पेयजल एवं स्वच्छता विभाग
जल शक्ति मंत्रालय
भारत सरकार
DEPARTMENT OF DRINKING WATER AND SANITATION
MINISTRY OF JAL SHAKTI
GOVERNMENT OF INDIA
सत्यमेव जयते

RURAL WASH PARTNERS FORUM

स्वच्छ भारत
एक कदम स्वच्छता की ओर

# National Conference

## on JJM & SBM

## Thematic Session - Plastic waste Management

**16th – 17th February 2024**

RWPF Thematic Lead Plastic Waste Management

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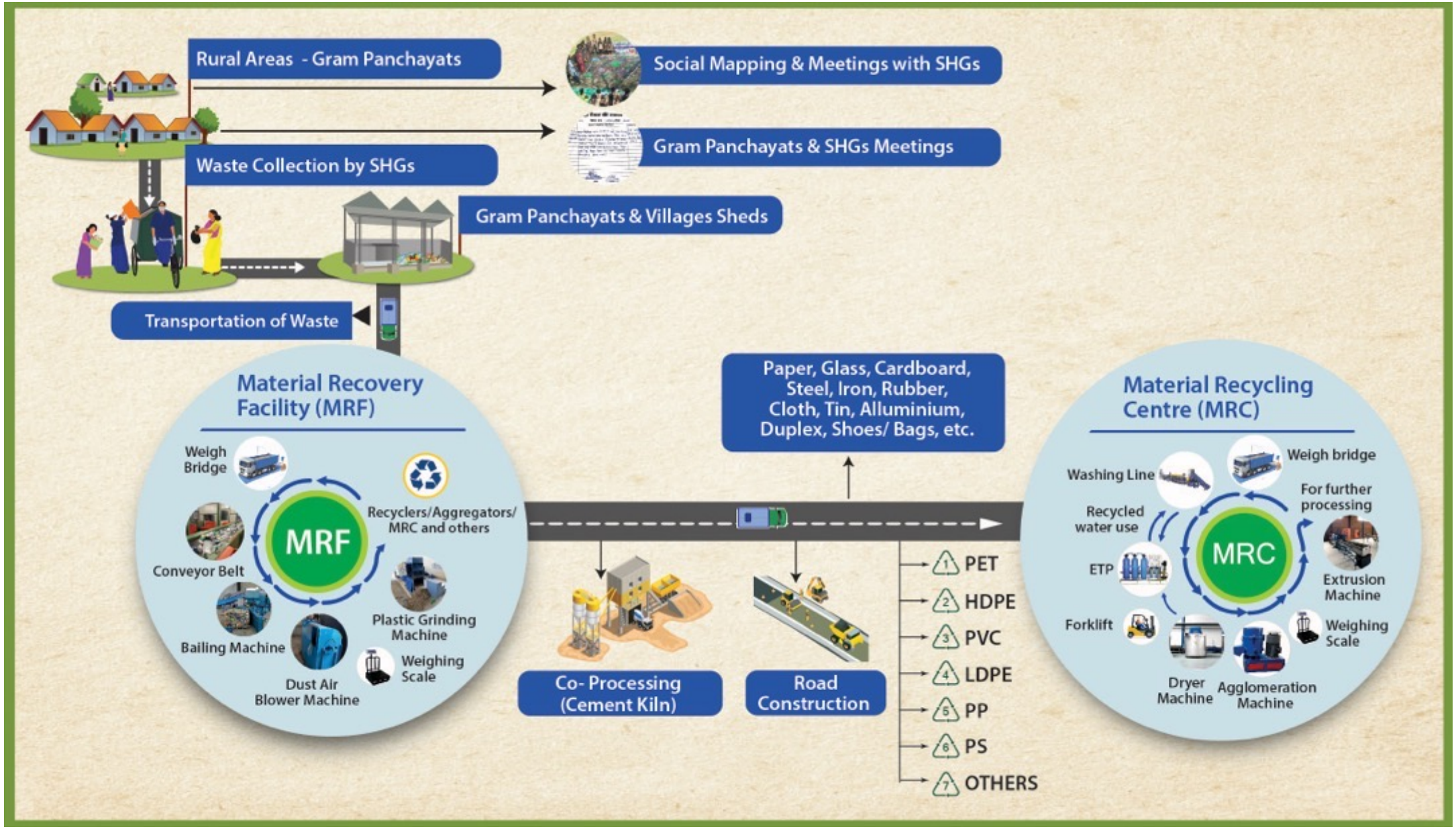
# VALUE CHAIN FOR DRY & PLASTIC WASTE RECEIVED AT THE PWMUs




SOURCE: CEE

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# TYPES OF DRY & PLASTIC WASTE RECEIVED AT THE PWMUs

