loss of valuable resources that could be reused or recycled to create new products or materials or to generate energy, reducing the dependence on non-renewable and imported resources.
- Waste management is a legal obligation and a social responsibility for all waste generators and handlers, as well as a moral duty for all citizens, to ensure the sustainability and well-being of current and future generations.



Benefits of Waste Management

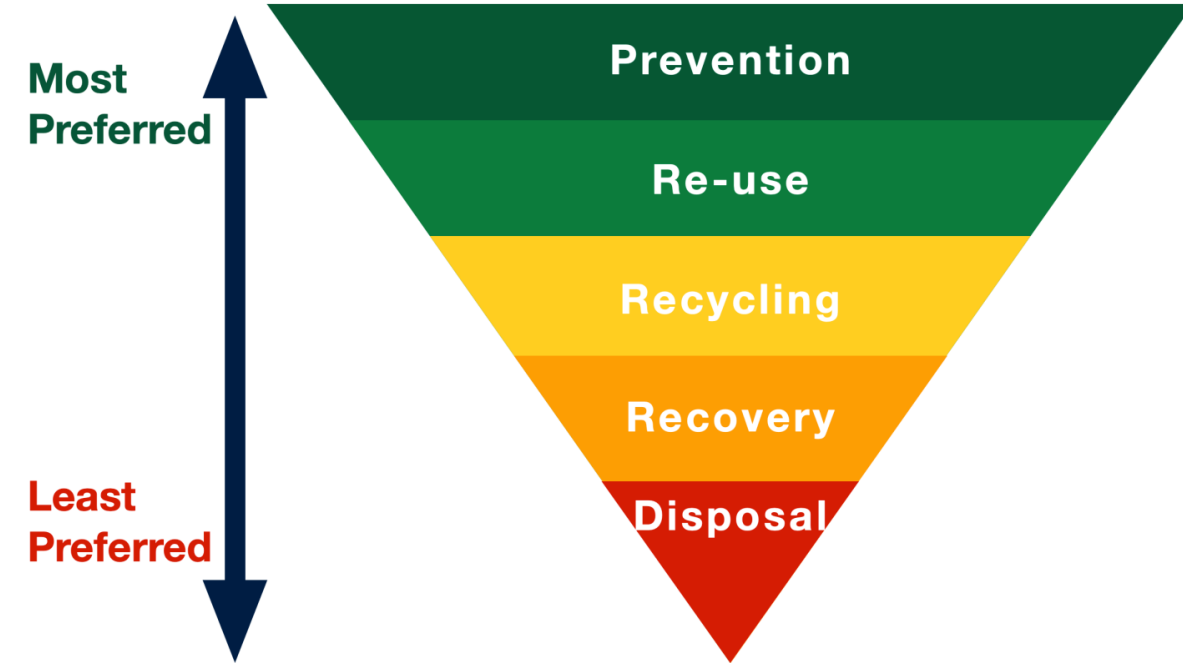


- Protects human health and the environment from the harmful effects of waste, such as pollution, contamination and disease.
- Saves money by reducing the cost of waste disposal and generating revenue from recycled materials.
- Creates jobs and supports economic development by providing opportunities for waste collection, processing and marketing.
- Conserves natural resources and saves energy by reducing the demand for new materials and products and recovering energy or materials from waste.
- Mitigates climate change by reducing greenhouse gas emissions from waste generation and disposal and increasing carbon sequestration from organic waste.
- Enhances social welfare and equity by improving the quality of life, aesthetics and hygiene of urban areas and empowering the informal sector and marginalized groups involved in waste management.

Challenges of Waste Management

- **Rising waste generation:** Economic growth, urbanization, industrialization and consumption patterns have led to an increase in waste generation. This creates environmental and social challenges for waste management.
- **Improper waste management:** Poor segregation of waste at source, leading to improper disposal of hazardous and e-waste
- **Need for adequate infrastructure and resources:** Waste management facilities need to be developed and decentralized. There is also a lack of financial and technical resources, skills and competencies to improve waste management services
- **Environmental pollution and climate change:** Poor waste management practices contribute to various forms of environmental pollution, such as air, water, soil and noise pollution. They also emit greenhouse gases that contribute to global warming and climate change.
- **Social and economic impacts:** Improper waste management can have negative impacts on the society and economy, such as causing disease, fire, explosion, flooding or landslides; harming animals that consume waste unknowingly; affecting economic development such as through diminished tourism; losing valuable resources that could be reused or recycled; and inadequate recognition and integration of the informal sector

Hierarchy of Waste Management



Prevention: Avoiding or reducing the generation of waste in the first place.

