



EPR in Plastic Packaging for MSMEs

Training Manual

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Resource Efficiency Initiative, India

Training Manual: EPR in Plastic Packaging for MSMEs

December, 2023



List of Abbreviations

| | T |
|--------|---|
| CE | Circular Economy |
| CPCB | Central Pollution Control Board |
| EPR | Extended Producer Responsibility |
| ESG | Environmental Social Governance |
| HDPE | High-Density Polyethylene |
| ISO | International Organization for Standardization |
| LDPE | Low-Density Polyethylene |
| MLP | Multi-layered Plastic |
| MoEFCC | Ministry of Environment Forest and Climate Change |
| MSME | Micro, Small and Medium Enterprises |
| OSHA | Occupational Safety and Health Administration |
| PCC | Pollution Control Committee |
| PP | Polypropylene |
| PS | Polystyrene |
| PVC | Poly-Vinyl Chloride |
| PIBOs | All India Institute of Local Self-Government |
| PRO | Producer's Responsible Organisation |
| PWM | Plastic Waste Management |
| PWP | Plastic Waste Processor |
| RIC | Resin Identification Code |
| SOPs | Standard Operating Procedures |
| SPCB | State Pollution Control Board |
| USGBC | U.S. Green Building Council |
| UT | Union Territory |
| | |

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Background, Objectives & Structure of Training



Background of the Project

Resource Efficiency and Circular Economy are gaining increasing traction among key actors including government, non-government, industry, civil society and academia. The Government of India has recognized the plastic waste stream and the management thereof as a priority issue and has started tackling the challenge of growing amount of plastic waste that is not properly managed. Large scale national level missions such as "Swachh Bharat Mission" and "Namami Gange Programme" Missions continue to drive discussion around India's waste and water body pollution problems. Extended Producer Responsibility (EPR) in Plastic Packaging was adopted as a principle in the Plastic Waste Management Rules, 2016. The framework for EPR in plastic packaging was notified by the Ministry of Environment, Forest and Climate Change in a draft form in October 2021 and published in the gazette in February 2022. The framework of EPR in plastic packaging makes Producers, Importers and Brand Owners (PIBOs) responsible for the plastic packaging they use while they are putting their product on the market or importing into the country.

To ensure that this is recycled, the recycler as a stakeholder has been incentivized through generation of credits which can be sold to PIBOs. Furthermore, there are different types of packaging made from plastics which are either difficult to recycle or there is no technology available to recycle and extract materials which can have value. However, there is calorific value which is embedded in plastic which can be used to generate energy. Such plastics are sent across for end of life processing. The rule states that stakeholders such as cement kilns, road builders, waste to energy generators and waste to oil producers are also part of the rules and can generate credits based upon the quantum of plastic that they process and recover energy.

The digital platform created by the Central Pollution Control Board (CPCB) is at the heart of the compliance framework to monitor the implementation of EPR in plastic packaging waste. A process has been created for registration, data compliance and annual return filing for PIBOs and Recyclers. The complexities arise because of the different kinds of plastic packaging, which are mandated under the rules, the targets for recycling, use of recycled content and reuse of packaging for specific financial years.

While large companies have been able to seek help from organizations and consultants to tide over the complexities, the Micro, Small and Medium Enterprises (MSMEs) have faced challenges. To help them overcome these challenges, the EU Resource Efficiency Initiative (EU-REI) proposes to develop training content in the form of manual and presentations, which can serve to develop capacities of MSMEs to ensure compliance

with the Plastic Waste Management Rules, 2016 and their amendments and the EPR framework implemented by the CPCB.

Objectives of the Manual

- To develop capacities of MSMEs to ensure compliance with the Plastic Waste Management Rules, 2016 and the EPR framework implemented by the CPCB.
- To develop self-learning training manual for MSME Producers, Importers and Brand Owners as well as Plastic Waste Processor on EPR compliance in plastic packaging

About the Manual

This manual is designed with the purpose of conducting 'Train the Trainer' (ToT) programmes for enhancing understanding of implementation of Extended Producer Responsibility (EPR) guidelines in plastic packaging for MSMEs. The content of the manual focuses on enhancing knowledge of MSME stakeholders so that they can meet with their EPR compliance.

Objectives of the Train the Trainer programme

The objective if the Train the Trainer programme is to enhance the capacities of the MSME stakeholders on implementation of EPR compliance for the Plastic Waste Management Rules, 2022. The training is focussed on developing knowledge on the regulation, the implementation framework for Extended Producer Responsibility (EPR) and the compliance requirements for stakeholders which when fulfilled ensures continuity of business.

Structure of the training

The training for trainers is structured to assist learning and enhancing capacities about EPR as a policy framework and its implementation with MSME stakeholders as per the policy. The obligations for each of the MSME stakeholders is described in detail as per the policy and the steps outlined to ensure fulfilment of compliance. The areas covered in the training include:

- Extended Producers Responsibility as a policy framework
- Circular economy principles and their linkage to the policy
- Stakeholders and their responsibilities
- · Steps towards fulfilment of compliance

Pedagogy of the training

The pedagogy of the training involves the 'Train the Trainer' method. A formative assessment is conducted at the start of each session to understand the knowledge of the participants. To ensure engagement of the participants, 2 groups are created depending upon the correctness of the answers during the formative assessment. One group explains to the other the concept around each question that was asked during the formative assessment. Once a level of understanding is developed in the discussion within 5 minutes, the session is initiated.

The session includes a theoretical explanation of the content to be covered through presentation slides. Once the content is covered, each participant can ask questions

which will be answered by the master trainer. An assessment of the session will be conducted at the end of the session as evidence to the learning acquired.

At the end of the training, participants will be asked to prepare an action plan which will help them to conduct a training with MSME stakeholders. The action plan will include the following topics:

- Engagement plan with stakeholders
- Mobilising participation
- Role play for participants
- Outcomes and Impact of the training

2. Stakeholders



Stakeholders & Target Audience

Micro, Small and Medium Enterprises, also known as MSMEs, refers to those establishments where the funding in the machinery and plant does not exceed INR 50 crores and the annual turnover is below INR 250 crores¹.

As per Section 10 (Role of PIBOs) of the PWM Rules, 2022, the entities who introduce plastic packaging in the market due to their products in the form of carry bags, multilayered packaging, plastic sheets, etc., shall mandatorily register on the centralised portal developed by CPCB and shall fulfil their obligations under the EPR framework to ensure environmentally sound management of plastic waste² which is generated from the plastic packaging disposed after consumption of the product.

Table 01: EPR compliance and Obligation under EPR framework

| Stakeholder | Micro and Small Producer | Micro and Small Brand Owner | | | Manufacturers | PWPs |
|--|--------------------------------|-----------------------------------|------------------|----------|---------------|----------|
| | | (7 ty ividilidate | ioi Li it ooiiip | na ioc | | |
| Registration on CPCB centralized portal | V | V | ▼ | V | ▽ | ▼ |
| Annual return filing | V | ~ | V | V | V | ~ |
| Data sharing of Sales and Purchase | ▼ | ▽ | V | ▼ | ▽ | V |
| EPR credit certificate generation through CPCB digital portal | X | × | × | × | X | ▽ |
| | (B) Mandate for EPR obligation | | | | | |

¹ https://msme.gov.in/faqs/q1-what-definition-msme

² https://cpcb.nic.in/uploads/plasticwaste/Draft-Notification-EPR-6-10-2021.pdf



The target audience of the training programme are the producers, importers and brand owners who are under the category of micro, small and medium enterprises and under capacitated to undertake compliance management due to stringent procedures on the digital portal. This could be due to lack of finance, human resource, technical difficulties, and other practical challenges. Although exemption was granted to the brand owners and producers operating on a Micro and Small scale. The training will build capacities of these MSMEs to fulfil their EPR compliance.

Training on EPR compliance for MSME stakeholders in plastic packaging is vital to ensure legal adherence, minimise environmental impact, improve resource efficiency, gain market access, enhance brand reputation, mitigate risks, foster innovation, and meet supply chain demands. It is a proactive step toward a more sustainable and responsible business ecosystem through implementation of circular economy.

Legal Compliance: Many countries have enacted legislation mandating EPR for plastic packaging. Failure to comply with EPR requirements can result in legal and financial liabilities. Training ensures that MSMEs understand and adhere to these mandatory obligations.

Environmental Impact: Plastic packaging has a significant environmental footprint due to its non-biodegradable nature. EPR programs are designed to reduce the environmental impact of plastics by promoting recycling, reducing waste, and encouraging responsible disposal. Training helps MSMEs understand their role in minimising the impact of plastic pollution.

Resource Efficiency: EPR compliance often involves optimising the use of resources, including materials and energy. Training can help MSMEs implement more efficient processes and reduce waste, leading to cost savings and improved sustainability.

Market Access: Many consumers and businesses are increasingly looking for environmentally responsible products and suppliers. EPR compliance can be a market differentiator, giving MSMEs a competitive edge and access to eco-conscious customers.

Brand Reputation: Complying with EPR requirements enhances a company's reputation and brand image. Consumers and partners are more likely to trust and do business with organisations committed to environmental responsibility and overall sustainability.

Risk Mitigation: Non-compliance with EPR regulation can lead to financial and reputational risks. Training helps MSMEs identify and mitigate these risks, ensuring long-term business sustainability.

Innovation and Growth: EPR compliance often encourages innovation in product design, materials, and packaging processes. Training can inspire MSMEs to develop and adopt innovative, sustainable practices that may lead to new growth opportunities.

Supply Chain Requirements: Larger companies in the supply chain often demand that their suppliers meet certain sustainability standards and obligations as mandated under the EPR regime. Training helps MSMEs meet these requirements and maintain valuable business relationships.

Who is a MSME?

MSME Producers

MSME producer is a stakeholder engaged in the manufacturing or import of carry bags or multi-layered packaging or plastic sheets and includes industries using plastic sheets or covers made of plastic sheets or MLP for packaging or wrapping the commodity³.

MSME Importers

An importer is a stakeholder who imports and holds an Importer Exporter Code (IEC) number unless otherwise specifically exempted. The plastic packaging that is used on the products that are imported makes them liable under the EPR framework as a stakeholder to meet the obligations as mandated⁴.

MSME Brand Owners

Brand Owners (BOs) are stakeholders who sell any commodity under any registered brand label or trademark. However, Brand Owners, which are registered as micro and small enterprises as per the Ministry of Micro, Small & Medium Enterprises (MSME) criteria, have been allowed EPR exemptions and have thus been kept out of the ambit of the said rule.