TOXICITY CODE: ⚠ LOW ☠ HIGH

| Polymer Name | POLYETHYLENE TEREPHTHALATE | HIGH-DENSITY POLYETHYLENE | POLYVINYL CHLORIDE | LOW-DENSITY POLYETHYLENE | POLYPROPYLENE | POLYSTYRENE | All other plastics, including acrylic, fiberglass, nylon, polycarbonate, and polylactic acid (a bioplastic) |
|---|---|---|---|---|---|---|---|
| Resin Identification Code |  |  |  |  |  |  |  |
| Abbreviation | PET or PETE | HDPE | PVC | LDPE | PP | PS | OTHER |
| Recyclable? | Commonly Recycled | Commonly Recycled | Sometimes Recycled | Commonly Recycled | Commonly Recycled | Commonly Recycled (but difficult to do) | Difficult to Recycle |
| Toxicity Level | ☠ | ⚠ | ☠ | ⚠ | ⚠ | ☠ | ☠ |
| Most Commonly Leached Toxin(s) | Antimony Oxide, Bromine, Diaszomethane, Lead Oxide, Nickel Ethylene Oxide, and Benzene | Chromium Oxide, Benzoyl Peroxide, Hexane, and Cyclohexane | Benzene, Carbon Tetrachloride, 1,2-Dichloroethane, Phthalates, Ethylene Oxide, Lead Chromate, Methyl Acrylate, Methanol, Phthalic Anhydride, Tetrahydrofuran, and Tribasic Lead Sulfate, Mercury, Cadmium, Bisphenol A (BPA) | Benzene, Chromium Oxide, Cumene Hydroperoxide, And Tert-butyl Hydroperoxide | Methanol, 2,6-di-tert-Butyl-4-Methyl Phenol, and Nickel Dibutyl Dithiocarbamate | Styrene, Ethylbenzene, Benzene, Ethylene, Carbon Tetrachloride, Polyvinyl Alcohol, Antimony Oxide, and Tert-butyl Hydroperoxide, Bensoquinone | BPA, BPS, as well as all other toxins mentioned |

SOURCE: https://www.plasticbusters.org/resources/the-7-types-of-plastic-plastic-busters

# PLASTIC WASTE RECYCLING PROCESS

## SORTING

Identifying and eliminating based on contaminants and color.

## WASHING & DRYING

Cleaning plastic by removing adhesives, waste, food, and label.

## SHREDDING

Shredding or grinding plastic into smaller sizes (2:5)

## AGGLOMERATION AND EXTRUSION

Melting plastic, extruding, cutting into pellets, granules and selling to manufacturers.


SOURCE: https://www.shaktiplasticinds.com/plastic-recycling-an-essential-solution-to-our-planets-plastic-waste-problem/

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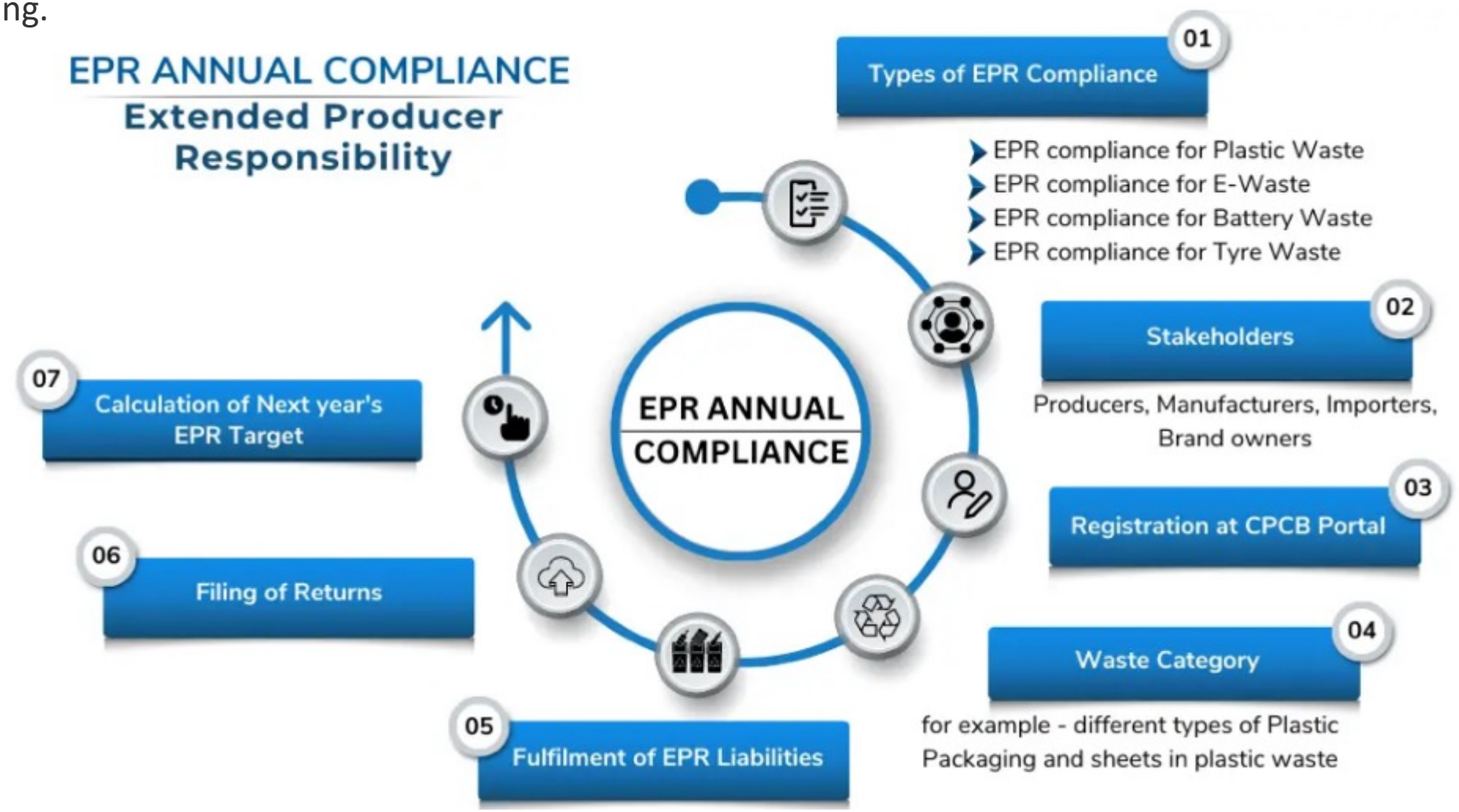
# Extended Producer Responsibility (EPR)