Reuse: Using products or materials again for the same or a different purpose, without changing their form or quality.

Recycling: Processing waste materials into new products or raw materials.

Recovery: Extracting energy or materials from waste that cannot be reused or recycled.

Disposal: Getting rid of waste that cannot be prevented, reused, recycled or recovered, such as landfilling or dumping. Least preferred option, as it has the most negative impact on the environment and human health.

» **Solid Waste Management Rules, 2016:**

- Notified on 8th April, 2016
- Applicability extended beyond municipal areas to urban agglomerations, census towns, notified industrial townships, etc.
- The source segregation, door to door collection of waste has been mandated to channelize the waste for useful purposes such as recovery, reuse and recycle.

» **E-Waste (Management) Rules, 2022:**

- Notified on 2nd November, 2022 which covers 106 Electrical and Electronic Equipment (EEE) including Solar PV waste.
- A transformative step towards implementation of the announcement made by Hon'ble Prime Minister to promote Circular Economy.
- Provide Extended Producer Responsibility (EPR) regime for e-waste recycling according to the needs of the current scenario

» **Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016:**

- Notified on 4th April, 2016 incorporating waste management hierarchy in the sequence of priority i.e. prevention, minimization, reuse, recycling, recovery, co-processing and safe disposal.
- These rules shall apply to every occupier of the facility who is engaged in handling, generation, collection, storage, packaging, transportation, use, treatment, processing, recycling, recovery, pre-processing, utilization, offering for sale, transfer or disposal of hazardous and other wastes.

» **Bio-Medical Waste Management Rules, 2016:**

- Notified with the objectives to improve segregation, collection, processing, treatment and disposal of infectious bio-medical waste in an environmentally sound and safe manner.
- Applicable to all persons who generate, collect, receive, store, transport, treat, dispose, or handle bio medical waste in any form including hospitals, nursing homes, clinics, dispensaries, veterinary institutions, animal houses, pathological laboratories, blood banks, AYUSH hospitals, clinical establishments, research or educational institutions, health camps, medical or surgical camps, vaccination camps, blood donation camps, first aid rooms of schools, forensic laboratories and research

» **Plastic Waste Management Rules, 2016:**

- Notified on 18th March, 2016.
- Rules apply to the manufacture, import stocking, distribution, sale and use of carry bags, plastic sheets or multilayered packaging etc. The jurisdiction of applicability have been expanded from municipal area to rural areas as well.
- For the first time, responsibility of waste generators has been prescribed.
- Individual and bulk generators like offices, commercial establishments, industries are to segregate the plastic waste at source, handover segregated waste, pay user fee as per bye-laws of the local bodies.

» **Construction & Demolition (C&D) Waste Management Rules, 2016:**

- The rules apply to everyone who generates construction and demolition waste such as building materials, debris, and rubble waste resulting from construction, re-modelling, repair and demolition of any civil structure of individual or organization or authority.
- The rules mandate for collection, transportation, storage and re-processing of C&D waste.
- Emphasis was given on recycling/ recovery of valuable materials and C&D waste as 'RESOURCE'.
- Scope of the rules includes construction & demolition/ renovation of buildings, excavation, road/ flyover/ underpass/ bridge construction, laying utility pipelines etc.
- Timeline were prescribed for creation of physical reprocessing facility at all places for recycling C&D waste.

» **Battery Waste Management Rules, 2022:**

- Published on 24th August, 2022 to ensure environmentally sound management of waste batteries.
- New rules replace Batteries (Management and Handling) Rules, 2001. The rules cover all types of batteries, viz. Electric Vehicle batteries, portable batteries, automotive batteries and industrial batteries.
- The rules function based on the concept of EPR where the producers (including importers) of batteries are responsible for collection and recycling/refurbishment of waste batteries and use of recovered materials from wastes into new batteries.