MSME Recyclers

These stakeholders are Plastic Waste Processors engaged in recycling of plastic waste, operating a waste to energy facility, recycling plastic waste to oil or operating a facility which does industrial composting of compostable plastics and have a registration under the criteria set by the Ministry of Micro Small and Medium Enterprises.

<u>Online/document/IE_CODE.htm#:~:text=No%20export%20or%20import%20can,specified</u> %20in%20the%20Handbook%20(Vol.

 $^{^3\} https://www.livelaw.in/pdf_upload/cs-ins-09-2022-423256.pdf$

⁴²https://custada.in/CUSTADA-

Introducing the Regulators

There are key stakeholders, who are very important with respect to effective implementation of PWM Rules at ground level. The table mentioned below briefly explains the roles and responsibilities of different stakeholders:

Table 02: Regulators and Their Responsibilities

| Stakeholders | Definition | Responsibilities |
|----------------|---|---|
| | | Framing the policy for proper management of the environment |
| MoEFCC | Policymaker | Development of Plastic Waste Management Rules and amendments |
| | | 3. Notified EPR framework |
| | | Formulating guidelines and standards related to waste management |
| СРСВ | Nodal agency for setting up guidelines and standards related to waste management, and coordination | Development and maintenance of centralised online portal to facilitate PIBOs and PWPs for registration and submission of their annual report. |
| | among key stakeholders. | Enforcement and coordination among key stakeholders |
| | | 4. Coordination with SPCBs/PCCs |
| | | Environmental Compensation on stakeholders who fail to comply |
| | | 6. Data compilation |
| | | Implement the rules and ensure compliance with relevant stakeholders in their states |
| SPCBs and PCCs | State-level bodies for implementation of PWM Rules 2016 as amended time to time and monitoring the activities | Shall constitute State Level Advisory Committee headed by Secretary, Urban Development Department (UDD). |
| | related to that. | Verifying the action plans & annual reports submitted by the PIBOs & PWPs. |
| | | Establish regular dialogues with stakeholders. |
| | | Industry authorizations for using plastic packaging and management of plastic packaging waste as per the Plastic Waste Management Rules, 2022 |

3. Extended Producers Responsibility



Extended Producer Responsibility and its Genesis

Historical advent of EPR

The origin of Extended Producer Responsibility as a concept is attributed to Sweden's Thomas Lindhqvist who in 1990, on behalf of Lund University, introduced the idea of manufacturers being responsible for their products to the Swedish Ministry of the Environment⁵.

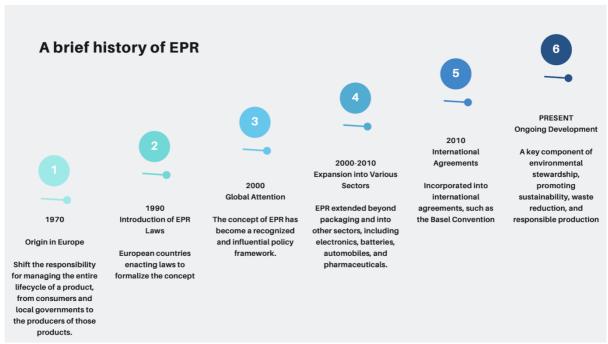
Lindhqvist expanded on the definition of EPR in a report produced in 1992: Extended Producer Responsibility is a framework for environmental protection to ensure reduced environmental impact from a product, by making the manufacturer of the product responsible for the entire lifecycle of the product. This can be achieved through takeback, recycling and final disposal of the product. Extended Producer Responsibility is implemented through administrative, economic and informative instruments. The composition of these instruments determines the precise form of the Extended Producer Responsibility⁶ framework.

EPR continues to evolve and adapt to the changing needs of a more sustainable and environmentally conscious world. Many countries have expanded their EPR programs, and new EPR regulations are continually being proposed and adopted to cover a wide range of products and materials. EPR has become a key component of environmental stewardship, promoting sustainability, waste reduction, and responsible production. As concerns about waste management and environmental impact grow, EPR is expected to play an even more significant role in shaping environmental policies and corporate responsibility in the future⁷.

⁵https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9925916/#:~:text=The%20EPR%20principle%20was%20first,2020%3B%20Lindhqvist%2C%202000).

⁶https://www.sciencedirect.com/topics/earth-and-planetary-sciences/extended-producer-responsibility#:~:text=Extended%20producer%20responsibility%20(EPR)%20is,%2Dback%2C%20recycling%2C%20and%20final

 $[\]frac{7}{\text{https://www.oecd.org/environment/waste/Global\%20Forum\%20Tokyo\%20Issues\%20Paper\%2030-5-2014.pdf}$



Picture 1: A brief history of EPR

Current scenario of EPR compliance on plastic packaging

While EPR legislation in the European Union (EU) was the first to be implemented, it now exists worldwide, including in India, Japan and South Korea, Taiwan, China and Indonesia⁸.

Table 03: Current scenario of EPR compliance on plastic packaging

| Countries | EPR Compliance |
|--------------------------|---|
| India | Implementation of EPR compliance under the Plastic Waste Management rules, 2022 covering plastic packaging waste Producers are required to manage plastic waste generated from their products on the digital platform developed for managing compliance |
| Russia | Introduced the EPR scheme in 2015 The mandate required producers to set up their own recycling facilities or form an agreement with an external recycling entity for plastic waste Their special information systems will help monitor and control the mechanism across the vast expanse of the country |
| The European Union | Introduced the Single-Use Plastics Directive, which includes EPR provisions for certain single-use plastic products It requires producers to cover the costs of waste management and cleanup for items such as plastic cutlery, plates, straws, and beverage containers |
| Japan and South Korea | Well-established Plastic EPR Management Laws for over two decades In South Korea, producers and importers are required to pay an Advance Disposal Fee for products that are hard to recycle |
| Taiwan | Implemented EPR Rules for various products, including plastic packaging and electronic waste |

⁸ https://www.metacorp.in/plastic-epr-laws-around-the-world-a-comparative-analysis

| | Producers are required to finance and manage the collection and recycling of their products |
|---------------------|---|
| China and Indonesia | Implemented their Plastic EPR Laws where China's EPR framework focuses on recycling e-waste, with monetary penalties for mishandling the waste Their approach to plastic waste is through imposing a ban on all non-biodegradable plastic in the country and stating that the onus of plastic waste collection and recycling lies with the producer or manufacturer |

https://www.metacorp.in/plastic-epr-laws-around-the-world-a-comparative-analysis

Social, Economic and Ecological Impact of EPR

Extended producer Responsibility (EPR) compliance for plastic packaging has significant social, economic, and ecological impacts. Here's an overview of these impacts:

Table 04: Social, Economic and Ecological Impact of EPR

| Impacts | Social | Ecological | Economic |
|---|---|--|--|
| Social Economic and Ecological Impact of Extended | Public awareness 1. Responsible management of plastic waste 2. Reduced litter and pollution in communities 3. Cleaner and safer neighbourhoods | Reduced Environmental Footprint 1. Better management of plastic waste, reducing the environmental impact of plastic pollution 2. Prevention of marine habitat degradation. | Cost Savings and Market Access 1. Reduced local government expenditure on waste management and disposal 2. EPR standards may gain access to markets that prioritize environmentally responsible products thereby promoting industry 3. Competitiveness enhancement through integration of the informal sector |
| Extended Producers Responsibility | Job creation 1. Growth of recycling industries 2. Job opportunities in waste management, recycling, and related sectors | Resource Conservation 1. Promotion of recycling and reuse creating a circular economy 2. Conservation of resources and reduced demand for virgin materials 3. Protect ecosystems and reduce habitat destruction for | Resource Efficiency 1. Efficient use of resources, such as materials and energy 2. Cost savings and improved economic sustainability |

| | access to natural resources. | |
|---|--|---|
| Health benefits 1. Minimising exposure to harmful chemicals and pollutants leading to clean air, water and soil 2. Reduced plastic waste and pollution can contribute to improved public health | Climate Change Mitigation 1. Require less energy through recycling and reusing thereby reducing carbon footprint 2. Greenhouse gas emissions reduction 3. Biodiversity protection through reduced plastic pollution | Innovation 1. Producers may innovate in product design and packaging 2. Development of new, eco-friendly technologies and materials |

Implementation models of EPR

Extended Producer Responsibility (EPR) for plastic packaging is implemented in various ways across different countries, reflecting the diverse approaches to addressing plastic waste management. Here are examples of EPR implementation models in different countries, reflecting the unique characteristics and priorities of each country or region:

Germany: Dual System Approach

In Germany, a dual system is employed where producers are responsible for the collection and recycling of packaging waste. Producers join one of the approved dual systems, which organize the collection and recycling processes. Consumers can return packaging to designated collection points or include them in household recycling bins.

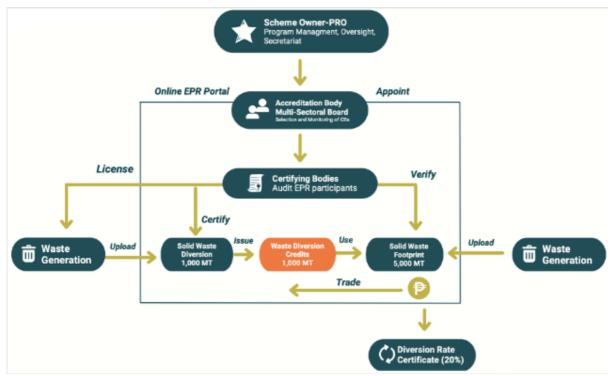


Picture 2: Implementation model in Germany

Source: https://images.app.goo.gl/ahmk114oYorZzWdB8

Philippines: Single PRO system

In the Philippines, it has single PRO system with multiple diverters under a competitive, standardized, transparent, accountable and inclusive credit scheme diversion model. It also includes multiple diverters on the ground to avoid monopoly, which may increase the cost of diversion.