The Guidelines on Extended Producer Responsibility (EPR) for plastic packaging vide Plastic Waste Management (Amendment) Rules, 2022, on 16th February 2022 stipulate mandatory targets on EPR, recycling of plastic packaging waste and use of recycled plastic content. The guidelines provide for moving towards sustainable plastic packaging and reducing the plastic footprint of plastic packaging.



# Target for Recycling and Use of Recycled Content

| | Brand Owners | Producers | Importers |
|---|---|---|---|
| **Recycling Target** | **Common for all Brand owners, Producers & Importers** | | |
| | **Rigid:**<br>50% for 2024/2025<br>60% for 2025/2026<br>70% for 2026/2027<br>80% for 2027/2028 and onwards | **Flexible:**<br>30% for 2024/2025<br>40% for 2025/2026<br>50% for 2026/2027<br>60% for 2027/2028 and onwards | **MLP:**<br>30% by 2024/2025<br>40% for 2025/2026<br>50% for 2026/2027<br>60% for 2027/2028 and onwards |
| **Use of recycled content for each entity (Mandatory)** | **Common for all Brand owners, Producers & Importers.** | | |
| | Rigid:<br>30% for 2025/2026<br>40% for 2026/2027<br>50% for 2027/2028<br>60% for 2028/2029 and onwards | Flexible:<br>20% for 2025/2026<br>20% for 2026/2027<br>30% for 2027/2028<br>30% for 2028/2029 and onwards | MLP:<br>5% by 2025/2026<br>5% for 2026/2027<br>10% for 2027/2028<br>10% for 2028/2029 and onwards. |

# Waste at the MRF

***Dry and Plastic Waste received at the MRF***

# Different types of Segregated waste being sent to different Recyclers

***Segregated waste being dispatched from the MRF for further processing***

# RECYCLED PRODUCTS

**Technical parameters:**
**Material:** Recycled PP Granules
**Properties:**
Fire Resistant, Recycled, Waterproof, Sturdy and Tough Material.

**Technical Description:**
**Material:** Recycled MLP and LDPE
**Properties:**
Fire Resistant, Recycled, Waterproof, Sturdy, and Tough

**Technical Description:**
**Material:** Recycled PP
**Properties:**
Fire resistant, Recycled Waterproof, Sturdy and Tough

SOURCE: https://www.shaktiplasticinds.com/product/recycled-flower-pot-super-shakti/

# RECYCLED PRODUCTS


Bench & table of **recycled tetra pack cartons** at the Dehradun Zoo.

SOURCE: Waste Warriors

Floor tiles made from a mix of **HDPE, PP and LDPE.** The tiles are anti-static, antimicrobial, & anti-bacterial. They can also sustain heat up to 140°C &cold up to -25°C. A kg of plastic waste makes 1 sq ft of tiles which comprises of 4 plastic paver tiles.

SOURCE:Shayna EcoUnified India Pvt. Ltd.

# RECYCLED PRODUCTS

Made of **Multi-Layer Packaging (MLP).** Highly durable, crack-free, easy to install, water proof.

SOURCE:https://saahaszerowaste.com/product/eco-board-outdoor-seating/

Roof sheets made of **Multi Layer Packaging.** Highly durable, Fire and water resistant, Anti Fungus, Low Heat absorption property, crack free& easy to install


# Thank You

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