» **Ash utilisation notification, 2021:**

- MoEF&CC issued new notification on 31st December, 2021 with an aim to achieve 100% ash utilisation generated from coal and lignite based thermal power plants.
- Mandates thermal power plants to achieve 100% utilisation of current generation of ash in 3-5 year cycle and legacy ash in 10 years.
- Environmental compensation for non-compliance of provisions.
- Users agencies involved in road construction, roads and flyover embankments laying, construction of dams, mining, manufacture of ash based products, building construction have been mandated to use ash or ash based products located within 300 km radius of thermal power plants.

» Chemical Safety:

- MoEF&CC notified the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 and the Chemical Accidents (Emergency Planning, Preparedness and Response) (CAEPPR) Rules, 1996 for ensuring chemical safety in the country.
- Objective is to prevent chemical accidents from industrial activities and mitigate impacts of chemical accidents.
- Occupier of the hazardous chemicals is required to declare major hazards of industrial activity to public and prepare on-site emergency plan & safety reports, conduct regular safety audits and mock-drills, etc.
- Crisis management framework for chemical emergencies has been formulated.
- Crisis Alert System i.e. Red Book is prepared and updated annually to facilitate quick information exchange during chemical emergencies.

» Public Liability Insurance:

- The Public Liability Insurance Act, 1991 enacted with a purpose to provide immediate relief to the persons affected by accident occurring while handling hazardous substance and for matters connected therewith or incidental thereto.
- The Act covers death or injury to any person other than workman (General Public) or damage to property resulting from an accident while handling hazardous substance.
- The Act covers 179 chemicals and flammable substances.
- As per Section 7A of the Amended Act, 1992, the Major Accident Hazard (MAH) units shall contribute an amount equal to the amount of premium of the insurance policy to the Environment Relief Fund (ERF) to be created by the Central Government.

Extended Producer Responsibility Framework

- Extended Producer Responsibility (EPR) means the responsibility of a producer for the environmentally sound management of the product until the end of its life.
- The following rules have been notified incorporating the principles of EPR based on the concept of reuse, recycle, refurbish and recovery:
 - Battery Waste Management Rules, 2022 notified on 22nd August, 2022 to ensure environmentally sound management of waste batteries;
 - 'Guidelines on the Extended Producer Responsibility(EPR) for Plastic Packaging' under Plastic Waste Management Rules, 2016 notified on 16 February, 2022;
 - 'Extended Producer Responsibility (EPR) for Waste Tyre' notified on 21st July, 2022 through amendment in Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 to ensure environmentally sound management of waste tyres;
 - E-Waste (Management) Rules, 2022 notified on 2nd November,2022 for EPR regime for e-waste recycling.



EPR Portal for Plastic Packaging



- It is the responsibility of Producers, Importers and Brand-owners to ensure processing of their plastic packaging waste through recycling, re-use or end of life disposal (such as co-processing/Waste-to-energy/Plastic-to-oil/road making/industrial-composting).
- As per the guidelines, Producers, Importers and Brand Owners (PIBOs) shall have to register through the online centralized portal developed by the Central Pollution Control Board (CPCB).
- A portal has been developed to register PIBOs who are operating in more than two States with CPCB and those operating in one or two States/UTs shall be registered with the concerned State Pollution Control Boards (SPCBs).
- PWPs shall also have to register with the concerned SPCB/PCC in accordance with the provisions of the Section 13(3) of the Plastic Waste Management Rules, 2016 on this centralized portal developed by CPCB.
- The EPR Portal for Plastic Packaging provides provision for registration of PIBOs/ PWPS in accordance with the notified EPR Guidelines.
- The portal will help in improving accountability, traceability and transparency of fulfilment of EPR Obligations.
- The portal is planned to have seven modules, which allows registration of PWPs and PIBOs, issue certificates by PWPs & exchange of credits, allows real-time monitoring of transactions between PIBOs and PWPs, allows levy of environmental compensation and provides system generated reports and facilitates filing of annual returns for the stakeholders.