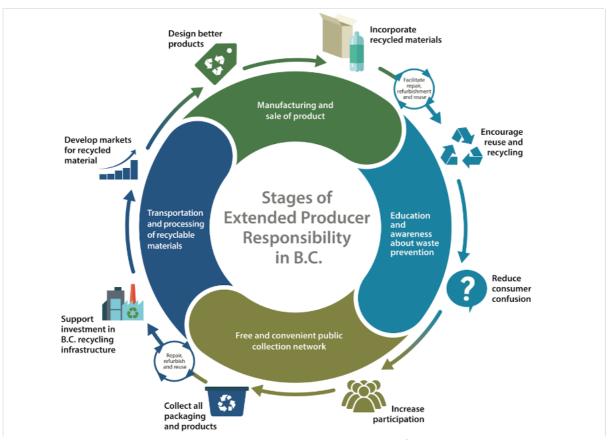


Picture 3: Implementation model in Philippines

Source: https://www.iges.or.jp/en/publication_documents/pub/researchreport/en/12713/HOCCI-Extended-Produ

Canada: Shared Responsibility

In Canada, there's a shared responsibility model where producers, municipalities, and consumers all play a role in the recycling process. Producers are responsible for meeting recycling targets, and they often collaborate with municipalities for collection and processing. Consumers are encouraged to recycle responsibly.

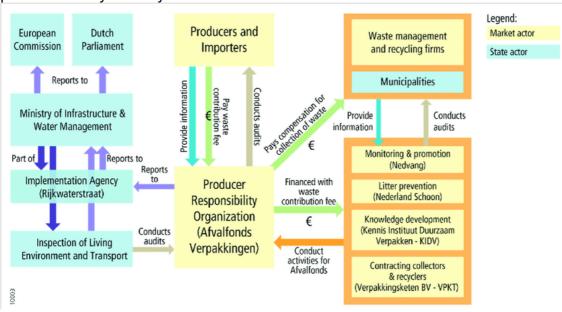


Picture 4: Implementation model in Canada

Source: https://www2.gov.bc.ca/gov/content/environment/wastemanagement/recycling/extended-producer-responsibility

Netherlands: EPR-system of packaging

Dutch policies and discourses on plastics mainly follow a Technocentric Circular Economy perspective, which places high hopes on technological innovations such as chemical and mechanical recycling technologies and pays little attention to reducing global socio-ecological impacts. This strategy might make the Netherlands appear as a frontrunner in the transition to a CE and thereby bring un- precedented growth for its plastic recovery industry.



Picture 5: Implementation model in Netherlands

Source: Developed by authors based on Developed by authors based Afvalfonds Verpakkingen, 2018

Whose Responsibility and Why

Plastic Waste Management Rules, 2022 obligates the following entities to Extended Producers Responsibility:

- Producer (P) of plastic packaging
- Importer (I) of all imported plastic packaging and / or plastic packaging of imported products
- Brand Owners (BO) including online platforms/marketplaces and supermarkets/retail chains other than those, which are micro and small enterprises as per the criteria of Ministry of Micro, Small and Medium Enterprises, Government of India
- · Plastic Waste Processors (PWPs) including cement kilns & road construction

Responsibilities of Producer, Importer and Brand Owner:

- The PIBOs shall have to register through the online centralized portal developed by Central Pollution Control Board. The certificate of registration shall be issued using the portal.
- PIBOs shall provide an Action Plan containing information on the EPR Target, category-wise, where applicable, through the online centralized portal developed by CPCB, along with application for registration or renewal of registration under PWM Rules, 2022.
- Brand Owner shall provide details of plastic packaging purchased from Producers and/or Importers separately. The quantities attributed to each Producer and Importer covered obligated upon Brand Owner shall be deducted from the obligation of Producers and Importers.
- The Producers and Importers will maintain a record of the quantity of plastic packaging material made available to the brand.
- The Producers, Importers & Brand-Owners shall file annual returns on the plastic packaging waste collected and processed towards fulfilling obligations under Extended Producer Responsibility with the Central Pollution Control Board or concerned State Pollution Control Board or Pollution Control Committee as per pro forma prescribed by Central Pollution Control Board by the 30th June of the next financial year.

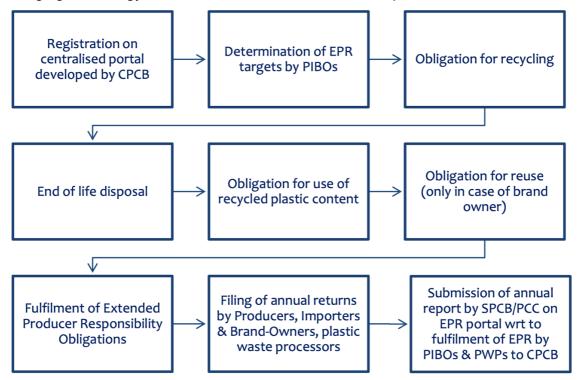
Responsibilities of Plastic Waste Processors (PWPs) including cement kilns & road construction:

- No entity must recycle or remanufacture carry bags or plastic bags or multilayered packaging unless the entity has obtained a registration from the concerned PCC of the UT or SPCB, as the case may be, before starting the operations.
- Every person recycling or processing waste or intending to recycle or process
 plastic waste must apply to the PCC or the SPCB for granting registration for the
 plastic waste processing unit in Form II.
- The producer intending to set up a plastic waste recycling plant in India must furnish the all the compliance for setting up recycling facility.
- Every person involved in plastic waste processing must prepare and file an annual report in Form IV to the concerned local body (LB) under intimation to the concerned PCC/SPCB by 30th April annually.

• End of life processors like cement kilns, road builders and waste to oil processors should submit reports from sampling of the quantum of plastic packaging content that has been used in their processes

EPR implementation through digital portal in India

Extended Producer Responsibility (EPR) is a policy approach that places the responsibility for the management of a product's end-of-life on the producer. In India, EPR aims to make producers, importers, and brand owners responsible for the collection, recycling, and proper disposal of their products after they have reached the end of their life cycle. Implementing EPR through a digital portal in India involves leveraging technology to streamline and monitor the entire process.



Picture 6: Implementation model in India
Source: https://environment.delhi.gov.in/sites/default/files/inline-files/pwm_epr_1.pdf

4. The Plastic Waste Management Rules



The Plastic Waste Management Rules, 2022

The Government of India notified Plastic Waste Management (PWM) Rules, 2016 on 18th March, 2016, superseding Plastic Waste (Management & Handling) Rules, 2011. These rules were further amended and rechristened as Plastic Waste Management (Amendment) Rules, 2018 and Plastic Waste Management (Second Amendment) Rules, 2022. These rules apply to every Waste generator, Local Body, Gram Panchayat, Manufacturer, Importer, Producer and Brand Owner.



Picture 7: Evolution of Plastic Waste Management Rules in India

To manage plastic packaging waste, MoEFCC has notified comprehensive guidelines on Extended Producers Responsibility for Plastic Packaging. The Guidelines provide a framework to strengthen circular economy for plastic packaging waste, promote development of new alternatives to plastics and provide further next steps for moving towards sustainable plastic packaging businesses. Reuse of rigid plastic packaging material has been mandated in the guidelines to reduce the use of fresh plastic polymers for producing rigid packaging.

The enforceable prescription of minimum level of recycling of plastic packaging waste collected under EPR along with use of recycled plastic content will further reduce plastic consumption and support recycling of plastic packaging waste.

EPR mandates for reuse of rigid plastic packaging and use of recycled plastic content

The EPR guidelines give a boost to formalization and further development of plastic waste management sector. In a significant first, the guidelines allow for sale and purchase of extended producer responsibility certificates, thus setting up a market mechanism for plastic waste management.

The implementation of EPR is being done through a digital platform which will act as the backbone of the system. The digital platform allows tracking and monitoring of EPR obligations and will reduce the compliance burden for companies through online registration and filing of annual returns. To ensure monitoring on fulfilment of EPR obligations, the guidelines have prescribed a system of verification and audit of enterprises.

The Guidelines prescribe a framework for levy of environmental compensation based upon 'polluter pays' principle, with respect to non-fulfilment of extended producer responsibility targets by producers, importers & brand owners, for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environment pollution. The funds collected shall be utilized for collection, recycling and end of life disposal of uncollected plastic waste in an environmentally sound manner.

Under the EPR framework producers, importers & brand owners, may operate schemes such as deposit refund system or buy back, etc., to prevent mixing of plastic packaging waste with solid waste⁹.

Key Stakeholders in the Rules

Urban Local Body

Local Bodies shall encourage the use of plastic waste (preferably plastic waste which cannot further be recycled) for road construction as per Indian Road Congress guidelines or energy recovery or waste to oil, etc. The standards and pollution control norms specified by the prescribed authority for these technologies shall be compiled with. The local body shall undertake assessment of plastic waste generated, including legacy plastic waste, in a year by 30th June of next financial year and project plastic waste to be generated in accordance with the guidelines issued by CPCB. The local body shall assess, the plastic waste management infrastructure available for collection, segregation and processing and report it on their websites by 30th June of next financial year. The local body shall take necessary action to prevent stocking, distribution, sale and usage of banned Single Use Plastic items in their jurisdiction. The local body shall submit annual report on plastic waste management by 30th June of next financial year in Form V(A) on the Centralized Plastic Waste Annual Report Portal developed by CPCB.

The Plastic Waste Management Rules cast the responsibility of collection, transportation and disposal of plastic waste on the local bodies. The Local bodies can engage in the EPR framework following the two mechanisms described below¹⁰:

(i) Local Bodies provide resources (Plastic Waste / Material Recovery facility/ Transportation facility etc.) to PWPs. PWPs issue certificates to Local Bodies in lieu of facilities provided. Local Bodies can trade these certificates with PIBOs to fulfill their EPR liability

 $^{9 \\ \}underline{\text{https://pib.gov.in/PressReleaselframePage.aspx?PRID=1799170}}$

¹⁰ <u>https://eprplastic.cpcb.gov.in/assets/pdfs/Guidance Manual.pdf</u>

(ii) Local Bodies can set up PWP facility and EPR certificates which can be transferred to PIBO to fulfil their EPR liability

In this context, provision for creating Login Credential for State Nodal Officers by CPCB and creation of Login Credentials for ULBs by State Nodal officers has been made on the EPR Portal. Further, the following provisions have been made on the EPR Portal

| Mecha | anism 1: |
|-------|--|
| | Procurement of EPR Certificates from PWP |
| | Transfer of EPR Certificate to PIBO |
| Mecha | anism 2: |
| | Registration as PWP |
| | Generation of EPR Certificate |
| | Transfer of EPR Certificate to PIBO |
| | |

Gram Panchayat

Every Gram Panchayat either on its own or by engaging an agency shall set up, operationalise and coordinate waste management in the rural area under their control and for performing the associated functions, namely:

- · creating awareness among all stakeholders about their responsibilities;
- · engaging civil societies or groups working with waste pickers;
- ensuring that open burning of plastic waste does not take place;
- The Gram Panchayat shall take necessary action to prevent stocking, distribution, sale and usage of Single Use Plastic items under their jurisdiction

Waste generator

Waste generator includes every person or group of persons or institution, residential or commercial establishments including Indian Railways, Airport, Port and Harbour and Defence establishments which generate plastic waste.