EPR Portal for Battery Waste



- It is the responsibility of the producers to ensure processing of their waste batteries through recycling, refurbishing or end of life disposal.
- The online portal established by CPCB will be used for the registration and filing returns by producers, recyclers, and refurbishers of waste batteries.
- The material balance of waste batteries as per EPR obligations of the producers will be reflected in the EPR portal and it shall also reflect the details regarding the audit of the producers and entities involved in refurbishing and recycling of waste batteries.
- EPR certificates will be generated by CPCB through the centralised online portal based on the recycled or refurbished quantities and assigned to recyclers or refurbishers.
- The web portal would act as the single point data repository with respect to orders and guidelines related to implementation of Battery Waste Management Rules.



Circular Economy



- » Hon'ble Prime Minister, Shri Narendra Modi, in his address to the nation on the occasion of 75th Independence Day on 15th August, 2021 had highlighted India's action on 'Mission Circular Economy'.
- » NITI Aayog had constituted 11 Committees for development of Circular Economy (CE) action plans for different categories of wastes, and has finalized CE Action Plans for 10 waste categories (Li-ion batteries; E-waste; Toxic and hazardous industrial waste; Scrap metal (ferrous and non-ferrous); Tyre and Rubber; End of Life Vehicles; Gypsum, Used Oil, Municipal solid waste and Solar Panels)
- » MoEFCC is the nodal ministry for CE Action Plan for Tyre and Rubber, and is stakeholder ministry in other action plans.
- » 'Waste Tyre Management Rules, 2022' notified on 21.07.2022 ; notified 'E -Waste Management Rules, 2022' on 02.11.2022; 'Battery Waste Management Rules, 2022' on 22.08.2022.
- » Guidelines on the Extended Producer Responsibility for Plastic Packaging has been notified on 16th February, 2022
- » EPR framework has been incorporated by amending existing rules or notifying new rules for waste batteries, electronic waste, solar panel waste, waste tyres and plastic packaging material

» Basel Convention

- The Convention regulates transboundary movement of hazardous wastes and disposal (import and export) and prescribes environmentally sound management of wastes domestically.
- The Convention also restricts trade on plastic waste. India ratified the Convention in June, 1992. To implement the provisions of transboundary movement of hazardous waste, the Ministry has established a Prior Informed Consent (PIC) mechanism for regulating import and export of hazardous waste under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

» Stockholm Convention

- Stockholm Convention is a global treaty to protect human health and the environment from Persistent Organic Pollutants (POPs). The Convention obligates all parties to eliminate production and use of intentionally produced POPs, eliminate unintentionally produced POPs where feasible, and manage and dispose of POPs wastes in an environmentally-sound manner.
- India banned 12 chemicals (dirty dozen) during its ratification of the Convention in January, 2006. Subsequently, 7 more chemicals have been ratified in October, 2020. These chemicals include pesticides, industrial chemicals and unintentionally produced POPs.
- To implement the obligations, the Ministry notified the Regulation of Polychlorinated Biphenyls Order, 2016; and Regulation of Persistent Organic Pollutants Rules, 2018 to prohibit production, import and use of hazardous chemicals. The Ministry has prepared National Implementation Plan for 12 POPs.

» Rotterdam Convention

- The objective of the Rotterdam Convention is to promote shared responsibility and cooperative efforts among parties in the international trade of chemicals to protect human health and the environment, and contribute to the environmentally sound use of chemicals.

» Minamata Convention

- The Minamata Convention is a global legally binding instrument with the objective to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds. The Convention addresses the life cycle of mercury, including supply, trade, mercury-added products, industrial processes using mercury, artisanal and small-scale gold mining, emissions to air, releases to land and water, interim storage, waste and contaminated sites. India ratified the Convention in June, 2018.

» Strategic Approach to International Chemicals Management (SAICM)

- SAICM is a global policy framework to promote sound management (production and use) of chemicals throughout their life-cycle to minimise significant adverse effects on human health and environment.
- To promote safe use of chemicals, Ministry has notified a Regulation on lead content in Household and Decorative Paints Rules in November, 2016 to prohibit manufacture/ trade/ import/ export household and decorative paints with Lead or Lead compounds in excess of 90 parts per billion.



Role of Waste Management in achieving Sustainable Developmental Goals



- Sustainable development goals (SDGs) are a set of 17 global goals adopted by the United Nations in 2015 to end poverty, protect the planet and ensure peace and prosperity for all by 2030
- Some of the SDGs that are directly linked to waste management are:
 - **SDG 3:** Ensure healthy lives and well-being for all at all ages. Waste management can help prevent and reduce diseases, infections and injuries caused by exposure to waste or its pollutants
 - **SDG 6:** Ensure availability and sustainable management of water and sanitation for all. Waste management can help protect water resources from contamination by waste, especially hazardous and e-waste, and improve sanitation services
 - **SDG 7:** Ensure access to affordable, reliable, sustainable and modern energy for all. Waste management can help generate renewable energy from waste, such as biogas from organic waste or electricity from waste-to-energy facilities
 - **SDG 11:** Make cities and human settlements inclusive, safe, resilient and sustainable. Waste management can help improve the quality of life, aesthetics and hygiene of urban areas by reducing waste generation, enhancing waste collection and transportation, promoting waste segregation, reuse and recycling, and ensuring proper waste treatment and disposal



Role of Waste Management in achieving Sustainable Developmental Goals



- **SDG 12:** Ensure sustainable consumption and production patterns. Waste management can help reduce the demand for new materials and products by recovering and reusing resources from waste, following the principles of waste hierarchy, circular economy and resource efficiency
- **SDG 13:** Take urgent action to combat climate change and its impacts. Waste management can help mitigate climate change by reducing greenhouse gas emissions from waste generation and disposal, increasing carbon sequestration from organic waste, and adapting to the impacts of extreme weather events on waste management systems
- **SDG 14:** Conserve and sustainably use the oceans, seas and marine resources for sustainable development. Waste management can help protect marine ecosystems from pollution by waste, especially plastic waste, which threatens marine life and human health



Role of Waste Management in achieving Sustainable Developmental Goals



Some of the SDGs that are indirectly linked to waste management are:

- **SDG 1:** End poverty in all its forms everywhere. Waste management can help reduce poverty by creating income opportunities for the informal sector and marginalized groups involved in waste collection, sorting and
- **SDG 4:** Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Waste management can help improve education by providing a clean and healthy learning environment for students and teachers, as well as raising awareness and knowledge on waste issues among the public
- **SDG 5:** Achieve gender equality and empower all women and girls. Waste management can help promote gender equality by recognizing and supporting the role of women in waste management activities, especially at the household level, as well as ensuring their safety, dignity and participation in decision-making processes
- **SDG 8:** Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. Waste management can help support economic growth by reducing the cost of waste disposal, generating revenue from recycled materials, creating jobs in the waste sector, enhancing productivity and competitiveness of industries, and attracting investments in green technologies

Real Time Data Monitoring of Waste Management

- Real time data is the information that is collected, transmitted and processed immediately or within a short time span, using sensors, communication networks and data analysis tools
- Real time data can play a vital role in improving the efficiency, effectiveness and sustainability of waste management systems by providing accurate and timely information about the status, quality and quantity of waste in different stages of the waste management process
- Some of the benefits of real time data in waste management are:
 - Help optimize waste collection and transportation by notifying the waste management authorities about the best routes, schedules and vehicles for waste clearance and monitoring the transportation vehicles.
 - Help enhance waste treatment and disposal by monitoring the performance and environmental impact of different waste processing facilities, such as incinerators, composters or anaerobic digesters, and providing feedback and control mechanisms to improve their efficiency and safety
 - Help increase waste recovery and recycling by identifying the type and composition of waste materials and facilitating their sorting, separation and conversion into new products or raw materials
 - It can help support decision-making and policy-making by providing accurate and timely data and insights on the sources, flows and impacts of waste generation and management, and enabling evidence-based planning, evaluation and improvement of waste management systems