Producers, Importers and Brand Owners (PIBOs)

Producers of plastic packaging are stakeholders who are in the business of using virgin or recycled plastic polymers to produce plastic packaging which is sold to users in the market. The users of these plastic packaging could be brand owners and consumers who then sell their products wrapped in the packaging provided by producers. The plastic packaging can be divided under 4 specific categories which include:

- Category 1: Rigid plastic packaging
- Category 2: Flexible plastic packaging
- · Category 3: Multi-layered plastic packaging
- Category 4: Compostable plastic packaging

Importers are categorised as stakeholders who have a valid import export code and trade in materials which require plastic packaging. The plastic packaging in which the product is put on the market is the responsibility of the importers as per the EPR framework of the rules. In case brand owners are also importers, they have to seek additional consents so that they are in compliance with the rules.

Brand Owners are stakeholders who use plastic packaging to ensure safety of their product when sold in the market. Plastic packaging is an inherent part of how the product is sold and post consumption becomes waste. Brand owners are mandated to

manage this waste plastic packaging and are a key stakeholder as part of the EPR framework.

Plastic Waste Processors

Plastic Waste Processors are recyclers and entities engaged in using plastic waste for energy (waste to energy), and converting it to oil (waste to oil), industrial composting.

Recyclers are stakeholders who are responsible for environmentally sound management of plastic packaging waste once it is disposed by consumers as the product is consumed (post-consumer waste) and the plastic packaging waste generated during the manufacturing of plastic packaging (pre-consumer waste). The stakeholders responsible for collection of plastic waste, formal or informal, channelize the material to the recycler so that they can process it and then put the product on the market. Registered recyclers are an important stakeholders in the EPR framework and they must register on the CPCB digital portal to report the quantity of material across different categories that they process in a year. They can generate certificates basis the quantities processed which have to be necessarily procured by the PIBOs to meet their compliance requirements under the Plastic Waste Management Rules. 2022.

EPR Framework

India has adopted a unique EPR framework to ensure environmentally sound management of plastic packaging waste. Through the application of the 'Polluter pay principle' the framework makes the stakeholders who put plastic packaging on the market directly responsible for its environmentally sound management. Producers, Importers and Brand Owners who are responsible for either manufacturing, importing or using plastic packaging to wrap their products before it is put on market for consumption must channelise plastic packaging thus disposed after consumption for end-of-life management or recycling to authorised stakeholders. Recyclers of plastic waste are those stakeholders who use appropriate and approved technologies and process to ensure environmentally sound management of plastic waste. End of life processors of plastic waste ensure that waste is a resource used for generating energy or used as a material for road construction.

The PIBOs are responsible for undertaking their compliance as stated in the plastic waste management rules, 2022. The framework promotes circular economy through the 3R principle of reuse, reduce and recycle. The rigid plastic packaging category has targets for reuse of material that is put on market by PIBOs. The rigid, flexible and multilayered plastic packaging categories have targets for use of recycled content in the plastic packaging put on market by PIBOs. Each of the 4 categories have specific targets for recycling and end of life disposal of plastic packaging that is put on market by PIBOs. Annual targets are provided for a 6 year period for reuse of material, use of recycled content in plastic packaging and recycling and end-of-life management of plastic packaging waste for PIBOs.

The framework defines a process in which compliance must be undertaken by the stakeholders. Responsibilities of each of these stakeholders is defined along with the targets that must be achieved every year. The key sets of stakeholders including PIBOs, Recyclers and End-of Life processors of plastic packaging waste must register on the digital platform for compliance which has been set-up by the CPCB.

The EPR framework requires that the PIBOs ensure that the plastic packaging that has been put on market is sent across to recyclers and end-of-life processors for environmentally sound recycling and disposal and ensure that they have certificates issued by these actors that the quantum sent has been recycled or disposed. This can also be achieved through a trade of certificates which can be valued by the recyclers or end-of-life processors of plastic packaging waste. This makes the PIBOs financially liable for the packaging waste that gets generated from the products that they sell to consumers.

The framework ensures that the liability of the waste generated rests on the PIBOs. It also ensures that recyclers and end-of-life processors can tie-up with PIBOs to generate a continuous supply of their feedstock to operate at full capacity. The responsibility of the ULBs has reduced significantly and they can cut down their costs of waste management, especially non-recyclable plastic waste and free resources for public benefit.

The framework also ensures that circular economy can be implemented in the plastic packaging sector. Specific sets of targets provided to PIBOs mandates them to reuse plastic packaging and use recycled content in the plastic packaging that is used to put products on the market. Manufacturers have been mandated to supply to only those sets of stakeholders who have registered on the EPR portal so that formalisation of the value chain can take place.

Targets and Responsibilities

The Extended Producer Responsibility targets for the Producers, Importers & Brand-Owners are determined category-wise.

Producer (P):

A) Extended Producer Responsibility target

Eligible Quantity in MT (Q 1) shall be the average weight of plastic packaging material (category-wise) sold in the last two financial years (A) plus average quantity of preconsumer plastic packaging waste in the last two financial years (B) minus the annual quantity (C) supplied to the entities covered under sub-clause 4 (iii) in the previous financial year as under: -

Q 1 (in MT) = (A + B) - C

and the Extended Producer Responsibility target shall be determined category-wise, as given below Extended Producer Responsibility target. (Refer example 1 to 3 in Annexure):

Table 05: EPR Targets, Producers

| S.No. | Year | Extended Producer Responsibility target (as a percentage of Q1 - category-wise) |
|-------|---------|---|
| I | 2021-22 | 25% |
| 11 | 2022-23 | 70% |
| III | 2023-24 | 100% |

The Extended Producer Responsibility target in MT category-wise, as applicable, shall be provided by Producer, as part of Action Plan on the centralized portal developed by Central Pollution Control Board.

B) Obligation for recycling (Refer example 1 to 3 in Annexure):

The Producer shall ensure minimum level of recycling (excluding end of life disposal) of plastic packaging waste collected under Extended Producer Responsibility Target, category-wise, as given below namely: -

Minimum level of recycling (excluding end of life disposal) of plastic packaging waste (% of Extended Producer Responsibility Target)

| District | 0004.05 | 0005.00 | 0000 07 | 0007.00 |
|----------------------------|---------|---------|---------|---------------------|
| Plastic packaging category | 2024-25 | 2025-26 | 2026-27 | 2027-28 and onwards |
| Category-I | 50 | 60 | 70 | 80 |
| Category-II | 30 | 40 | 50 | 60 |
| Category-III | 30 | 40 | 50 | 60 |
| Category-IV | 50 | 60 | 70 | 80 |

Table 06: Targets for Recycling, Producers

In case of Category IV plastic packaging category (plastic sheet or like used for packaging and carry bags made of compostable plastics), the minimum level of recycling means processing plastic packaging waste for composting through industrial composting facilities.

C) End of life disposal (Refer example 1 to 3 in Annexure):

- (i) Only those plastics, which cannot be recycled will be sent for end of life disposal such as road construction, waste to energy, waste to oil, cement kilns (for co processing) etc. as per relevant guidelines issued by Indian Road Congress or Central Pollution Control Board from time to time.
- (ii) The producers shall ensure end of life disposal of the plastic packaging waste only through methodologies specified in Rule 5 (1) (b) of Plastic Waste Management Rules, 2016

D) Obligation for use of recycled plastic content (Refer example 6 in Annexure)

The Producer shall ensure use of recycled plastic in plastic packaging category-wise as given below namely: - Mandatory use of recycled plastic in plastic packaging (% of plastic manufactured for the year)

| Plastic packaging category | 2025-26 | 2026-27 | 2027-28 | 2028-29 and onwards |
|----------------------------|---------|---------|---------|---------------------|
| Category-I | 30 | 40 | 50 | 60 |
| Category-II | 10 | 10 | 20 | 20 |
| Category-III | 5 | 5 | 10 | 10 |

Table 07: Obligation for use of recycled content, Producers

In cases, where it is not possible to meet the obligation in respect of recycled plastic content on account of statutory requirements, the exemption will be granted by Central Pollution Control Board on case-to-case basis. However, in such cases, the Producers, Importers & Brand-Owners will have to fulfil its obligation of use of recycled content (in quantitative terms) through purchase of certificate of equivalent quantity from such Producers, Importers & Brand-Owners who have used recycled content in excess of their obligation. Central Pollution Control Board will develop mechanism for such exchange on the centralized online portal.

Importer (I):

Extended Producer Responsibility Target (Refer example 1 to 3 in Annexure) Eligible Quantity in MT (Q 2) shall be the average weight of all plastic packaging material and / or plastic packaging of imported products (category-wise) imported and sold in the last two financial years (A) plus average quantity of pre-consumer plastic packaging in the last two financial years (B) waste minus the annual quantity (C) supplied to the entities covered under sub-clause 4 (iii) in the previous financial years as under: - Q 2 (in MT) = (A + B) - C

and the Extended Producer Responsibility target shall be determined, category-wise, as given below namely: -

| S.No. | Year | Extended Producer Responsibility target (as a percentage of Q2 - category-wise) |
|-------|---------|---|
| ı | 2021-22 | 25% |
| II | 2022-23 | 70% |
| III | 2023-24 | 100% |

Table 08: EPR Target for Importers

The Extended Producer Responsibility target in MT category-wise, as applicable, shall be provided by Importer as part of Action Plan on the centralized portal developed by Central Pollution Control Board.

A. Obligation for recycling (Refer example 1 to 3 in Annexure)

The Importer shall ensure minimum level of recycling (excluding end of life disposal) of plastic packaging waste collected under extended producer responsibility Target, category-wise, as given below.

Minimum level of recycling (excluding end of life disposal) of plastic packaging waste (% of extended producer responsibility Target)

| Plastic packaging category | 2024-25 | 2025-26 | | 2027-28 and onwards |
|----------------------------|---------|---------|----|------------------------|
| Category-I | 50 | 60 | 70 | 80 |

Table 09: Recycling Target for Importers

| Category-II | 30 | 40 | 50 | 60 |
|--------------|----|----|----|----|
| Category-III | 30 | 40 | 50 | 60 |
| Category-IV | 50 | 60 | 70 | 80 |

In case of Category IV plastic packaging category (plastic sheet or like used for packaging and carry bags made of compostable plastics), the minimum level of recycling means processing plastic packaging waste for composting through industrial composting facilities.

B. End of life disposal (refer examples 1 to 3 in Annexure)

Only those plastics, which cannot be recycled will be sent for end of life disposal such as road construction, waste to energy, waste to oil as per relevant guidelines issued by Indian Road Congress or Central Pollution Control Board from time to time. The importer shall ensure end of life disposal of the plastic packaging waste only through methodologies specified in rule 5 (1) (b) of Plastic Waste Management Rules, 2016, as amended.

C. Obligation for use of recycled plastic content (Refer example 6 in Annexure)

The Importer shall ensure use of recycled plastic in plastic packaging category-wise as given below. Mandatory use of recycled plastic in plastic packaging (% of imported plastic for the year)

| Plastic packaging category | 2025-26 | 2026-27 | 2027-28 | 2028-29 and onwards |
|----------------------------|---------|---------|---------|------------------------|
| Category-I | 30 | 40 | 50 | 60 |
| Category-II | 10 | 10 | 20 | 20 |
| Category-III | 5 | 5 | 10 | 10 |

Table 10: Use of Recycled content Target for Importers

Any recycled plastic used in imported material shall not be counted towards the fulfilment of an obligation. The importer will have to fulfil its obligation of use of recycled content (in quantitative terms) through the purchase of certificate of equivalent quantity from such Producers, Importers brand-owners who have used recycled content in excess of their obligation. Central Pollution Control Board will develop mechanism for such exchange on the centralized online portal.

Brand Owner (BO):

A. Extended Producer Responsibility target (refer examples 1 to 3 in Annexure) Eligible Quantity in MT (Q 3) shall be the average weight of virgin plastic packaging material (category-wise) purchased and introduced in market in the last two financial years (A) plus average quantity of (B) of pre-consumer plastic packaging in the last two financial years as under: -

Q 3 (in MT) = A + B

The Extended Producer Responsibility target shall be determined, category-wise, as given below namely: -

Table 11: EPR Target for Brand Owners

| S.No. | Year | Extended Producer Responsibility target (as a percentage of Q1 - category-wise) |
|-------|---------|---|
| I | 2021-22 | 25% |
| II | 2022-23 | 70% |
| Ш | 2023-24 | 100% |

The Extended Producer Responsibility target in MT category-wise, as applicable, shall be provided by Brand Owner as part of the Action Plan on the centralized portal developed by Central Pollution Control Board.

- B. Obligation for reuse (refer examples 4 and 5 in Annexure):
- I. The Brand Owner using Category I (rigid) plastic packaging for their products shall have minimum obligation

to reuse such packaging as given below: -

Provided that the reuse of Category I rigid plastic packaging in food contact applications shall be subject to regulation of Food Safety and Standards Authority of India.

(II) Minimum obligation to reuse for Category I (rigid plastic packaging).

Table 12: Reuse Target for Brand Owners

| S. No. | | Target (as percentage of Category I rigid plastic packaging in products sold annually) |
|--------|---|--|
| A | Category I rigid plastic packaging with volume or weight equal or more than 0.9 litres or kg but less than 4.9 litres or kg, as the case may be | |
| I | 2025 – 26 | 10 |
| II | 2026-27 | 15 |
| III | 2027-28 | 20 |
| IV | 2028-29 and onwards | 25 |

| В | Category I rigid plastic packaging with volume of weight equal or more than 4.9 litres or kg. | |
|-----|---|----|
| I | 2025 – 26 | 70 |
| II | 2026-27 | 75 |
| III | 2027-28 | 80 |
| IV | 2028-29 and onwards | 85 |

- (III) The quantity of rigid packaging reused by brand Owner shall be calculated by reducing virgin plastic packaging manufactured/imported/purchased in that year from the sales of the Brand Owner. The brand owner shall provide this information on the centralized portal developed by Central Pollution Control Board.
- (IV) The quantity of Category I rigid plastic packaging reused shall be reduced from the total plastic packaging used under Category I by the obligated entities (Brand Owners). The quantity of Category I rigid plastic packaging reused during the year 2022 2023 and 2023-2024, shall be reduced from the total plastic packaging used under Category I.
- C. Obligation for recycling (refer examples 1 to 3 in Annexure):
 The Brand Owner shall ensure minimum level of recycling (excluding end of life disposal) of plastic packaging waste collected under Extended Producer Responsibility target, category-wise, as given below.

 Minimum level of recycling (excluding end of life disposal) of plastic packaging waste (%

of Extended Producer Responsibility Target)

Table 13: Recycling Target for Brand Owners

| Plastic packaging category | 2024-25 | 2025-26 | 2026-27 | 2027-28 and onwards |
|----------------------------|---------|---------|---------|------------------------|
| Category-I | 50 | 60 | 70 | 80 |
| Category-II | 30 | 40 | 50 | 60 |
| Category-III | 30 | 40 | 50 | 60 |
| Category-IV | 50 | 60 | 70 | 80 |

In case of Category IV plastic packaging category (plastic sheet or like used for packaging and carry bags made of compostable plastics), the minimum level of recycling means processing plastic packaging waste for composting through industrial composting facilities.

D. End of life disposal (refer examples 1 to 3 in Annexure)

- (i) Only those plastics, which cannot be recycled will be sent for end of life disposal such as road construction, waste to energy, waste to oil, as per relevant guidelines issued by Indian Road Congress or Central Pollution Control Board from time to time.
- (ii) The Brand Owner shall ensure end of life disposal of the plastic packaging waste only through methodologies specified in rule 5 (1) (b) of the Plastic Waste Management Rules, 2016, as amended.
 - E. Obligation for use of recycled plastic content (refer examples 6 in Annexure)
- (i) The Brand Owner shall ensure use of recycled plastic in plastic packaging, categorywise, as given below namely: Mandatory use of recycled plastic in plastic packaging (% of manufactured plastic for the year)

| Plastic packaging category | 2025-26 | 2026-27 | 2027-28 | 2028-29 and onwards |
|----------------------------|---------|---------|---------|---------------------|
| Category-I | 30 | 40 | 50 | 60 |
| Category-II | 10 | 10 | 20 | 20 |
| Category-III | 5 | 5 | 10 | 10 |

Table 14: Use of recycled content Target for Brand Owners

- (ii) In cases, where it is not possible to meet the obligation in respect of recycled plastic content on account of statutory requirements, the exemption will be granted by Central Pollution Control Board on case-to-case basis. However, in such cases, the Producers, Importers & Brand-Owners will have to fulfil its obligation of use of recycled content (in quantitative terms) through purchase of certificate of equivalent quantity from such Producers, Importers & Brand-Owners who have used recycled content in excess of their obligation. Central Pollution Control Board will develop mechanism for such exchange on the centralized online portal.
- (iii) In case, where Brand Owner is also Producer and/or Importer of plastic packaging material, the targets are applicable as Producers and Importers for determining their Extended Producer Responsibility targets and obligations as Producer and /or Importer, respectively.

The Extended Producer Responsibility target in MT category-wise, as applicable, shall be provided by all Producers, Importers & Brand-Owners as part of Action Plan on the centralized portal developed by Central Pollution Control Board.

The obligations for reuse, recycling of waste and use of recycled plastic content in packaging shall be reviewed every five years based upon available technologies for meeting the Targets specified.

Extended Producer Responsibility on plastic packaging will promote sustainable packaging, as per guidelines prepared by Central Pollution Control Board, inter alia based on the following criteria,

- i. package designing promoting reuse;
- ii. package designing amenable for recycling;
- iii. recycled plastic content in plastic packaging material and; (iv) package designing for environment.

In case, the obligated entity utilizes plastic packaging which is 100% biodegradable in the ambient environment leaving no traces of micro plastics or chemical residue or any other traces having adverse environmental and health impacts as certified by regulatory entities Central Pollution Control Board, Bureau of Indian Standards, Central Institute of Petrochemicals Engineering & Technology, the Extended Producer Responsibility target will not be applicable for such material.

Generation of surplus Extended Producer Responsibility certificates, carry forward and offsetting against previous year Extended Producer Responsibility targets and obligations, and sale and purchase of surplus Extended Producer Responsibility certificates:

A Brand Owner who has fulfilled their Extended Producer Responsibility targets, category-wise, can use the surplus for the following namely: -

- i. Off setting previous year shortfall subject to clause 9.5;
- ii. Carry forward for use in succeeding year;
- iii. Sell it to other Producers, Importers & Brand-Owners.

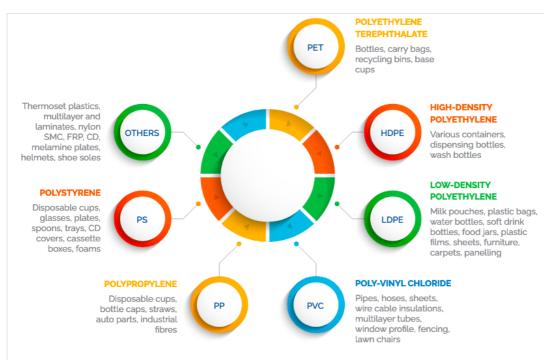
Surplus in one category can only be used for off-setting, carry forward and sale in the same category. A surplus under reuse can be used for against reuse, recycling and also end of life disposal. A surplus under recycling can be used for recycling and end of life disposal. A surplus under end of life disposal cannot be used for reuse or recycle.

Producers, Importers & Brand-Owners can also meet their Extended Producer Responsibility obligations under a category by purchasing surplus Extended Producer Responsibility certificates from other Producers, Importers & Brand-Owners of the same category.

Such transactions shall be recorded and submitted by the Producers, Importers & Brand-Owners on the online portal while filing annual returns under the Extended Producer Responsibility framework. Central Pollution Control Board will develop mechanism for such exchange on the centralized portal.

Types of Plastic Waste under the Regulation

The Plastic Waste Management Rules typically cover various types of plastic waste to regulate their production, usage, collection, recycling, and disposal. The rules categorize plastic waste into different types based on their characteristics and impact on the environment. Different types of plastic possess different characteristics. Some are reusable, while others can be used only once. Some develop dangerous waste after multiple usages. Some are easily recyclable, while others require more complex and delicate processing method for recycling. Keeping the recyclability of plastic in mind, plastics are categorized into 7 groups having separate Resin Identification Code (RIC). This code (1-7) has to be mentioned on every plastic product manufactured for any purpose. In case more than one category of plastic is used in a product and/or its packaging, the codes of respective categories should be mentioned. The code denotes the category of plastic used to produce the product and its packaging and helps in channelizing the waste to its respective recycling/ processing facility once discarded. Here are the common types of plastic waste covered under plastic waste management rules:



Picture 8: Types of Plastic Waste covered in the Rules

Source: NITI Aayog-UNDP Handbook on Plastic Waste Management

The rules often provide guidelines for the management and disposal of each type of plastic waste, outlining measures for collection, segregation, recycling, and safe disposal. They may also include provisions for extended producer responsibility (EPR), encouraging producers to take responsibility for the management of these various types of plastic waste throughout their lifecycle.