Waste to Wealth



- Waste management rules for environmentally sound management of wastes, incorporate circular economy principles
- Formulation/comprehensive revision of waste management rules undertaken—solid waste, plastic waste, construction and demolition waste, E-waste, hazardous waste, bio-medical waste, battery waste, tyre waste
- **Strengthening of waste collection and processing infrastructure**
- Extended Producer Responsibility mandated in different waste streams viz. plastic packaging, E-waste, waste tyres, waste batteries to operationalize circular economy principles
- Extended Producer Responsibility Framework for recovery of valuable materials through recycling, will lessen burden on virgin and scarce resources.
- Action plans developed to bring in circularity on 11 waste streams – municipal waste, scrap metal, E-waste, Li ion batteries, Solar panels, Gypsum, Toxic and hazardous industrial wastes, Used oil waste, waste Tyre and rubber, End of life vehicles





Waste Management Regulations in the country



The Ministry of Environment, Forest and Climate Change notified the following waste management rules under Environment (Protection) Act, 1986, for environmentally sound management of wastes:

- Solid Waste Management Rules, 2016 ([SWMR](#))
- Plastic Waste Management Rules, 2016 ([PWMR](#)) ([SUP Ban](#)) ([EPR](#))
- Bio-medical Waste Management Rules, 2016 ([BMWR](#))
- Construction and Demolition Waste Management Rules, 2016 ([C&D WMR](#))
- Hazardous and other wastes (Management and Transboundary Movement) Rules, 2016 ([HWMR](#)) ([EPR-Waste Tyres](#))
- E-waste Management Rules, 2016. ([EWMR](#))
- Battery Waste Management Rules, 2022 ([BWMR](#))

Solid Waste Management Rules, 2016

- MoEF&CC notified Solid Waste Management Rules, 2016 on 8th April, 2016.
- The rules cover Municipal areas, outgrowths in urban agglomerations, census towns, notified industrial townships, areas under the control of Indian Railways, airports, airbase, Port and harbour, defence establishments, special economic zones, State and Central government organizations, places of pilgrims, religious & historical importance.
- Emphasis given on source segregation of waste, a basic need for channelizing the waste to wealth by recovery, reuse and recycle
- Generators to segregate waste at source namely in to three streams, Wet, Dry and domestic hazardous wastes
- Local authorities and village panchayats of census towns and urban agglomerations to prescribe criteria for levying spot fine for persons who fails to comply with the provisions of the rules and also delegate powers to officers or local bodies to levy spot fines as bye laws framed
- SPCB/PCC to enforce the rules though local bodies in their respective jurisdiction and review the implementation of the rules as prescribed
- Generator to pay 'User Fee' to waste collector and 'Spot Fine' for Littering and Non-segregation as specified by the local bodies

Solid Waste Management Rules, 2016

- Issues related to collection and disposal of sanitary waste addressed
- Bulk and Institutional Generators, Market Associations, event organizers and Hotels and restaurants made responsible for segregation and sorting and to have partnership with Local Bodies for management of waste generated in their premises
- New townships, Group Housing Societies (exceeding certain area) made responsible to develop in-house waste handling, and processing arrangements for biodegradable waste
- The developers of Special Economic Zone, Industrial Estate, Industrial park to earmark at least 5% of the total area of the plot or minimum 5 plots/ sheds for recovery and recycling facility
- Responsibilities for Ministry of Chemicals & Fertilisers and Ministry of Agriculture and Farmers Welfare introduced to promote sale of compost
- Responsibilities for Ministry of New and Renewable Energy and Ministry of Power introduced to promote waste to energy
- To promote utilisation of RDF, industrial units using fuel and located within 100 km from an solid waste based RDF plant to replace at least 5 % of their fuel requirement by RDF
- Compost Standards prescribed in line with Fertiliser Control Order (FCO)

Plastic Waste Management Rules, 2016

- Plastic Waste Management (PWM) Rules, 2016 notified on 18th March, 2016 to address the issue of plastic pollution with effective measures
- Applicable to Waste Generator, Local Body, Gram Panchayat, Manufacturer, Importer, Producer and Brand Owner
- Carry bag made of virgin or recycled plastic, less than 120 microns in thickness prohibited
- Waste Generators mandated to segregate waste and handover to authorized agency and pay user fee as prescribed by ULB and spot fine in case of violation
- Producer, Brand Owner to work out modalities for waste collection system for collecting back the plastic waste in consultation with local authority/State Urban Development Department
- Promote use of plastic waste for road construction, energy recovery, waste to oil or co-processing in cement kilns etc.
- SPCB/PCC are the authority for enforcement of the provisions of PWM Rules, 2016, relating to registration, manufacture of plastic products and multi-layered packaging, processing and disposal of plastic wastes.
- Urban Development of the State or a Union Territory and concerned Gram Panchayat in the rural area of the State or a Union Territory are the authority for enforcement of the provisions of PWM Rules.