Regulations for each type of plastic waste aim to minimize their environmental impact by promoting recycling, reducing usage, encouraging alternatives, and ensuring proper disposal methods, contributing to a more sustainable approach to plastic use and waste management.

India is one of the world's largest producers, importers and consumers of plastic material, a sizable part of which is utilized for packaging. According to CPCB Annual Report on implementation of PWM Rules, 2016, the estimated plastic waste generated in India for the fiscal year 2019-20 is more than 34 lakhs TPA which roughly translates to 9300 TPD (data collected from 35 SPCB/PCC). According to a report on PWM released by the Ministry of Housing and Urban Affairs, the global average per capita consumption of plastic is 28 kg and India has a per capita plastic consumption of 11 kg. The worrisome part is that over 40% of the total plastic consumption is in the form of single-use items, including the plastic carry-bags. These have limited-period utility but high littering potential.

Packaging types and their obligations under the rules

As per Plastic Waste Management (Amendment) Rules, 2022, plastic is defined as material which contains as an essential ingredient a high polymer such as polyethylene terephthalate, high density polyethylene, vinyl, low density polyethylene, polypropylene, polystyrene resins, multi-materials like acrylonitrile butadiene styrene, polyphenylene oxide, polycarbonate, Polybutylene terephthalate.

PIBOs are responsible to quantify their pre-consumer and post-consumer plastic packaging waste and consumption respectively into the following prescribed categories to fulfil their EPR obligation:

Table 15: Categories of Plastic

| Category | Type of plastic |
|--------------|--|
| Category-I | Rigid plastic packaging (Polyethylene, Polypropylene (PP), and Poly Ethylene Terephthalate (PET) Example: Packaging in the form of bottles and containers |
| Category-II | Flexible plastic packaging of single layer or multilayer (more than one layer with different types of plastic) Example: Plastic sheets or like and covers made of plastic sheet, carry bags, plastic sachet or pouches |
| Category-III | Multi-layered plastic packaging (at least one layer of plastic and at least one layer of material other than plastic) Example: Chips packets |
| Category-IV | Plastic sheet or like used for packaging as well as carry bags made of compostable plastics |

What is exempt and what is not

The plastic waste management rules, 2022 and the EPR framework defined has mandated certain sets of stakeholders responsibilities to comply with in order that business continuity is maintained. These stakeholders include:

- Producers
- Importers
- Brand owners
- Recyclers
- End-of-life processors in cement, waste to energy, waste to oil and road construction
- Central Pollution Control Board
- State Pollution Control Board and Pollution Control Committee
- Urban Local Bodies and Gram Panchayats

In the notification released in February 2022, the Micro and Small brand owners were exempted from EPR and their liability was shifted to producers. In the months post the implementation of the framework, there have been amendments in the rule. In recognition of the difficulties that Micro and Small producers face in terms of the liability under the EPR framework for plastic packaging, they have been exempted. However, with this exemption in their liability, it is now transferred to the manufacturers of granules who supply to the Small and Micro producers for production of plastic packaging.

All other stakeholders as mentioned in the rules have been assigned specific sets of responsibilities as mentioned in the original notification.

Responsibility of MSMEs in the Rules

EPR mandate for stakeholders

Following table describes the EPR mandate for stakeholders

Table 16: EPR Mandate for Stakeholders

| EPR Mandate for Stakeholders | | | | | |
|------------------------------|---|--|---|--|--|
| | | | How to fulfil | | |
| Stakeholder | Responsibility | Compliance | compliance | | |
| Producers | Set up mechanism for recycling, reuse and use of recycled plastic content as mandated under PWM Rules | Micro and Small Category of Producers are exempted from fulfilling EPR obligation 1. Registration 2. Annual return filling 3. Fulfilment of EPR targets through buying of EPR certificates from PWPs | 1. Pre-registration on Centralized Extended Producers Responsibility Portal for Plastic Packaging Sign-up/login Filling up of the Application form (Part A, B, C & D) 2. Post-registration Operation of PIBOs | | |
| Importers | Recycling of plastic packaging waste, reuse of rigid plastic packaging and use of recycled plastic content | 1. Registration 2. Annual return filling 3. Fulfilment of EPR targets through buying of EPR certificates from PWPs | 1. Pre-registration on Centralized Extended Producers Responsibility Portal for Plastic Packaging Sign-up/login Filling up of the Application form (Part A, B, C & D) 2. Post-registration Operation of PIBOs | | |
| Brand Owners | Recycling of plastic packaging waste, reuse of rigid plastic packaging and use of recycled plastic content | Micro and Small Category of Brand Owners are exempted from fulfilling EPR obligation 1. Registration: Submission of application fees 2. Annual return | 1. Pre-registration on Centralized Extended Producers Responsibility Portal for Plastic Packaging Sign-up/login Filling up of the Application form (Part A, B, C & D) 2. Post-registration Operation of PIBOs | | |

| | | filling 3. Fulfilment of EPR targets through buying of EPR certificates from PWPs | |
|-----------------------------|--------------------|--|--|
| Plastic Waste Processors | (waste to energy), | 2. Annual return filling 3. Generation and transfer of certificates | Pre-registration on Centralized Extended Producers Responsibility Portal for Plastic Packaging Generation and transfer of certificates by PWPs |

Penal provision of non-compliance for PIBOs

The unfulfilled EPR obligations for a particular year will be carried forward to the next year for a period of three years. In case, the shortfall of EPR obligation is addressed within three years. The environmental compensation levied shall be returned to the Producers, Importers & Brand-Owners as given below, namely.

- i. Within one year of levying of EC: 75% return;
- ii. Within two years 60% return;
- iii. Within three years 40% return,

After completion of three years on EC getting due the entire environmental compensation amount shall be forfeited.

Penal provision of non-compliance for PWPs

Annual returns not filed on EPR portal:

- A) Notice will be issued for 5 days;
 - Thereafter Rs. 5000/ for next 5 days (Rs.10000/- for 2nd time default and Rs.20000/- for 3rd time default)
 - □ Rs.10,000/- for next 10 days (Rs.20000/- for 2nd time default and Rs.40000/- for 3rd time default)
- **B)** Thereafter provision for certificate generation shall be discontinued.

5. Compliance and Certifications



As per Plastic Waste Management Rules, 2022, Environmental Compensation shall be levied by respective SPCB or CPCB based on the Producers, Importers & Brand-Owners operating in their jurisdiction with respect to non-fulfilment of Extended Producer Responsibility targets for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environment pollution. In case of non-compliance, action shall be taken against the defaulter units including closure of the unit, disconnection of electricity/ water supply including levying of Environmental Compensation.

Payment of environmental compensation shall not absolve the Producers, Importers & Brand-Owners of the obligations set out in these guidelines. The unfulfilled Extended Producer Responsibility obligations for a particular year will be carried forward to the next year for a period of three years. The environmental compensation levied shall be returned to the Producers, Importers & Brand-Owners as given below, namely:

- Within one year of levying of EC: 75% return;
- Within two years 60% return;
- Within three years 40% return,

After completion of three years on environmental compensation getting due the entire environmental compensation amount shall be forfeited. This arrangement shall allow for collection and recycling of plastic packaging waste by Producers, Importers & Brand-Owners in later years as well.

ESG certification

ESG certification refers to the assessment and recognition of a company's performance in Environmental, Social, and Governance (ESG) factors. These factors are used to evaluate a company's impact on the environment, its relationships with employees, customers, and communities, and the effectiveness of its governance structure.

Environmental (E): This aspect assesses a company's impact on the environment. It includes factors such as carbon emissions, energy efficiency, waste management, and the use of sustainable resources. Companies with strong environmental practices often focus on reducing their ecological footprint and promoting sustainability.

Social (S): The social component evaluates a company's relationships with its employees, customers, suppliers, and the communities in which it operates. Social

factors include labor practices, diversity and inclusion, human rights, and community engagement. Companies with strong social practices aim to create a positive impact on society.

Governance (G): Governance focuses on the internal controls, policies, and structures that guide a company's decision-making processes. It includes aspects such as board composition, executive compensation, shareholder rights, and transparency. Good governance is crucial for ensuring ethical business practices and long-term sustainability.

ESG certification is often carried out by third-party organizations that assess a company's performance against established ESG criteria. These organizations may issue certifications, ratings, or reports that provide stakeholders, including investors, with insights into a company's sustainability and social responsibility practices.

Many ESG business certifications, such as LEED and ISO 14001, predominantly emphasize the environmental aspects of ESG. Verified by third-party entities, both certifications are accessible through various organizations.

LEED:

The U.S. Green Building Council (USGBC) oversees the Leadership in Energy and Environmental Design (LEED), a widely recognized green building certification system in the United States. LEED certification indicates that buildings have been constructed with a focus on enhancing energy and water efficiency, reducing CO2 emissions, improving indoor air quality, and practicing resource stewardship. While LEED is a commendable certification for sustainable building design, it specifically addresses the physical aspects of offices and buildings, such as energy use and air quality. It does not encompass broader dimensions crucial for overall sustainability, including waste management, pollution, recycling, reuse, plastics, vehicles, commuting, delivery, and manufacturing. In essence, LEED serves as a valuable certification for environmentally friendly physical spaces but should be considered a secondary certification when aiming for comprehensive sustainability.

ISO 14001:

The International Organization for Standardization (ISO), known for developing over 18,500 International Standards, includes ISO 14001 among its significant contributions. ISO 14001 focuses on environmental management systems, providing a framework for companies or organizations to establish effective environmental management practices. This standard is part of the ISO 14000 family of standards, developed by the ISO Technical Committee ISO/TC 207 and its subcommittees. While an ISO 14001 certification is widely respected within the industry, obtaining it is a substantial undertaking. The process requires a significant budget, time commitment, and allocation of resources, making ISO certifications more common among large, mature, and well-funded organizations.

Occupational Health and Safety

In India there is an act notified by the Ministry of Labour and Employment in September, 2020. This act regulates the occupational safety, health and working conditions of the persons employed in an establishment. This Act may be called the Occupational Safety, Health and Working Conditions Code, 2020. The Act provides for the health, safety, welfare and other aspects of OHS for workers in factories. It is enforced by the state

Cosha certification typically refers to training programs and courses offered by the Occupational Safety and Health Administration (Osha), a federal agency within the United States Department of Labor.
 Cosha is responsible for establishing and enforcing safety and health regulations to protect workers.
 Cosha certification programs aim to educate employers and employees on occupational safety and health standards and practices.
 Cosha offers Outreach Training Programs for both employees and employers. These programs provide training on recognizing, avoiding, and preventing safety and health hazards in the workplace.
 Cosha programme is usually voluntary, and completion of the courses is not a legal requirement.
 Cosha provides industry-specific training to address the unique hazards and

challenges present in different sectors, such as construction, general industry,

governments through their factory inspectorates. There is international voluntary

certification available for which any Industry can get enrolled for the people working with

Business development and profitability

Material value chain and recycling processes

maritime, and healthcare.

The EPR framework ensures business development and profitability in the formal sector. The informal sector in India has been at the forefront of waste management and ensuring circularity. However, their work is detrimental to human health and environment which makes it pertinent to formalise them so that their livelihoods can be sustained, and positive impacts are created socially, economically, and environmentally.

The formal sector has been incentivized through the EPR framework for recycling of plastic waste. Recycling and end-of-life credits can be generated for those recyclers who have registered their organisations on the digital platform for compliance that has been developed by the CPCB. To ensure transparency of the entire system, the data that is recorded for sales of recycled material through invoices generated is used to generate recycling credits for recyclers. These credits are then sold to PIBOs so that they can meet the compliance requirements as mandated under the EPR framework.

The PIBOs also benefit from the EPR framework in terms of ensuring business continuity. Producers of plastic packaging can work with brand owners to ensure higher offtake of material since specific targets have been placed on brand owners for the use of recycled content in the packaging that they put on market. It also ensures that there is scope of advancement in technology which will allow the producers to move up in the value chain for managing plastic waste and generating resources which not only fetch better value in the market but also helps to increase offtake.

The EPR framework promotes the use of high-end technology in recycling and production processes. Recycling of waste plastics to ensure higher recovery and maintaining quality of the polymer are the key requirements because of the targets set for use of recycled content in plastic packaging across categories.

Enhancement of material recovery

The enhancement of material recovery through upgradation of technology is promoted through the EPR framework. Targets which have been provided to PIBOs for the reuse of plastic packaging and the use of recycled content in plastic packaging ensures that higher quantum of material has to be recovered to meet the demand.

Material recovery is also contingent on the quality of plastic waste that is collected after it is disposed by consumers. Behavior change is therefore contingent on the business processes that are operated by the recyclers and the PIBOs. To ensure that better quality of plastic waste can be collected and channelized to recyclers, PIBOs must conduct awareness programmes to ensure behavior change of consumers towards disposal of plastic packaging waste. This will ensure the recyclers are able to achieve economies of scale in their business and can pass on the benefits to PIBOs for use of plastic packaging for their products.

Annexure I

Examples- EPR Targets for PIBOs Example 1:

| Year | 2022-23 |
|---|--|
| Plastic packaging introduced in the | |
| market category-wise (Category II Flexible plastic packaging) | 100 MT |
| Extended Producer Responsibility | 70.147 |
| Target @ 70 % | 70 MT |
| Minimum level of recycling of plastic packaging waste collected under Extended Producer Responsibility - no threshold has been prescribed | Quantity of plastic packaging waste collected under Extended Producer Responsibility and recycled as per actuals Quantity of plastic packaging waste collected under Extended Producer Responsibility and used for energy recovery, co-processing, road construction, waste to oil etc. as per actuals |

Example 2:

| Year | 2024-25 |
|--|---|
| Plastic packaging introduced in the market category-wise (Category II Flexible plastic packaging) | 100 MT |
| Extended Producer Responsibility Target @ 100 % | 100 MT |
| Minimum level of recycling of plastic packaging waste collected under Extended Producer Responsibility @ 30% | Minimum 30 MT of plastic packaging waste collected under Extended Producer Responsibility needs to be recycled Remaining plastic packaging waste collected (Maximum 70 MT) may be used for energy recovery, co-processing, road construction, waste to oil etc. |

Example 3:

| Year | 2024-25 |
|---|---------|
| Plastic packaging introduced in the market category-wise (Category II Flexible plastic packaging) | 100 MT |
| Extended Producer Responsibility Target @ 100 % | 100 MT |

| Minimum level of recycling of plastic packaging waste collected under Extended Producer Responsibility @ 60% | Minimum 60 MT of plastic packaging waste collected under Extended Producer Responsibility needs to be recycled. Remaining plastic packaging waste collected(Maximum 40 MT) may be used for energy recovery, co-processing, road |
|--|---|
| 3070 | |
| | construction, waste to oil etc. |

Example 4:

| Year | 2025 – 26 (Minimum obligation for reuse comes into effect) |
|--|---|
| Plastic packaging introduced in the market category-wise (Category I Rigid | |
| Plastic Packaging) | 100 MT |
| Reuse of Category I rigid plastic packaging with volume or weight equal or more than 0.9 litres or kilogrammes Union Territory less than 4.9 litres or kilogrammes | 15 MT (Reuse @ 15 %; minimum obligation for reuse 10 %) |
| Fresh plastic packaging introduced (A) | 85 MT |
| Extended Producer Responsibility target for compliance @ 100% of (A) | 85 MT |
| | Minimum 51 MT of plastic packaging waste collected under Extended Producer Responsibility needs to be recycled. |
| Minimum level of recycling of Category I | A maximum of 34 MT plastic packaging |
| plastic packaging waste collected under | waste collected may be used for energy |
| Extended Producer Responsibility @ 60% | recovery, co-processing, road construction, waste to oil etc. |

Example 5

| For Year | 2022 – 23 |
|--|-----------|
| Plastic packaging introduced in the market category-wise (Category I Rigid Plastic | |
| Packaging) | 100 MT |
| Reuse of Category I rigid plastic packaging with volume or weight equal or more than 0.9 litres or kilogrammes Union Territory | |
| less than 4.9 litres or kilogrammes | 10 MT |
| Fresh plastic packaging introduced (A) | 90 MT |
| Extended Producer Responsibility target for compliance @ 35% of (A) | 31.5 MT |

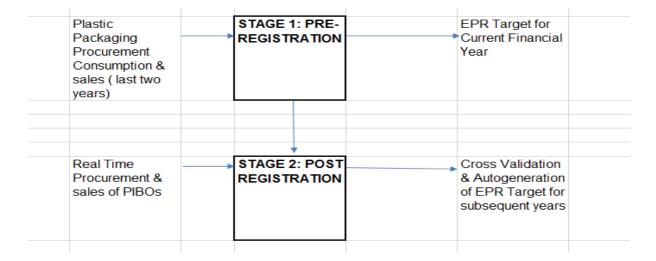
Example 6

| <u>Year</u> | 2024-25 |
|---|---|
| Plastic packaging introduced in the market category-wise (Category II Flexible plastic packaging) | <u>100 MT</u> |
| Extended Producer Responsibility Target @ 100 % | 100 MT |
| Minimum content of recycled plastic in packaging @10% | 10 MT of plastic content in the packaging should be recycled plastic 90 MT of virgin plastic content in packaging |

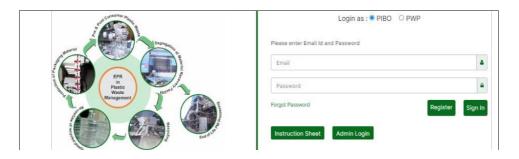
Annexure II

Registration on the CPCB EPR portal for plastic packaging

PIBOs at the time of filing application shall provide the details related to plastic packaging sales, consumption as well as procurement, The EPR target for the current operational year is calculated on the basis of information for the last two years submitted with the Application.— in accordance with provision of the EPR Guidelines in , For subsequent years, PIBOs shall be required to provide real-time information of sales & procurement, on the basis of which EPR target shall be auto-generated as per EPR Guidelines11.