Elimination of SUPs

- To implement Hon'ble PM's announcement, Notification on phasing out of 12 Single-Use Plastics (SUP) items w.e.f. 1st July, 2022 was issued in August, 2021:
 - a) Ear buds with plastic sticks, plastic sticks for balloons, plastic flags, candy sticks, ice-cream sticks, polystyrene [Thermocol] for decoration;
 - b) Plates, cups, glasses, cutlery such as forks, spoons, knives, straw, trays, wrapping or packing films around sweet boxes, invitation cards, and cigarette packets, plastic or PVC banners less than 100 micron, stirrers.
- Ban on single use plastic items which have high littering potential and low utility
- Strategy follows **the Lifestyle For Environment (LiFE) principle.**
- LiFE principle envisions replacing -'use-and-dispose' economy with a circular economy.

Guidelines for EPR on Plastic Packaging

- MoEF&CC notified the Guidelines on EPR for plastic packaging vide Plastic Waste Management Amendment Rules, 2022, on 16th February 2022.
- Mandatory registration of Producers, Importers, and Brand Owners (PIBOs) and Plastic Waste Processors (PWPs) through centralized online portal
- Coverage of four categories of plastic packaging viz. rigid, flexible, multi-layered plastic packaging, and compostable plastic packaging
- Clearly defined targets for EPR
- Mandatory targets for reuse of rigid plastic packaging, minimum level of recycling of plastic waste and use of recycled plastic content in plastic packaging
- Centralized online portal to support implementation of EPR
- Provision of sale and purchase of surplus EPR certificates
- Levy of environmental compensation for non-fulfilment of EPR obligations
- Provision for verification, audit and monitoring of obligated entities
- Promotes 'mindful consumption' and circular economy

EPR on Waste Tyres

- MoEF&CC notified 'Extended Producer Responsibility (EPR) for Waste Tyre' on 21st July, 2022 through amendment in Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 to ensure environmentally sound management of waste tyres
- Covers all types of waste tyre including tubes and flaps that is no longer mounted on a vehicle and is no longer used for its intended purpose
- Rules function based on the concept of EPR where the producers (including importers) of tyres are responsible for recycling/ retreading of waste tyre and use of recovered materials from wastes into reclaim rubber, crumb rubber, crumb rubber modified bitumen, recovered carbon black and pyrolysis oil & char
- Rules promote setting up of new industries and entrepreneurship in collection and recycling/ retreading of waste tyres
- Producers, recyclers and retreaders required to register on the CPCB portal
- Producers and recyclers who do not comply with the provisions of this newly added schedule liable to pay environmental compensation determined in accordance with the guidelines laid down by CPCB

E-Waste (Management) Rules,2022

- MoEF&CC notified E-Waste (Management) Rules, 2022 on 2nd November, 2022 **in supersession of E-Waste (Management) Rules, 2016** to make EPR broader and pragmatic and in line with the action plans as finalized by NITI Aayog with respect to Circular Economy.
- Number of e-waste items increased from 21 to 106
- Applicable to manufacturer, producer, refurbisher, dismantler and recycler
- Manufacturer, producer, refurbisher and recycler require registration through online portal.
- To promote re-use of EEE, provision for deferment of EPR obligation for the extended life prescribed
- Producers of notified EEE given annual E-Waste Recycling targets based on the generation from the previously sold EEE or based on sales of EEE as the case may be
- Management of solar PV modules /panels/ cells added
- Provision for generation and transaction of EPR Certificate
- Provisions for environment compensation and verification & audit introduced



Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016



- MoEF&CC notified the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 on 4th April, 2016 to ensure safe storage, treatment and disposal of hazardous wastes in an environmentally sound manner.
- The rules mandate all occupiers involved in handling, generation, storage, transportation, use, treatment, pre processing, co-processing, recycling, recovery of hazardous wastes to obtain authorization from SPCBs.
- The rules allow the import and export of hazardous and other wastes into the country for recycling, recovery, reuse and utilization including co-processing.
- Import of hazardous and other wastes is not allowed for disposal.
- A prior informed consent procedure is followed for import-export of hazardous wastes in accordance to the Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal of which India is a Party.
- All transboundary movement of hazardous **and other wastes** requires prior permission from MoEF&CC **in accordance with the provisions of these rules.**

Battery Waste Management Rules, 2022

- New rules replace existing rules, 2001
- Applicable to all batteries including batteries from Electric vehicles
- Stakeholders: Producers (including importers), recyclers and refurbishers
- Regulatory bodies: Central Pollution Control Board (CPCB) and State Pollution Control Board (SPCB)/PCC
- Rules function based on the concept of Extended Producer Responsibility (EPR)
- Producers (including importers) are mandated targets for collection and recycling/refurbishment of waste batteries
- To meet the EPR obligations, producers may engage themselves or authorise any entity for collection, recycling or refurbishment of waste batteries.



Battery Waste Management Rules, 2022



- Registration of producers through CPCB; one time registration of recyclers and refurbishers through SPCB/PCC
- Recyclers mandated to recover minimum % of battery materials
- Battery manufactures mandated to use minimum % of recycled content
- Exchange of EPR certificates between producers and recyclers/refurbishers
- Monitoring and audit mechanism through CPCB and SPCB
- Online reporting system, guidelines on environmentally sound management of waste batteries by CPCB

Bio-medical Waste Management Rules, 2016

- MoEF&CC notified Bio-medical Waste Management Rules, 2016 on 28th March, 2016.
- Applicable on persons/ entities who generate, collect, receive, store, transport, treat, dispose or handle bio medical waste in any form
- Phase-out date of chlorinated plastic bags (except blood bags, urine bags, effluent bags, abdominal bags and chest drainage bags), and gloves prescribed as 27 March 2019
- Pre-treatment of the laboratory waste, microbiological waste, blood samples and blood bags through 'on-site disinfection or sterilisation' in the manner as prescribed by WHO or NACO
- Provision of training and immunisation of all health care workers regularly
- To improve the collection of waste, segregation at source is prescribed in 4 different categories depicted through 4 coloured containers viz. Red, Blue, Yellow and White
- Provisions introduced for operators of common bio-medical waste treatment and disposal facilities (CBMWTDF) and health care facilities to establish bar coding of waste and put in place a global positioning system for handling of bio-medical waste in accordance with CPCB guidelines
- Stringent standards prescribed for incinerator to reduce the air emissions
- State Government obligated to provide land for setting CBMWTDF



Bio-medical Waste Management Rules, 2016



- No hospital or health care facility is allowed to install on-site treatment and disposal facility, if a CBWTF is operational within 75km radius
- Operator of a CBMWTF to ensure timely collection of bio-medical waste from the health care facilities (HCFs) and assist the HCFs in conducting training programs for bio-medical waste management

- MoEF&CC notified the Construction and Demolition Waste Management Rules, 2016 on 29th March, 2016 to provide a regulatory framework for management of construction and demolition (C&D) waste generated in the Country.
- Rules were notified to improve segregation, collection, recycling, treatment and disposal of C&D waste in an environmentally sound manner to prevent loss of embedded recyclable value, avoid use of virgin materials, discourage unscientific disposal of waste, address air pollution from dumping of waste, promote scientific waste management and prevent degradation of water bodies.
- The rules mandate the primary responsibility of implementation, maintaining information and enforcement to the Local authority, State Government and State Pollution Control Board or Pollution Control Committee.
- To improve recycling and resource utilization, Circular economy and resource efficiency approaches needs to be built in C&D waste management framework, along with introduction of stringent enforcement measures, extended producer responsibility and environmental compensation provisions.
- MoEF&CC is currently undertaking the 'Revision of the Construction & Demolition Waste Management Rules, 2016'