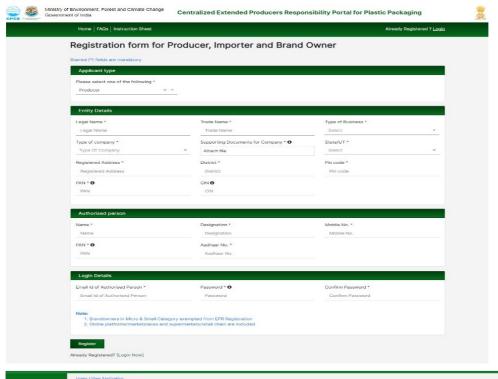


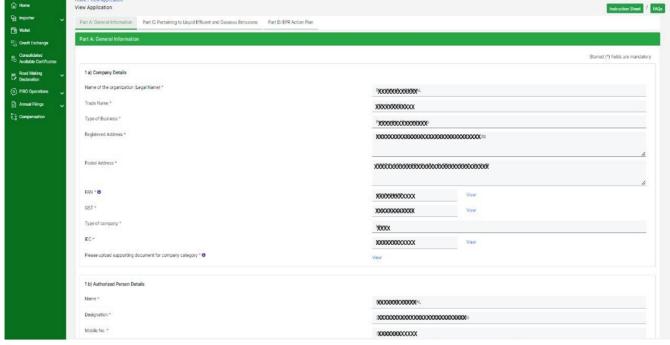
Pre-registration: Login the EPR portal

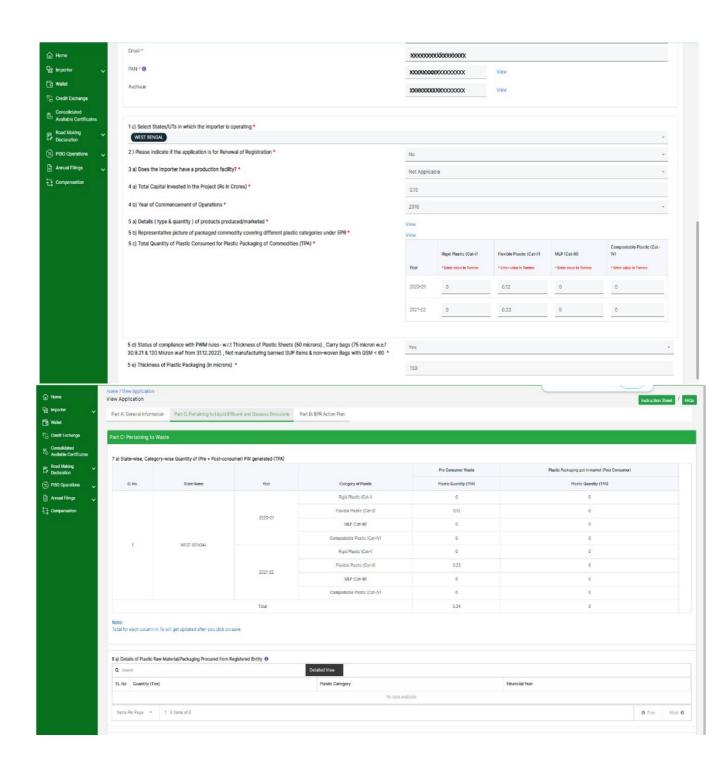


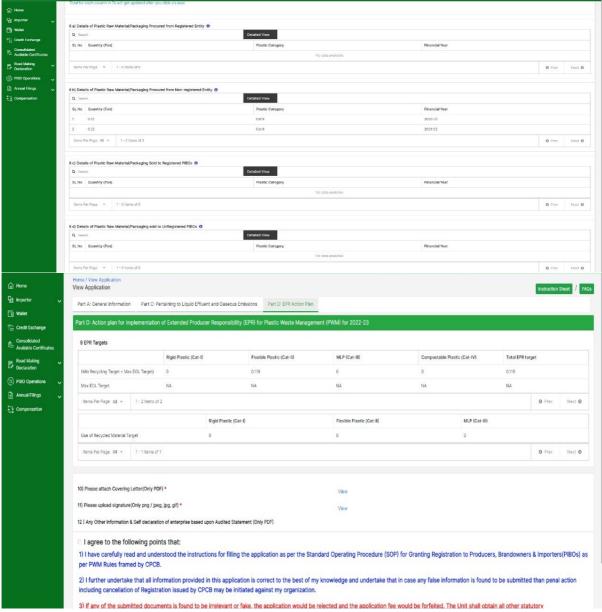
Signup for registration of PIBOs

 $^{11}\ https://cpcb.nic.in/uploads/plasticwaste/SOP_EPR_PWM_23-03-2021.pdf$



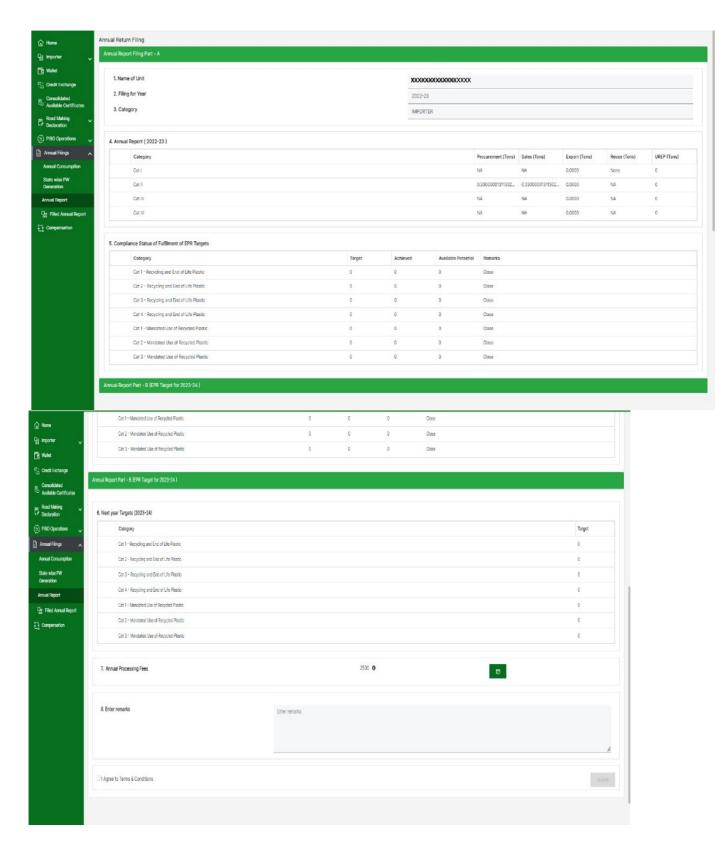






Filing Annual Returns on the EPR portal

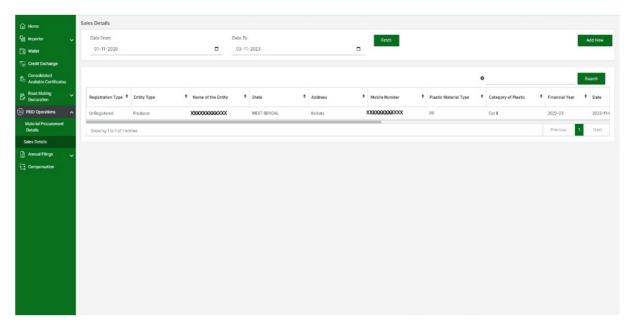
The PIBOs can make entries in this section by clicking on "PIBO Operations/Material Procurement Details" on their dashboard



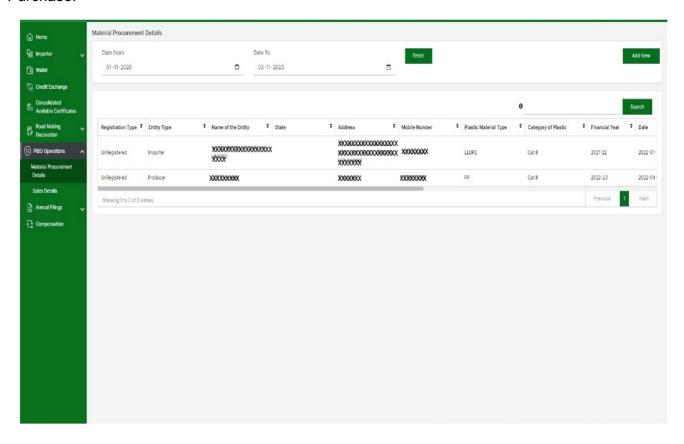
Managing data compliance on the EPR portal

Material Procurement details:

Sales:



Purchase:



Annexure III

The Plastic Waste Management Rules

https://eprplastic.cpcb.gov.in/plastic/downloads/Plastic Waste Management Rules March 2016.pdf

https://eprplastic.cpcb.gov.in/plastic/downloads/PWM second amendment 2023 notific ation.pdf

Annexure IV

Quiz on The Plastic Waste Management Rules Questions:

Introducing the Stakeholders

Question 1:

Who is responsible for developing the Plastic Waste Management Rules

- a) Ministry of Environment Forest and Climate Change
- b) Central Pollution Control Board
- c) State Pollution Control Board
- d) Public Sector Organisation

Question 2:

The Environment Protection Act was notified in

- a) 1984
- b) 2020
- c) 1986
- d) 1990

Question 3:

Which is the nodal agency for implementation of Plastic Waste Management Rules

- a) Ministry of Environment Forest and Climate Change
- b) Central Pollution Control Board
- c) State Pollution Control Board
- d) Public Sector Organisation

Question 4:

For monitoring and audit of facilities who have been provided consent under the plastic waste management rules, 2022

- a) Ministry of Environment Forest and Climate Change
- b) Central Pollution Control Board
- c) State Pollution Control Board
- d) Non-Government Organisation

Question 5:

Who advise on monitoring and implementation of the rules?

- a) Secretary, Urban Development Department (UDD)
- b) Member Secretary, State Pollution Control Board
- c) Director, State Environment Department
- d) None

Extended Producer Responsibility

Question 1:

Professor Lindhqvist is known as

- a) Father of EPR
- b) Owner of EPR theory
- c) Scientist of EPR
- d) None

Question 2:

The concept of Extended Producer Responsibility was originated from

- a) India
- b) Europe
- c) Russia
- d) Taiwan

Question 3:

What is the EPR implementation model in India

- a) Through PRO
- b) Through digital portal
- c) Through shared responsibility
- d) Through dual system

Question 4:

Full form of PIBOs

- a) Product Import and Brands
- b) Perfect Implementation of Branding
- c) Producer Importer and Brand Owners
- d) None

Question 5:

The PIBOs shall have to register through the online centralized portal developed by Central Pollution Control Board

- a) Yes
- b) No

Plastic Waste Management Rules, 2022

Question 1:

What does EPR stand for in the context of plastic waste management?

- a) Environmental Protection Regulation
- b) Extended Producer Responsibility
- c) Efficient Plastic Recycling
- d) Eco-Friendly Packaging Reform

Question 2:

When were the first Plastic Waste Management Rules, 2016 notified?

- a) March 18, 2016
- b) October 30, 2016
- c) May 31, 2016
- d) July 31, 2016

Question 3:

Which category of PIBOs are exempted from fulfilling EPR obligations?

- a) The Micro and small categories of Brand owners and Producers
- b) The Micro and small categories of Importers and Brand Owners
- c) The Micro and small categories of Producers and Importers
- d) None of the above

Question 4:

Are units engaged in export exempted from fulfilling EPR Obligations?

- a) Yes
- b) No

Question 5:

Under plastic waste management rules, what is the responsibility of producers through Extended Producer Responsibility (EPR)?

- a) Consumers' Awareness Programs
- b) Collection and Recycling of their Products
- c) Plastic Waste Exportation
- d) Promoting Single-Use Plastic Products

Type of Plastic Waste under the regulation

Question 1:

As per CPCB data of 2019-20, the plastic waste generation in India is

- a) 9300 TPD
- b) 7000 TPD
- c) 5000 TPD
- d) None

Question 2:

How many categories of plastic packaging are covered for compliance under Plastic Waste Management Rules, 2022

- a) 5
- b) 7
- c) 3
- d) 9

Question 3:

In Category-II, what kind of plastic packaging is covered

- a) Rigid plastic packaging
- b) Flexible plastic packaging
- c) Multi-layered plastic packaging
- d) Plastic sheet or like used for packaging as well as carry bags made of compostable plastics

Question 4:

PIBOs are responsible to quantify their pre-consumer and post-consumer plastic packaging waste under the rules

- a) Yes
- b) No

Question 5:

What is the full form of HDPE plastic packaging

- a) High-Deficiency Plastic Ethylene
- b) High-Density Plastic Ethylene
- c) High-Density Polyethylene
- d) High-Density Polymer

Answer Keys:

Introducing the Regulators

Q1- a), Q2- c), Q3- b), Q4- c), Q5- a)

Extended Producer Responsibility

Plastic Waste Management Rules, 2022

Type of Plastic Waste under the regulation